RFP 962-21P
Spring Valley Nursing Simulation Lab General Contractor

Addendum 001
Issued October 20, 2021

1. The existing flooring appears to have been abated and since some sort of adhesive remover was used the new adhesive may not be compatible and may not adhere to the floor. Please advise what remover was used and if the flooring contractor should include bb blast or scarification of the floor to remove existing and resurface with self-leveling mortar prior to installation of new flooring materials?

HCM: Please see attached product data on adhesive remover that was used in the abatement process.

2. Project Solicitation included two (2) pdf specification manuals. One (1) that is sealed and the other is not. Please confirm contractors/trades are to prepare their proposals from the project specification manual that is seals, and to not refenced the spec manual that is not sealed.

HCM: Both sets of specification manuals are the same, but using the sealed volume is good.

3. If the contractor/trades are to refence both specification manuals can you please clarify what is different between the two (2) manuals?

HCM: There are no differences

4. In reviewing the RFP we did note if Bid Bonds are required to be submitted with the GC's proposal package. Please confirm if Bid Bonds will -or- will not be required.

CMC: No bid bonds are required. There will be payment and performance bonds required.

5. Is the client willing to consider vinyl wall coverings as an alternative to accent painted walls?

HCM: It's unclear why it would benefit the project to change from accent painted walls to vinyl wallcovering which is typically more expensive. Please issue a substitution request clarifying the product being suggested and why this solution is preferred.

6. If client is willing to consider vinyl wall coverings, will there be updated plans detailing which accent walls will be changed to vinyl wall coverings?

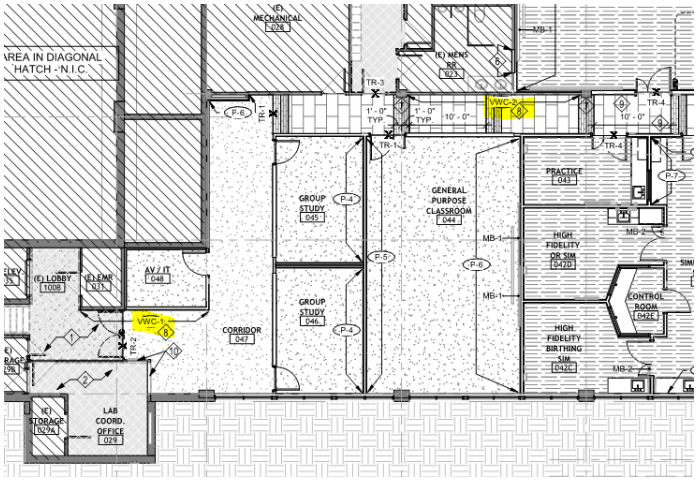
HCM: There will not be a change unless a substitution request can be issued clarifying why the change is being suggested.

7. Sheet A-141, Finish Legend, 09 7200 Wall Coverings, VWC-1 and VWC-2
Sheet A-141, Finish Schedule, Corridor 047, calls for both VWC-1 and VWC-2
Sheet A-141, Finish Plan, we are able to locate VWC-1 in Corridor 047
Sheet A-421, Elevation A2, able to locate VWC-1 in Corridor 047

a. Would you please clarify in the project plans/specifications where VWC-2 is to be installed and confirm dimensions.

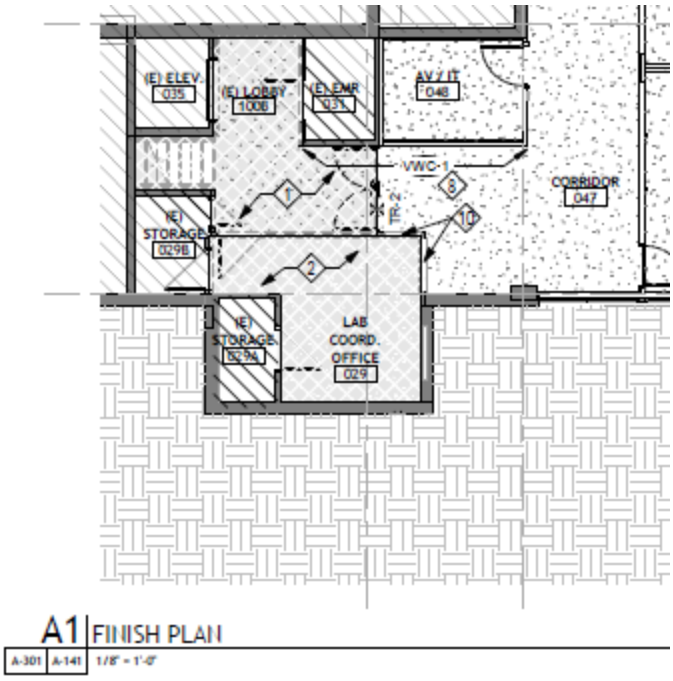
The VWC locations are clarified on the alternate sheet A-101A, under add alternate #9 which indicates that the add alternate for VWC-1 is to go at the entry wall in corridor 047, and the add alternate for VWC-2 is to go at the plan north wall of corridor 047 across from the general classroom. They are also called out on the finish plan A-141, as well as A2 & D1/A-421

A-141 Finish Plan:



b. Confirm the only location in the project to received Vinyl Wall Covering is Corridor 047. If not, please identify other areas to receive VWC finish. Thank you.

HCM: See response above



8. On add alternate #1: Do they just want the RB-1 base quantities in the CPT-1 areas + flooring for CPT-1 priced out? Or do they want all RB-1 (priced for all areas) + the CPT-1 flooring? Does that make sense?

HCM: CPT-1 and RB-1 to be priced out for scope area in add alternate #1.

9. Same question for the rest of the other add alternates (ex. Add Alternate #4 says RB-1 and LVT-1) Is this pricing for RB-1 in the LVT-1 areas only or all RB-1 for project?

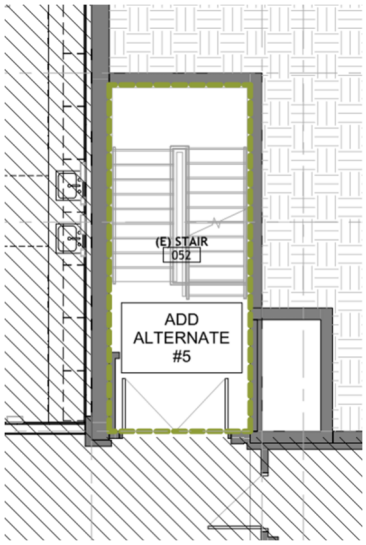
HCM: RB-1 to be priced out for add alternate area for each of the relevant add alternates.

10. Do we have a style name/brand for tile area being repaired?

HCM: Yes – CMC provided the following information and confirmed they have about 25 tiles of attic stock: Marazzi Vesale Sand UF2S 20" x 20". They do not appear to have attic stock of the coordinating mosaic accent tile.

11. Alternate #5 Has Stair treads on it. I do not see any information or detail on stairs. (# of stairs, dimensions, which stairwell, etc) Can you help clarify?

HCM: Add alternate #5 pertains to the Northeast (E) Stair 052. The extent of stair treads in scope is from Lower Level to Level 2.
See below for clip of stair from A-101A Overall Floor Plan - Alternates:



12. Please provide specs for existing Crestron lighting system for integration with new lights

HCM: The existing Crestron lighting control system is comprised of distributed Greengate components. The full submittal package for the existing system is provided for reference.

13. Please provide controlled access system specs for integration with new controlled access doors

HCM: Rough-in only to be provided by GC. All security equipment and cabling to be installed by CMC's preferred vendor.

14. Please confirm there are NO doors that require fire rating per door schedule A-611

HCM: Correct, as indicated in the door schedule, there are no fire rated doors. A sprinkler system was recently added to the building making the fire rated corridors not necessary.

15. Please provide spec for matching tile in bathrooms.

HCM: Please see response to question #10 above.

16. Please confirm ADA requirements/design compliance for all areas, especially cabinets, countertops and sinks.

HCM: All areas have been designed to meet ADA requirements

17. Please provide specs for LB-01 laptop bracket

HCM: The laptop brackets are included in the audiovisual equipment package and are to be provided by the owners AV contractor.

18. Please provide specs/design for HW-01 Headwall showing power/vac/compressed air/etc.

HCM: Refer to specification section 226000 Gas and Vacuum Systems for Laboratory and Healthcare Facilities. Headwall to include the following systems:

- (1) Horizontal equipment track,
- (1) Gas – oxygen,
- (1) Gas – Med Air,
- (1) Gas – Vacuum,
- (1) Receptacle – Duplex Ivory 20A/15A,
- (1) Receptacle – Duplex Red 20A/15A,
- (1) Vacuum slide – horizontal mount,
- (1) Nurse Call 3G cover,
- (1) Vacuum Switch

All gas outlets are functional, emergency duplex and normal duplex are supplied by normal power

19. Please confirm TV-01 television supplier. If TVs to be provided by GC, please provide specs

HCM: Infrastructure related to the display is to be provided by the GC. Devices and equipment to be provided by the AV Contractor.

20. Please identify who will supply HS-01, SC-01, GD-01, PT-01, SD-01 from accessory schedule on pg A-141

HCM: These items are to be owner provided and contractor installed blocking and equipment

21. 123553.13.F07 from pg A-423 Detail C4 not in spec book

HCM: Refer to added spec section 062023 Interior Finish Carpentry, in lieu of section 123553, for adjustable shelving information.

22. Please confirm Projection screen supplier. Equipment Sched shows projections screens are owner provided, T-001 Contractor responsibility matrix shows GC provided

HCM: The projection screens are to be GC provided per sheet T-001.

23. Please provide contact for SCC and AVC on T-001 Contractor responsibility matrix

HCM AVC will likely be Ford AV (Pricing Contingent) and SCC is Colorado Mountain College

Mark Gwartney, CTS
Project Manager | Denver, CO
Direct: 303.474.2030
Cell: 303.720.4048
gwarm@fordav.com

JIM NEFF
Executive Director of Information Technologies
970.947.8425 / jneff@coloradomtn.edu

24. Please confirm spec materials for Add Alts (flooring, paint, etc)

HCM: See sheet notes on A-141 Finish Plan for add alternates' material designations.

25. Please provide design/spec for operable partition add alt #7

HCM: Refer to spec section 102239 Folding Panel Partitions for both the operable partition included in the base scope as well as for the alternate.

26. Sheet A-141 Finish Legend, 10 1100 Visual Display Units, Code ID VD-1

HCM: This line has been removed from the Finish Legend in the attached revised sheet A-141.

27. We have not identified the location/quantity of Visual Display Units VD-1 to be included. Can you please confirm the quantities and locations.

HCM: The marker boards identified on sheet A-141 are the visual display units.

28. Sheet A-141 Finish Plan, Room 44 and 49, identifies MB-1 (2-location/room)

HCM: See question #29 below

29. Finish plan calls for MB-1. We have not located where MB-1 is defined in Finish Legend. Can you please clarify what MB-1 is for in rooms 44 and 49.

HCM: Refer to the Accessory Schedule on sheet A-141 which identifies MB-1 as 8' x 4' Markerboard. Markerboards are specified in section 101100 Visual Display Units.

ACCESSORY SCHEDULE

CSI DIV #	DESCRIPTION	TAG	QTY	REMARKS	FURNISHED	INSTALLED
102800	GLOVE DISPENSER	GD-01	14	PROVIDE BLOCKING	TBD	CONTRACTOR
102800	HAND SANITIZER DISPENSER	HS-01	14	PROVIDE BLOCKING	TBD	CONTRACTOR
101100	MARKERBOARD - 8'WX4'H	MB-1	4	PROVIDE BLOCKING	CONTRACTOR	CONTRACTOR
101100	MARKERBOARD - 1'W x 2'H	MB-2	6	MOUNTED ON INTERIOR SIDE OF SECONDARY PANELS TO SIM LAB DOORS	CONTRACTOR	CONTRACTOR
101100	MARKERBOARD - 3'W x 5'H	MB-3	1	PROVIDE BLOCKING	CONTRACTOR	CONTRACTOR
101100	MARKERBOARD - 12'WX4'H	MB-8	2	PROVIDE BLOCKING	CONTRACTOR	CONTRACTOR
102800	PAPER TOWEL DISPENSER	PT-01	10	PROVIDE BLOCKING	TBD	CONTRACTOR
102800	SHARPS CONTAINER	SC-01	14	PROVIDE BLOCKING	TBD	CONTRACTOR
102800	SOAP DISPENSER	SD-01	10	PROVIDE BLOCKING	TBD	CONTRACTOR

30. Revise sheet T-101 to add N9 to AV 048
31. Revise sheet T-131 to add N9 to AV 048

32. Add the following technology drawings to the contract documents that were inadvertently left out of the original set:
    a. T-200 – Telecom Enlarged Plans and Elevations
    b. T-302 – Audiovisual Infrastructure Room Risers
    c. T-500 – Technology Infrastructure Elevations
    d. T-501 – Technology Infrastructure Elevations
    e. T-601 – Technology Infrastructure Details
    f. T-701 - Telecom Details
    g. Y-501 – Security details

SECTION 062023 - INTERIOR FINISH CARPENTRY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Shelving

B. Related Requirements:

1. Section 061053 "Miscellaneous Rough Carpentry" for furring, blocking, and other carpentry work not exposed to view.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of process and factory-fabricated product. Indicate component materials, dimensions, profiles, textures, and colors and include construction and application details.

1. For products receiving a waterborne treatment, include statement that moisture content of treated materials was reduced before shipment to Project site to levels specified.

B. Samples for Initial Selection: For each type of product involving selection of colors, profiles, or textures.

C. Samples for Verification:

1. For each species and cut of lumber and panel products with nonfactory-applied finish, with half of exposed surface finished, 50 sq. in. for lumber and 8 by 10 inches for panels.

1.4 DELIVERY, STORAGE, AND HANDLING

A. Stack lumber, plywood, and other panels flat with spacers between each bundle to provide air circulation. Protect materials from weather by covering with waterproof sheeting, securely anchored. Provide for air circulation around stacks and under coverings.

B. Deliver interior finish carpentry materials only when environmental conditions comply with requirements specified for installation areas. If interior finish carpentry materials must be stored in other than installation areas, store only where environmental conditions comply with requirements specified for installation areas.

1.5 FIELD CONDITIONS

A. Environmental Limitations: Do not deliver or install interior finish carpentry materials until building is enclosed and weatherproof, wet work in space is completed and nominally dry, and HVAC system is operating and maintaining temperature and relative humidity at occupancy levels during the remainder of the construction period.

B. Do not install finish carpentry materials that are wet, moisture damaged, or mold damaged.

1. Indications that materials are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
2. Indications that materials are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Surface-Burning Characteristics: Comply with ASTM E 84; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

2.2 MATERIALS, GENERAL

A. Melamine-Faced Particleboard: Particleboard complying with ANSI A208.1, Grade M-2, finished on both faces with thermally fused, melamine-impregnated decorative paper and complying with requirements of NEMA LD3, Grade VGL, for test methods 3.3, 3.4, 3.6, 3.8, and 3.10.

1. Color: White.

2.3 SHELVING

A. Utility Shelving: Made from the following material, 1 inch thick.

1. Melamine-faced particleboard with dividers and applied-PVC front edge, to match existing.

B. Adjustable Shelf Brackets: BHMA A156.9, B04112; zinc-plated steel.

1. Standards for Adjustable Shelf Brackets: BHMA A156.9, B04102; zinc-plated steel.

a. Basis-of-Design: Subject to compliance with requirements, provide Knape and Voight 82/182 Series Heavy-duty standards and brackets with double-slot design, or comparable product.
b. Size: As indicated on Drawings.

2.4 MISCELLANEOUS MATERIALS

A. Fasteners for Interior Finish Carpentry: Nails, screws, and other anchoring devices of type, size, material, and finish required for application indicated to provide secure attachment, concealed where possible.

B. Low-Emitting Adhesives and Sealants: Provide products, applied on-site within the weatherproofing system, that comply with South Coast Air Quality Management District (SCAQMD) Rule 1168 for VOC content, and comply with the California Department of Public Health (CDPH) Standard Method v1.1-2010, using the applicable exposure scenario.

C. Multipurpose Construction Adhesive: Formulation complying with ASTM D 3498 that is recommended for indicated use by adhesive manufacturer.

1. Adhesives shall have a VOC content of 70 g/L or less.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.

B. Examine finish carpentry materials before installation. Reject materials that are wet, moisture damaged, and mold damaged.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Clean substrates of projections and substances detrimental to application.

B. Before installing interior finish carpentry, condition materials to average prevailing humidity in installation areas for a minimum of 24 hours unless longer conditioning is recommended by manufacturer.

3.3 INSTALLATION, GENERAL

A. Do not use materials that are unsound; warped; improperly treated or finished; inadequately seasoned; too small to fabricate with proper jointing arrangements; or with defective surfaces, sizes, or patterns.

B. Install interior finish carpentry level, plumb, true, and aligned with adjacent materials. Use concealed shims where necessary for alignment.

1. Scribe and cut interior finish carpentry to fit adjoining work. Refinish and seal cuts as recommended by manufacturer.

2. Install to tolerance of 1/8 inch in 96 inches for level and plumb. Install adjoining interior finish carpentry with 1/32-inch maximum offset for flush installation and 1/16-inch maximum offset for reveal installation.
3. Coordinate interior finish carpentry with materials and systems in or adjacent to it. Provide cutouts for mechanical and electrical items that penetrate interior finish carpentry.

3.4 SHELVING INSTALLATION

A. Install shelf brackets according to manufacturer's written instructions, spaced not more than 32 inches o.c. Fasten to framing members, blocking, or metal backing, or use toggle bolts or hollow wall anchors.

B. Install standards for adjustable shelf brackets according to manufacturer's written instructions, spaced not more than 36 inches o.c. and within 6 inches of ends of shelves. Fasten to framing members, blocking, or metal backing, or use toggle bolts or hollow wall anchors.

C. Cut shelves to neatly fit openings with only enough gap to allow shelves to be removed and reinstalled. Install shelves, fully seated on cleats, brackets, and supports.

1. Fasten shelves to brackets to comply with bracket manufacturer's written instructions.

3.5 ADJUSTING

A. Replace interior finish carpentry that is damaged or does not comply with requirements. Interior finish carpentry may be repaired or refinished if work complies with requirements and shows no evidence of repair or refinishing. Adjust joinery for uniform appearance.

3.6 CLEANING

A. Clean interior finish carpentry on exposed and semiexposed surfaces. Restore damaged or soiled areas and touch up factory-applied finishes if any.

3.7 PROTECTION

A. Protect installed products from damage from weather and other causes during construction.

B. Remove and replace finish carpentry materials that are wet, moisture damaged, and mold damaged.

1. Indications that materials are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
2. Indications that materials are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

END OF SECTION 062023

GRAYLING INDUSTRIES, INC.
MATERIAL SAFETY DATA SHEET – CONTROL GREEN Low Odor Mastic Remover

This Material Safety Data Sheet (MSDS) conforms to the requirements of ANSI Z400.1.
THIS MSDS COMPLIES WITH 29 CFR 1910.1200 (HAZARD COMMUNICATION STANDARD)
IMPORTANT: Read this MSDS before handling & disposing of this product.
Pass this information on to employees, customers, & users of this product.

SECTION 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND COMPANY

Product Name: **CONTROL GREEN Low Odor Mastic Remover**
Item Number: 19205

MANUFACTURER:
Grayling Industries, Inc.
1008 Branch Drive
Alpharetta, GA 30004
Date Prepared: December 17, 2007

EMERGENCY PHONE NUMBER:
1.800.535.5053 (Infotrac)

INFORMATION: 1.800.635.1551

SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS

	CAS Number
Hydrotreated Light Distillate	64742-47-8
Surfactant	9016-45-9
2 (2-Butoxyethoxy) Ethanol	112-34-5

SECTION 3. HAZARDS IDENTIFICATION

RISK STATEMENTS:

R36 / 37 / 38	Irritating to eyes, respiratory system and skin.
R65	Harmful: May cause lung damage if swallowed.

Safety Statement:

S2	Keep Out of Reach of Children.
S23	Do Not Breath Gas, Fumes, Vapor or Spray.
S24	Avoid Contact with Skin.
S26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S62	If swallowed, do not induce vomiting; seek medical advice immediately and show this container or label

SECTION 4. FIRST AID MEASURES

Eye Contact:
For Eyes, flush with plenty of water for 15 minutes and get medical attention.

Skin Contact:
In case of contact with skin, immediately remove contaminated clothing. Wash skin thoroughly with soap and water. Wash contaminated clothing before reuse.

Inhalation:
After high vapor exposure, remove to fresh air. If breathing is difficult, give oxygen.

SECTION 4. FIRST AID MEASURES (CONTINUED)

If breathing has stopped, trained personnel should immediately begin artificial respiration. If the heart has stopped, trained personnel should immediately begin cardiopulmonary resuscitation (CPR). **CALL A PHYSICIAN immediately!**

Swallowing:

Rinse Mouth. Do **NOT** induce vomiting! **GET MEDICAL ATTENTION IMMEDIATELY.**
Do **NOT** give liquids to an unconscious or convulsing person.

SECTION 5. FIRE FIGHTING MEASURES

Fire & Explosion Prevention Measures:

No open flames. Above flash point, use a closed system, ventilation, explosion-proof electrical equipment, lighting.

Extinguishing Media:

Use dry powder, AFFF, foam, carbon dioxide.

Special Fire Fighting Procedures:

Water spray may be ineffective on fire, but can protect fire-fighters and cool closed containers.
Use fog nozzles if water is used. Do Not Enter Confined Fire-Space without full bunker gear.
(Helmet with face shield, bunker coats, gloves and rubber boots).
Use NIOSH approved positive-pressure self-contained breathing apparatus.

Unusual Explosion and Fire Procedures:

COMBUSTIBLE!

Keep Container tightly closed.
Isolate from oxidizers, heat, and open flame.
Closed containers may explode if exposed to extreme heat.
Applying to hot surfaces requires special precautions.
Empty container is very hazardous! Continue all label precautions !

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Protective Measures:

Keep unprotected personnel away.
Filter Respirator for organic vapors.

Containment Techniques:

Stop spill at source. Dike and contain.
Do not wash away into sewer.

Clean-Up Procedures:

Clean up remainder with absorbent material. Mop up and dispose.

SECTION 7. HANDLING AND STORAGE

Handling:

Isolate from oxidizers, heat, and open flame.
Use only with adequate ventilation. Avoid breathing of vapor or spray mist.
Do not get in eyes, on skin, or on clothing.
Wear OSHA Standard Goggles or face shield. Consult Safety Equipment Supplier.
Wear gloves, apron, and footwear impervious to this material. Wash clothing before reuse.
Avoid free fall of liquid. Ground containers when transferring. Do not flame cut, braze, or weld.
Empty container is very hazardous! Continue all label precautions!

Storage:

Isolate from strong oxidants. Keep container tightly closed and upright when not in use to prevent leakage.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Respiratory Exposure Controls

A respiratory protection program that meets OSHA 29 CFR 1910.134 and ANSI Z86.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant a respirator's use.

Ventilation:

Local Exhaust	: Necessary
Mechanical (General)	: Acceptable
Special	: None
Other	: None

Please refer to ACGIH document, "Industrial Ventilation, A Manual of Recommended Practices", most recent edition, for details.

Personal Protection

Wear OSHA Standard goggles or face shield. Consult Safety Equipment Supplier.
Wear gloves, apron, and footwear impervious to this material. Wash clothing before reuse.

Work and Hygienic Practices

Provide readily accessible eye wash stations and safety showers.
Wash at end of each work shift and before eating, smoking, or using the toilet.
Promptly remove clothing that becomes contaminated. Destroy contaminated leather articles.
Launder or discard contaminated clothing.

SECTION 9. PHYSICAL DATA

Appearance:	Liquid, Light Green
Odor:	Mild
Boiling Range:	213° 222° 242°* C / 417° 433° 468°* F (*=End Point)
Auto Ignition Temperature:	254° C / 490° F (Lowest Component)
Lower Flammable Limit In Air (% by vol):	0.9
Flash Point (Test Method)	79° C / 175° F (TCC) (Lowest Component)
Flammability Classification:	Class IIIA
Gravity @ 68/68° F / 20/20° C:	
API:	41.7

SECTION 9. PHYSICAL DATA (CONTINUED)

Specific Gravity (Water=1) :	0.817
Pounds/Gallon:	6.807
VOC'S (>0.44 lbs/Sq. In.)	0.0 Vol. % / 0.0 g/L / 0.000 Lbs/Gal
TOTAL VOC'S (TVOC):	89.0 Vol. % / 711.1 g/L / 5.923 Lbs/Gal
Nonexempt VOC'S (CVOC):	89.0 Vol. % / 711.1 g/L / 5.923 Lbs/Gal
Hazardous Air Pollutants (HAPS):	11.7 Wt. % / 95.5 g/L / 0.795 Lbs/Gal
Vapor Pressure (mm of Hg) @20℃	0.1
Nonexempt VOC Partial Pressure (mm of Hg @ 20°C)	0.1
Vapor Density (air=1) :	6.1
Water Absorption:	Appreciable
Refractive Index:	1.441
Mixed Aniline Point (Acid Insol):	71°C / 160°F

SECTION 10. STABILITY AND REACTIVITY

Stability: Stable under normal conditions.
Conditions to Avoid: Isolate from oxidizers, heat, and open flame.
Materials to Avoid: Reacts with strong oxidants, causing fire & explosion hazard
Hazardous Decomposition Products: Carbon Monoxide, Carbon Dioxide, from burning.
Hazardous Polymerization: Will not occur.

SECTION 11. TOXICOLOGICAL INFORMATION

MATERIAL	CAS#	TWA (OSHA)	TLV (ACGIH)	HAP
Hydrotreated Light Distillate	64742-47-8	5 mg/m3	5 mg/m3	NO
Surfactant	9016-45-9	None Known	None Known	NO
2 (2-Butoxyethoxy) Ethanol	112-34-5	None Known	25 ppm	YES

In addition to EPA Hazardous Air Pollutants Showing 'Yes' under "HAP" above, using manufacturers' data, based on EPA Method 311, the following EPA Hazardous Air Pollutants may be present in trace amounts (less than 0.1%): Cumene, Polycyclic Aromatics

MATERIAL	CAS#	CEILING	STEL (OSHA/ACGIH)
		None Known	None Known

ACUTE HAZARDS

EYE & SKIN CONTACT:
Primary irritation to skin, defatting, dermatitis.
Absorption thru skin increases exposure.
Primary irritation to eyes, redness, tearing, blurred vision.
Liquid can cause eye irritation. Wash thoroughly after handling.

INHALATION:
Anesthetic. Irritates respiratory tract. Acute overexposure can cause serious nervous system depression. Vapor harmful.

SWALLOWING:
Harmful or fatal if swallowed.
Swallowing can cause abdominal irritation, nausea, vomiting & diarrhea.
The symptoms of chemical pneumonitis may not show up for a few days.

SECTION 11. TOXICOLOGICAL INFORMATION (CONTINUED)

SUBCHRONIC HAZARDS / CONDITIONS AGGREVATED

CONDITIONS AGGREVATED:
Persons with severe skin, liver, or kidney problems should avoid use.

CHRONIC HAZARDS

CANCER, REPRODUCTIVE & OTHER CHRONIC HAZARDS:
Leukemia has been reported in humans from Benzene.
Absorption thru skin may be harmful.

SECTION 12. ECOLOGICAL INFORMATION

MAMMALIAN INFORMATION:

MATERIAL	CAS #	LOWEST KNOWN LETHAL DOSE DATA
		LOWEST KNOWN LD50 (ORAL)
Nonylphenol Ethoxylate	9016-45-9	3000.0 mg/kg (Rats)

AQUATIC ANIMAL INFORMATION:
No aquatic environmental information is available on this product.
Environmental effects of the substance have not been investigated adequately.

MOBILITY:
This material is a mobile liquid.

DEGRADABILITY:
This product is partially biodegradable.

ACCUMULATION:
Bioaccumulation of this product has not been determined.

SECTION 13. DISPOSAL CONSIDERATION

Processing, use or contamination may change the waste management options.
Recycle / dispose of observing national, regional, state, provincial and local health, safety, and pollution laws. If in doubt, contact appropriate agencies.

SECTION 14. TRANSPORT INFORMATION

DOT SHIPPING NAME:
BULK: Compound Cleaning Liquid, Combustible liquid, NA1993, PG-III
Combustible liquid. Not DOT regulated on trucks in containers of < 119 gallons.

DRUM LABEL:	None (Combustible Liquid)
IATA / ICAO:	None
IMO / IMDG:	None
EMERGENCY RESPONSE GUIDEBOOK NUMBER:	128

SECTION 15. REGULATORY INFORMATION

EPA REGULATION:
SARA SECTION 311/312 HAZARDS: Acute Health, Fire

All components of this product are on the TSCA list.
SARA Title III Section 313 Supplier Notification
This product contains the indicated <*> toxic chemicals subject to the reporting requirements of Section 313 of the Emergency Planning & Community Right-To-Know Act of 1986 & of 40 CFR 372. This information must be included in all MSDS's that are copied and distributed for this material.

SARA TITLE III INGREDIENTS	CAS #	WT. % (REG.SECTION)	RQ (LBS)
*2 (2-Butoxyethoxy) Ethanol	112-34-5	11 (313)	None

STATE REGULATIONS
THIS PRODUCT MEETS REQUIREMENTS OF SOUTHERN CALIFORNIA AQMD RULE 443.1 & SIMILAR REGULATIONS.

INTERNATIONAL REGULATIONS
The components of this product are listed on the chemical inventories of the following countries: Australia, Canada, Europe (EINECS), Japan, Korea, United Kingdom.

SECTION 16. OTHER INFORMATION

HAZARD RATINGS:
HEALTH (NFPA): 1, HEALTH (HMIS): 1, FLAMMABILITY: 2, REACTIVITY: 0
This information is intended solely for the use of individuals trained in the NFPA & HMIS hazard rating systems.

EMPLOYEE TRAINING:
See section 3 for Risk &b Safety Statement. Employees should be made aware of all hazards of this material (as stated in this MSDS) before handling it.

NOTICE

The supplier disclaims all expressed or implied warranties of merchantability or fitness for a specific use, with respect to the product or the information provided herein, except for conformation to contracted specifications.

All information appearing herein is based upon data obtained from manufacturers and/or recognized technical sources. While the information is believed to be accurate, we make no representations as to its accuracy or sufficiency.

Conditions of use are beyond our control, and therefore users are responsible for verifying the data under their own operating conditions to determine whether the product is suitable for their particular purposes and they assume all risks of their use, handling, and disposal of the product. Users also assume all risks in regards to the publication or use of, or reliance upon, information contained herein.

This information relates only to the product designated herein, and does not relate to its use in combination with any other material or process.

FINISH LEGEND

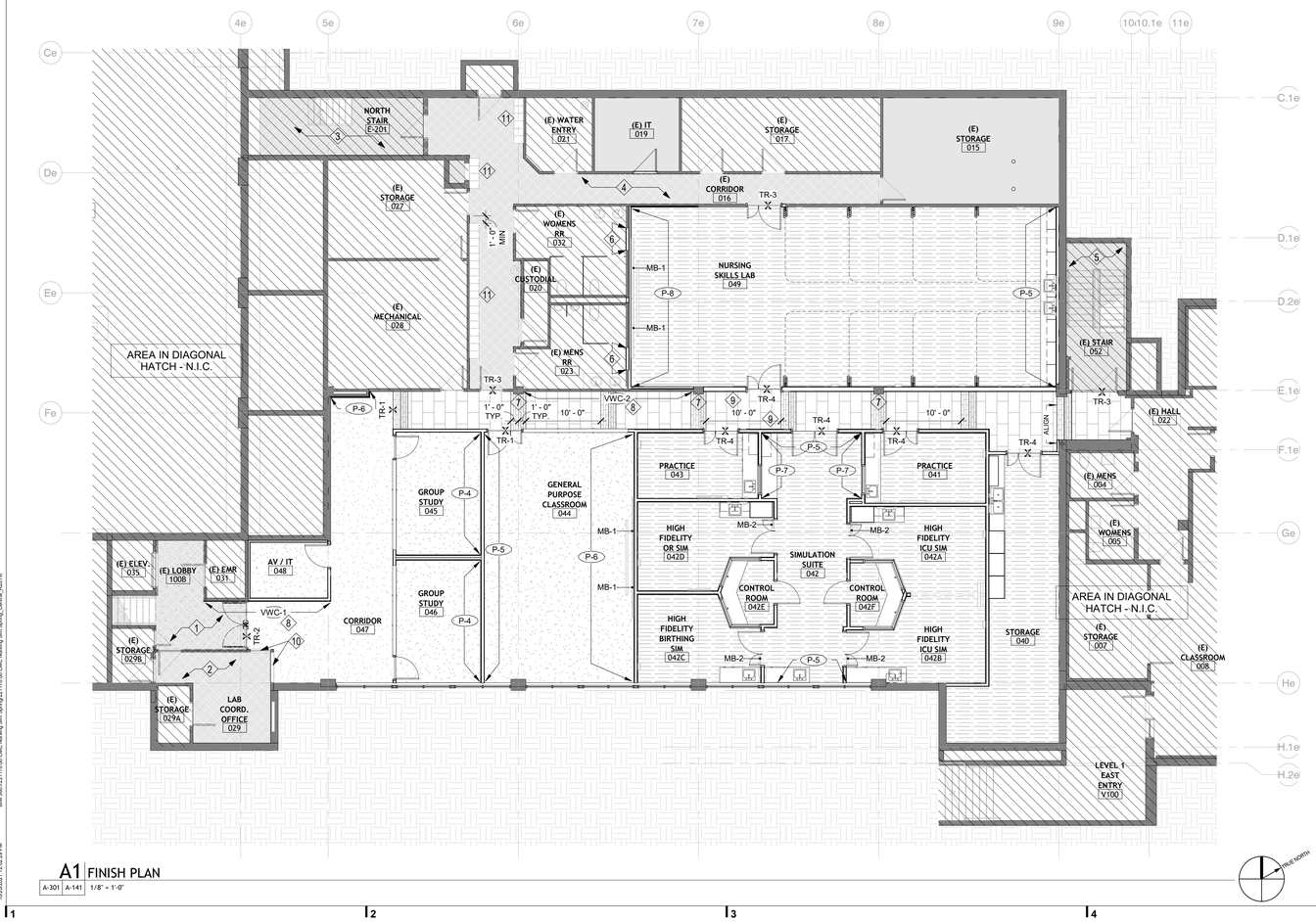
CSI SECTION NUMBER	CSI SECTION NAME	TYPE	CODE	MANUFACTURER	PRODUCT	SIZE	COLOR	REMARKS
DIVISION 6								
06 4116	PLASTIC-LAMINATE-FACED ARCHITECTURAL CABINETS	PLASTIC-LAMINATE CASEWORK	PL-1	WILSONART	HPL	-	10776-60 KENSINGTON MAPLE	USE MATCHING 3MM PVC EDGEBANDING.
DIVISION 9								
09 6500	RUBBER STAIR TREADS AND NOSING	RUBBER STAIR TREADS AND NOSING	RBR-1	JOHNSONITE	RUBBER STAIR TREAD WITH INTEGRATED RISER	-	28 MEDIUM GREY	
09 6513	RESILIENT BASE AND ACCESSORIES	RESILIENT BASE	RB-1	JOHNSONITE	BASEWORKS THERMOSET RUBBER WALL BASE	4" COVE, ROLLED GOODS	28 MEDIUM GREY	USE PRE-FORMED INSIDE AND OUTSIDE CORNERS.
09 6516	RESILIENT SHEET FLOORING	WELDED SEAM SHEET FLOORING	WSF-1	GERFLOR	MIPOLAM SYMBIOZ	6' 6" ROLL	6010 MYST	WELD ROD: 05070626; SUBMIT SEAMING DIAGRAM.
09 6519	RESILIENT TILE FLOORING	LUXURY VINYL TILE	LVT-1	ARMSTRONG	DUO SPETTRO W/ DIAMOND 10 TECHNOLOGY	18" X 36"	ST2PR ENGLISH GREY W/ BLUE HAWAIIAN / BLUE LAGOON	PATTERN: STAGGER; CONDUCT RH TESTING PRIOR TO ORDERING ADHESIVE.
09 6519		LUXURY VINYL TILE	LVT-2	ARMSTRONG	DUO MIXER 2 W/ DIAMOND 10 TECHNOLOGY	6" X 36"	ST523 BLUE HAWAIIAN	PATTERN: STAGGER; CONDUCT RH TESTING PRIOR TO ORDERING ADHESIVE.
09 6519		LUXURY VINYL TILE	LVT-3	ARMSTRONG	DUO MIXER 2 W/ DIAMOND 10 TECHNOLOGY	6" X 36"	ST526 APPLETINI	PATTERN: STAGGER; CONDUCT RH TESTING PRIOR TO ORDERING ADHESIVE.
09 6813	TILE CARPETING	CARPET TILE	CPT-1	MOHAWK	GT405 COLOR BALANCE TILE	12" X 36"	959 BEDROCK	PATTERN: ASHLAR; CONDUCT RH TESTING PRIOR TO ORDERING ADHESIVE.
09 7200	WALL COVERINGS	VINYL WALL COVERING (CUSTOM GRAPHIC)	VWC-1	MDC	DREAMSCAPE SMOOTH MATTE, SUEDE, ARTIST CANVAS	RE: INTERIOR ELEVATIONS	-	CUSTOM GRAPHIC.
09 7200		VINYL WALL COVERING (CUSTOM GRAPHIC - CMU)	VWC-2	3M	SCOTCHAL OVERLAMINATE, MATTE	RE: INTERIOR ELEVATIONS	-	CUSTOM GRAPHIC.
09 9123	INTERIOR PAINTING	PAINT (FIELD)	P-1	SHERWIN WILLIAMS	SEMI-GLOSS	-	SW 7004 SNOWBOUND	
09 9123		PAINT (CEILING)	P-2	SHERWIN WILLIAMS	FLAT (EGGSHELL AT TOILET ROOMS)	-	SW 7004 SNOWBOUND	
09 9123		PAINT (DOOR FRAME & STAIR RAILING)	P-3	SHERWIN WILLIAMS	SEMI-GLOSS	-	SW 7074 SOFTWARE	PAINT ALL EXISTING DOOR FRAMES IN AREA OF WORK.
09 9123		PAINT (ACCENT)	P-4	SHERWIN WILLIAMS	SEMI-GLOSS	-	SW 6417 TUPELO TREE	
09 9123		PAINT (ACCENT)	P-5	SHERWIN WILLIAMS	SEMI-GLOSS	-	SW 6501 MANITOU BLUE	
09 9123		PAINT (ACCENT)	P-6	SHERWIN WILLIAMS	SEMI-GLOSS	-	SW 6509 GEORGIAN BAY	
09 9123		PAINT (ACCENT)	P-7	SHERWIN WILLIAMS	SEMI-GLOSS	-	SW 7072 ONLINE	
09 9123		PAINT (ACCENT)	P-8	SHERWIN WILLIAMS	SEMI-GLOSS	-	SW 7703 EARTHEN JUG	
09 9300	STAINING AND TRANSPARENT FINISHING	WOOD DOOR STAIN	S-1	-	-	-	CLEAR	MATCH FACILITY STANDARD DOORS, WHITE MAPLE, RE: SPECIFICATIONS.
DIVISION 10								
10 1100	REMOVED	REMOVED	REMOVED	REMOVED	REMOVED	REMOVED	REMOVED	
10 2123	CUBICLE CURTAINS AND TRACK	CUBICLE CURTAINS AND TRACK	CC-1	RE: SPECS	RE: SPECS	RE: SPECS	TBD	
10 2239	FOLDING PANEL PARTITIONS	FOLDING PANEL PARTITIONS	FP-1	RE: SPECS	RE: SPECS	RE: SPECS	TBD	
10 2600	WALL AND DOOR PROTECTION	CORNER GUARDS	CG-1	INPRO	STAINLESS STEEL CORNER GUARD	48" H, 2" WINGS	-	ALL OUTSIDE CORNERS WITHIN SCOPE AREA.
10 2600	WALL AND DOOR PROTECTION	IMPACT-RESISTANT WALL COVERING	WP-1	INPRO	1400 WALL GUARD	4" H	TBD	PERIMETER OF CLASSROOMS: 30" AFF.
10 5123	PLASTIC-LAMINATE-CLAD LOCKERS	PLASTIC-LAMINATE LOCKERS	PL-2	FORMICA	STANDARD HPL	-	914 MARINE BLUE	INCLUDE DIGITAL OR COMBINATION LOCKS, CONFIRM WITH OWNER.
DIVISION 12								
12 2413	ROLLER WINDOW SHADES	MANUAL ROLLER WINDOW SHADES	RWS-1	TBD	MANUAL-OPERATED SINGLE ROLLER, LIGHT FILTERING FABRIC (3%)	-	MATCH EXISTING	
12 2413	ROLLER WINDOW SHADES	MANUAL ROLLER WINDOW SHADES	RWS-2	TBD	MANUAL-OPERATED DUAL ROLLER, LIGHT FILTERING FABRIC (3%) / BLACKOUT	-	MATCH EXISTING	
12 3623.13	PLASTIC-LAMINATE-CLAD COUNTERTOPS	PLASTIC-LAMINATE COUNTERTOP (CHEMICAL RESISTANT)	PL-3	WILSONART	CHEMSURF CHEMICAL-RESISTANT LAMINATE	0.034" THICK	1573 FROSTY WHITE	SELF EDGE IN CHEMSURF LAMINATE.
12 3623.13	PLASTIC-LAMINATE-CLAD COUNTERTOPS	PLASTIC-LAMINATE COUNTERTOP	PL-4	WILSONART	HPL	-	1573 FROSTY WHITE	USE MATCHING 3MM PVC EDGEBANDING; USE AT WINDOW SILLS.

ROOM FINISH SCHEDULE

ROOM NUMBER	ROOM NAME	FINISH			MILLWORK		MISCELLANEOUS	REMARKS
		FLOOR	BASE	WALL	HORIZ.	VERT.		
015	(E) STORAGE	EXISTING	EXISTING	EXISTING				ADD/ALT FINISH UPGRADE
016	(E) CORRIDOR	EXISTING	EXISTING	EXISTING			NEW PL-2 LOCKERS ADD/ALT, RE: INTERIOR ELEVATIONS.	ADD/ALT FINISH UPGRADE
019	(E) IT	EXISTING	EXISTING	EXISTING				
029	LAB COORD. OFFICE	EXISTING	EXISTING	EXISTING				ADD/ALT FINISH UPGRADE
040	STORAGE	WSF-1	RB-1	P-1	PL-4	PL-1		
041	PRACTICE	WSF-1	RB-1	P-1, WP-2	PL-3	PL-1		
042	SIMULATION SUITE	WSF-1	RB-1	P-1, P-5, P-7	PL-4	PL-1	RSW-1 AT EXTERIOR WINDOWS.	
042A	HIGH FIDELITY ICU SIM	WSF-1	RB-1	P-1, WP-2	PL-3	PL-1		
042B	HIGH FIDELITY ICU SIM	WSF-1	RB-1	P-1, WP-2	PL-3	PL-1	RSW-2 AT EXTERIOR WINDOW.	
042C	HIGH FIDELITY BIRTHING SIM	WSF-1	RB-1	P-1, WP-2	PL-3	PL-1	RSW-2 AT EXTERIOR WINDOWS.	
042D	HIGH FIDELITY OR SIM	WSF-1	RB-1	P-1, WP-2	PL-3	PL-1		
042E	CONTROL ROOM	WSF-1	RB-1	P-7	PL-4	-		
042F	CONTROL ROOM	WSF-1	RB-1	P-7	PL-4	-		
043	PRACTICE	WSF-1	RB-1	P-1, WP-2	PL-3	PL-1		
044	GENERAL PURPOSE CLASSROOM	CPT-1	RB-1	P-1, P-5, P-6, WP-1			EXISTING ROLLER SHADES TO REMAIN; WP-1 FULL PERIMETER.	
045	GROUP STUDY	CPT-1	RB-1	P-1, P-4				
046	GROUP STUDY	CPT-1	RB-1	P-1, P-4			EXISTING ROLLER SHADES TO REMAIN.	
047	CORRIDOR	CPT-1, LVT-1, LVT-2, LVT-3	RB-1	P-1, P-6, VWC-1, VWC-2			CUSTOM WALL GRAPHICS, RE: INTERIOR ELEVATIONS; EXISTING ROLLER SHADES TO REMAIN.	
048	AV / IT	CPT-1	RB-1	P-1				
049	NURSING SKILLS LAB	WSF-1	RB-1	P-1, P-5, P-8, WP-1, WP-2	PL-3	PL-1	WP-1 FULL PERIMETER, CC-1 CURTAINS.	
052	(E) STAIR	EXISTING	EXISTING	EXISTING				ADD/ALT FINISH UPGRADE
100B	(E) LOBBY	EXISTING	EXISTING	EXISTING				ADD/ALT FINISH UPGRADE
E-201	NORTH STAIR	EXISTING	EXISTING	EXISTING				ADD/ALT FINISH UPGRADE

ACCESSORY SCHEDULE

CSI DIV #	DESCRIPTION	TAG	QTY	REMARKS	FURNISHED	INSTALLED
102800	GLOVE DISPENSER	GD-01	14	PROVIDE BLOCKING	TBD	CONTRACTOR
102800	HAND SANITIZER DISPENSER	HS-01	14	PROVIDE BLOCKING	TBD	CONTRACTOR
101100	MARKERBOARD - 6'WX4'H	MB-1	4	PROVIDE BLOCKING	CONTRACTOR	CONTRACTOR
101100	MARKERBOARD - 1'W x 2'H	MB-2	6	MOUNTED ON INTERIOR SIDE OF SECONDARY PANELS TO SIM LAB DOORS	CONTRACTOR	CONTRACTOR
101100	MARKERBOARD - 3'W x 5'H	MB-3	1	PROVIDE BLOCKING	CONTRACTOR	CONTRACTOR
101100	MARKERBOARD - 12'WX4'H	MB-8	2	PROVIDE BLOCKING	CONTRACTOR	CONTRACTOR
102800	PAPER TOWEL DISPENSER	PT-01	10	PROVIDE BLOCKING	TBD	CONTRACTOR
102800	SHARPS CONTAINER	SC-01	14	PROVIDE BLOCKING	TBD	CONTRACTOR
102800	SOAP DISPENSER	SD-01	10	PROVIDE BLOCKING	TBD	CONTRACTOR



A1 FINISH PLAN

A-301 | A-141 1/8" = 1'-0"

FINISH PLAN GENERAL NOTES

1. ALL FLOOR MATERIALS TO BE BUTT JOINTED AT TRANSITIONS ON CENTER OF DOOR WHERE APPLICABLE, UNO. PROVIDE EDGE PROTECTION AND TRANSITION PROFILES WHERE FLOOR MATERIAL CHANGES AND/OR STOPS. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.
2. PAINT ALL EXPOSED PIPES, AIR GRILLES, ETC. TO MATCH ADJACENT WALL COLOR.
3. ALL WALL MOUNTED CASEWORK, MILLWORK, HARDWARE, EQUIPMENT, ETC. SHALL BE ANCHORED TO METAL STRAPPING OR ½" FIRT PLYWOOD BACKING BETWEEN STUDS, U.N.O. COORDINATE ACCORDINGLY.
4. REFER TO OTHER DRAWINGS IN ADDITION TO THE FINISH PLANS AND KEYNOTE LEGEND FOR THE FULL EXTENT OF INTERIOR FINISHES.
5. ALL FLOORING MATERIALS CONTINUE UNDER CASEWORK TO TOE KICK OR IF OPEN, TO WALL.

SHEET NOTES - FINISH PLANS

NOTE #	NOTE
1	ADD ALTERNATE #1: NEW WALL PAINT (P-1, P-6), RAILING/STRINGER/HM FRAMES PAINT (P-3), WALL BASE (RB-1), AND FLOORING (CPT-1).
2	ADD ALTERNATE #3: NEW WALL PAINT (P-1), HM FRAMES PAINT (P-3), WALL BASE (RB-1), AND FLOORING (CPT-1).
3	ADD/ALTERNATE #4: NEW PAINT (P-1), RAILING/STRINGER/HM FRAMES & DOORS PAINT (P-3), WALL BASE (RB-1), AND FLOORING (LVT-1).
4	ADD/ALTERNATE #11: NEW PAINT (P-1) ACCENT PAINT COLORS AT LOCKER WALLS, HM FRAMES PAINT (P-3), WALL BASE (RB-1), AND FLOORING (LVT-1).
5	ADD ALTERNATE #5: NEW WALL PAINT (P-1), RAILING/STRINGER/HM FRAMES PAINT (P-3), WALL BASE (RB-1), FLOORING (LVT-1), AND STAIR TREADS (RBR-1).
6	PROVIDE WALL TILE, PAINT AND BASE TO MATCH EXISTING AT INFILLED WALL OPENING.
7	ACCENT LVT BANDS ALIGN WITH CENTER OF COLUMNS.
8	ADD ALTERNATE #9
9	ADD ALTERNATE #10
10	PAINT (E) WINDOW FRAMES.
11	ADD/ALTERNATE #6: NEW P-LAM LOCKERS (PL-2).

FINISH SYMBOL LEGEND

- XXX — WALL FINISH SYMBOL
- # — SHEET NOTE SYMBOL
- CORNER GUARD (CG)
- TR-? — FLOOR TRANSITION SYMBOL
- NOT IN SCOPE

FLOOR FINISH LEGEND

- CARPET (CPT-1)
- RESILIENT TILE (LVT-3)
- RESILIENT TILE (LVT-1)
- RESILIENT SHEET (VSF-1)
- RESILIENT TILE (LVT-2)
- EXISTING TO REMAIN

FLOOR TRANSITION LEGEND

TR-1	CARPET - RESILIENT FLOORING
TR-2	CARPET - CONCRETE
TR-3	RESILIENT FLOORING - CONCRETE
TR-4	RESILIENT FLOORING - RESILIENT FLOORING

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PLANNING
INTERIOR DESIGN

STATE OF COLORADO
GWEN S. GILLEY
400629
10/1/2021
LICENSED ARCHITECT

No.	Date	Revision
1	10.20.2021	ADDENDUM 04

Project Name
NURSING RENOVATION

Project Number
22172.00

Date (YYYY/MM/DD)
10-01-2021

Drawn By: CK | Checked By: HRM

Drawing
FINISH PLAN

A-141

CONTRACT DOCUMENTS

BIM 360://22172.00 CMC Nursing Sim Spring/22172.00 CMC Nursing Sim Spring_Central_R20.rvt
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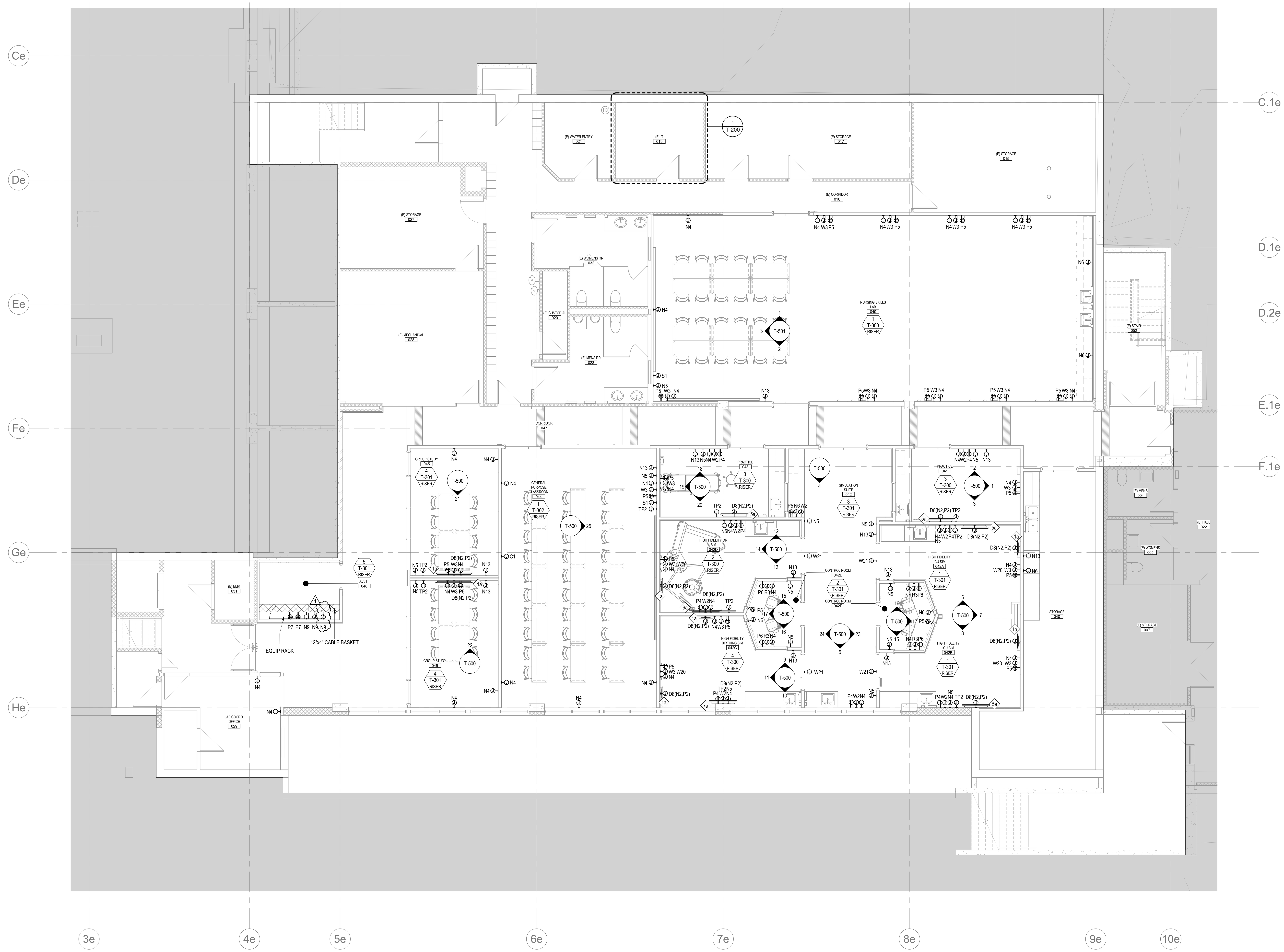

1 OVERALL TECHNOLOGY INFRASTRUCTURE PLAN
T-101 3/16" = 1'-0"

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INTERIOR DESIGN

No.	Date	Revision
1	10/20/2021	ADDENDUM 01

Project Name
NURSING RENOVATION

Project Number
221170.00

Date (YYYY/MM/DD)
10-01-2021

Drawn By: NV5
Checked By: NV5

Drawing
OVERALL TECHNOLOGY INFRASTRUCTURE PLAN

T-101

CONTRACT DOCUMENTS

1
T-131

OVERALL TELECOM PLAN
3/16" = 1'-0"

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No.	Date	Revision
1	10/20/2021	ADDENDUM 01

Project Name
NURSING RENOVATION

Project Number
221170.00

Date (YYYY/MM/DD)
10-01-2021

Drawn By	Checked By
NV5	NV5

Drawing
OVERALL TELECOM PLAN

T-131

CONTRACT DOCUMENTS

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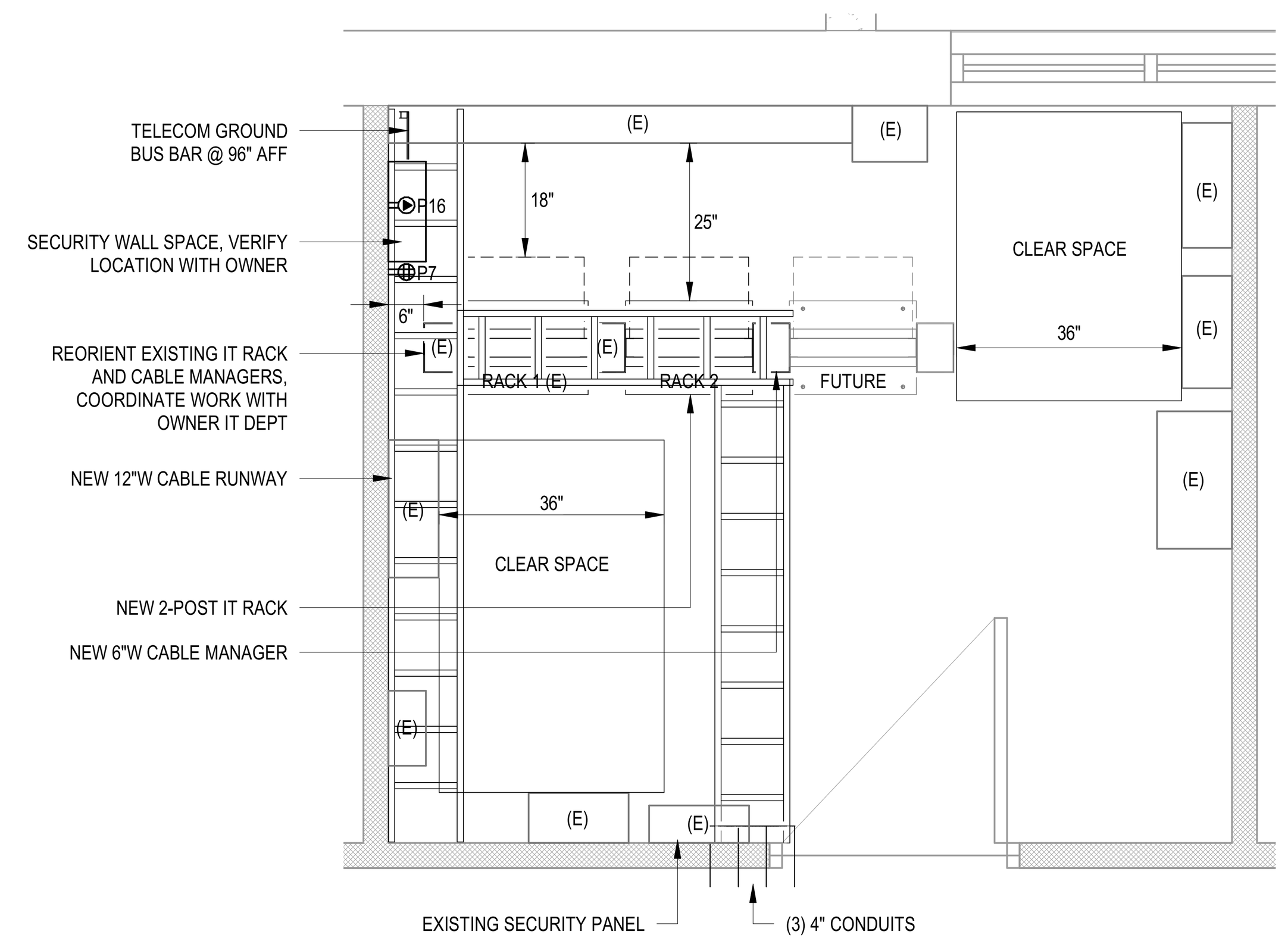

SCOPE NOTES:
1. ALL LOW-VOLT RENOVATION WORK TO BE PERFORMED BY OWNER'S PREFERRED VENDOR(S).
2. ALL EQUIPMENT AND CABLING IN IT 019 TO REMAIN IN PLACE AND FUNCTIONAL, UNLESS OTHERWISE NOTED.
3. COORDINATE REQUIREMENTS AND PHASING WITH OWNER IT DEPARTMENT PRIOR TO WORK.
4. REFER TO DETAIL 2/TD-111 FOR ADDITIONAL INFORMATION ON EXISTING CONDITIONS AND DEMO WORK.

1 / T-200 — TELECOM ENLARGED PLAN - IT ROOM 019
1/2" = 1'-0"

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NURSING RENOVATION

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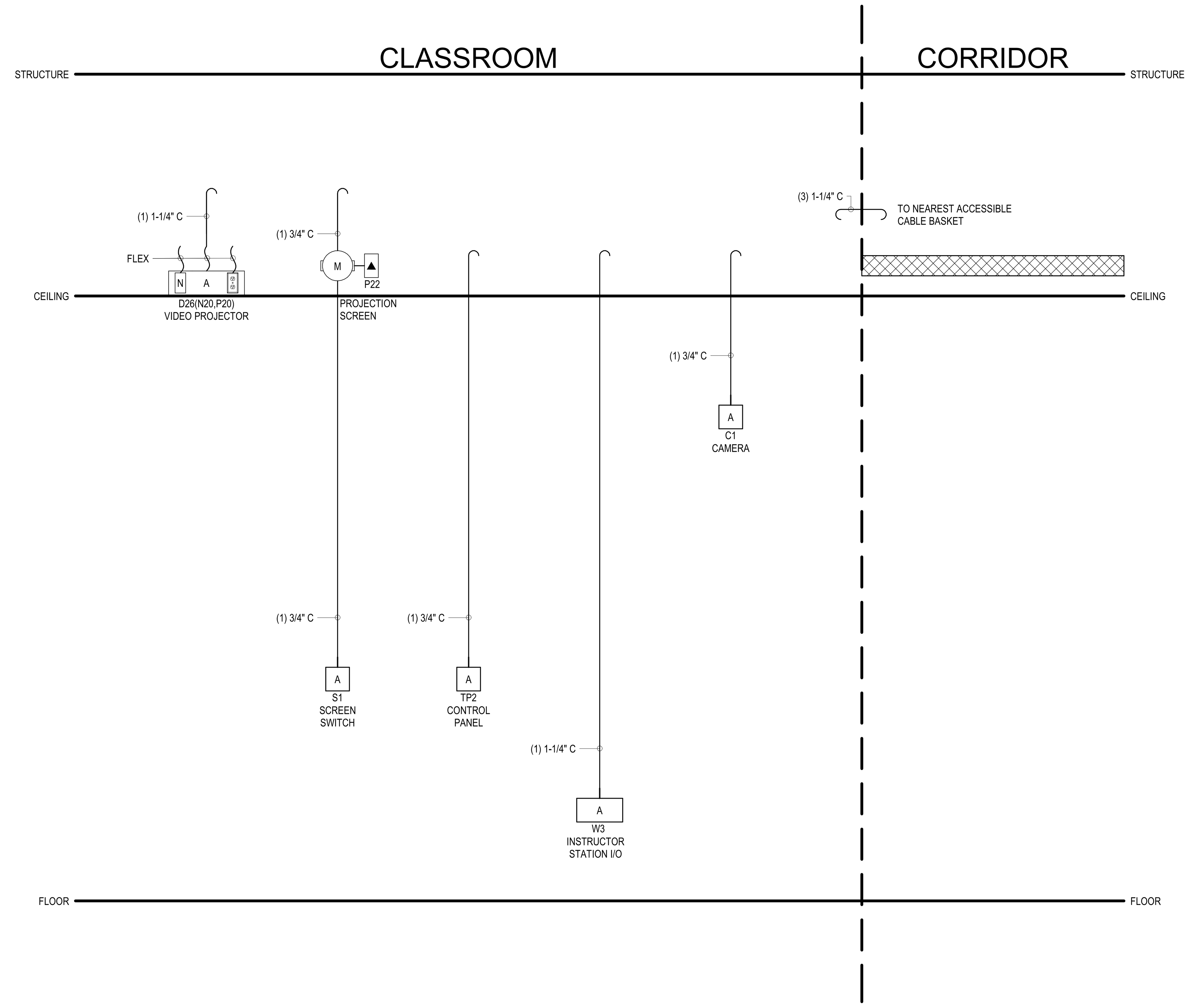
10-01-2021

Drawn By: NV5
Checked By: NV5

Drawing
TELECOM ENLARGED PLANS AND ELEVATIONS

T-200

CONTRACT DOCUMENTS



1 T-302 044 GENERAL PURPOSE CLASSROOM
NTS

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Project Name
NURSING RENOVATION

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10-01-2021

Drawn By: NV5
Checked By: NV5

Drawing
AUDIOVISUAL INFRASTRUCTURE ROOM RISERS

T-302

CONTRACT DOCUMENTS


1 T-500 041 PRACTICE EAST WALL 3/8" = 1'-0"
2 T-500 041 PRACTICE NORTH WALL 3/8" = 1'-0"
3 T-500 041 PRACTICE SOUTH WALL 3/8" = 1'-0"
4 T-500 042 SIMULATION SUITE NURSE STATION 3/8" = 1'-0"
5 T-500 042 SIMULATION SUITE SOUTH WALL 3/8" = 1'-0"
6 T-500 042A HIGH FIDELITY ICU NORTH WALL 3/8" = 1'-0"
7 T-500 042B HIGH FIDELITY ICU EAST WALL 3/8" = 1'-0"
8 T-500 042B HIGH FIDELITY ICU SOUTH WALL 3/8" = 1'-0"
9 T-500 042C HIGH FIDELITY BIRTHING SIM NORTH WALL 3/8" = 1'-0"
10 T-500 042C HIGH FIDELITY BIRTHING SIM SOUTH WALL 3/8" = 1'-0"
11 T-500 042C HIGH FIDELITY BIRTHING SIM WEST WALL 3/8" = 1'-0"
12 T-500 042D HIGH FIDELITY OR NORTH WALL 3/8" = 1'-0"
13 T-500 042D HIGH FIDELITY OR SOUTH WALL 3/8" = 1'-0"
14 T-500 042D HIGH FIDELITY OR WEST WALL 3/8" = 1'-0"
15 T-500 CONTROL ROOMS 042E NORTH WALL & 042F SOUTH WALL TYP. 3/8" = 1'-0"
16 T-500 CONTROL ROOMS 042E SOUTH WALL & 042F NORTH WALL TYP. 3/8" = 1'-0"
17 T-500 CONTROL ROOMS 042E WEST WALL & 042F EAST WALL TYP. 3/8" = 1'-0"
MOUNT PER PROJECT STANDARD COUNTER OUTLET HEIGHT - FLUSH (UNO) - REFER TO ARCH. DRAWINGS
18 T-500 043 PRACTICE NORTH WALL 3/8" = 1'-0"
19 T-500 043 PRACTICE WEST WALL 3/8" = 1'-0"
20 T-500 043 PRACTICE SOUTH WALL 3/8" = 1'-0"
21 T-500 045 GROUP STUDY SOUTH WALL 3/8" = 1'-0"
22 T-500 046 GROUP STUDY NORTH WALL 3/8" = 1'-0"
23 T-500 042 SIMULATION EAST WALL NURSE CALL 3/8" = 1'-0"
24 T-500 042 SIMULATION WEST WALL NURSE CALL 3/8" = 1'-0"
25 T-500 044 GENERAL PURPOSE CLASSROOM EAST WALL 3/8" = 1'-0"
HEADWALL / BED CENTERLINE

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No.	Date	Revision
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Project Name
NURSING RENOVATION

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10-01-2021

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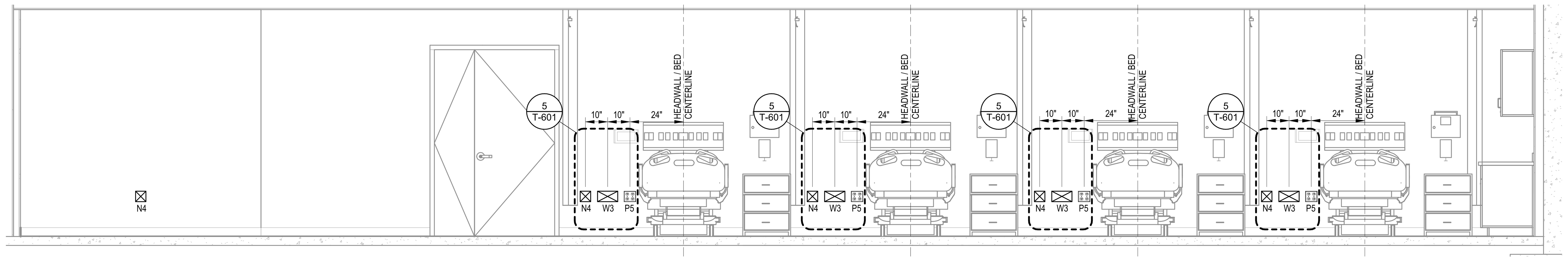
Checked By: NV5

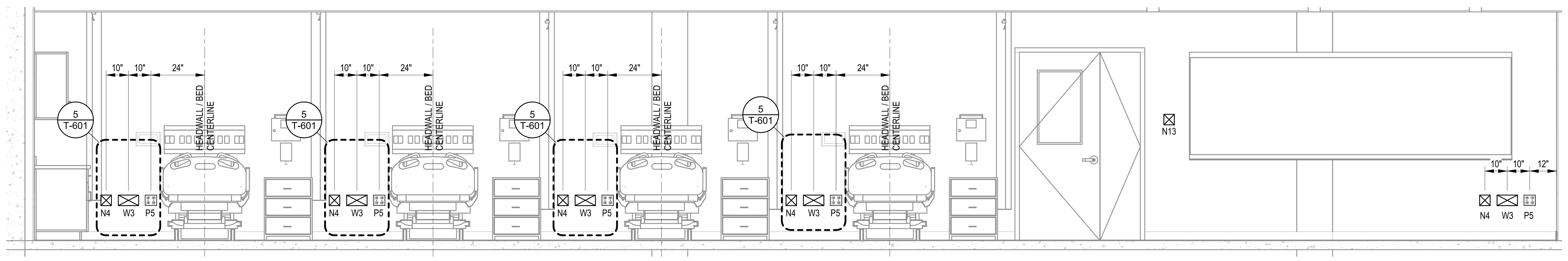
Drawing
TECHNOLOGY INFRASTRUCTURE ELEVATIONS

T-500

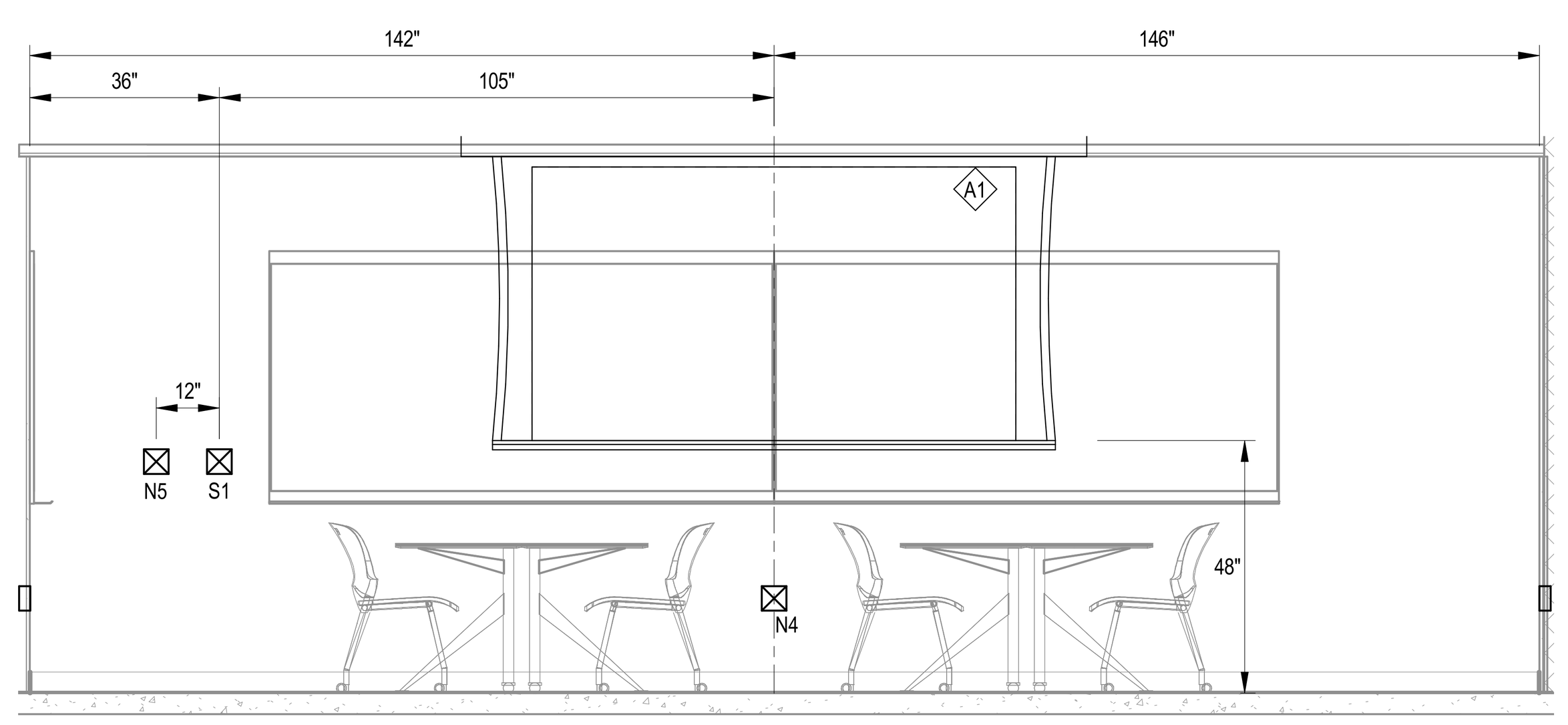
CONTRACT DOCUMENTS



1 / T-501 — 049 NURSING SKILL LAB NORTH WALL
3/8" = 1'-0"



2 / T-501 — 049 NURSING SKILL LAB SOUTH WALL
3/8" = 1'-0"



3 / T-501 — 049 NURSING SKILL LAB WEST WALL
3/8" = 1'-0"

ARCHITECT
Hord Coplan Macht, Inc.
1800 Wazee Street, Suite 450
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p. 303-232-6200
URL: www.catorruma.com

AV / IT
NV5
2650 18th Sty #202
Denver, CO 80211
ph. 303-220-6400
URL: www.nv5.com

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NURSING RENOVATION
3000 Co Rd 114, Glenwood Springs, CO 81601

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ARCHITECTURE
LANDSCAPE ARCHITECTURE
PLANNING
INTERIOR DESIGN

No.	Date	Revision
1	10/20/2021	ADDENDUM 01

Project Name
NURSING RENOVATION

Project Number
221170.00

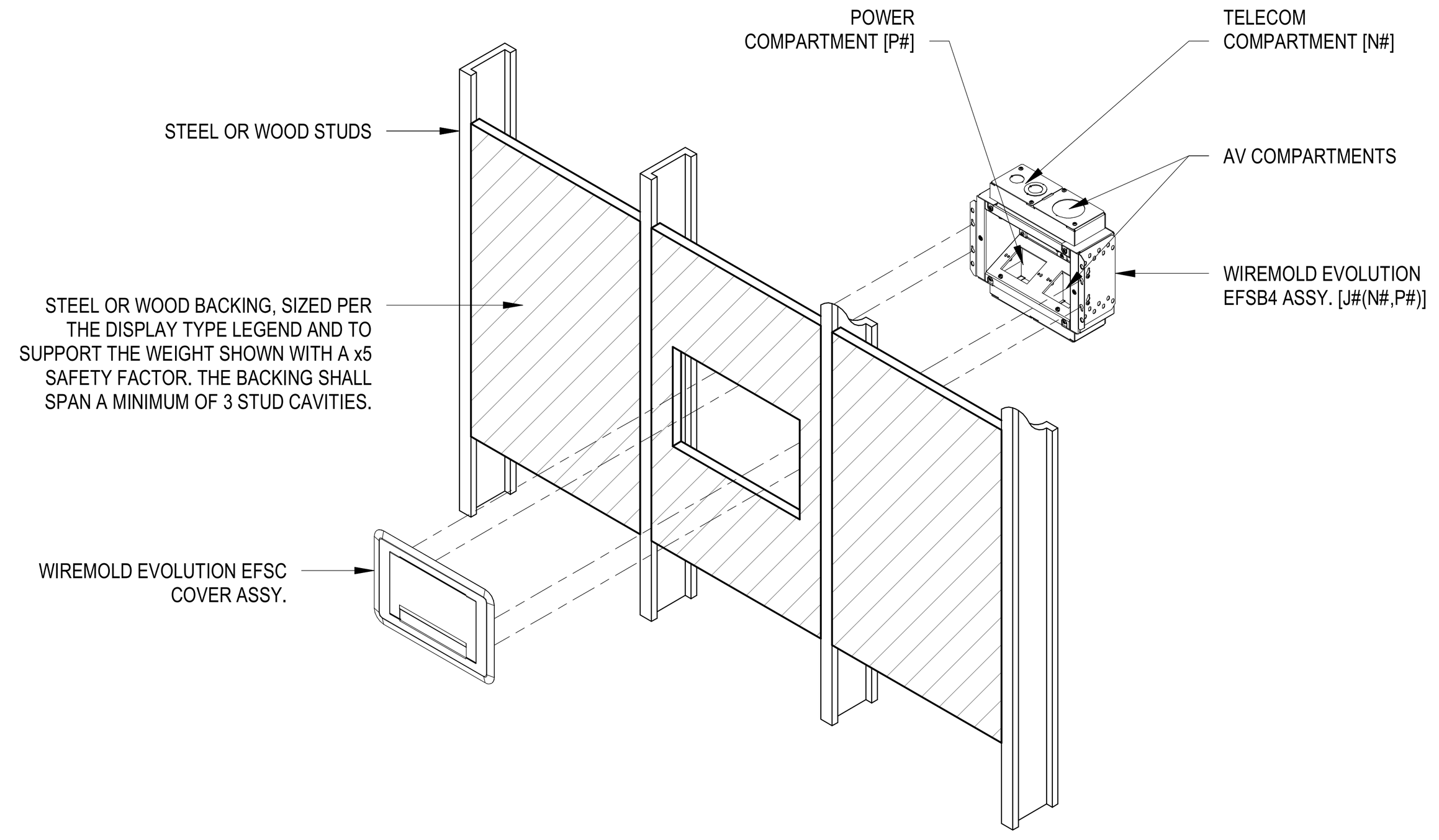
Date (YYYY/MM/DD)
10-01-2021

Drawn By: NV5
Checked By: NV5

Drawing
TECHNOLOGY INFRASTRUCTURE ELEVATIONS

T-501

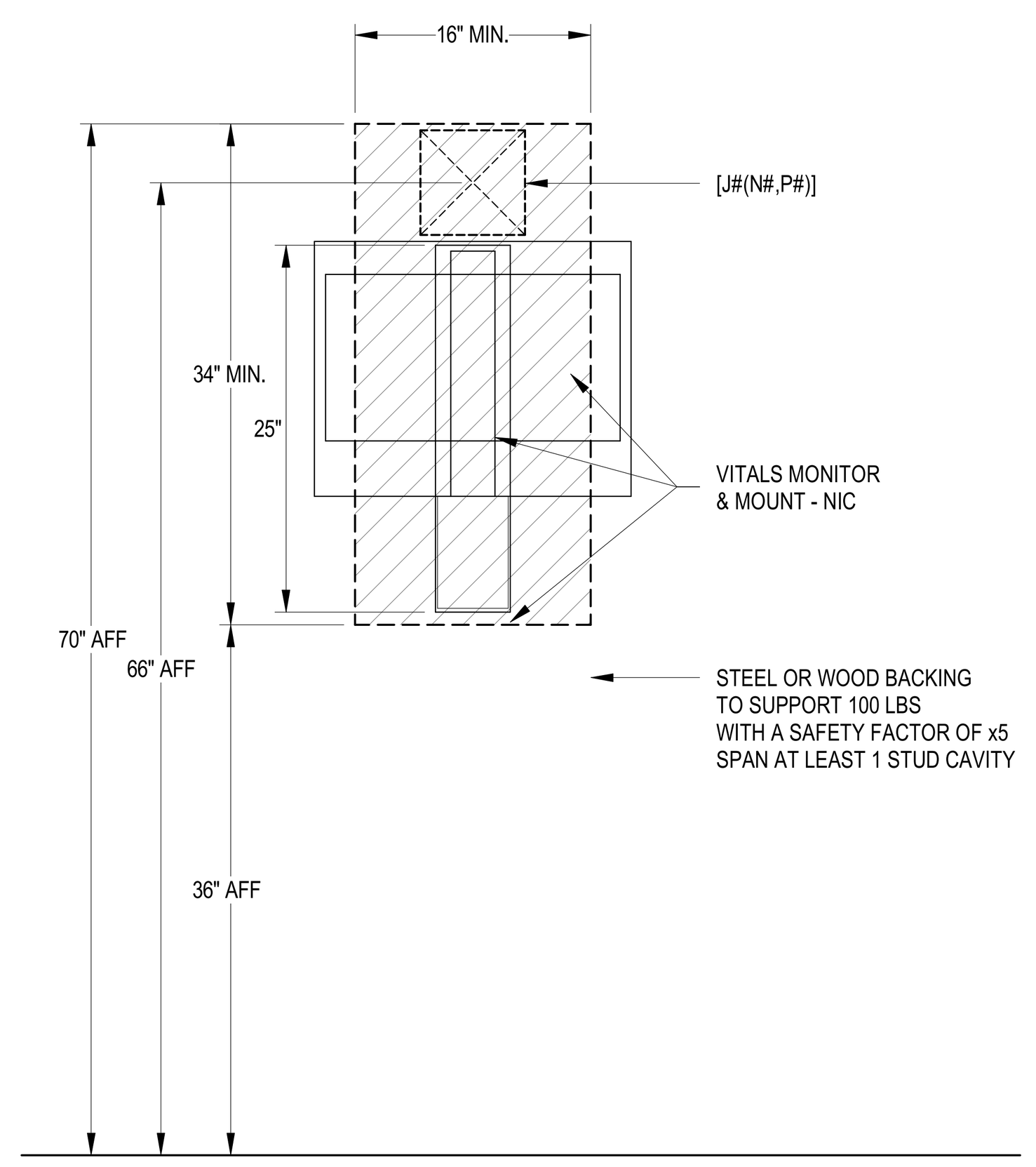
CONTRACT DOCUMENTS



NOTES:

1. BACKING CENTERED AT LOCATION OF FLAT PANEL DISPLAY.
2. ALWAYS SPAN BETWEEN AT LEAST THREE STUD CAVITIES.
3. SEE PARTITION TYPES FOR STUD SIZE AND MATERIAL.
4. VERIFY LOCATIONS OF BACKING WITH PLANS & ROOM ELEVATIONS.
5. FLAT PANEL DISPLAYS AND MOUNTING BRACKETS BY AV CONTRACTOR.

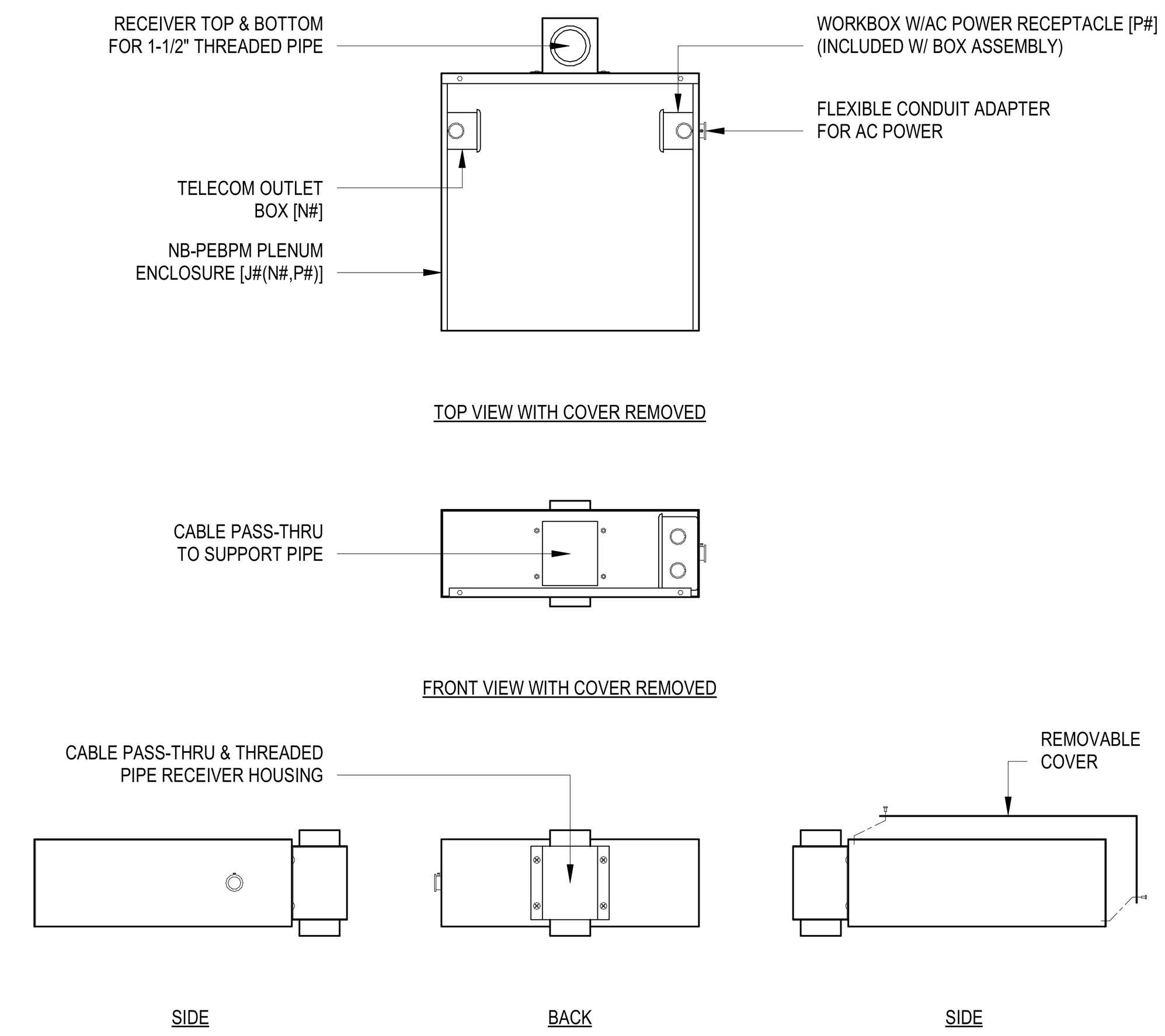
1 T-601 WIREMOLD EVOLUTION EFSB4 FLAT PANEL DISPLAY AND WALL BOX BACKING
NTS



NOTES:

1. BACKING TO SPAN AT LEAST 1 STUD CAVITY.
2. SEE ARCHITECTURAL DRAWINGS FOR STUD SIZE AND TYPE.
3. VERIFY LOCATIONS OF BACKING PLATES WITH TECHNOLOGY DRAWINGS.

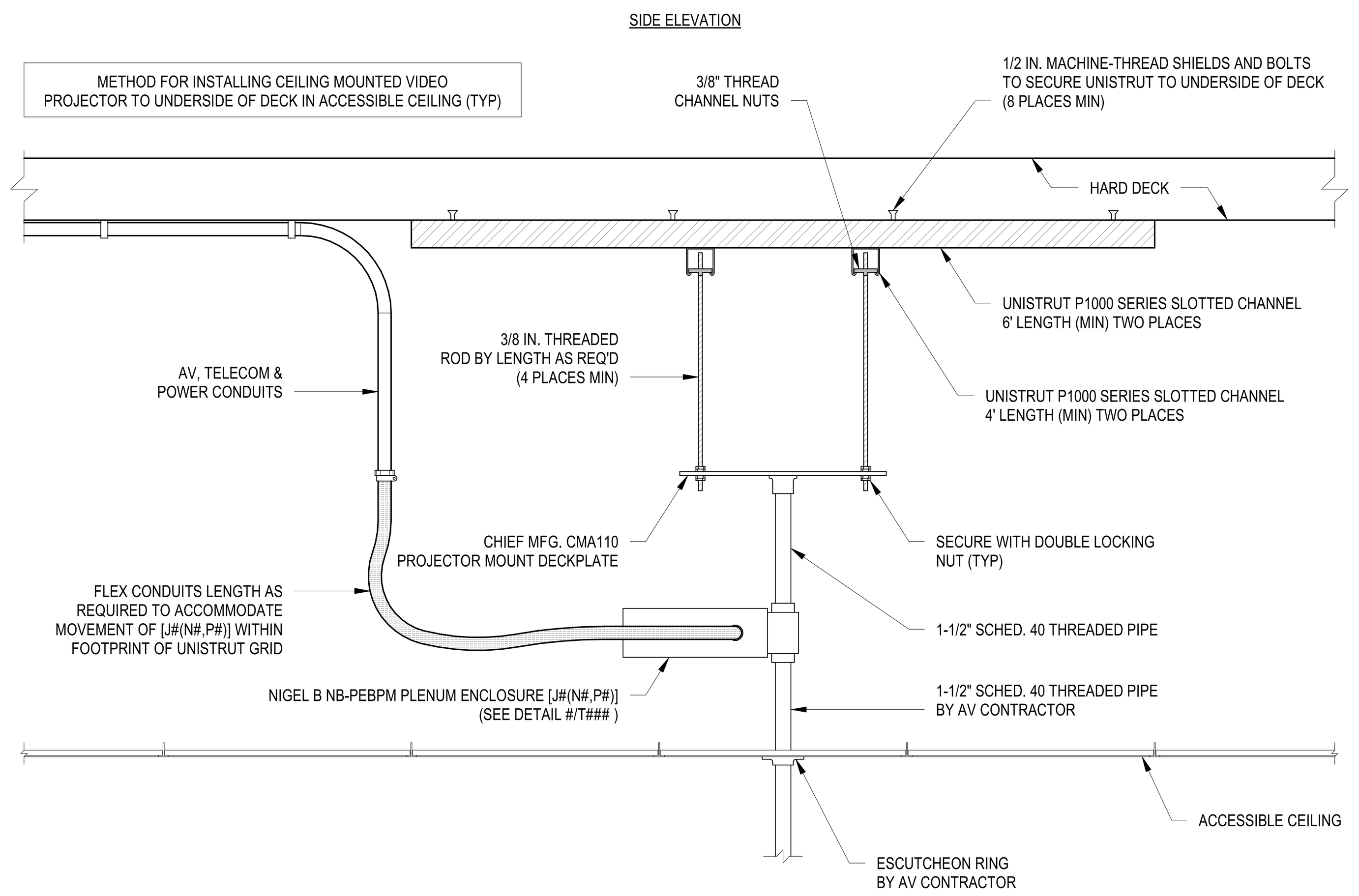
2 T-601 WALL MOUNTED COMPUTER / VITALS MONITOR BACKING
NTS

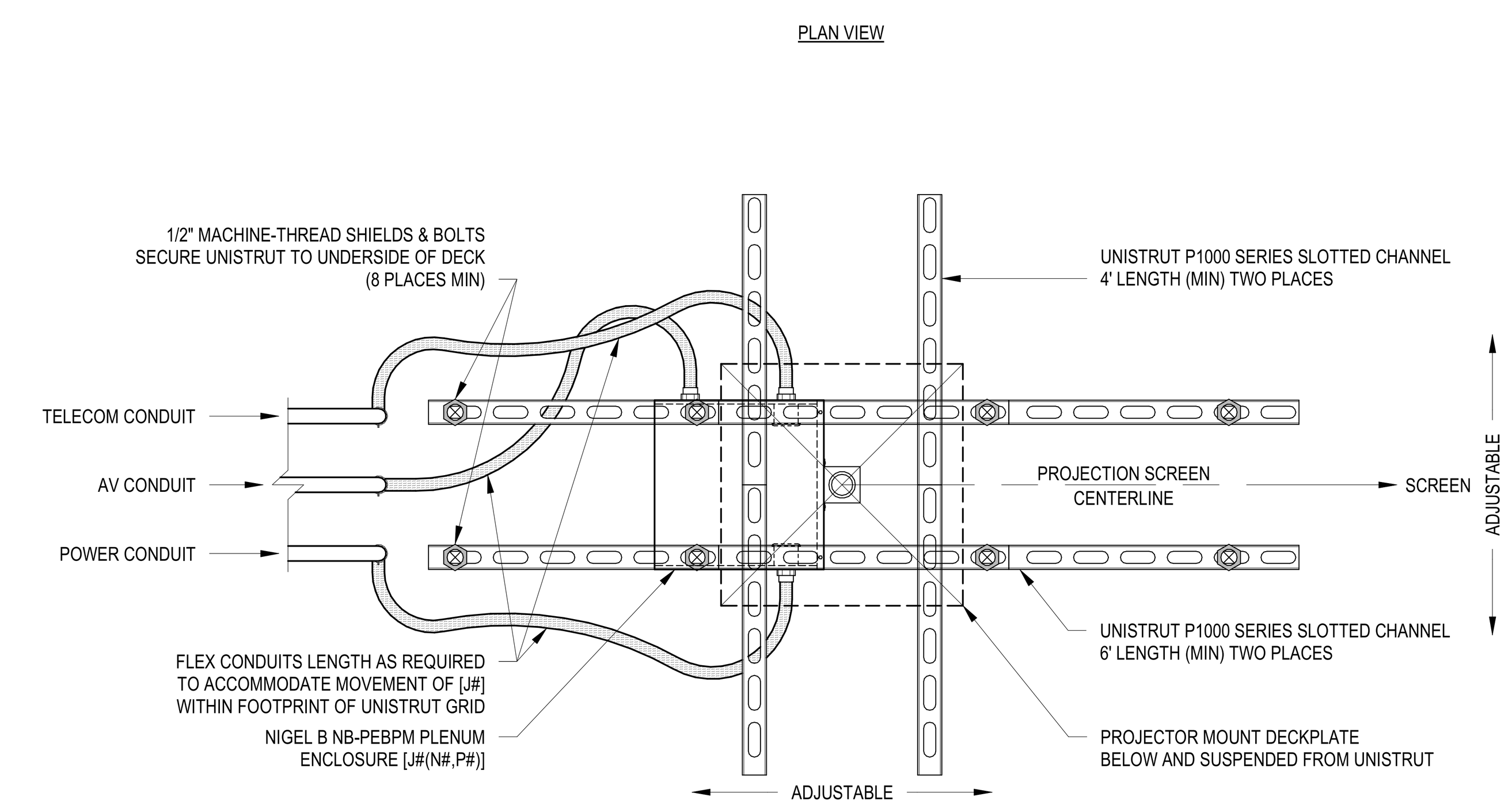


NOTES:

1. PLENUM EQUIPMENT BOX BY GENERAL CONTRACTOR.

3 T-601 NIGEL B DESIGN NB-PEBPM PLENUM ENCLOSURE
NTS

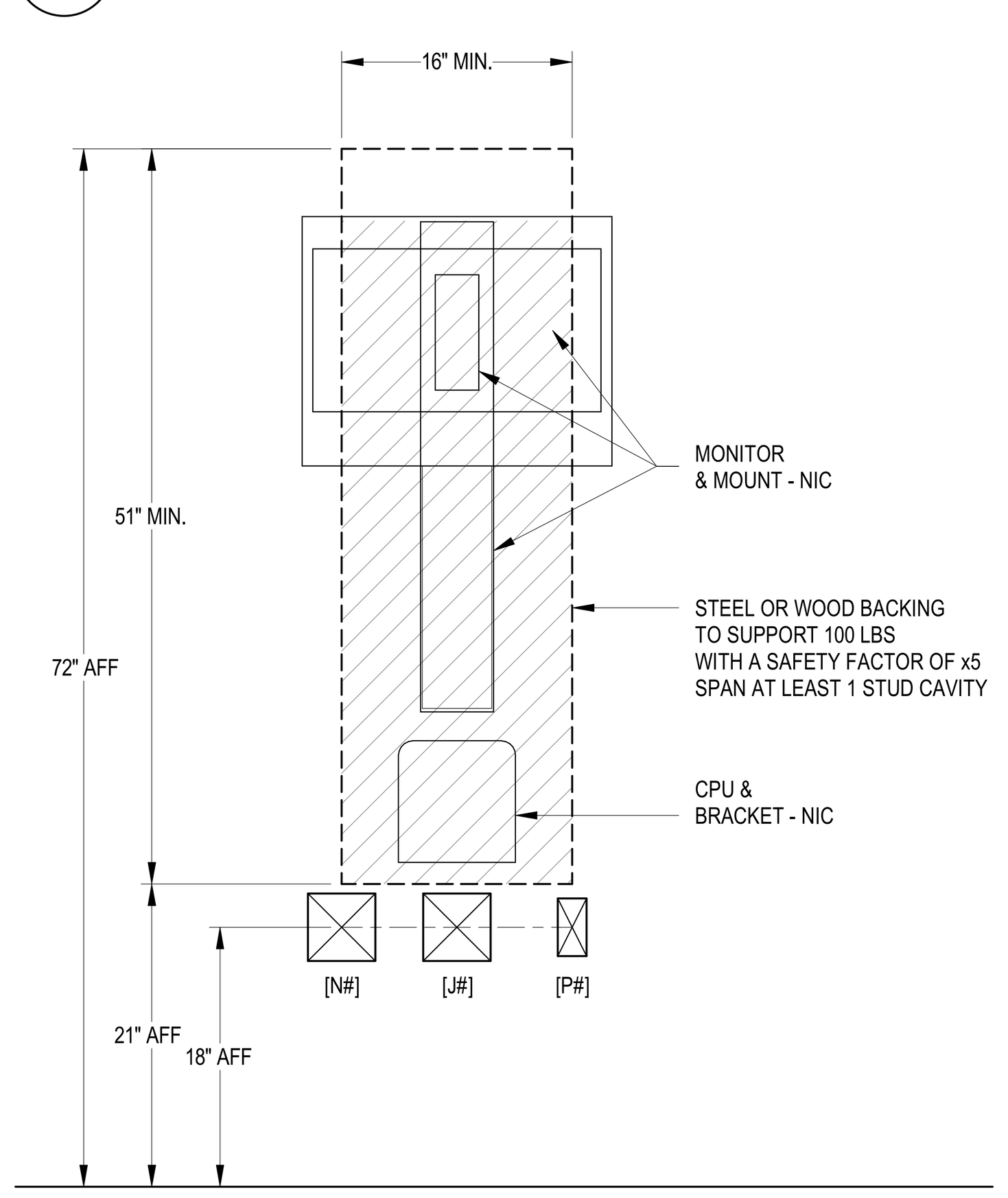




NOTES:

1. UNLESS OTHERWISE INDICATED GENERAL CONTRACTOR TO PROVIDE ALL ELEMENTS SHOWN.

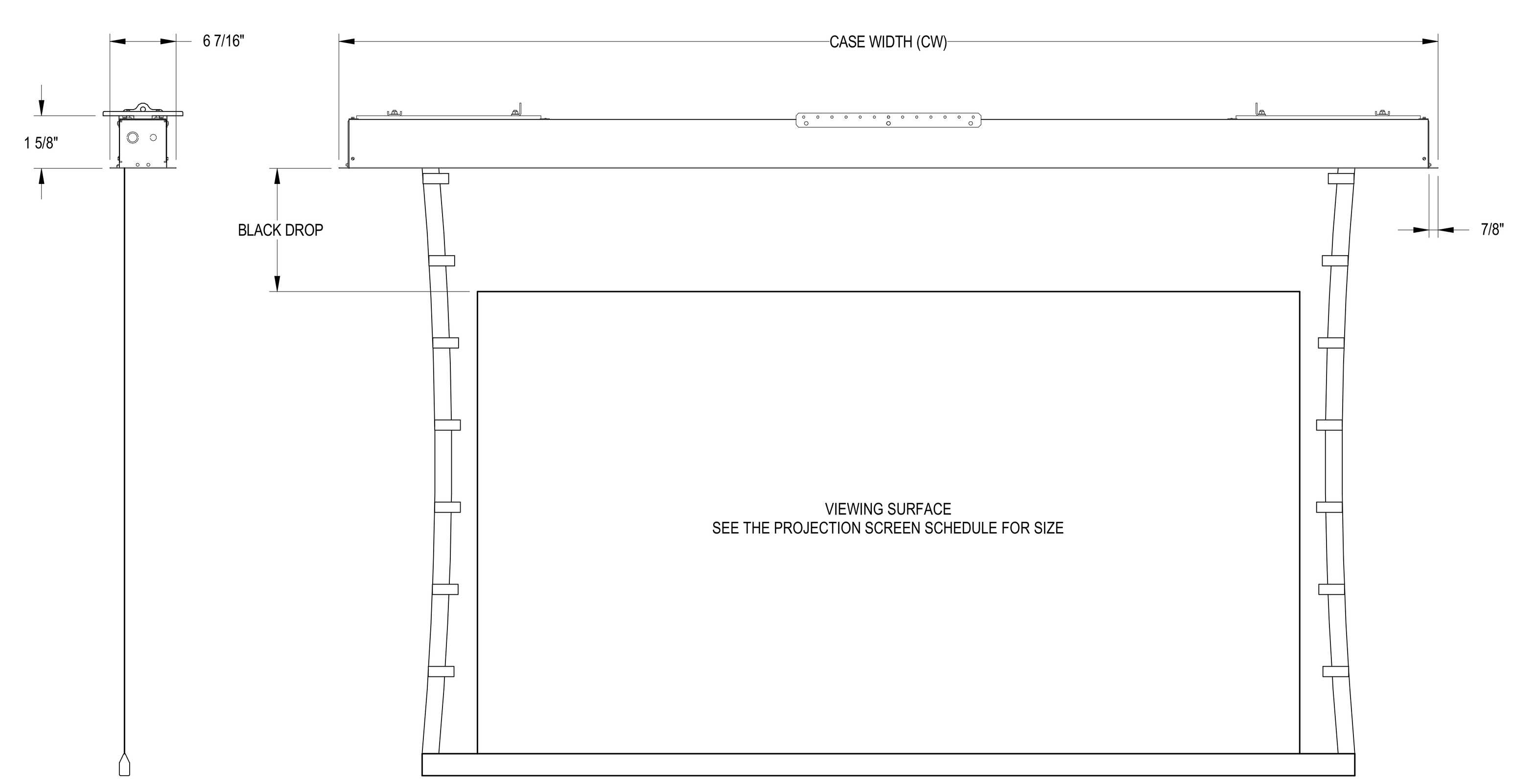
4 T-601 NIGEL B NB-PEBPM CEILING MOUNTED VIDEO PROJECTOR SUPPORT ASSEMBLY
NTS

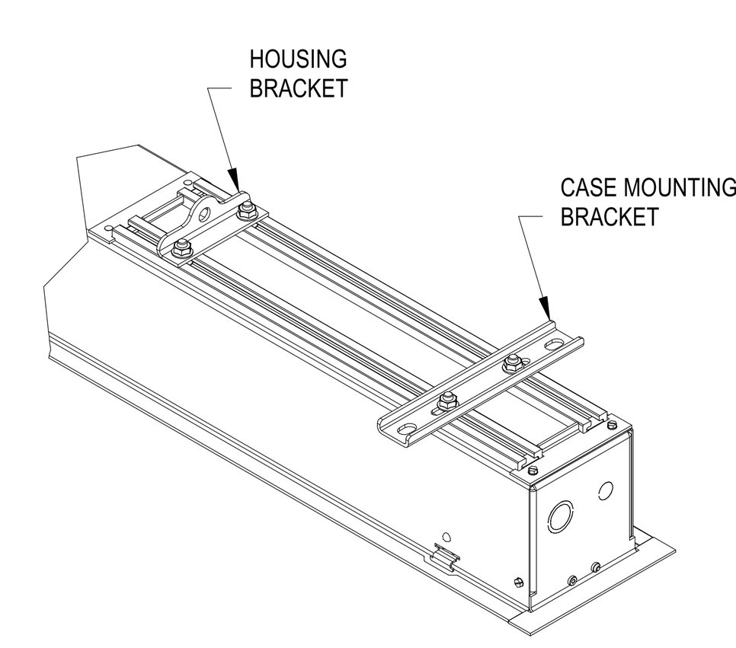


NOTES:

1. BACKING TO SPAN AT LEAST 1 STUD CAVITY.
2. SEE ARCHITECTURAL DRAWINGS FOR STUD SIZE AND TYPE.
3. VERIFY LOCATIONS OF BACKING PLATES WITH TECHNOLOGY DRAWINGS.

5 T-601 WALL MOUNTED COMPUTER BACKING
NTS





ISOMETRIC

6 T-601 DRAPER ACCESS FIT/SERIES V PROJECTION SCREEN
1" = 1'-0"

ARCHITECT
Hord Coplan Macht, Inc.
1800 Wazee Street, Suite 450
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URL: www.catorruma.com

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PLANNING
INTERIOR DESIGN

No.	Date	Revision
1	10/20/2021	ADDENDUM 01

Project Name
NURSING RENOVATION

Project Number
221170.00

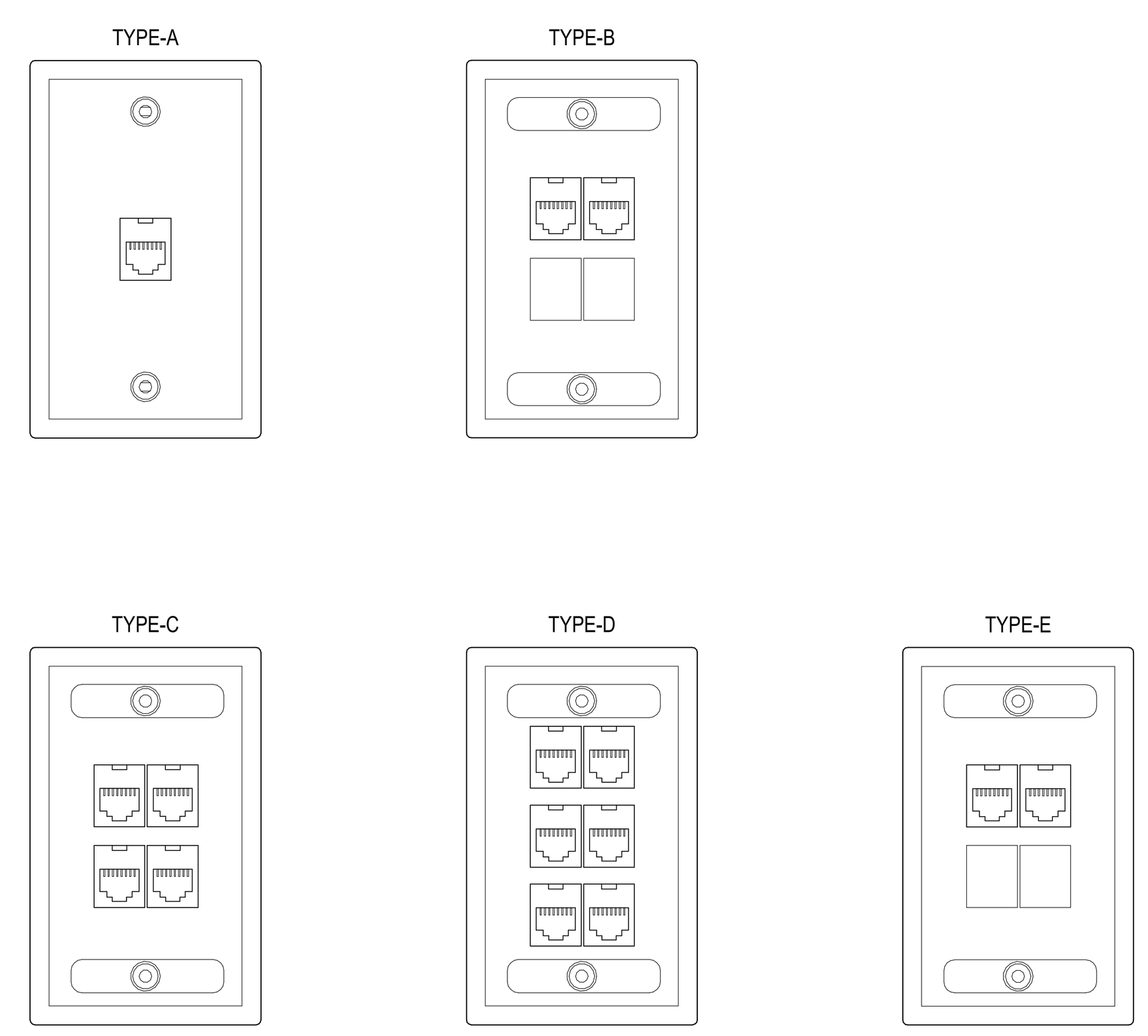
Date (YYYY/MM/DD)
10-01-2021

Drawn By: NV5
Checked By: NV5

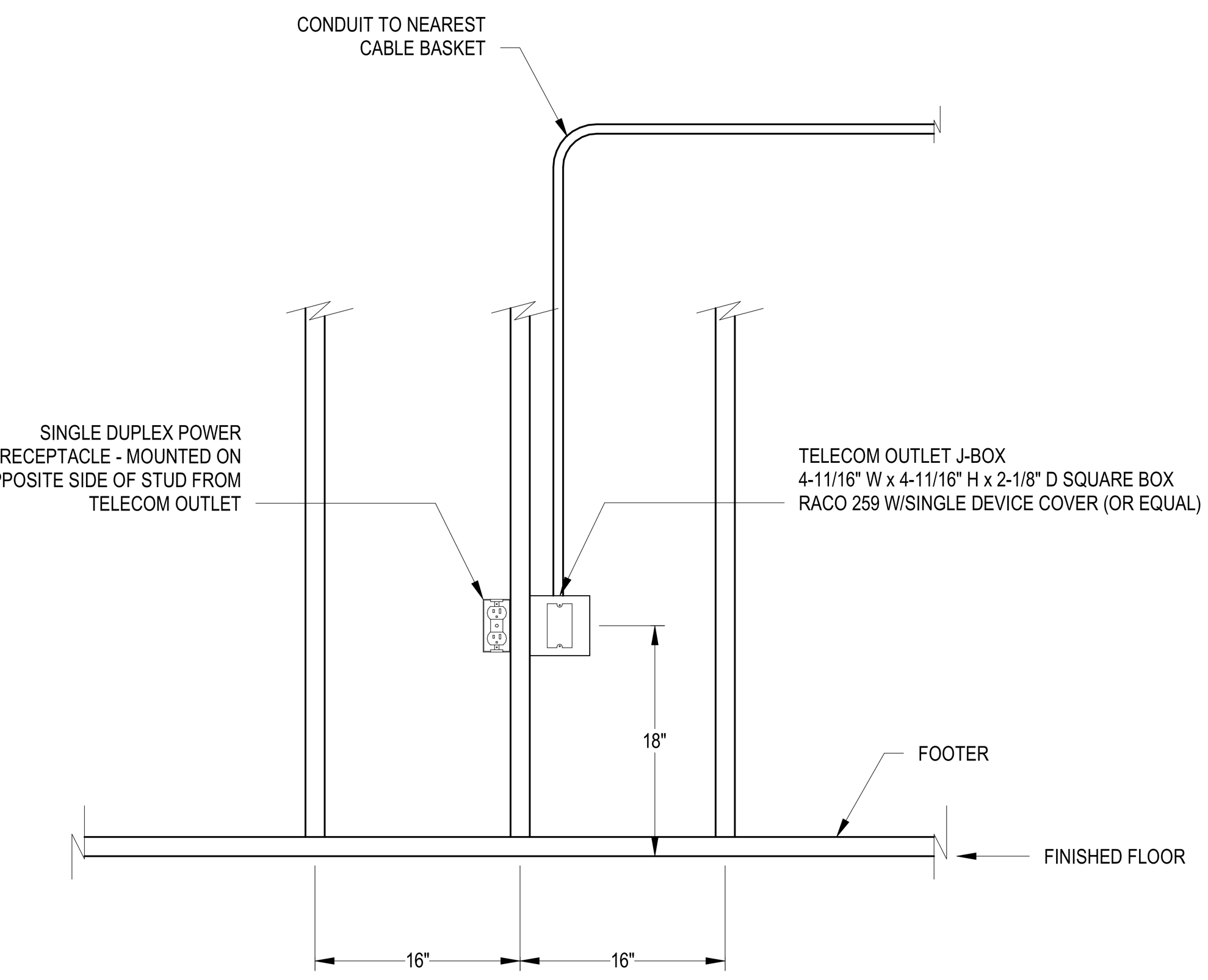
Drawing
TECHNOLOGY INFRASTRUCTURE DETAILS

T-601

CONTRACT DOCUMENTS



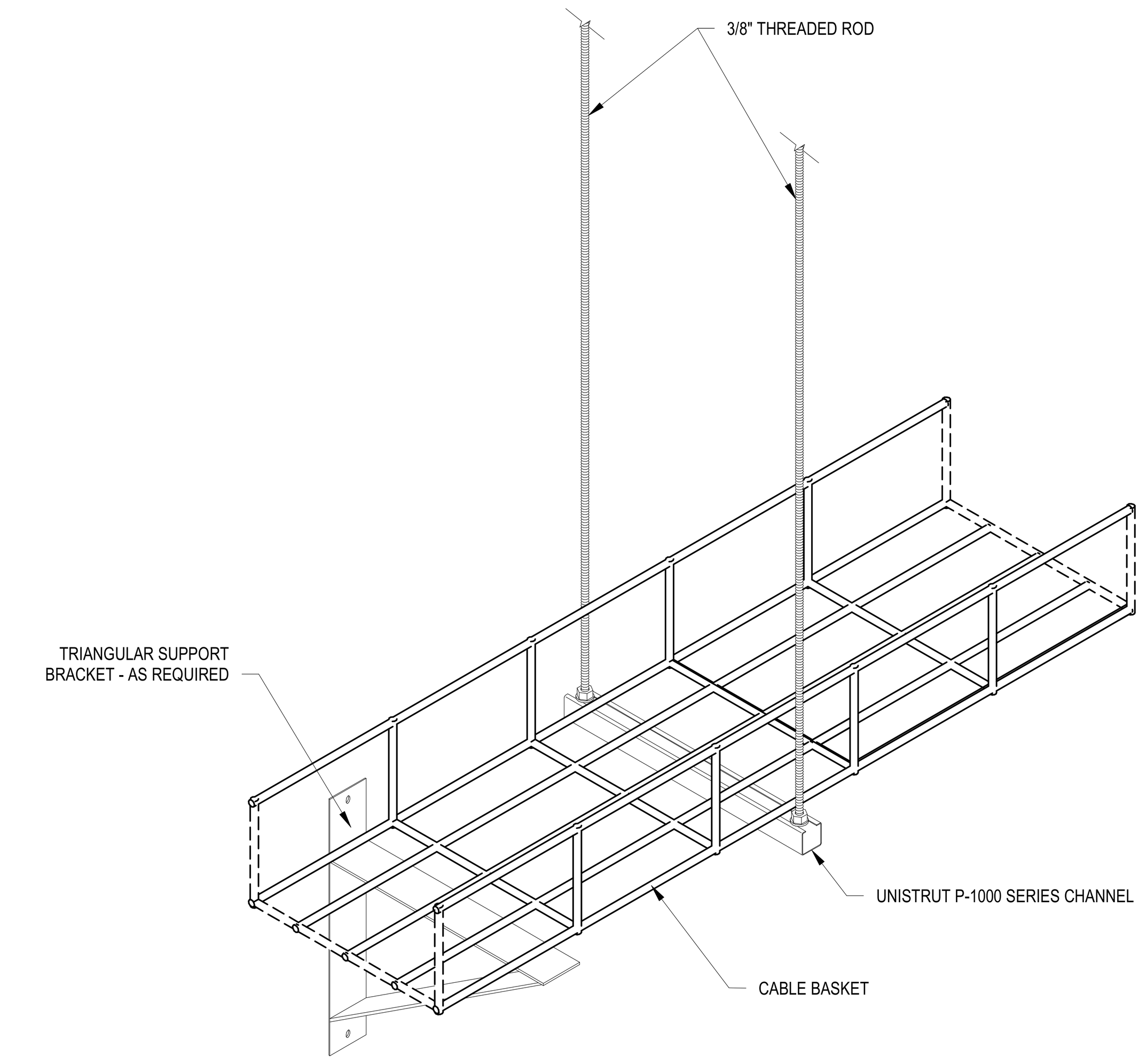
1 T-701 TELECOM FACEPLATES
6" = 1'-0"



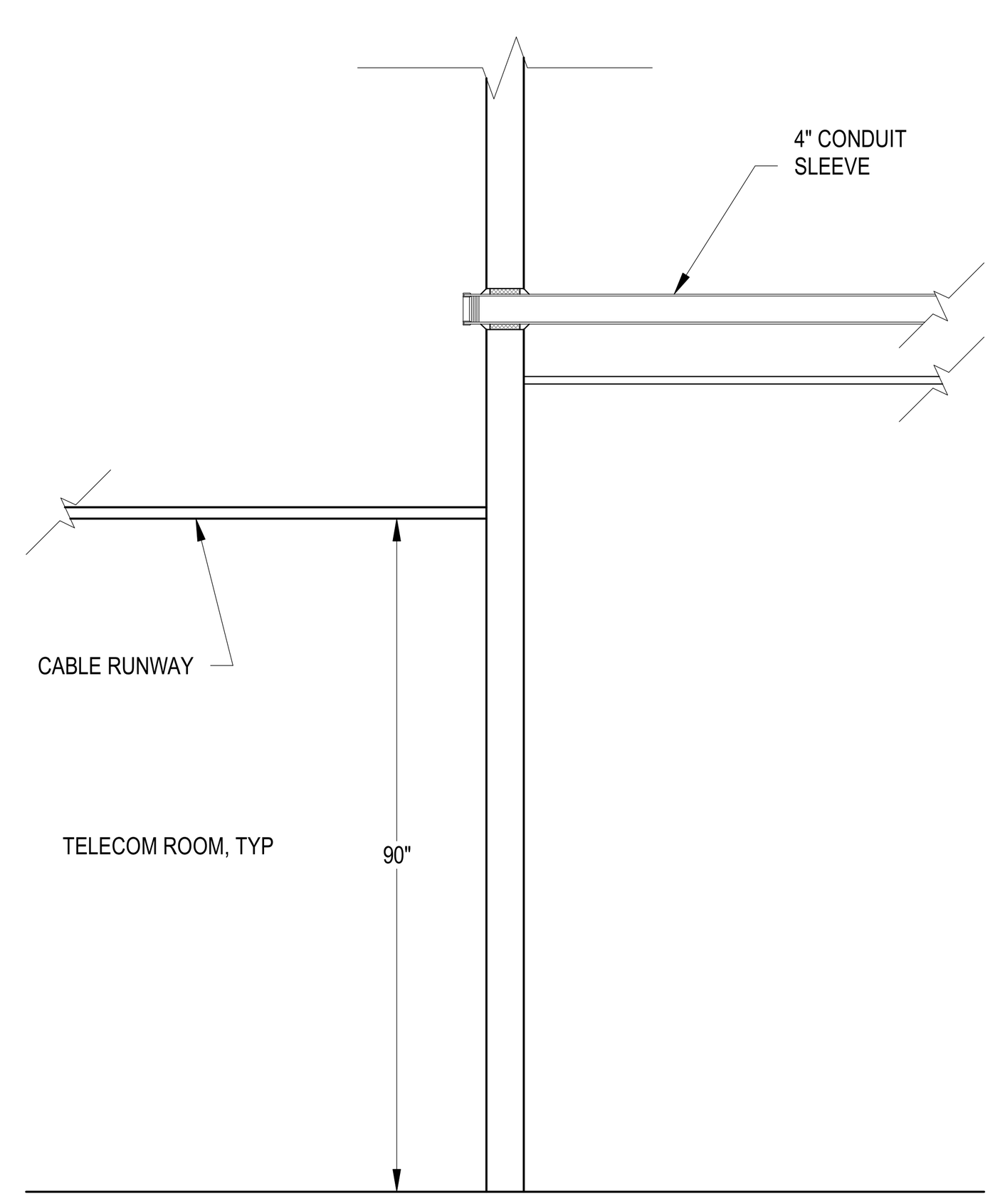
NOTES:

1. LOCATE POWER RECEPTACLE ON SIDE OF STUD CLOSEST TO ROOM ENTRANCE.
2. POWER RECEPTACLE TO BE LOCATED WITHIN 36" OF THE TELECOM WALL OUTLET.
3. SEE THE "TELECOM TYPICAL CONDUIT RISER" 1/T-402 FOR CONDUIT REQUIREMENTS BY TELECOM JUNCTION BOX TYPE.

2 T-701 TELECOM OUTLET W/SINGLE DUPLEX POWER
1" = 1'-0"

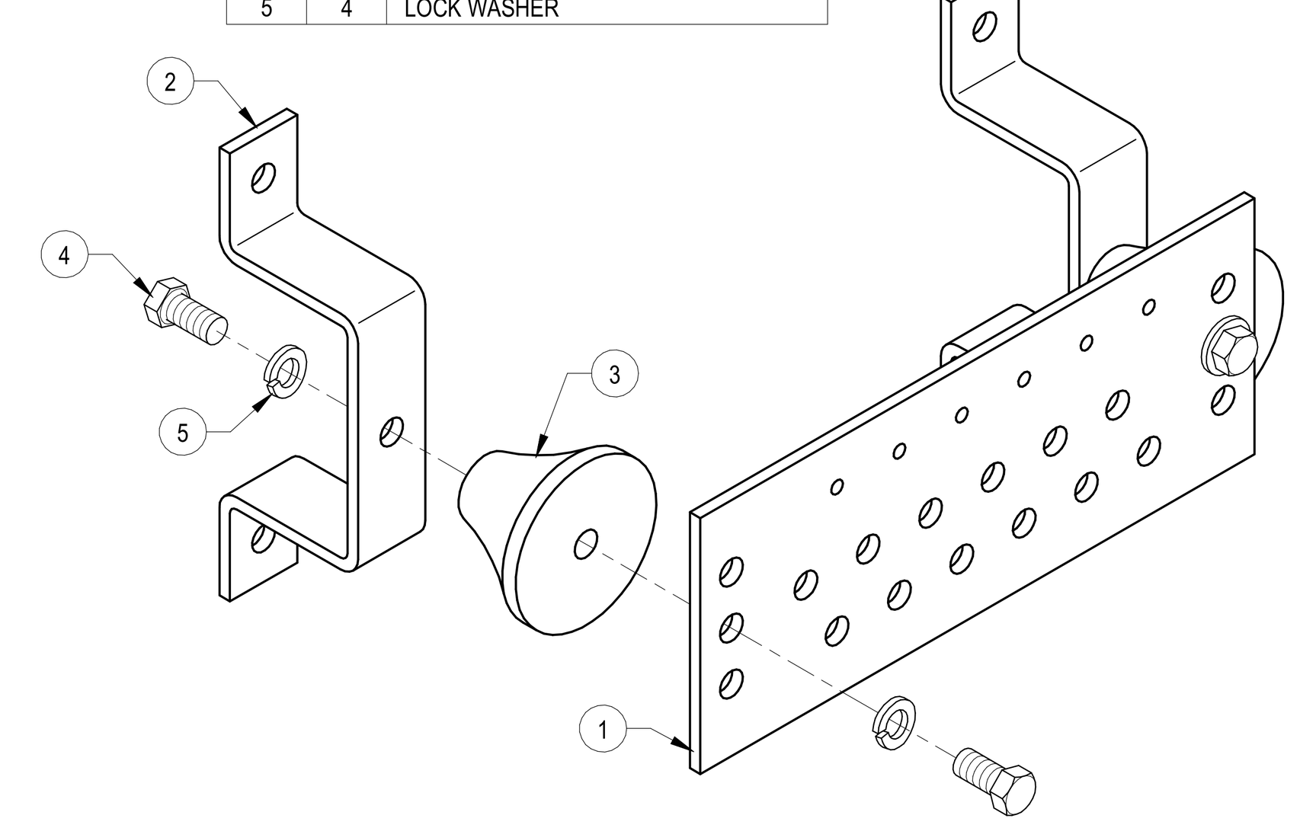


3 T-701 SUPPORT - SINGLE CABLE BASKET
1" = 1'-0"

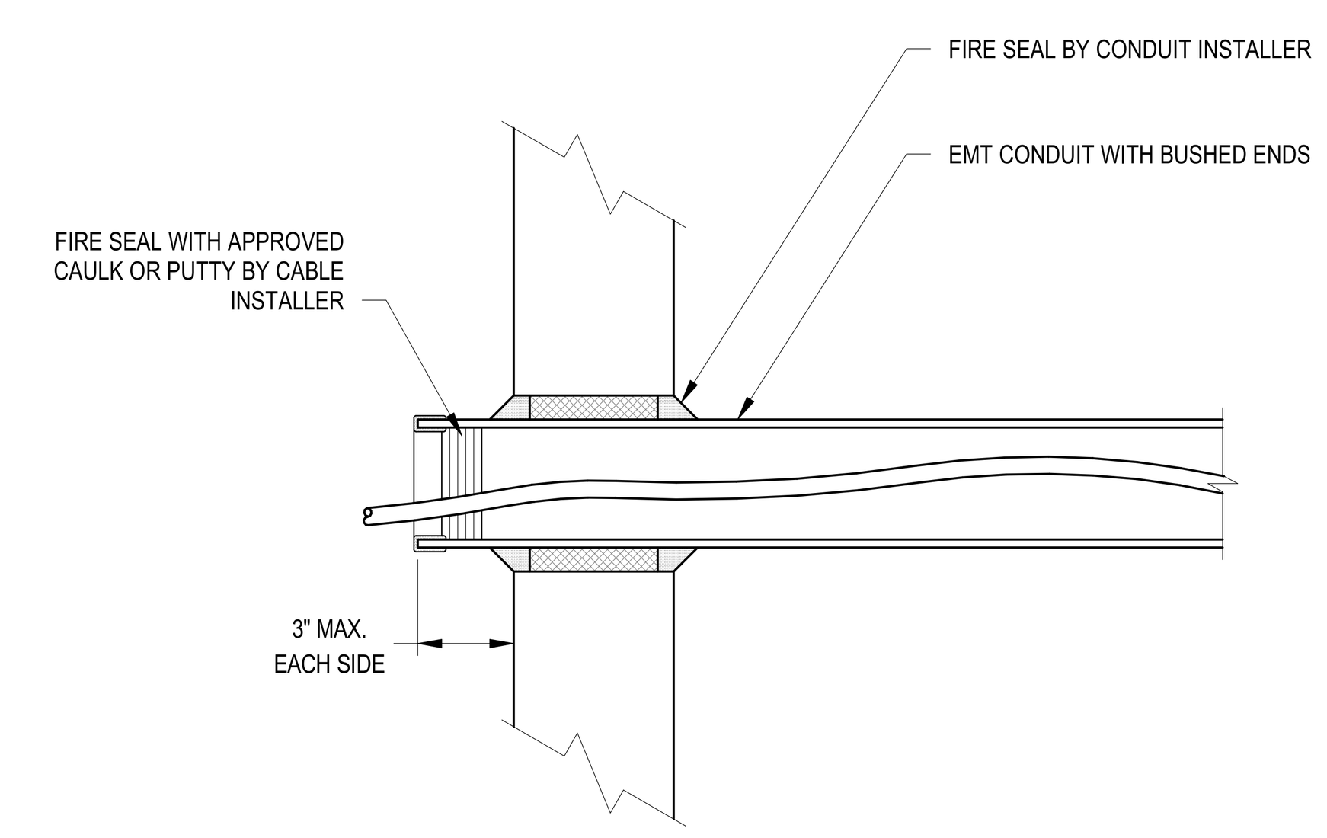


4 T-701 WALL SECTION - TELECOM ROOM
1/2" = 1'-0"

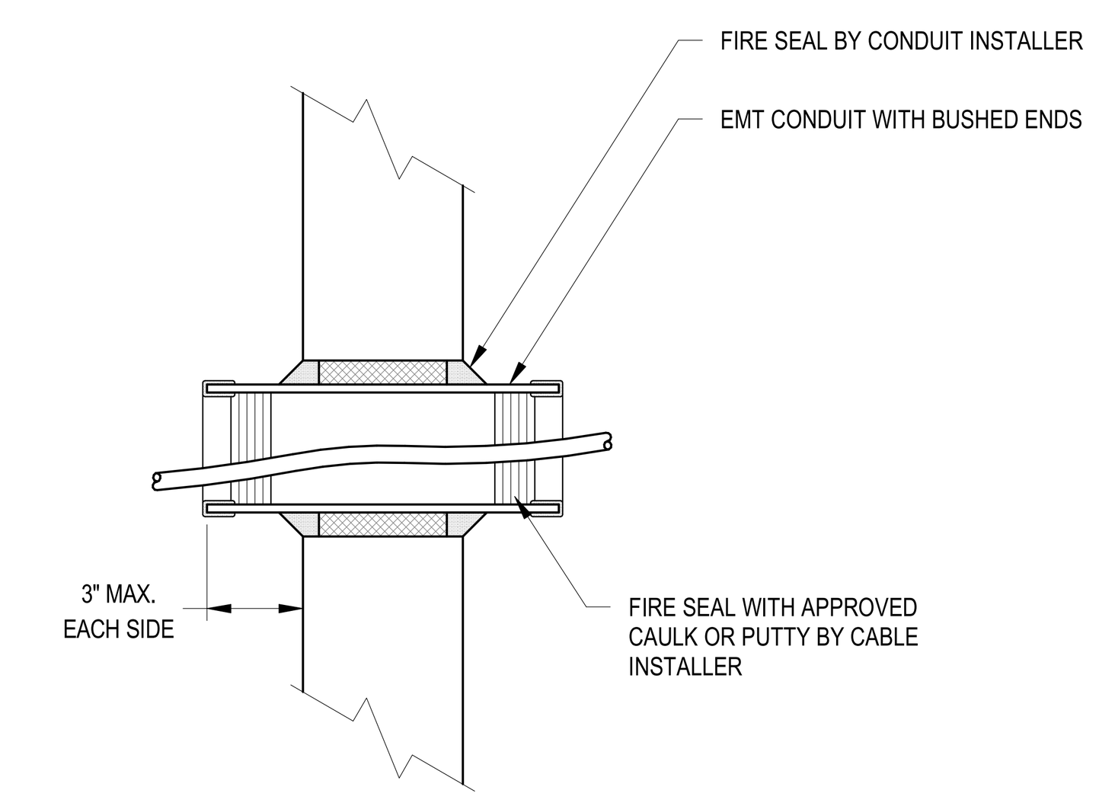
ITEM	QTY	DESCRIPTION
1	1	GROUND BAR
2	2	WALL MOUNTING BRACKET
3	2	INSULATOR
4	4	5/8-11 x 1" HHCS
5	4	LOCK WASHER



5 T-701 GROUNDING BUSBAR
4" = 1'-0"



6 T-701 CONDUIT SECTION - FIRE RATED WALL
2" = 1'-0"



7 T-701 CONDUIT SECTION - FIRE RATED WALL
2" = 1'-0"

ARCHITECT
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No.	Date	Revision
1	10/20/2021	ADDENDUM 01

Project Name
NURSING RENOVATION

Project Number
221170.00

Date (YYYY/MM/DD)
10-01-2021

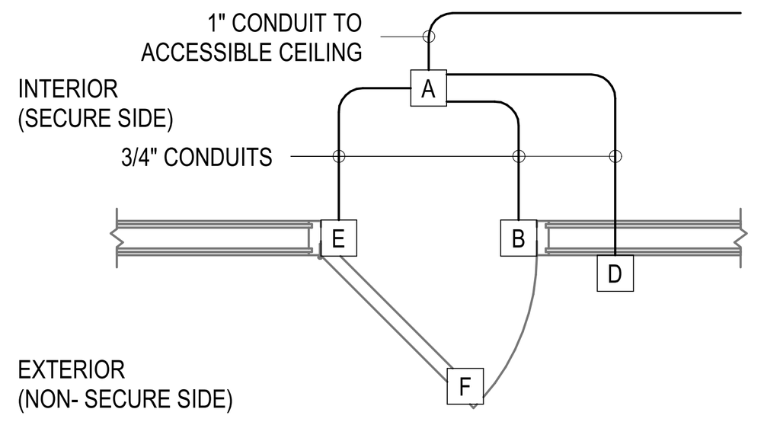
Drawn By: NV5
Checked By: NV5

Drawing
TELECOM DETAILS

T-701
1

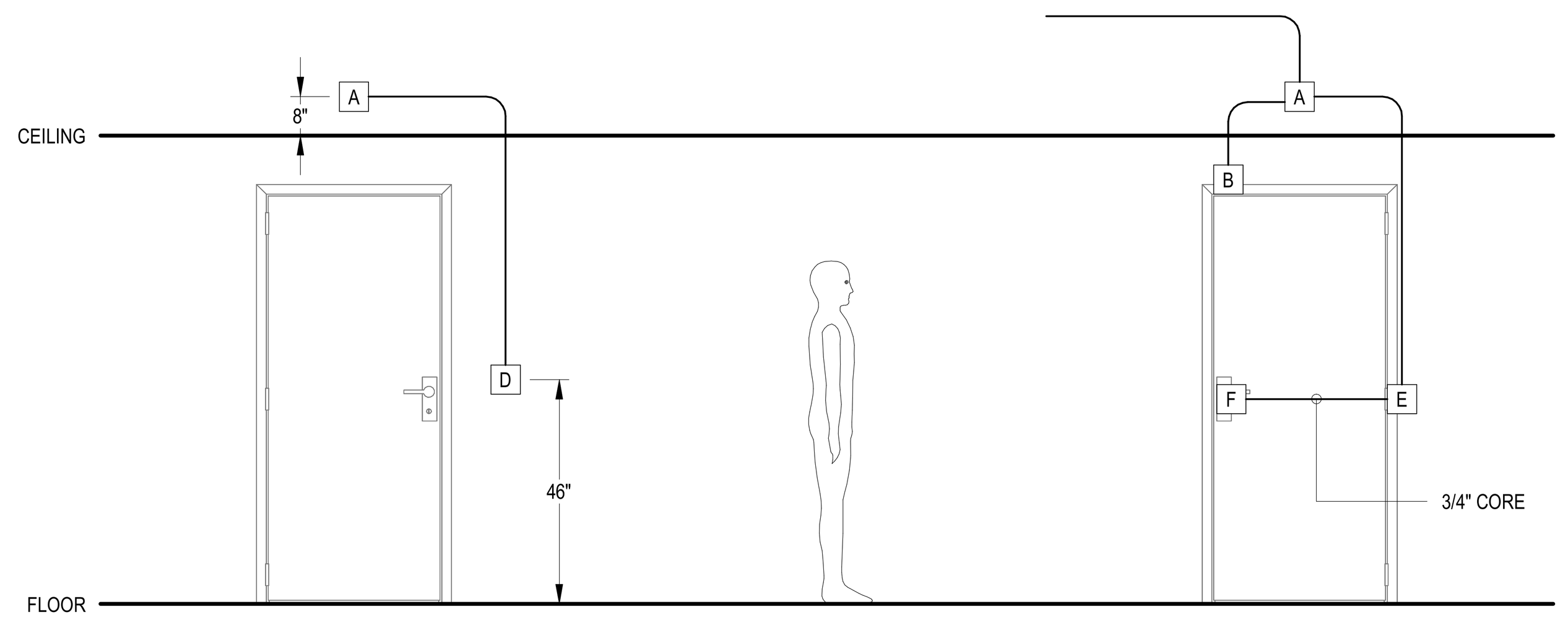
CONTRACT DOCUMENTS

10/20/2021 12:48:27 PM C:\Revit\Local Files\2020\!3570 CMC Nursing Sim Spring_Tech_R20_jeff.portenier.rvt



PLAN VIEW

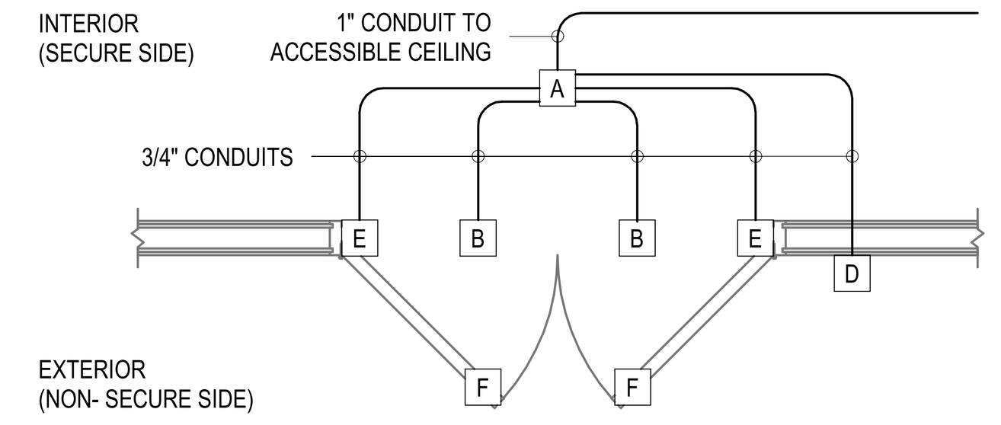
SYMBOL	EQUIPMENT DESCRIPTION	QTY.	INFRASTRUCTURE
A	JUNCTION BOX	1	8" x 8" x 4" BOX
B	RECESSED DOOR CONTACT	1	MOUNTED IN DOOR JAMB
-	-	-	-
D	CARD READER	1	MOUNT TO FLUSH BOX PER ARCHITECT DIMENSIONS
E	ELECTRIFIED HINGE OR EPT	1	BY DOOR HARDWARE
F	ELEC LEVER SET W/ RTE SW.	1	BY DOOR HARDWARE



EXTERIOR ELEVATION (NON-SECURE SIDE)
SINGLE DOOR

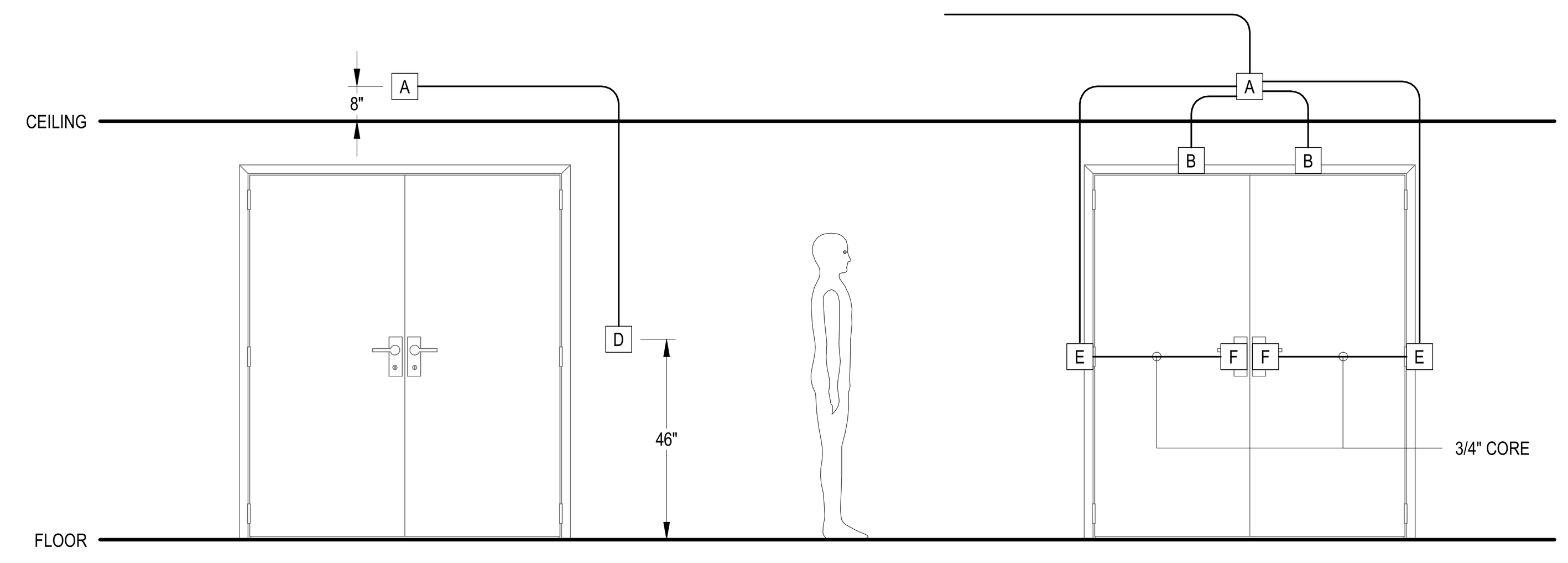
INTERIOR ELEVATION (SECURE SIDE)
SINGLE DOOR

1
Y-501
SINGLE DOOR - READER CONTROLLED W/ ELECTRIFIED HARDWARE
NTS



PLAN VIEW

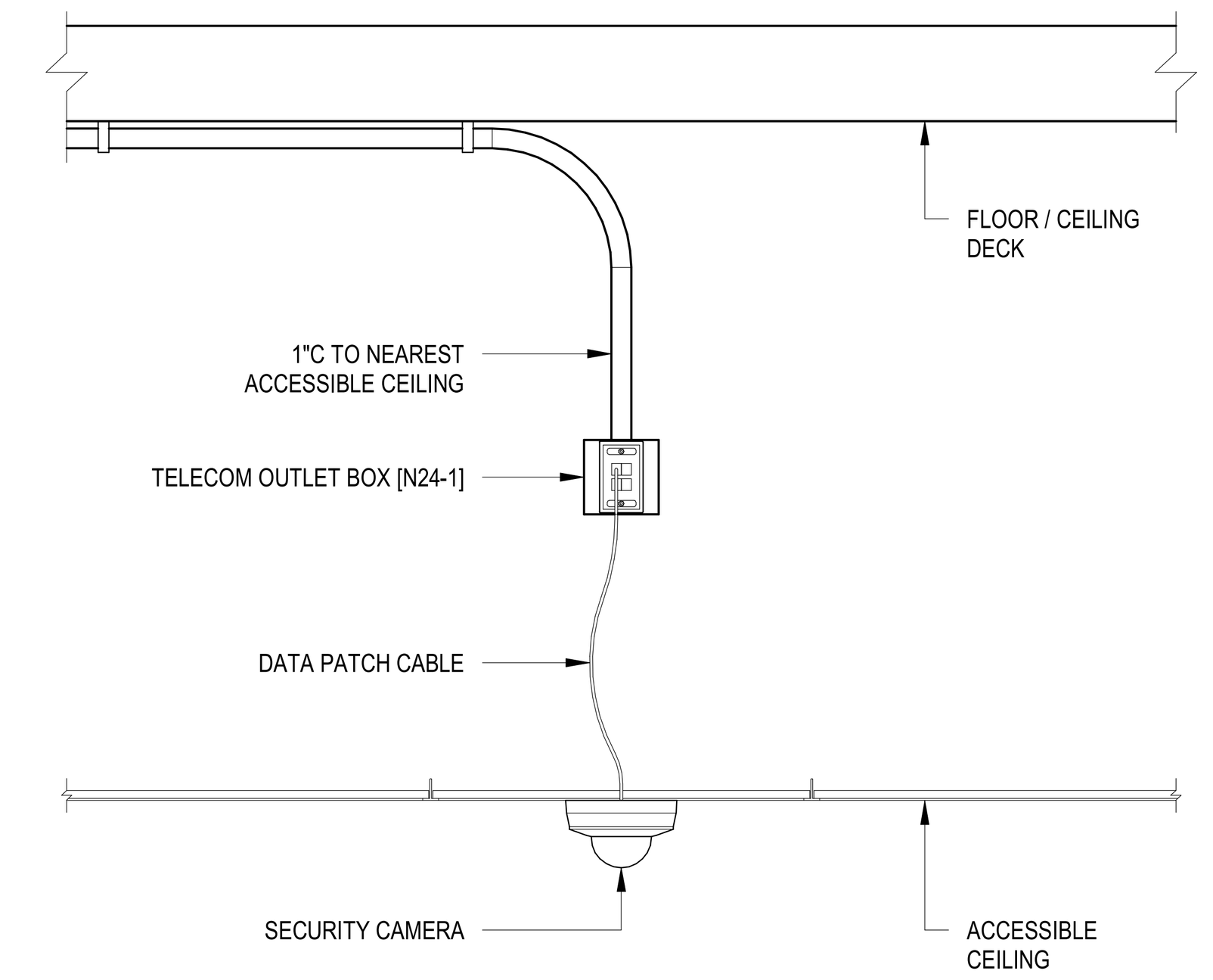
SYMBOL	EQUIPMENT DESCRIPTION	QTY.	INFRASTRUCTURE
A	JUNCTION BOX	1	8" x 8" x 4" BOX
B	RECESSED DOOR CONTACT	2	MOUNTED IN DOOR JAMB
-	-	-	-
D	CARD READER	1	MOUNT TO FLUSH BOX, PER ARCHITECT DIMENSIONS
E	ELECTRIFIED HINGE OR EPT	2	BY DOOR HARDWARE
F	ELEC LEVER SET W/ RTE SW.	2	BY DOOR HARDWARE



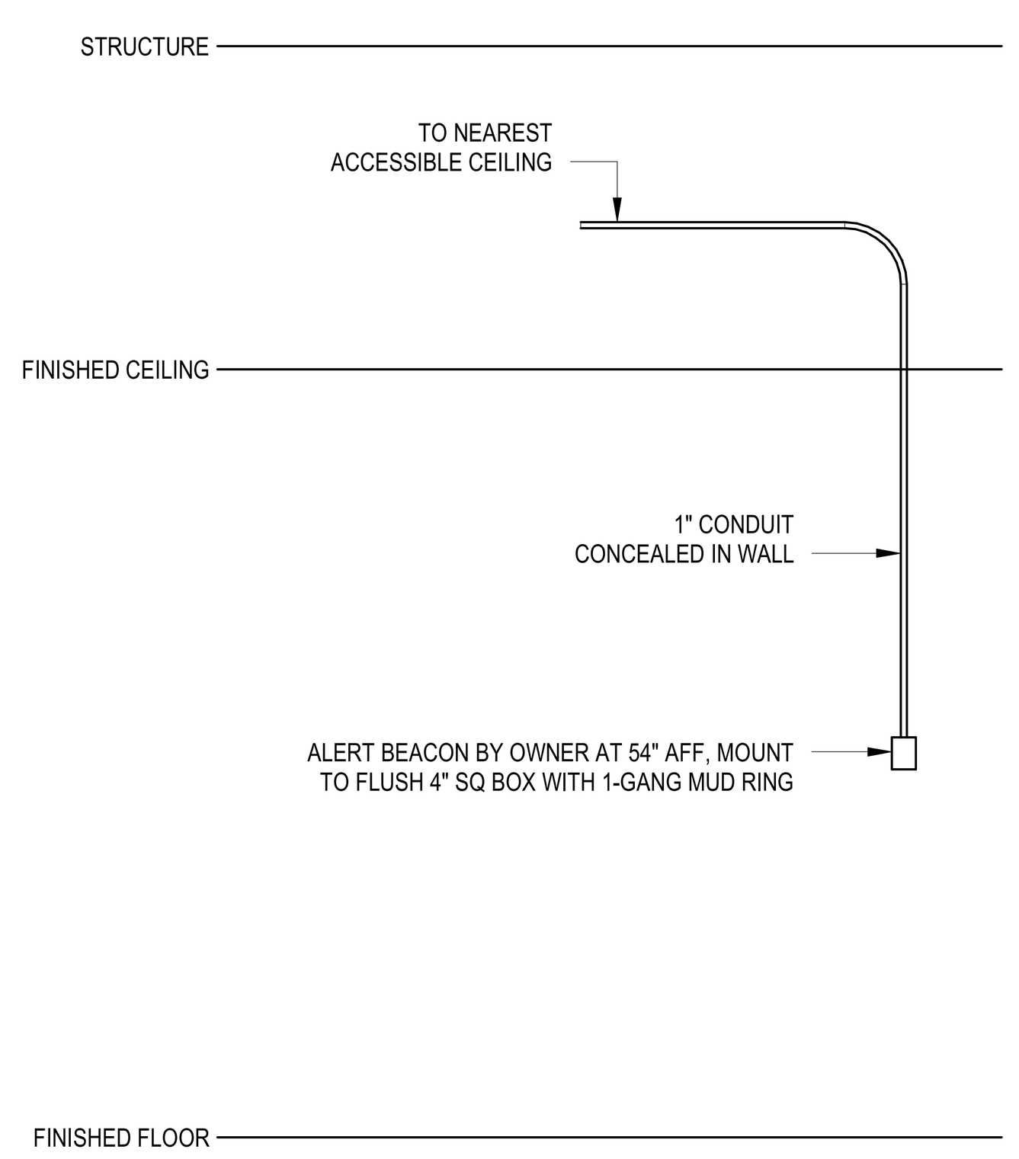
EXTERIOR ELEVATION (NON-SECURE SIDE)
DOUBLE DOOR

INTERIOR ELEVATION (SECURE SIDE)
DOUBLE DOOR

2
Y-501
DOUBLE DOOR - READER CONTROLLED W/ ELECTRIFIED HARDWARE
NTS



3
Y-501
CEILING MOUNT SECURITY CAMERA
NTS



NOTES:

1. UNLESS OTHERWISE INDICATED GENERAL CONTRACTOR TO PROVIDE ALL ELEMENTS SHOWN.

4
Y-501
ALERT BEACON - FLUSH WALL MOUNT
NTS

ARCHITECT
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INTERIOR DESIGN

No.	Date	Revision
1	10/20/2021	ADDENDUM 01

Project Name
NURSING RENOVATION

Project Number
221170.00

Date (YYYY/MM/DD)
10-01-2021

Drawn By: NV5
Checked By: NV5

Drawing
SECURITY DETAILS

Y-501

CONTRACT DOCUMENTS

10/20/2021 12:48:29 PM

CMC STUDENT COMMONS & CAMPUS IMPROVEMENTS

GLENWOOD SPRINGS, CO

ORDER/PROJECT #: -

SUBMITTALS FOR CONSTRUCTION

NOTE:

SUBMITTALS GENERATED FROM THE FOLLOWING PROJECT DOCUMENTATION:
CRESTRON QUOTATION #: - QUOTE REVISION: - QUOTE DATE: -

PROJECT SPECIFICATIONS:
PROJECT DRAWINGS:

ENGINEER: CATOR RUMA **REVISION:** CONSTRUCTION DOCS **DATE:** 02/22/2019
IF THIS DOCUMENTATION IS NOT CURRENT IT IS THE RESPONSIBILITY OF THE APPROVER TO PROVIDE THE LATEST REVISION OF THE PROJECT DRAWINGS TO CRESTRON LIGHTING PROJECTS.

Table of Contents

THIS COVER PAGE MUST BE SIGNED & RETURNED TO CLCOrders@CRESTRON.COM TO APPROVE THIS PROJECT FOR MANUFACTURING.

IN ADDITION TO THIS APPROVAL, THE ELECTRICAL DISTRIBUTOR'S RELEASE INTENT (EMAIL OR RELEASE PO) IS REQUIRED. APPROVED & RELEASED PROJECTS SHIP WITHIN 15 BUSINESS DAYS.

☐ Accepted
☐ Accepted with Notations
☐ Revise & Resubmit
☐ Rejected

_____
SIGNATURE DATE

_____
TYPED / PRINTED NAME

_____
COMPANY

CONTACT INFORMATION:

THE CRESTRON PROJECT MANAGER WILL BE YOUR CONTACT THROUGHOUT THIS PROJECT FOR ALL INFORMATION REGARDING YOUR ORDER, SHIPMENT, PROGRAMMING, OR SCHEDULING.

THE CRESTRON FIELD ENGINEER IS RESPONSIBLE FOR ADVISING THE CONTRACTOR REGARDING THE INSTALLATION OF THE SYSTEM, AND SHOULD BE THE PRIMARY CONTACT *AFTER* THE ORDER HAS BEEN RELEASED FOR PRODUCTION, AND WHEN YOU HAVE QUESTIONS REGARDING WIRING OR EQUIPMENT INSTALLATION.

FOR QUESTIONS SPECIFICALLY RELATING TO THESE SUBMITTALS, PLEASE CONTACT CLCSUBS@CRESTRON.COM

IF YOU ARE UNSURE OF WHOM TO CONTACT, PLEASE SPEAK WITH YOUR PROJECT MANAGER.

PROJECT MANAGER: JARROD REIMER
EMAIL: JARROD@VISUALINTEREST.COM
PHONE: 720.590.6769

FIELD ENGINEER: -
EMAIL: -
PHONE: -

ALL CRESTRON PROJECT MANAGERS AND PROJECT ENGINEERS ARE BASED IN ROCKLEIGH, NJ, USA.
CRESTRON FIELD ENGINEERS ARE BASED ACROSS THE COUNTRY
OUR NORMAL BUSINESS HOURS ARE M-F 9AM-5:30PM LOCAL TIME

DRAWING SET REVISION HISTORY

REV	DATE	ENG	REVISION DESCRIPTION
0	03/26/2019	LRS	FOR APPROVAL
1	06/05/2019	JNR	FOR RELEASE/CONSTRUCTION
2	09/03/2019	JNR	FOR RELEASE/CONSTRUCTION (PR-20)

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THIS DRAWING SET IS FORMATTED FOR PRINTING AT 11"X17" (B-SIZE/TABLOID). IF THIS DRAWING SET HAS BEEN PRINTED AT A SMALLER SIZE AND IS ILLEGIBLE, CONTACT YOUR PROJECT MANAGER.

PROJECT: CMC STUDENT COMMONS & CAMPUS IMPROVEMENTS
LOCATION: GLENWOOD SPRINGS, CO
ORDER #: -
QUOTE #: -
PO #: -
SALES REP: VISUAL INTEREST
DISTRIBUTOR: QED GRAND JUNCTION

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Tel: 888-273-7876
Fax: 201-767-6011
www.crestron.com

TITLE:
COVER PAGE AND DRAWING INDEX

DRAWING: 01.0
REV: 2
DATE: 09/03/2019
DRAWN BY: JNR

Click here or enter URL for most current documents: ----

Crestron General System Notes

Not all notes will be pertinent to all projects. The installing contractor should review these notes and determine their applicability to the project.

Submittal Approval

- One copy of this submittal package must be stamped and/or signed and approved by the responsible architect/engineer. It should then be forwarded to:
  CLCLighting@crestron.com
- Email is the best method for returning the submittal, but if it must be mailed it should be addressed to:
  Crestron Electronics, Inc.
  6 Volvo Drive
  Rockleigh, NJ 07647
  ATTN: Commercial Lighting
- Please clearly indicate whether this package is accepted as is, accepted with notations, or rejected.
- In the case of "accepted with notations", if the notations are extensive or require substantial changes, Crestron reserves the right to require re-approval of the submittal package after the incorporation of those notations. Additional charges may apply for added equipment or services.
- An order for the dimming system described by this submittal package will be accepted after receipt of the stamped submittal and a valid PO matching the latest revision of the Crestron quotation. After receipt of these items, shipment will be scheduled within 10-15 days. In the case of custom products fabrication may take slightly longer.
- Any changes to this system will result in rescheduling, longer manufacturing time, and/or additional engineering charges.
- Orders canceled after 3 days from Crestron's acceptance of the order or after submittals have been provided will result in cancellation charges.

Color Choices

- Please carefully examine these submittals for notations regarding the color or finish of devices and confirm that all choices are correct. Restocking fees will apply for changing device colors after shipment.

System Programming

- Programming charges include 'Standard' & 'Modified' default keypad and touch screen templates. Additional design fees are required for certain custom graphics. Contact your Crestron Project MANAGER for details and charges.

Control System Power

- It is recommended that the system processor and all control signal distribution equipment be supplied by a dedicated, backed up, clean power source with surge & spike protection, furnished by others unless specifically noted otherwise in this submittal.

WARNING

THIS DOCUMENT SET DOES NOT DESCRIBE AN INSTALLABLE SYSTEM UNTIL IT HAS BEEN REVIEWED FOR CODE COMPLIANCE BY THE PROJECT ELECTRICAL ENGINEER OR OTHER CODE-COMPLIANCE AUTHORITY. ALTHOUGH EVERY EFFORT HAS BEEN MADE TO PRODUCE A COMPLETE AND CODE-COMPLIANT DESIGN, CRESTRON INC. SPECIFICALLY DISCLAIMS ANY RESPONSIBILITY FOR CODE COMPLIANCE, WHICH IS THE RESPONSIBILITY OF THE PROJECT ELECTRICAL ENGINEER OR CODE AUTHORITY.

System Wiring & Electrical

- Crestron's Extended 8 Year Limited Warranty requires the use of Crestron Certified wire. Please visit www.crestron.com/wire for more information.
- All installation and termination labor is furnished by the project electrical contractor.
- All Ethernet wiring must be terminated to the appropriate ANSI/EIA wiring specification. All other control wiring must be terminated per the Crestron wiring specification shown in this document.
- All line voltage conductors of the same circuit shall be contained in the same conduit, raceway, auxiliary gutter, cable tray, or cable.
- All low voltage control wire shall be separated appropriately to eliminate any possibility of secondary induced voltage due to line voltage wires in close proximity.
- Load circuit wiring shall have individual neutrals for any circuit with phase-control dimming.
- Line feeds are to be determined by others.
- Phase-balancing of loads is to be determined by others. If this requires modification of Crestron panels, Crestron must be notified immediately and submittals shall be revised to ensure accurate programming of system.
- Replacement hardware shall be re-installed by licensed Electrical Contractor only.
- All Crestron control devices have an associated serial number. The Electrical Contractor must identify each SN for each device, and their location of installation on the plans. This information is required to program the system.

System Start-up

- Three weeks prior to needing commissioning, the electrical contractor must fill out and submit the System Commissioning Forms on the following pages.
- In order to accomplish the system commissioning, the Crestron field engineer must have full access to the jobsite during normal business hours, 8am-5pm local time. An additional premium rate will apply if work must be performed outside of normal business hours or at night, on weekends, or on nationally-recognized holidays.
- In order to commission the system, the Crestron field engineer must be able to access all equipment. If this access is only available via ladder or lift, it is the contractor's responsibility to provide such equipment and all related safety gear required for proper access.

4-Wire 0-10v Dimming

- Crestron products with 4-wire 0-10v dimming are compatible with ballasts & drivers compliant with IEC 60929 Annex E. This is the most common standard in use in the U.S. This standard is for current sinking dimmers, with the dimming ballast being the voltage source. Ballasts requiring the dimmer to be the voltage source require additional components to be added to the order.
- Crestron recommends that the distance for 0-10v wiring should not exceed 1000' with 18 AWG wire. Twisted pair wire should be used for long cable runs.

Fluorescent Lamps

- If fluorescent lamps are being dimmed, we recommend that all lamps, including a stock of spares, should be burned in at full intensity for 100 hours prior to dimming. This will improve lamp life and dimming performance. Please also review any manufacturer recommendations.

Ethernet

- Ethernet infrastructure to support and troubleshoot operation of the equipment in this submittal, except where specifically shown as "BY CRESTRON", shall be furnished & configured by others.
- Crestron Ethernet solutions may be furnished using unmanaged Ethernet switches. Crestron should be contacted if unmanaged switches are not acceptable for this project.
- An Ethernet connection to allow contact between the processor and an Internet time server is the most reliable way to update the system astronomical time clocks to keep the system time accurate in a multiple processor system.
- Even when not specifically required by the project, Crestron strongly recommends providing an Ethernet connection to the Crestron processor(s) to allow for remote system updates and troubleshooting. If an Ethernet connection cannot be provided Crestron will request a signed waiver noting the understanding that remote access is not being given and additional troubleshooting trips may be required.
- Static IP addresses or other system-specific configuration that must be implemented on Crestron-provided equipment must be provided to Crestron prior to the technician's arrival onsite.

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LOCATION: GLENWOOD SPRINGS, CO
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QUOTE #: -
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DISTRIBUTOR: QED GRAND JUNCTION

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Fax: 201-767-6011
www.crestron.com

TITLE:
GENERAL SYSTEM NOTES

DRAWING:
02.0
REV:2
DATE:09/03/2019
DRAWN BY:JNR

Click here or enter URL for most current documents: ----

Crestron Commercial Lighting Control Systems
Electronic System Commissioning Request

CLCS Commissioning Requests must be received three weeks prior to the time Crestron is to arrive on site. The 3 week lead time is necessary to review all system documentation, ensure that documentation is complete and accurate, obtain any missing information, as well as program the system, prior to arriving on-site.

Crestron will not schedule on-site visits, until all information below is verified as being complete by a Crestron Project MANAGER. Please contact your CLCS Project MANAGER to help you complete these forms if you have ANY questions.

CANCELLATION POLICY: If a Start-Up Request Form has been submitted and confirmed, and appropriate travel arrangements have been made (ie. flight, train, car rental, hotel, etc.) requestee will be held responsible for all associated cancellation fees. Crestron will invoice purchasee all associated cancellation fees. Failure of back-charge payment will void all system warranty.

All Start-Up requests are now completed electronically. Follow the instructions below to download the "Canvas Plus" application for your iOS and Droid devices.

Instructions

STEP1: Download the Canvas Plus App

For iPhone & iPad users, Click on this link: https://itunes.apple.com/us/app/canvas-plus/id482034211?mt=8

Or scan this QR Code:

For Android users, open the Android Marketplace, search for canvas, click and download the canvas plus app created by Canvas Solutions Inc.

Or scan this QR Code:

For other PC & Mobile Operating Systems: go to this link http://www.gocanvas.com/m and select the mobile operation system you are using.

Or scan this QR Code:

STEP 2: Log on

- User Name: electrical.contractor@crestron.com
- Password: crestron07647

STEP 3:

Select "Commissioning Form" and click START

Project #: - Project Name: CMC STUDENT COMMONS & CAMPUS IMPROVEMENTS

Click here or enter URL for most current documents: ----

Scan QR code for latest Crestron documentation

PROJECT: CMC STUDENT COMMONS & CAMPUS IMPROVEMENTS
LOCATION: GLENWOOD SPRINGS, CO
ORDER #: -
QUOTE #: -
PO #: -
SALES REP: VISUAL INTEREST
DISTRIBUTOR: QED GRAND JUNCTION

CRESTRON
15 Volvo Drive
Rockleigh NJ 07647
Tel: 888-273-7876
Fax: 201-767-6011
www.crestron.com

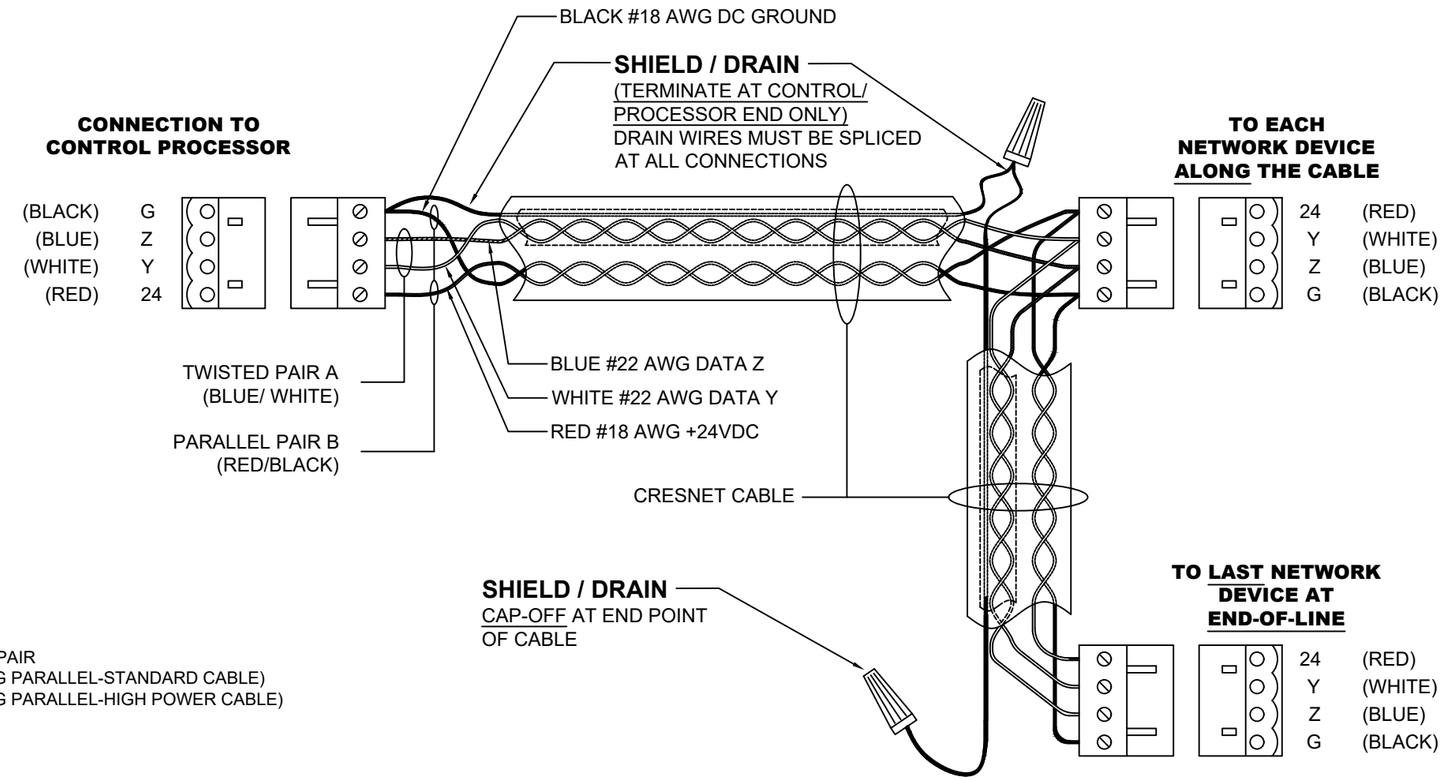
TITLE: SYSTEM ELECTRONIC COMMISSIONING REQUEST FORM
DRAWING: 02.1
REV: 2
DATE: 09/03/2019
DRAWN BY: JNR

CRESNET WIRING DETAILS

CAUTION: POSSIBLE EQUIPMENT DAMAGE IF MISWIRED

1 TO 1 PINOUT REFERENCE

24	24
Y	Y
Z	Z
G	G



COLOR CODE - CRESNET CABLE

GND = BLACK
Z = BLUE
Y = WHITE
24 = RED

DATA PAIR (#22 AWG TWISTED) — POWER PAIR (#18 AWG PARALLEL-STANDARD CABLE) (#12 AWG PARALLEL-HIGH POWER CABLE)

WIRING NOTES

DO THIS:

GENUINE CRESNET CONTROL CABLE IS RECOMMENDED FOR CONNECTION OF CRESTRON COMMERCIAL LIGHTING SYSTEMS.

STRIP ONLY THE MINIMUM AMOUNT OF JACKETING FROM THE WIRES, AND I**NSULATE ANY EXPOSED CONDUCTORS/ DRAIN WIRES** WITH HEAT SHRINK TUBING, OR AT A MINIMUM PVC ELECTRICAL TAPE.

GROUND SHIELD/DRAIN AT CONTROL PROCESSOR END **ONLY**.

SHIELD/DRAIN MUST BE SPLICED TOGETHER AT EVERY CONNECTION AND CAPPED-OFF AT END OF CONTROL RUN.

SHIELD/DRAIN SHOULD NOT CONNECT TO ANY DISTRIBUTION DEVICES (DIN-HUB, DIN-BLOCK, CNTBLOCK) BUT SHOULD BYPASS THE DISTRIBUTION DEVICE, SPLICING ALL REQUIRED DRAINS TOGETHER AS DONE AT ALL CONNECTIONS ALONG CONTROL CABLE RUNS.

WHEN DAISY CHAINING NETWORK UNITS, ALWAYS TWIST THE ENDS OF THE INCOMING WIRE AND THE OUTGOING WIRE THAT SHARE A PIN ON THE NETWORK CONNECTOR. IF NECESSARY USE A PIGTAIL SPLICE WHEN LANDING MORE THAN TWO CONDUCTORS ON A SMALL GREEN PHOENIX CONNECTOR. A PIGTAIL WILL ALWAYS BE REQUIRED WHEN TERMINATING MULTIPLE "HP" (HIGH-POWER) CABLES INTO ONE CONNECTOR DUE TO THE LARGER POWER CONDUCTORS.

MODEL "CNTBLOCK" NETWORK DISTRIBUTION/ TERMINAL BLOCKS ARE RECOMMENDED FOR TESTING PURPOSES AND CONVENIENCE OF WIRING.

DO NOT DO THIS:

DO NOT POWER UP SYSTEM UNTIL ALL WIRING IS VERIFIED. CARE SHOULD BE TAKEN TO ENSURE DATA (Y,Z) AND POWER (24,G) CONNECTIONS ARE NOT CROSSED.

DO NOT CONNECT THE SHIELD/DRAIN WIRE OF ANY CRESNET CABLE TO GROUND AT ANY CONNECTION POINT EXCEPT THE CONTROL PROCESSOR.

DO NOT ALLOW ANY EXPOSED SHIELD/DRAIN WIRE TO MAKE CONTACT WITH ANY ELECTRICAL GROUND. IF ANY WIRE IS EXPOSED, IT MUST BE INSULATED- HEAT SHRINK TUBE IS RECOMMENDED, BUT AT A MINIMUM PVC ELECTRICAL TAPE CAN BE USED.

DO NOT EXCEED THE "MAXIMUM LENGTH" SHOWN IN THE CABLE IDENTIFICATION BLOCK OF ANY CABLE. 1000' IS THE NORMAL MAXIMUM LENGTH THAT WILL BE INDICATED. IN MOST SITUATIONS 1500' WILL BE POSSIBLE, BUT IS NOT RECOMMENDED DUE TO POSSIBLE INTERFERENCE & INDUCED VOLTAGE. LONGER CABLE RUNS WILL REQUIRE SIGNAL HUBS OR REPEATERS TO ENSURE SIGNAL RELIABILITY. (SEE NEXT SHEET FOR MORE INFO ON CRESNET POWER.)

DO NOT EXCEED 20 CRESNET "DEVICES" ON ANY ONE NETWORK SEGMENT WITHOUT DISCUSSING THE POSSIBLE IMPLICATIONS WITH YOUR CRESTRON PROJECT ENGINEER. (SEE NEXT SHEET FOR MORE INFO ON CRESNET DEVICES.)

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DISTRIBUTOR: QED GRAND JUNCTION

CRESTRON
15 Volvo Drive
Rockleigh NJ 07647
Tel: 888-273-7876
Fax: 201-767-6011
www.crestron.com

TITLE:
CRESNET WIRING INSTRUCTIONS

DRAWING: 02.2
REV: 2
DATE: 09/03/2019
DRAWN BY: JNR

CALCULATING POWER USED AND MAXIMUM CABLE LENGTH

IN MOST CASES, CRESTRON WILL CALCULATE THE CABLE REQUIREMENTS OF THE CRESTRON SYSTEM AS A PART OF THE SUBMITTAL PACKAGE. IN CASES WHERE CRESTRON HAS NOT BEEN PROVIDED WITH COMPLETE INFORMATION TO GENERATE THE SUBMITTAL THE INSTALLING CONTRACTOR MUST REVIEW & UNDERSTAND THE INFORMATION ON THIS PAGE IN ORDER TO PROPERLY INSTALL THE LIGHTING SYSTEM.

CABLE IDENTIFICATION BLOCK

CRESNET CABLE 1	
DEVICES	12
WATTS USED	14
MAX LENGTH	476
MIN VOLTS	22V

EACH CONTROL CABLE RUN ON THE CRESTRON RISER DRAWINGS SHOULD INCLUDE A BLOCK LIKE THE ONE SHOWN TO THE LEFT. THIS SHOWS THE NUMBER OF CRESNET DEVICES ATTACHED TO THE CABLE, THE MAXIMUM LENGTH THAT WILL ALLOW CORRECT FUNCTION, AND THE MINIMUM VOLTAGE THAT SHOULD BE MEASURED AT THE END OF THE CABLE MOST DISTANT FROM THE PROCESSOR OR MID-POINT POWER SUPPLY/DISTRIBUTION HUB. MAXIMUM LENGTH IS SHOWN FOR STANDARD CRESNET CABLE; USING CRESNET-HP (HIGH-POWER) CABLE ALLOWS YOU TO MULTIPLY THE LENGTH BY APPROXIMATELY 3.5 TIMES.

THE CONTRACTOR SHOULD LABEL THE PROCESSOR END OF THE CABLE WITH THE APPROPRIATE CRESNET CABLE NUMBER. WHILE NOT STRICTLY REQUIRED, IS IS RECOMMENDED THAT THE CABLE BE LABELED AT EACH SPLICE POINT, IN THE EVENT TROUBLESHOOTING IS REQUIRED DURING SYSTEM COMMISSIONING.

THIS CABLE ID BLOCK MAY BE OMITTED ON SMALLER PROJECTS, OR PROJECTS WITH LIMITED POWER REQUIREMENTS.

CRESNET DEVICES:

"DEVICES" INDICATES THE NUMBER OF LOGICAL CRESNET DEVICES ON THE CABLE. THIS NUMBER MAY NOT BE OBVIOUS WHEN EXAMINING THE RISER. FOR EXAMPLE, IN SOME DIMMING/SWITCHING PANELS EACH INTERNAL MODULE MAY COUNT AS A SEPARATE DEVICE. ALTERNATELY, IF TWO SENSORS ARE CONNECTED TO ONE GLS-SIM INTERFACE, ONLY THE INTERFACE COUNTS AS A CRESNET DEVICE. IN MOST CASES THE MAXIMUM NUMBER OF CRESNET DEVICES ON ANY ONE WIRING SEGMENT IS (20). A "SEGMENT" IS A GROUPING OF PORTS AS SHOWN ON THE PROCESSOR WIRING DETAIL SHEETS, AND OFTEN INCLUDES MORE THAN ONE CRESNET CABLE. CRESNET "HUBS" (i.e. DIN-HUB) MAY BE USED TO INCREASE THE NUMBER OF DEVICES ON ONE SEGMENT, BUT SHOULD NOT BE ADDED WITHOUT CONSULTING THE CRESTON PROJECT ENGINEER.

CRESTRON STRONGLY RECOMMENDS THAT THE EQUIPMENT IN THIS SYSTEM BE INSTALLED AS SHOWN ON THE RISERS. MINOR CHANGES ARE ACCEPTABLE- FOR EXAMPLE, ALTERING THE ORDER OF DEVICES ALONG A CABLE. HOWEVER, ADDING OR REMOVING DEVICES WILL HAVE AN IMPACT ON THE DEVICE COUNT AND POWER REQUIREMENTS.

FURTHER, THE INFORMATION AS PROVIDED IN THE CABLE IDENTIFICATION BLOCKS IS ALSO USED FOR THE PREPARATION OF THE PROCESSOR WIRING DETAIL SHEETS IN THIS PACKAGE. ALTERING THE DEVICE QUANTITY MAY HAVE SIGNIFICANT IMPACT ON THESE DRAWINGS.

IF THE WIRING AS SHOWN ON THE CRESTRON RISERS IS NOT POSSIBLE, THE INFORMATION BELOW MAY BE USED TO CALCULATE THE MAXIMUM POSSIBLE LENGTH OF A CABLE. NO CABLE SHOULD EXCEED 1000' WITHOUT DISCUSSION WITH YOUR PROJECT ENGINEER. MUCH LONGER DISTANCES ARE POSSIBLE, BUT MUST BE DISCUSSED WITH CRESTRON. USING CRESNET-HP HIGH POWER CABLE DOES NOT EXTEND THIS LIMIT. IF A LONGER CABLE IS REQUIRED A SIGNAL HUB OR REPEATER MAY BE ADDED ALONG THE CABLE.

PLEASE CONTACT YOUR CRESTRON PROJECT ENGINEER IF YOU HAVE ANY QUESTIONS REGARDING THE WIRING REQUIREMENTS OF THE SYSTEM, OR IF YOU NEED ASSISTANCE IN ALTERING THE RISERS. YOUR PROJECT ENGINEER IS AVAILABLE AS A RESOURCE TO HELP.

ANY CHANGES MADE TO THE WIRING AS SHOWN ON CRESTRON RISERS MUST BE COMMUNICATED TO CRESTRON NO LATER THAN WHEN YOU REQUEST SYSTEM COMMISSIONING.

ANY CHANGES MADE TO THE RISERS THAT ARE NOT COMMUNICATED TO CRESTRON THAT REQUIRE ALTERING SYSTEM PROGRAMMING AT THE TIME OF COMMISSIONING MAY RESULT IN ADDITIONAL CHARGES FOR REPROGRAMMING OR ADDITIONAL SERVICE VISITS.

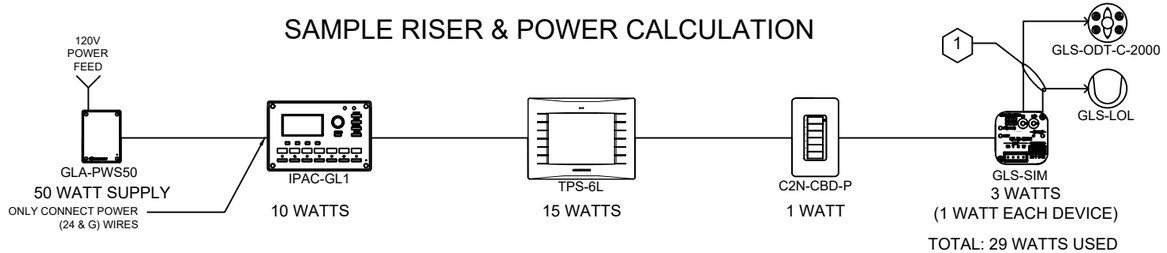
THE CRESNET POWER CALCULATION:

MAXIMUM CRESNET CABLE LENGTH

$$L < \frac{40{,}000}{R \times P}$$

Where L = Maximum Length of run in feet from power source
R = 6 Ohms for Cresnet Certified wire or
1.6 Ohms for Cresnet High Power Certified wire
P = Cresnet Power usage of entire run

SAMPLE RISER & POWER CALCULATION



TO CALCULATE THE MAXIMUM LENGTH CABLE FOR THE ABOVE EXAMPLE TAKE THE TOTAL POWER USED (28 WATTS) AND MULTIPLY IT BY THE RESISTANCE OF THE WIRE, THEN DIVIDE 40,000 BY THAT NUMBER.

CRESNET STANDARD CABLE (CRESNET-NP OR CRESNET-P) HAS A RESISTANCE OF 6 OHMS.

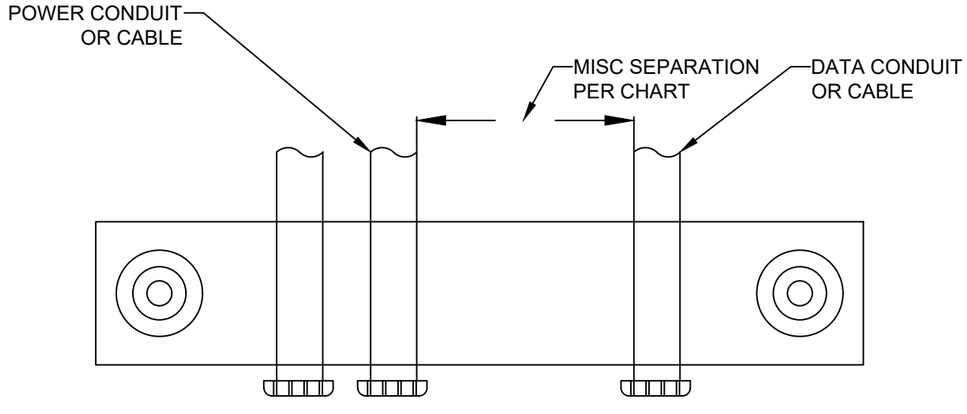
29 WATTS X 6 OHMS = 174
40,000 DIVIDED BY 174 GIVES YOU A RESULT OF A MAXIMUM CABLE RUN OF 230 FEET.

CRESNET HIGH-POWER (CRESNET-HP-NP) CABLE HAS A LOWER RESISTANCE OF 1.6 OHMS.

29 WATTS x 1.6 OHMS = 46.4
40,0000 DIVIDED BY 46.4 GIVES YOU A MAXIMUM LENGTH OF 862 FEET.

POWER DRAW OF COMMON CRESTRON DEVICES				
CATEGORY	DEVICE	DESCRIPTION	POWER DRAW	NOTES
PROCESSORS	PAC2	PAC2 PROCESSOR	25W	CONTAINS 75W POWER SUPPLY; CAN POWER 50W OF EXTERNAL DEVICES
	PAC2M	PAC2M PROCESSOR	5W	
	DIN-AP3	DIN RAIL MOUNT PROCESSOR	8W	
	IPAC-GL1	INTEGRATED PROCESSOR	10W	
	GLPAC-DIMFLV	INTEGRATED DIMMING/SWITCHING PANEL	0W	DOES NOT DRAW ANY CRESNET POWER; SUPPLIES 10W TO LOCAL DEVICES
	GLPP (SWCN OR DIMFLV)	POWER PACK WITH INTEGRATED DIMMING OR SWITCHING	0W	DOES NOT DRAW ANY CRESNET POWER; SUPPLIES 2.5W TO LOCAL DEVICES
KEYPADS	C2N-CBD-P	CAMEO KEYPAD	1W	
	C2N-CBD-E	CAMEO EXPRESS KEYPAD	1W	
	CNX-B	DESIGNER KEYPAD	3W	
SENSORS & ACCESSORIES	GLS-SIM	SENSOR INTEGRATION MODULE	1W	
	GLS-ODT-x	DUAL TECHNOLOGY OCCUPANCY SENSORS	1W	
	GLS-ODT-C-CN	CRESNET DUAL TECH OCCUPANCY SENSOR	1W	
	GLS-OIR	INFRARED OCCUPANCY SENSORS	1W	
	GLS-LOL, LCL	PHOTOCELLS	1W	
	GLS-LEXT	EXTERIOR PHOTOCELL	1W	
	GLS-PART	PARTITION SENSOR	1W	
	C2N-SDC	SHADE/DRAPE CONTROLLER	3W	
	C2N-SDC-DC	DC SHADE/DRAPE CONTROLLER	33W	REQUIRES DEDICATED GLA-PWS50 OR GREATER POWER SUPPLY
	C2N-IO	PORT EXPANDER, RS232 & RELAY OUTPUTS	3W	
DIN RAIL UNITS	DIN-DALI-2	DALI CONTROLLER	9W	MAY USE POWER OVER ETHERNET; DEFAULTS TO CRESNET POWER IF BOTH ARE PRESENT
	DIN-HUB	CRESNET DISTRIBUTION HUB	.6W	
	DIN-1DIM4	DIMMER MODULES	.6W	SAME FOR DIN-1DIMU4
	DIN-8SW8	SWITCH MODULE	5.4W	SAME FOR DIN-8SW8-I

PROPER SEPARATION OF POWER & DATA



SEPARATION OF POWER & DATA CABLING			
TAKEN FROM ANSI/NECA/BICSI 568-2001			
PROTECTION	POWER <2KVA	POWER 2-5KVA	POWER >5KVA
NONE- POWER & DATA CABLE OPEN AIR	5" (127MM)	10" (305MM)	24" (610MM)
DATA IN CONDUIT, POWER OPEN AIR	2.5" (64MM)	6" (152MM)	12" (305MM)
BOTH POWER & DATA IN CONDUIT	0	0	6" (152MM)
SPECIAL CASE: MOTORS OR TRANSFORMERS NEAR DATA CABLE IN CONDUIT	0	0	48" (1220MM)

SEPARATION SHOWN IS THE **MINIMUM** ALLOWABLE BY THIS STANDARD.
GREATER SEPARATION IS PREFERABLE

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LOCATION: GLENWOOD SPRINGS, CO
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DISTRIBUTOR: QED GRAND JUNCTION

CRESTRON
15 Volvo Drive
Rockleigh NJ 07647
Tel: 888-273-7876
Fax: 201-767-6011
www.crestron.com

TITLE:
CRESNET POWER CALCULATIONS

DRAWING:
02.3
REV:2
DATE:09/03/2019
DRAWN BY:JNR

STANDARD LIGHTING CONTROL SYSTEM NOTES:

Crestron equipment requires programming, commissioning, and support. All Crestron factory system quotations for Commercial Lighting Systems include the services of Standard Programming and Standard Commissioning.

- Standard Programming - Crestron offers both Standard Programming Templates as well as Custom Programming for their Lighting Control Systems. This quote includes programming using Crestron's Standard Design Templates for items such as Keypads, Touch Screens, BMS interfaces, and DMX Interfaces. You can review these standard templates on the Crestron website, www.crestron.com. Please contact Crestron to request a quote for additional design fees related to Custom Programming for products.
- Standard Commissioning - Crestron's Standard Commissioning for Commercial Lighting Systems includes three (3) on-site visits: (1) for submittal review with the EC, (1) for system startup, and (1) for end user training. Please contact Crestron to request a quote for any additional on-site services or support. Crestron Commercial Lighting System Quotations also include charges for custom factory engineering, configuration, documentation and UL Approval. (Smaller projects may be limited to a single visit. This will be noted in the Project Specific Note section.

All Crestron Commercial Lighting system purchases that use "MLO" style cabinets must also include Crestron Circuit Breakers.

Our pricing is as the attached Crestron Bill of Materials only, and may vary from equipment and systems detailed in the contract documents.

Actual cost and BOM may vary once additional information is provided. Orders for this project shall be "as per the Crestron Bill of Materials" only.

This is a preliminary quote subject to submittal/review of complete/final lighting system load schedule, functional specifications, and drawings.

No Cresnet wiring/cable is included on this proposal. Cresnet cable is required, and is to be purchased on an additional PO once appropriate types and required lengths are identified based on site conditions. Please contact Crestron for all cable options and pricing

Bill of Materials

NETWORKED CONTROLS	**CENTRAL PROCESSOR PANEL (CPP)**			
	1	CRESTRON	DIN-EN-3X18	Enclosure for DIN Rail Devices, 3 DIN Rails, 18 Units Wide
	1	CRESTRON	DIN-AP3	DIN Rail 3-Series® Automation Processor
	1	CRESTRON	DIN-PWS60	DIN Rail 60 Watt Cresnet Power Supply
	1	CRESTRON	DIN-HUB	DIN Rail Cresnet Distribution Hub
	1	CRESTRON	CEN-SW-POE-5	5-Port PoE Switch
	1	CRESTRON	SW-3SERIES-BACNET-5	BACnet/IP Support for 3-Series
	1	CRESTRON	XPANEL-CL	PC e-Control Interface for Commercial Lighting Projects
	LOAD CONTROLLERS			
	12	CRESTRON	GLPP-DIMFLVCN-PM	Green Light Power Pack, 1-Ch 0-10V Dimmer w/ Cresnet
	3	CRESTRON	GLPP-1DIMFLV2CN-PM	Green Light Power Pack, 2-Ch 0-10V Dimmer w/ Cresnet
	2	CRESTRON	GLPP-1DIMFLV3CN-PM	Green Light Power Pack, 3-Ch 0-10V Dimmer w/ Cresnet
	1	CRESTRON	GLA-EPC-FLV	4 Wire Automatic Load Control Relay
	CONTROLS			
	3	CRESTRON	C2N-CBD-P-W-S	Cameo Keypad, Standard Mount, White Smooth
	2	CRESTRON	GLA-IR-QUATTRO-HD-C	Ceiling High-Def OS/VS, PIR, 24V
	29	CRESTRON	GLS-ODT-C-NS	Ceiling Mount Occupancy Sensor, DT, 2000SF, Non-System
	4	CRESTRON	GLA-TR-100	Power Pack
	3	CRESTRON	GLS-LOL	Green Light Photosensor, Open-Loop
	1	CRESTRON	GLS-LEXT	Green Light Photosensor, Outdoor
	1	CRESTRON	GLS-SIM	Green Light Sensor Integration Module
	1	CRESTRON	GLPPA-REMOTE-PROG	GLPP Commissioning Remote
	1	CRESTRON	GLS-REMOTE-ODT/OIR	Occupancy Sensor Remote
	SERVICES			
	3	CRESTRON	ENGRAVING	Engraving Service
	1	VINT	DOCUMENTATION	GL Documentation
	1	VINT-CSP	PROGRAMMING	GL Programming
	1	VINT-CSP	STARTUP	On-Site Startup
STANDALONE CONTROLS	**ROOM CONTROLS**			
	3	CRESTRON	GLPP-DIMFLVCN-PM	Green Light Power Pack, 1-Ch 0-10V Dimmer w/ Cresnet
	2	CRESTRON	GLPP-1DIMFLV2CN-PM	Green Light Power Pack, 2-Ch 0-10V Dimmer w/ Cresnet
	8	CRESTRON	GLS-ODT-C-NS	Ceiling Mount Occupancy Sensor, DT, 2000SF, Non-System
	4	CRESTRON	GLPPA-KP-W-S	GLPP Keypad, 2 or 4-Button Configurable, White Smooth
	3	CRESTRON	GLPPA-KP4-W-S	GLPP Keypad, Zone Master Control, White
	4	STEINEL	DT QUATTRO COM1-24	Ceiling OS/VS, DT
	4	CRESTRON	GLA-TR-100	Power Pack
	1	STEINEL	IR QUATTRO COM1-WH	Ceiling OS/VS, PIR
	2	STEINEL	MCS-W	Momentary Contact Switch - SPST - Decora - White
	14	STEINEL	DT WLS DIM-W	Wallbox OS/VS, DT, 0-10V
	23	STEINEL	IR WLS 1-W	Wallbox OS/VS, PIR, 1-Circuit
	2	LEVITON	AWSMT-7DW	Renoir Wallbox Dimmer, 0-10V
	2	LEVITON	AWSRT-W	Renior Wallbox Dimmer, Remote, Thin (11/18)

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LOCATION: GLENWOOD SPRINGS, CO

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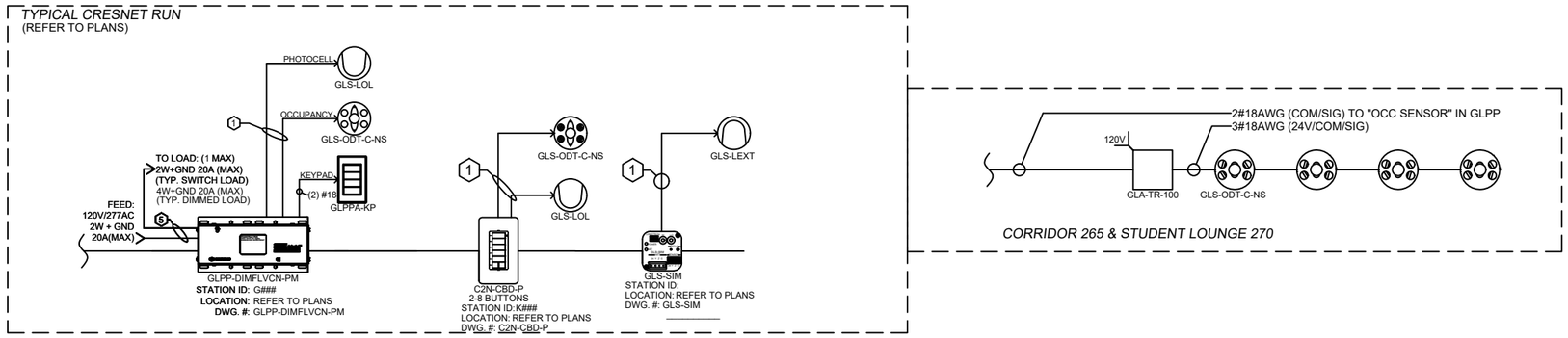
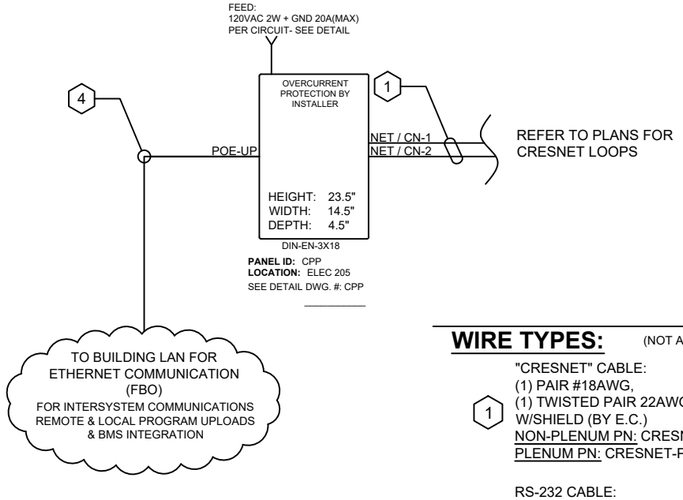
TITLE:
BILL OF MATERIALS

DRAWING:
03.0

REV:2
DATE:09/03/2019
DRAWN BY:JNR





WIRE TYPES:

(NOT ALL TYPES ARE USED ON ALL PROJECTS)

1. "CRESNET" CABLE:
(1) PAIR #18AWG,
(1) TWISTED PAIR 22AWG
W/SHIELD (BY E.C.)
NON-PLENUM PN: CRESNET-NP-TL
PLENUM PN: CRESNET-P-TL

2. RS-232 CABLE:
(1) TWISTED PAIR 22AWG
(1) SHIELD
DB-9 CONNECTOR
(BY E.C.)

3. CABLE:
(1) TWISTED PAIR 18AWG
(1) SHIELD
(BY E.C.)

4. CABLE:
CAT5E (OR GREATER)
ETHERNET

5. SUITABLE GAUGE WIRE
TO MEET LOAD
REQUIREMENTS

ALL WIRE RUNS ARE TYPE 1, CRESNET, UNLESS OTHERWISE NOTED.

MAXIMUM CABLE LENGTH EQUATION:

$$L < \frac{40{,}000}{R \times P}$$

Where L = Maximum Length of run in feet from power source
R = 6 Ohms for Cresnet Certified wire or
1.6 Ohms for Cresnet High Power Certified wire
P = Cresnet Power usage of entire run

SEE CRESNET WIRING INSTRUCTIONS, DWG. 02.3, FOR FULL DETAILS.

LENGTH OF CRESNET WIRING RUNS ARE LIMITED TO # OF DEVICES AND CRESNET POWER DRAW. DAISY CHAIN AND OR STAR TOPOLOGIES ARE PERMITTED TO SUIT INSTALLATION NEEDS. EACH HOME RUN NOT TO EXCEED 20 CRESNET DEVICES. USE THE CALCULATOR SHOWN TO DETERMINE MAXIMUM WIRE RUN LENGTH. POWER SUPPLIES CAN BE ADDED TO INCREASE LENGTH OF HOME RUNS.

*"MAX LENGTH" IS THE LENGTH, IN FEET, THAT MAY NOT BE EXCEEDED WITH CRESNET CABLE. USING CRESNET "HIGH-POWER" CABLE INCREASES THIS DISTANCE BY APPROXIMATELY 3.5 TIMES. DO NOT EXCEED 1000' WITHOUT DISCUSSING WITH THE PROJECT ENGINEER.

**"MIN VOLTS" IS THE MINIMUM ALLOWABLE VOLTAGE WHEN MEASURED AT THE MOST DISTANT END OF THE CONTROL CABLE RUN.

ALL PHYSICAL DEVICE LOCATIONS TO BE COORDINATED WITH ARCHITECT.

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TITLE:
ONE-LINE DIAGRAM

DRAWING:
04.0
REV:2
DATE:09/03/2019
DRAWN BY:JNR

Luminaire Coordination Schedule

Tag	Description	Lamping Q	Lamping W	Lamping TW	Volt	Load Type	Remarks
C1(X')	Cove Tapelight	1	1.5	1.5	UNV	LED 0-10V	W/ft
D1	4" Square Downlight	1	13	13	UNV	LED 0-10V	
EC1	Exterior String Lighting	2	240	480	UNV	LED 0-10V	
EP2	Post Top	1	81	81	UNV	LED 0-10V	
EW1D	Exterior Wall Downlight	1	37	37	UNV	Non-Dim	
EW1U	Exterior Wall Downlight	1	37	37	UNV	Non-Dim	
L3A	4' Recessed Linear	4	7	28	277	LED 0-10V	
L3B	8' Recessed Linear	8	7	56	277	LED 0-10V	
L3FE	4' Recessed Linear	4	7	28	277	Non-Dim	
L3V	4' Recessed Linear	4	7	28	277	LED 0-10V	
L6A	4' Linear Pendant	4	7	28	277	LED 0-10V	
L6B	8' Linear Pendant	8	7	56	277	LED 0-10V	
P1	3' Ring Pendant	1	108	108	UNV	LED 0-10V	
P3	5" Cylinder Pendant	1	38	38	277	LED 0-10V	
P5	1.5" Candlestick Pendant	1	11	11	UNV	LED 0-10V	
S1	Strip	1	32	32	UNV	LED 0-10V	
T1	2x4 Troffer	1	51	51	UNV	LED 0-10V	
T3	2x2 Troffer	1	40	40	UNV	LED 0-10V	

General Notes:

1. Contractor to verify Load Types prior to release.
2. Modifications to Load Types may require additional equipment and re-quote.
3. Dimmable Luminaires may not be dimmable in all applications. Re: Plans.

Serial Number Schedule

Serial Numbers to be provided by E.C. prior to Crestron Startup.

Tag	Area	Model	Description	Serial Number
C-EXT	Elec 205	GLS-SIM	SIM Module	
K105.1	Servery 105	C2N-CBD-P	C2N Keypad	
K105.2	Servery 105	C2N-CBD-P	C2N Keypad	
K105.3	Servery 105	C2N-CBD-P	C2N Keypad	
G100	Lobby 100	GLPP-DIMFLVCN-PM	GLPP 1DIM	
G016	Corridor 016	GLPP-DIMFLVCN-PM	GLPP 1DIM	
G020	Hall 020	GLPP-DIMFLVCN-PM	GLPP 1DIM	
G030	Lounge 030	GLPP-DIMFLVCN-PM	GLPP 1DIM	
G105	Servery 105	GLPP-1DIMFLV3CN-PM	GLPP 3DIM	
G110	Dining 110	GLPP-1DIMFLV2CN-PM	GLPP 2DIM	
G200a	Dining 200	GLPP-DIMFLVCN-PM	GLPP 1DIM	
G200b	Dining 200	GLPP-DIMFLVCN-PM	GLPP 1DIM	
G240	Reading Room 240	GLPP-DIMFLVCN-PM	GLPP 1DIM	
G245	Reading Room 245	GLPP-DIMFLVCN-PM	GLPP 1DIM	
G265	Corridor 265	GLPP-1DIMFLV2CN-PM	GLPP 2DIM	
G270	Student Lounge 270	GLPP-1DIMFLV3CN-PM	GLPP 3DIM	
G274	Lounge Corridor 274	GLPP-DIMFLVCN-PM	GLPP 1DIM	
G275	Hall 275	GLPP-DIMFLVCN-PM	GLPP 1DIM	
GE204	North Stair E-204	GLPP-DIMFLVCN-PM	GLPP 1DIM	
GXBC	Building Exterior	GLPP-1DIMFLV2CN-PM	GLPP 2DIM	
GXS	Site Exterior	GLPP-DIMFLVCN-PM	GLPP 1DIM	

Keypad Schedule

Tag	Qty	Model	Button	Engraving	Zones(s)	Function	Layout
K105	3	C2N-CBD-P-W-S	1	On	105a, 105b, 105c	Scene (100%)	
		-	2	Scene 1	105a, 105b, 105c	Scene (75%)	
		-	3	Scene 2	105a, 105b, 105c	Scene (50%)	
		-	4	Scene 3	105a, 105b, 105c	Scene (25%)	
		-	5	Off	105a, 105b, 105c	Off	
		-	6	↑		Raise	
		-	7	↓		Lower	

GENERAL SCHEDULE NOTES:

DEVIATIONS FROM THE LUMINAIRE COORDINATION SCHEDULE MAY REQUIRE A RE-DESIGN AND RE-QUOTE.

PANEL AND LOAD CONTROLLER PROGRAMMING IS PRE-WRITTEN OFF SITE PRIOR TO ON-SITE STARTUP.
DEVIATIONS FROM THE PANEL AND LOAD CONTROLLER SCHEDULES MAY REQUIRE ADDITIONAL PROGRAMMING TIME AT THE CONTRACTOR'S EXPENSE.

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SALES REP: VISUAL INTEREST
DISTRIBUTOR: QED GRAND JUNCTION

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15 Volvo Drive
Rockleigh NJ 07647
Tel: 888-273-7876
Fax: 201-767-6011
www.crestron.com

TITLE:
SCHEDULES

DRAWING:
05.0
REV:2
DATE:09/03/2019
DRAWN BY:JNR

Zone Schedule

Zone Information			Zone Make-Up			SOO			
						NET	SOO		Specific
Zone	Area	Description	Q	Tag	Load Type	SAS	Tag	DL	Notes:
010	Fitness 010	2x2s	9	T3	LED 0-10V	SAS	VS		
011	Fitness 011	2x2s	4	T3	LED 0-10V	SAS	VS		
012a	Fitness 012	2x2s	6	T3	LED 0-10V	SAS	VS		
012b	Fitness 012	2x2s	3	T3	LED 0-10V	SAS	VS		
016	Corridor 016	2x2s	8	T3	LED 0-10V	NET	TC1		
020	Hall 020	2x2s	4	T3	LED 0-10V	NET	TC1		
030	Lounge 030	2x2s	16	T3	LED 0-10V	NET	TC1		
100	Lobby 100	Downlights	9	D1	LED 0-10V	NET	TC1		
105a	Servery 105	Linears	12	L3B	LED 0-10V	NET	TC1		L3A/B
105b	Servery 105	Downlights	9	D1	LED 0-10V	NET	TC1		
105c	Servery 105	Tapelight/Candlesticks	7	P5	LED 0-10V	NET	TC1		C1/P5
110a	Dining 110	Linears	13	L3B	LED 0-10V	NET	TC1	Y	L3A/B
110b	Dining 110	Tapelight/Linear	20	C1(X')	LED 0-10V	NET	TC1		C1/L3FE
200a	Dining 200	Linears	30	L3B	LED 0-10V	NET	TC1		L3A/B/V
200b	Dining 200	Linears	5	L3B	LED 0-10V	NET	TC1		D1/L3A/B
225a	Executive Dining 225	Front Linear	1	L6B	LED 0-10V	SAS	VS		
225b	Executive Dining 225	Linears	2	L6B	LED 0-10V	SAS	VS		
240	Reading Room 240	Linears	5	L3B	LED 0-10V	NET	TC1		
245	Reading Room 245	Linears	3	L6A	LED 0-10V	NET	TC1	Y	
250	Office Suite 250	2x2s	8	T3	LED 0-10V	SAS	VS		
265a	Corridor 265	Cylinders/Downlights	21	P3	LED 0-10V	NET	TC1		D1/P3
265b	Corridor 265	Linears	9	L6A	LED 0-10V	NET	TC1	Y	
270a	Student Lounge 270	Linears	36	L3A	LED 0-10V	NET	TC1		L3A/B
270b	Student Lounge 270	Downlights	6	D1	LED 0-10V	NET	TC1		
270c	Student Lounge 270	Pendants	4	P1	LED 0-10V	NET	TC1		
274	Lounge Corridor 274	2x2	1	T3	LED 0-10V	NET	TC1		
275	Hall 275	2x2s	6	T3	LED 0-10V	NET	TC1		
E204	North Stair E-204	Wall Brackets	3	S1	LED 0-10V	NET	TC1		
XB1	Building Exterior	Linear/Downlights	4	EW1U	Non-Dim	NET	TC2		L3FE/EW1U/D
XC1	Catenary Exterior	String Lights	1	EC1	LED 0-10V	NET	TC2		
XS1	Site Exterior	Pole Lights	7	EP2	LED 0-10V	NET	TC3		
XS2	Site Exterior	Pole Lights	7	EP2	LED 0-10V	NET	TC3		[1]

Specific Notes:	
[1]	Zone to land on Output 7 of G117 (GLPAC-DIMFLV8) in Ascent Center.

Sequence of Operations Key	
System Control:	
NET	Networked Controls
SAS	Standalone Controls
Sequence of Operations:	
TC1	Timeclock: Lights on during Business Hours; Lights on via Occupancy Sensor after Business Hours.
TC2	Timeclock: Lights on by Photocell. Lights off at 12am.
TC3	Photocell & Timeclock: Lights on by Photocell, Reduce to 50% between 12am and 6am.
VS	Vacancy Sensing: Manual-On/Auto-Off
Daylight Harvesting:	
Y	Daylight Harvesting included. Target TBD.
#fc	Daylight Harvesting included. # = Target fc.

Load Controller Schedule

Tag	Model	Out	Zone	Area	Description	Type	Circuit	SYS	SOO
G100	GLPP-DIMFLVCN-PM	1	100	Lobby 100	Downlights	LED 0-10V	KH-3	NET	TC1
G010	GLPP-DIMFLVCN-PM	1	010	Fitness 010	2x2s	LED 0-10V	Exist.	SAS	VS
G011	GLPP-DIMFLVCN-PM	1	011	Fitness 011	2x2s	LED 0-10V	Exist.	SAS	VS
G012	GLPP-1DIMFLV2CN-PM	1	012a	Fitness 012	2x2s	LED 0-10V	Exist.	SAS	VS
	-	2	012b	Fitness 012	2x2s	LED 0-10V	Exist.	SAS	VS
G016	GLPP-DIMFLVCN-PM	1	016	Corridor 016	2x2s	LED 0-10V	Exist.	NET	TC1
G020	GLPP-DIMFLVCN-PM	1	020	Hall 020	2x2s	LED 0-10V	Exist.	NET	TC1
G030	GLPP-DIMFLVCN-PM	1	030	Lounge 030	2x2s	LED 0-10V	Exist.	NET	TC1
G105	GLPP-1DIMFLV3CN-PM	1	105a	Servery 105	Linears	LED 0-10V	KH-?	NET	TC1
	-	2	105b	Servery 105	Downlights	LED 0-10V	KH-?	NET	TC1
	-	3	105c	Servery 105	Tapelight/Candlest	LED 0-10V	KH-?	NET	TC1
G110	GLPP-1DIMFLV2CN-PM	1	110a	Dining 110	Linears	LED 0-10V	KH-1	NET	TC1
	-	2	110b	Dining 110	Tapelight/Linear	LED 0-10V	KH-1	NET	TC1
G200a	GLPP-DIMFLVCN-PM	1	200a	Dining 200	Linears	LED 0-10V	KH-1	NET	TC1
G200b	GLPP-DIMFLVCN-PM	1	200b	Dining 200	Linears	LED 0-10V	KH-1	NET	TC1
G225	GLPP-1DIMFLV2CN-PM	1	225a	Executive Dining 2	Front Linear	LED 0-10V	KH-1	SAS	VS
	-	2	225b	Executive Dining 2	Linears	LED 0-10V	KH-1	SAS	VS
G240	GLPP-DIMFLVCN-PM	1	240	Reading Room 240	Linears	LED 0-10V	Exist.	NET	TC1
G245	GLPP-DIMFLVCN-PM	1	245	Reading Room 245	Linears	LED 0-10V	Exist.	NET	TC1
G250	GLPP-DIMFLVCN-PM	1	250	Office Suite 250	2x2s	LED 0-10V	Exist.	SAS	VS
G265	GLPP-1DIMFLV2CN-PM	1	265a	Corridor 265	Cylinders/Downligh	LED 0-10V	Exist.	NET	TC1
	-	2	265b	Corridor 265	Linears	LED 0-10V	Exist.	NET	TC1
G270	GLPP-1DIMFLV3CN-PM	1	270a	Student Lounge 27	Linears	LED 0-10V	Exist.	NET	TC1
	-	2	270b	Student Lounge 27	Downlights	LED 0-10V	Exist.	NET	TC1
	-	3	270c	Student Lounge 27	Pendants	LED 0-10V	Exist.	NET	TC1
G274	GLPP-DIMFLVCN-PM	1	274	Lounge Corridor 27	2x2	LED 0-10V	Exist.	NET	TC1
G275	GLPP-DIMFLVCN-PM	1	275	Hall 275	2x2s	LED 0-10V	Exist.	NET	TC1
GE204	GLPP-DIMFLVCN-PM	1	E204	North Stair E-204	Wall Brackets	LED 0-10V	Exist.	NET	TC1
GXBC	GLPP-1DIMFLV2CN-PM	1	XB1	Building Exterior	Linear/Downlights	Non-Dim	KH-7	NET	TC2
	-	2	XC1	Catenary Exterior	String Lights	LED 0-10V	KH-7	NET	TC2
GXS	GLPP-DIMFLVCN-PM	1	XS1	Site Exterior	Pole Lights	LED 0-10V	KH-9	NET	TC3

Specific Notes:	
[1]	UL924 0-10V Relay on Load Side of Output for Emergency Luminaires (Re: Plans).

GENERAL SCHEDULE NOTES:

DEVIATIONS FROM THE LUMINAIRE COORDINATION SCHEDULE MAY REQUIRE A RE-DESIGN AND RE-QUOTE.

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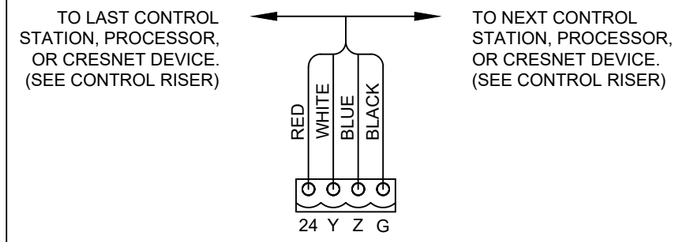
CRESNET CONTROL WIRING



GENERAL NOTES

1. DO NOT POWER UP SYSTEM UNTIL ALL WIRING IS VERIFIED. CARE SHOULD BE TAKEN TO ENSURE DATA (Y,Z) AND POWER (24,G) CONNECTIONS ARE NOT CROSSED.
2. GROUND SHIELD AT CONTROL SYSTEM END **ONLY**.
3. GENUINE CRESNET CONTROL CABLE IS RECOMMENDED FOR CONNECTION OF CRESTRON COMMERCIAL LIGHTING SYSTEMS.
4. KEEP ALL CLASS 1 POWER WIRING SEPERATED FROM ALL CLASS 2 CONTROL WIRING WITHIN THE CABINET
5. THIS PANEL REQUIRES POWER & OVERCURRENT PROTECTION FROM AN EXTERNAL BREAKER PANEL (F.B.O.). IT IS RECOMMENDED THAT A DUPLEX OR QUAD OUTLET BOX BE INSTALLED INSIDE THIS PANEL TO ALLOW FOR POWER CONNECTIONS.

NOTES KEY

1. MOUNTING KEYHOLES IN BACK PANEL OF DIN-EN-2X18 ENCLOSURE FOR SURFACE MOUNTING OF ASSEMBLY.
2. KNOCKOUTS FOR CABINET WIRING
3. #DIN-EN-3X18 AUTOMATION ENCLOSURE DIMENSIONS: 24-1/4" H x 16-1/8" W X 4 3/8" D

LIGHTING CONTROL CABINET

PANEL ID	CPP
MODEL	DIN-EN-3X18
TYPE	NORMAL

CABINET MODULE SCHEDULE

DIN RAIL	MODULES	VOLTAGE	# OF FEEDS	# OF CKTS
1	DIN-PWS60	120-240V	1	N/A
2	DIN-HUB	N/A	N/A	N/A
	DIN-AP3	N/A	N/A	N/A
3	CEN-SW-POE-5	120V (VIA POWER BRICK)		
	(RAIL REMOVED)			

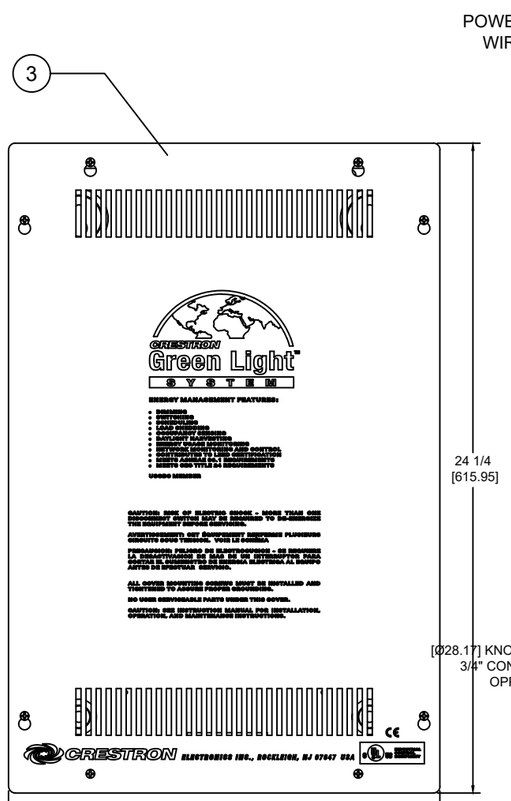
PARTS DESCRIPTIONS

DIN-PWS60 - DIN RAIL 50 WATT CRESNET POWER SUPPLY

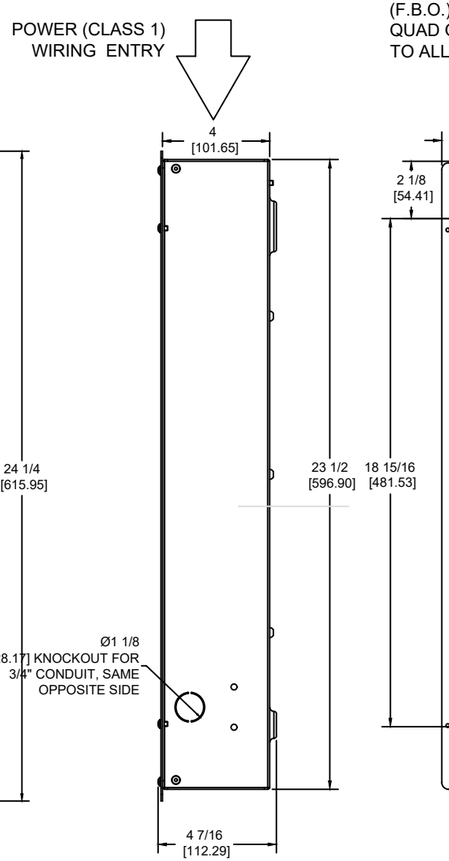
DIN-HUB - DIN RAIL CRESNET DISTRIBUTION HUB

DIN-AP3 - 3 SERIES AUTOMATION & CONTROL PROCESSOR

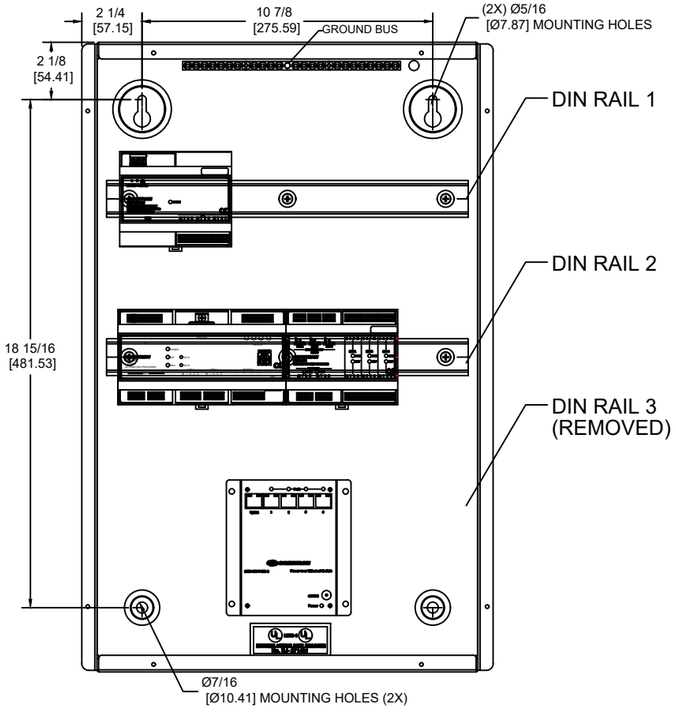
CEN-SW-POE-5 - ETHERNET SWITCH WITH POWER OVER ETHERNET, 4 PORTS + UPLINK PORT



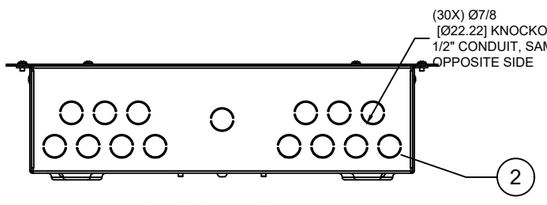
FRONT VIEW (WITH COVER)



SIDE VIEW



FRONT VIEW (WITHOUT COVER)



BOTTOM VIEW

DIN-EN-3X18 LIGHTING PANEL

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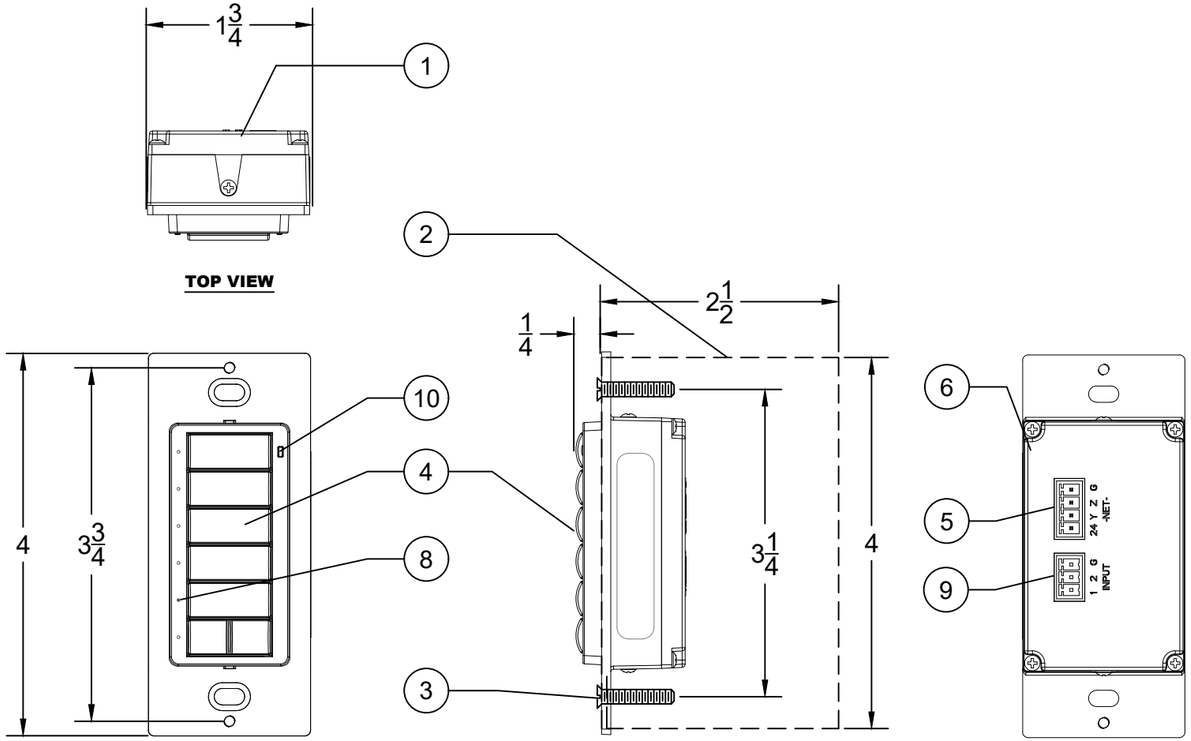


TOP VIEW

FRONT VIEW

SIDE VIEW

BACK VIEW

IMPORTANT:
SEE INSTALLATION AND OPERATION MANUAL FOR KEYPAD ASSEMBLY INSTRUCTIONS AND BUTTON CONFIGURATION INSTRUCTIONS.

IMPORTANT:
KEYPADS WILL SHIP FROM THE FACTORY WITH SELECTED BUTTONS INSTALLED, EXCEPT FOR KEYPAD STYLE "X" WHICH MAY BE CUSTOMIZED AT INSTALLATION. CHANGES MADE AFTER RELEASING A SPACEBUILDER ORDER MAY INCUR ADDITIONAL CHARGES.

NOTES KEY

1. #C2N-CBD-P CAMEO SERIES CONTROL STATION WITH LED INDICATORS.
2. SINGLE GANG ELECTRICAL BOX WITH NECESSARY ACCESSORIES, 2.5" DEEP MINIMUM (NOT BY CRESTRON).
3. 0.1 IN PAN HEAD SCREW (TYP OF (2) PER STATION). PROVIDED WITH CONTROL STATION BY CRESTRON.
4. ENGRAVED AND CONFIGURED KEYPAD BUTTONS. SEE MANUAL FOR ASSEMBLY INSTRUCTIONS.
5. CRESNET CONNECTION PORT FOR CONTROL VIA 2-SERIES CONTROL SYSTEM.
6. GROUNDING WIRE FOR KEYPAD TO ELECTRICAL ENCLOSURE.
7. NOT SHOWN: TO BE USED WITH ANY DECORA STYLE FACEPLATE. FURNISHED BY OTHERS.
8. LED INDICATORS - INDICATE SELECTED SCENE
9. 3-PIN 3.5MM DETACHABLE TERMINAL BLOCK. COMPRISES (2) VERSIPORT INPUTS.
10. PHOTOSENSOR FOR CONTROL OF AUTO-DIMMING FUNCTION. CAN BE CONFIGURED TO REPORT AMBIENT LIGHT LEVEL TO CONTROL SYSTEM.

NOTE:
KEYPAD IS COMPATIBLE WITH STANDARD DECORA-STYLE FACEPLATE, **NOT** PROVIDED BY CRESTRON.

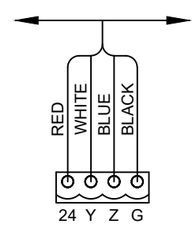
WIRING NOTES:

CAUTION: POSSIBLE EQUIPMENT DAMAGE IF MISWIRED

1. DO NOT POWER UP SYSTEM UNTIL ALL WIRING IS VERIFIED. CARE SHOULD BE TAKEN TO ENSURE DATA (Y,Z) AND POWER (24,G) CONNECTIONS ARE NOT CROSSED.
2. GROUND SHIELD AT CONTROL SYSTEM END **ONLY**.
3. STRIP ONLY THE MINIMUM AMOUNT OF JACKETING FROM THE WIRES, AND INSULATE EXPOSED CONDUCTORS/ DRAIN WIRES WITH HEAT SHRINK TUBING.
4. GENUINE CRESNET CONTROL CABLE IS RECOMMENDED FOR CONNECTION OF CRESTRON COMMERCIAL LIGHTING SYSTEMS.
5. WHEN DAISY CHAINING NETWORK UNITS, ALWAYS TWIST THE ENDS OF THE INCOMING WIRE AND THE OUTGOING WIRE THAT SHARE A PIN ON THE NETWORK CONNECTOR. IF NECESSARY USE A PIGTAIL WHEN LANDING MORE THAN TWO CONDUCTORS ON A SMALL CONNECTOR.

CRESNET CONTROL WIRING

TO LAST CONTROL STATION, PROCESSOR, OR CRESNET DEVICE. (SEE CONTROL RISER)



TO NEXT CONTROL STATION, PROCESSOR, OR CRESNET DEVICE. (SEE CONTROL RISER)

C2N-CBD-P KEYPAD

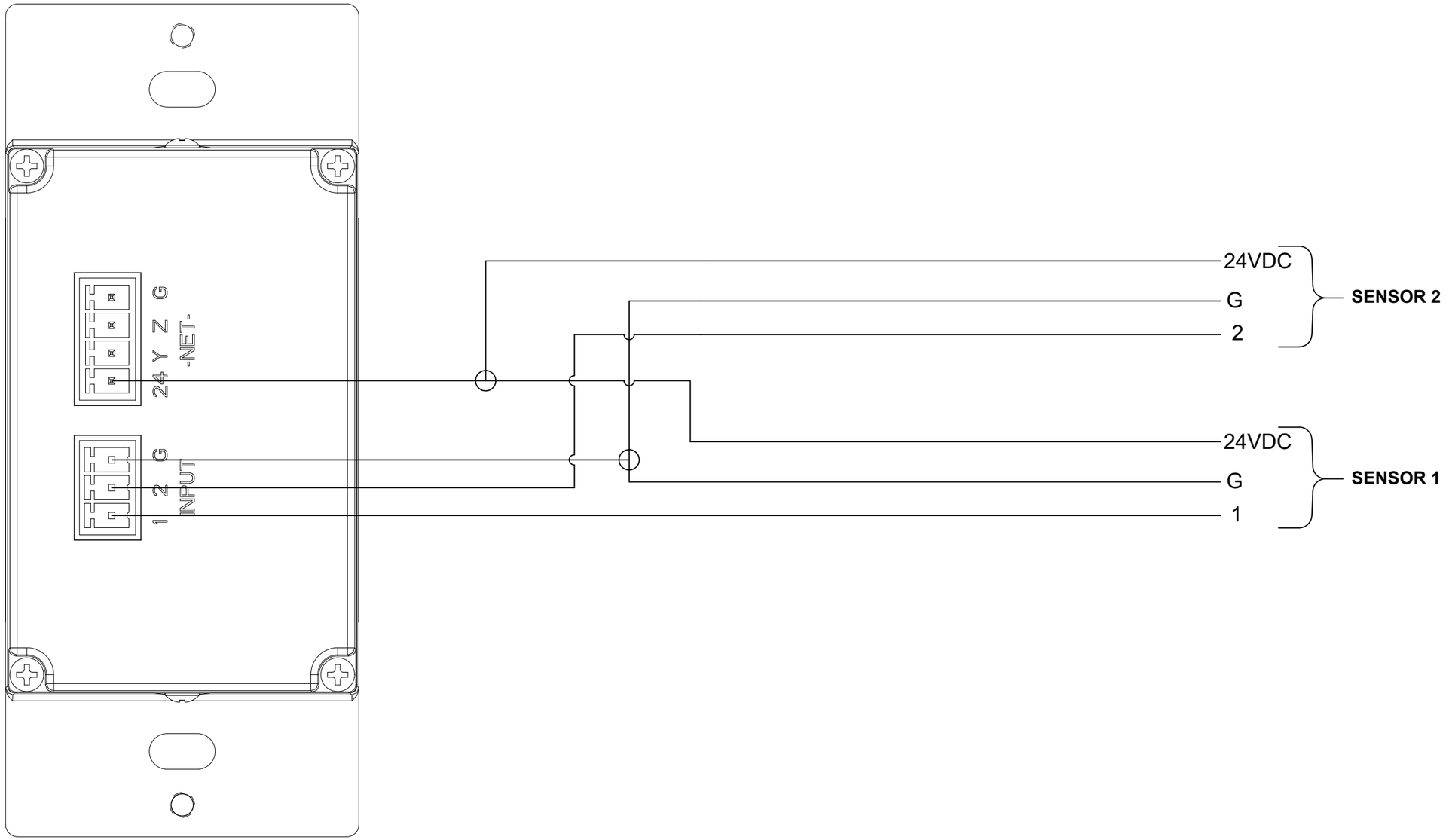
REVISIONS	DATE	BY

PART #: C2N-CBF-P
DESCRIPTION: C2N-CBF-P KEYPAD
REVISION: 011
NOTES:
DATE: 9/18/17

CRESTRON
ELECTRONICS INC.
15 VOLVO DRIVE
ROCKLEIGH NJ 07647
TEL: 855-644-7643
CLCLIGHTING@CRESTRON.COM
WWW.CRESTRON.COM

DEVICE:
C2N-CBD-P CAMEO KEYPAD
PHYSICAL DETAILS

DRAWING:
1 OF 5



WIRING FOR OPTIONAL VERSIPORT SENSOR INPUTS

WHERE CONVENIENT AND APPROPRIATE, VERSIPORT INPUTS MAY BE USED TO CONNECT OCCUPANCY SENSORS OR PHOTOCELLS TO CRESNET NETWORK RATHER THAN USING GLS-SIM INTERFACE MODULE.

REVISIONS	DATE	BY

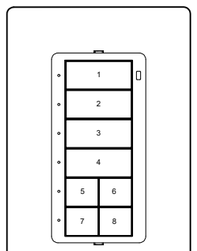
PART #: C2N-CBF-P
DESCRIPTION: C2N-CBF-P VERSIPORT WIRING
REVISION: 011
NOTES:
DATE: 9/18/17

CRESTRON
ELECTRONICS INC.
15 VOLVO DRIVE
ROCKLEIGH NJ 07647
TEL: 855-644-7643
CLCLIGHTING@CRESTRON.COM
WWW.CRESTRON.COM

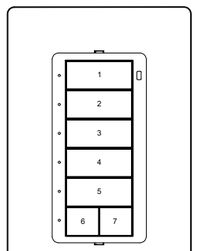
DEVICE:
C2N-CBD-P CAMEO KEYPAD
VERSIPORT WIRING

DRAWING:
2 OF 5

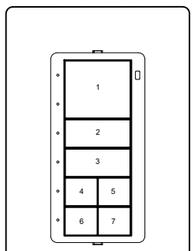
C2N-CBD-P KEYPAD ENGRAVING SHEET
STYLE X LAYOUTS



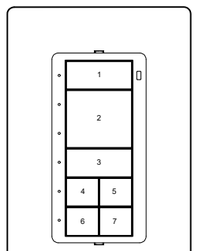
8 BUTTON
STYLE 1



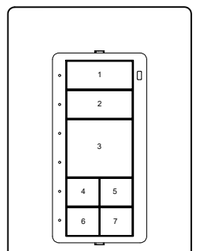
7 BUTTON
STYLE 2



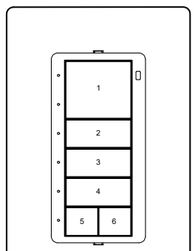
7 BUTTON
STYLE 4



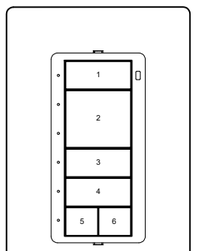
7 BUTTON
STYLE 5



7 BUTTON
STYLE 6



6 BUTTON
STYLE 8



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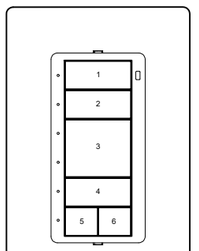

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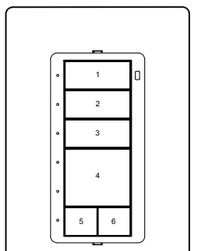

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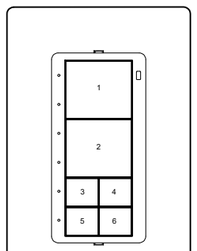

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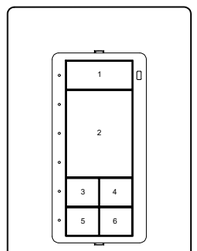
STYLE 15



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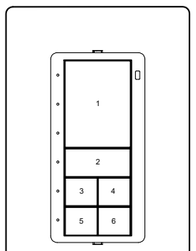
STYLE 16



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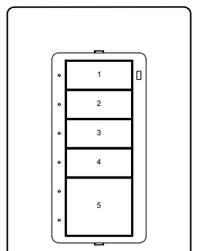
STYLE 17



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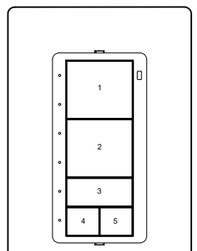
STYLE 22



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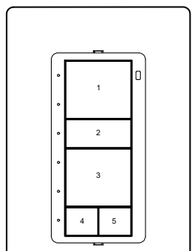

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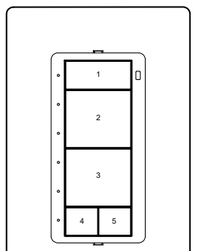

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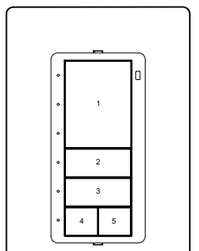
STYLE 25



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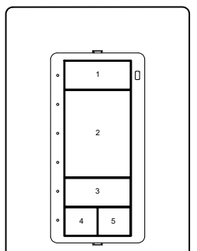
STYLE 29



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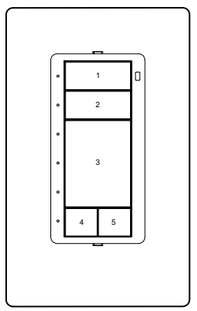

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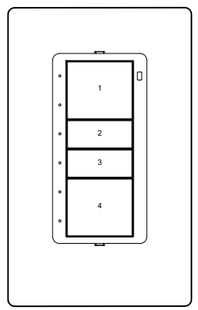

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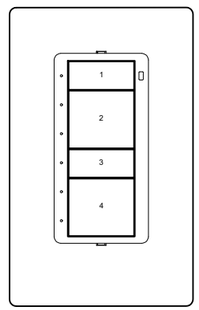
STYLE 32



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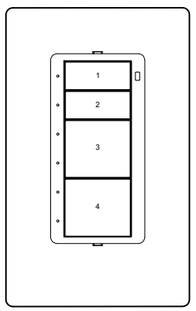

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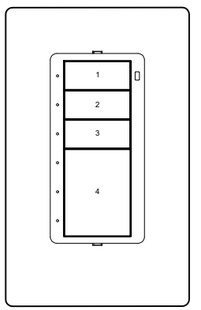
STYLE 38



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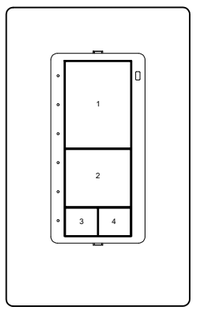
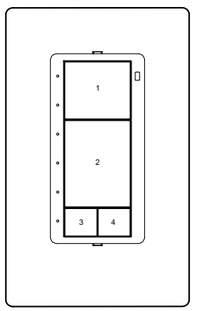
STYLE 41



4 BUTTON
STYLE 42



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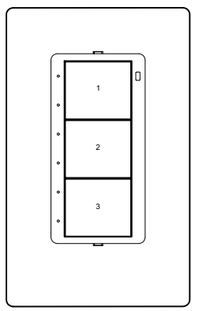
STYLE 43



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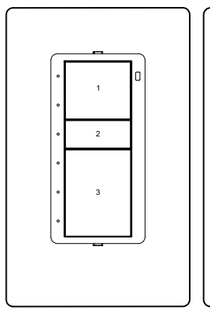
STYLE 44



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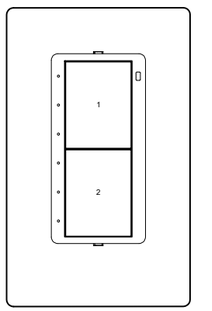

2 BUTTON
STYLE 48

PLEASE USE THESE STYLES AS A GUIDE TO FILL OUT THE MODIFIED KEYPAD LAYOUT & ENGRAVING FORMS ON THE NEXT PAGE

NOTE THAT SEVERAL STYLES HAVE BEEN REMOVED FROM THIS SHEET, BUT STYLE NUMBERS ARE UNCHAINED TO MAINTAIN COMPATIBILITY WITH OLDER SHEETS.

REVISIONS	DATE	BY

PART #: C2N-CBF-P

DESCRIPTION: C2N-CBF-P STYLE X LAYOUT

REVISION: 011

DATE: 9/18/17

NOTES:UPDATE TEMPLATE

CRESTRON
ELECTRONICS INC.
15 VOLVO DRIVE
ROCKLEIGH NJ 07647
TEL: 855-644-7643
CLCLIGHTING@CRESTRON.COM
WWW.CRESTRON.COM

DEVICE:
C2N-CBD-P CAMEO
KEYPAD
STYLE X LAYOUTS

DRAWING:
4 OF 5

Click here or enter URL for most current documents: ####

C2N-CBD-P KEYPAD ENGRAVING & CONTROL DETAIL SHEET.
STYLE X LAYOUTS

KEYPAD STYLE: _____

STATION ID: _____

LOCATION: _____

COLOR: _____

TEXTURE OR SMOOTH (CIRCLE ONE)

SEE PREVIOUS SHEET FOR STYLE NUMBERS

BUTTONS ARE CLASSED AS HALF, SINGLE, DOUBLE, OR TRIPLE SPACE. DOUBLE AND TRIPLE SPACE BUTTONS CAN HAVE 2 LINES OF TEXT AND EACH LINE CAN HAVE A MAXIMUM OF 7 CHARACTERS. (SEPARATE LINES WITH /)

STANDARD RAISE ▲ AND LOWER ▼ BUTTONS ARE SHIPPED WITH EACH KEYPAD FOR USE IN THE SPLIT BUTTONS (HALF-WIDTH BUTTONS AT THE BOTTOM). IF YOU WISH ENGRAVING ON THESE BUTTONS ONLY 3-4 CHARACTERS, DEPENDING ON CHARACTER WIDTH, WILL FIT ON THESE BUTTONS.

ENGRAVING SCHEDULE		CONTROL
BUTTON ID	ENGRAVING	ZONES TO BE CONTROLLED
1		
2		
3		
4		
5		
6		
7		
8		

KEYPAD STYLE: _____

STATION ID: _____

LOCATION: _____

COLOR: _____

TEXTURE OR SMOOTH (CIRCLE ONE)

SEE PREVIOUS SHEET FOR STYLE NUMBERS

BUTTONS ARE CLASSED AS HALF, SINGLE, DOUBLE, OR TRIPLE SPACE. DOUBLE AND TRIPLE SPACE BUTTONS CAN HAVE 2 LINES OF TEXT AND EACH LINE CAN HAVE A MAXIMUM OF 7 CHARACTERS. (SEPARATE LINES WITH /)

STANDARD RAISE ▲ AND LOWER ▼ BUTTONS ARE SHIPPED WITH EACH KEYPAD FOR USE IN THE SPLIT BUTTONS (HALF-WIDTH BUTTONS AT THE BOTTOM). IF YOU WISH ENGRAVING ON THESE BUTTONS ONLY 3-4 CHARACTERS, DEPENDING ON CHARACTER WIDTH, WILL FIT ON THESE BUTTONS.

ENGRAVING SCHEDULE		CONTROL
BUTTON ID	ENGRAVING	ZONES TO BE CONTROLLED
1		
2		
3		
4		
5		
6		
7		
8		

KEYPAD STYLE: _____

STATION ID: _____

LOCATION: _____

COLOR: _____

TEXTURE OR SMOOTH (CIRCLE ONE)

SEE PREVIOUS SHEET FOR STYLE NUMBERS

BUTTONS ARE CLASSED AS HALF, SINGLE, DOUBLE, OR TRIPLE SPACE. DOUBLE AND TRIPLE SPACE BUTTONS CAN HAVE 2 LINES OF TEXT AND EACH LINE CAN HAVE A MAXIMUM OF 7 CHARACTERS. (SEPARATE LINES WITH /)

STANDARD RAISE ▲ AND LOWER ▼ BUTTONS ARE SHIPPED WITH EACH KEYPAD FOR USE IN THE SPLIT BUTTONS (HALF-WIDTH BUTTONS AT THE BOTTOM). IF YOU WISH ENGRAVING ON THESE BUTTONS ONLY 3-4 CHARACTERS, DEPENDING ON CHARACTER WIDTH, WILL FIT ON THESE BUTTONS.

ENGRAVING SCHEDULE		CONTROL
BUTTON ID	ENGRAVING	ZONES TO BE CONTROLLED
1		
2		
3		
4		
5		
6		
7		
8		

PLEASE NOTE:
THIS SHEET AND THE SHEETS FOR "STANDARD" LAYOUTS THAT PRECEDE IT DO NOT NEED TO BE RETURNED COMPLETED WITH THE SUBMITTAL PACKAGE FOR THIS PROJECT. THESE SHEETS MUST BE RETURNED NOT LATER THAN YOUR REQUEST FOR SYSTEM COMMISSIONING.

KEYPADS SHIP WITH NO BUTTONS INSTALLED. SEE NOTE ON C2N-CBD-P SHEET 1 OF 5 FOR DETAILS.

INSTRUCTIONS

IF YOU WISH TO USE ANY MODIFIED LAYOUTS FOR YOUR PROJECT, PLEASE FOLLOW THE INSTRUCTIONS BELOW. IF YOU WISH STANDARD LAYOUTS ONLY, PLEASE GO TO THE PRIOR SHEET "STANDARD KEYPAD LAYOUTS"

1. MAKE AS MANY COPIES AS YOU NEED OF THIS SHEET TO BE ABLE TO CREATE AS MANY DIFFERENT STATION ENGRAVINGS AS YOU REQUIRE. NOTE THAT IF YOU HAVE SEVERAL STATIONS THAT ARE THE SAME, YOU MAY LIST MULTIPLE STATION ID NUMBERS IN THE APPROPRIATE SPACE, YOU DON'T NEED A SEPARATE SHEET FOR EACH STATION.
2. ENTER THE STYLE NUMBER (SEE PREVIOUS SHEET FOR STYLES) THAT YOU WOULD LIKE FOR A STATION OR TYPE OF STATION.
3. LOOK AT THE SINGLE-LINE RISER DIAGRAMS EARLIER IN THIS SUBMITTAL PACKAGE. EACH KEYPAD WILL HAVE A "STATION ID". NOTE THAT STATION ID IN THE APPROPRIATE SPACE, AS WELL AS THE DEVICE LOCATION. IF THE DEVICE LOCATION ISN'T SPECIFIED, PLEASE TRY TO UPDATE IT.
4. ON THIS SUBMITTAL'S BILL OF MATERIALS PAGE YOU WILL SEE A LISTING OF ALL KEYPADS, AS WELL AS THEIR COLOR AND FINISH.
5. IF THE KEYPADS HAVE NOT YET BEEN SHIPPED, YOU MAY CHANGE TO COLOR/FINISH FOR NO ADDITIONAL FEE. NOTE THE COLOR YOU WOULD LIKE THE KEYPAD TO BE ON THE "COLOR" LINE, WITH EITHER "SMOOTH" (GLOSS) OR "TEXTURED" (MATTE) ON THE LINE BELOW COLOR.
6. BE AWARE THAT IF THE KEYPADS HAVE SHIPPED AND THE COLOR NEEDS TO CHANGE, RESTOCKING FEES WILL BE APPLIED.
7. 5. IN THE ENGRAVING TABLE, ENTER THE TEXT YOU WOULD LIKE TO HAVE ENGRAVED ON THE BUTTONS.
8. ONCE YOU ARE FINISHED WITH ALL ENGRAVING DETAILS, PLEASE SEND THE SHEET(S) TO LIGHTINGCOMMISSIONING@CRESTRON.COM
9. PLEASE ENTER PROGRAMMING INFORMATION FOR EACH STATION- ZONES TO BE CONTROLLED BY EACH BUTTON. CONTROLS LIKE "PROJECTION SCREEN UP" OR OTHER NON-ZONE RELATED ACTIONS MAY ALSO BE NOTED.

AVAILABLE COLORS & FINISHES

WHITE	SMOOTH OR TEXTURED
BLACK	SMOOTH OR TEXTURED
ALMOND	SMOOTH OR TEXTURED
GRAY	SMOOTH
IVORY	SMOOTH
DARK ALMOND	SMOOTH
BROWN	SMOOTH
LATTE	TEXTURED
DUSK	TEXTURED

PLEASE GO TO WWW.CRESTRON.COM FOR PHOTOS OF THESE COLORS, OR CONTACT YOUR CRESTRON PROJECT COORDINATOR FOR SAMPLES

REVISIONS	DATE	BY

PART #: C2N-CBF-P

DESCRIPTION: C2N-CBF-P STYLE X ENGRAVING

REVISION: 011

DATE: 9/18/17

NOTES:

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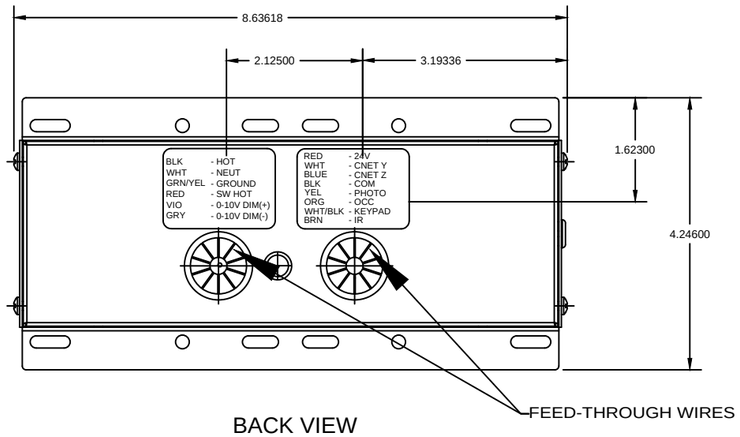
CLCLIGHTING@CRESTRON.COM
WWW.CRESTRON.COM

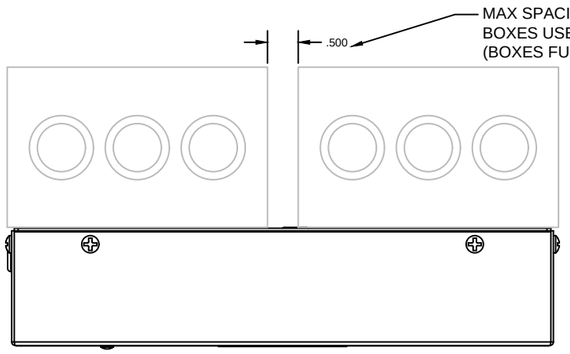
DEVICE:
C2N-CBD-P CAMEO KEYPAD
STYLE X LAYOUTS
ENGRAVINGS

DRAWING:
5 OF 5

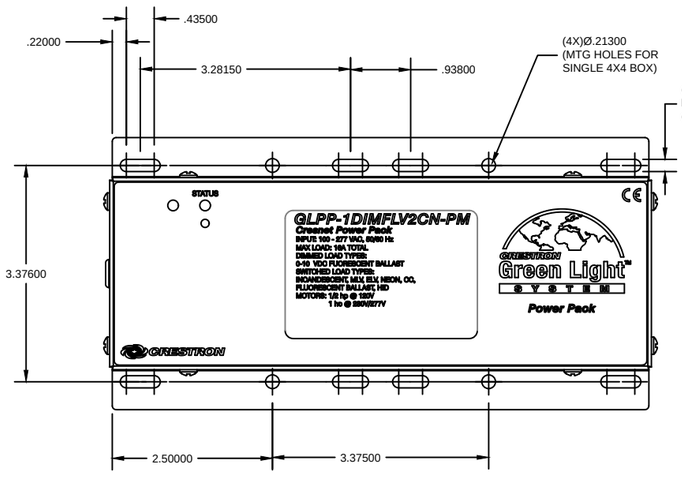
Click here or enter URL for most current documents: ####



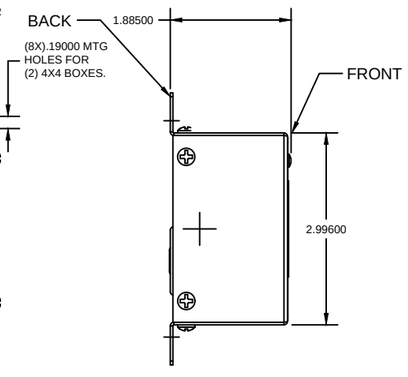
BACK VIEW
(ROTATED 180°)



SIDE VIEW



FRONT VIEW



END VIEW

DESCRIPTION

THE CRESTRON GREEN LIGHT POWER PACK IS A STANDALONE ROOM CONTROLLER DESIGNED TO COMMUNICATE WITH PHOTOCELLS, OCCUPANCY SENSORS, AND CONTROL STATIONS TO AUTOMATICALLY CONTROL LIGHTING IN ANY ROOM. THE ENTIRE POWER PACK FAMILY PROVIDES COST-EFFECTIVE AND POWERFUL LIGHTING CONTROL FOR CLASSROOMS, SMALL OFFICES, AND OPEN-PLAN OFFICES. IDEAL FOR NEW CONSTRUCTION AS WELL AS RETROFITTING EXISTING BUILDINGS, POWER PACKS ARE IDEAL TO INSTALL AND COMMISSION QUICKLY AND EASILY. ADDITIONALLY, THE GREEN LIGHT POWER PACK CAN BE CONNECTED TO A CENTRAL CONTROL SYSTEM, ENABLING IT TO BECOME AN INTEGRAL PART OF THE BUILDING ENERGY MANAGEMENT SYSTEM.

THE GLPP-DIMFLVCN-PM SERIES IS AVAILABLE IN THE FOLLOWING MODELS:

GLPP-DIMFLVCN-PM: ONE INPUT CIRCUIT, 1-CHANNEL 0-10V DIMMER, CRESNET CONTROL, AND INTEGRATED POWER MANAGEMENT.

GLPP-1DIMFLV2CN-PM: ONE INPUT CIRCUIT, 2-CHANNEL 0-10V DIMMERS, CRESNET CONTROL, AND INTEGRATED POWER MANAGEMENT.

GLPP-1DIMFLV3CN-PM: ONE INPUT CIRCUIT, 3-CHANNEL 0-10V DIMMERS, CRESNET CONTROL, AND INTEGRATED POWER MANAGEMENT.

AVAILABLE ACCESSORIES:

GLPPA-KP MASTER SCENE KEYPAD (ALL KEYPADS AVAILABLE IN GLOSS WHITE, GLOSS ALMOND, OR GLOSS BLACK)

GLPPA-KP1, -KP2, -KP3 POWER PACK KEYPAD FOR DEDICATED CONTROL OF ONE ZONE ONLY

GLPPA-KP4 ZONE MASTER KEYPAD FOR TOGGLE CONTROL OF UP TO THREE ZONES

GLPPA-IRGW-F FLUSH MOUNT IR GATEWAY FOR GLPP

GLPPA-REMOTE-USER HANDHELD IR REMOTE FOR WIRELESS CONTROL OF LIGHTING LEVELS AND SCENES

GLPPA-REMOTE-PROG HANDHELD IR REMOTE FORE COMMISSIONING OF THE GLPP

SPECIFICATIONS

SPECIFICATION	DETAILS
POWER REQUIREMENTS	100-277VAC, 50-60Hz 2.5W @ 24VDC AVAILABLE SENSOR POWER (SUFFICIENT FOR MULTIPLE SENSORS)
LOAD TYPES DIMMER SWITCHED	 0-10V FLUORESCENT BALLAST (4-WIRE) 0-10V LED DRIVERS; 60mA MAX CURRENT SINK FLUORESCENT BALLAST, INCANDESCENT, MAGNETIC LOW VOLTAGE, ELECTRONIC LOW VOLTAGE, NEON/COLD CATHODE, HID
LOAD RATINGS DIM CHANNELS PER UNIT RELAY LIFETIME	 1, 2, OR 3 DIMMED (0-10V) LOADS, DEPENDING ON MODEL 16 AMPS @ 100-277VAC, 50-60HZ (20 AMPS DERATED TO 80%) 1,000,000 CYCLES
OPERATING TEMPERATURE AND HUMIDITY	32°F TO 104°F (0°C TO 40°C) 10 TO 90% RELATIVE HUMIDITY (NON-CONDENSING)
DIMENSIONS AND WEIGHT HEIGHT WIDTH DEPTH WEIGHT	 4.25 IN (108mm) 8.63 IN (219mm) 2 IN (51mm) 2 LB (907g)
CONTROLS & INDICATORS POWER SETUP SETUP IR RECEIVER	 (1) GREEN LED; INDICATES LINE VOLTAGE SUPPLIED TO UNIT (1) RED LED; INDICATES THE UNIT IS IN SETUP MODE (1) RECESSED PUSH BUTTON; TOGGLES SETUP MODE (1) IR WINDOW FOR USE WITH COMMISSIONING REMOTE CONTROL
CONNECTIONS (CLASS 1) LINE IN (100-277VAC) NEUTRAL SWITCHED HOT GROUND 0-10V DIM (+) 0-10V DIM (-)	 (1) 14 AWG CLASS 1 FLYING LEAD, BLACK (1) 14 AWG CLASS 1 FLYING LEAD, WHITE (1, 2, OR 3) 14 AWG CLASS 1 FLYING LEAD(S), RED, LABELED WITH CHANNEL NUMBER (1) 14 AWG CLASS 1 FLYING LEAD, GREEN W/YELLOW STRIPE (1, 2, OR 3) 18 AWG CLASS 1 FLYING LEAD, VIOLET, LABELED WITH CHANNEL NUMBER (1) 18 AWG CLASS 1 FLYING LEAD, GRAY
CONNECTIONS (CLASS 2) COMMON SENSOR POWER (24VDC) OCC SENSOR SIGNAL[1] PHOTOCELL SIGNAL[1] IR KEYPADS[2] CRESNET DATA Z CRESNET DATA Y	 (1) 18 AWG CLASS 2 FLYING LEAD, BLACK, COMMON FOR SENSORS, IR, AND CRESNET (1) 18 AWG CLASS 2 FLYING LEAD, RED (1) 18 AWG CLASS 2 FLYING LEAD, ORANGE (1) 18 AWG CLASS 2 FLYING LEAD, YELLOW (1) 18 AWG CLASS 2 FLYING LEAD, BROWN, FOR USE WITH (OPTIONAL) EXTERNAL IR RECEIVER (2) 18 AWG CLASS 2 FLYING LEADS, WHITE W/BLACK STRIPE; SUPPORTS UP TO TWO (2) GLPPA-KP POWER PACK KEYPADS (1) 18 AWG CLASS 2 FLYING LEAD, BLUE (1) 18 AWG CLASS 2 FLYING LEAD, WHITE
ENCLOSURE	20-GAUGE GALVANIZED STEEL ENCLOSURE; DESIGNED FOR MOUNTING TO TWO (2) ADJACENT STANDARD 4" SQUARE ELECTRICAL JUNCTION BOXES; 3 CHANNEL VERSIONS REQUIRE A BOX DEPTH OF 2.125 IN (5.4 CM)[3]
ELECTRICAL REGULATORY CERTIFICATIONS	CERTIFIED TO UL916 (ENERGY MANAGEMENT EQUIPMENT) RELAYS TESTED AND CERTIFIED FOR ELECTRONIC BALLASTS ACCORDING TO UL508, SECTION 41 (ENDURANCE TEST) AND SECTION 61C (ELECTRONIC BALLASTS), IEC60669-2-1, SECTION 19.102 (CONTACT MECHANISMS INCORPORATED IN ELECTRONIC SWITCHES, INTENDED FOR FLUORESCENT LAMP CIRCUITS OR OTHER CAPACITIVE LOADS). CE UL FC

1. CRESTRON PHOTOCELL MODELS INCLUDE GLS-LOL, GLS-LCL, AND GLS-LEXT. CRESTRON OCCUPANCY SENSOR MODELS INCLUDE GLS-ODT-NS AND GLS-OIR-NS.
2. TWO DEDICATED WIRES ARE REQUIRED FROM THE KEYPAD LOCATION TO THE GLPP. ONLY KEYPADS MODEL GLPPA-KP MAY CONNECT TO THESE WIRES; OTHER CRESTRON KEYPADS MAY ONLY BE USED WITH GLPP IN SYSTEMS WITH A CENTRAL PROCESSOR.
3. SOME MODELS MAY NEED A BOX EXTENSION TO MEET CODE REQUIREMENTS.

REVISIONS	DATE	BY

PART #: GLPP-DIMFLVCN-PM
DESCRIPTION: GLPP, DIMMING VERSION, 1-3 CHANNELS
REVISION: 007
NOTES:

DATE: 5/18/2016

CRESTRON
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TEL: 855-644-7643
CLCLIGHTING@CRESTRON.COM
WWW.CRESTRON.COM

PART #:
GLPP-DIMFLVCN-PM
-1DIMFLV2CN-PM
-1DIMFLV3CN-PM

DRAWING:
1 OF 2

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WIRING NOTES:

CAUTION: POSSIBLE EQUIPMENT DAMAGE IF MISWIRED

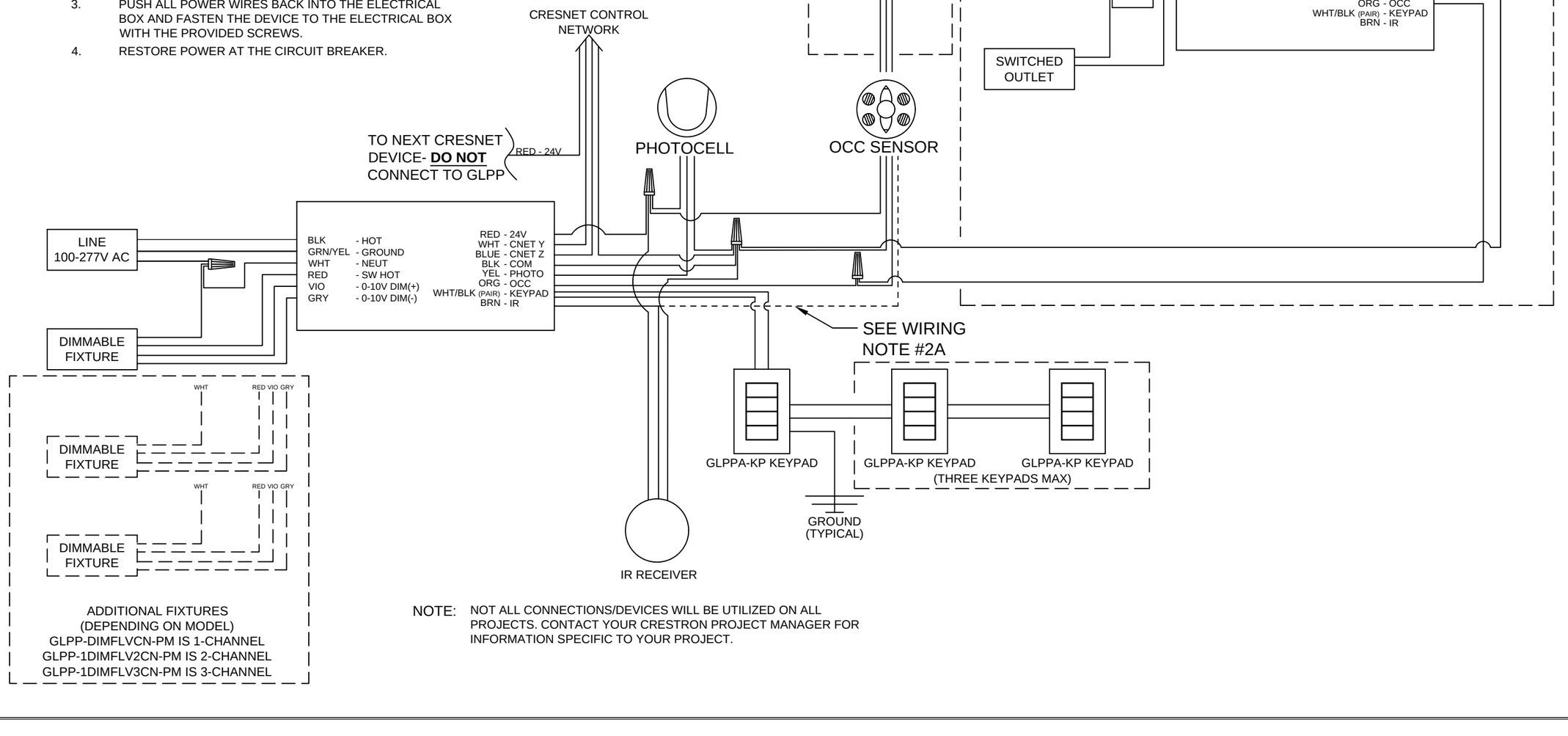
WARNING: TURN OFF POWER AT THE CIRCUIT BREAKER. INSTALLING WITH POWER ON CAN RESULT IN PERSONAL INJURY AND DAMAGE TO THE DEVICE.

WARNING: NEW INSTALLATIONS SHOULD BE CHECKED FOR SHORT CIRCUITS PRIOR TO INSTALLING GLPP-DIMFLVCN-P POWER PACK. WITH POWER OFF, CLOSE THE CIRCUIT AND RESTORE POWER. IF THE LIGHTS DO NOT WORK OR A BREAKER TRIPS, CHECK AND CORRECT THE WIRING OF FIXTURE (IF NECESSARY). INSTALL THE POWER PACK ONLY WHEN THE SHORT IS NO LONGER PRESENT. THE WARRANTY IS VOID IF THE POWER PACK IS INSTALLED AND OPERATED WITH A SHORTED LOAD.

1. TURN OFF POWER AT THE CIRCUIT BREAKER.
2. WIRE THE DEVICE AS SHOWN IN THE DIAGRAM ABOVE.

2A. IF USING CRESTRON GLS-ODT-C-NS OCCUPANCY SENSORS, ENSURE THAT IR WIRE IS CONNECTED TO IR TERMINAL IN SENSOR. DO NOT CONNECT IR TO OPTIONAL PLUG-LOAD GLPP-SWCN

3. PUSH ALL POWER WIRES BACK INTO THE ELECTRICAL BOX AND FASTEN THE DEVICE TO THE ELECTRICAL BOX WITH THE PROVIDED SCREWS.
4. RESTORE POWER AT THE CIRCUIT BREAKER.



NOTE: NOT ALL CONNECTIONS/DEVICES WILL BE UTILIZED ON ALL PROJECTS. CONTACT YOUR CRESTRON PROJECT MANAGER FOR INFORMATION SPECIFIC TO YOUR PROJECT.

REVISIONS	DATE	BY

PART #: GLPP-DIMFLVCN-PM

DESCRIPTION: GLPP, DIMMING VERSION, 1-3 CHANNELS

REVISION: 007

DATE: 5/18/2016

NOTES:

CRESTRON
ELECTRONICS INC.
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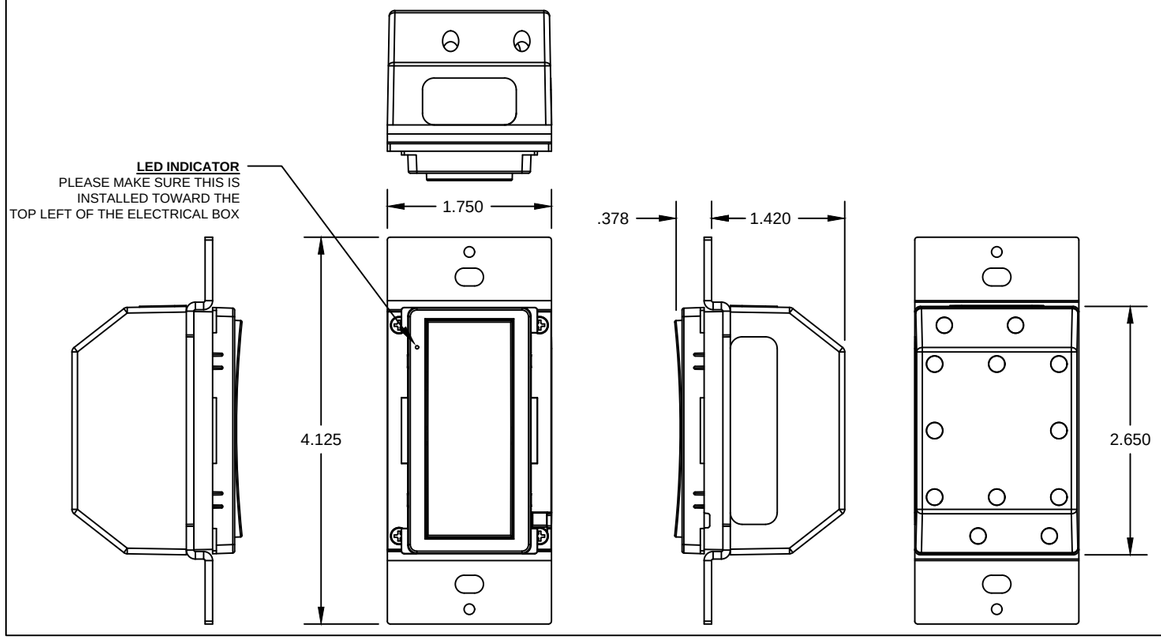
ROCKLEIGH NJ 07647
TEL: 855-644-7643
CLCLIGHTING@CRESTRON.COM
WWW.CRESTRON.COM

PART #:
GLPP-DIMFLVCN-PM
-1DIMFLV2CN-PM
-1DIMFLV3CN-PM

DRAWING:
2 OF 2

PHYSICAL DETAILS

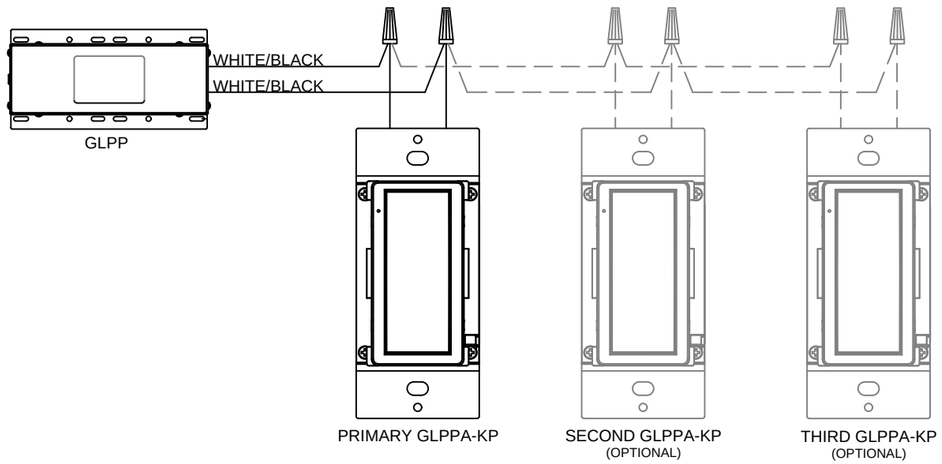


WIRING INSTRUCTIONS:

CAUTION: POSSIBLE EQUIPMENT DAMAGE IF MISWIRED

1. USING NEW OR PRE-EXISTING WIRING, CONNECT THE TWO NON-POLARIZED WHITE WIRES WITH BLACK STRIPES FROM THE GLPP UNIT TO THE TWO WIRES ON THE GLPPA-KP KEYPAD.
2. IF A SECOND OR THIRD GLPPA-KP IS BEING USED IN THE ROOM, WIRE THEM IN PARALLEL.

CAUTION: EXCESS WIRE PINCHED BETWEEN THE KEYPAD AND ELECTRICAL BOX COULD SHORT OUT. MAKE SURE ALL EXCESS WIRE IS COMPLETELY INSIDE THE ELECTRICAL BOX AND NOT BETWEEN THE BOX AND THE KEYPAD.



DESCRIPTION

THE GLPPA-KP IS AN IN WALL KEYPAD FOR CRESTRON GREEN LIGHT® POWER PACK (GLPP) SYSTEMS, USED TO SET AND RECALL PRESETS AND TURN ON AND OFF ALL LOADS CONNECTED TO A GLPP. INSTALLATION IS MADE EASY THANKS TO A 2-WIRE, LOW-VOLTAGE BUS, WHICH CONNECTS THE GLPPA-KP AND GLPP MAIN UNIT. IT IS AVAILABLE IN BLACK, WHITE, AND ALMOND. UP TO THREE GLPPA-KPs CAN BE CONNECTED TO A SINGLE GLPP SYSTEM FOR MULTIPOINT CONTROL IN A ROOM.

FLEXIBLE CONFIGURATION

THE GLPPA-KP SHIPS WITH TWO SETS OF BUTTON CONFIGURATIONS: A ROCKER FOR TURNING ON/OFF AND DIMMING AND A SET OF FOUR PRE-LABELED BUTTONS- **ALL ON**, **ALL OFF**, **SCENE 1**, AND **SCENE 2.** SCENES CAN BE ADJUSTED BY ANY USER DIRECTLY FROM THE KEYPAD.

THE GLPPA-KP4 SHIPS PREASSEMBLED WITH **ZONE 1**, **ZONE 2**, **ZONE 3** AND ALL OFF BUTTONS. IF IT IS USED WITH A 2-CHANNEL GLPP, AN **ALL ON** BUTTON IS INCLUDED AND MAY BE INSTALLED.

GLPPA-KP1, KP2, & KP3 SHIP WITH A ROCKER BUTTON AND ARE DESIGNED AS DEDICATED CONTROLLERS FOR THEIR SPECIFIED ZONES.

EASY INSTALLATION

TWO FLYING LEADS CONNECT THE GLPPA-KP TO THE GLPP SYSTEM VIA A NON-POLARIZED LOW-VOLTAGE BUS. USE A CHOICE OF NEW OR EXISTING HIGH-VOLTAGE (CLASS 1) OR LOW-VOLTAGE (CLASS 2) WIRING FOR QUICK INSTALLATION.

SPECIFICATIONS

POWER REQUIREMENTS:	1 WALL (0.05 AMPS @24Vdc) SUPPLIED BY GLPP
ENVIRONMENTAL:	32°F TO 115°F (0°C TO 45°C) 10% TO 90% RH (NON CONDENSING)
DIMENSIONS:	
HEIGHT:	4 1/8" (105mm)
WIDTH:	1 3/4" (45mm)
DEPTH:	1 3/16" (46mm)
WEIGHT:	3.6 oz. (50g)

GLPPA-KP KEYPAD

REVISIONS	DATE	BY

PART #: GLPPA-KP
DESCRIPTION: KEYPAD FOR GLPP SYSTEMS
REVISION: 001
DATE: 5/18/2016
NOTES:KP1, KP2, KP3, KP4 ADDED

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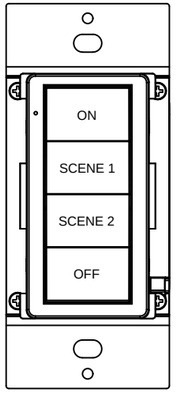
WWW.CRESTRON.COM

PART #:
GLPPA-KP

DRAWING:
1 OF 2

MODEL
GLPPA-KP

PRE-LABELLED BUTTONS

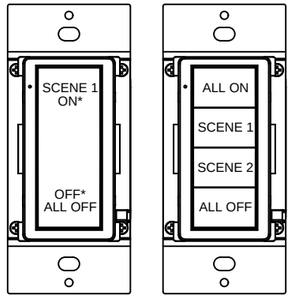


STANDARD LABELS ON BUTTONS FOR 4-BUTTON CONFIGURATION (ROCKER BUTTON IS NOT PRE-LABELED.)

BUTTONS MAY BE ENGRAVED WITH CUSTOM LABELS- PLEASE CHECK WITH YOUR PROJECT MANAGER TO DETERMINE IF THIS SERVICE IS INCLUDED ON YOUR SALES ORDER.

DEFAULT BUTTON FUNCTIONS

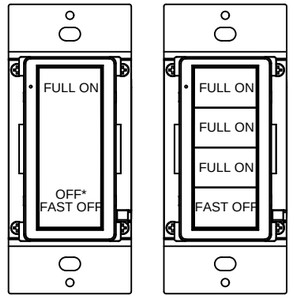
BUTTON TAP



IF USING THE SINGLE ROCKER BUTTON FOR A GLPP-DIM, TAP THE TOP OF THE BUTTON FOR SCENE 1, TAP THE BOTTOM OF THE BUTTON FOR ALL OFF. IF USING THE SINGLE ROCKER BUTTON FOR A GLPP-SW, TAP THE TOP OF THE BUTTON FOR ON AND THE BOTTOM OF THE BUTTON FOR OFF.

FOR A FOUR BUTTON CONFIGURATION USING A GLPP-DIM OR -SW, TAP THE FIRST BUTTON FOR ON, THE SECOND BUTTON FOR SCENE 1, THE THIRD BUTTON FOR SCENE 2, AND THE LAST BUTTON FOR ALL OFF.

BUTTON DOUBLE TAP

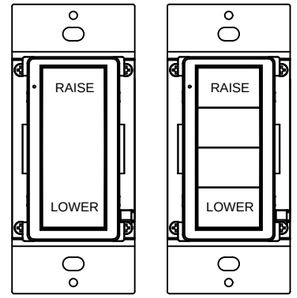


(TAP THE BUTTON TWICE WITHIN 0.5 SECONDS)

IF USING THE SINGLE ROCKER BUTTON FOR A GLPP-DIM, DOUBLE-TAP THE TOP OF THE BUTTON FOR FULL ON, THE BOTTOM OF THE BUTTON FOR FAST OFF. IF USING THE SINGLE ROCKER BUTTON FOR A GLPP-SW, DOUBLE-TAP THE BOTTOM OF THE BUTTON FOR OFF- THE TOP PROVIDES NO FUNCTION.

FOR A FOUR BUTTON CONFIGURATION USING A GLPP-DIM OR -SW, DOUBLE-TAP ANY OF THE FIRST THREE BUTTONS FOR FULL ON AND THE LAST BUTTON FOR FAST OFF.

BUTTON HOLD



(HOLD BUTTON FOR MORE THAN 0.5 SECONDS)

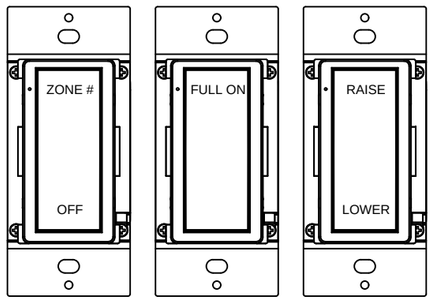
IF USING THE SINGLE ROCKER BUTTON FOR A GLPP-DIM, HOLD THE TOP OF THE BUTTON FOR RAISE, HOLD THE BOTTOM OF THE BUTTON FOR LOWER. FOR A FOUR BUTTON CONFIGURATION WITH A GLPP-DIM, HOLD THE TOP BUTTON FOR RAISE, THE BOTTOM BUTTON FOR LOWER.

BUTTONS ON A GLPP-SW HAVE NO FUNCTION WHEN HELD.

THESE ILLUSTRATIONS SHOW THE DEFAULT FUNCTIONS AVAILABLE FOR EACH PHYSICAL BUTTON CONFIGURATION AND TAP/HOLD ACTIVATION SEQUENCE. TAP, DOUBLE-TAP, AND HOLD ACTIVATE VARIOUS SCENES DEPENDING ON THE GLPP SETTINGS. TO DETERMINE SCENE SETTINGS OR HOW TO achieve CUSTOM FUNCTIONS, REFER TO THE GLPP INSTALLATION GUIDE AND OTHER SYSTEM PROGRAMMING GUIDES, AVAILABLE AT CRESTRON.COM.

**APPLICABLE TO GLPP-SWCN VERSIONS ONLY*

DEFAULT BUTTON FUNCTIONS: KP1, KP2, KP3



TAP DOUBLE-TAP HOLD

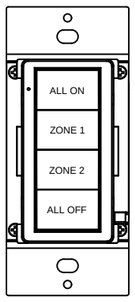
(LABELS ABOVE ARE NOT ENGRAVED- ROCKER IS BLANK)

TAP
TAP THE TOP OF THE BUTTON TO RECALL SCENE 1 FOR THE CHANNEL (ENABLES DAYLIGHTING FOR OPEN LOOP ONLY); TAP THE BOTTOM OF THE BUTTON TO TURN THE CHANNEL OFF.

DOUBLE-TAP
DOUBLE-TAP THE TOP OF THE BUTTON TO TURN THE CHANNEL FULL ON (DISABLES DAYLIGHTING). DOUBLE-TAP THE BOTTOM OF THE BUTTON HAS NO ACTION.

HOLD
HOLD THE TOP OF THE BUTTON TO RAISE THE CHANNEL; HOLD THE BOTTOM OF THE BUTTON TO LOWER THE CHANNEL.

KP4 FUNCTIONS- 2 CHANNEL GLPP

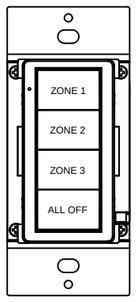


ALL ON Button
TAP TO RECALL SCENE 1 ON CHANNEL 1 AND CHANNEL 2 (DAYLIGHTING ENABLED). HOLD TO RAISE ALL CHANNELS.

ZONE 1 and ZONE 2 Buttons
TAP THE ZONE 1 BUTTON TO TOGGLE CHANNEL 1. TAP THE ZONE 2 BUTTON TO TOGGLE CHANNEL 2. LIGHTS ARE TURNED ON TO SCENE 1 LEVELS WITH DAYLIGHTING ENABLED. HOLD BUTTON TO CYCLE-DIM THE CHANNEL.

ALL OFF Button
TAP TO TURN ALL CHANNELS OFF. HOLD TO LOWER ALL CHANNELS.

KP4 FUNCTIONS- 3 CHANNEL GLPP



ZONE 1, ZONE 2 and ZONE 3 Buttons
TAP THE ZONE 1 BUTTON TO TOGGLE CHANNEL 1. TAP THE ZONE 2 BUTTON TO TOGGLE CHANNEL 2. TAP THE ZONE 3 BUTTON TO TOGGLE CHANNEL 3. LIGHTS ARE TURNED ON TO SCENE 1 LEVELS WITH DAYLIGHTING ENABLED. HOLD BUTTON TO CYCLE-DIM THE CHANNEL.

ALL OFF Button
TAP TO TURN ALL CHANNELS OFF. HOLD TO LOWER ALL CHANNELS.

MODELS
GLPPA-KP1
GLPPA-KP2
GLPPA-KP3
GLPPA-KP4

GLPPA-KP KEYPAD

REVISIONS	DATE	BY

PART #: GLPPA-KP
DESCRIPTION: KEYPAD FOR GLPP SYSTEMS
REVISION: 001
NOTES:KP1, KP2, KP3, KP4 ADDED
DATE: 5/18/2016

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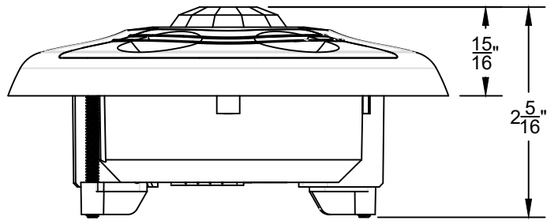
WWW.CRESTRON.COM

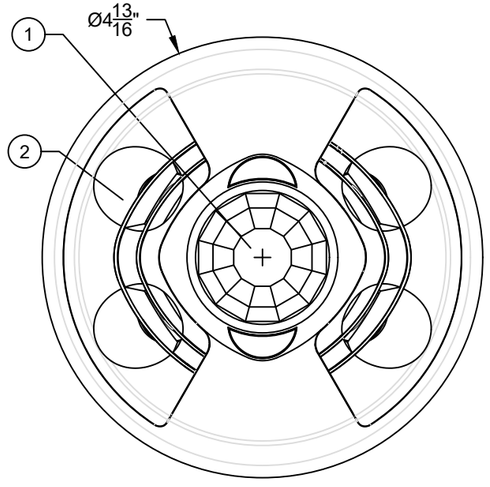
PART #:
GLPPA-KP

DRAWING:
2 OF 2

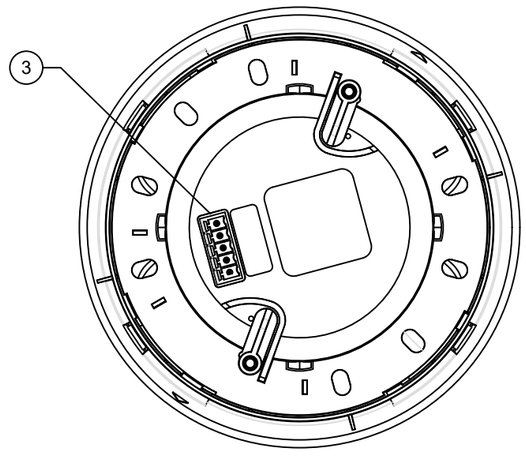
Click here or enter URL for most current documents: ####



SIDE VIEW



TOP VIEW



BOTTOW VIEW
(BOTTOM COVER REMOVED)

PHYSICAL DETAILS

GLS-ODT-C-NS DETAILS

FEATURES & INSTALLATION BASICS

AN INSTALLATION GUIDE SHIPS WITH EACH SENSOR. PLEASE SEE THAT DOCUMENT FOR FULL INSTRUCTIONS. THIS SHEET IS INTENDED AS AN OVERVIEW OF CAPABILITIES ONLY.

MOUNTING OPTIONS:

1. DROP CEILING MOUNT USING SCREWS (INCLUDED- PREINSTALLED).
2. BACK BOX OR SURFACE MOUNT RACEWAY MOUNTING (BOX/RACEWAY & SCREWS FBO).

CRESTRON RECOMMENDS USING AN OCTAGONAL 4" X 1-1/2" DEEP BACK BOX FOR THESE SENSORS. **IF A SQUARE 1900 BACK BOX IS USED, A 7.0 CUBIC INCH ROUND MUD RING IS REQUIRED.**

A GLS-SIM, IF REQUIRED, MAY MOUNT INSIDE THE SAME BACKBOX GIVEN SUFFICIENT DEPTH.

ALL GLS-ODT-C SENSORS ARE DESIGNED FOR OPTIMAL MOUNTING AT 8'. HEIGHTS OF 8'-12' ARE ACCEPTABLE. SPECIAL-ORDER SENSORS MAY BE ADDED TO AN ORDER FOR AN ADDITIONAL CHARGE ALLOWING MOUNTING HEIGHTS OF UP TO 20'.

SEE INSTALLATION INSTRUCTIONS FOR FULL INFORMATION.

NOTE: BEFORE SECURING SENSOR TO THE CEILING, ROTATE THE DEVICE TO ENSURE THAT IT FACES THE DESIRED DIRECTION. REFER TO THE "DETECTION RANGE" SECTION TO CHOOSE THE BEST ORIENTATION. AVOID AREAS WHERE FALSE TRIPPING MAY OCCUR DUE TO OUTSIDE MOTION SUCH AS AN OPEN DOOR. IDENTIFY AND AVOID AREA OF POSSIBLE VIBRATIONS AND AIR CURRENTS (i.e. PROJECTORS, FANS, VENTS" AND MOUNT THE SENSOR AT LEAST 5 FEET AWAY FROM THESE ITEMS.

NOTE: DEPENDING ON INSTALLATION REQUIREMENTS, THE ULTRASONIC SENSORS CAN BE ENABLED OR DISABLED THROUGH THE IR REMOTE. THE ULTRASONIC SENSORS ARE SPLIT INTO TWO BANKS- A & B- WHICH ARE LABELED UNDER THE COVER OF THE SENSOR. IF THE SENSOR IS ALREADY INSTALLED AND THE ORIENTATION OF THE SENSORS IS UNKNOWN, BANK A IS LOCATED ON THE RED LED SIDE OF THE SENSOR AND BANK B IS LOCATED ON THE GREEN LED SIDE OF THE SENSOR.

MODEL/FEATURE BASICS

MODEL	DESCRIPTION	CURRENT CONSUMPTION	CRESNET POWER	COVERAGE	IR SENSOR	SUGGESTED LOCATION
GLS-ODT-C-NS	2-WAY DUAL TECH	45mA	1.08w	2000 FT² (185.8m²)	IR SENSOR FOR GLPP CONTROL	MOUNT IN CENTER OF ROOM/AREA OR MOUNT IN CORNER*

NOTES KEY

1. IR SENSOR
2. ULTRASONIC SENSORS
3. 5-PIN CONNECTOR
   - 1: +24VDC — 24 VDC POWER FROM CONTROLLER (GLPP, GLPAC, GL-IPAC, GLS-SIM)
   - 2: OCC — CONNECTS TO OCUPANCY SENSOR PORT OF GLPP, GLPAC, GL-IPAC or #1 OR #2 INPUT OF GLS-SIM OR CAMEO KEYPAD
   - 3: N/C — NO CONNECTION
   - 4: GND — CONNECT TO CONTROLER GROUND
   - 5: IR — CONNECT TO IR PORT ON GLPP FOR PROGRAMMING WITHOUT SEPARATE IR SENSOR

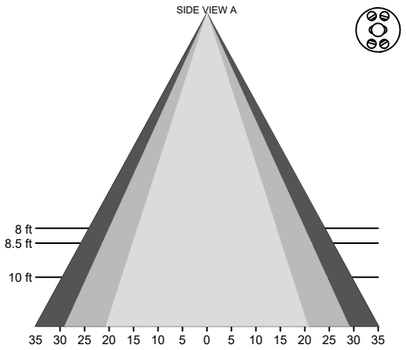
REVISIONS	DATE	BY

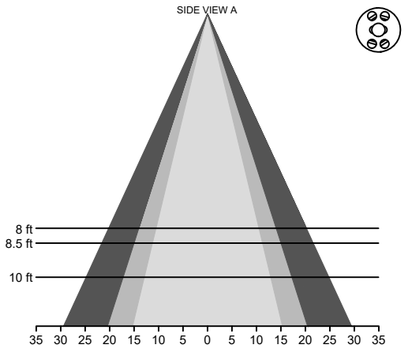
PART #: GLS-ODT-C-NS
DESCRIPTION: DUAL TECHNOLOGY OCCUPANCY SENSOR
REVISION: 001
DATE: 10/20/2015
NOTES:

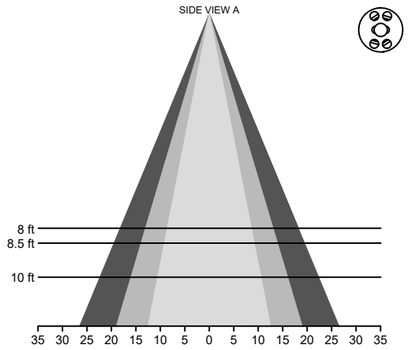
CRESTRON
ELECTRONICS INC.
15 VOLVO DRIVE
ROCKLEIGH NJ 07647
TEL: 855-644-7643
CLCLIGHTING@CRESTRON.COM
WWW.CRESTRON.COM

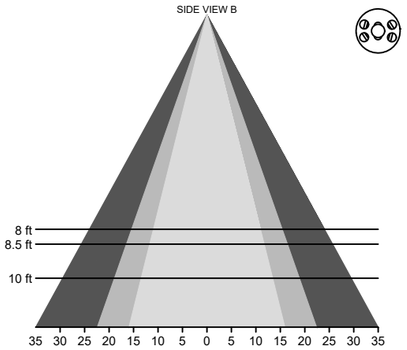
PART #:
GLS-ODT-C-NS
OCCUPANCY SENSOR

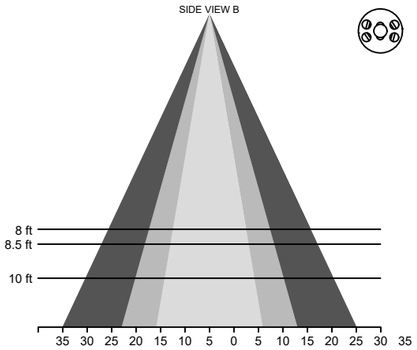
DRAWING:
1 of 2

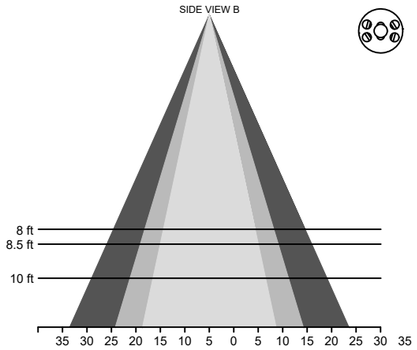


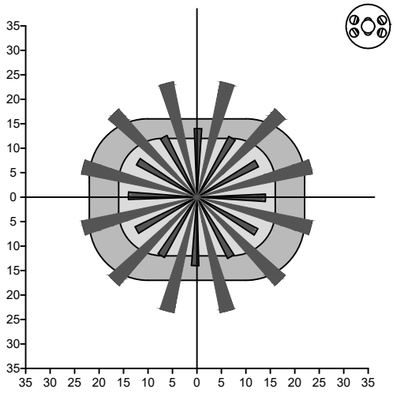




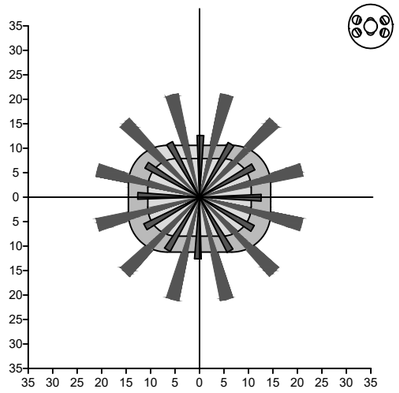




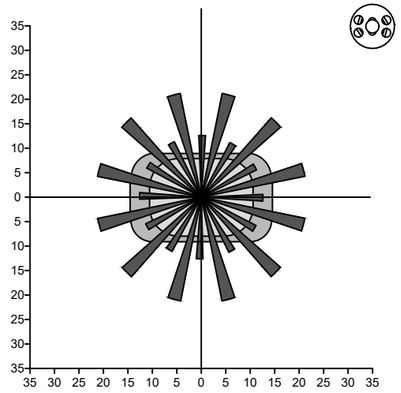




APPROXIMATE COVERAGE
HIGH SENSITIVITY SETTING



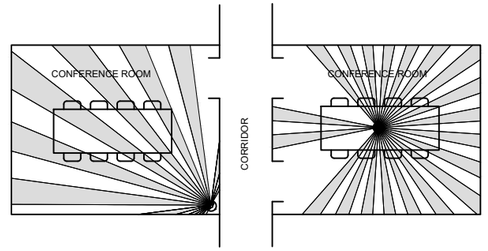
APPROXIMATE COVERAGE
MEDIUM SENSITIVITY SETTING



APPROXIMATE COVERAGE
LOW SENSITIVITY SETTING

NOT TO SCALE

ULTRASONIC MAJOR MOTION
ULTRASONIC MINOR MOTION
PIR MAJOR MOTION



TWO POSSIBLE MOUNTING & MASKING OPTIONS:

IN THE EXAMPLE ABOVE TWO CONFERENCE ROOMS ARE ALONG A CORRIDOR. IT IS UNDESIRABLE FOR CORRIDOR TRAFFIC TO TURN ON THE LIGHTS IN THE CONFERENCE ROOMS. IN THE ROOM ON THE LEFT, AN OCCUPANCY SENSOR IS MOUNTED IN A CORNER WITH ONE ULTRASONIC SENSOR BANK TURNED OFF, COVERING THE ROOM BUT NOT THE CORRIDOR. IN THE ROOM ON THE RIGHT, A SENSOR IS LOCATED OVER THE CENTER OF THE ROOM. THIS SENSOR HAS A MASK INSTALLED WHICH PREVENTS THE SENSOR FROM SEEING CORRIDOR TRAFFIC WHILE STILL COVERING MOST OF THE ROOM.

EACH SENSOR IS SUPPLIED WITH ONE MASK, PERFORATED IN 32° INCREMENTS THAT MAY BE LEFT IN PLACE OR REMOVED TO MASK OR REVEAL CERTAIN AREAS, AND ONE SOLID HALF-MASK.

GLS-ODT-C-NS FIELD OF VIEW RANGES

REVISIONS	DATE	BY

PART #: GLS-ODT-C-NS
DESCRIPTION: DUAL TECH OCCUPANCY SENSOR
REVISION: 000
DATE: 7/17/2014
NOTES:

CRESTRON
ELECTRONICS INC.
15 VOLVO DRIVE
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WWW.CRESTRON.COM

PART #:
GLS-ODT-C-NS
OCCUPANCY SENSOR

DRAWING:
2 of 2

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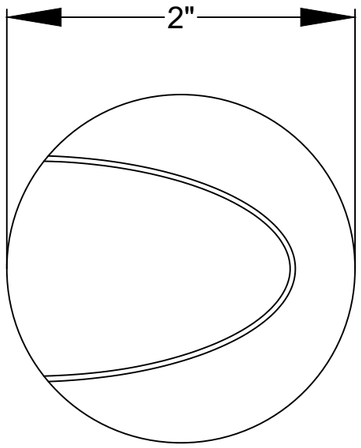

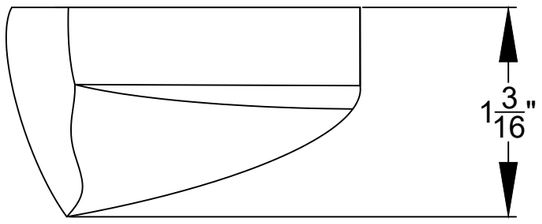

PHYSICAL DETAILS

FEATURES & INSTALLATION BASICS

AN INSTALLATION GUIDE SHIPS WITH EACH SENSOR. PLEASE SEE THAT DOCUMENT FOR FULL INSTRUCTIONS. THIS SHEET IS INTENDED AS AN OVERVIEW OF CAPABILITIES ONLY.

DESCRIPTIONS:

THE **GLS-LOL** IS A PHOTOCELL SENSOR DESIGNED FOR DAYLIGHT HARVESTING APPLICATIONS TO PROVIDE CONTROL OF ROOM LIGHTING BASED ON THE PRESENCE OF NATURAL DAYLIGHT. INTENDED FOR USE WITH AN OPEN-LOOP TYPE SYSTEM, THE **GLS-LOL** CONTINUALLY MONITORS THE AMOUNT OF DAYLIGHT COMING THROUGH A WINDOW OR SKYLIGHT, ALLOWING ROOM LIGHTING TO BE DIMMED OR SWITCHED OFF WHEN THERE IS SUFFICIENT DAYLIGHT AVAILABLE.

THE **GLS-LOL** CAN BE MOUNTED TO A DRYWALL OR DROP-TILE SURFACE. ITS SIMPLE 3-WIRE INTERFACE ALLOWS FOR CONNECTION TO A CRESTRON CONTROL SYSTEM VIA A SINGLE VERSIPORT I/O (AVAILABLE ON **GLS-SIM** INTERFACES, **C2N-CBD-P** "CAMEO" KEYPADS, AS WELL AS CERTAIN PROCESSORS AND OTHER INTERFACE MODULES) OR DIRECT CONNECTION TO **GLPAC-DIMFLV** OR **GLPP** INTEGRATED CONTROL DEVICES.

GENERAL NOTES & SPECIFICATIONS

1. SENSING:
   - FIELD OF VIEW: 60 DEGREE CONE
   - CENTER OF AXIS: 45 DEGREES FROM MOUNTING SURFACE
   - LIGHT SENSITIVITY: 3 TO 6000 FOOT-CANDLES

2. CONNECTIONS:
   - PLUS: (1) CAPTIVE SCREW TERMINAL, +24VDC INPUT
   - MINUS: (1) CAPTIVE SCREW TERMINAL, POWER & CONTROL COMMON
   - ARROW: (1) CAPTIVE SCREW TERMINAL, 0-10VDC CONTROL OUTPUT

3. CONTROLS: (BEHIND COVER)
   LIGHT LEVEL RANGE: JUMPER-SELECTABLE 3-300M 30-3000, OR 60-6000 FC

4. POWER:
   - CURRENT CONSUMPTION: 4mA @ 24 VOLTS DC
   - CRESNET POWER USAGE: 1 WATT

   (CRESNET BUS MAY BE USED REGARDLESS OF INTERFACE METHOD)

5. HOUSING:
   - CONSTRUCTION: HIGH-IMPACT INJECTION-MOLDED PLASTIC, WHITE
   - MOUNTING: SURFACE MOUNT TO DRYWALL OR DROP-TILE

6. DIMENSIONS:
   - HEIGHT: 1.20 IN. (3.05 cm)
   - DIAMTETER: 2.0 IN, (5.08cm)

REVISIONS	DATE	BY

PART #: GLS-LOL
DESCRIPTION: OPEN LOOP PHOTOCELL
REVISION: 000
NOTES:
DATE: 7/20/2012

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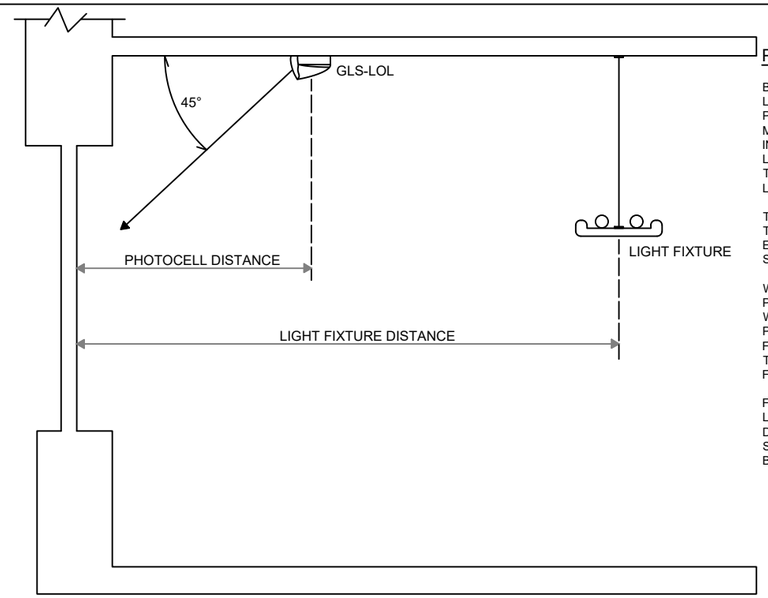
PART #:
GLS-LOL
OPEN-LOOP
PHOTOCELL

DRAWING:
1 of 2

Click here or enter URL for most current documents: ####



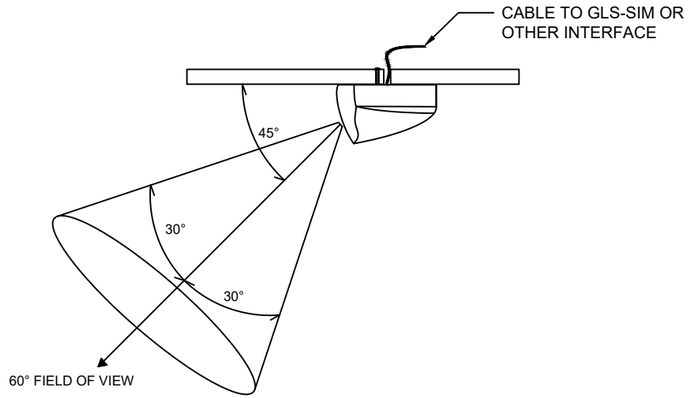
PHOTOCELL PLACEMENT

BEFORE INSTALLING THE PHOTOCELL, VERIFY THE DAYLIGHT LEVELS ON A SUNNY DAY AT THE PROPOSED LOCATION OF THE PHOTOCELL. WITH THE LIGHTS SWITCHED OFF, USE A LIGHT METER TO READ THE DAYLIGHT LEVEL. ORIENT THE LIGHT METER IN THE SAME DIRECTION THE PHOTOCELL WILL VIEW. THE LIGHT LEVELS UNDER SUNNY CONDITIONS MUST BE AT LEAST 35FC. IF THE LIGHT LEVELS ARE LESS, YOU SHOULD SELECT ANOTHER LOCATION OR REORIENT THE PHOTOCELL.

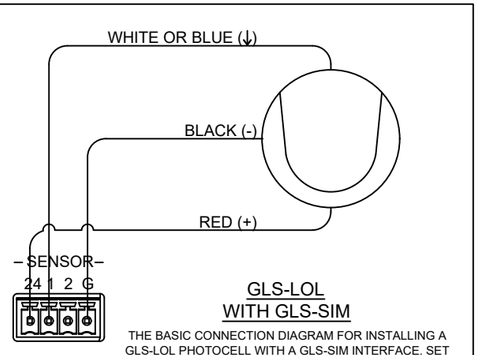
THE PHOTOCELL IS DESIGNED FOR MOUNTING IN A DRY LOCATION THAT IS EXPOSED TO DAYLIGHT. THE PHOTOCELL SHOULD NOT BE EXPOSED TO DIRECT ILLUMINATION FROM AN ELECTRIC LIGHT SOURCE.

WHERE WINDOWS ARE THE PRIMARY SOURCE OF DAYLIGHT, THE PHOTOCELL TYPICALLY MOUNTS ON THE CEILING BETWEEN THE WINDOW AND THE FIRST ROW OF FIXTURES. THE PHOTOCELL POINTS TOWARD THE WINDOW AT APPROXIMATELY A 45° ANGLE. FOR THE BEST RESULTS, THE DISTANCE FROM THE PHOTOCELL TO THE WINDOW SHOULD BE ABOUT 1/3 TO 1/2 OF THE DISTANCE FROM THE FIRST LIGHT FIXTURES TO THE WINDOW.

FOR SKYLIGHT APPLICATIONS, THE PHOTOCELL MOUNTS IN THE LIGHTWELL OF THE SKYLIGHT, ORIENTED TOWARD THE INCOMING DAYLIGHT. TYPICALLY, THE PHOTOCELL IS AIMED TOWARD THE SKYLIGHT. THE LIGHT LEVEL RANGE ADJUSTMENT MAY NEED TO BE CHANGED TO 60-6000 FC FOR SKYLIGHT APPLICATIONS.

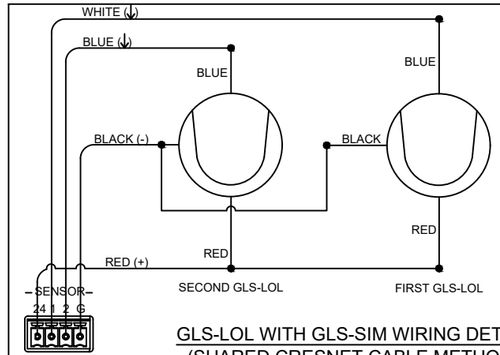


GLS-LOL PLACEMENT



GLS-LOL WITH GLS-SIM

THE BASIC CONNECTION DIAGRAM FOR INSTALLING A GLS-LOL PHOTOCELL WITH A GLS-SIM INTERFACE. SET THE FIRST DIP SWITCH (1 OR 3) FOR THE INPUT "ON" AND THE SECOND DIP SWITCH (2 OR 4) "OFF".

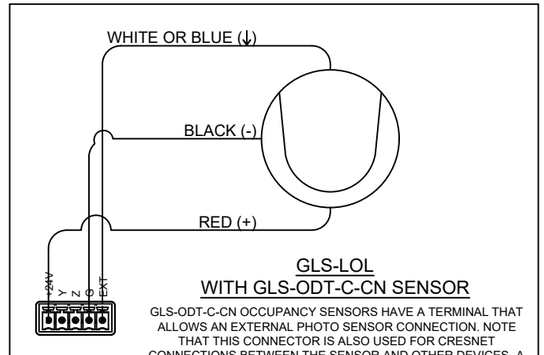


GLS-LOL WITH GLS-SIM WIRING DETAIL (SHARED CRESNET CABLE METHOD)

IN THIS EXAMPLE, BOTH GLS-LOL SENSORS ARE CONNECTED TO THE SIM WITH THE SAME CRESNET CABLE, WHICH CONTAINS 4 WIRES. SINCE EACH SENSOR ONLY REQUIRES 3 WIRES THEY MAY USE THE SAME CONDUCTORS FOR POWER (BLACK & RED) WHILE STILL ALLOWING EACH A SEPARATE CONDUCTOR (BLUE OR WHITE) FOR SIGNAL. EACH SENSOR DETECTS DAYLIGHT AND TURNS ON OR OFF ONLY ITS SPECIFIC LIGHTS INDEPENDENT OF THE OTHER SENSOR.

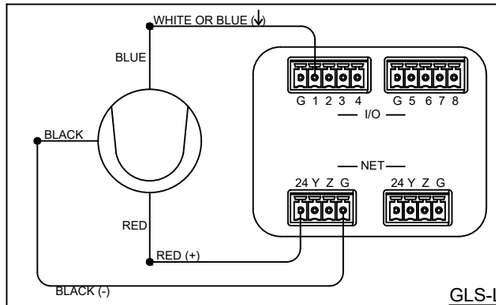
THIS ALLOWS FEWER CABLE RUNS TO SENSORS WITHIN THE SAME PROXIMITY. SPECIAL CARE MUST BE TAKEN WITH THIS METHOD TO INSURE THAT THE TERMINATIONS ARE MADE CORRECTLY OR THE SYSTEM MAY NOT FUNCTION AS DESIRED.

DO NOT CONNECT TWO GLS-LOL SENSORS TO THE SAME INPUT. TWO SENSORS CONNECTED TOGETHER MAY PROVIDE CONFLICTING DATA AND RESULT IN THE SYSTEM NOT OPERATING CORRECTLY.



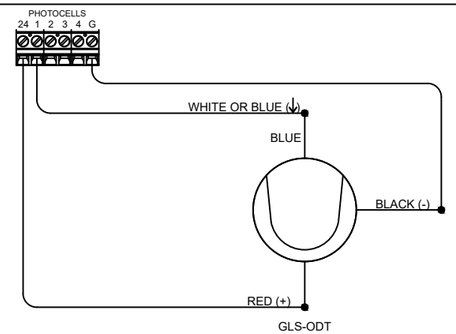
GLS-LOL WITH GLS-ODT-C-CN SENSOR

GLS-ODT-C-CN OCCUPANCY SENSORS HAVE A TERMINAL THAT ALLOWS AN EXTERNAL PHOTO SENSOR CONNECTION. NOTE THAT THIS CONNECTOR IS ALSO USED FOR CRESNET CONNECTIONS BETWEEN THE SENSOR AND OTHER DEVICES- A PIGTAIL MAY NEED TO BE FASHIONED TO ALLOW SPACE FOR WIRE TERMINATIONS- ONLY 2 WIRES FIT IN EACH TERMINAL



GLS-LOL WITH OTHER INTERFACES TYPES

OTHER INTERFACE TYPES ARE AVAILABLE ON PAC2, DIN-I08, DIN-AP2 AND OTHER DEVICES. ALL FEATURE CONNECTIONS SIMILAR TO THE ONES SHOWN HERE.



GLS-LOL WITH GLPAC WIRING DETAIL

GLPAC PANELS INCLUDE DEDICATED TERMINALS FOR PHOTCELLS AND OTHER SENSORS. FOUR INDEPENDENT TERMINALS ARE PROVIDED.

ALL 24V AND GROUND TERMINALS ARE CONNECTED IN PARALLEL WITH SIMILAR TERMINALS. SHOULD THERE BE INSUFFICIENT OCCUPANCY SENSOR TERMINALS FOR 24V IT IS ACCEPTABLE TO USE OTHER 24V TERMINALS WITHIN THE SAME GLPAC.

GLS-LOL WIRING DETAILS

REVISIONS	DATE	BY

PART #: GLS-LOL
DESCRIPTION: OPEN LOOP PHOTOCELL
REVISION: 002
NOTES:
DATE: 8/28/2014

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PART #:
GLS-LOL
OPEN-LOOP
PHOTOCELL

DRAWING:
2 of 2

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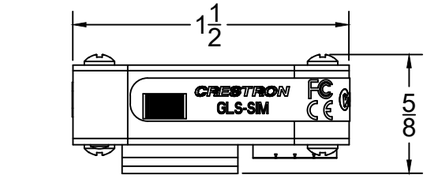
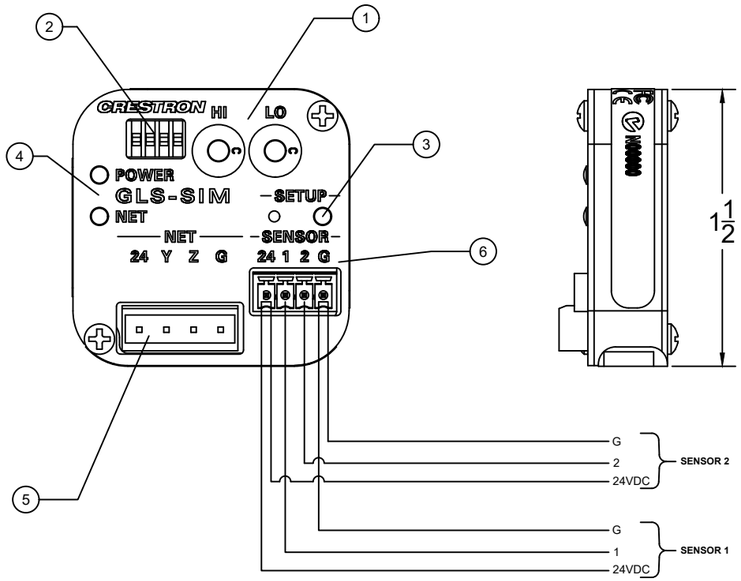
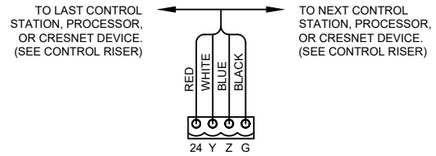




GLS-SIM WIRING DETAIL

CRESNET CONTROL WIRING



ADDRESSING FOR SYSTEMS WITH A PROCESSOR

PROJECT RISERS SHOULD SHOW AN ADDRESS FOR EACH GLS-SIM SUCH AS "SIM-03" OR "SIM-AD". PLEASE SET THAT ADDRESS VIA THE TWO ROTARY DIP SWITCHES (NOTE 1 THIS SHEET). SYSTEMS WITH MULTIPLE PROCESSORS MAY SHOW DUPLICATE ADDRESSES.

ADDRESSES 00, 01, AND 02 HAVE PRESET FUNCTIONS. 03 IS THE FIRST VALID ADDRESS FOR SYSTEMS WITH A CENTRAL PROCESSOR.

WIRING & ADDRESSING FOR STANDALONE ILUX SYSTEMS

ILUX (CLS-C6) SYSTEMS WITHOUT A PROCESSOR HAVE SPECIFIC REQUIREMENTS FOR GLS-SIM ADDRESSING & WIRING.

- GLS-SIM MUST BE SET TO ADDRESS "C0" OR "C1" FOR OCCUPANCY & PHOTO SENSING.
- OCCUPANCY SENSORS MAY ONLY CONNECT TO INPUT #1
- PHOTO SENSORS MAY ONLY CONNECT TO INPUT #2

- PARTITION SENSORS MAY ONLY CONNECT TO INPUT #1.
- ADDRESSES FOR PARTITION SENSORS START AT "90", BUT ADDRESS MUST BE SET PER A CHART ON THE GLS-PART DETAIL SHEET. PLEASE CONTACT YOUR PROJECT ENGINEER TO CONFIRM THE ADDRESS REQUIRED FOR THIS PROJECT IF IT HAS NOT BEEN SUPPLIED ON THE PROJECT RISER DRAWING.

NOTES KEY

1. (2) ROTARY DIP SWITCHES; USED FOR MANUALLY SETTING THE CRESNET ID; '00' SETTING ENABLES TOUCH-SETTABLE ID.
2. (1) 4-POSITION DIP SWITCH; SETS SENSOR TYPE AND OPERATING MODE. SEE CHART BELOW FOR SETTINGS.
3. (1) MINIATURE PUSHBUTTON, USED FOR TOUCH SETTABLE ID.
4. **PWR:** (1) GREEN LED, ILLUMINATES WHEN DC POWER IS APPLIED TO THE NET PORT
   NET: (1) YELLOW LED, INDICATES COMMUNICATION WITH CONTROL PROCESSOR
5. CRESNET NETWORK CONNECTOR TO CONTROL PROCESSOR OR ADDITIONAL MODULES. FACTORY BUILT CABINETS WILL HAVE CRESNET CONNECTIONS WIRED IN FACTORY.
6. (1) 4-PIN 3.5MM DETACHABLE TERMINAL BLOCK; SENSOR INPUT COMPRISED OF 24VDC POWER OUTPUT AND

   (2) DIGITAL OR ANALOG INPUT PORTS;

   DIGITAL INPUT: RATED FOR 0-24 VOLTS DC, INPUT IMPEDANCE 20k OHMS, LOGIC THRESHOLD 1.25 VOLTS DC;

   ANALOG INPUT: RATED FOR 0-10 VOLTS DC, PROTECTED TO 24 VOLTS DC MAXIMUM, INPUT IMPEDANCE 20k OHMS; PROGRAMMABLE 5 VOLTS, 2k OHMS PULL-UP RESISTOR PER PIN;
   MAXIMUM POWER LOAD: 1 AMP @ 24 VOLTS DC.

DIP SWITCH SETTINGS

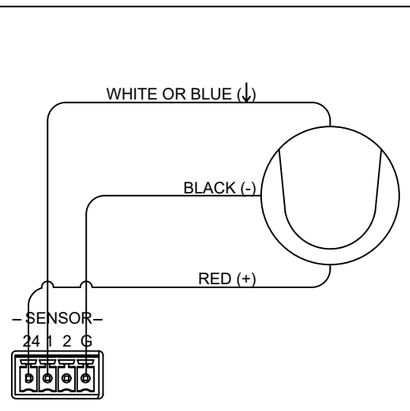
SENSOR INPUT	DIP SWITCH	GLS-PART PARTITION SENSOR	GLS-PART-CN PARTITION SENSOR	OCCUPANCY SENSOR	PHOTOCELL
1	1	OFF	ON	ON	ON
	2	OFF	ON	ON	OFF
2	3	OFF	ON	ON	ON
	4	OFF	ON	ON	OFF

PLEASE NOTE THE DIFFERENCE BETWEEN SETTINGS FOR USE WITH OLDER GLS-PART PARTITION SENSORS AND NEWER GLS-PART-CN PARTITION SENSORS. A GLS-SIM MAY BE REQUIRED FOR USING THESE SENSORS WITH CERTAIN FIRMWARE VERSIONS. CONSULT YOUR PROJECT ENGINEER WITH ANY QUESTIONS.

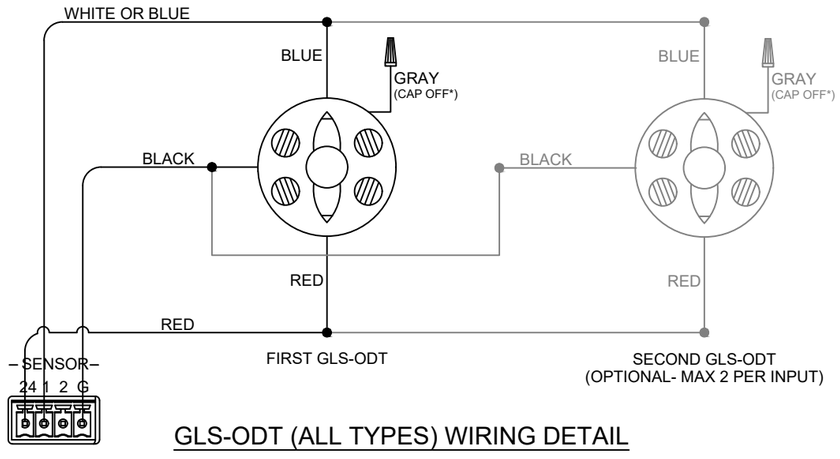
SWITCH SETTINGS ARE SHOWN FOR TYPICAL CRESTRON-PROVIDED DEVICES. NON-CRESTRON DEVICES MAY NOT USE THESE SETTINGS. ALTERNATE MODES ARE AVAILABLE; SEE GLS-SIM INSTALLATION & OPERATION GUIDE FOR FULL DETAILS.

NOTE THAT IF NON-CRESTRON DEVICES ARE BEING USED, CRESTRON REQUIRES THE FOLLOWING INFORMATION PRIOR TO SHIPPING EQUIPMENT:

A COMPLETE ANNOTATED GROUND PLAN INDICATING EACH DEVICE, TO WHICH GLS-SIM IT IS TO CONNECT (REFERENCED BY THE DEVICE ID SHOWN ON PROJECT RISER DIAGRAMS), AND WHAT TYPE OF INPUT IS REQUIRED- CONTACT CLOSURE, 0-10V SENSING, OR CRESTRON DIGITAL LOGIC. FAILURE TO PROVIDE THIS INFORMATION WILL RESULT IN ADDITIONAL CHARGES FOR ONSITE REPROGRAMMING OF THE DEVICE CONFIGURATIONS.



GLS-LOL WIRING DETAIL



GLS-ODT (ALL TYPES) WIRING DETAIL

*GRAY WIRE MAY BE CONNECTED *INSTEAD* OF BLUE WIRE IF USE OF INTERNAL PHOTOSENSOR IS DESIRED. PHOTOSENSOR IS NOT NORMALLY UTILIZED

SENSOR WIRING DETAILS

GLS-LOL CONNECTIONS ARE VIA SCREW TERMINALS WITHIN DEVICE. GLS-ODT CONNECTIONS ARE VIA FLYING LEADS.
SEE INSTRUCTION SHEETS PROVIDED IN SENSOR PACKAGE FOR FULL INFORMATION.

REVISIONS	DATE	BY

PART #: GLS-SIM
DESCRIPTION: SENSOR INTEGRATION MODULE WITH WIRING DETAILS
REVISION: 005
DATE: 10/9/2015
NOTES:UPDATED FOR GLS-PART-CN

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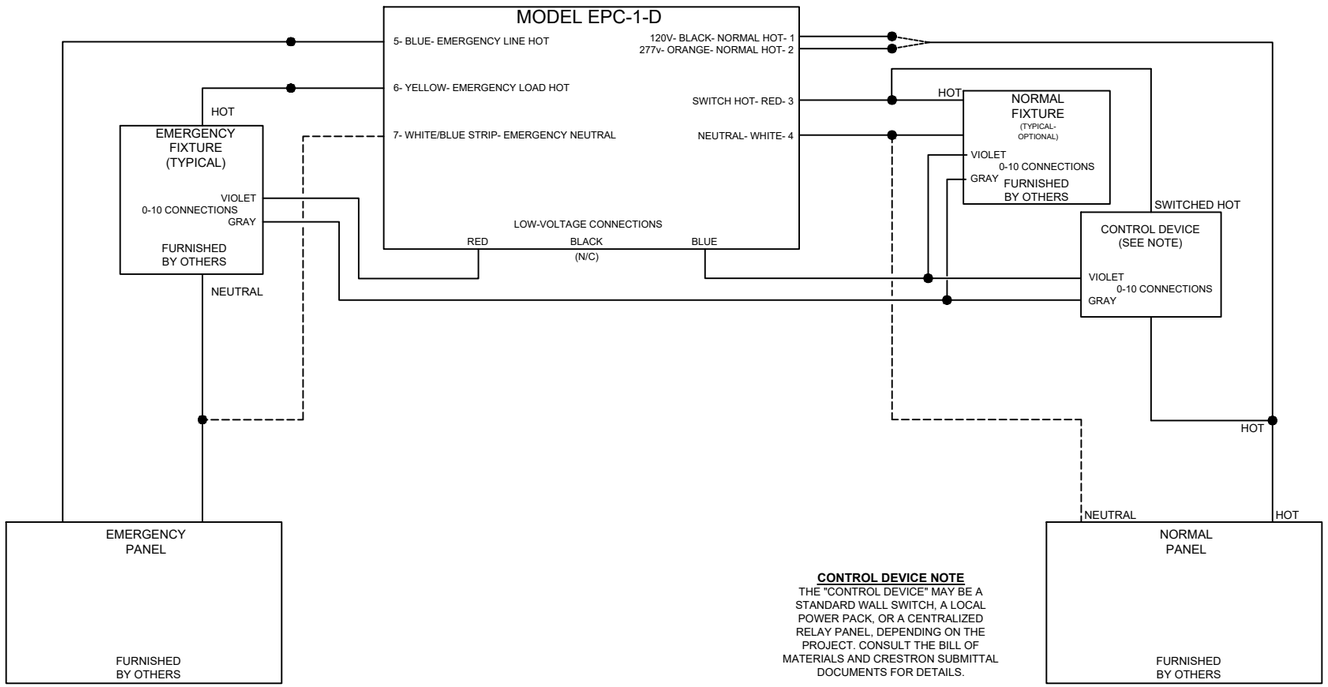
PART #:
GLS-SIM WITH SENSOR WIRING
DRAWING:
1 of 1

GLA-EPC-FLV
AUTOMATIC LOAD CONTROL RELAY
WIRING DETAILS & OPERATIONAL NOTES

MODEL EPC-1-D



CONTROL DEVICE NOTE
THE "CONTROL DEVICE" MAY BE A STANDARD WALL SWITCH, A LOCAL POWER PACK, OR A CENTRALIZED RELAY PANEL, DEPENDING ON THE PROJECT. CONSULT THE BILL OF MATERIALS AND CRESTRON SUBMITTAL DOCUMENTS FOR DETAILS.

OPERATIONAL & INSTALLATION INFORMATION

GLA-EPC-FLV

THE GLA-EPC-FLV IS AN AUTOMATIC LOAD CONTROL RELAY WITH UL924 RATING FOR EMERGENCY LIGHTING. THIS SHEET WILL EXPLAIN ITS USE, AND BASICS OF INSTALLATION- PLEASE SEE THE INSTALLATION DOCUMENTATION THAT SHIPS WITH EACH DEVICE FOR MORE COMPLETE INSTALLATION INFORMATION. SHOULD FURTHER INFORMATION BE REQUIRED, PLEASE CONTACT YOUR CRESTRON PROJECT ENGINEER.

FOR THE BALANCE OF THIS SHEET, THE GLA-EPC-FLV WILL BE REFERRED TO SIMPLY AS THE "1D."

OPERATION INFORMATION

THE DEVICE IS INSTALLED WITH CONNECTIONS TO TWO NORMAL-POWER FEEDS: ONE FEED IS A "SENSE" FEED, MONITORING THE OVERALL STATUS OF NORMAL POWER. THE OTHER IS A "SWITCH" FEED- THE SWITCH FEED IS THE OUTPUT OF ANY CONTROL DEVICE SUCH AS A LOCAL WALL SWITCH OR POWER PACK, OR A CENTRALIZED RELAY PANEL. THIS SAME SWITCH FEED WILL USUALLY ALSO FEED NORMAL-POWER FIXTURES.

EMERGENCY POWER IS CONNECTED TO THE DEVICE. IT IS FED THROUGH AN INTERNAL RELAY AND OUT TO ANY EMERGENCY LIGHTING FIXTURES.

SO LONG AS THE NORMAL-SENSE FEED IS ENERGIZED, THE EMERGENCY LIGHTING RELAY WILL BE UNDER THE CONTROL OF THE NORMAL-SWITCH POWER FEED AND THE 0-10V DIMMING LINES. IF THE SWITCH FEED IS OFF, THE RELAY WILL BE HELD OPEN AND THE EMERGENCY LIGHTS WILL BE OFF. IF THE SWITCH FEED IS ENERGIZED, THE RELAY WILL BE CLOSED AND THE EMERGENCY LIGHTS WILL BE ON, MIMICKING THE NORMAL LIGHTS. DIMMING LEVEL WILL MATCH THAT SET BY THE 0-10V CONTROL SOURCE

IF THE NORMAL-SENSE FEED IS DE-ENERGIZED, THE STATUS OF THE NORMAL-SWITCH FEED WILL BE IGNORED AND THE RELAY WILL BE CLOSED ENERGIZING THE EMERGENCY LIGHTS UNTIL SUCH TIME AS THE NORMAL-SENSE FEED IS ENERGIZED AGAIN. WHILE NORMAL-POWER IS OFF, THE 0-10V CONTROL LINES WILL BE OPENED, WHICH DISABLES ANY DIMMING TO SEND THE FIXTURE(S) TO FULL INTENSITY.

AT NO TIME IS NORMAL POWER DELIVERED TO EMERGENCY FIXTURES- THE EMERGENCY CONTROL RELAY SIMPLY MIMICS THE STATE OF THE NORMAL-SWITCH FEED, SWITCHING ON AND OFF EMERGENCY POWER TO THE EMERGENCY LIGHTS.

OPERATIONALLY, THE 1D DEVICE MUST BE PLACED WHERE ITS TESTING BUTTON MAY BE ACCESSED IN ORDER TO REGULARLY TEST THE DEVICE. PRESSING THE TEST BUTTON WILL ENERGIZE THE EMERGENCY LIGHTS CONNECTED TO THE DEVICE SO THAT PROPER FUNCTION MAY BE SEEN. THIS DEVICE ALSO HAS AN AUTOMATIC TEST FUNCTION WHICH DOES NOT REQUIRE MANUAL TESTING, HOWEVER THE LOCAL AUTHORITY HAVING JURISDICTION MAY DESIRE TO TEST THE FUNCTION MANUALLY. THE AUTOMATIC TEST FUNCTION LEAVES THE EMERGENCY FIXTURE ENERGIZED FOR 2.5 SECONDS AFTER THE LIGHTS ARE SWITCHED OFF, SHOWING THAT EMERGENCY OPERATION IS FUNCTIONAL.

INSTALLATION

PLEASE SEE THE INSTRUCTION SHEET THAT SHIPS WITH EACH DEVICE FOR COMPLETE INSTALLATION INSTRUCTIONS.

THE DEVICES MOUNTS IN A STANDARD 4-11/16TH" SQUARE BOX.

THE 1D DEVICE MAY BE USED ON EITHER A 120V OR 277V CIRCUIT- SEE WIRING DETAIL FOR TERMINALS OF DIFFERENT VOLTAGES.

ENSURE THAT ALL TERMINATIONS ARE CORRECT BEFORE ENERGIZING THE UNIT. IMPROPER WIRING MAY RESULT IN INJURY, DEATH, OR IN DAMAGE TO DEVICES THAT WILL NOT BE COVERED UNDER WARRANTY.

REVISIONS	DATE	BY

PART #: GLA-EPC-FLV
DESCRIPTION: WIRING DETAIL FOR EMER LIGHTING CONTROL DEVICE
REVISION: 002
NOTES:
DATE: 1/5/2017

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PART #:
GLA-EPC-FLV
2 OR 4-WIRE
AUTOMATIC LOAD
CONTROL RELAY

DRAWING:
1 OF 1

Click here or enter URL for most current documents: ####

LIGHTING LEGEND
(Not all symbols listed below are used on these drawings)

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
A	SHADING INDICATES EM SYSTEM, LOWER CASE SUBSCRIPT INDICATES SWITCHING, UPPER CASE SUBSCRIPT INDICATES LUMINAIRE TYPE (TYP)		DECORATIVE ADJUSTABLE ACCENT DOWNLIGHT
	SURFACE OR PENDANT MOUNTED LUMINAIRE		SQUARE DOWNLIGHT
	LENSED TROFFER		SQUARE WALL WASH DOWNLIGHT
	DIRECT/INDIRECT TROFFER		SQUARE ADJUSTABLE ACCENT DOWNLIGHT
	PATIENT OVERBED LIGHT		SQUARE DOWNLIGHT
	DIRECT/INDIRECT DISTRIBUTION, SUSPENDED LINEAR PENDANT		SQUARE WALL WASH DOWNLIGHT
	INDIRECT DISTRIBUTION, SUSPENDED LINEAR PENDANT		SQUARE ADJUSTABLE ACCENT DOWNLIGHT
	DIRECT DISTRIBUTION, SUSPENDED LINEAR PENDANT		DECORATIVE PENDANT
	DIRECT/INDIRECT DISTRIBUTION, WALL MOUNT LINEAR		PENDANT
	INDIRECT DISTRIBUTION, WALL MOUNT LINEAR		RECESS MOUNTED WALL LUMINAIRE
	DIRECT DISTRIBUTION, WALL MOUNT LINEAR		WALL PACK OR EXTERIOR NON-DECORATIVE WALL SIGNAGE
	DECORATIVE LINEAR WALLMOUNT		DECORATIVE SCONCE
	STRIP LINEAR WALLMOUNT		DECORATIVE POLE
	SURFACE OR PENDANT MOUNTED STRIP OR INDUSTRIAL LUMINAIRE		POLE
	THEATRICAL PIPE OR TRACK LIGHTING		BOLLARD
	TRACK HEAD	PC	PORCELAIN KEYLESS LAMPHOLDER, BRYANT #5228 W/ 100W A19, I.F. LAMP. "PC" INDICATES PULLCHAIN
	SURFACE DOWNLIGHT		EMERGENCY LIGHTING UNIT
	DOWNLIGHT		EXTERIOR STAKE MOUNTED
	WALL WASH DOWNLIGHT		DOCK LIGHT
	ADJUSTABLE ACCENT DOWNLIGHT		DARKROOM SAFE LIGHT (TWO COMPARTMENT SHOWN)
	DECORATIVE DOWNLIGHT		UNDERCABINET LIGHT
	DECORATIVE WALL WASH DOWNLIGHT		EXIT LIGHT, ARROWS AS INDICATED. FACES INDICATED BY SHADING

REFERENCE SYMBOLS LEGEND
(Not all symbols listed below are used on these drawings)

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
<1>	KEY NOTE REFERENCE	1	KITCHEN/OWNER/MEDICAL EQUIPMENT REFERENCE
LPA#	TYPICAL CIRCUIT NUMBER		EXISTING TO REMAIN
TG#	TYPICAL LUMINAIRE TYPE		EXISTING TO BE REMOVED
	TYPICAL ROOM REFERENCE (TOP = RM #, BOTTOM = FLR)		EXISTING TO BE RELOCATED
MR	MECHANICAL EQUIPMENT REFERENCE		EXISTING TO REMAIN - REPLACE DEVICE
VC1	LIGHTING CONTROL / EQUIPMENT REFERENCE		EXISTING TO BE REMOVED AND REPLACED

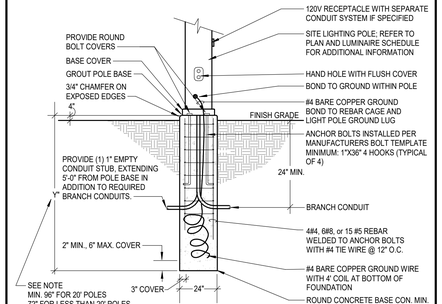
POWER LEGEND
(Not all symbols listed below are used on these drawings)

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	SINGLE RECEPTACLE	PM	PLUG MOLD (MULTI-OUTLET ASSEMBLY)
	DUPLEX RECEPTACLE	WM	WIREMOLD (SURFACE RACEWAY)
	DOUBLE DUPLEX RECEPTACLE		CONDUIT CONCEALED
	DUPLEX RECEPTACLE, HALF SWITCHED		CONDUIT EXPOSED
CLG	DUPLEX RECEPTACLE, CEILING MOUNTED		CONDUIT, UNDERGROUND OR CONCEALED IN FLOOR AS ALLOWED PER SPECIFICATIONS
	DUPLEX RECEPTACLE, FLOOR MOUNTED		CONDUIT TURNING DOWN
	DOUBLE DUPLEX RECEPTACLE, FLOOR MOUNTED		CONDUIT TURNING UP
	SPECIAL RECEPTACLE		CONDUIT CAPPED
	SPECIAL RECEPTACLE, FLOOR MOUNTED	A-3,3,5	BRANCH CIRCUIT HOME RUN, NUMBER OF ARROWS INDICATES NUMBER OF CIRCUITS, SUBSCRIPTS INDICATE PANEL & CIRCUITS
	JUNCTION BOX, WALL OR CEILING MOUNTED		GROUND BAR
J	JUNCTION BOX, FLOOR MOUNTED		MAIN SWITCHBOARD/DISTRIBUTION CENTER
M	MOTOR	T	TRANSFORMER
	DISCONNECT SWITCH (NON-FUSED)	CT	CURRENT TRANSFORMER
	DISCONNECT SWITCH (FUSED)		THERMOSTAT
	VARIABLE SPEED DRIVE WITH DISCONNECT	GANN	GENERATOR ANNUNCIATOR PANEL
M	UTILITY METER	A-1	SHADING INDICATES EMERGENCY SYSTEM TEXT INDICATES PANEL AND CIRCUIT DESIGNATION
	ELECTRICAL PANELBOARD, CONTROL PANEL, OR OTHER CABINET AS NOTED		

GENERAL NOTES:

1. FOR REMODELING, WORK INCLUDED IS DENOTED IN BOLD. EXISTING CONDITIONS TO REMAIN ARE DENOTED LIGHTLY.
2. PROTECT STRUCTURE AND OWNER EQUIPMENT FROM DAMAGE. IMMEDIATELY REPLACE OR REPAIR, TO ORIGINAL CONDITION, DAMAGE CAUSED BY THE CONTRACTOR WHETHER EQUIPMENT APPEARS TO BE CURRENTLY IN USE OR NOT, UNLESS WRITTEN AUTHORIZATION FROM THE OWNER INDICATED OTHERWISE. PREPARE LISTING OF ALL EXISTING DAMAGED ITEMS AND SUBMIT TO OWNER PRIOR TO BEGINNING WORK.
3. A DETAILED WRITTEN METHOD OF PROCEDURE IS REQUIRED WHEN A CONSTRUCTION ACTIVITY OR AN OUTAGE AFFECTS THE SAFETY OF OCCUPANTS, TELEPHONE/DATA/FIRE ALARM EQUIPMENT OR COMPONENTS OF ANY SYSTEM WHICH SUPPORTS THIS EQUIPMENT OR ESSENTIALLY AFFECTS THE BUILDING MANAGEMENT, OPERATIONS OR SECURITY. SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.
4. EXISTING INFORMATION SHOWN ON THE DRAWINGS HAS BEEN TAKEN FROM OWNER FURNISHED DRAWINGS AND/OR LIMITED FIELD OBSERVATIONS. CATOR, RUMA & ASSOCIATES IS NOT RESPONSIBLE FOR THE ACCURACY OF ANY INFORMATION OR THE ADEQUACY, SAFETY AND CONFORMANCE TO CURRENT PREVAILING CODES OF ANY WORK SHOWN AS EXISTING ON THESE DRAWINGS.
5. PROVIDE SEPARATE INSULATED GROUNDING CONDUCTOR IN ALL FEEDER, HOMERUN AND BRANCH CIRCUITS.

NOTE:
VERIFY POLE BASE DESIGN, INCLUDING DEPTH, DIAMETER, CONCRETE STRENGTH MIX, AND REINFORCEMENT WITH THE PROJECT SOILS REPORTS. PROVIDE SHOP DRAWINGS, STAMPED BY A REGISTERED STRUCTURAL ENGINEER, INDICATING DESIGN OF ANCHOR BOLTS AND CONCRETE POLE BASE TO MEET MAST/ARM CONFIGURATION, LUMINAIRE PROFILE, AND LOCAL WIND /SOIL LOADING REQUIREMENTS. POLE BASE DETAILS SHOWN BELOW ARE INCLUDED TO SHOW REQUIREMENTS, NOT STRUCTURAL DESIGN.



POLE BASE DETAIL - FLUSH
NO SCALE

16512.3

LUMINAIRE SCHEDULE

GENERAL NOTES:
A. CATALOG NUMBER REFERS TO FIRST NAME LISTED UNDER MANUFACTURER PER LUMINAIRE TYPE. REMAINING MANUFACTURERS LISTED ARE CONSIDERED TO BE EQUIVALENT PRODUCTS FOR THIS PROJECT AND SHALL MEET ALL CRITERIA LISTED INCLUDING THAT CALLED FOR BY THE SPECIFIC LUMINAIRE CATALOG NUMBER. CATALOG NUMBERS DO NOT NECESSARILY REPRESENT COMPLETE CATALOG NUMBERS. ALL ITEMS LISTED IN THE DESCRIPTION SHALL BE PROVIDED.
B. REFER TO LIGHTING SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
C. PROVIDE UNIT PRICING FOR ALL LUMINAIRES BY TYPE AND SUBMIT WITH BID FORM.

Type	Description	Lamp	Apparent Load	Ballast Voltage	Manufacturer	Catalog Series	Finish	Mounting	Note
EP2	EXTERIOR PEDESTRIAN POLE LUMINAIRE, TYPE 2 DISTRIBUTION, 0-10V DIMMING DRIVER, 12' POLE.	LED 4000K 4483 LUMEN	50 VA	277 V	LIGMAN	UMC-20001	BLACK	FLUSH BASE (RE: DETAIL)	

CONTROLS LEGEND

AREA	DESCRIPTION
	Networked System, Dimming
	Networked System, Switching
	Standalone Controls, Dimming
	Standalone Controls, Switching
	Not in Control

SYMBOL	DESCRIPTION	MANUF	PART NUMBER
CP4	3-Series Process Panel (Custom Panel)	Crestron	Refer to Bill of Materials
GLPP	1-Zone Controller (0-10V, 120 or 277)	Crestron	GLPP-DIMFLVCN-PM
GLPP	2-Zone Controller (0-10V, 120 or 277)	Crestron	GLPP-1DIMFLV2CN-PM
GLPP	3-Zone Controller (0-10V, 120 or 277)	Crestron	GLPP-1DIMFLV3CN-PM
C	Sensor Input Module	Crestron	GLS-SIM
K	2-8 Button Keypad (Configurable)	Crestron	C2N-CBD-P
K	2-Button Keypad, Type J (On, Off; Hold to Raise/Lower)	Crestron	GLPPA-KP
K	4-Button Keypad, Type L (On, Zone 1, Zone 2, Off; Hold to R/L)	Crestron	GLPPA-KP4
O V	Ceiling Occupancy/Vacancy Sensor (Dual-Tech, 2000sf, 360°, Non-System)	Crestron	GLS-ODT-C-NS
D	Ceiling Daylight Sensor (Open Loop)	Crestron	GLS-LOL
P	Exterior Photocell	Crestron	GLS-LEXT
PP	Power Pack (For GLPP > 2 Occupancy Sensors)	Crestron	GLA-TR-100
P	Remote Dimmer (120/277V, Multi-Location)	Leviton	AWSRT-x
D	Wallbox Dimmer (120/277V, 1920/4432W 0-10V	Leviton	AWSMT-7Dx
O V	Ceiling Occupancy/Vacancy Sensor (High-Def PIR, 360°)	Crestron	GLA-IR-QUATTRO-HD-COM1-24
O V	Ceiling Occupancy/Vacancy Sensor (PIR, 360°, 120/277V)	Steinel	IR Quattro COM1-WR
O V	Ceiling Occupancy/Vacancy Sensor (DT, 360°)	Steinel	DT Quattro COM1-24
PP	Power Pack (120/277V - 24V)	Steinel	TR 100
S	Wallbox Switch (24V, Momentary Contact)	Steinel	MCS-x
O V	Wallbox Occupancy/Vacancy Sensor (1-Circuit, Passive Infrared)	Steinel	IR WLS 1-x
O V	Wallbox Occupancy/Vacancy Sensor (0-10V, Dual-Tech)	Steinel	DT WLS DIM-x
S	Wallbox Switch (120/277V, Single-Pole)		by Others
RM	UL924 Load Control Relay (0-10V Dimming, 120/277V)	Crestron	GLA-EPC-FLV

ELECTRICAL SITE PLAN
SCALE: 1" = 30'-0"

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CMC Student Commons & Campus Improvements

17-061

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Issue	Date
Construction Documents	FEB 22 2019

Project Number:	17-061
Drawn By:	PDT
Reviewed By:	JAH
Approved By:	PDT

ELECTRICAL SITE PLAN

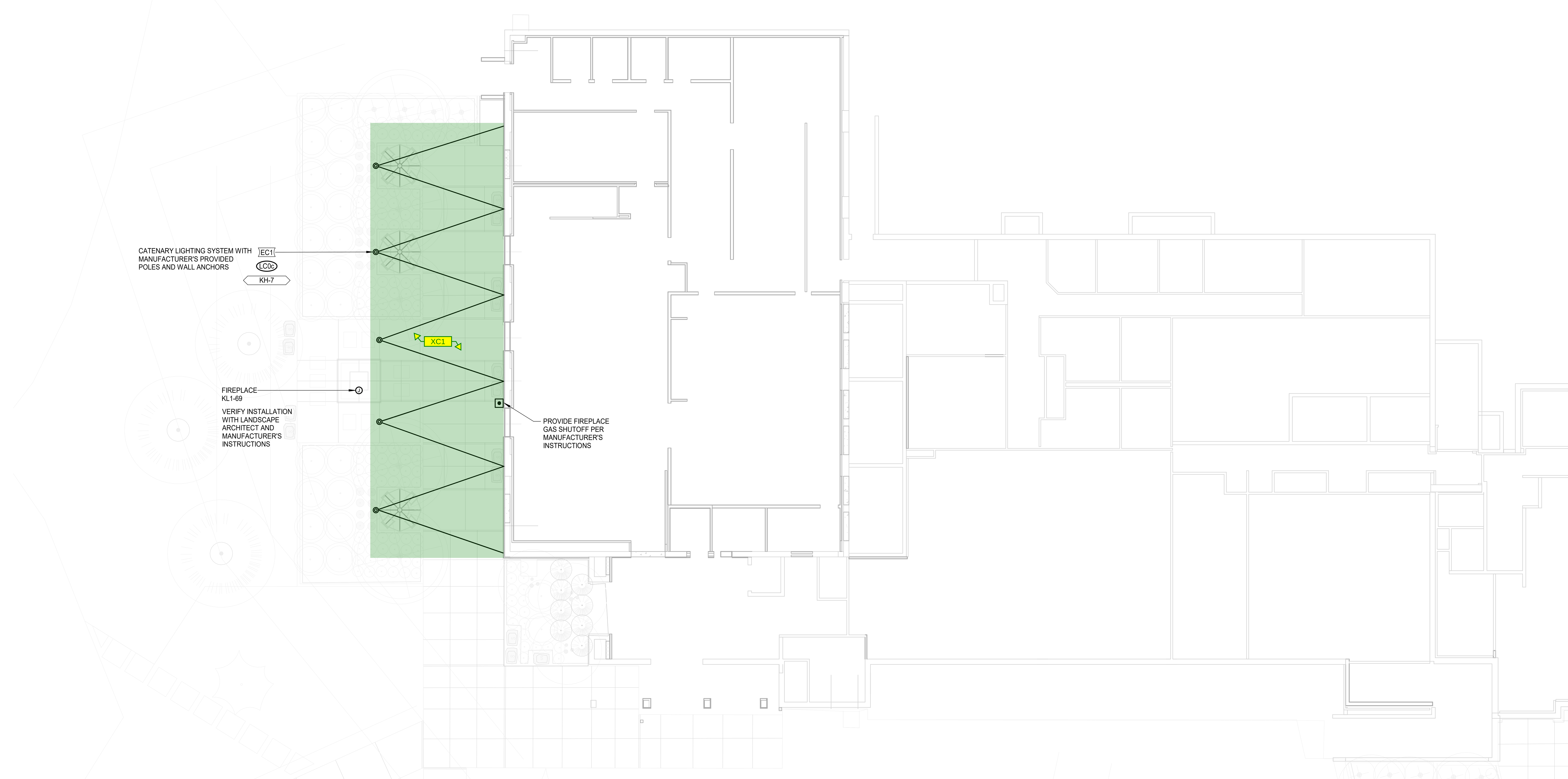
ES-100
VOLUME 2

KEYNOTES

CONTROLS LEGEND

AREA	DESCRIPTION
(green)	Networked System, Dimming
(blue)	Networked System, Switching
(yellow)	Standalone Controls, Dimming
(pink)	Standalone Controls, Switching
(dark grey)	Not in Control

SYMBOL	DESCRIPTION	MANUF	PART NUMBER
CPP DIN-AP3	3-Series Process Panel (Custom Panel)	Crestron	Refer to Bill of Materials
GLPP 1DIM	1-Zone Controller (0-10V, 120 or 277)	Crestron	GLPP-DIMFLVCN-PM
GLPP 2DIM	2-Zone Controller (0-10V, 120 or 277)	Crestron	GLPP-1DIMFLV2CN-PM
GLPP 3DIM	3-Zone Controller (0-10V, 120 or 277)	Crestron	GLPP-1DIMFLV3CN-PM
C SIM	Sensor Input Module	Crestron	GLS-SIM
K X	2-8 Button Keypad (Configurable)	Crestron	C2N-CBD-P
K J	2-Button Keypad, Type J (On, Off; Hold to Raise/Lower)	Crestron	GLPPA-KP
K L	4-Button Keypad, Type L (On, Zone 1, Zone 2, Off; Hold to R/L)	Crestron	GLPPA-KP4
O D2 V D2	Ceiling Occupancy/Vacancy Sensor (Dual-Tech, 2000sf, 360°, Non-System)	Crestron	GLS-ODT-C-NS
D OL	Ceiling Daylight Sensor (Open Loop)	Crestron	GLS-LOL
P EXT	Exterior Photocell	Crestron	GLS-LEXT
PP 100	Power Pack (For GLPP > 2 Occupancy Sensors)	Crestron	GLA-TR-100
D R	Remote Dimmer (120/277V, Multi-Location)	Leviton	AWSRT-x
D MZ	Wallbox Dimmer (120/277V, 1920/4432W 0-10V	Leviton	AWSMT-7Dx
O H1 V H1	Ceiling Occupancy/Vacancy Sensor (High-Def PIR, 360°)	Crestron	GLA-IR-QUATTRO-HD-COM1-24
O P1 V P1	Ceiling Occupancy/Vacancy Sensor (PIR, 360°, 120/277V)	Steinel	IR Quattro COM1-WR
O D1 V D1	Ceiling Occupancy/Vacancy Sensor (DT, 360°)	Steinel	DT Quattro COM1-24
PP 100	Power Pack (120/277V - 24V)	Steinel	TR 100
S M	Wallbox Switch (24V, Momentary Contact)	Steinel	MCS-x
O 1P V 1P	Wallbox Occupancy/Vacancy Sensor (1-Circuit, Passive Infrared)	Steinel	IR WLS 1-x
O DD V DD	Wallbox Occupancy/Vacancy Sensor (0-10V, Dual-Tech)	Steinel	DT WLS DIM-x
S 1	Wallbox Switch (120/277V, Single-Pole)		by Others
EM 0-10	UL924 Load Control Relay (0-10V Dimming, 120/277V)	Crestron	GLA-EPC-FLV



ELECTRICAL SITE PLAN

SCALE: 1" = 10'-0"

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COLORADO LICENSED PHILIP DEAN TERRY 0054448 PROFESSIONAL ENGINEER 02/20/2019
Electrical

Issue	Date
Construction Documents	FEB 22 2019

Project Number:	17-061
Drawn By:	PDT
Reviewed By:	JAH
Approved By:	PDT

ELECTRICAL SITE PLAN

E-100

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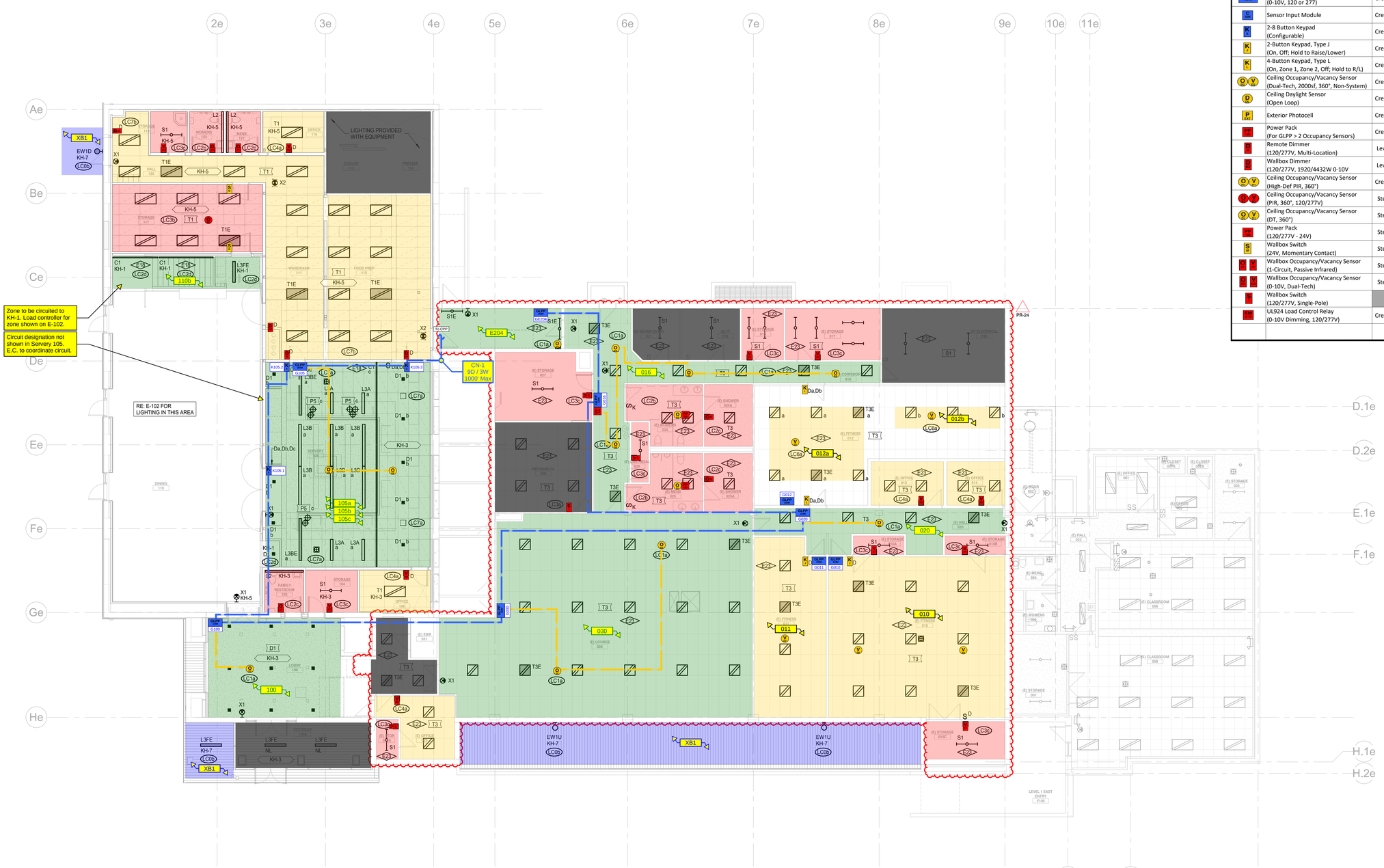

FIRST LEVEL LIGHTING PLAN

SCALE: 1/8" = 1'-0"

KEYNOTES

E18	REFER TO ARCHITECTURAL DETAILS FOR MOUNTING OF LUMINAIRE TYP. C.U.N. CEILING AND STAIR RAIL COVES
E23	CONNECT NEW LIGHTING TO RETAINED 120V OR 277V CIRCUIT IN ROOM

PR-24

CONTROLS LEGEND

AREA	DESCRIPTION
	Networked System, Dimming
	Networked System, Switching
	Standalone Controls, Dimming
	Standalone Controls, Switching
	Not in Control

SYMBOL	DESCRIPTION	MANUF	PART NUMBER
CP4	3-Series Process Panel (Custom Panel)	Crestron	Refer to Bill of Materials
GLPP DIM	1-Zone Controller (0-10V, 120 or 277)	Crestron	GLPP-DIMFLVCN-PM
GLPP DIM	2-Zone Controller (0-10V, 120 or 277)	Crestron	GLPP-1DIMFLV2CN-PM
GLPP DIM	3-Zone Controller (0-10V, 120 or 277)	Crestron	GLPP-1DIMFLV3CN-PM
C2N CBD	Sensor Input Module	Crestron	GLS-SIM
K	2-8 Button Keypad (Configurable)	Crestron	C2N-CBD-P
K J	2-Button Keypad, Type J (On, Off; Hold to Raise/Lower)	Crestron	GLPPA-KP
K L	4-Button Keypad, Type L (On, Zone 1, Zone 2, Off; Hold to R/L)	Crestron	GLPPA-KP4
O V	Ceiling Occupancy/Vacancy Sensor (Dual-Tech, 2000sf, 360°, Non-System)	Crestron	GLS-ODT-C-NS
D	Ceiling Daylight Sensor (Open Loop)	Crestron	GLS-LOL
P LMX	Exterior Photocell	Crestron	GLS-LEXT
PP	Power Pack (For GLPP > 2 Occupancy Sensors)	Crestron	GLA-TR-100
D	Remote Dimmer (120/277V, Multi-Location)	Leviton	AWSRT-x
D	Wallbox Dimmer (120/277V, 1920/4432W 0-10V	Leviton	AWSMT-7Dx
O V	Ceiling Occupancy/Vacancy Sensor (High-Def PIR, 360°)	Crestron	GLA-IR-QUATTRO-HD-COM1-24
O V	Ceiling Occupancy/Vacancy Sensor (PIR, 360°, 120/277V)	Steinel	IR Quattro COM1-WR
O V	Ceiling Occupancy/Vacancy Sensor (DT, 360°)	Steinel	DT Quattro COM1-24
PP	Power Pack (120/277V - 24V)	Steinel	TR 100
S	Wallbox Switch (24V, Momentary Contact)	Steinel	MCS-x
O V	Wallbox Occupancy/Vacancy Sensor (1-Circuit, Passive Infrared)	Steinel	IR WLS 1-x
O V	Wallbox Occupancy/Vacancy Sensor (0-10V, Dual-Tech)	Steinel	DT WLS DIM-x
S	Wallbox Switch (120/277V, Single-Pole)		by Others
LM	UL924 Load Control Relay (0-10V Dimming, 120/277V)	Crestron	GLA-EPC-FLV

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Issue	Date
Construction Documents	FEB 22 2019
PR-17	04/18/2019
PR-15	04/25/2019
PR-16	04/25/2019
PR-20	06/24/2019

Project Number:	17-061
Drawn By:	PDT
Reviewed By:	JAH
Approved By:	PDT

FIRST LEVEL LIGHTING PLAN

E-101

PR-24

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SECOND LEVEL LIGHTING PLAN

SCALE: 1/8" = 1'-0"

KEYNOTES

E16	PROVIDE REMOTE DRIVERS FOR ALL LUMINAIRES OVER TWO-STORY SPACE. LOCATE ALL DRIVERS IN CENTRAL LOCATION ABOVE ACCESSIBLE CEILING OF DINING MEZZANINE.
E17	REFER TO ARCHITECTURAL PLANS FOR LOCATION OF VERTICAL WALL-RECESSED LUMINAIRES.
E19	RETAIN EXISTING 277V LIGHTING CIRCUIT IN PLACE AND UTILIZE FOR NEW LUMINAIRES.
E23	CONNECT NEW LIGHTING TO RETAINED 120V OR 277V CIRCUIT IN ROOM.

PR-24

CONTROLS LEGEND

AREA	DESCRIPTION
	Networked System, Dimming
	Networked System, Switching
	Standalone Controls, Dimming
	Standalone Controls, Switching
	Not in Control

SYMBOL	DESCRIPTION	MANUF	PART NUMBER
C3Pro	3-Series Process Panel (Custom Panel)	Crestron	Refer to Bill of Materials
GLPP	1-Zone Controller (0-10V, 120 or 277)	Crestron	GLPP-DIMFLVCN-PM
GLPP	2-Zone Controller (0-10V, 120 or 277)	Crestron	GLPP-1DIMFLV2CN-PM
GLPP	3-Zone Controller (0-10V, 120 or 277)	Crestron	GLPP-1DIMFLV3CN-PM
C	Sensor Input Module	Crestron	GLS-SIM
K	2-8 Button Keypad (Configurable)	Crestron	C2N-CBD-P
K	2-Button Keypad, Type J (On, Off; Hold to Raise/Lower)	Crestron	GLPPA-KP
K	4-Button Keypad, Type L (On, Zone 1, Zone 2, Off; Hold to R/L)	Crestron	GLPPA-KP4
O V	Ceiling Occupancy/Vacancy Sensor (Dual-Tech, 2000sf, 360°, Non-System)	Crestron	GLS-ODT-C-NS
D	Ceiling Daylight Sensor (Open Loop)	Crestron	GLS-LOL
P	Exterior Photocell	Crestron	GLS-LEXT
PP	Power Pack (For GLPP > 2 Occupancy Sensors)	Crestron	GLA-TR-100
D	Remote Dimmer (120/277V, Multi-Location)	Leviton	AWSRT-x
D	Wallbox Dimmer (120/277V, 1920/4432W 0-10V	Leviton	AWSMT-7Dx
O V	Ceiling Occupancy/Vacancy Sensor (High-Def PIR, 360°)	Crestron	GLA-IR-QUATTRO-HD-COM1-24
O V	Ceiling Occupancy/Vacancy Sensor (PIR, 360°, 120/277V)	Steinel	IR Quattro COM1-WR
O V	Ceiling Occupancy/Vacancy Sensor (DT, 360°)	Steinel	DT Quattro COM1-24
PP	Power Pack (120/277V - 24V)	Steinel	TR 100
S	Wallbox Switch (24V, Momentary Contact)	Steinel	MCS-x
O V	Wallbox Occupancy/Vacancy Sensor (1-Circuit, Passive Infrared)	Steinel	IR WLS 1-x
O V	Wallbox Occupancy/Vacancy Sensor (0-10V, Dual-Tech)	Steinel	DT WLS DIM-x
S	Wallbox Switch (120/277V, Single-Pole)		by Others
LM	UL924 Load Control Relay (0-10V Dimming, 120/277V)	Crestron	GLA-EPC-FLV

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Issue	Date
Construction Documents	FEB 22 2019
PR-17	04/18/2019
PR-15	04/25/2019
PR-16	04/25/2019
PR-20	06/24/2019

Project Number:	17-061
Drawn By:	PDT
Reviewed By:	JAH
Approved By:	PDT

SECOND LEVEL LIGHTING PLAN

E-102

PR-24
PR-23

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DIN-EN

Enclosure for DIN Rail Devices

The DIN-EN Series of metal panels are designed to house up to 18 DIN rail devices per panel.[1] Each enclosure is available in three sizes to accommodate two, three, or six DIN rails. It also includes a removable front cover for easy access to the equipment. A DIN-EN Series panel is the perfect enclosure for Crestron DIN rail products such as the **DIN-AP3**, **DIN-DALI-2**, and **DIN-1DIMU4**. Third-party DIN rail devices are also suitable for mounting in this panel.

DIN-EN-MM Two-Stage Installation models afford peace-of-mind. In two-stage installations, the rough-in enclosure is ordered and installed months in advance of the lay-in panel, allowing time for prewiring and rough-in work. The lay-in panel is ordered separately and delivered with all of the equipment it houses already in place. Simply lay the panel in to the previously installed enclosure to complete the installation. This installation method ensures that delicate equipment is not disturbed or damaged during construction and pre-wiring.

> Enclosure for up to 18 DIN Rail devices
> Available in three sizes for 2, 3, or 6 DIN rails
> Models with separate installations for the rough-in enclosure and the lay-in panel available

> UL Listed

DIN-EN-2X18 shown

SPECIFICATIONS

DIN Rail Detail
DIN-EN-2X18: (2) 342 mm x 35 mm rails[2]
DIN-EN-3X18 &
DIN-EN-3X18-MMP(3) 342 mm x 35 mm rails[2]
DIN-EN-6X18 &
DIN-EN-6X18-MMP(6) 342 mm x 35 mm rails[2]

Environmental
Temperature: 32° to 104° F (0° to 40° C)
Humidity: 10% to 90% RH (non-condensing)

Enclosure
16-gauge galvanized steel, surface wall mount;
Gray front cover with powder coat finish

Enclosure Dimensions
DIN-EN-2X18: Height: 12.32 in (323 mm)
Width: 14.13 in (359 mm)
Depth: 4.38 in (111 mm)
DIN-EN-3X18 &
DIN-EN-3X18-MMOEHeight: 23.50 in (597 mm)
Width: 14.38 in (366 mm)
Depth: 4.44 in (113 mm)
DIN-EN-6X18 &
DIN-EN-6X18-MMOEHeight: 38.88 in (989 mm)
Width: 14.38 in (366 mm)
Depth: 4.44 in (113 mm)

Weight
DIN-EN-2X18: 11.4 lbs (5.17 kg)
DIN-EN-3X18: 20.3 lbs (9.18 kg)
DIN-EN-3X18-MMOE: 19.0 lbs (8.61 kg)
DIN-EN-3X18-MMP: 6.0 lbs (2.72 kg)
DIN-EN-6X18: 30.5 lbs (13.83 kg)
DIN-EN-6X18-MMOE: 28.0 lbs (12.68 kg)
DIN-EN-6X18-MMP: 10.5 lbs (4.76 kg)

Certifications and Regulatory Compliance
UL Listed

Available Models
DIN-EN-2X18 [6505323]: Enclosure for DIN Rail Devices, 2 DIN Rails, 18 Units Wide
DIN-EN-3X18 [6505324]: Enclosure for DIN Rail Devices, 3 DIN Rails, 18 Units Wide
DIN-EN-6X18 [6505325]: Enclosure for DIN Rail Devices, 6 DIN Rails, 18 Units Wide
DIN-EN-3X18-MMOE [6507408]: Enclosure for DIN Rail Devices, 3 DIN Rails, 18 Units Wide, Rough-In Enclosure
DIN-EN-3X18-MMP [6507459]: Enclosure for DIN Rail Devices, 3 DIN Rails, 18 Units Wide, Lay-In Panel
DIN-EN-6X18-MMOE [6507460]: Enclosure for DIN Rail Devices, 6 DIN Rails, 18 Units Wide, Rough-In Enclosure
DIN-EN-6X18-MMP [6507461]: Enclosure for DIN Rail Devices, 6 DIN Rails, 18 Units Wide, Lay-In Panel

Notes:
1. One DIN unit = 18 mm.
2. Designed to accommodate 18 DIN units while leaving 1 DIN unit (18 mm) of extra space.

This product may be purchased from an authorized Crestron dealer. To find a dealer, please contact the Crestron sales representative for your area. A list of sales representatives is available online at **www.crestron.com/salesreps** or by calling 800-237-2041.
The specific patents that cover Crestron products are listed online at: **patents.crestron.com**.
Certain Crestron products contain open source software. For specific information, visit **www.crestron.com/opensource**.

DIN-ENEnclosure for DIN Rail Devices

DIN-AP3

3 SERIES

DIN Rail 3-Series® Automation Processor

- *Enterprise-class control system*
- *3-Series® Control Engine — substantially faster and more powerful than other control systems*
- *Exclusive modular programming architecture*
- *Programmable astronomical time clock for scheduled events*
- *Onboard 256MB RAM & 4GB Flash memory*
- *Memory card slot*
- *Industry-standard Ethernet and Cresnet® wired communications*
- *XPanel with Smart Graphics™ computer and web based control*
- *iPhone®, iPad®, and Android™ control app support*
- *Crestron Fusion® Cloud Enterprise Management Service support*
- *SNMP remote management support*
- *Two RS-232/422/485 COM ports with hardware and software handshaking*
- *Four IR/serial, four relay, and eight Versiport I/O ports*
- *Native BACnet™/IP support [2]*
- *Installer setup via Crestron Toolbox™ software or web browser*
- *C#, symbol based, and drag-and-drop programming environments*
- *Full Unicode (multi-language) support*
- *Increased network throughput and security*
- *Secure access through full user/group management or Active Directory integration*
- *Hardware level security using 802.1X authentication*
- *TLS, SSL, SSH, and SFTP network security protocols*
- *FIPS 140-2 compliant encryption*
- *IIS v.6.0 Web Server*
- *IPv6 ready*
- *Front panel USB computer console port*
- *9M wide DIN rail mountable*

The Crestron® DIN-AP3 is a 3-Series Control System® designed for DIN rail mounting applications. Featuring the 3-Series® control engine, the DIN-AP3 forms the core of any modern networked home or commercial building, managing and integrating all the disparate technologies throughout the facility to make life easier, greener, more productive, and more enjoyable.

DIN Rail Mounting

The DIN-AP3 is designed to snap onto a standard DIN rail for installation in a wall mount enclosure (Crestron DIN-EN series [1] or similar) or on a wall panel. DIN rail mounting affords a very space-efficient, cost-effective, and modular solution for configuring complete automation systems using the DIN-AP3 along with additional Crestron and third-party DIN rail mountable devices.

3-Series® Control Systems

Today's commercial buildings and custom homes comprise more technology than ever before, and all these systems need to be networked, managed, and controlled in fundamentally new ways. The IP based 3-Series platform is engineered from the ground up to deliver a network-grade server appliance capable of faithfully handling everything from lighting and AV system control to total building management.

3-Series embodies a distinctively robust, dynamic, and secure platform to elevate your system designs to higher levels of performance and reliability. Compared to other control systems, Crestron 3-Series provides a pronounced increase in processing power and speed with more memory, rock solid networking and IP control, and a unique modular programming architecture.

Modular Programming Architecture

Designed for enhanced scalability, the DIN-AP3 affords high-speed, real-time multi-tasking to seamlessly run multiple programs simultaneously. This exclusive modular programming architecture lets programmers independently develop and run device-specific programs for lighting, shades, HVAC, security, AV, etc., allowing for the optimization of each program, and allowing changes to be made to one program without affecting the whole. Even as your system grows, processing resources can easily be shifted from one 3-Series processor to another without rewriting any code. The end benefit is dramatically simplified upgradability with minimal downtime, whether implementing changes on site or remotely via the network.

Robust Ethernet & IP Control

IP technology is the heart of 3-Series, so it should be no surprise that its networking abilities are second to none. High-speed Ethernet connectivity enables integration with IP-controllable devices and allows the DIN-AP3 to be part of a larger managed control network. Whether residing on a sensitive corporate LAN, a home network, or accessing the Internet through a cable modem, the DIN-AP3 provides secure, reliable interconnectivity with IP-enabled touch screens, computers, mobile devices, video displays, media servers, security systems, lighting, HVAC, and other equipment — whether on premises or across the globe.

DIN-AP3 DIN Rail 3-Series® Automation Processor

Control Apps & XPanel

Years ago, Crestron pioneered the world's first IP-based control system unleashing vast new possibilities for controlling, monitoring, and managing integrated systems over a LAN, WAN, and the Internet. Today, Crestron offers more ways than ever to control your world the way you want. Using a computer, smartphone, or tablet device, Crestron lets you control anything in your home or workplace from anywhere in the world.

Native to every 3-Series control system, Crestron XPanel technology transforms any laptop or desktop computer into a virtual Crestron touch screen. Crestron control apps deliver the Crestron touch screen experience to iPhone®, iPad®, and Android™ devices, letting you safely monitor and control your entire residence or commercial facility using the one device that goes with you everywhere.

Crestron Fusion® Cloud

Crestron Fusion Cloud provides an integrated platform for creating truly smart buildings that save energy, enhance worker productivity, and prolong the life-span of valuable equipment. As part of a complete managed network in a corporate enterprise, college campus, convention center, or any other facility, the DIN-AP3 works integrally with Crestron Fusion Cloud to enable remote scheduling, monitoring, and control of rooms and technology from a central help desk. It also enables organizations to reduce energy consumption by tracking real-time usage and automating control of lighting, shades, and HVAC.

SNMP Support

Built-in SNMP support enables integration with third-party IT management software, allowing network administrators to manage and control Crestron systems on the network in an IT-friendly format.

Astronomical Time Clock Feature

Scheduled events may be programmed on the DIN-AP3 according to an astronomical time clock. As a result, events can be set to occur at specific times or at an offset from sunrise or sunset.

Cresnet®

Cresnet provides a dependable network wiring solution for Crestron keypads, lighting controls, shade motors, thermostats, occupancy sensors, and other devices that don't require the higher speed of Ethernet. The Cresnet bus offers easy wiring and configuration, carrying bidirectional communication and 24VDC power to each device over a simple 4-conductor cable. To assist with troubleshooting, the DIN-AP3 includes our patent-pending Network Analyzer which continuously monitors the integrity of the Cresnet network for wiring faults, marginal performance, and other errors.

The DIN-AP3 includes a pair of Cresnet master ports (paralleled) capable of supporting approximately 20 typical devices. Larger systems with more than 20 devices can be handled by adding the DIN-HUB Cresnet Distribution Hub or DIN-CENCN-2 Ethernet to Cresnet Bridge [1]. Connectivity for multiple homeruns can be facilitated using one or more DIN-BLOCK Cresnet Distribution Blocks [1]. Additionally, at least one DIN-PWS50 Cresnet Power Supply [1] is required to power the DIN-AP3 and any connected Cresnet devices.

Onboard Control Ports

In addition to Ethernet, the DIN-AP3 includes a variety of control ports for interfacing with third-party equipment. Its two bidirectional COM ports and four IR ports allow for interfacing with security systems, small appliances, and AV devices. Four programmable relay ports are provided for controlling projection screens, lifts, power controllers, and other contact-closure actuated equipment. Eight "Versiport" I/O ports enable the integration of power sensors, motion detectors, door switches, alarms, or anything else that provides a dry contact closure, low-voltage logic, or 0-10 Volt DC signal.

Additional control ports, lighting and motor controls, and other types of interfaces can be added easily using Crestron DIN Rail series lighting and automation modules.

BACnet™/IP

Native support for the BACnet/IP communication protocol provides a direct interface to third-party building management systems over Ethernet, simplifying integration with HVAC, security, fire & life safety, voice & data, lighting, shades, and other systems. Using BACnet/IP, each system runs independently with the ability to communicate together on one platform for a truly smart building.[2]

SPECIFICATIONS

Control Engine

Crestron 3-Series; real-time, preemptive multi-threaded/multitasking kernel; Transaction-Safe Extended FAT file system; supports up to 10 simultaneously running programs

Memory

DDR3 SDRAM: 256 MB
Flash: 4 GB
Memory Card: supports SD and SDHC cards up to 32 GB

Communications

Ethernet: 10/100 Mbps, auto-switching, auto-negotiating, auto-discovery, full/half duplex, industry-standard TCP/IP stack, UDP/IP, CIP, DHCP, SSL, TLS, SSH, SFTP (SSH File Transfer Protocol), FIPS 140-2 compliant encryption, IEEE 802.1X, SNMP, BACnet/IP [2], IPv4 or IPv6, Active Directory authentication, IIS v.6.0 Web Server, SMTP e-mail client
Cresnet: Cresnet master mode
USB: Supports computer console via front panel USB 2.0 device port
RS-232/422/485: For 2-way device control and monitoring, supports RS-232, RS-422, or RS-485 up to 115.2k baud with hardware and software handshaking
IR/Serial: Supports 1-way device control via infrared up to 1.2 MHz or serial TTL/RS-232 (0-5 Volts) up to 115.2k baud

Connectors & Card Slots

I/O 1 – 8: (1) 9-pin 3.5 mm detachable terminal block;
Comprises (8) "Versiport" digital input/output or analog input ports (referenced to GND);

DIN-AP3 DIN Rail 3-Series® Automation Processor

Digital Input: Rated for 0-24 Volts DC, input impedance 20k Ohms, logic threshold >3.125V low/0 and <1.875V high/1;
Digital Output: 250 mA sink from maximum 24 Volts DC, catch diodes for use with "real world" loads;
Analog Input: Rated for 0-10 Volts DC, protected to 24 Volts DC maximum, input impedance 21k Ohms with pull-up resistor disabled;
Programmable 5 Volts, 2k Ohms pull-up resistor per pin

Ground: (1) Captive screw terminal;
Chassis ground lug

MEMORY: (1) SD memory card slot;
Accepts one SD or SDHC card up to 32 GB for memory expansion

RELAYS 1 – 4: (1) 8-pin 3.5 mm detachable terminal block;
Comprises (4) normally open, isolated relays;
Rated 1 Amp, 30 Volts AC/DC;
MOV arc suppression across contacts

COMPUTER: (1) USB Type B female;
USB 2.0 computer console port (6 ft cable included);
For setup only

NET: (2) 4-pin 3.5 mm detachable terminal blocks, paralleled;
Cresnet master port and 24 Volt DC power input

COM 1 – 2: (2) 5-pin 3.5 mm detachable terminal blocks;
Bidirectional RS-232/422/485 ports;
Up to 115.2k baud; hardware and software handshaking support

IR/SERIAL 1 – 4: (1) 8-pin 3.5 mm detachable terminal block;
Comprises (4) IR/Serial output ports;
IR output up to 1.2 MHz;
1-way serial TTL/RS-232 (0-5 Volts) up to 115.2k baud

LAN: (1) 8-pin RJ45 jack;
10Base-T/100Base-TX Ethernet port

Controls & Indicators

PWR: (1) Dual-color green/amber LED, indicates operating power supplied from Cresnet network or power supply, turns amber while booting and green when operating
NET: (1) Amber LED, indicates communication with the Cresnet system
MSG: (1) Red LED, indicates processor has generated an error message
HW-R: (1) Recessed miniature pushbutton for hardware reset
SW-R: (1) Recessed miniature pushbutton for software reset
LAN: (2) LEDs, green LED indicates Ethernet link status, amber LED indicates Ethernet activity

Power

Cresnet Power Usage: 8 Watts (0.33 Amp @ 24 Volts DC)

Environmental

Temperature: 32° to 104° F (0° to 40° C)
Humidity: 10% to 90% RH (non-condensing)
Heat Dissipation: 26 BTU/hr

Enclosure

Light gray polycarbonate housing with polycarbonate label overlay, UL94 V-0 rated, 35 mm DIN EN 60715 rail mount, DIN 43880 form factor for enclosures with 45 mm front panel cutout, occupies 9 DIN module spaces (162 mm)

Dimensions

Height: 3.72 in (95 mm)
Width: 6.28 in (160 mm)
Depth: 2.29 in (59 mm)

Weight

9.8 oz (277 g)

MODELS & ACCESSORIES

Available Models

DIN-AP3: DIN Rail 3-Series® Automation Processor

Available Accessories

DIN-EN Series: Enclosures for DIN Rail Devices
DIN-PWS50: DIN Rail 50 Watt Cresnet Power Supply
DIN-PWS30-277: DIN Rail 30 Watt Cresnet Power Supply, 277V
DIN-BLOCK: DIN Rail Cresnet Distribution Block
DIN-HUB: DIN Rail Cresnet Distribution Hub
DIN-CENCN-2: Ethernet to Cresnet Bridge
DIN-CENCN-2-POE: Ethernet to Cresnet Bridge w/PoE
DIN-1DIM4: DIN Rail Dimmer, 1 feed, 4 channels
DIN-1DIMU4: DIN Rail Universal Dimmer, 1 feed, 4 channels
DIN-4DIMFLV4: DIN Rail 0-10V Fluorescent Dimmer, 4 feeds, 4 channels
DIN-8SW8: DIN Rail High-Voltage Switch, 8 feeds, 8 channels
DIN-8SW8-I: DIN Rail High-Voltage Switch with Digital Inputs
DIN-2MC2: DIN Rail Motor Control, 2 feeds, 2 channels
DIN-AO8: DIN Rail Analog Output Module
DIN-IO8: DIN Rail Versiport Module
DIN-DALI-2: DIN Rail 2 Channel DALI Interface
CNSP-XX: Custom Serial Interface Cable
IRP2: IR Emitter Probe w/Terminal Block Connector
Crestron® App: Control App for Apple® iOS® and Android™
XPanel: Crestron Control® for Computers
myCrestron: Dynamic DNS Service
Crestron Fusion®: Enterprise Management Platform
SW-3SERIES-BACNET: BACnet™/IP Support for 3-Series®
CSP-LIR-USB: IR Learner

DIN-AP3 DIN Rail 3-Series® Automation Processor

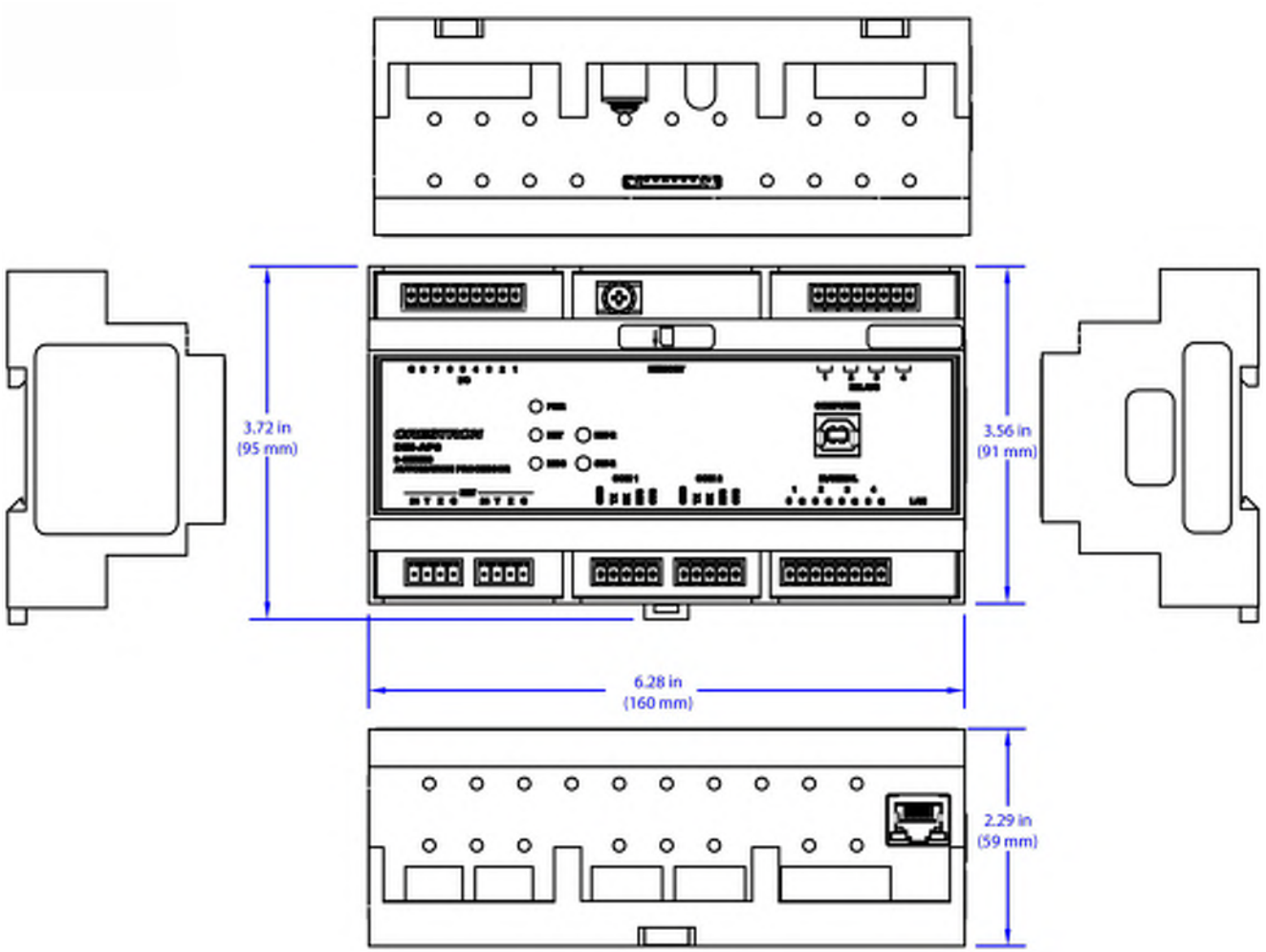
Notes:

1. Item(s) sold separately.
2. License required. The DIN-AP3 supports a maximum of 500 BACnet objects when dedicated for BACnet use only. Actual capabilities are contingent upon the overall program size and complexity.

This product may be purchased from an authorized Crestron dealer. To find a dealer, please contact the Crestron sales representative for your area. A list of sales representatives is available online at www.crestron.com/salesreps or by calling 800-237-2041.

The specific patents that cover Crestron products are listed online at: patents.crestron.com.

Certain Crestron products contain open source software. For specific information, please visit www.crestron.com/opensource.



DIN-PWS60

DIN Rail 60 Watt Cresnet® Power Supply

- *60 Watt Cresnet® power supply module*
- *Powers the DIN-AP3 Automation Processor and other Cresnet devices*
- *Includes six Cresnet power ports*
- *Cresnet data passes through unaffected*
- *6M wide DIN rail mounting*
- *100-277 Volt AC line powered*

The DIN-PWS60 is a 60 Watt Cresnet® Power Supply module designed to snap onto a standard DIN rail for installation in a wall-mount enclosure. DIN rail mounting enables modular installation alongside Crestron® DIN Rail lighting and automation control modules and other third-party DIN rail-mountable devices. All wiring connections are made using screw terminals positioned along the top and bottom of the unit, which are clearly accessible from the front for easy installation and servicing. Six Cresnet power ports are provided.

SPECIFICATIONS

Output Rating

60 Watts (2.5 Amps) at 24 Volts DC, regulated, limited power source; <1% ripple/noise

Power Requirements

2 Amps at 100-277 Volts AC, 50/60 Hz

Connections

100-277VAC 50/60Hz: (1) Set of (3) captive screw terminals; Line power input and ground; Maximum Wire Size: 12 AWG (2.5 mm²)

NET: (6) 4-pin 3.5 mm detachable terminal blocks, paralleled; Cresnet power output ports with data pass-through; Maximum Wire Size: 14 AWG (1.5 mm²)

FUSE: (1) DC output fuse, T3.15AH; 5x20 mm, 250 Volts, 3.15 Amps, time-lag, ceramic cartridge

Indicators

24VDC: (1) Green LED, indicates 24 Volts DC output at all NET ports; *Note: Remains lit when fuse is blown*

Enclosure

Light gray polycarbonate housing with polycarbonate label overlay, UL 94 V-0 rated, 35 mm DIN EN 60715 rail mount, DIN 43880 form factor for enclosures with 45 mm front panel cutout, occupies 6 DIN module spaces (108 mm)

Environmental

Temperature: 32° to 104° F (0° to 40° C)
Humidity: 10% to 90% RH (non-condensing)
Heat Dissipation: 26 BTU/hr

Dimensions

Height: 3.70 in (94 mm)
Width: 4.25 in (108 mm)
Depth: 2.29 in (58 mm)

Weight

6 oz (170 g)

MODELS & ACCESSORIES

Available Models

DIN-PWS60: DIN Rail 60 Watt Cresnet® Power Supply

Available Accessories

DIN-EN Series: Enclosures for DIN Rail Devices
DIN-BLOCK: DIN Rail Cresnet® Distribution Block
DIN-CENCN-2: Ethernet to Cresnet® Bridge
DIN-CENCN-2-POE: Ethernet to Cresnet® Bridge w/PoE
DIN-HUB: DIN Rail Cresnet® Distribution Hub
CRESNET: Cresnet® Control Cable

DIN-PWS60 DIN Rail 60 Watt Cresnet® Power Supply

Notes:

This product may be purchased from an authorized Crestron dealer. To find a dealer, please contact the Crestron sales representative for your area. A list of sales representatives is available online at www.crestron.com/salesreps or by calling 800-237-2041.

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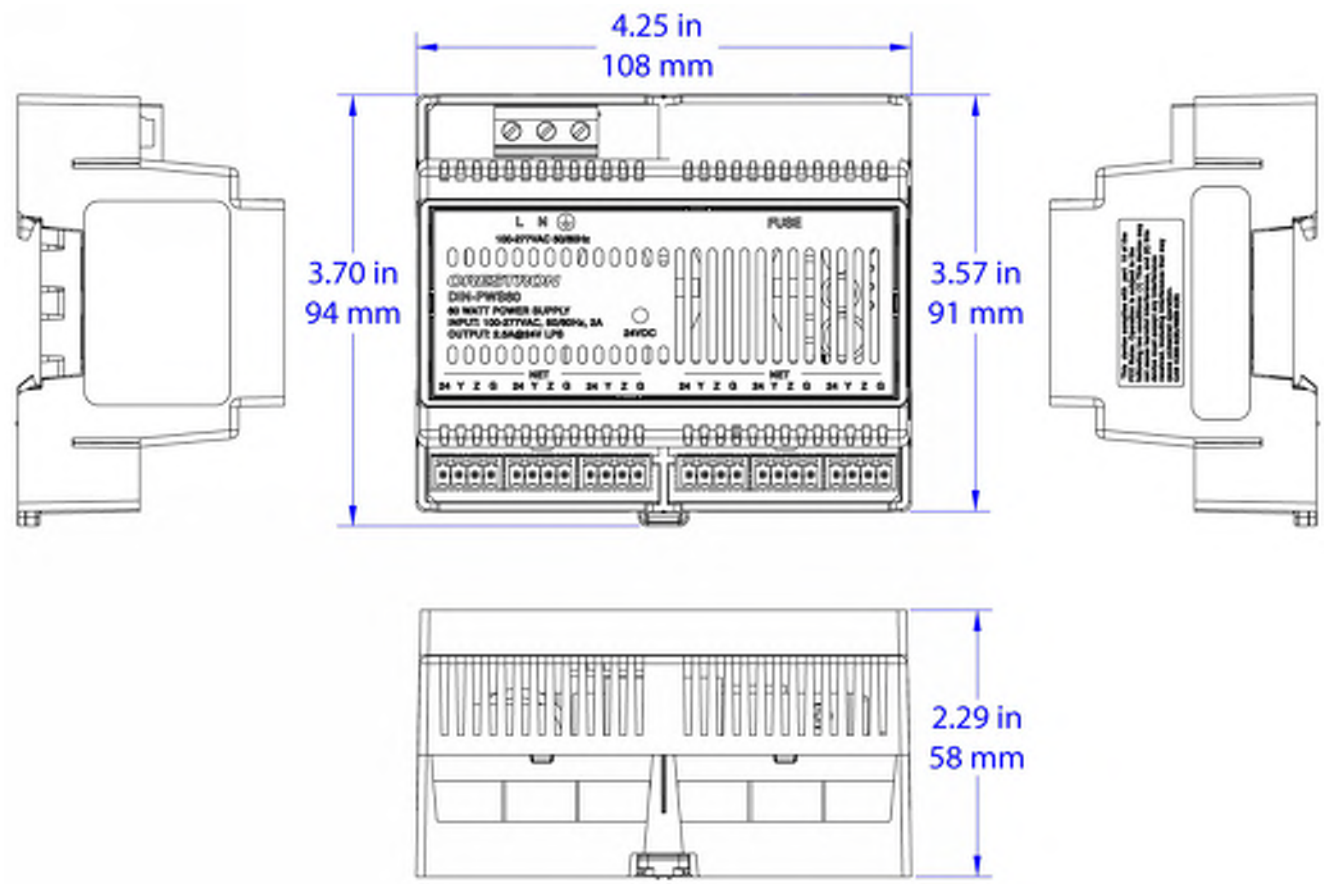


DIN-HUB

DIN Rail Cresnet® Distribution Hub

- *3-segment Cresnet hub*
- *For Cresnet networks with more than 20 devices*
- *Configurable power distribution*
- *No programming required*
- *6M wide DIN rail mounting*

The DIN-HUB is a DIN rail-mounted Cresnet hub designed to facilitate the configuration of large Cresnet networks. DIN rail mounting enables modular installation alongside Crestron DIN Rail lighting and automation control modules and other third-party DIN rail mountable devices.

3-Segment Cresnet® Hub

Cresnet is the communications backbone for Crestron lighting modules, wall box dimmers, shade controllers, thermostats, keypads, touchpanels, and many other devices. This flexible 4-wire bus normally supports approximately 20 Cresnet devices without requiring a hub. Larger systems are easily enabled by adding the DIN-HUB. The DIN-HUB features 3 isolated Cresnet segments, each supporting an additional 20 devices, allowing for systems of approximately 80 devices total (including the "host" segment). More hubs may be added to allow up to a maximum potential of 252 devices.*

Cresnet Power Distribution

In addition to data, Cresnet carries 24 Volts DC for powering the devices connected to it. The DIN-HUB provides an easy way to manage the distribution of power for a complete Cresnet network. Each segment can be configured to receive its power from the "host" power source or from another power supply. Separate power supplies may be dedicated to each segment, or a single supply can be shared amongst multiple segments as needed. Each segment supports up to 75 Watts.

DIN Rail Installation

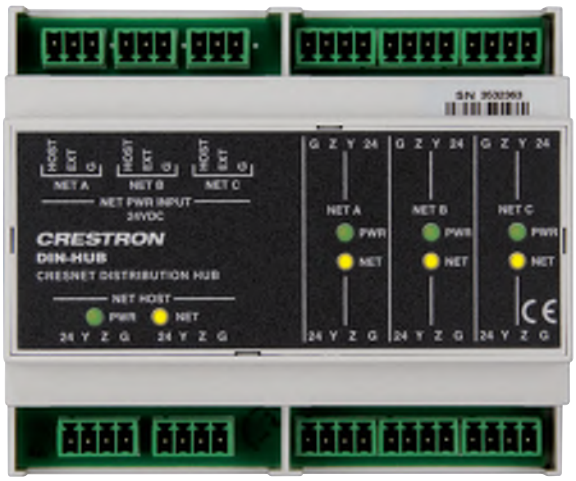
The DIN-HUB is designed to snap onto a standard DIN rail for installation in a wall mount enclosure or mounted on a wall panel. Wiring connections are made using detachable screw terminals positioned along the top and bottom, clearly accessible from the front for easy installation and servicing. Diagnostic indicators are positioned on the center front panel. When installed in an enclosure utilizing 45 mm cutouts, the DIN-HUB's front panel stays visible while the connections are concealed.

SPECIFICATIONS

Connections

NET HOST: (2) 4-pin 3.5mm detachable terminal blocks, paralleled; Connects to Master NET port of DIN-AP2 or other control system, and loops thru to additional DIN Rail Cresnet devices

NET PWR INPUT 24VDC, NET A – C: (3) 3-pin 3.5mm detachable terminal blocks; Cresnet power selection connectors for each segment; Connect to external Cresnet power supplies, or to "host" power source via jumpers, to power Cresnet devices connected to the NET A-C ports;
Maximum Load per Segment: 75 Watts (3.13 Amps @ 24 Volts DC)



NET A – C: (6) 4-pin 3.5mm detachable terminal blocks comprising (2) Cresnet ports (paralleled) per each of (3) segments

LED Indicators

NET HOST, PWR: (1 Green) Indicates Cresnet power is supplied to unit via either NET HOST port
NET HOST, NET: (1 Yellow) Indicates Cresnet bus activity at either NET HOST port
NET A – C, PWR: (3 Green) Indicate Cresnet power is available at NET ports of corresponding hub segment
NET A – C, NET: (3 Yellow) Indicate Cresnet bus activity at NET ports of corresponding hub segment

Power Requirements

Cresnet Power Usage: 0.6 Watts (0.03 Amps @ 24 Volts DC)

Environmental

Temperature: 32° to 104° F (0° to 40° C)
Humidity: 10% to 90% RH (non-condensing)
Heat Dissipation: 2 BTU/hr

Enclosure

Light gray polycarbonate housing with polycarbonate label overlay, UL94 V-0 rated, 35mm DIN EN 60715 rail mount, DIN 43880 form factor for enclosures with 45mm front panel cutout, occupies 6 DIN module spaces (108mm)

Dimensions

Height: 3.71 in (9.42 cm)
Width: 4.18 in (10.60 cm)
Depth: 2.28 in (5.80 cm)

DIN-HUB DIN Rail Cresnet® Distribution Hub

Weight

6.0 oz (169 g)

** The actual number of possible devices per segment and per network may vary depending upon the length and geometry of network wiring, and the power requirements of every device. A general rule of thumb suggests approximately 20 devices, an aggregate of 3000 feet of cable, and up to a 75 Watt load per segment (wiring and devices permitting). In any case, 252 is the maximum number of possible devices on a complete Cresnet network. Contact Crestron True Blue Support for further design assistance.*

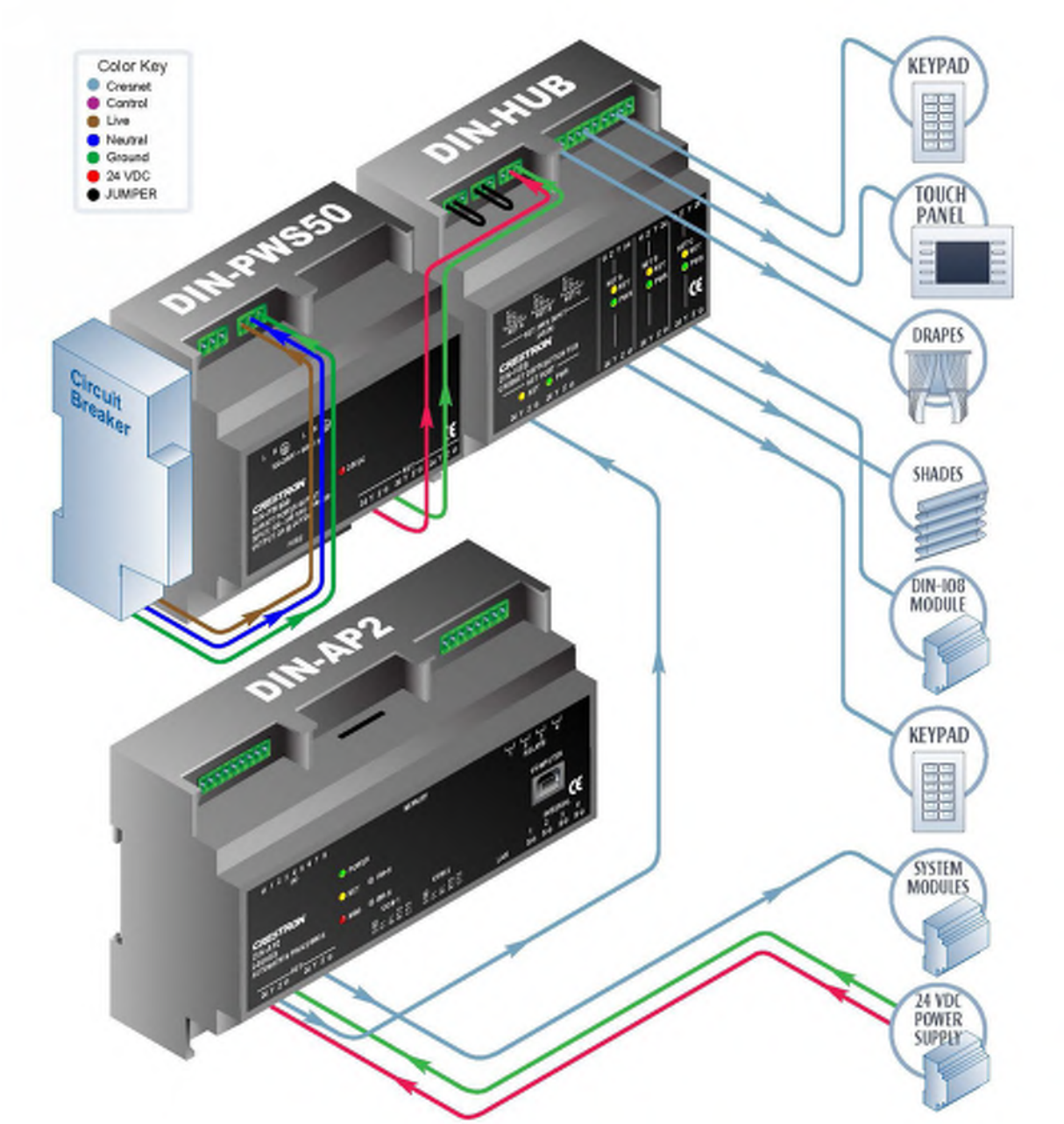
MODELS & ACCESSORIES

Available Models

DIN-HUB: DIN-Rail Cresnet® Distribution Hub

DIN-HUB DIN Rail Cresnet® Distribution Hub

APPLICATION DIAGRAM



CEN-SW-POE-5

5-Port PoE Switch

- *5-port unmanaged Ethernet switch*
- *All ports support 1000Base-T Gigabit Ethernet*
- *Provides PoE (802.3af) on 4 ports*
- *Auto-negotiating and auto MDI/MDIX*
- *Rugged metal enclosure*
- *Surface or rack-rail mountable*

The CEN-SW-POE-5 is a 5-port unmanaged Gigabit Ethernet switch that provides Power over Ethernet (PoE) from four of its ports. Power over Ethernet affords a one-wire solution for connecting Crestron touch screens, gateways, and other devices, delivering power and data over a single CAT5/6 network cable. All 5 ports are Gigabit capable to ensure maximum bandwidth for multimedia and critical control data.

Using the CEN-SW-POE-5, there is no need to install a separate power supply at each networked device location. The CEN-SW-POE-5 can simply be mounted at a convenient location on a wall or in an equipment rack, providing a single power source for four separate 802.3af compliant PoE powered devices. Non-PoE devices may also be connected to any port on the CEN-SW-POE-5 without risk of damage to either component.

SPECIFICATIONS

Ethernet

Ports: (5) 10Base-T/100Base-TX/1000Base-T Ethernet
Network Standards: IEEE 802.3, 802.3u, 802.3ab, 802.3x, & 802.3af
Transmission Method: Store-and-Forward

Indicators

PoE 1 – 4: (4) green LEDs, indicate a PoE powered device is connected to each corresponding Ethernet port

Uplink: (1) green LED and (1) amber LED; indicate Ethernet link status, speed, and activity at the Uplink port

1 – 4: (1) green LED and (1) amber LED per each of (4) Ethernet ports; indicate Ethernet link status, speed, and activity at each corresponding port

Power: (1) yellow LED, indicates operating power supplied via external power pack

Connectors

Uplink: (1) 8-wire RJ45, female;
10Base-T/100Base-TX/1000Base-T Ethernet port

1 – 4: (4) 8-wire RJ45, female;
10Base-T/100Base-TX/1000Base-T Ethernet ports and PoE Power Sourcing Equipment (PSE) outputs

G: (1) 6-32 screw, chassis ground lug

48VDC: (1) 4-pin (2x2) rectangular connector;
48 Volt DC power input (power pack included)

Power Requirements

Power Pack: 1.25 Amps @ 48 Volts DC;
100-240 Volts AC 50/60 Hz power pack included

Environmental

Temperature: 32° to 104°F (0° to 40°C)
Humidity: 10% to 90% RH (non-condensing)
Heat Dissipation: 10 BTU/hour

Enclosure

Chassis: Metal, black finish, with (2) integral mounting flanges, vented top and bottom
Mounting: Freestanding, surface mount, or attach to a single rack rail

Dimensions

Height: 5.06 in (129 mm)
Width: 4.66 in (119 mm)
Depth: 1.17 in (30 mm)

Weight

13.5 oz (381 g)

CEN-SW-POE-5 5-Port PoE Switch

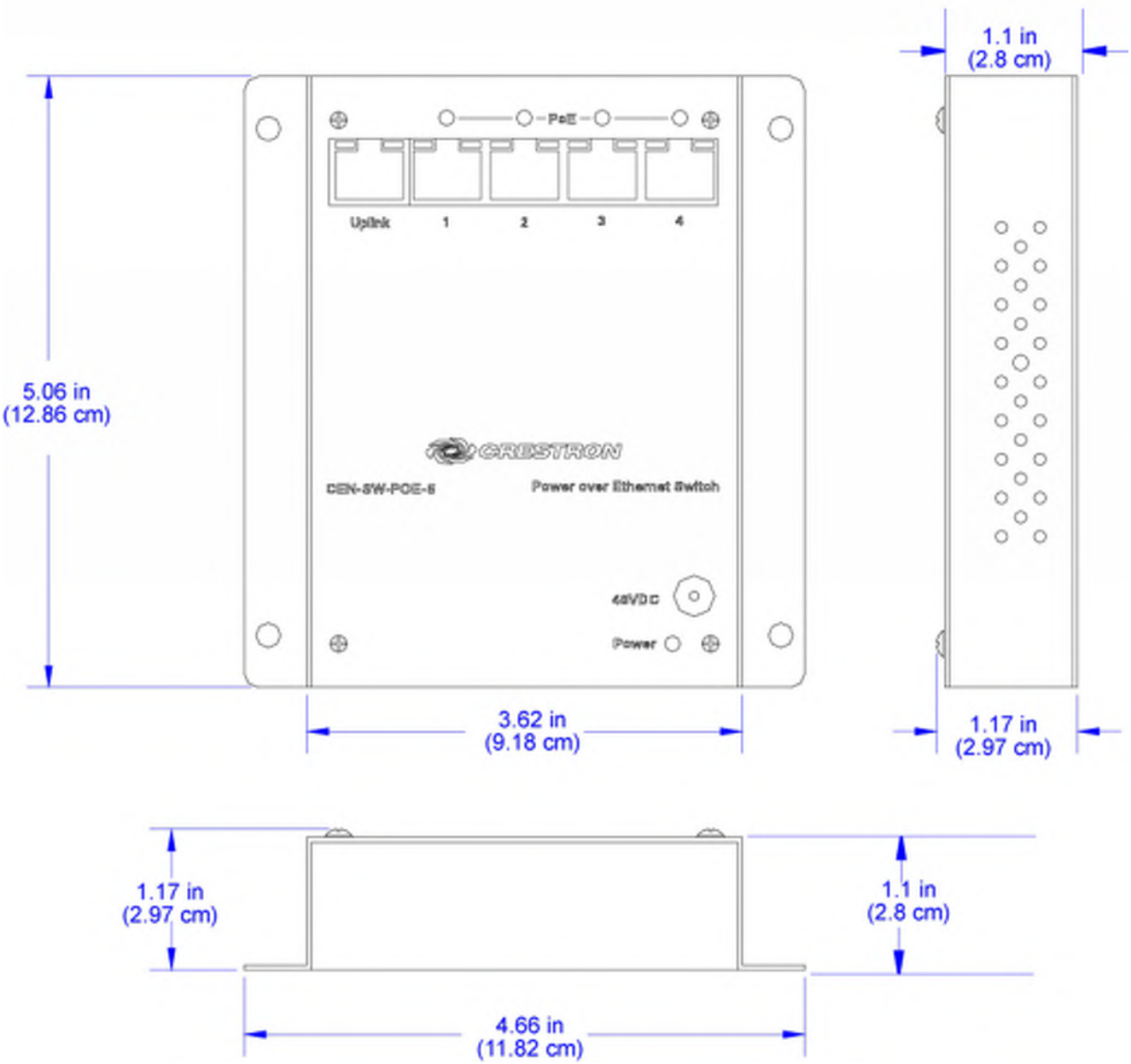
MODELS & ACCESSORIES

Available Models

CEN-SW-POE-5: 5-Port PoE Switch

Notes:

This product may be purchased from an authorized Crestron dealer. To find a dealer, please contact the Crestron sales representative for your area. A list of sales representatives is available online at www.crestron.com/salesreps or by calling 800-237-2041.



SW-3SERIES-BACNET

3 SERIES

3-Series® Native BACnet™/IP Support

ASHRAE BACnet™

One platform, complete control and automation

Crestron 3-Series® Control Systems bring all the technology and devices together onto a single platform so they work together seamlessly and intelligently. Anything and everything connected to a Crestron control system can be monitored, managed, and controlled — anytime, anywhere from a touch screen, laptop, or smart device.

3-Series® Control Systems Native BACnet™/IP Interface

The ability for all 3-Series Control Systems to natively talk BACnet/IP is now available. This exciting feature enables you to connect all local devices to the Building Management System (BMS), as well as to control all BMS devices from a touch screen.

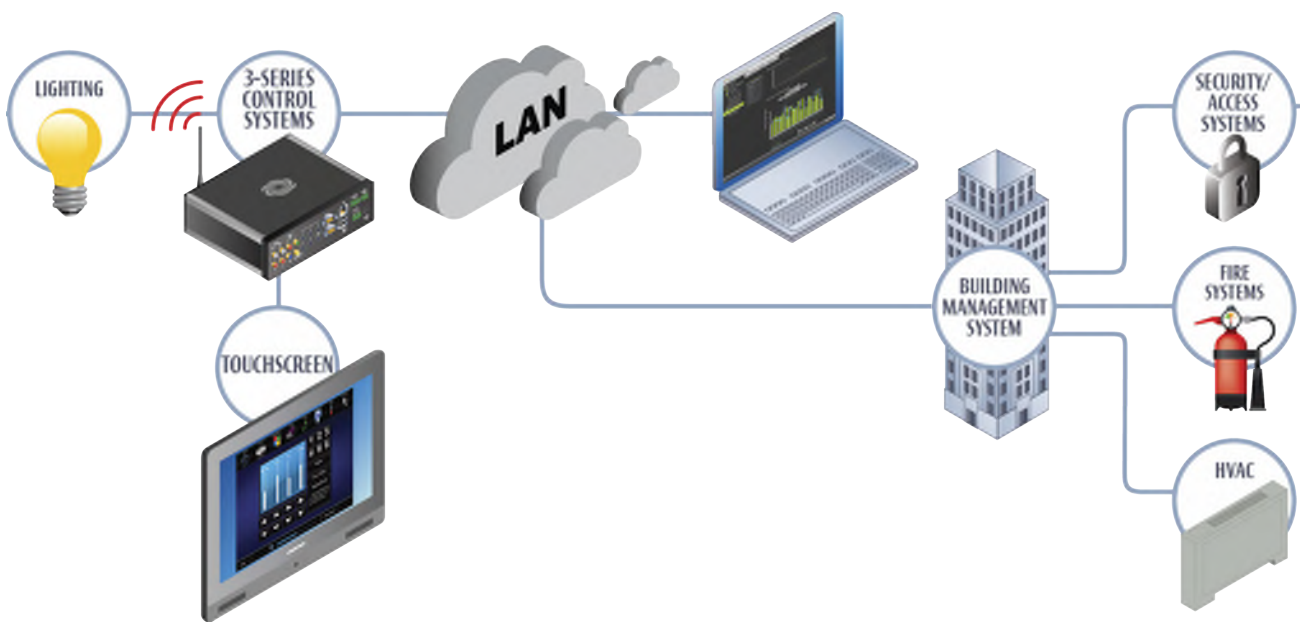
The 3-Series Control System® with native BACnet/IP support provides a scalable, IP-based platform for implementing fully integrated building management and automation. Integrated control of lighting, shades, HVAC, AV, BMS, security, voice & data, and other connected systems is now faster, simpler and more efficient than ever. Built-in BACnet/IP support enables seamless integration with existing building management systems. All systems run independently and communicate with each other on the same platform, creating a truly smart building.

Licensing

A free BACnet/IP license is available to support up to 50 objects. For systems with more than 50 objects you must purchase the full license. For details on obtaining a license and implementing BACnet/IP support, please refer to Crestron True Blue Online Help Answer ID 5283.

BACnet/IP support is NOW AVAILABLE for the following 3-Series control systems:

- AV3
- CP3
- CP3N
- DIN-AP3
- DIN-AP3MEX
- DMPS3-4K-150-C
- DMPS3-200-C
- DMPS3-300-C
- FT-TSC600
- MC3
- PRO3
- RMC3
- TPCS-4SM
- TPCS-4SMD
- TSCW-730



3-Series® Native BACnet™/IP Support

System Design & Programming Considerations

Please note the following limits when designing or programming your control system. Actual capabilities are contingent upon the overall program size and complexity. The following limits assume the control system is dedicated for BACnet use only with no other significant control system functions:

- FT-TSC600, TPCS-4SM, TPCS-4SMD, & TSCW-730: 250 objects maximum
- DIN-AP3, DIN-AP3MEX, DMPS3-4K-150-C, DMPS3-200-C, DMPS3-300-C, MC3, & RMC3: 500 objects maximum
- CP3 & CP3N: 1000 objects maximum
- AV3 & PRO3: 2000 objects maximum

MODELS

Available Models

SW-3SERIES-BACNET-50+: BACnet™/IP Support for 3-Series® - Full license for more than 50 objects

Notes:

This product may be purchased from an authorized Crestron dealer. To find a dealer, please contact the Crestron sales representative for your area. A list of sales representatives is available online at www.crestron.com/salesreps or by calling 800-237-2041.

The specific patents that cover Crestron products are listed online at: patents.crestron.com.

XPanel

Crestron Control® for Computers

- *Enables virtual Crestron® touch screen control on a computer*
- *Compatible with Windows® and Mac® platforms*
- *Runs as a desktop application or in a Web browser*
- *Supports Smart Graphics™*
- *Programmed just like a Crestron touch screen or mobile app*
- *Can be generated instantly from an existing touch screen or mobile project*
- *Communicates directly over IP with a Crestron control system*
- *No special servers or service fees required*

Transform any computer into a virtual Crestron® touch screen with XPanel.

Crestron XPanel lets you control anything in your home, office or classroom using a laptop or desktop computer running Windows® or Mac®. XPanel works on any computer platform and any screen size using a mouse, touch screen monitor, or other pointing device. It can be installed and run as a desktop application, or you can launch it like a Website using any Web browser. Use XPanel as a low-cost control solution for a small classroom AV system, to monitor your home from the office, as an interactive kiosk in a lobby or museum exhibit, or to enable centralized control of lighting and climate control in an office building or conference center. For virtually any application, XPanel can provide a robust and scalable IP based control solution.

Programming for XPanel is the same as for a Crestron touch screen, smartphone, or tablet, affording a computer-based user interface with the same look and feel as any other touch screen or mobile device in your system. XPanel supports Smart Graphics™[1], delivering the Crestron touch screen experience to your computer using buttons, sliders, gauges, dynamic text, scrolling lists, and customizable themes. A touch screen project developed using Smart Graphics can be instantly transformed into an XPanel project, dramatically reducing programming time. Touch screen projects using Smart Graphics can even be launched right on a computer by simply changing the file extension, offering a simple way for programmers to test touch screen projects without an actual touch screen present.

Every Crestron control system supports XPanel natively[1], so it's easy and affordable to add remote access to any system. Using XPanel, your computer communicates directly with your 2-Series[1] or 3-Series® control system over Ethernet or the Internet. No special servers or service fees are required. Establishing a friendly URL for a residential or small business control system is enabled using the myCrestron Dynamic DNS service.

Whether you just want to use a computer to control a single video projector, or add full remote access to a larger home automation or commercial building management system, XPanel offers an easy, cost-effective option.

Control System Compatibility

XPanel is supported on all Ethernet-enabled Crestron® control systems.

XPanel with Smart Graphics™ is supported on all 3-Series® control systems.

XPanel with Smart Graphics is supported on the following 2-Series control systems: AV2, CP2E, DMPS-100-C, DMPS-200-C, DMPS-300-C, DMPS-300-C-AEC, PAC2, PRO2, RACK2.

Please note: Smart Graphics "Applications" such as Media Player, Weather, and EnergyMonitor require a 3-Series control system.

For additional information about Smart Graphics, please refer to Crestron True Blue Online Help Answer ID 5188.

Notes:

1. Refer to the specifications for control system compatibility.

Crestron control system, programming, and other Crestron products must be purchased from an authorized Crestron dealer. To find a dealer, please contact the Crestron sales representative for your area. A list of sales representatives is available online at www.crestron.com/salesreps or by calling 800-237-2041.

The specific patents that cover Crestron products are listed online at: patents.crestron.com.

GLPP

Crestron Green Light® Power Pack

- *Lighting control for 120-277 Volt AC loads*
- *Ideal for new construction or retrofits*
- *Quick and easy commissioning via optional handheld remote (GLPPA-REMOTE-PROG)*
- *Wired or wireless link to central Crestron® system*
- *1-, 2-, and 3-channel models available*
- *Switched and 0-10V dimming models available*
- *Occupancy sensor and photosensor integration*
- *Support for up to three remote keypads*
- *Easy keypad wiring using existing switch-loop wiring*
- *Optional handheld remote for daily use (GLPPA-REMOTE-USER)*
- *Real-time energy monitoring on select models*
- *Adaptive zero-cross switching for extended life*
- *Seamless integration with Crestron AV systems*
- *CEC Title 24 2013 Compliant*

The Crestron Green Light® Power Pack (GLPP) family delivers affordable room lighting control with essential features for reducing energy usage. Available with up to three channels of switching or 0-10V dimming, each GLPP model includes inputs for a photosensor and for an occupancy sensor for intelligent lighting control based on the amount of natural light and the presence of people in a space. The GLPP Series offers a cost-effective and powerful lighting control solution for classrooms, small offices, and open-plan offices.

Ideal for new construction as well as retrofitting existing buildings, GLPPs are designed to install and commission quickly and without hassle. Additionally, the GLPP can be connected to a central control system, enabling it to become an integral part of the building energy management system. The dimming models also include built-in power monitoring to track energy usage in real time, providing accurate metrics to assess real power savings. When installed as a standalone lighting system, the GLPP can be easily commissioned via an optional, wireless IR remote (the GLPPA-REMOTE-PROG).

Easy Installation

Designed to mount directly over a pair of adjacent 4" square electrical boxes, the GLPP is easy to prepare for and install. High- and low-voltage connections are made using the labeled, color-coded flying-lead wires. Once installed, each unit is instantly operational with out-of-the-box default settings adequate for many applications.

Further commissioning tweaks to the GLPP are a snap with the optional GLPPA-REMOTE-PROG remote. For added convenience, this remote can use the IR receiver on a GLS-ODT-C-NS or GLS-OIR-C-NS occupancy sensor that is connected to the GLPP to send commissioning and setup commands. If occupancy sensors are not present, the optional the GLPPA-IRGW-F flush-mount, external IR receiver facilitates the smooth operation of a GLPP remote in any size room.

Energy Efficiency

Occupancy sensor and photosensor inputs drive the potential for significant energy savings. Lights will turn off automatically when the room is vacated, and rooms with adequate daylight will dim automatically. During the simple commissioning process, these cost-saving techniques can be made permanent to prevent users from overriding them

Built-in Power Monitoring

Power monitoring, included on all dimming models,[1] tracks the real time energy usage of each GLPP to help control energy costs. By analyzing real data, organizations can make more educated decisions regarding energy resources, which will have greater impact on the bottom line.

User Interface Options

Recall specific scenes or manually adjust lighting in a space with up to three, 4-button GLPPA-KP keypads or the optional handheld GLPPA-REMOTE-USER user remote. To help promote installation in existing spaces, these discrete keypads can be installed in place of standard toggle switches by utilizing existing switch-loop wiring.[2]

Adaptive Zero-Cross Switching

The GLPP is built to last and to extend the life of the connected ballasts and lamps. By using a proprietary, closed-loop zero-cross switching scheme, the GLPP ensures that relay contacts close under no load.

Crestron® Integrated Building Control System

As with all Crestron products, control goes beyond just a single room. While the GLPP is a great single room solution, it is designed to be part of a larger Crestron integrated building system, linked via wired or wireless communication to the central control system. With Crestron Fusion® software, building managers have total energy monitoring, management, and control capabilities over all GLPPs and other installed Crestron equipment.

GLPP Crestron Green Light® Power Pack

Cresnet® Models - Wired Communications

Robust and reliable communications between the GLPP and a control system is provided over the Cresnet bus. The versatile topology of Cresnet means that installers can home-run, daisy-chain, or mix and match as needed. Cresnet connects to the GLPP via flying leads with wire nuts, eliminating any need for crimpers or connectors and making for a more secure, trouble-free termination.

infiNET EX® Models - Wireless Communications

Ultra-reliable infiNET EX wireless technology provides steadfast 2-way RF communications throughout a residential or commercial structure without the need for physical control wiring. Employing a 2.4 GHz mesh network topology, each infiNET EX device functions as an expander, passing command signals through to every other infiNET EX device within range (approximately 150 feet or 46 meters indoors), ensuring that every command reaches its intended destination without disruption.[3]

The GLPP communicates with a Crestron control system via an infiNET EX Wireless Gateway (model CEN-GWEXER, CEN-RFGW-EX, DIN-AP3MEX, or MC3[4]). Up to 100 infiNET EX devices may coexist on a single wireless network, and every device that is added to the network effectively increases the range and stability of the entire network by providing multiple redundant signal paths.[3]

SPECIFICATIONS

Load Ratings

Number of Dimming or Switching Channels: 1, 2, or 3, depending on model
Per Unit: 16 Amps at 100-277 Volts AC, 50/60 Hz (20 Amps, de-rated to 80%)
Dim Load Types: 0-10 Volt fluorescent ballast (4-wire); 0-10 Volt LED drivers; 60 mA max current sink
Switch Load Types: Fluorescent ballast, incandescent, magnetic low-voltage, electronic low-voltage, neon/cold cathode, high-intensity discharge
Relay Lifetime: 1,000,000 cycles

Power Requirements

Power Consumption: Wired Models: 1.5 Watts at 120-277 Volts, with no sensors or keypads attached;
Wireless Models: 2 Watts at 120-277 Volts, with no sensors or keypads attached
Main Power: 100-277 Volts AC, 50/60 Hz
Available Sensor Power: 150 mA at 24 Volts DC (sufficient for powering multiple sensors)

Wired Communications — Cresnet® Models Only

Cresnet[5]

Wireless Communications — infiNET EX® Models Only

RF Transceiver: infiNET EX 2-way RF, 2.4 GHz ISM Channels 11-26 (2400 to 2483.5 MHz), default channel 15; IEEE 802.15.4 compliant
Range (Typical): 150 ft (46 m) indoor, 250 ft (76 m) outdoor, to nearest mesh network device(s); Subject to site-specific conditions and individual device capabilities[3]
Gateway: Requires an infiNET EX gateway[4]

Controls & Indicators

POWER: (1) Green LED, indicates line voltage is supplied to unit
STATUS: (1) Red LED, indicates unit is in Setup mode
STATUS: (1) Recessed push button, toggles Setup mode
IR RECEIVER: (1) IR window, for use with commissioning remote control

Connections (Class 1)

HOT: (1) 14 AWG Class 1 flying lead, black, line in (100-277 VAC)
NEUT: (1) 14 AWG Class 1 flying lead, white
SW HOT: (1, 2, or 3) 14 AWG Class 1 flying lead(s), red, switched hot labeled with channel number
GROUND: (1) 14 AWG Class 1 flying lead, green with yellow stripe

Connections (Class 1) – Dimmer Models Only

0-10V dim(+): (1, 2 or 3) 18 AWG Class 1 flying lead(s), violet, labeled with channel number
0-10V dim(-): (1) 18 AWG Class 1 flying lead, gray

Connections (Class 2)

COM: (1) 18 AWG Class 2 flying lead, black; common for sensors, IR and Cresnet
24V: (1) 18 AWG Class 2 flying lead, red, sensor power
OCC: (1) 18 AWG Class 2 flying lead, orange, signal for occupancy sensor
PHOTO: (1) 18 AWG Class 2 flying lead, yellow, signal for photo sensor
IR: (1) 18 AWG Class 2 flying lead, brown wire, connects to IR terminal of GLS-ODT-C-NS or GLS-OIR-C-NS occupancy sensor; if sensors are not present, brown wire can also connect with optional flush-mount, external IR receiver (GLPPA-IRGW-F)
KEYPAD: (2) 18 AWG Class 2 flying leads, white with black stripe, supports up to three (3) GLPPA-KP Power Pack Keypads

Connections (Class 2) – Cresnet Models Only

CNET Z: (1) 18 AWG Class 2 flying lead, blue, Cresnet Data Z
CNET Y: (1) 18 AWG Class 2 flying lead, white, Cresnet Data Y

Connections (Class 2) – infiNET EX Models Only

Antenna: (1) Connection for supplied antenna

Enclosure

20-gauge galvanized steel enclosure; designed for mounting to two (2) adjacent standard 4" square electrical junction boxes;[6] 3-channel versions require a box depth of 2.125 in (54 mm)

Environmental

Temperature: 32° to 104° F (0° to 40° C)
Humidity: 10% to 90% RH (non-condensing)

GLPP Crestron Green Light® Power Pack

Dimensions

Height: 4.25 in (108 mm)
Width: 8.63 in (219 mm); 9.88 in (251 mm) with antenna at 90° angle (wireless model only)
Depth: 2.00 in (51 mm)

Weight

2 lbs (907 g)

Standards & Certifications

UL916
FCC
Title 24
Relays listed under UL508 Section 41 (Endurance Test) and Section 61C (Electronic Ballasts)
CEC Title 24 2013 Compliant

MODELS & ACCESSORIES

Available Models

GLPP-SWCN: Crestron Green Light® Power Pack, 1-Channel Switch w/ Cresnet®
GLPP-1SW2CN: Crestron Green Light® Power Pack, 2-Channel Switch w/ Cresnet®
GLPP-1SW3CN: Crestron Green Light® Power Pack, 3-Channel Switch w/ Cresnet®
GLPP-DIMFLVCN-PM: Crestron Green Light® Power Pack, 1-Channel 0-10V Dimmer w/Cresnet® & Built-in Power Monitoring
GLPP-1DIMFLV2CN-PM: Crestron Green Light® Power Pack, 2-Channel 0-10V Dimmer w/Cresnet® & Built-in Power Monitoring
GLPP-1DIMFLV3CN-PM: Crestron Green Light® Power Pack, 3-Channel 0-10V Dimmer w/Cresnet® & Built-in Power Monitoring
GLPP-SWEX: Crestron Green Light® Power Pack, 1-Channel Switch w/ infiNET EX® Wireless
GLPP-1SW2EX: Crestron Green Light® Power Pack, 2-Channel Switch w/ infiNET EX® Wireless
GLPP-1SW3EX: Crestron Green Light® Power Pack, 3-Channel Switch w/ infiNET EX® Wireless
GLPP-DIMFLVEX-PM: Crestron Green Light® Power Pack, 1-Channel 0-10V Dimmer w/infiNET EX® Wireless & Built-in Power Monitoring
GLPP-1DIMFLV2EX-PM: Crestron Green Light® Power Pack, 2-Channel 0-10V Dimmer w/infiNET EX® Wireless & Built-in Power Monitoring
GLPP-1DIMFLV3EX-PM: Crestron Green Light® Power Pack, 3-Channel 0-10V Dimmer w/infiNET EX® Wireless & Built-in Power Monitoring

Available Accessories

GLPPA-KP-W-S: In-wall Keypad for GLPP, White Smooth
GLPPA-KP-B-S: In-wall Keypad for GLPP, Black Smooth
GLPPA-KP-A-S: In-wall Keypad for GLPP, Almond Smooth
GLPPA-REMOTE-PROG: Commissioning Remote for GLPP
GLPPA-REMOTE-USER: User Remote for GLPP
GLPPA-IRGW-F: IR Gateway for GLPP, Flush Mount
GLS-ODT-C-NS: Dual-Technology Ceiling Mount Occupancy Sensor
GLS-OIR-C-NS: Passive Infrared Ceiling Mount Occupancy Sensor
GLS-LOL: Crestron Green Light® Photocell, Open-Loop
GLS-LCL: Crestron Green Light® Photocell, Closed-Loop
GLS-LEXT: Crestron Green Light® Photocell, Outdoor
CEN-GWEXER: infiNET EX® & ER Wireless Gateway (Only for: GLPP-1DIMFLV2EX-PM, GLPP-1DIMFLV3EX-PM, GLPP-1SW2EX, GLPP-1SW3EX, GLPP-DIMFLVEX-PM, GLPP-SWEX)
CEN-RFGW-EX: infiNET EX® Wireless Gateway (Only for: GLPP-1DIMFLV2EX-PM, GLPP-1DIMFLV3EX-PM, GLPP-1SW2EX, GLPP-1SW3EX, GLPP-DIMFLVEX-PM, GLPP-SWEX)
CEN-RFGW-EX-PWE: infiNET EX® Wireless Gateway w/PoE Injector (Only for: GLPP-1DIMFLV2EX-PM, GLPP-1DIMFLV3EX-PM, GLPP-1SW2EX, GLPP-1SW3EX, GLPP-DIMFLVEX-PM, GLPP-SWEX)
MC3: 3-Series Control System® w/infiNET EX® (Only for: GLPP-1DIMFLV2EX-PM, GLPP-1DIMFLV3EX-PM, GLPP-1SW2EX, GLPP-1SW3EX, GLPP-DIMFLVEX-PM, GLPP-SWEX)
DIN-AP3MEX: DIN Rail 3-Series® Automation Processor w/infiNET EX® (Only for: GLPP-1DIMFLV2EX-PM, GLPP-1DIMFLV3EX-PM, GLPP-1SW2EX, GLPP-1SW3EX, GLPP-DIMFLVEX-PM, GLPP-SWEX)
CLW-EXPEX-GD-W-T: infiNET EX® Wireless Expander, Ground Pin Down, White Textured (Only for: GLPP-1DIMFLV2EX-PM, GLPP-1DIMFLV3EX-PM, GLPP-1SW2EX, GLPP-1SW3EX, GLPP-DIMFLVEX-PM, GLPP-SWEX)
GLA-EXPEX: Crestron Green Light® Wireless Expander for infiNET EX® Networks (Only for: GLPP-1DIMFLV2EX-PM, GLPP-1DIMFLV3EX-PM, GLPP-1SW2EX, GLPP-1SW3EX, GLPP-DIMFLVEX-PM, GLPP-SWEX)

Notes:

1. Models with suffix "-PM"
2. Two dedicated wires are required from the keypad location to the GLPP.
3. Any infiNET EX device that provides expander functionality will effectively extend the range of the wireless network beyond the initial range of the gateway. Battery-powered infiNET EX devices do not provide expander functionality. Crestron also offers dedicated infiNET EX expanders (models CLW-EXPEX or GLA-EXPEX, sold separately), which may be deployed to fill gaps in coverage and extend the wireless range of the mesh network. Up to 100 infiNET EX devices are permitted per gateway, although best practices suggest a limit of approximately 50. Additional gateways may be deployed to support more devices, with a maximum of 16 gateways permitted on a complete system (RF conditions allowing).
4. Item(s) sold separately.
5. Cresnet is for communications only, not power.
6. Some models may need a box extension to meet code requirements.

This product may be purchased from an authorized Crestron dealer. To find a dealer, please contact the Crestron sales representative for your area. A list of sales representatives is available online at www.crestron.com/salesreps or by calling 800-237-2041.

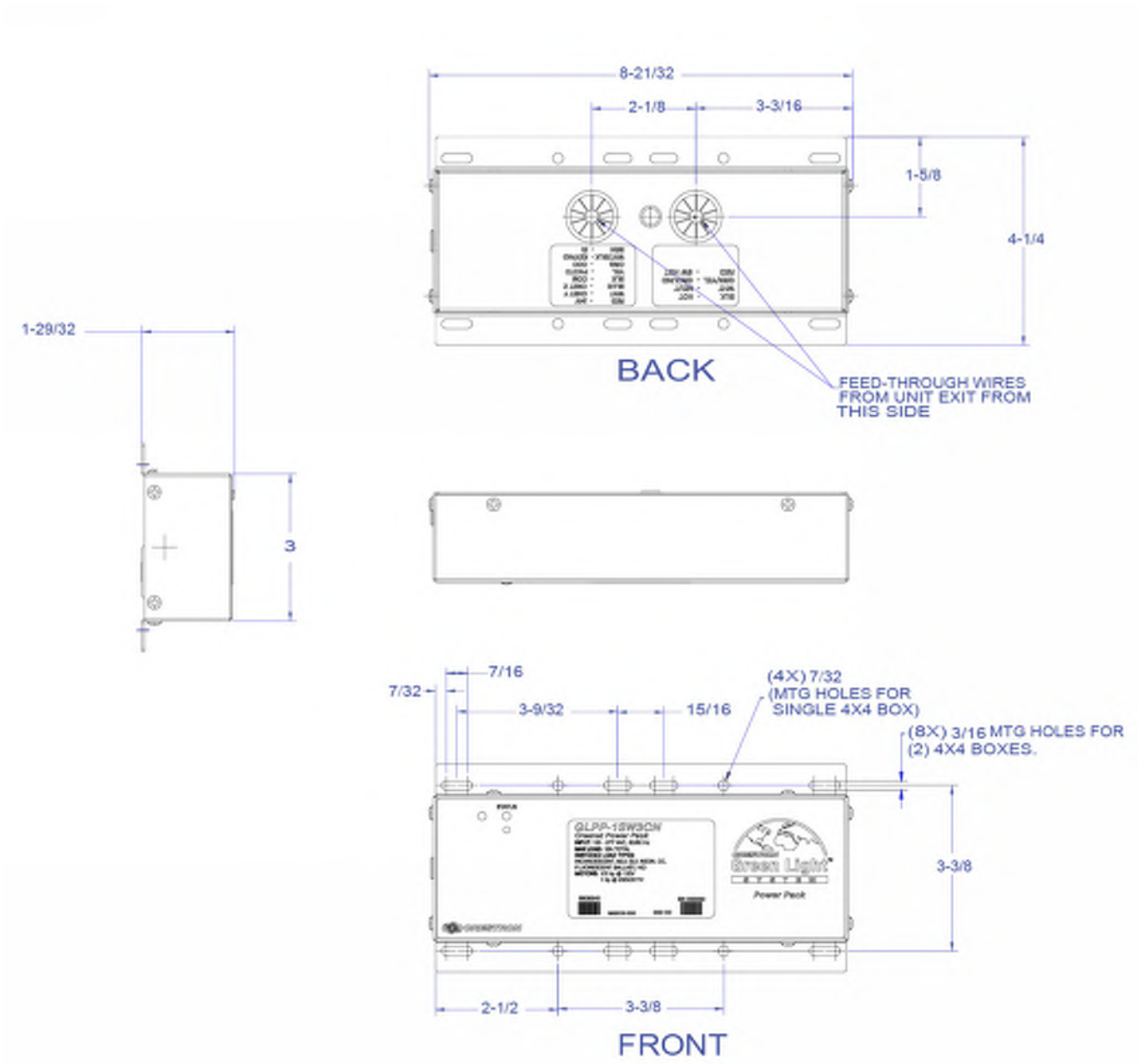
The specific patents that cover Crestron products are listed online at: patents.crestron.com.

Certain Crestron products contain open source software. For specific information, visit www.crestron.com/opensource.

GLPP Crestron Green Light® Power Pack

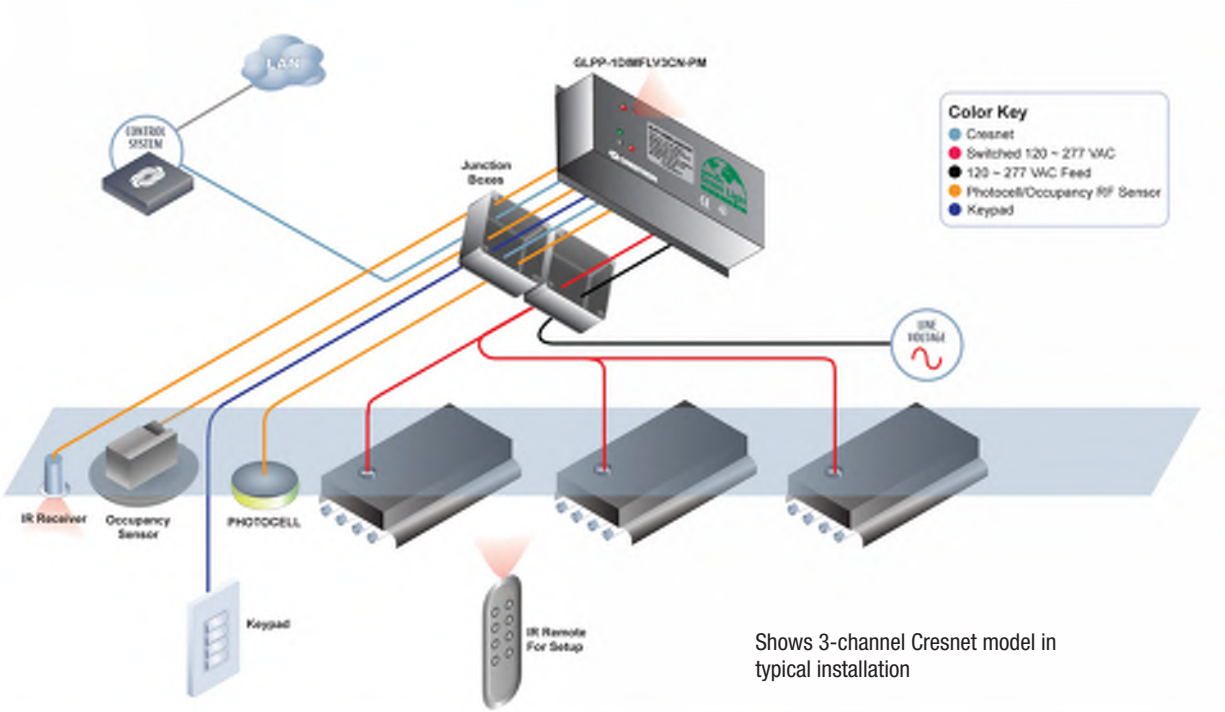
CAD DRAWINGS

GLPP-1SW3CN Shown

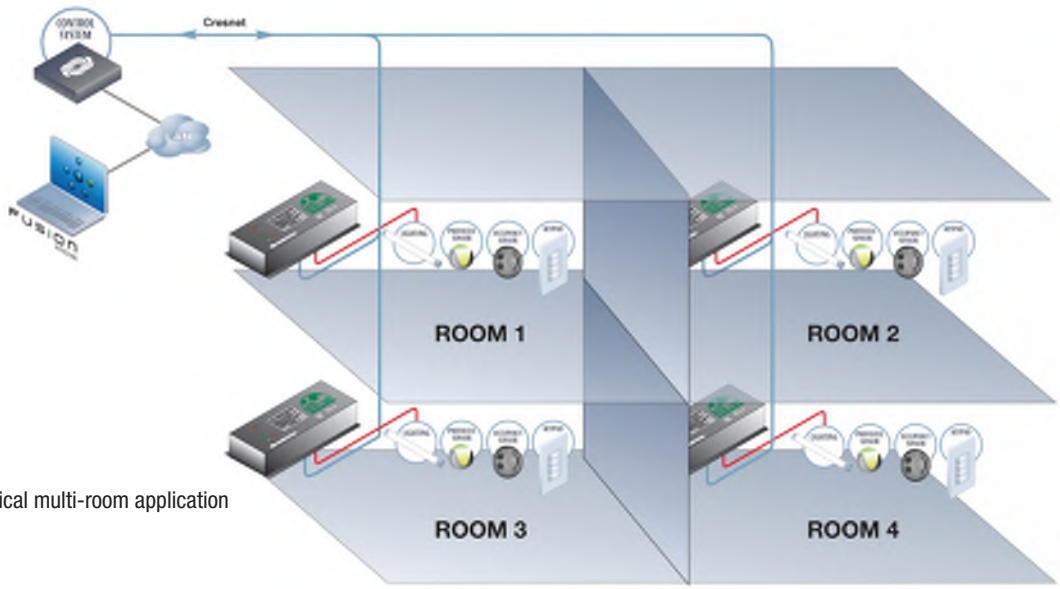


GLPP Crestron Green Light® Power Pack

APPLICATION DIAGRAMS



Shows 3-channel Cresnet model in typical installation



Shows typical multi-room application

EPC-2-D

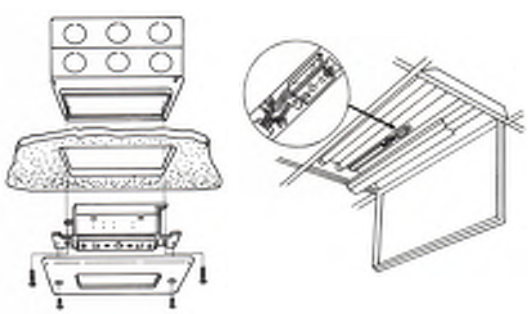
Emergency Power Control
For 0-10V & DALI Dimmable Loads

Project:

Model No.:

Comments:

MOUNTING



LED COMPATIBLE

UL924 LISTED

5 YEAR WARRANTY

0-10 V Dimmer Compatible

APPLICATION

In the past, emergency lights were kept on 24 hours a day to meet life safety codes. Now, you can use a UL 924 listed Emergency Power Control, Model EPC-2-D, to convert normal light fixtures into approved emergency lights. The EPC-2-D saves energy and money while ensuring compliance with both life safety and energy codes.

During normal operation, the same dimmer, occupancy sensor, dimming panel, or lighting control can switch and dim normal and emergency fixtures on and off simultaneously.

During a utility power interruption, the EPC-2-D automatically bypasses the normal lighting controls, turning the emergency lights ON at full brightness, regardless of dimmer position.

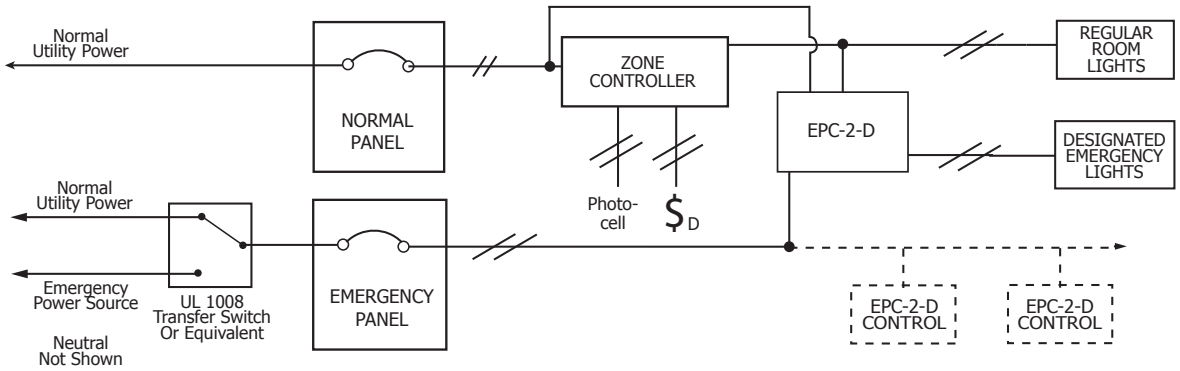
The EPC-2-D is ceiling or wall mounted in a junction box with a single gang plaster ring and is usually located in the area where the emergency fixtures are installed.

FEATURES

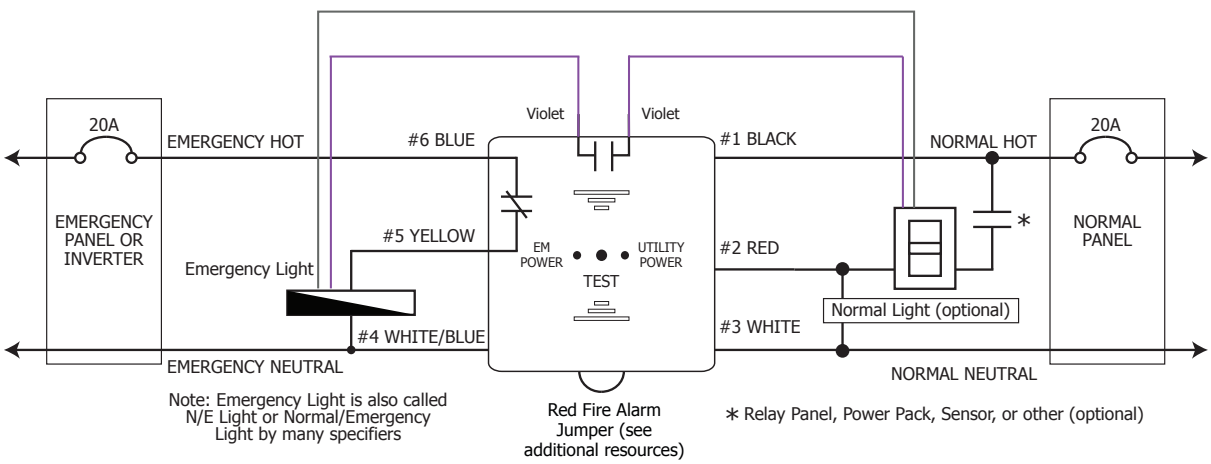
- Isolated 0-10V relay contact ensures full brightness during utility power interruption, regardless of dimmer model.
- Unique, Patented Automatic Diagnostic
  When the room switch is turned off, the EPC-2-D will run a 2.5 self-test routine, verifying that the emergency power source was available and that the EPC-2-D, ballast, and lamp(s) are all functioning correctly. This feature eliminates the need for time-consuming and costly manual monthly testing and is approved for this purpose. This also allows the unit to be installed in remote or inaccessible locations, because the unit does not rely on access to its manual test switch.
- Fire Alarm, Remote Test & 0-10V Dimming Option
- Utility & Emergency Power Indicator LED's
- Slim, attractive flush mount profile allows easy access to manual test switch and LED's.

LVS, Inc. 2555 Nicholson Street, San Leandro, CA 94577-4216
Phone: 510-352-9600 1-800-982-4587 Fax: 510-352-6707
www.lvscontrols.com

SINGLE LINE DRAWING



WIRING DIAGRAM



SPECIFICATIONS

ELECTRICAL	MODEL NO.	EPC-2-D
	SENSING INPUT	120V - 277V
	LOAD RATING	120V - 277V (20A)
	BALLAST LOAD RATING	20A (120-277V)
	INCANDESCENT LOAD	1200W (120V) / 1500W (277V)
	WARRANTY	5 Year Replacement Warranty

MECHANICAL	MOUNTING	4-11/16" Junction Box w/ single gang plaster
	RATING	UL94-5VA
	SHIPPING WEIGHT / COLOR	12 oz. / White
	TEMPERATURE	32ºF - 140ºF (0ºC - 60ºC)
	FLUSH MOUNTED SIZE	Single Gang Size
	BODY SIZE	1.7" x 3" x 1.2" (W x H x D body)

ORDERING INFORMATION

EPC-2-D

ADDITIONAL RESOURCES

- Installation Sheet
- FAQ Sheet
- Alternative Wiring Sheet
- Terms & Conditions/Warranty Information
- Fire Alarm Tie-In/Override
  www.lvscontrols.com/assets/UL924FAI.pdf

LVS, Inc. 2555 Nicholson Street, San Leandro, CA 94577-4216
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www.lvscontrols.com

C2N-CBD-P

CAMEO®

Cameo® Keypad, Standard Mount

- *Stylish and versatile wall-mount keypad*
- *Standard electrical box installation*
- *12 color-matched smooth and textured finishes*
- *Ascent® solid metal faceplates available separately[2]*
- *Versatile combinations of 2 to 8 pushbuttons*
- *Installer-configurable with choice of 4 button sizes*
- *"Split" buttons for "up/down" and "on/off" functions[3]*
- *"Button Events" enable tap, double-tap, and press and hold functionality*
- *Customizable backlit button engraving[1]*
- *White LED feedback indicators*
- *Built-in LED blinking and bar graph logic*
- *Auto-dimmable backlight and LED intensity*
- *Ambient light sensor*
- *Dual digital/analog input ports for external sensors*
- *Quick and easy installation*
- *Cresnet® wired communications*

The Cameo® Standard Mount Keypad (C2N-CBD-P) from Crestron® presents a fresh, innovative concept in keypad design, featuring a highly configurable one-gang wall mount form factor that is at once inviting to the touch and appealing to the eye. The C2N-CBD-P easily installs alongside other low-voltage in-wall devices to deliver an advanced custom keypad control solution as part of a complete Crestron control system.

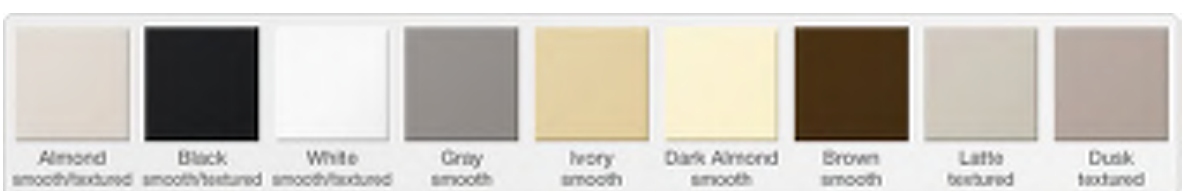
Customizable Buttons

Exquisitely simple yet highly customizable, a single Cameo Keypad can be configured easily by the installer to provide from two to eight buttons. Each keypad is actually furnished with an assortment of button caps in four different sizes to support a variety of physical layouts. Button caps may also be ordered with custom backlit laser engraving to clearly designate each button's function.[1]

Through programming, each button can be configured to use "button events," affording up to three separate functions per button by tapping, double-tapping, or pressing and holding the button. "Shift key" functionality, in which the user presses and holds one button while simultaneously tapping another, provides further customization for this versatile keypad.

Auto-dimming Backlight

High-quality backlit laser engraving[1] provides customizable button text that's easy to read under any lighting condition. A built-in light sensor controls the backlight intensity automatically to achieve crisp, legible text in both darkened and fully lit rooms.



Actual colors may vary.

C2N-CBD-P Cameo® Keypad, Standard Mount

Enhanced LED Feedback

Six pinhead-sized white LEDs afford fully customizable feedback to show the status of each button. Ten blink patterns are built in, enabling blinking LED feedback with simplified programming and reduced traffic on the Cresnet® network. Onboard bar graph logic allows the feedback LEDs to function as a 6-segment bar graph display, providing clear level indication while adjusting lighting and audio settings. Auto-dimming LED intensity ensures optimal visibility under varying lighting conditions.

Ambient Light Sensor

In addition to controlling the backlight and LED intensity, the built-in light sensor can also be utilized by the control system to support basic daylight harvesting and other programmatic functions.

Control Ports

Dual digital/analog input ports onboard the C2N-CBD-P provide a local interface for a range of devices including the Crestron GLS Series Occupancy Sensors and Photosensors or any device providing a contact closure, DC logic, or 0-10 Volts DC analog voltage. Using the control ports, it's possible to add monitoring of room occupancy, ambient light level, door closures, and other conditions without having to home run extra wiring to the central
equipment location.

Cresnet

The Cresnet bus is the communications backbone for many Crestron keypads, lighting controllers, shade motors, sensors, and other devices. Cresnet is a simple, yet flexible 4-wire network that provides bidirectional communication and 24VDC power for Cresnet devices. Cresnet supports up to 252 keypads and other devices.

Standard Wall Mount

Cameo Standard Mount Keypads are designed for installation in a standard electrical wall box, making them perfect for installation in a multi-gang box alongside other low-voltage devices. Available in a selection of 12 colors with "smooth" or "textured" finishes, Cameo Keypads match perfectly with popular off-the-shelf decorator-style faceplates.

Ascent® Metal Faceplates

For the ultimate in style and elegance, Crestron offers the Ascent collection of solid metal faceplates (CBD-FP-ASCENT[2]), providing Cameo keypads with a contemporary appearance in a range of luxurious designer finishes.

SPECIFICATIONS

Buttons

Keypad Buttons: Configurable for 2 to 8 single-action pushbuttons
Button Events: Programmable for Normal, Tap, Double-Tap, and Press and Hold
Button Caps: Includes (2) large, (3) medium, (5) small, and (2 pair) split small button caps;[3]
All button caps are blank; Custom-engraved, backlit button caps are available separately
Backlight: White LED backlight for button engraving;
Software-adjustable intensity, auto-dimmable

LED Indicators

Feedback: (6) White LEDs, one per each of 6 small button positions;
Programmable, auto-dimmable, software-adjustable intensity, 10 blinking patterns
Bar Graph: (1) 6-segment bar graph display utilizing the 6 feedback LEDs

Light Sensor

Photosensor for control of auto-dimming function;
Can be configured to report ambient light level to control system

Connectors

NET: 4-pin 3.5mm detachable terminal block;
Cresnet® slave port, connects to Cresnet control network

INPUT 1 – 2: (1) 3-pin 3.5mm detachable terminal block comprising (2) digital/analog input ports (referenced to GND);
Digital Input: Rated for 0-24 Volts DC, input impedance 200k Ohms, logic threshold 1.24 Volts DC;
Analog Input: Rated for 0-10 Volts DC, protected to 24 Volts DC maximum, input impedance 200k Ohms;
Programmable 5 Volts, 2k Ohms pull-up resistor per pin

Power Requirements

Cresnet Power Usage: 1 Watt (0.05 Amps at 24 Volts DC)

Environmental

Temperature: 32° to 113° F (0° to 45° C)
Humidity: 10% to 90% RH (non-condensing)
Heat Dissipation: 3.4 BTU/Hr

Construction

Chassis: Plastic
Mounting: Mounts in a 1-gang or larger electrical box or mud ring
Faceplates: Requires a decorator style faceplate (not included) or Crestron CBD-FP-ASCENT series faceplate[2]

C2N-CBD-P Cameo® Keypad, Standard Mount

Dimensions

Height: 4.13 in (105 mm) without faceplate
Width: 1.75 in (45 mm) without faceplate
Depth: 1.19 in (31 mm) without connector

Weight

2.3 oz (64 g)

MODELS & ACCESSORIES

Available Models

C2N-CBD-P-A-S: Cameo® Keypad, Standard Mount, Almond Smooth
C2N-CBD-P-A-T: Cameo® Keypad, Standard Mount, Almond Textured
C2N-CBD-P-B-S: Cameo® Keypad, Standard Mount, Black Smooth
C2N-CBD-P-B-T: Cameo® Keypad, Standard Mount, Black Textured
C2N-CBD-P-BRN-S: Cameo® Keypad, Standard Mount, Brown Smooth
C2N-CBD-P-DA-S: Cameo® Keypad, Standard Mount, Dark Almond Smooth
C2N-CBD-P-DSK-T: Cameo® Keypad, Standard Mount, Dusk Textured
C2N-CBD-P-GRY-S: Cameo® Keypad, Standard Mount, Gray Smooth
C2N-CBD-P-IVR-S: Cameo® Keypad, Standard Mount, Ivory Smooth
C2N-CBD-P-LAT-T: Cameo® Keypad, Standard Mount, Latte Textured
C2N-CBD-P-W-S: Cameo® Keypad, Standard Mount, White Smooth
C2N-CBD-P-W-T: Cameo® Keypad, Standard Mount, White Textured

Available Accessories

CB2-BTN: Large Backlit Engravable Button Cap for Cameo Keypads, [Specify Color]
CB3-BTN: Medium Backlit Engravable Button Cap for Cameo Keypads, [Specify Color]
CB6-BTN: Small Backlit Engravable Button Cap for Cameo Keypads, [Specify Color]
CB6S-BTN: Split Small Backlit Engravable Button Cap Pair for Cameo Keypads, [Specify Color]
CBD-FP-ASCENT: Ascent® Solid Metal Faceplate for Cameo® Keypad, Standard Mount [specify button layout and finish]
CCR-L-1: Crestron® Color Ring
CCR-FP-ASCENT-1: Ascent® Color Ring
CRESNET-HP-NP: Cresnet® "High-Power" Control Cable, non-plenum
CRESNET-NP: Cresnet® Control Cable, non-plenum
CRESNET-P: Cresnet® Control Cable, plenum

Notes:

1. Custom engraving sold separately.
2. Item(s) sold separately.
3. Split small buttons may be installed in the bottom two positions only.

This product may be purchased from an authorized Crestron dealer. To find a dealer, please contact the Crestron sales representative for your area. A list of sales representatives is available online at www.crestron.com/salesreps or by calling 800-237-2041.

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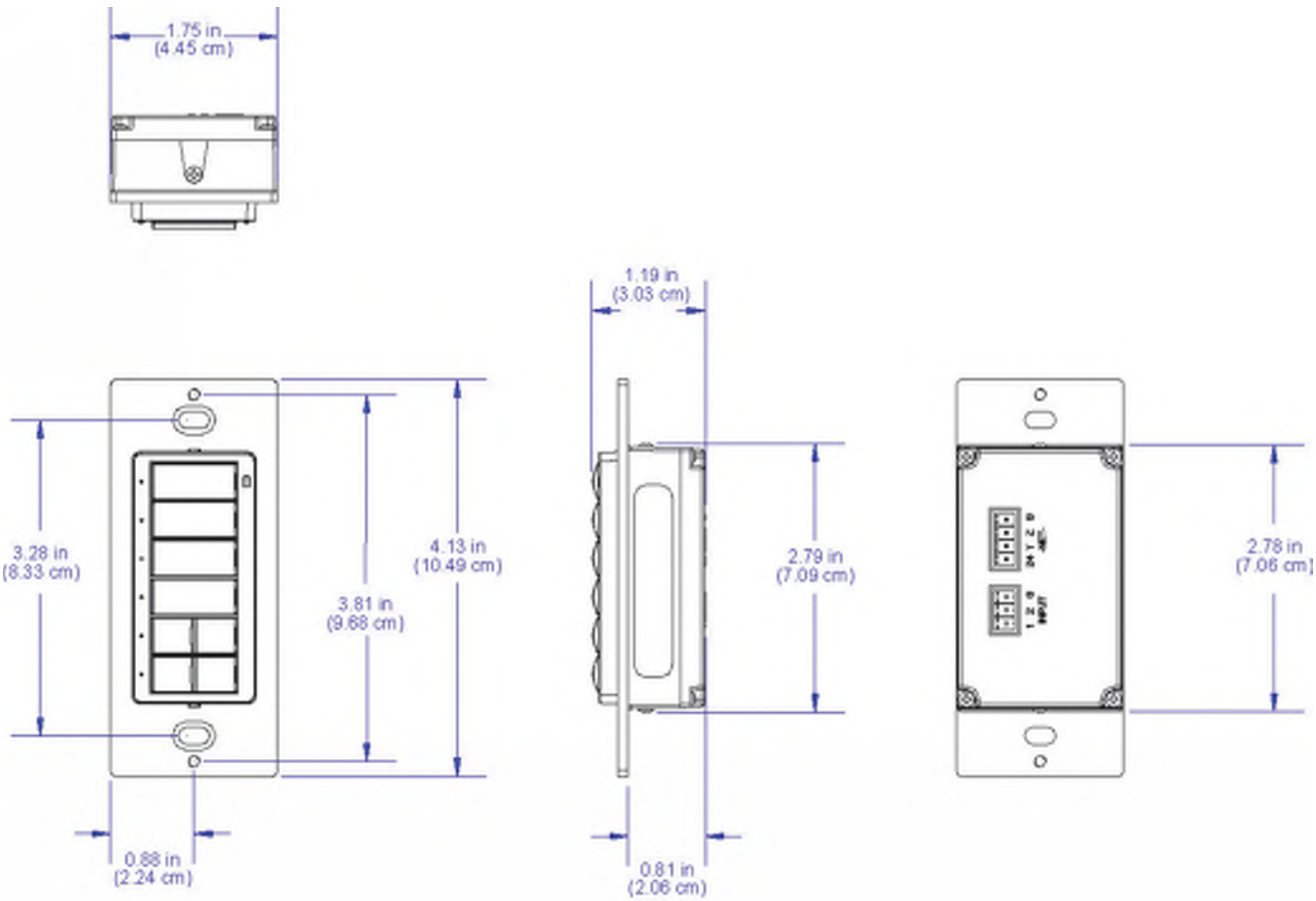
C2N-CBD-P Cameo® Keypad, Standard Mount



GLA-IR-QUATTRO-HD-COM1-24

by Steinel

Presence Detector

CRESTRON

The IR Quattro HD COM1-24 is a low voltage, high definition, passive infrared presence detector setting a new standard in lighting control with minimal movement required for human presence detection. Features four pyroelectric detectors with a high performance lens system that creates a new global standard in detection with 4,800 switching zones. Operational choices of manual on or auto on with either momentary or maintained switch options. Included light level feature provides the option to turn lights off when sufficient daylight is present for additional energy saings. The innovative mechanical reach setting enables the designer with a precise method of controlling lighting zones by means of optimizing the detection reach without compromising sensitivity providing precise presence detection in the desired detection zone. The convenient “COM-Link” feature enables multiple sensors to link together via the communication link for peer to peer grouping achieving expanded detection zones with convenient control set up functions set at only one primary sensor for the entire group. Mounting options provide for 4” Square box, 4” Octagon box, Round 3.0 Mud-Ring or directly to the ceiling with quick mount spring tabs. The available time saving wireless remote commissioning set up tool and the user / occupant wireless remote provides addition convenience.

The Control PRO group of sensors are available in multiple technologies for the control of heating, ventilation and air conditioning as well as lighting (as in the COM2-24 versions) and optional 1-10 volt dimming and daylighting options (in the DIM-24 versions).

Applications

The typical application is for offices, conference rooms, classrooms and other indoor public building spaces.

Item No.	IR Quattro HD COM1-24
Accessories	RC 3 service remote RC 4 user remote WGC wire guard cage
Voltage	18 - 24 VDC/VAC (32 mA)
Load Rating	control output - 1 A @ 30 VAC/VDC
Sensing Technology	passive infrared (PIR)
Time Delay Setting	control output 30 sec. - 30 min. pulse mode (approx. 2 sec. ‘ON’ 8 sec. ‘OFF’) IQ mode (automatic adjustment to the usage profile)
Light Level Setting	10 - 1000 lux / 1 - 100 fc
Environment	IP20 rated, 0°C to +40°C, 32°F to +104°F
Installation Height	2.5 - 10 m / 8 - 32 ft
Coverage at 9 ft	360° square mechanically scalable detection zones presence: max. 7.9 x 7.9 m (62.41 sq.m.) max. 25.5 x 25.5 ft (650.25 sq.ft.) radially: max. 7.9 x 7.9 m (62.41 sq.m.) max. 25.5 x 25.5 ft (650.25 sq.ft.) tangentially: max. 20 x 20 m (400.0 sq.m.) max. 65.5 x 65.5 ft (4,290.25 sq.ft.)
Lens Design	13 detection levels, 4800 switching zones
Dimensions	4.72 x 4.72 x 2.83 in, 120 x 120 x 72 mm (LxWxD)
Warranty	5 years
Certifications	C-UL-US Listed, RoHS compliant, UL 2043 Plenum Rated, CA Energy Code compliant

Key Features:

- Low voltage (18-24 VDC/VAC) sensor for use with a power pack or building automation system
- Extremely High Definition PIR Presence Detection
- Mechanical reach setting
- Square coverage pattern with 4800 switching zones
- Service and user wireless remotes available
- Manual ON mode (MAN) / Automatic mode (AUTO)
- Momentary / Maintained switch option
- ‘ON’ only / ‘ON’ & ‘OFF’ manual switching
- Light level feature turns lights off when sufficient daylight is present
- Mounts to a 4” Square box, 4” Octagon box, Round 3.0 Mud-Ring or directly to the ceiling with quick mount spring tabs
- “COM-Link” communication allows for up to 10 sensors to be grouped together
- IQ Mode dynamically adjusts the ‘ON’ time delay by learning individual room occupancy

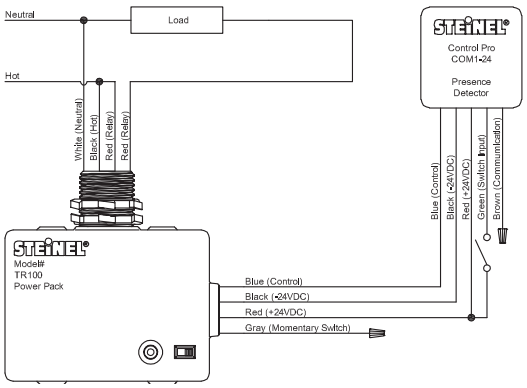
GLA-IR-QUATTRO-HD-COM1-24

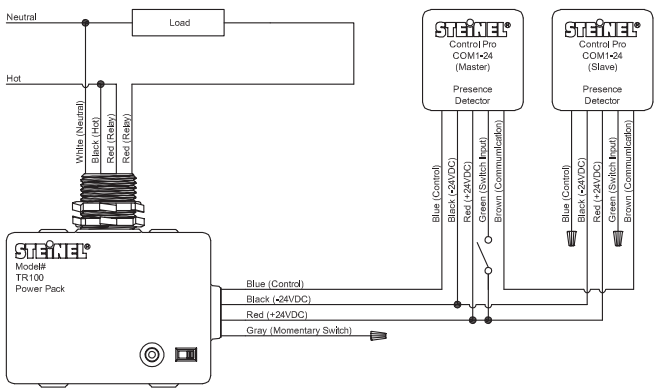
by Steinel

Presence Detector

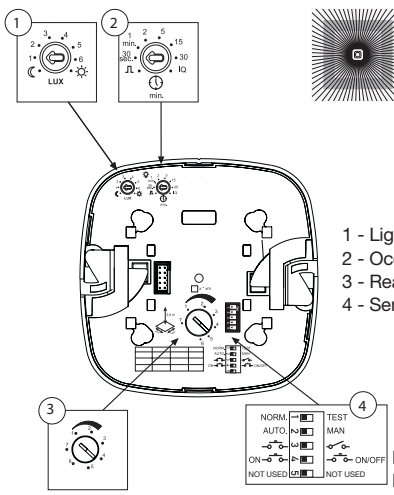
CRESTRON

Wiring





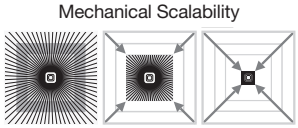
Settings



1 - Light level setting
2 - Occupancy time delay setting
3 - Reach setting
4 - Sensor DIP switch settings

DIP 1 - Normal mode / Test mode (NORM / TEST)
DIP 2 - Manual ON mode (MAN) / Automatic mode (AUTO)
DIP 3 - Momentary / Maintained switch option
DIP 4 - 'ON' only / 'ON' & 'OFF' manual switching
DIP 5 - Not Used

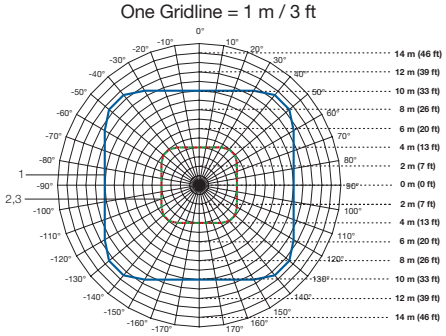
Mechanical Scalability



Coverage

Shown at 9 ft mounting height. Coverage will vary depending on mounting height. See pages 4 & 5 of the instruction manual for coverage at heights from 8 to 26 ft. Maximum mounting height up to 32 ft.

One Gridline = 1 m / 3 ft

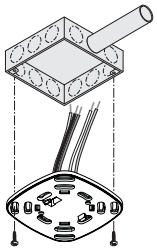


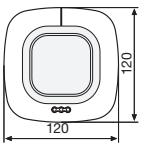
1 - Tangential - motion perpendicular to the sensor
20 x 20 m (65.6 x 65.6 ft)

2 - Radial - motion either directly toward or away from the sensor
8 x 8 m (26.25 x 26.25 ft)

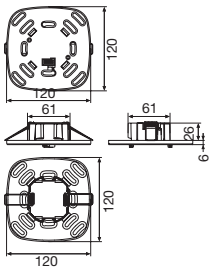
3 - Presence - minor motion as described by NEMA WD7 with the additional requirement of both radial and tangential detection
8 x 8 m (26.25 x 26.25 ft)

Mounting

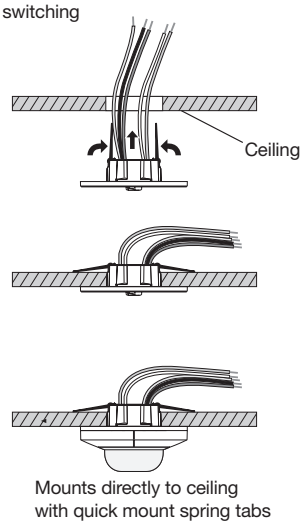




IR Quattro HD

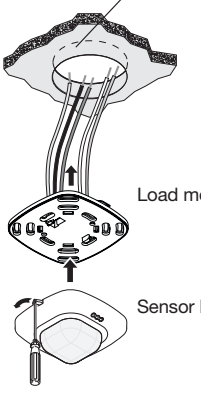


Mounts to a 4" Square box, 4" Octagon box or Round 3.0 Mud-Ring



Mounts directly to ceiling with quick mount spring tabs

ø Min. 68 mm (2 11/16 in)
Max. 76 mm (3 in)



GLS-ODT-C-NS

Dual-Technology Ceiling Mount Occupancy Sensor

- *Ceiling-mount occupancy sensor for use with standalone lighting systems*
- *Dual-technology motion detection*
- *360 degree coverage pattern*
- *2,000 sq ft coverage area*
- *Versiport or digital input port connection*
- *Discreet, low-profile appearance*
- *Extremely accurate and reliable sensing*
- *Fully digital circuitry for low cost and high reliability*
- *Crestron® control system interface via GLS-SIM (sold separately)*

The Crestron® GLS-ODT-C-NS sensor features accurate, dual-technology occupancy detection in a large room or space and delivers a powerful and cost-effective solution for reducing energy consumption and enhancing the functionality of standalone lighting systems. The GLS-ODT-C-NS is a low-profile, ceiling-mounted occupancy sensor designed for areas up to 2,000 square feet, making it great for use in large spaces such as auditoriums, warehouses, and building lobbies. The sensor can connect directly to and be controlled by standalone lighting systems such as the GLPP, GLPAC, or GL-IPAC-SW8. The GLS-SIM Sensor Integration Module provides an interface with a Crestron control system via Cresnet®.

Dual-Technology Occupancy Sensing

Achieving consistent and dependable occupancy sensing is accomplished using a combination of ultrasonic and passive infrared (PIR) sensing technologies. Ultrasonic motion detection is highly sensitive to small movements over a large area, while passive infrared sensing ensures superior immunity to false triggers from vibrations, inanimate objects, or movement in an adjacent corridor. Ultrasonic motion detection can be turned on for Side A, Side B, or both sides of the occupancy sensor to avoid false occupancy readings when the sensor is facing a hallway or doorway. The GLS-ODT-C-NS provides independent sensitivity adjustment for each sensor type for optimum performance in any space.

Walk-Through Mode

This sensor detects momentary occupancy and automatically turns the lights off after 90 seconds with the built-in Walk-Through feature, reducing unnecessary energy consumption.

Versatile Installation

The GLS-ODT-C-NS achieves a discreet, nearly hidden appearance when installed on a typical drywall or droptile ceiling. Hardware is included for fast and simple mounting in a standard 4-inch octagon box or in a hole created with the help of the provided cutout template.

Cresnet Option[1]

Cresnet provides a simple solution for configuring and wiring keypads and sensors as part of any complete Crestron system. Cresnet is the communications backbone for Crestron lighting dimmers, keypads, shades, thermostats, and many other devices. This flexible 4-wire bus provides data communications and 24 Volts DC power for all of the devices on the Cresnet network. Using the optional GLS-SIM Sensor Integration Module, the GLS-ODT-C-NS becomes a full-featured Cresnet device.

IR Remote

A variety of parameters can be set for the GLS-ODT-C-NS by using the GLS-REMOTE-ODT/OIR remote (sold separately). This IR remote eliminates the need for a ladder when commissioning or setting up any system. The installer can simply stand underneath the sensor and use the remote to complete setup functions and fine-tune the sensor's settings after installation.

SPECIFICATIONS

Sensing

Sensor Technology: Passive infrared and ultrasonic (40 kHz)
Coverage Area: 2,000 sq ft
Coverage Pattern: 360 degrees

LED Indicators

IR: (1) Red LED, indicates PIR detection
Ultrasonic: (1) Green LED, indicates ultrasonic detection

GLS-ODT-C-NS Dual-Technology Ceiling Mount Occupancy Sensor

IR Remote (Sold Separately)

Parameters and Settings Available Via IR Remote:

- Separate occupancy and vacancy sensitivity settings
- Timeout (30s, 2m, 5m, 10m, 15m, 30m)
- Walk-Through mode “Short Timeout” (Enable/Disable)
- LEDs (Enable/Disable)
- PIR sensitivity (High, Med, Low, OFF), with the option to set separate occupancy and vacancy settings
- US sensitivity (High, Med, Low, OFF), with the option to set separate occupancy and vacancy settings
- US detection (Side A only, Side B only, Both)
- ID of sensor
- Factory Reset
- Force Vacancy
- (4) Custom buttons for future additional features

Connections

(1) 5-pin 3.5 mm detachable terminal block; 16 AWG maximum wire width supported, includes the following terminals:
+24V: DC power input
OCC: Occupancy sensor control signal output;
Provides 24 Volts DC high logic signal when occupancy is detected (both PIR and US must sense occupancy to provide 24 Volt signal, if room is transitioning from a vacant to occupied state; After initial occupancy is detected, either PIR or US detection will trigger the 24 Volt signal to maintain the occupied state);
Short circuit protected;
Connects to a GLS-SIM Integration Module (sold separately) on any Crestron® control system
NC: Unused
G: Ground
IR: IR single direction, transmits information read from remote by IR receiver on sensor

Environmental

Temperature: 32° to 104° F (0° to 40° C)
Humidity: 10% to 90% RH (non-condensing)

Power Requirements

Current Consumption: 45 mA at 24 Volts DC
Cresnet® Power Usage: 1 Watt

Enclosure

Housing: Plastic, white
Mounting: Mounts to a 4” (102 mm) octagon box or ~3-1/2” (88 mm) diameter hole created by provided cutout template;
Includes mounting screws and integral toggle clamps;
A 1-1/2” (38 mm) minimum mounting depth is recommended

Dimensions

Diameter: 4.80 in (122 mm)
Depth: 2.30 in (59 mm) overall, 0.97 in (25 mm) exposed

Weight

5.1 oz (144 g)

Standards & Certifications

UL60730-1, FCC, CE, C-Tick, IC, Plenum Rated, California Title 24 Code

MODELS & ACCESSORIES

Available Models

GLS-ODT-C-NS: Dual-Technology Ceiling Mount Occupancy Sensor

Available Accessories

GLS-REMOTE-ODT/OIR: IR Remote for GLS Occupancy Sensors
GLSA-ODT/OIR-FP-500: Occupancy Sensor Lens, 500 sq ft
GLS-SIM: Sensor Integration Module

Notes:

1. The GLS-ODT-C-NS requires a GLS-SIM for Cresnet communications.

This product may be purchased from an authorized Crestron dealer. To find a dealer, please contact the Crestron sales representative for your area. A list of sales representatives is available online at www.crestron.com/salesreps or by calling 800-237-2041.

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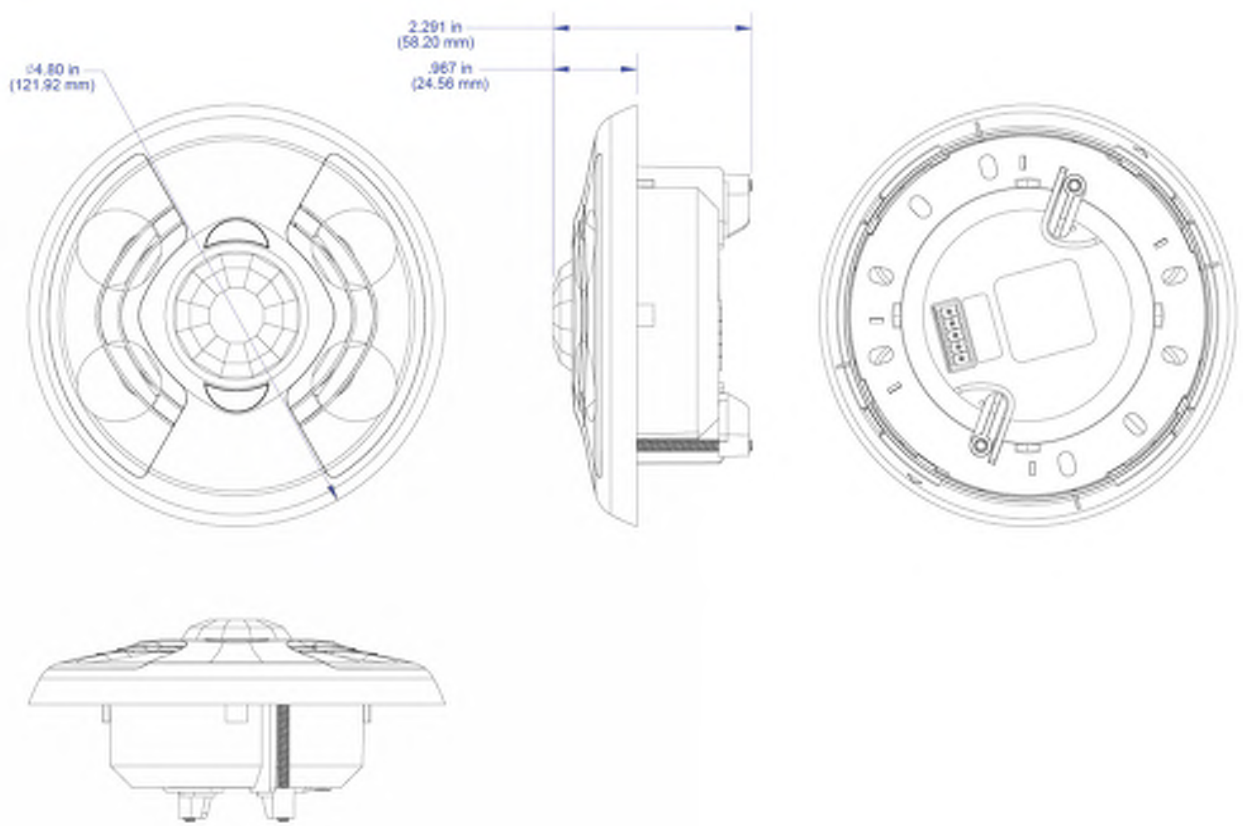
GLS-ODT-C-NS Dual-Technology Ceiling Mount Occupancy Sensor

CAD DRAWING



TR 100
Power Pack

STEINEL PROFESSIONAL

Project Name:
Location:

TR 100 Specifications

Item No.	63101
Voltage	120/230/277 VAC, 50/60 Hz
Output	24 VDC +/- 5% 250 mA (class 2)
Load	20 A @ 120/230/277 VAC 50/60 Hz 1 hp @ 120-240 VAC, 50/60 Hz
Environment	IP20 rated, -4°F to +130°F, -20°C to +55°C
Dimensions (LxWxD)	2.4 x 3.2 x 1.5 in 60 x 81 x 39 mm
Threaded Nipple Dimensions	.83 x .83 in 21 x 21 mm
Warranty	5 years
Certifications	C-UL-US Listed, RoHS Compliant, UL 2043 Plenum Rated

The TR 100 is a full featured power pack that provides power to STEINEL low voltage occupancy sensors and other control devides. They are Class 2 output power supplies, suitable for parallel interconnection.

The power packs switch the load(s) ON and OFF in response to signals from the control devices. Each power pack contains a Mode Switch to select either manual ON or automatic ON operation. In manual ON mode, occupants operate a low voltage momentary switch to turn lights ON.

All wires have UL Style 1659, 250°C, 600V insulation:
- 18 AWG: Black for Line and White for Neutral
- 12 AWG: two Red wires for normally open dry contact from the 20A relay
- 22 AWG: 4 low voltage conductors: Red (+24VDC), Black (-24VDC), Blue (Control Input), Gray (Momentary Switch Input)

Key Features:

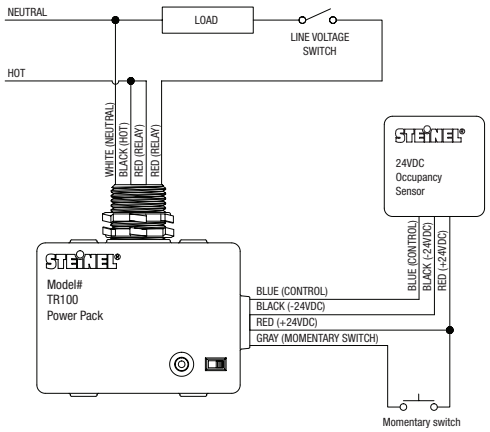
- Convenient mode switch selects either manual ON or automatic ON operation
- LED status indicator
- Switching is performed at, or close to, the zero-cross of the AC waveform in order to improve relay performance
- 1/2 inch threaded nipple and two lock nuts are used to secure to a standard 1/2” knockout
- Low voltage momentary switch input allows for manual control in automatic or manual mode
- Switching Power Supply provides up to 250mA of 24VDC to low voltage controls

120/230/277V — Voltage
UL 2043 — UL 2043 Plenum Rated
IP20 — IP 20 Rated
20 Amp 1 Hp — Load
Manual Auto/On — Operating Modes
www.steinel.net

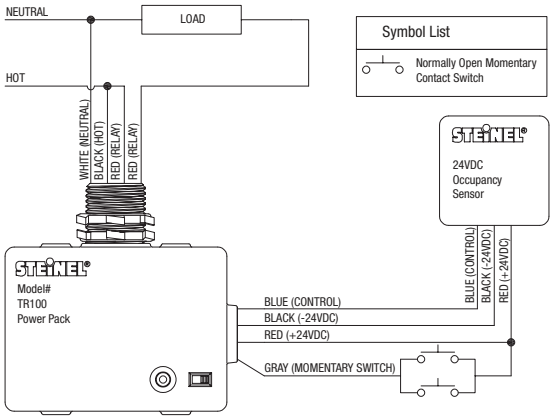
TR 100
Power Pack

STEINEL® PROFESSIONAL

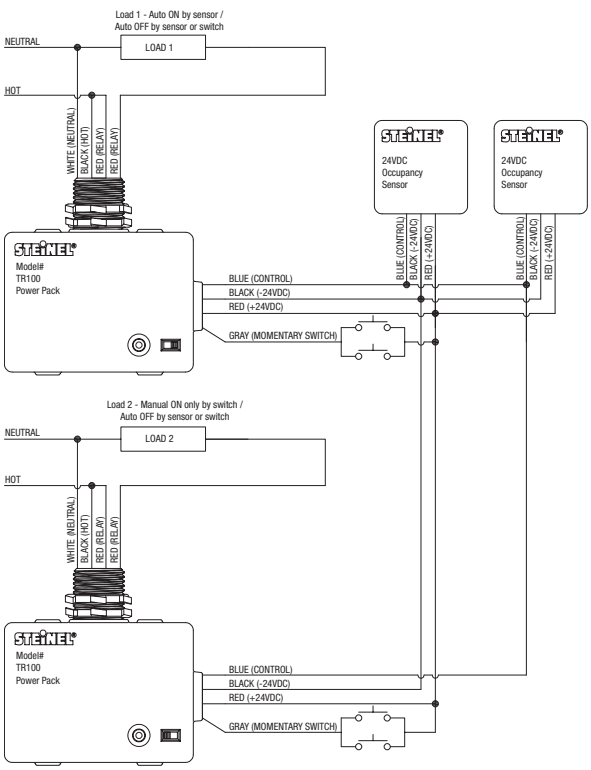
Wiring



Low Voltage 3-Way Wiring

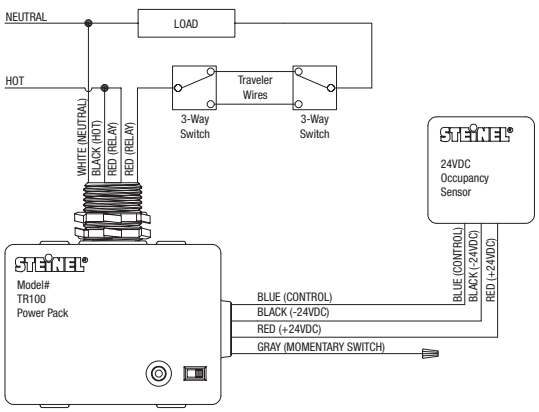


Two Stage Multi Level 3-Way Switching

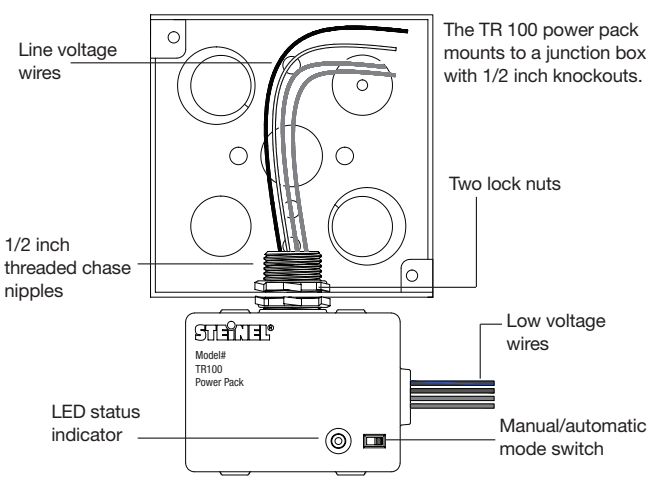


Upon occupancy, lights (Load 1) attached to Power Pack (set to Auto ON) will illuminate automatically while lights (Load 2) attached to Power Pack (set to Manual ON) require the occupant to turn the lights on manually by means of a low voltage switch. All lights can be turned off manually by a low voltage switch or automatically by an occupancy sensor(s).

Line Voltage 3-Way Wiring



Product Overview & Mounting



GLS-LOL

Crestron Green Light® Photosensor, Open-Loop

- *Ceiling- or wall-mount photosensor*
- *Measures the light level from a natural daylight source*
- *Vertical or horizontal surface mounting*
- *60 degree field of view*
- *0 to 10 Volts DC analog control output*
- *Control system interface via Cresnet®[1] or analog input*

The GLS-LOL is a photosensor that measures light in order to achieve the optimal balance of natural and artificial lighting in an indoor space in daylight harvesting applications. Intended for use with an open-loop type system, the GLS-LOL continually monitors the amount of daylight coming through a window or skylight, enabling the control system to dim or switch off room lighting when there is sufficient daylight available to light the space.

Open-loop photosensors provide a cost-effective solution for daylight harvesting, allowing multiple lighting zones to be controlled by a single sensor. In a typical office, classroom, or similar space, the GLS-LOL is installed on the ceiling near a window or in the light well of a skylight, directed toward the incoming daylight and away from any electrical lighting fixtures. The system estimates the total amount of ambient lighting in the room according to the light level measured by the photocell.

The GLS-LOL can be mounted to drywall or to a drop-tile surface. Its simple 3-wire interface allows for direct connection to a Crestron® control system via a single Versiport I/O or analog input port, with 24 Volt power taken from the Cresnet® control bus.[1] Using the optional GLS-SIM Sensor Integration Module, the GLS-LOL becomes a full-featured Cresnet device, streamlining the total lighting system.

Cresnet provides a simpler solution for configuring and wiring sensors as part of any complete Crestron system. The Cresnet bus is the communications backbone for many Crestron keypads, lighting controllers, shade motors, sensors, and other devices. Cresnet is a simple, yet flexible 4-wire network that provides bidirectional communication and 24VDC power for Cresnet devices.

SPECIFICATIONS

Sensing

Field of View: 60 degree cone
Center Axis: 45 degrees from mounting surface
Light Sensitivity: 3 to 6000 foot-candles

Connections[2,3]

Plus: (1) Captive screw terminal, +24 Volt DC power input
Minus: (1) Captive screw terminal, power and control signal common
Arrow: (1) Captive screw terminal, light level control signal output, 0-10 Volts DC

Controls (Behind Cover)

Light Level Range: Jumper-selectable 3-300, 30-3000, or 60-6000 fc

Power Requirements

Current Consumption: 4 mA at 24 Volts DC
Cresnet Power Usage: 1 Watt[4]

Housing

Construction: Plastic, white
Mounting: Surface mounts directly to drywall or drop-tile

Dimensions

Height: 1.20 in (31 mm)
Diameter: 2.00 in (51 mm)

MODELS & ACCESSORIES

Available Models

GLS-LOL: Crestron Green Light® Photosensor, Open-Loop

Available Accessories

GLS-SIM: Crestron Green Light® Sensor Integration Module

GLS-LOL Crestron Green Light® Photosensor, Open-Loop

Notes:

1. Cresnet communications requires GLS-SIM Sensor Integration Module (sold separately).
2. Recommended Wire Size: 22 AWG.
3. Connects to a GLS-SIM Integration Module or to a Versiport I/O or Analog Input control port on any Crestron control system.
4. Power may be taken from Cresnet bus regardless of interface method.

This product may be purchased from an authorized Crestron dealer. To find a dealer, please contact the Crestron sales representative for your area. A list of sales representatives is available online at www.crestron.com/salesreps or by calling 800-237-2041.

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Some Crestron products contain open source software. For specific information, visit www.crestron.com/opensource.

GLS-LEXT

Crestron Green Light® Photosensor, Outdoor

- *Wall-mount photosensor*
- *Measures the outdoor light levels*
- *Weatherproof with visor for protecting the lens*
- *0 to 10 Volts DC analog control output*
- *Control system interface via Cresnet® [1] or analog input*
- *CEC Title 24 2013 Compliant*

The GLS-LEXT is a photosensor for use in outdoor spaces such as in parking lots, playgrounds, and storage areas. The sensor measures daylight and signals the control system to turn on the exterior lights when the light level falls below a certain threshold. Unlike with a timer, a sensor can account for daytime storms and doesn't need to be programmed for sunset and sunrise.

The GLS-LEXT continually monitors the total ambient light level and can adjust the lighting as necessary to reach the desired light level. The sensor's sensitivity is adjustable so that a 10 Volt signal matches full daylight and a 0 Volt signal matches total darkness. A built-in visor provides more consistent readings by blocking direct sunlight and also protects the lens from the elements.

The GLS-LEXT has a simple three-wire interface that allows for direct connection to a Crestron® control system via a single Versiport I/O or analog input port. The sensor can use 24 Volts of power straight from the Cresnet® control bus.[1]

Using the optional GLS-SIM Sensor Integration Module, the GLS-LEXT becomes a full-featured Cresnet device, streamlining the total lighting system. Cresnet provides a simple solution for configuring and wiring sensors as part of any complete Crestron system. The Cresnet bus is the communications backbone for many Crestron keypads, lighting controllers, shade motors, sensors, and other devices. Cresnet is a simple, yet flexible 4-wire network that provides bidirectional communication and 24VDC power for Cresnet devices.

SPECIFICATIONS

Sensing

Light Sensitivity: 5 to 750 foot-candles
Accuracy: ±1% at 70° F (21° C), ±5% at 0° to 120° F (-18° to 49° C)

Connections

Power: +24 Volts DC input, 18 AWG conductor
Common: DC common, 18 AWG conductor
Sensor: 0-10 Volts DC output, 18 AWG conductor

Power Requirements

Current Consumption: 4 mA at 24 Volts DC
Cresnet® Power Usage: <1 Watt[2]

Housing

Construction: Plastic, white
Mounting: Surface mount

Standards & Certifications

CEC Title 24 2013 Compliant

MODELS & ACCESSORIES

Available Models

GLS-LEXT: Crestron Green Light® Photosensor, Outdoor

Available Accessories

GLS-SIM: Crestron Green Light® Sensor Integration Module

Notes:

1. Cresnet communications requires GLS-SIM Sensor Integration Module (sold separately).
2. Power may be taken from Cresnet bus regardless of interface method.

This product may be purchased from an authorized Crestron dealer. To find a dealer, please contact the Crestron sales representative for your area. A list of sales representatives is available online at www.crestron.com/salesreps or by calling 800-237-2041.

The specific patents that cover Crestron products are listed online at: patents.crestron.com.

Certain Crestron products contain open source software. For specific information, visit www.crestron.com/opensource.

GLS-SIM

Sensor Integration Module

The GLS-SIM is a compact interface device designed to allow Crestron Green Light® sensors to be connected directly to a Cresnet control network. Cresnet® is the communications backbone for Crestron sensors, dimmers, keypads, touchpanels, shade controllers, thermostats, and many other devices. This flexible 4-wire bus provides data communications and 24 Volts DC power for all of the devices on the Cresnet network. The GLS-SIM installs easily at the sensor location, mounting conveniently inside the electrical box or exposed above the ceiling. Wiring connections to the network and sensor are facilitated using miniature screw terminals.

The GLS-SIM is compatible with Crestron GLS-series sensors, as well as with most 24 Volt-powered sensors from any manufacturer. Up to 1A @ 24VDC power is available[1] to support multiple sensors in parallel. The GLS-SIM actually includes two sensing inputs, each capable of sensing a contact closure, logic level, or 0-10V analog signal. When used with a Crestron IPAC or iLux® system, setup is simplified using onboard DIP switches to select the sensor type (i.e. occupancy, photocell, partition, etc.) and operating mode (i.e. normally-open or normally-closed).

> Provides Cresnet® connectivity for Crestron GLS-series and third-party sensors

> Works with occupancy sensors, photocells, partition sensors, and more

> Provides 24 Volts DC to power one or more sensors
> Includes 2 independent sensing inputs
> Supports contact-closure, DC logic, and 0-10V analog signals

> Onboard DIP switches simplify setup for use with IPAC and iLux® systems

> Allows fully-programmable operation as part of any Crestron system

> Compact module fits in an electrical box behind the sensor
> Miniature screw terminals facilitate reliable wiring connections

SPECIFICATIONS

Connectors

NET: (1) 4-pin 5mm detachable terminal block;
Cresnet slave port, connects to Cresnet control network
SENSOR: (1) 4-pin 3.5mm detachable terminal block;
Sensor input comprised of 24VDC power output and (2) digital or analog input ports (referenced to GND);
Digital Input: Rated for 0-24 Volts DC, input impedance 20k ohms, logic threshold 1.25 Volts DC;
Analog Input: Rated for 0-10 Volts DC, protected to 24 Volts DC maximum, input impedance 20k ohms;
Programmable 5 Volts, 2k ohms pull-up resistor per pin;
Maximum Power Load: 1 Amp @ 24 Volts DC[1]

Controls

LED Indicators

PWR: (1) green LED, indicates 24 Volts DC power supplied from Cresnet control network
NET: (1) yellow LED, indicates communication with Cresnet system

SETUP: (1) red LED, used for touch-settable ID (TSID)

Environmental

Temperature : 32° to 104°F (0° to 40°C)
Humidity : 0% to 95% RH (non-condensing)

Power Requirements

Cresnet Power Usage: 1 Watt (0.04 Amps @ 24 VDC) (Does not include power draw of attached devices.)

Dimensions

Height: 2.00 in (51 mm)
Width: 2.00 in (51 mm)
Depth: 0.86 in (22 mm)

Weight

2 oz (46 g)

Available Models

GLS-SIM [6502480]: Crestron Green Light® Sensor Integration Module

Available Accessories

GLS-LCL [6502415]: Crestron Green Light® Photosensor, Closed-Loop
GLS-LOL [6502416]: Crestron Green Light® Photosensor, Open-Loop
GLS-ODT-C-500: Crestron Green Light® Dual-Technology Ceiling Mount Occupancy Sensor, 500 Sq. Ft [Discontinued]
GLS-ODT-C-1000: Crestron Green Light® Dual-Technology Ceiling Mount Occupancy Sensor, 1000 Sq. Ft. [Discontinued]

GLS-SIMSensor Integration Module

GLS-ODT-C-2000: Crestron Green Light® Dual-Technology Ceiling Mount Occupancy Sensor, 2000 Sq. Ft. [Discontinued]
GLS-ODT-W-1200 [6502420]: Crestron Green Light® Dual-Technology Wall Mount Occupancy Sensor, 1200 Sq. Ft.
GLS-OIR-C-450: Crestron Green Light® Passive Infrared Ceiling Mount Occupancy Sensor, 450 Sq. Ft. [Discontinued]
GLS-OIR-C-1500: Crestron Green Light® Passive Infrared Ceiling Mount Occupancy Sensor, 1500 Sq. Ft. [Discontinued]
GLS-OIR-W-2500 [6502423]: Crestron Green Light® Passive Infrared Wall Mount Occupancy Sensor, 2500 Sq. Ft.
CRESNET-HP-NP-TL-SP1000 [6500492]: Cresnet® "High-Power" Control Cable, non-plenum, teal, 1000 ft spool
CRESNET-HP-NP-TL-SP500 [6500489]: Cresnet® "High-Power" Control Cable, non-plenum, teal, 500 ft spool
CRESNET-NP-BK-B500 [6500494]: Cresnet® Control Cable, Non-Plenum, Black, 500 ft (152 m) box
CRESNET-NP-OR-B500 [6500495]: Cresnet® Control Cable, Non-Plenum, Orange, 500 ft (152 m) box
CRESNET-NP-TL-B250 [6500410]: Cresnet® Control Cable, Non-Plenum, Teal, 250 ft (76 m) box
CRESNET-NP-TL-B500 [6500719]: Cresnet® Control Cable, Non-Plenum, Teal, 500 ft (152 m) box
CRESNET-NP-TL-SP1000 [6500794]: Cresnet® Control Cable, Non-Plenum, Teal, 1000 ft (304 m) spool
CRESNET-NP-TL-SP500 [6500183]: Cresnet® Control Cable, Non-Plenum, Teal, 500 ft (152 m) spool
CRESNET-NP-YL-B500: Cresnet® Control Cable, non-plenum, yellow, 500 ft box [Discontinued]
CRESNET-P-BK-SP500 [6500184]: Cresnet® Control Cable, Plenum-Rated, Black, 500 ft (152 m) spool
CRESNET-P-OR-SP500 [6500185]: Cresnet® Control Cable, Plenum-Rated, Orange, 500 ft (152 m) spool
CRESNET-P-TL-SP1000 [6500941]: Cresnet® Control Cable, Plenum-Rated, Teal, 1000 ft (304 m) spool
CRESNET-P-TL-SP500 [6500098]: Cresnet® Control Cable, Plenum-Rated, Teal, 500 ft (152 m) spool
CRESNET-P-YL-SP500: Cresnet® Control Cable, plenum, yellow, 500 ft spool [Discontinued]

Notes:
1.
Actual load capability dependent upon the amount of available Cresnet power in the system.
This product may be purchased from an authorized Crestron dealer. To find a dealer, please contact the Crestron sales representative for your area. A list of sales representatives is available online at **www.crestron.com/salesreps** or by calling 800-237-2041.
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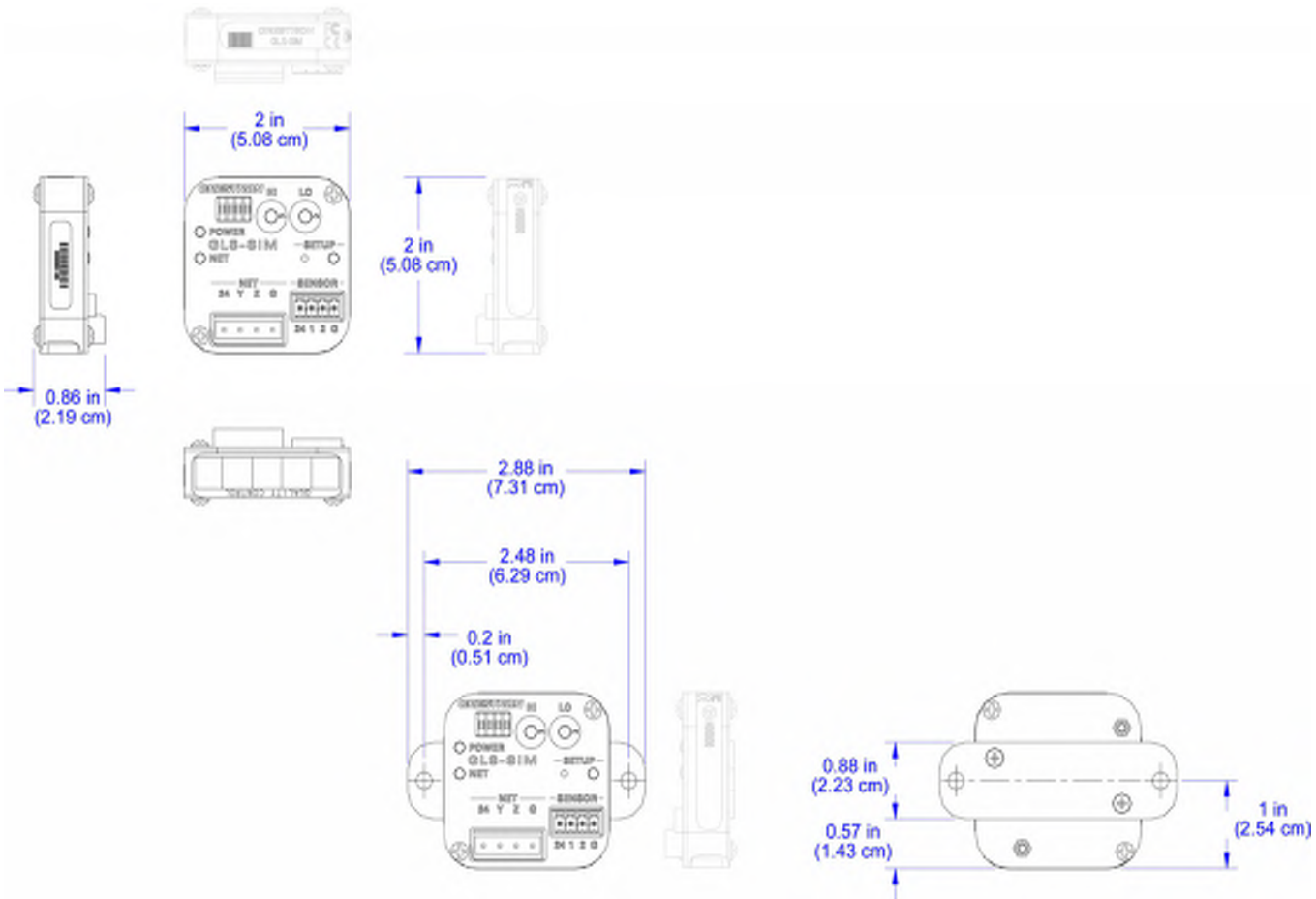
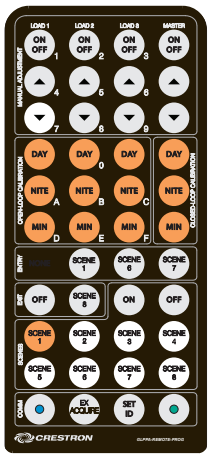
GLS-SIMSensor Integration Module



Commissioning Remote for GLPP Systems

The GLPPA-REMOTE-PROG is a wireless IR remote used to commission a Crestron Green Light® Power Pack (GLPP) system when installed as a standalone lighting system. Included on the GLPPA-REMOTE-PROG is an array of discrete functions designed to make commissioning quick and easy.



SPECIFICATIONS

IR Transmitter

Frequency: 38 kHz
Format: RC5
Range: 60 feet

Buttons

Please refer to image.

Power Requirements

3 Volts DC via (2) AAA batteries (not included)

Environmental

Temperature: 41° to 104°F (5° to 40°C)
Humidity: 10% to 90% RH (non-condensing)

Enclosure

Injection-molded plastic

Dimensions

Height: 4.6 in (116 mm)
Width: 2.1 in (54 mm)
Depth: 0.5 in (13 mm)

Weight

TBD

MODELS & ACCESSORIES

Available Models

GLPPA-REMOTE-PROG: Commissioning remote for GLPP systems

Available Accessories

GLPP: Crestron Green Light® Power Pack

Notes:

This product may be purchased from an authorized Crestron dealer. To find a dealer, please contact the Crestron sales representative for your area. A list of sales representatives is available online at www.crestron.com/salesreps or by calling 800-237-2041.

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GLS-REMOTE-ODT/OIR

IR Remote for GLS Occupancy Sensors

The GLS-REMOTE-ODT/OIR can set a variety of parameters for the GLS-ODT-C-CN, GLS-OIR-C-CN, GLS-ODT-C-NS, and GLS-OIR-C-NS occupancy sensors. This IR wireless eliminates the need for a ladder to commission or set up any system. The installer can simply stand underneath the sensor and use the remote to complete setup functions and fine tune sensor settings after installation:

- Adjust the sensitivity for vacancy and occupancy states separately
- Enable or disable Walk-Through mode
- Change settings for Timeout feature
- Turn LEDs ON/OFF during normal operation
- Set or change the Cresnet ID[1]
- Use force vacancy or factory reset

The GLS-REMOTE-ODT/OIR runs on 2 AAA batteries (included).

SPECIFICATIONS

Buttons

OCC Setup: (1) button, hold for 3 seconds to enter OCC Setup mode to configure action of sensor in an occupied state
VAC Setup: (1) button, hold for 3 seconds to enter VAC Setup mode to configure action of sensor in a vacant state
Exit Setup: (1) button, press to exit either setup mode and return sensor to normal operation
Timeout: (6) buttons, sets time the sensor must not see any motion before going to the vacant state (30s, 2m, 5m, 10m, 15m, 30m)
Short Timeout: (2) buttons, enables or disables Short Timeout (Walk-Through) mode
US (A+B/ A ONLY / B ONLY): (3) buttons, enables or disables some or all of the ultrasonic sensors (applies to GLS-ODT-C-CN and GLS-ODT-C-NS sensors only)
LED: (2) buttons, enable or disable the LEDs during normal operation
Sensitivity: (4) PIR buttons, adjust sensitivity of PIR sensors for when room is occupied or vacant; LOW, MED, HIGH, and OFF settings; (4) US buttons, adjust sensitivity of US sensors for when room is occupied or vacant; LOW, MED, HIGH, and OFF settings
Set ID: (1) button, allows the setting or changing the NET ID of the sensor[1]
Force Vac: (1) button, hold for 3 seconds to force sensor to enter the vacant state
Reset: (1) button, hold for 3 seconds to reset sensor back to factory default settings (Timeout, 5 minutes; Short Timeout, Disabled; US, A+B enabled; LED, Enabled; Sensitivity, PIR and US – Medium)
Custom 1-4: (4) buttons for future use

Power Requirements

(2) AAA batteries (included)

MODELS & ACCESSORIES

Available Models

GLS-REMOTE-ODT/OIR: IR Remote for GLS Occupancy Sensors

Available Accessories

GLS-ODT-C-CN: Dual-Technology Occupancy Sensor with Cresnet®, 2000 Sq. Ft.
GLS-OIR-C-CN: Passive Infrared Occupancy Sensor with Cresnet®
GLS-ODT-C-NS: Dual-Technology Ceiling Mount Occupancy Sensor
GLS-OIR-C-NS: Passive Infrared Ceiling Mount Occupancy Sensor

Notes:

1. "Set ID" function on remote does not apply to GLS-ODT-C-NS and GLS-OIR-C-NS sensors.

This product may be purchased from an authorized Crestron dealer. To find a dealer, please contact the Crestron sales representative for your area. A list of sales representatives is available online at www.crestron.com/salesreps or by calling 800-237-2041.

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Submitted by Visual Interest, Inc.			
VISUAL INTEREST	**Job Name:** CMC SPRING VALLEY - STUDENT COMMONS - Controls Engineer: Cator Ruma & Associates (Lakewood) Contractor: EC Electric (Grand Junction)	**Catalog Number:** IR QUATTRO COM1-WR Notes:	**Type:** **O-P1 / V-P1** VILTG19-78871

IR Quattro COM1-WR

Presence Detector

STEINEL PROFESSIONAL

Project Name:
Location:

IR Quattro COM1-WR	
Item No.	64440 IR Quattro COM1-WR
Accessories	65300 RC 3 service remote 65320 RC 4 user remote 65330 WGC wire guard cage
Voltage	120/230/277 VAC, 50/60 Hz
Load Rating	120 VAC: 0-800 watt electronic ballast, tungsten, 1/4 hp 230/277 VAC: 0-1200 watt electronic ballast, 1/4hp
Sensing Technology	passive infrared (PIR)
Time Delay Setting	30 sec. – 30 min., pulse mode (approx. 2 sec.) IQ mode (automatic adjustment to the usage profile)
Light Level Setting	10 – 1000 lux / 1 – 100 fc
Environment	IP20 rated, 0° C to +40° C / 32° F to 104° F
Installation Height	2.5 - 8 m / 8 - 26 ft
Coverage at 9 ft	360° square mechanically scalable detection zones presence: max. 4.7 x 4.7 m (22.09 sq.m.) max. 15 x 15 ft (225 sq.ft.) radially: max. 4.7 x 4.7 m (22.09 sq.m.) max. 15 x 15 ft (225 sq.ft.) tangentially: max. 7.1 x 7.1 m (50.41 sq.m.) max. 23 x 23 ft (529.00 sq.ft.)
Sensors	single infrared pyroelectric detector
Lens Design	13 detection levels, 1760 switching zones
Dimensions	4.72 x 4.72 x 3.03 in, 120 x 120 x 77 mm (LxWxD)
Warranty	5 years

The IR Quattro COM1-WR is a line voltage passive infrared presence detector setting a new standard in lighting control with minimal movement required for human presence detection. Features a single pyroelectric detector with a high performance lens system creating 1,760 switching zones. Operational choices of manual on or auto on with either momentary or maintained switch options. Included light level feature provides the option to turn lights off when sufficient daylight is present for additional energy savings. The innovative mechanical reach setting enables the designer with a precise method of controlling lighting zones by means of optimizing the sensors detection reach without compromising sensitivity providing true precise presence detection in the desired detection zone. The convenient “COM-Link” feature enables multiple sensors to link together via the communication link for pier to pier grouping achieving expanded detection zones with convenient control set up functions set at only one primary sensor for the entire group. Mounting options provide for 4” Square box, 4” Octagon box or Round 3.0 Mud-Ring. The available time saving wireless remote commissioning set up tool and the user /occupant wireless remote provides addition convenience.

The Control PRO group of sensors are available in multiple technologies for the control of heating, ventilation and air conditioning as well as lighting (as in the COM2-24 versions) and optional 1-10 volt dimming and daylighting options (in the DIM-24 versions).

Applications

The typical application is for offices, schools and other indoor public building spaces.

Key Features:

- Line voltage lighting control (120/230/277 VAC, 50/60 Hz)
- PIR Presence Detection
- 1760 switching zones
- Mechanical reach setting
- Square coverage pattern
- Service and user wireless remotes available
- Manual ON mode (MAN) / Automatic mode (AUTO)
- Momentary / Maintained switch option
- ‘ON’ only / ‘ON’ & ‘OFF’ manual switching
- Light level feature turns lights off when sufficiant daylight is present
- Mounts to a 4” Square box, 4” Octagon box or Round 3.0 Mud-Ring
- “COM-Link” communication allows for up to 10 sensors to be grouped together
- IQ Mode dynamically adjusts the ‘ON’ time delay by learning individual room occupancy habits

IR Quattro COM1-WR

Presence Detector

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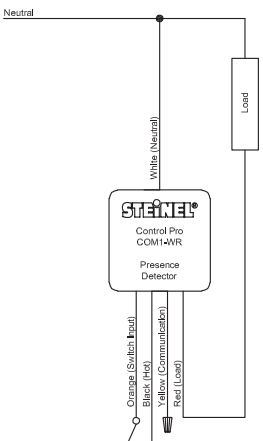
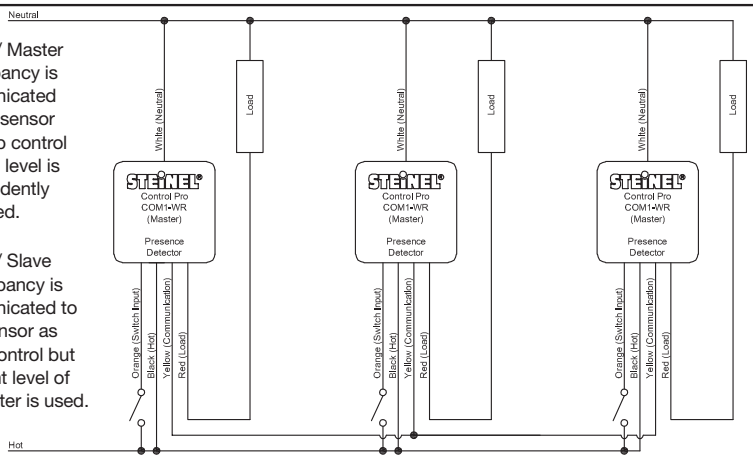
Wiring

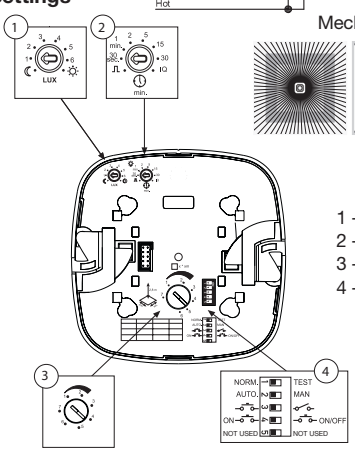


Master / Master
- Occupancy is communicated to each sensor as group control but light level is independently controlled.

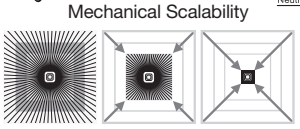
Master / Slave
- Occupancy is communicated to each sensor as group control but only light level of the master is used.



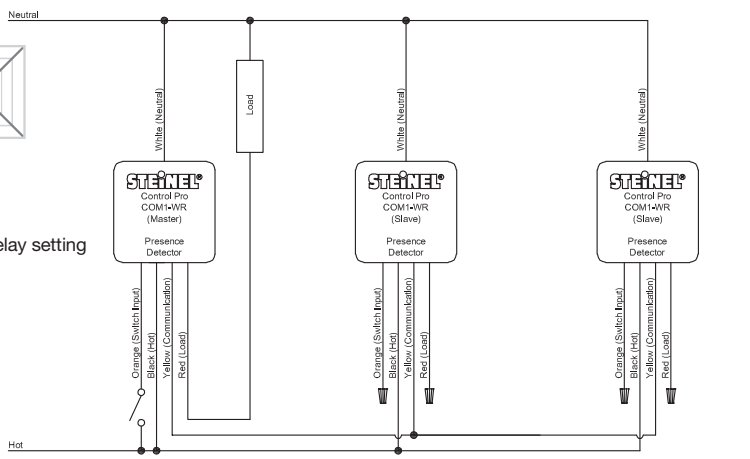
Settings



Mechanical Scalability

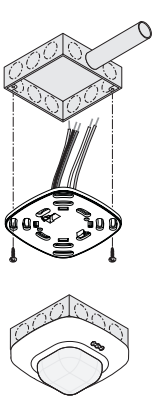


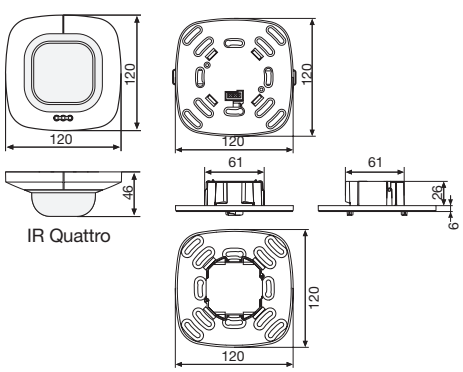
1 - Light level setting
2 - Occupancy time delay setting
3 - Reach setting
4 - Dip switch settings



DIP 1 - Normal mode / Test mode (NORM / TEST)
DIP 2 - Manual ON mode (MAN) / Automatic mode (AUTO)
DIP 3 - Momentary / Maintained switch option
DIP 4 - 'ON' only / 'ON' & 'OFF' manual switching
DIP 5 - Not used

Mounting



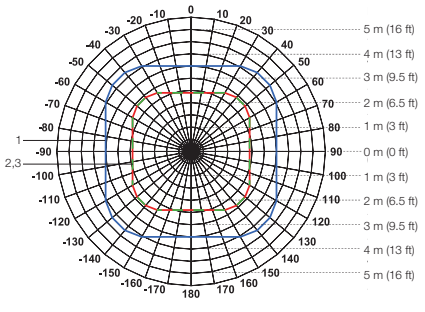


Mounts to a 4" Square box, 4" Octagon box or Round 3.0 Mud-Ring

Coverage

Shown at 9 ft mounting height. Coverage will vary depending on mounting height. See pages 4 & 5 of the instruction manual for coverage at heights from 8 to 13 ft. Maximum mounting height up to 26 ft.

One Gridline = 0.5 m / 1.5 ft



1 - Tangential - motion perpendicular to the sensor
7.1 x 7.1 m (23 x 23 ft)

2 - Radial - motion either directly toward or away from the sensor
4.7 x 4.7 m (15 x 15 ft)

3 - Presence - minor motion as described by NEMA WD7 with the additional requirement of both radial and tangential detection
4.7 x 4.7 m (15 x 15 ft)

MCS

Industrial and Commercial Grade Low-Voltage AC/DC Switches

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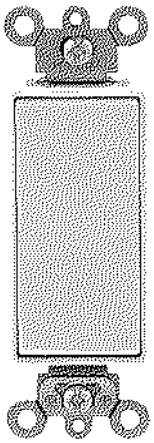
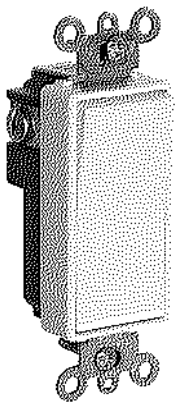


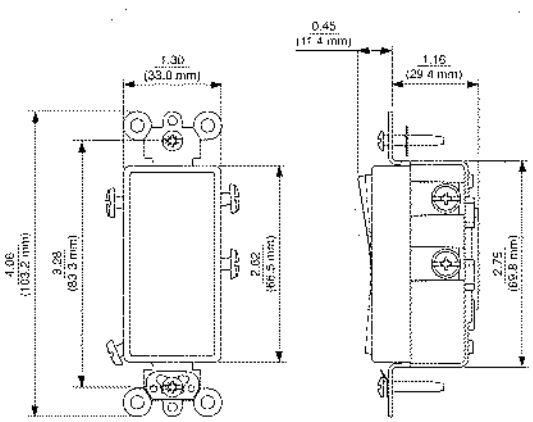


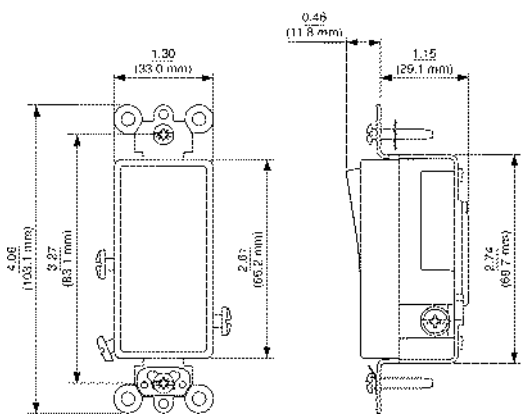
The Steinel offering of commercial and industrial grade low voltage (24V AC/DC) switches are perfect for use in locations where it is important to maintain the look and feel of conventional AC switches.

	Project Name: Location:
	MCS Specifications
Item No.	65963 MCS-W (White) 65964 MCS-LA (Light Almond) 65965 MCS-IV (Ivory) 65966 MCS-BK (Black)
Voltage	24V AC or DC
Mounting	Single-gang NEMA-style switch box (standard switch box & decorator-style wall plate by others
Load Rating	3 Amp, 24 Volt AC/DC
Environment	-40°C to +65°C, -40°F to +149°F
Base Material	Polyester
Contacts	Silver-Alloy
Terminal Screws	Brass
Frame Material	Polycarbonate
Rocker	Polycarbonate
Dimensions	103.1 x 33 x 29.1 mm, 4.06 x1.3 x 1.15 in, (LxWxD)
Warranty	5 years

Key Features:

- Momentary Contact SPST
- Standard Decora
- 5-year limited warranty
- Available in popular commercial colors (Ivory, White, Light Almond & Black)
- Triple-drive combination mounting screws (straight slot, Phillips and Robertson head)
- One-piece wrap-around heavy gauge steel strap incorporates locking tabs for extra strength
- Back and side wiring terminals accept both stranded and solid conductors



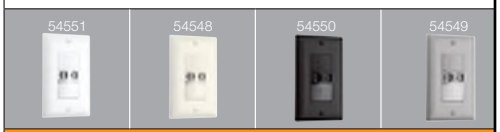


DT WLS DIM

0-10 V Dimming Dual Technology Wall Switch Occupancy Sensor

STEINEL® PROFESSIONAL

Project Name:
Location:



DT WLS DIM Specifications	
Item No.	54551 DT WLS DIM-W (white) 54548 DT WLS 1-LA (light almond) 54550 DT WLS DIM-BK (black) 54549 DT WLS DIM-GY (gray)
Voltage	120/230/277 VAC, 50/60 Hz
Mounting	single-gang NEMA-style switch box (standard switch box) & decorator-style wall plate by others
Load Rating	0-800 watts @ 120/230/277 VAC, 50/60 Hz tungsten, magnetic or electronic ballast • 1/6 hp 0-600 watts @ 120/230/277 VAC, 50/60 Hz CFL or LED electronic ballasts C ≤ 132 µF max.
Sensing Technology	40 kHz ultrasonic & passive infrared
Dimming Output	1-10 volt (purple & gray) 50mA, max 25 (1-10 electronic dimming ballasts/drivers)
Time Setting	IQ/Test, 5, 15, 30 minutes
Light Level Setting	80 - 2000 lux / 8 - 200 fc
Environment	IP20 rated, 0°C to +40°C, 32°F to +104°F
Ultrasonic Coverage at 1.2 m / 4 ft Mounting Height	minor motion: max. 8 x 8 m (64 sq.m.) max. 18 x 12 ft (216 sq.ft.) radial: max. 7 m (77 sq.m.) 24 ft (904 sq.ft.) tangential: max. 7 m (77 sq.m.) 24 ft (904 sq.ft.)
PIR Coverage at 1.2 m / 4 ft Mounting Height	minor motion: max. 6.5 x 5.5 m (36 sq.m.) max. 21 x 18 ft (378 sq.ft.) radial: max. 7 m (77 sq.m.) 24 ft (904 sq.ft.) tangential: max. 20 m (628 sq.m.) 54 ft (4,500 sq.ft.)
Dimensions	105 x 44.1 x 46.5 mm, 4.13 x 1.74 x 1.83 in, (LxWxD)
Warranty	5 years
Certifications	C-UL-US Listed, RoHS compliant, California Compliant

The DT WLS DIM is a line voltage, Passive Infrared (PIR) and 40 kHz Ultrasonic wall switch occupancy sensor with 0-10 volt dimming capability intended to control lighting in commercial spaces. The combination of both technologies enhances occupancy detection in difficult applications. DIP switch adjustable technology options to initiate the load ON and maintain the load ON with either or both technologies. Control options via smart remote include photocell force OFF or hold OFF and partial ON or partial OFF capabilities. The convenient “Switch Link” feature enables up to four sensors to link together for peer to peer grouping achieving expanded detection zones and multi-way switching.

Applications

The typical application is for small offices, conference rooms and break rooms. For best performance use this sensor in enclosed spaces no larger than 20’ x 16’.

Key Features:

- 0-10 volt dimming PIR & 40 kHz ultrasonic wall switch occupancy sensor
- Trigger mode settings enable what sensing technologies are used to initially turn the load ON and what technologies are used to keep the load ON
- Adjustable ultrasonic reach setting from 25% to 100%
- Line voltage lighting control (120/230/277 VAC, 50/60 Hz)
- 180° coverage pattern
- Manual ON or Automatic ON option
- Partial ON can be adjusted from 10-70% (Factory Setting 50%)
- Partial OFF can be adjusted from 10-50%
- Hold OFF or Force OFF light level feature
- Mounts to a single-gang NEMA-style, standard switch box & decorator-style wall plate by others
- “Switch Link” communication allows for up to 4 sensors to be grouped together
- IQ Mode dynamically adjusts the ‘ON’ time delay by learning individual room occupancy
- Walk through mode option will switch the load OFF in 3 minutes if no additional detection occurs after the first 30 seconds
- Visible alert feature provides a momentary OFF/ON blink, warning that the load will shut OFF in 10 seconds unless additional motion is detected
- Service mode option deactivates the automated functions of the sensor and the load is only manually controlled using the ON/OFF button
- Optional voltage barrier included to provide separation from class 1 and class 2 circuits

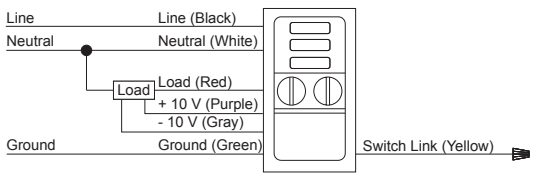
DT WLS DIM

0-10 V Dimming Dual Technology Wall Switch Occupancy Sensor

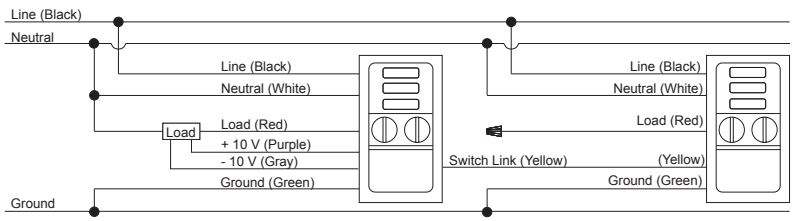
STEINEL PROFESSIONAL

Wiring

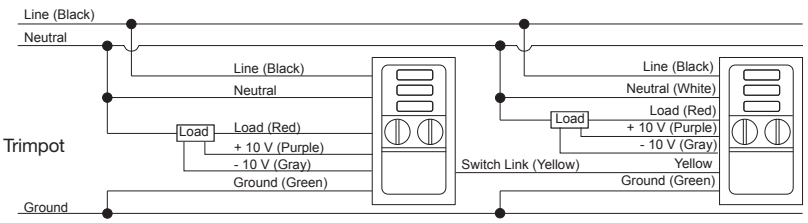
Basic Wiring



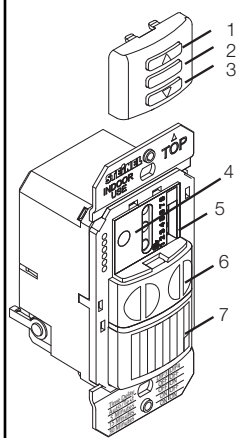
(Master / Auxilary) Three-way Wiring - up to maximum 4 sensors can be grouped via Switch Link



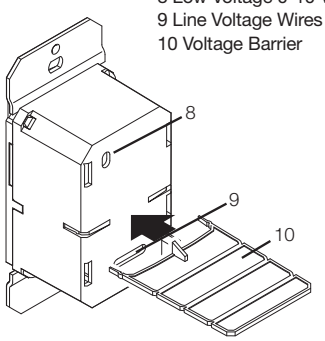
(Master / Master) Three-way Wiring - up to maximum 4 sensors can be grouped via Switch Link



Components



1 DIM Up
2 ON/OFF Button
3 DIM Down
4 Ultrasonic Sensitivity Adjustment Trimpot
5 DIP switches
(1-2) Trigger Mode
(3-4) Time Delay
(5) Visible Alert
(6) Service Mode
(7) Mode Auto ON / Manual ON
(8) Walk through Mode ON / OFF
6 Ultrasonic Transducers
7 PIR Lens



8 Low Voltage 0-10 Volt Dimming Wires
9 Line Voltage Wires
10 Voltage Barrier

Settings

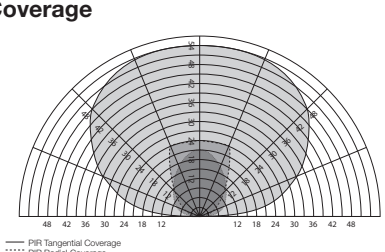
Walk Through
Manual / Auto
Service Mode
Visible Alert
Time Delay
Time Delay
Trigger Mode
Trigger Mode

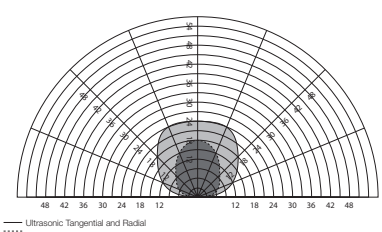
Trigger Mode	Initial Occupancy	Maintain Occupancy	Trigger Mode	DIP 1	DIP 2
Factory Setting	Both	Either	Either	OFF	OFF
Option A	PIR	Either	Either	OFF	ON
Option B	PIR	PIR	PIR	ON	OFF
Option C	Both	Both	Both	ON	ON

Time Delay	DIP 3	DIP 4
IQ / Test	OFF	OFF
5 Minutes	OFF	ON
15 Minutes	ON	OFF
30 Minutes	ON	ON

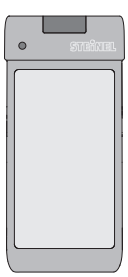
The sensors ultrasonic sensitivity and reach is adjusted with a trim potentiometer (dial). The left stop is minimum 25% (counter clockwise) the right stop is maximum 100%

Coverage





Smart Remote



Description

- Setting done by APP and universal Smart Remote
- Replaces all existing remote controls
- Connection via Bluetooth with smartphones and tablets
- iOS and Android APP
- Saving/loading of settings for easy copy & paste installation

Download APP

Pair via Bluetooth

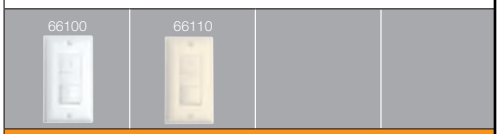
Ready for Use

IR WLS 1

Passive Infrared Wall Switch Occupancy Sensor

STEINEL® PROFESSIONAL

Project Name:
Location:



IR WLS 1 Specifications	
Item No.	66100 IR WLS 1-W (white) 66110 IR WLS 1-LA (light almond)
Voltage	120/230/277 VAC, 50/60 Hz
Mounting	single-gang NEMA-style switch box (standard switch box) & decorator-style wall plate by others
Load Rating	0-800 watts @ 120/230/277 VAC, 50/60 Hz tungsten, magnetic or electronic ballast • 1/6 hp 0-600 watts @ 120/230/277 VAC, 50/60 Hz CFL or LED electronic ballasts C ≤ 132 µF max.
Sensing Technology	passive infrared (PIR)
Time Setting	IQ/Test, 5, 15, 30 minutes
Light Level Setting	80 - 2000 Lux / 8 - 200 fc
Environment	IP20 rated, 0°C to +40°C, 32°F to +104°F
PIR Coverage at 1.2 m / 4 ft Mounting Height	minor motion: max. 6.5 x 5.5 m (36 sq.m.) max. 21 x 18 ft (378 sq.ft.) radially: max. 7 m (77 sq.m.) 24 ft (904 sq.ft.) tangentially: max. 20 m (628 sq.m.) 54 ft (4,500 sq.ft.)
Dimensions	105 x 44.1 x 45.1 mm, 4.13 x 1.74 x 1.78 in, (LxWxD)
Warranty	5 years
Certifications	C-UL-US Listed, RoHS compliant, California Compliant

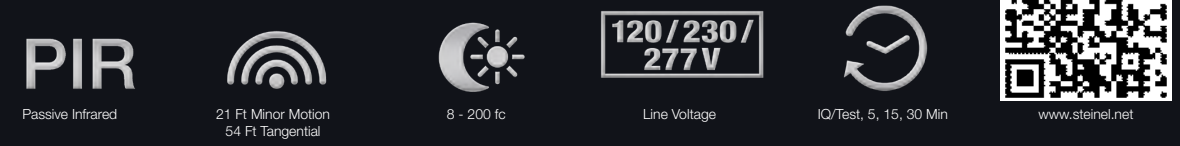
The IR WLS 1 is a line voltage, single relay, Passive Infrared (PIR) wall switch occupancy sensor intended to control lighting in commercial spaces. PIR is used where the sensor will have a clear view of the occupants in the desired coverage area. The hold OFF photocell daylight option will keep the lighting load off if the light level is greater than the threshold level setting. The convenient “Switch Link” feature enables up to four sensors to link together for pier to pier grouping achieving expanded detection zones and multiway switching.

Applications

The typical application is for small office, conference, storage closet and break rooms. For best performance use this sensor in enclosed spaces no larger than 18’ x 15’.

Key Features:

- PIR (passive infrared) wall switch occupancy sensor
- Line voltage lighting control (120/230/277 VAC, 50/60 Hz)
- 180° coverage pattern
- Manual ON or Automatic ON option
- Light level feature keeps lights OFF when sufficient daylight is present
- Mounts to a single-gang NEMA-style, standard switch box & decorator-style wall plate by others
- “Switch Link” communication allows for up to 4 sensors to be grouped together
- IQ Mode dynamically adjusts the ‘ON’ time delay by learning individual room occupancy
- Walk through mode option will switch the load OFF in 3 minutes if no additional detection occurs after the first 30 seconds
- Audible alert feature provides an audible warning that the load will shut-OFF in 10 seconds unless additional motion is detected
- Visible alert feature provides a momentary OFF/ON blink, warning that the load will shut OFF in 10 seconds unless additional motion is detected
- Service mode option deactivates the automated functions of the sensor and the load is only manually controlled using the ON/OFF button



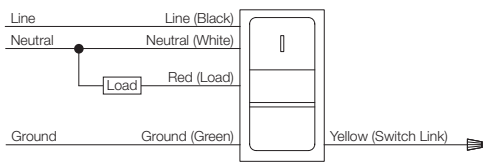
IR WLS 1

Passive Infrared Wall Switch Occupancy Sensor

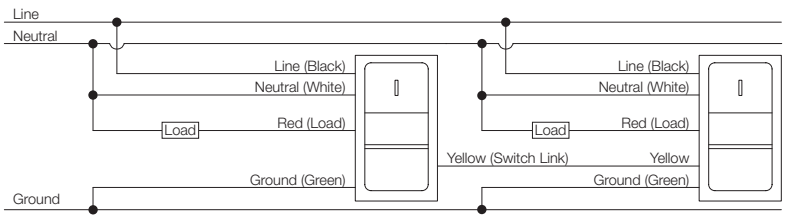
STEINEL PROFESSIONAL

Wiring

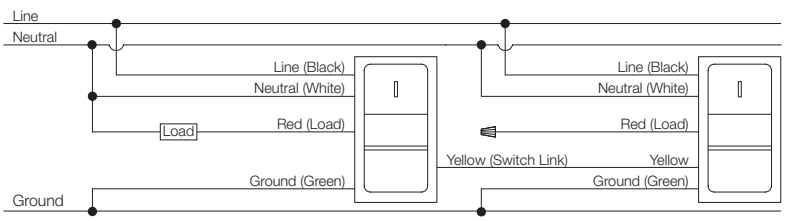
WLS 1 Basic Wiring



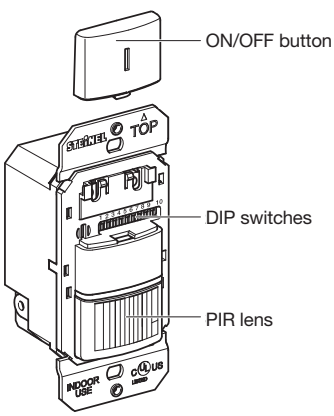
WLS 1 (Master / Master) Three-way Wiring - up to maximum 4 sensors can be grouped via "Switch Link"



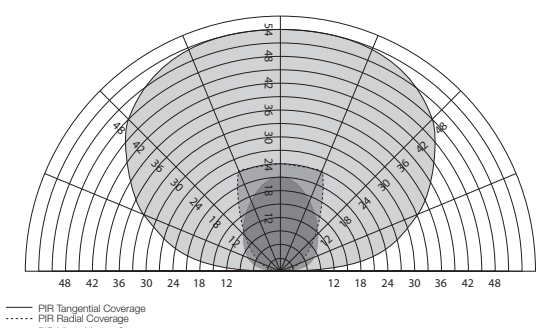
WLS 1 (Master / Slave) Three-way Wiring - up to maximum 4 sensors can be grouped via "Switch Link"



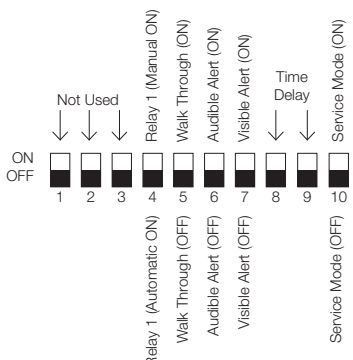
Components



Coverage



Setting



Time Delay	8	9
IQ / Test	OFF	OFF
5 Minutes	OFF	ON
15 Minutes	ON	OFF
30 Minutes	ON	ON

Ordering Information

Model	Color	Part #	Relays	Technology	Coverage	Voltage
IR WLS 1-W	White	66100	1	PIR	180°	120/230/277 VAC
IR WLS 1-LA	Light Almond	66110	1			
IR WLS 2-W	White	66130	2			
IR WLS 2-LA	Light Almond	66140	2			

PRODUCT SPECIFICATIONS

LEVITON

Renoir™ II Architectural Wallbox Dimmers & Fan Speed Controls

Superior Dimming Control for LED Fixtures

DESCRIPTION

The Leviton Renoir™ II line of architectural wall box high performance dimmers support all load types and configurations. Renoir II is a highly functional yet elegant solution for architectural dimming control.

FEATURES

MODELS/SUPPORTED LOAD TYPES

Incandescent
- 120V, 60 Hz non-neutral - 1-Wire (dimmed hot)
- Forward phase dimmer
- Square law dimming
- Symmetrical AC waveform for all load types
- Incandescent: minimum load requirement 40W @ 120V
- Tungsten: minimum load requirement 40W @ 120V
- Magnetic low voltage: minimum load requirement 50W @ 120V
- Forward phase control electronic low voltage transformers (with neutral): minimum load requirement 50W @ 120V
- Forward phase control LED drivers (with neutral): minimum load requirement 50W @ 120V
- Forward phase control neon/cold cathode ballasts (with neutral): minimum load requirement 50W @ 120V

LED READY

Electronic Low Voltage – 2-Wire (Dimmed Hot Neutral)
- 120-277VAC, 60 Hz
- Reverse phase dimmer
- Square law dimming
- Forward or reverse phase control electronic low voltage transformers
- Forward or reverse phase control LED drivers
- Forward or reverse phase control neon/cold cathode ballasts
- Incandescent/tungsten
- No minimum load

Ballast – 0-10V
- 120-277VAC, 60 Hz
- Linear dimming
- Any ballast (or LED driver) requiring 0-10V "sinking" control ex: Leviton Sector®, Advance Mark 7®, Universal SuperDim®, Lutron TVE™, Sylvania Quicktronic® Powersense™
- No minimum load

Ballast – 2-Wire Control (Dimmed Hot + Neutral)
- 120-277VAC, 60 Hz
- Linear dimming
- Forward phase control ex: Advance Mark 10®, Sylvania Quicktronic® Powersense™, Lutron Tu-Wire®
- Minimum load requirement 64W @ 120V, 128W @ 277V

Ballast – 3-Wire Control (Switched Hot + Dimmed Hot + Neutral
- 120-277VAC, 60 Hz
- Linear dimming ex: Lutron Hi-lume®, Lutron Eco-10®
- No minimum load

Switch
- 120-277VAC, 60 Hz
- Tungsten loads
- Resistive loads
- Inductive loads
- Motor loads
- Transformer loads
- No minimum load

Renoir™ II Architectural Wallbox Dimmers

Leviton Manufacturing Co., Inc. Global Headquarters
201 North Service Road, Melville, NY 11747-3138 **tel** 800-323-8920 **fax** 800-832-9538

PRODUCT SPECIFICATIONS

LEVITON

Renoir II Architectural Wallbox Dimmers
Easy Product Selection*

1. Confirm load type
2. Calculate total load
3. Identify control locations
4. Select control aesthetics, dimmers and remotes
5. Choose wallplates

*Reference data sheets for complete product information

Load Type	120V		230V		277V		Heat Sink Width	Cat. No.
	Load	LED Load	Load	LED Load	Load	LED Load		
Incandescent (No Neutral)	600W	300W	-	-	-	-	Narrow	AWSMT-IAW
	1,000W	500W	-	-	-	-	Narrow	AWSMT-IBW
Incandescent/ Magnetic Low Voltage	600W	300W	1,150W	575W	1,385W	692W	Narrow	AWSMT-MAW
	1,000W	500W	1,917W	958W	2,308W	1,154W	Narrow	AWSMT-MBW
	1,500W	750W	2,875W	1,437W	3,463W	1,731W	Wide	AWSMT-MCW
Fluorescent 0-10V	1,920W	1,920W	3,680W	3,680W	4,432W	4,432W	Narrow	AWSMT-7DW
Mark 10 or Lutron 2-Wire	600W	-	1,150W	-	-	-	Narrow	AWSMT-XAW
	1,000W	-	1917W	-	-	-	Narrow	AWSMT-XBW
	1,920W	-	3,680W	-	-	-	Wide	AWSMT-XDW
Lutron 3-Wire	600W	-	1,150W	-	-	-	Narrow	AWSMT-HAW
	1000W	-	1,917W	-	-	-	Narrow	AWSMT-HBW
	1,920W	-	3,680W	-	-	-	Narrow	AWSMT-HDW
Electronic Low Voltage	600W	300W	1,150W	575W	-	692W	Wide	AWSMT-EAW
	1,000W	500W	1,917W	959W	-	1,154W	Wide	AWSMT-EBW
Fan Speed Control	600W	-	1,150W	-	-	-	Narrow	AWSMT-QAW
	1,000W	-	1,917W	-	-	-	Narrow	AWSMT-QBW
Switch	1,800W	1,800W	3,450W	3,450W	4,155W	4,155W	Narrow	AWWMT-00W
Remote	-	-	-	-	-	-	Narrow	AWSRT-00W
	-	-	-	-	-	-	Narrow	AWWRT-00W

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Leviton Manufacturing Co., Inc. Energy Management, Controls and Automation
20497 SW Teton Avenue, Tualatin, OR 97062 **tel** 800-736-6682 **fax** 503-404-5594 **tech line** (6:00AM-4:00PM PT Mon-Fri) 800-959-6004

Visit our Website at: www.leviton.com/renoirii

G-9437A/F16-tb
REV JUN 2016

Renoir™ II Architectural Wallbox Dimmers

PRODUCT SPECIFICATIONS

LEVITON

Renoir™ II Architectural Wallbox Dimmers & Fan Speed Controls

Superior Dimming Control for LED Fixtures

DESCRIPTION

The Leviton Renoir™ II line of architectural wall box high performance dimmers support all load types and configurations. Renoir II is a highly functional yet elegant solution for architectural dimming control.

FEATURES

MODELS/SUPPORTED LOAD TYPES

Incandescent
- 120V, 60 Hz non-neutral - 1-Wire (dimmed hot)
- Forward phase dimmer
- Square law dimming
- Symmetrical AC waveform for all load types
- Incandescent: minimum load requirement 40W @ 120V
- Tungsten: minimum load requirement 40W @ 120V
- Magnetic low voltage: minimum load requirement 50W @ 120V
- Forward phase control electronic low voltage transformers (with neutral): minimum load requirement 50W @ 120V
- Forward phase control LED drivers (with neutral): minimum load requirement 50W @ 120V
- Forward phase control neon/cold cathode ballasts (with neutral): minimum load requirement 50W @ 120V

LED READY

Electronic Low Voltage – 2-Wire (Dimmed Hot Neutral)
- 120-277VAC, 60 Hz
- Reverse phase dimmer
- Square law dimming
- Forward or reverse phase control electronic low voltage transformers
- Forward or reverse phase control LED drivers
- Forward or reverse phase control neon/cold cathode ballasts
- Incandescent/tungsten
- No minimum load

Ballast – 0-10V
- 120-277VAC, 60 Hz
- Linear dimming
- Any ballast (or LED driver) requiring 0-10V "sinking" control ex: Leviton Sector®, Advance Mark 7®, Universal SuperDim®, Lutron TVE™, Sylvania Quicktronic® Powersense™
- No minimum load

Ballast – 2-Wire Control (Dimmed Hot + Neutral)
- 120-277VAC, 60 Hz
- Linear dimming
- Forward phase control ex: Advance Mark 10®, Sylvania Quicktronic® Powersense™, Lutron Tu-Wire®
- Minimum load requirement 64W @ 120V, 128W @ 277V

Ballast – 3-Wire Control (Switched Hot + Dimmed Hot + Neutral
- 120-277VAC, 60 Hz
- Linear dimming ex: Lutron Hi-lume®, Lutron Eco-10®
- No minimum load

Switch
- 120-277VAC, 60 Hz
- Tungsten loads
- Resistive loads
- Inductive loads
- Motor loads
- Transformer loads
- No minimum load

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PRODUCT SPECIFICATIONS

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Renoir II Architectural Wallbox Dimmers
Easy Product Selection*

1. Confirm load type
2. Calculate total load
3. Identify control locations
4. Select control aesthetics, dimmers and remotes
5. Choose wallplates

*Reference data sheets for complete product information

Load Type	120V		230V		277V		Heat Sink Width	Cat. No.
	Load	LED Load	Load	LED Load	Load	LED Load		
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	1,000W	500W	-	-	-	-	Narrow	AWSMT-IBW
Incandescent/ Magnetic Low Voltage	600W	300W	1,150W	575W	1,385W	692W	Narrow	AWSMT-MAW
	1,000W	500W	1,917W	958W	2,308W	1,154W	Narrow	AWSMT-MBW
	1,500W	750W	2,875W	1,437W	3,463W	1,731W	Wide	AWSMT-MCW
Fluorescent 0-10V	1,920W	1,920W	3,680W	3,680W	4,432W	4,432W	Narrow	AWSMT-7DW
Mark 10 or Lutron 2-Wire	600W	-	1,150W	-	-	-	Narrow	AWSMT-XAW
	1,000W	-	1917W	-	-	-	Narrow	AWSMT-XBW
	1,920W	-	3,680W	-	-	-	Wide	AWSMT-XDW
Lutron 3-Wire	600W	-	1,150W	-	-	-	Narrow	AWSMT-HAW
	1000W	-	1,917W	-	-	-	Narrow	AWSMT-HBW
	1,920W	-	3,680W	-	-	-	Narrow	AWSMT-HDW
Electronic Low Voltage	600W	300W	1,150W	575W	-	692W	Wide	AWSMT-EAW
	1,000W	500W	1,917W	959W	-	1,154W	Wide	AWSMT-EBW
Fan Speed Control	600W	-	1,150W	-	-	-	Narrow	AWSMT-QAW
	1,000W	-	1,917W	-	-	-	Narrow	AWSMT-QBW
Switch	1,800W	1,800W	3,450W	3,450W	4,155W	4,155W	Narrow	AWWMT-00W
Remote	-	-	-	-	-	-	Narrow	AWSRT-00W
	-	-	-	-	-	-	Narrow	AWWRT-00W

NOTE: Mark 7® and Mark 10® are registered trademarks of Advance Transformer Company. Tu-Wire®, Hi-lume®, and Eco-10® are registered trademarks of Lutron Electronics, Inc. TVE™ is a trademark of Lutron Electronics, Inc. SuperDim® is a registered trademark of Universal™ Lighting Technologies. Quicktronic® is a registered trademark of OSRAM Sylvania. Powersense™ is a trademark of OSRAM Sylvania.

Renoir™ II Architectural Wallbox Dimmers

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Visit our Website at: www.leviton.com/renoirii

G-9437A/F16-tb
REV JUN 2016

GLPPA-KP

Keypad for GLPP Systems

- *In-wall keypads for GLPP systems*
- *Master Scene keypad for multiple scene recall, Zone Keypads for specific zone control without any programming, and Zone Master Keypad for lighting control in single rooms with multiple zones*
- *Seamless integration with GLPP systems*
- *2-conductor wire connection to the GLPP*
- *Flexible installation with new or existing high- or low-voltage wiring*
- *Non-polarized 2-wire communications bus*
- *Smooth black, white, or almond colors available*
- *Rocker switch and four button caps included, depending on model*
- *Up to 3 GLPPA-KP Series keypads, 2 occupancy sensors, and 1 photosensor can be connected to a single GLPP system*

The GLPPA-KP Series of in-wall keypads feature “plug and play” control of loads connected to a Crestron Green Light® Power Pack (GLPP) system. This versatile family of keypads offers a simple lighting control solution with out-of-the-box functionality for quick and easy system setup. Use the keypads to turn the load on or off and to set and recall scenes. “Zone Keypad” models connect automatically to the GLPP for individual zone control and do not require any programming. A four-button, multi-zone model keypad provides zoned lighting control from a single interface. The GLPPA-KP Series easily connects to the GLPP main unit via a two-wire, low-voltage bus. Available in black, white, and almond, the GLPPA-KP keypads suit almost any décor.

Flexible Configurations

Crestron® offers several models of GLPPA-KP keypads for an easy-to-configure lighting control solution:

- The GLPPA-KP Master Scene keypad can be installed with a rocker-switch for on/off and dimming control or with four buttons. The four-button configuration provides dedicated buttons for master on and off control and two scene recalls. Scenes can be adjusted by any user directly from the keypad or by using the GLPPA-REMOTE-PROG (sold separately).
- Zone Keypad models GLPPA-KP1/2/3 make setting up a zoned lighting control system a breeze. Each of the three keypad models is pre-programmed to control the zone in the model’s name. For example, in a two-zone application, a GLPPA-KP1 and a GLPPA-KP2 automatically control zone 1 and zone 2, respectively.
- The GLPPA-KP4 four-button Zone Master Keypad completes the series by providing control for multiple lighting zones within one room. The four buttons toggle the channels in any 2-channel or 3-channel GLPP system.

Up to three GLPPA-KP keypads can be connected to a single GLPP system.

Easy Installation

Two flying leads connect a GLPPA-KP Series keypad to the GLPP system via a non-polarized, low-voltage bus. Use new or existing high-voltage wiring (Class 1) or low-voltage wiring (Class 2) for quick installation. Up to three keypads, two occupancy sensors, and one photosensor can be connected to any single GLPP system.

SPECIFICATIONS

Power Requirements

1 Watt (0.05 Amps at 24 Volts DC) supplied by GLPP over proprietary 2-wire bus

Controls

GLPPA-KP Model Only
Keypad Buttons: Configurable for single rocker switch or (4) single-action pushbuttons
Button Events: Tap, Double-tap, Press and Hold (not all events trigger actions)
Button Caps: Includes (1) rocker and (4) small button caps with labeling
Labeling (Small Button Caps Only): Pre-labeled: ALL ON, SCENE 1, SCENE 2, ALL OFF

GLPPA-KP1/2/3 Models Only
Single rocker switch

GLPPA-KP Model Only
Keypad Buttons: (4) Single-action pushbuttons
Button Events: Tap, Press and Hold (not all events trigger actions)
Button Caps: (4) Small button caps with labeling; Ships with (1) additional button cap with labeling
Labeling (Small Button Caps Only): (5) Pre-labeled button caps: ALL ON, SCENE 1, SCENE 2, SCENE3, ALL OFF

GLPPA-KP Keypad for GLPP Systems

LED Indicators

Feedback (GLPPA-KP Model Only): (1) White LED, illuminates when any load is above 0%

Connections

Communications Bus: (2) 18 AWG Class 2 flying leads, white with black stripe (non-polarized)

Environmental

Temperature: 32° to 113° F (0° to 45° C)
Humidity: 10% to 90% RH (non-condensing)

Enclosure

Plastic, 1-gang mountable in a standard electrical box;
Requires decorator style faceplate (not included)

Dimensions

Height: 4.13 in (105 mm)
Width: 1.75 in (45 mm)
Depth: 1.8 in (46 mm)

Weight

3.6 oz (103 g)

MODELS

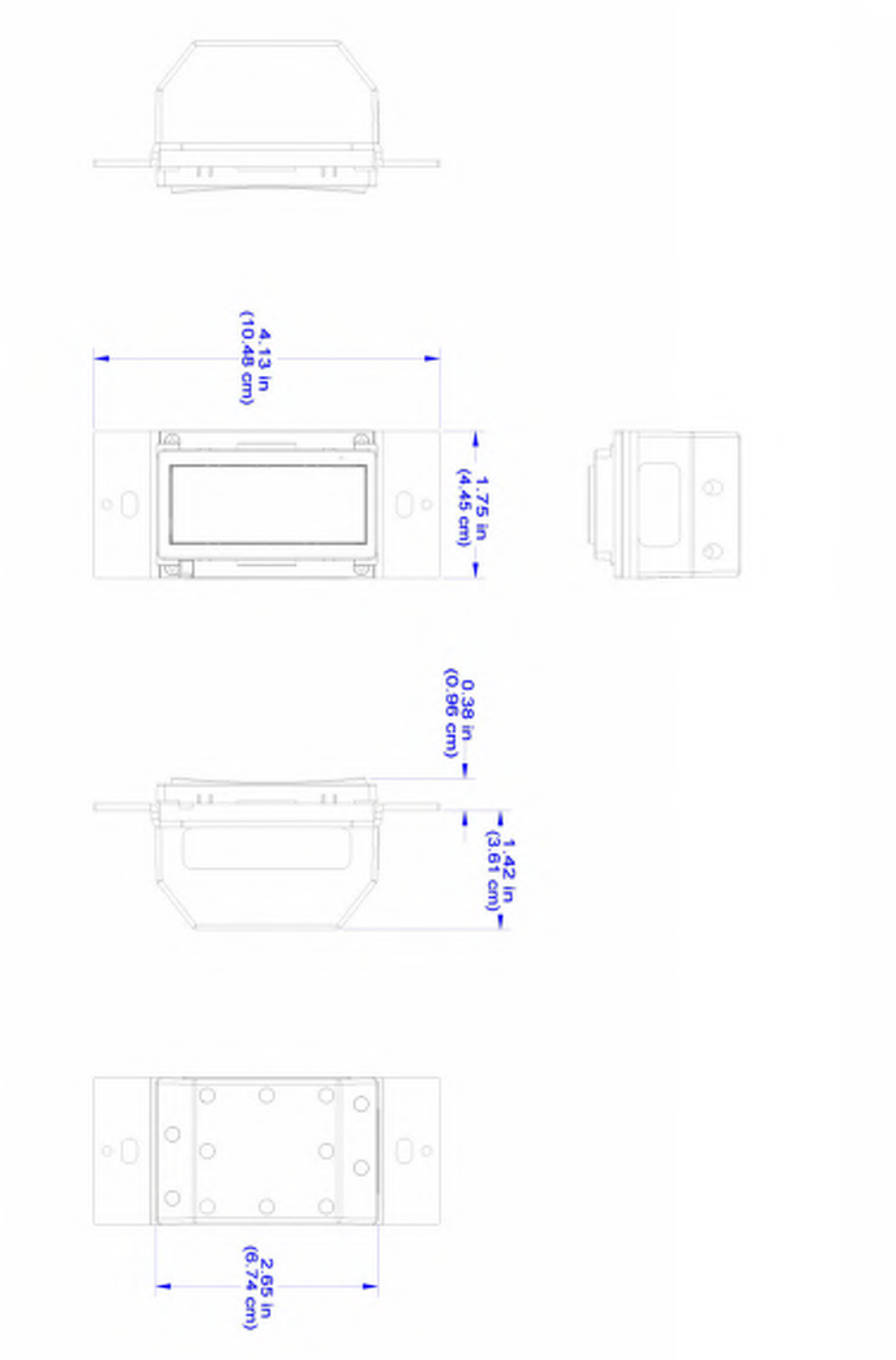
Available Models

GLPPA-KP-A-S: In-wall Master Scene Keypad for GLPP, Almond Smooth
GLPPA-KP-B-S: In-wall Master Scene Keypad for GLPP, Black Smooth
GLPPA-KP-W-S: In-wall Master Scene Keypad for GLPP, White Smooth
GLPPA-KP1-A-S: In-wall Zone Keypad for GLPP, Almond Smooth
GLPPA-KP1-B-S: In-wall Zone Keypad for GLPP, Black Smooth
GLPPA-KP1-W-S: In-wall Zone Keypad for GLPP, White Smooth
GLPPA-KP2-A-S: In-wall Zone Keypad for GLPP, Almond Smooth
GLPPA-KP2-B-S: In-wall Zone Keypad for GLPP, Black Smooth
GLPPA-KP2-W-S: In-wall Zone Keypad for GLPP, White Smooth
GLPPA-KP3-A-S: In-wall Zone Keypad for GLPP, Almond Smooth
GLPPA-KP3-B-S: In-wall Zone Keypad for GLPP, Black Smooth
GLPPA-KP3-W-S: In-wall Zone Keypad for GLPP, White Smooth
GLPPA-KP4-A-S: In-wall Zone Master Keypad for GLPP, Almond Smooth
GLPPA-KP4-B-S: In-wall Zone Master Keypad for GLPP, Black Smooth
GLPPA-KP4-W-S: In-wall Zone Master Keypad for GLPP, White Smooth

Notes:

GLPPA-KP Keypad for GLPP Systems

CAD DRAWINGS (GLPPA-KP MODEL SHOWN)



DT Quattro COM1-24

Presence Detectors

STEINEL PROFESSIONAL

Project Name:
Location:

DT Quattro COM1-24 Specifications	
Item No.	64700 DT Quattro COM1-24
Accessories	65300 RC 3 service remote 65320 RC 4 user remote 65330 WGC wire guard cage
Voltage	18 - 24 VDC/VAC (30 mA) 50/60 Hz
Load Rating	control output - 1 A @ 30 VAC/VDC
Sensing Technologies	passive infrared (PIR), single pyro, 11 detection levels, 520 switching zones, ultrasonic 40 kHz
Time Delay Setting	control output 30 sec. - 30 min. pulse mode (approx. 2 sec. 'ON' 8 sec. 'OFF') IQ mode (automatic adjustment to the usage profile)
Light Level Setting	10 - 1000 lux / 1 - 100 fc
Environment	IP20 rated, 0°C to +40°C, 32°F to +104°F
Ultrasonic Detection Zones: (Coverage at 2.5 m / 9 ft)	presence: max. 6 x 6 m (36 sq.m.) max. 20 x 20 ft (400 sq.ft.) min. 2 x 2 (4 sq.m.) min. 6.5 x 6.5 ft (42.25 sq.ft.) radial / tangential: max. of up to 10 x 10 m (100 sq.m.) radial / tangential: max. of up to 32 x 32 ft (1000 sq.ft.)
PIR Detection Zones:	presence: max. 3 x 3 m (9 sq.m.) max. 10 x 10 ft (100 sq.ft.) radially: max. 4 x 4 m (13 x 13 ft) tangentially: max. 8 x 8 m (26 x 26 ft)
Dimensions	4.72 x 4.72 x 2.68 in, 120 x 120 x 68 mm (LxWxD)
Warranty	5 years
Certifications	C-UL-US Listed, RoHS compliant, UL 2043 Plenum Rated, CA Energy Code compliant

The DT Quattro COM1-24 Dual Technology Presence Detector utilizes PIR and ultrasonic technologies to detect the presence or signature of a person in a space. The logic options for initial "ON" and "Maintained" state of occupancy gives design engineers and installation contractors the choice for proper control of lighting and building automation in difficult applications where detection options are needed in a single device. Lighting loads are controlled in relation to both presence detection and selectable ambient light levels with the integrated force off photocell to maximize energy savings. STEINEL's world class PIR optics and ultrasonic signal processing provides unparalleled line of sight and volumetric presence detection. Operational choices of auto on or manual on with a momentary or maintained switch input. The convenient "COM-Link" feature enables multiple sensors to link together via the communication link for pier to pier grouping achieving expanded detection zones with convenient control set up functions set at only one primary sensor for the entire group. The available service and user wireless remotes provide simplified commissioning and occupant convenience.

The Control PRO group of presence detectors are available in multiple presence detection technologies for the control of heating, ventilation and air conditioning (HVAC) and lighting loads (as in the COM2-24 versions) and optional 1-10 volt dimming and daylighting options (in the DIM-24 versions).

Applications

The typical application is for classrooms, conference rooms, computer rooms, storage rooms, workspaces, open office space with cubicles, general open areas, restrooms, stairwells, storage rooms, executive offices and private offices.

Key Features:

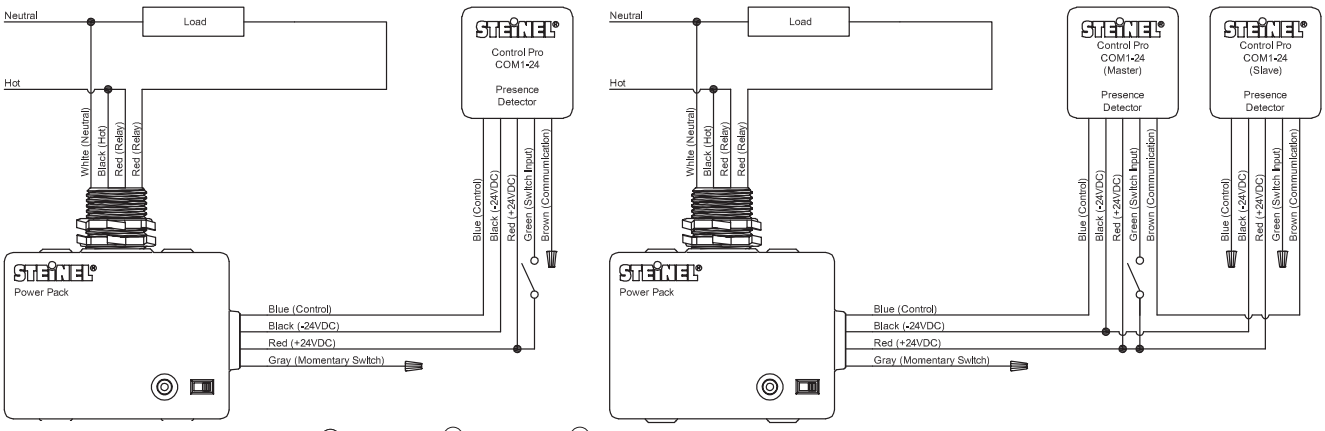
- Low voltage (18-24 VDC/VAC) sensor for use with a power pack or building automation system
- PIR & ultrasonic (40 kHz) presence detection
- Service and user wireless remotes available
- Manual ON mode (MAN) / Automatic mode (AUTO)
- Momentary / Maintained switch option
- 'ON' only / 'ON' & 'OFF' manual switching
- Light level feature turns lights off when sufficient daylight is present
- Mounts to a 4" square box, 4" octagon box, round 3.0 mud-ring or directly to the ceiling with quick mount spring tabs
- IQ Mode dynamically adjusts the 'ON' time delay by learning individual room occupancy

DT Quattro COM1-24

Presence Detectors

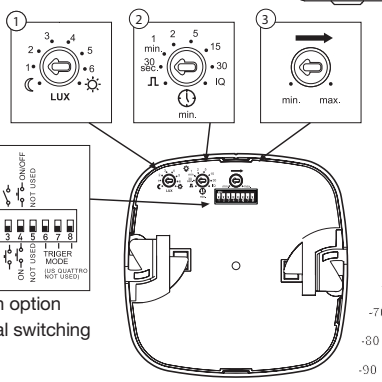
STEINEL PROFESSIONAL

Wiring



Settings

1 - Light level setting
2 - Occupancy time delay setting
3 - Reach setting
4 - Sensor DIP switch settings
5 - Trigger mode



DIP 1 - Normal mode / Test mode (NORM / TEST)
DIP 2 - Manual ON mode (MAN) / Automatic mode (AUTO)
DIP 3 - Momentary / Maintained switch option
DIP 4 - 'ON' only / 'ON' & 'OFF' manual switching
DIP 5 - Not used
DIP 6/7/8 - Trigger mode

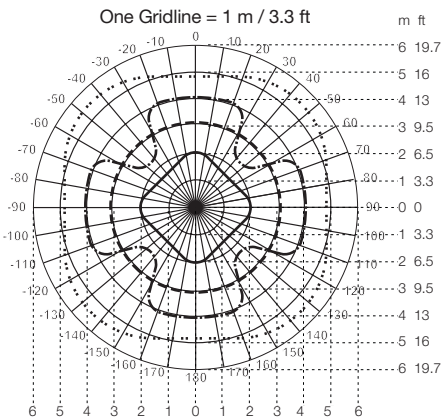
5

Trigger Mode Options	Initial Occupancy	Maintain Occupancy	DIP 6	DIP 7	DIP 8
Option 1	Both	Either	↓ OFF	↓ OFF	↓ OFF
Option 2	Both	Both	↓ OFF	↓ OFF	↑ ON
Option 3	PIR	Either	↓ OFF	↑ ON	↓ OFF
Option 4	US	Either	↓ OFF	↑ ON	↑ ON
Option 5 Factory Setting	Either	Either	↑ ON	↓ OFF	↓ OFF
Option 6	US	US	↑ ON	↓ OFF	↑ ON
Option 7	PIR	PIR	↑ ON	↑ ON	↓ OFF
Option 8	Either	Both	↑ ON	↑ ON	↑ ON

The trigger mode enables the user to choose which sensing technologies should be used to initially turn the load on and which technologies are required to keep it on.

Coverage

Shown coverage diagram at 9 ft mounting height. Ultrasonic signal can be increased by hard surfaces and decreased by soft surfaces.



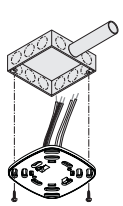
Tangential - motion perpendicular to the sensor

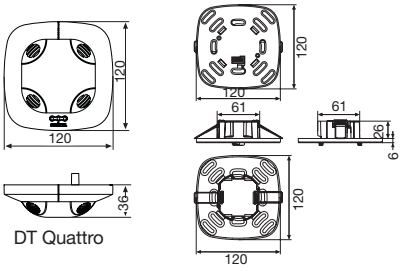
Radial - motion either directly toward or away from the sensor

Presence - minor motion as described by NEMA WD7 with the additional requirement of both radial and tangential detection

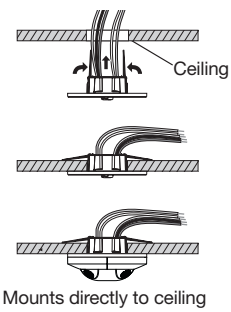
PIR RADIAL & PRESENCE DETECTION
PIR TANGENTIAL DETECTION
US TANGENTIAL & PRESENCE DETECTION
US RADIAL MAJOR MOTION DETECTION

Mounting

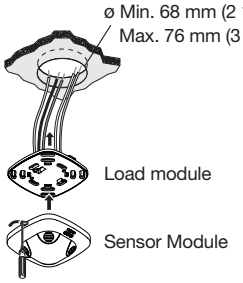




Mounts to a 4" Square box, 4" Octagon box or Round 3.0 Mud-Ring



Mounts directly to ceiling with quick mount spring tabs



TR 100

Power Pack

STEINEL PROFESSIONAL

Project Name:
Location:

TR 100 Specifications

Item No.	63101
Voltage	120/230/277 VAC, 50/60 Hz
Output	24 VDC +/- 5% 250 mA (class 2)
Load	20 A @ 120/230/277 VAC 50/60 Hz 1 hp @ 120-240 VAC, 50/60 Hz
Environment	IP20 rated, -4°F to +130°F, -20°C to +55°C
Dimensions (LxWxD)	2.4 x 3.2 x 1.5 in 60 x 81 x 39 mm
Threaded Nipple Dimensions	.83 x .83 in 21 x 21 mm
Warranty	5 years
Certifications	C-UL-US Listed, RoHS Compliant, UL 2043 Plenum Rated

The TR 100 is a full featured power pack that provides power to STEINEL low voltage occupancy sensors and other control devides. They are Class 2 output power supplies, suitable for parallel interconnection.

The power packs switch the load(s) ON and OFF in response to signals from the control devices. Each power pack contains a Mode Switch to select either manual ON or automatic ON operation. In manual ON mode, occupants operate a low voltage momentary switch to turn lights ON.

All wires have UL Style 1659, 250°C, 600V insulation:

- 18 AWG: Black for Line and White for Neutral
- 12 AWG: two Red wires for normally open dry contact from the 20A relay
- 22 AWG: 4 low voltage conductors: Red (+24VDC), Black (-24VDC), Blue (Control Input), Gray (Momentary Switch Input)

Key Features:

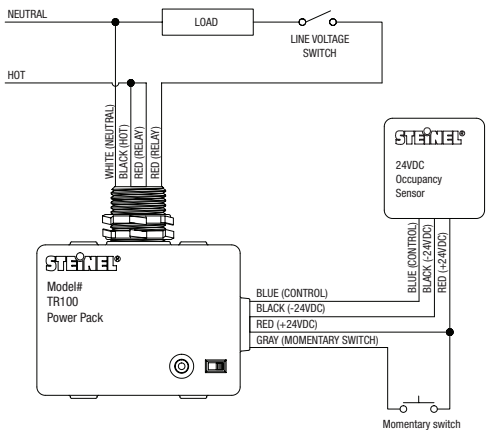
- Convenient mode switch selects either manual ON or automatic ON operation
- LED status indicator
- Switching is performed at, or close to, the zero-cross of the AC waveform in order to improve relay performance
- 1/2 inch threaded nipple and two lock nuts are used to secure to a standard 1/2” knockout
- Low voltage momentary switch input allows for manual control in automatic or manual mode
- Switching Power Supply provides up to 250mA of 24VDC to low voltage controls

120/230/277V — Voltage
UL 2043 — UL 2043 Plenum Rated
IP20 — IP 20 Rated
20 Amp 1 Hp — Load
Manual Auto/On — Operating Modes
www.steinel.net

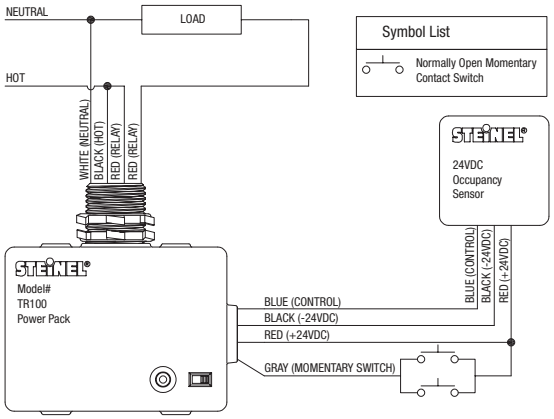
TR 100
Power Pack

STEINEL® PROFESSIONAL

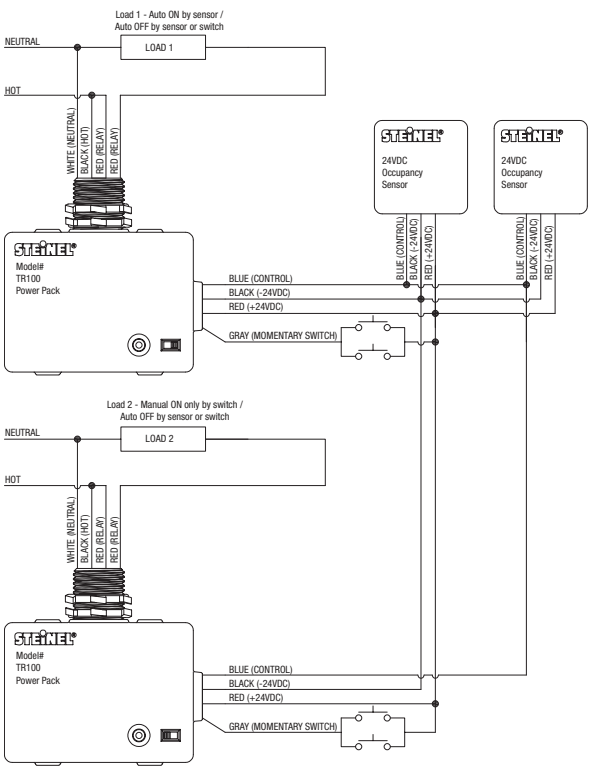
Wiring



Low Voltage 3-Way Wiring

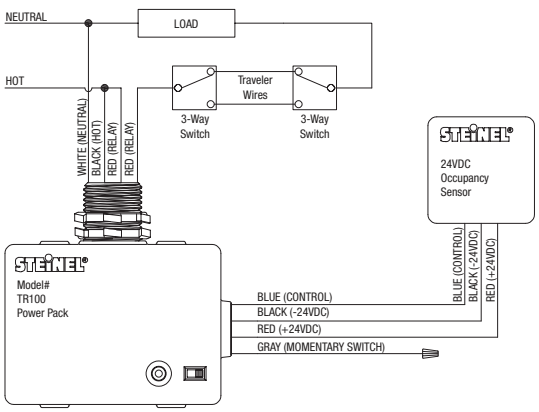


Two Stage Multi Level 3-Way Switching



Upon occupancy, lights (Load 1) attached to Power Pack (set to Auto ON) will illuminate automatically while lights (Load 2) attached to Power Pack (set to Manual ON) require the occupant to turn the lights on manually by means of a low voltage switch. All lights can be turned off manually by a low voltage switch or automatically by an occupancy sensor(s).

Line Voltage 3-Way Wiring



Product Overview & Mounting