SECTION 26 09 26

LIGHTING CONTROL PANELBOARDS

TAG: Lighting Control Panel

PART 1 - GENERAL

1.1 SUMMARY

A. The Lighting Control Panel (LCP) is designed to control lights in a facility according to programmed schedules and sensor input logic. LCP may be controlled through manual interaction (light switches, occupancy sensors) or HMI screen interfaces.

1.2 SUBMITTALS

A. The manufacturer assumes no liability for the use or results of use of this document. This specification is to be reviewed by the engineer to confirm requirements of the project and building codes are met.

B. As the manufacturer continues product development, it reserves the right to change design and specifications without notice.

1.3 QUALITY ASSURANCE

A. Controls are listed by ETL (UL 508A).

B. The control enclosure will be NEMA 1 rated and made of 18-gauge stainless steel.

1.4 WARRANTY

A. All units are provided with the following 2-year standard warranty.

B. This warranty shall not apply if:

1. The equipment is not installed by a qualified installer per the manufacturer's installation instructions shipped with the product.
2. The equipment is not installed in accordance with Federal, State, and Local codes and regulations.
3. The equipment is misused, neglected, or not maintained per the manufacturer's maintenance instructions.
4. The equipment is not operated within its published capacity.
5. The invoice is not paid within the terms of the sales agreement.

C. The manufacturer shall not be liable for incidental and consequential losses and damages potentially attributable to malfunctioning equipment. Should any part of the equipment prove to be defective in material or workmanship within the 2-year warranty period, upon examination by the manufacturer, such part will be repaired or replaced by the manufacturer at no charge. The buyer shall pay all labor costs incurred in connection with such repair or replacement. Equipment shall not be returned without manufacturer's prior authorization. All returned equipment shall be shipped by the buyer, freight prepaid to a destination determined by the manufacturer.

PART 2 - PRODUCTS

2.1 GENERAL ASSEMBLY

A. Control package(s) shall be factory assembled, tested, and shipped as a complete packaged assembly for indoor mounting.

B. The following specifications, delivering all capacities scheduled and conforming to the design indicated herein. Alternate layouts or dimensional changes will not be accepted.

2.2 CABINET

A. Unit(s) shall be constructed of minimum 18-gauge G-90 galvanized steel. All metal shall be CNC bent for precise assembly.

B. Cabinet can contain up to 8 contactors per panel.

C. Components shall be pre-wired and housed in an insulated electrical cabinet. Provides protection to personnel against access to hazardous parts. In addition, provides a degree of protection of the components inside the enclosure against entry of solid foreign objects (falling dirt).

2.3 ELECTRICAL

A. Main Control Board - Receives all the digital and analog inputs, delivers the digital outputs, and transfers messages to other devices. Contains an onboard LCD screen.

B. Human-Machine Interface (HMI) - LCD screen allows the user to view/alter system settings. Provides easy access to locally override lighting control from HMI.

C. The electrical cabinet shall be outfitted with the following:

1. Main Control Board.
2. HMI shall be mounted on the enclosure.
3. Components such as Contactors, Auto/Manual Switches, Power Supply, and any optional features selected.
4. Color wiring schematics, laminated to the interior wall of the cabinet doors.

2.4 CONTROLS

A. Programmable control logic based on scheduled times and ON/OFF inputs. The interface can control lights, configure the schedule, and change system settings.

B. Inputs can be configured to enable an override-on timer or turn lights on only while receiving an input signal. These inputs must be nominal 120VAC.

C. Seven 120VAC inputs per panel allow for the connection of switches, photocells, and occupancy sensors.

D. The control system automatically adjusts for daylight savings time. In addition, single or multiple holidays schedules can be stored in the program.

E. Contactors may be grouped into control zones.

F. Physical Auto/Off/Manual switches inside LCP providing a full manual override.

G. All unit controls shall be compatible with BACnet and LonWorks based building management systems.

H. There are two interlocks for use by a fire system, security system, or other building

management system to turn all lights on or off. These must be activated through a dry contact on the signaling device.

I. Unit can be outfitted with CASLink cloud based monitoring, which monitors every point of operation. Provides configurable automated fault alert e-mails, and remote control capabilities.

J. Integrated cellular module to provide remote connection to monitoring services to view real-time and historical unit operation. Data shall be stored for a minimum of 3-years on the cloud. Data sample rate shall be a maximum of 60 seconds.

2.5 OPTIONS

A. Locking latch – Keyed quarter-turn locking latch to prevent

B. Up to 9 additional HMIs available can be daisy-chained with Cat 5 cables.

C. HMI dimming – 10-300 seconds (5 minutes).

D. Output contactor – Output functions configured to selected zone as:

1. Output 1: Customer supplied. 40 amp/4 pole , or 70 amp/3 pole.
2. Output 2: Customer supplied, 40 amp/4 pole, or 70 amp/3 pole.
3. Output 3: Customer supplied, 40 amp/4 pole, or 70 amp/3 pole.
4. Output 4: Customer supplied, 40 amp/4 pole, or 70 amp/3 pole.
5. Output 5: Customer supplied, 40 amp/4 pole, or 70 amp/3 pole.
6. Output 6: Customer supplied, 40 amp/4 pole, or 70 amp/3 pole.
7. Output 7: Customer supplied, 40 amp/4 pole, or 70 amp/3 pole.
8. Output 8: Customer supplied, 40 amp/4 pole, or 70 amp/3 pole.

E. Input sensor – Up to 7 input functions can be configured:

1. Input 1: Customer supplied, Ceiling mount occupancy sensor 180°/360°, or Outdoor photocell swivel mount.
2. Input 2: Customer supplied, Ceiling mount occupancy sensor 180°/360°, or Outdoor photocell swivel mount.
3. Input 3: Customer supplied, Ceiling mount occupancy sensor 180°/360°, or Outdoor photocell swivel mount.
4. Input 4: Customer supplied, Ceiling mount occupancy sensor 180°/360°, or Outdoor photocell swivel mount.
5. Input 5: Customer supplied, Ceiling mount occupancy sensor 180°/360°, or Outdoor photocell swivel mount.
6. Input 6: Customer supplied, Ceiling mount occupancy sensor 180°/360°, or Outdoor photocell swivel mount.
7. Input 7: Customer supplied, Ceiling mount occupancy sensor 180°/360°, or Outdoor photocell swivel mount.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine all areas and conditions under which packaged units are to be installed. Do not proceed with work until unsatisfactory conditions have been corrected in a manner acceptable to Installer.

3.2 INSTALLATION

A. Install units in accordance with manufacturer's instructions, drawings, written specifications, manufacturer's installation manual, and all applicable building codes.

3.3 CONNECTIONS

A. Electrical connections conform to applicable requirements in Division 26 Sections.

3.4 SYSTEM START-UP

A. System start-up is performed by a factory-trained Service Technician.