

1. Scope

EMS Installation

The EMS shall control/monitor the following:

- 1. Total electrical load (Main Load)
2. Additional Loads - HVAC
3. Control all HVAC units
4. Control all interior and exterior lights and signs
5. Monitor Rear Entrance Motion

Note: The EMS Controller must be installed and communicating with the GridPoint server before moving forward with any other part of the installation.

2. Controller (See EM 1.0)

- EC1000 Controller (Mounting on MM1204-EX Door) with Transformer Power
A. Location/Mounting: (1) EC1000 Controller shall be mounted on the door of the MM1204-EX at an appropriate eye level.
B. Power Requirements: The 24 VAC power source for the controller must be obtained from a provided dedicated 120 to 24 VAC transformer, obtained from 15-20 amp single pole breaker.
C. Communication: LAN communication shall be obtained via the client's network/switch gear. RS-485 connections to peripheral devices shall be obtained using the J14 terminal block using Cat5e cable.
D. Labeling: Labeled per power source and site name on the front cover.

Current Transformer Schedule

Table with 5 columns: CT Input, CT Size, Phase, Panel/Circuit, Description/Load. Rows include Main Feeders, Field Verify, and Additional RTUs.

HUB's/Peripherals/Power Supplies

- A. Location/Mounting: (2) Installer provided NEMA-1 enclosures shall be installed to house the peripherals and power supplies provided.
B. Connections: Cat5e cable will be used to connect each set of peripherals.
C. Communication: RS-485 connections to the EMS controller shall be run to the HUB.
D. Labeling: Each wire cable must be identified / labeled per peripherals connected.

HVAC Controls (See EM 1.0)

The HVAC units shall be added to the GridPoint system one at a time, confirming proper operation before moving on to the next unit.

TS101 Wired (Thermostat in the Zone - TSTAT and Supply Combination) and RTU Power

- A. Location/Mounting: (3) TS101 thermostats shall be placed in an appropriate position as to monitor the associated zone.
B. Power/Communications: The 24 VAC power source for the TS101 thermostats shall be obtained from the existing 24 VAC transformer within the HVAC unit via HVAC control cabling.
C. Connections: The installer shall re-use existing thermostat cable and store the old thermostats in a box to leave with the manager on site.
D. Labeling: The thermostats shall be labeled to accurately describe the zone controlled.

Note: For each additional RTU the following parts are needed: 1 TS101, 1 temperature probe, 1 50A CT.

Lighting Controls and Motion Sensors (See EM 1.1)

- A. Location/Mounting: A photo diode sensor shall be mounted in the included watertight enclosure kit on the northern most side of the building.
B. Connections: The photo diode leads must be extended using 18-24 AWG shielded twisted pair

LCP 2.0 (Load Control Panel)

- A. Location/Mounting: (1) LCP 2.0 shall be mounted near the MM1204-EX.
B. Power Requirements: The 120 VAC power source for the LCP 2.0 must be obtained from a dedicated 15-20 amp single pole breaker.
C. Connections: The LCP 2.0 shall control the following: All interior and exterior lights except for the manager lights, which is independently controlled via switch.

Table with 4 columns: Contactor, Terminal, Circuit, Load Description. Lists various lighting and control circuits like Work/Stock Room Lights, Sales Lights, Signs, Exterior Lighting, and Spare.

- A. Line and Load wiring shall be routed from the electrical panel containing the circuits to be controlled back to the LCP 2.0.
B. Communication: RS-485 connections shall be obtained using the A+/B- terminals on the top rail of the LCP 2.0 using Cat5e cable.
C. Labeling: The LCP 2.0 shall be labeled on the front cabinet per power source.

LOCAL LIGHTING CONTROL

MANAGER OFFICE, RESTROOMS, SECURITY, AND EXIT/EMERGENCY.

MM1204-EX Metering Module

- A. Location/Mounting: (1) MM1204-EX shall be mounted within the electrical area at an appropriate eye level using correct wall anchors.
B. Power Requirements: 120V Power (15-30A single pole breaker) and site metering voltage (15-30A 3-pole breaker) must be pulled to the module.
C. Current Transformer Connections: Connect the supplied current transformers to the TB1/TB2 terminals.
D. Communication: RS-485 connections shall be obtained using the TB1 (orange punch-down) terminals using Cat5e cable.
E. Labeling: Labeled per metering and power source on the front door.

Motion Sensor

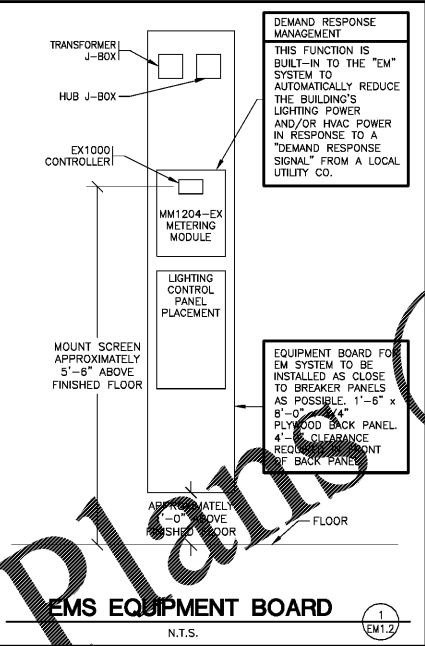
- A. Mount motion sensor by rear building entrance as shown on the Power Plan 2/E-1 of the construction plans.
a. Power the motion sensor from the dedicated 24VDC power supply in the power box via homerun using plenum rated wire.
b. Wire the motion sensor alarm signals using 18-24 AWG Shielded Twisted Pair cable back to the IOM6160 module as shown in EM 1.1.
c. Label the motion sensor wire rear entrance.

Inventory table with columns: Equipment, Quantity, Notes. Lists items like EC1000 Controller, MM-1204EX Metering module, 600A Current Transformer, etc.

Note: *For each additional RTU the following parts are needed: 1 TS101, 1 temperature probe, 1 50A CT.

Installation/Commissioning Prerequisites

- I. Class 1 Wiring: It is the installer's responsibility to make sure all class 1 wiring is properly installed using EMT/Rigid conduit.
II. Class 2 Wiring: It is the installer's responsibility to make sure all class 2 wiring is properly installed. Any class 2 wiring that pertains to the GridPoint system must be contained within EMT/Rigid conduit and out of customer view.



THERMOSTAT LABELING: LABEL EACH THERMOSTAT PER O'REILLY TERMINOLOGY WITH EXACTLY THE SAME UNIQUE IDENTIFYING "CODE" AS SHOWN ON THE "HVAC PLAN" ON SHEET M1.

T-STAT/CO2 SENSOR MOUNTING: MOUNT SHOWROOM T-STATS AND SENSORS AT 7'-3" ABOVE FINISHED FLOOR. MOUNT HALL PARTS T-STATS AND SENSORS AT 5'-6" ABOVE FINISHED FLOOR.

O'REILLY PREFERRED SCOPE OF WORK GRIDPOINT 5305 VALLEY PARK DRIVE SUITE # 2 - ROANOKE, VA - 24019

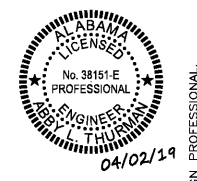
GRIDPOINT CONTACT: PLEASE CONTACT GRIDPOINT INSTALLATION MANAGEMENT @ 866-800-8908 FOR INSTALLATION CONTACT BASED ON THE STORE LOCATION.

PRINTS ARE FOR: DESIGN [X], REVIEW, PERMIT, BIDDING [X], CONSTRUCTION

Table for REVISIONS with columns: DESCRIPTION, DATE, BY.

SHEET TITLE: O'REILLY PREFERRED SCOPE OF WORK. FILE NAME: O'REILLY PREFERRED ONE LINE DIAGRAM. DATE: 05/14/2018. DRAWN BY: DAVID COLWELL.

EM 1.2

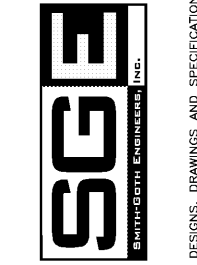


DATE: 04/02/19

O'Reilly AUTO PARTS CORPORATE OFFICES 233 SOUTH PATTERSON SPRINGFIELD, MISSOURI 65802 (417) 862-2674 TELEPHONE

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DRAWN BY: CEV CHECKED BY: NEG DATE: 04/02/19 REVISION:

PROJECT NUMBER: AHF SHEET NUMBER

EM1.2

Order Plans@www.LDILine.com

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