

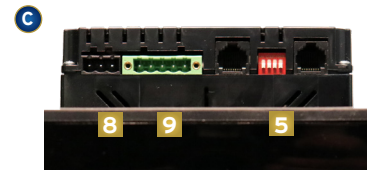
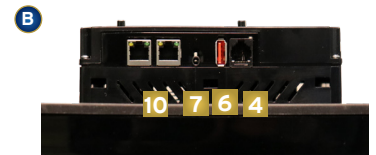
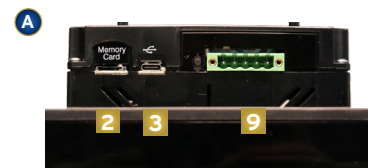
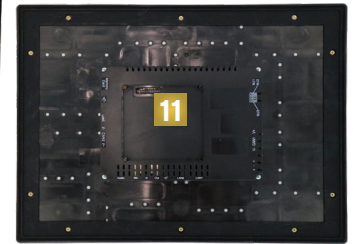
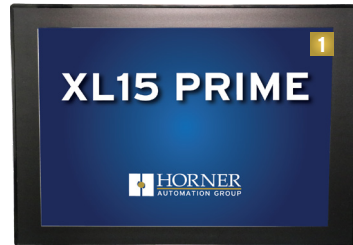
XL15 PRIME OCS QUICK REFERENCE GUIDE

HE-XP15E0, HE-XP15E2, HE-XP15E3, HE-XP15E4, HE-XP15E5, HE-XP15E6

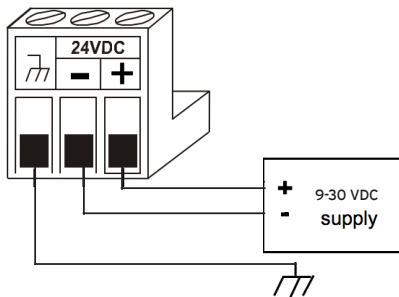
General Specifications

| | |
|-------------------------------|---|
| Display | 15" XGA (1024x768) TFT Color Touch-screen |
| Primary Power Range | 10-30 VDC |
| Required Power (steady state) | 1800mA @ 10V (18W)/700mA @ 24V (16.8W) |
| Required Power (inrush) | 25A for <1ms @ 24 VDC |
| USB Type C Power | 1.0A @ 5V (5W) No display or I/O |
| Battery Life | 7-10 Years Replaceable |
| Relative Humidity | 5-95% non-condensing |
| Operating Temperature | -10° C to +60° C |
| Storage Temperature | -20° C to +70° C |
| Weight | 6.97 lbs / 3.16 kg |
| Certifications (UL/CE) | USA or Europe |

XL15 Prime Overview



Power Wiring



POWER UP:

- Connect to Earth Ground
- Apply 9 - 30 VDC
- Torque rating 4.5 - 7 in-lbs (0.50 - 0.78 N-m)

1. Virtual Function Keys Slide in from the right upon touching top right corner of screen
2. High Capacity microSD Slot
3. USB Type C
4. OCS-I/O Expansion Port
5. RS-232/RS-485 Serial Ports (3)

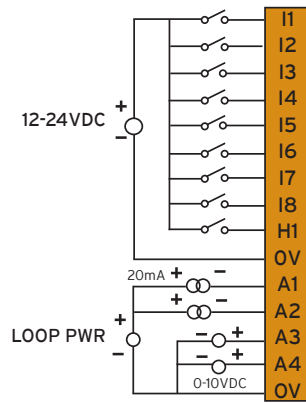
6. USB A Ports
7. Mic Input / Audio Output
8. Wide-Range DC Power Input
9. Dual CAN Ports
10. Dual Ethernet LAN Ports
11. Optional Built-In I/O

NOTE: See Precaution #12 page 5 about USB and grounding.

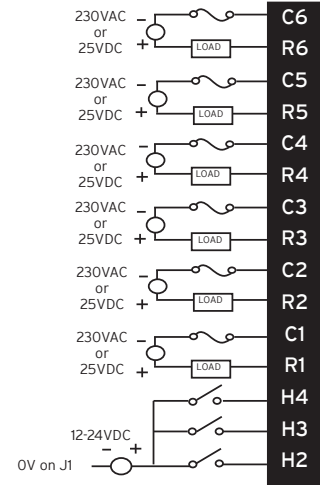
WIRING

MODEL 2: 12 DC In, 6 Relay Out, (4) 12-bit Analog In

| J1 (Orange) Name | |
|------------------|----------------|
| I1 (%I1) | Digital In 1 |
| I2 (%I2) | Digital In 2 |
| I3 (%I3) | Digital In 3 |
| I4 (%I4) | Digital In 4 |
| I5 (%I5) | Digital In 5 |
| I6 (%I6) | Digital In 6 |
| I7 (%I7) | Digital In 7 |
| I8 (%I8) | Digital In 8 |
| H1 (%I9) | HSC1/Dig. In 9 |
| OV | Common |
| A1 (%AI1) | Analog In 1 |
| A2 (%AI2) | Analog In 2 |
| A3 (%AI3) | Analog In 3 |
| A4 (%AI4) | Analog In 4 |
| OV | Common |

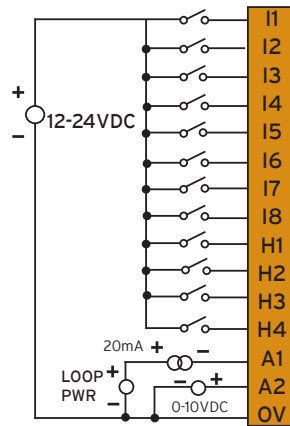


| J2 (Black) Name | |
|-----------------|-----------------|
| C6 (%Q6) | Relay 6 COM |
| R6 (%Q6) | Relay 6 NO |
| C5 (%Q5) | Relay 5 COM |
| R5 (%Q5) | Relay 5 NO |
| C4 (%Q4) | Relay 4 COM |
| R4 (%Q4) | Relay 4 NO |
| C3 (%Q3) | Relay 3 COM |
| R3 (%Q3) | Relay 3 NO |
| C2 (%Q2) | Relay 2 COM |
| R2 (%Q2) | Relay 2 NO |
| C1 (%Q1) | Relay 1 COM |
| R1 (%Q1) | Relay 1 NO |
| H4 (%QI12) | HSC4/Dig. In 12 |
| H3 (%QI11) | HSC3/Dig. In 11 |
| H2 (%QI10) | HSC2/Dig. In 10 |

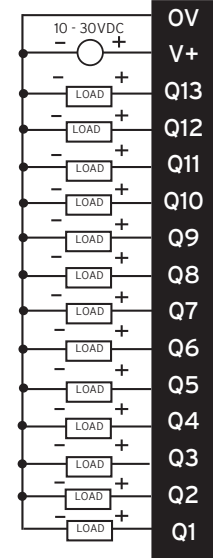


MODEL 3: 12 DC In, 12 DC Out, (2) 12-bit Analog In

| J1 (Orange) Name | |
|------------------|-----------------|
| I1 (%I1) | Digital In 1 |
| I2 (%I2) | Digital In 2 |
| I3 (%I3) | Digital In 3 |
| I4 (%I4) | Digital In 4 |
| I5 (%I5) | Digital In 5 |
| I6 (%I6) | Digital In 6 |
| I7 (%I7) | Digital In 7 |
| I8 (%I8) | Digital In 8 |
| H1 (%I9) | HSC1/Dig. In 9 |
| H2 (%I10) | HSC1/Dig. In 10 |
| H3 (%I11) | HSC1/Dig. In 11 |
| H4 (%I12) | HSC1/Dig. In 12 |
| A1 (%AI1) | Analog In 1 |
| A2 (%AI2) | Analog In 2 |
| OV | Common |

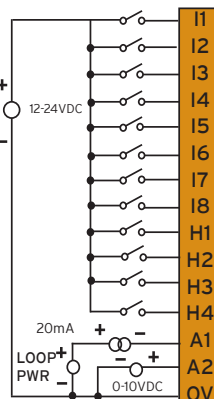


| J2 (Black) Name | |
|-----------------|----------------|
| OV | Common |
| V+ | V+ |
| NC | No Connect |
| Q12 (%Q12) | Digital Out 12 |
| Q11 (%Q11) | Digital Out 11 |
| Q10 (%Q10) | Digital Out 10 |
| Q9 (%Q9) | Digital Out 9 |
| Q8 (%Q8) | Digital Out 8 |
| Q7 (%Q7) | Digital Out 7 |
| Q6 (%Q6) | Digital Out 6 |
| Q5 (%Q5) | Digital Out 5 |
| Q4 (%Q4) | Digital Out 4 |
| Q3 (%Q3) | Digital Out 3 |
| Q2 (%Q2) | Dig. Out/PWM2 |
| Q1 (%Q1) | Dig. Out/PWM1 |

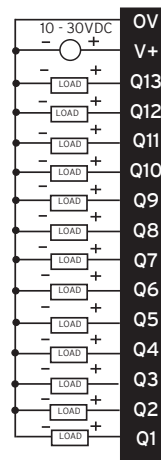


MODEL 4: 24 DC In, 16 DC Out, (2) 12-bit Analog In

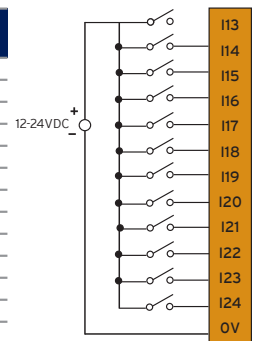
| J1 (Orange) Name | |
|------------------|-----------------|
| I1 (%I1) | Digital In 1 |
| I2 (%I2) | Digital In 2 |
| I3 (%I3) | Digital In 3 |
| I4 (%I4) | Digital In 4 |
| I5 (%I5) | Digital In 5 |
| I6 (%I6) | Digital In 6 |
| I7 (%I7) | Digital In 7 |
| I8 (%I8) | Digital In 8 |
| H1 (%I9) | HSC1/Dig. In 9 |
| H2 (%I10) | HSC1/Dig. In 10 |
| H3 (%I11) | HSC1/Dig. In 11 |
| H4 (%I12) | HSC1/Dig. In 12 |
| A1 (%AI1) | Analog In 1 |
| A2 (%AI2) | Analog In 2 |
| OV | Common |



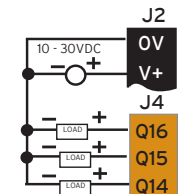
| J2 (Black) Name | |
|-----------------|----------------|
| OV | Common |
| V+ | V+ |
| Q13 (%Q13) | Digital Out 13 |
| Q12 (%Q12) | Digital Out 12 |
| Q11 (%Q11) | Digital Out 11 |
| Q10 (%Q10) | Digital Out 10 |
| Q9 (%Q9) | Digital Out 9 |
| Q8 (%Q8) | Digital Out 8 |
| Q7 (%Q7) | Digital Out 7 |
| Q6 (%Q6) | Digital Out 6 |
| Q5 (%Q5) | Digital Out 5 |
| Q4 (%Q4) | Digital Out 4 |
| Q3 (%Q3) | Digital Out 3 |
| Q2 (%Q2) | Dig. Out/PWM2 |
| Q1 (%Q1) | Dig. Out/PWM1 |



| J3 (Orange) Name | |
|------------------|---------------|
| I13 (%I13) | Digital In 13 |
| I14 (%I14) | Digital In 14 |
| I15 (%I15) | Digital In 15 |
| I16 (%I16) | Digital In 16 |
| I17 (%I17) | Digital In 17 |
| I18 (%I18) | Digital In 18 |
| I19 (%I19) | Digital In 19 |
| I20 (%I20) | Digital In 20 |
| I21 (%I21) | Digital In 21 |
| I22 (%I22) | Digital In 22 |
| I23 (%I23) | Digital In 23 |
| I24 (%I24) | Digital In 24 |
| OV | Common |



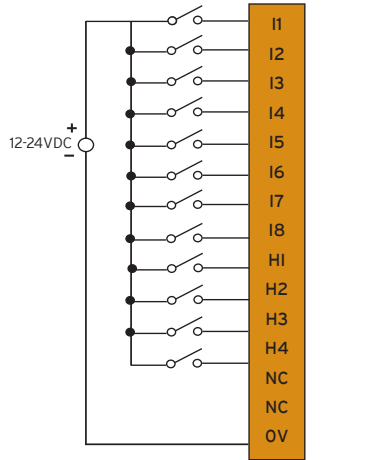
| J4 (Orange) Name | |
|------------------|----------------|
| Q16 (%Q16) | Digital Out 16 |
| Q15 (%Q15) | Digital Out 15 |
| Q14 (%Q14) | Digital Out 14 |



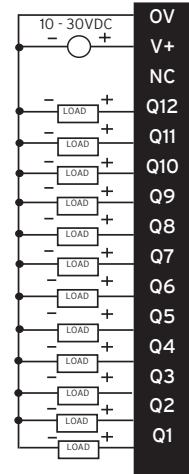
WIRING: I-O continued...

MODEL 5: 12 DC In, 12 DC Out, (2) 14/16-bit Analog In (mA/V/TC/mV/RTD), (2) 12-bit Analog Out

| J1 (Orange) Name | |
|------------------|-----------------|
| I1 (%I1) | Digital In 1 |
| I2 (%I2) | Digital In 2 |
| I3 (%I3) | Digital In 3 |
| I4 (%I4) | Digital In 4 |
| I5 (%I5) | Digital In 5 |
| I6 (%I6) | Digital In 6 |
| I7 (%I7) | Digital In 7 |
| I8 (%I8) | Digital In 8 |
| H1 (%I9) | HSC1/Dig. In 9 |
| H2 (%I10) | HSC2/Dig. In 10 |
| H3 (%I11) | HSC3/Dig. In 11 |
| H4 (%I12) | HSC4/Dig. In 12 |
| NC | No Connect |
| NC | No Connect |
| OV | Common |



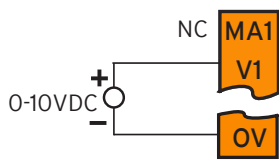
| J2 (Black) Name | |
|-----------------|----------------|
| OV | Common |
| V+* | Output Power |
| NC | No Connect |
| Q12 (%Q12) | Digital Out 12 |
| Q11 (%Q11) | Digital Out 11 |
| Q10 (%Q10) | Digital Out 10 |
| Q9 (%Q9) | Digital Out 9 |
| Q8 (%Q8) | Digital Out 8 |
| Q7 (%Q7) | Digital Out 7 |
| Q6 (%Q6) | Digital Out 6 |
| Q5 (%Q5) | Digital Out 5 |
| Q4 (%Q4) | Digital Out 4 |
| Q3 (%Q3) | Digital Out 3 |
| Q2 (%Q2) | Dig. Out/PWM2 |
| Q1 (%Q1) | Dig. Out/PWM1 |



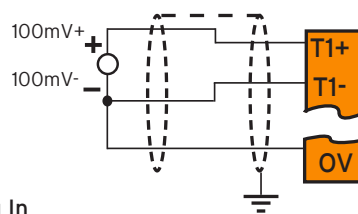
| J3 (Orange) Name | |
|------------------|------------------------------------|
| T1+ (%AI1) | TC (1+) or RTD (1+) or 100 mV (1+) |
| T1- (%AI1) | TC (1-) or RTD (1-) or 100 mV (1-) |
| T2+ (%AI2) | TC (2+) or RTD (2+) or 100 mV (2+) |
| T2- (%AI2) | TC (2-) or RTD (2-) or 100 mV (2-) |
| AQ1 (%AQ9) | 10V or 20mA OUT (1) |
| AQ2 (%AQ10) | 10V or 20mA OUT (2) |
| OV | Common |
| MA1 (%AI1) | 0-20mA IN (1) |
| V1 (%AI1) | 0-10V IN (1) |
| OV | Common |
| MA2 (%AI2) | 0-20mA IN (2) |
| V2 (%AI2) | 0-10V IN (2) |
| OV | Common |

| |
|-----|
| T1+ |
| T1- |
| T2+ |
| T2- |
| AQ1 |
| AQ2 |
| OV |
| MA1 |
| V1 |
| O1 |
| MA2 |
| V2 |
| OV |

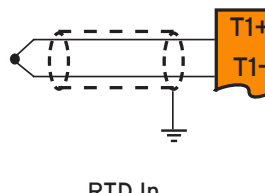
0-10V Analog In



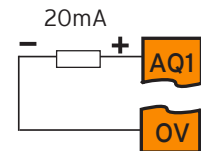
mV In



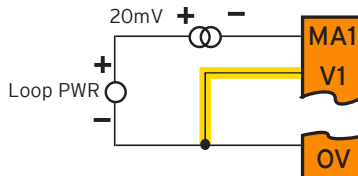
Thermocouple In



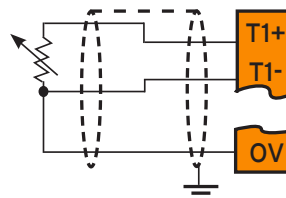
4 - 20 mA Analog Out



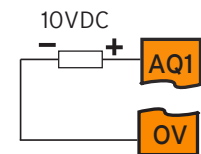
20mA Analog In



RTD In



0 - 10V Analog Out



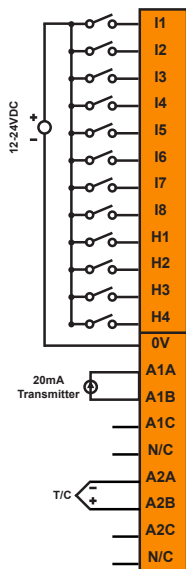
NOTE: Loop power requirements are determined by the transmitter specification.

NOTE: Be sure to wire OV to V1 as shown.

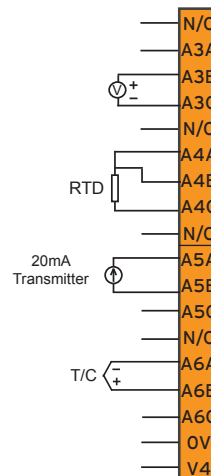
WIRING: I-O continued...

MODEL 6: 12 DC In, 12 DC Out, (6) 14/17-bit Analog In (mA/V/TC/mV/RTD), (4) 12-bit Analog Out

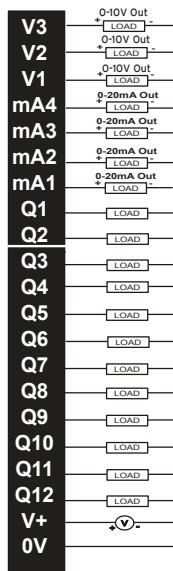
| J1 (Orange/Green) Name | | |
|------------------------|-------------|-------------------|
| J1A | I1 (%I1) | Digital In 1 |
| | I2 (%I2) | Digital In 2 |
| | I3 (%I3) | Digital In 3 |
| | I4 (%I4) | Digital In 4 |
| | I5 (%I5) | Digital In 5 |
| | I6 (%I6) | Digital In 6 |
| | I7 (%I7) | Digital In 7 |
| | I8 (%I8) | Digital In 8 |
| | H1 (%I9) | HSC1/V Dig. In 9 |
| | H2 (%I10) | HSC2/V Dig. In 10 |
| | H3 (%I11) | HSC3/V Dig. In 11 |
| | H4 (%I12) | HSC4/V Dig. In 12 |
| J1B | OV | Common |
| | A1A (%AI33) | Univ. AI 1 Pin 1 |
| | A1B (%AI33) | Univ. AI 1 Pin 2 |
| | A1C (%AI33) | Univ. AI 1 Pin 3 |
| | NC | No Connect |
| | A2A (%AI34) | Univ. AI 2 Pin 1 |
| | A2B (%AI34) | Univ. AI 2 Pin 2 |
| | A2C (%AI34) | Univ. AI 2 Pin 3 |
| | NC | No Connect |
| | NC | No Connect |



| J3 (Orange/Green) Name | | |
|------------------------|-------------|------------------|
| Univ. AI | NC | No Connection |
| | A3A (%AI35) | Univ. AI 3 Pin 1 |
| | A3B (%AI35) | Univ. AI 3 Pin 2 |
| | A3C (%AI35) | Univ. AI 3 Pin 3 |
| | NC | No Connection |
| | A4A (%AI36) | Univ. AI 4 Pin 1 |
| | A4B (%AI36) | Univ. AI 4 Pin 2 |
| | A4C (%AI36) | Univ. AI 4 Pin 3 |
| | NC | No Connection |
| | A5A (%AI37) | Univ. AI 5 Pin 1 |
| | A5B (%AI37) | Univ. AI 5 Pin 2 |
| | A5C (%AI37) | Univ. AI 5 Pin 3 |
| Univ. AI | NC | No Connection |
| | A6A (%AI38) | Univ. AI 6 Pin 1 |
| | A6B (%AI38) | Univ. AI 6 Pin 2 |
| | A6C (%AI38) | Univ. AI 6 Pin 3 |
| | OV | Common |
| | V4 (%AQ12) | V OUT 4* |

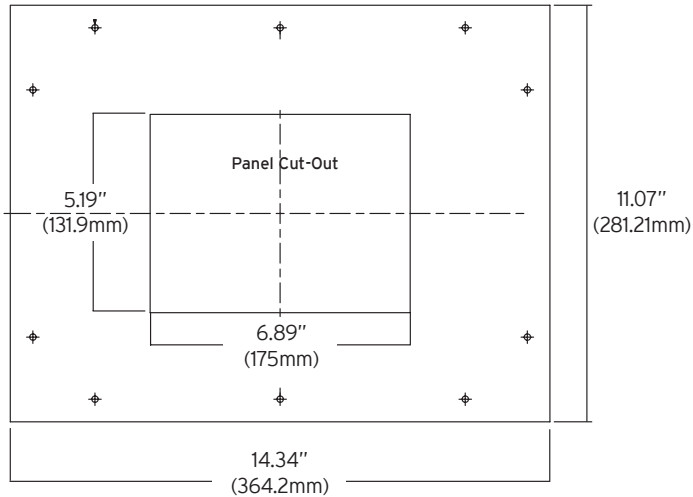


| J2 (Black/Green) Name | | | |
|-----------------------|------------|-----------------|---------------|
| J2A | V3 (%AQ11) | V Out 3* | |
| | V2 (%AQ10) | V Out 2* | |
| | V1 (%AQ9) | V Out 1* | |
| | mA4 (%Q4) | mA Out 4* | |
| | mA3 (%Q3) | mA Out 3* | |
| | mA2 (%Q2) | mA Out 2* | |
| | mA1 (%Q1) | mA Out 1* | |
| | Q1 (%Q1) | Dig. Out 1/PWM1 | |
| | Q2 (%Q2) | Dig. Out 1/PWM2 | |
| | J2B | Q3 (%Q3) | Digital Out 3 |
| | | Q4 (%Q4) | Digital Out 4 |
| | | Q5 (%Q5) | Digital Out 5 |
| Q6 (%Q6) | | Digital Out 6 | |
| Q7 (%Q7) | | Digital Out 7 | |
| Q8 (%Q8) | | Digital Out 8 | |
| Q9 (%Q9) | | Digital Out 9 | |
| Q10 (%Q10) | | Digital Out 10 | |
| Q11 (%Q11) | | Digital Out 11 | |
| Q12 (%Q12) | | Digital Out 12 | |
| V+ | | V External+ | |
| OV | | Common | |



NOTE: * Both mA & V outputs are active for each output channel, however, only the configured output type is calibrated (maximum 4 channels simultaneously).

Controller Dimensions & Installation



+1mm / -0mm cutout tolerance

For detailed product and panel cutout dimensions, refer to the template SUP1550. It is recommended that the template be cut out and adhered to the panel in which the XL15 Prime OCS will be mounted to ensure the holes are made in the correct places.

Hazardous Location Notice

Power, input and output (I/O) wiring must be in accordance with Class 1, Division 2 wiring methods [Article 501-4(b) of the National Electrical Code, NFPA 70] for installations in the U.S. or as specified in Section 18-1J2 of the Canadian Electrical Code for installations within Canada and in accordance with the authority having jurisdiction.

1. THIS EQUIPMENT IS SUITABLE FOR USE IN CLASS I, DIVISION 2, GROUPS A B C D or NON-HAZARDOUS LOCATIONS ONLY.
2. WARNING - EXPLOSION HAZARD - SUBSTITUTION OF COMPONENTS MAY IMPAIR SUITABILITY FOR CLASS I, DIVISION 2.

AVERTISSEMENT - RISQUE D'EXPLOSION LA SUBSTITUTION DE COMPOSANTS PEUT RENDRECE MATE RIEL INACCEPTABLE POUR LES EMPLACEMENTS DE CLASSE I, DIVISION 2

3. WARNING - EXPLOSION HAZARD - DO NOT DISCONNECT EQUIPMENT UNLESS POWER HAS BEEN SWITCHED OFF OR THE AREA IS KNOWN TO BE NON-HAZARDOUS AND FREE OF IGNITABLE CONCENTRATIONS.

ATTENTION - RISQUE D'EXPLOSION - NE DECONNECTEZ PAS L'EQUIPEMENT A MOINS DE L'AVOIR MIS HORS TENSION OU QUE LA ZONE EST CONNUE NON-DANGEREUSE ET NE CONTIENT PAS DE CONCENTRATIONS INFLAMMABLES.

4. WARNING - EXPLOSION HAZARD - BATTERIES MUST ONLY BE CHARGED IN AN AREA KNOWN TO BE NON-HAZARDOUS.

AVERTISSEMENT - RISQUE D'EXPLOSION - LES PILES NE DOIVENT ÊTRE CHARGÉES QUE DANS UN ENDROIT DE DANGER NON DANGEREUX.

5. WARNING - Battery may explode if mistreated. Do not recharge, disassemble, or dispose of in fire.

AVERTISSEMENT - La batterie peut exploser si elle est maltraitée. Ne pas recharger, démonter ou jeter au feu.

FCC Compliance

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference
2. This device must accept any interference received, including interference that may cause undesired operation

Precautions

All applicable codes and standards need to be followed in the installation of this product. Adhere to the following safety precautions whenever any type of connection is made to the module:

1. Connect the safety (earth) ground on the power connector first before making any other connections.
2. When connecting to the electric circuits or pulse-initiating equipment, open their related breakers.
3. Do NOT make connection to live power lines.
4. Make connections to the module first; then connect to the circuit to be monitored.
5. Route power wires in a save manner in accordance with good practice and local codes.
6. Wear proper personal protective equipment including safety glasses and insulated gloves when making connections to power circuits.
7. Ensure hands, shoes, and floor are dry before making any connection to a power line.
8. Ensure the unit is turned OFF before making connection to terminals.
9. Ensure all circuits are de-energized before making connections.
10. Before each use, inspect all cables for breaks or cracks in the insulation. Replace immediately if defective.
11. Use copper conductors in Field Wiring only, 60/75° C.
12. Use caution when connecting controllers to PCs via serial or USB. PCs, especially laptops, may use "floating power supplies: that are ungrounded. This could cause a damaging voltage potential between the laptop and controller. Ensure the controller and laptop are grounded for maximum protection. Consider using a USB isolator due to voltage potential differences as a preventative measure.

Technical Support

For further details, please refer to the XL15 Prime Datasheets, MAN1479-1484. For assistance and manual updates, contact Technical Support at the following locations:

North America

+1 (317) 916-4274
www.hornerautomation.com
techsppt@heapg.com

Europe

+353 (21) 4321-266
www.hornerautomation.eu
technical.support@horner-apg.com