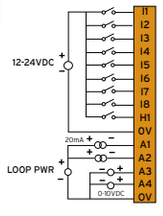
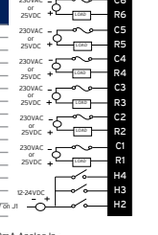
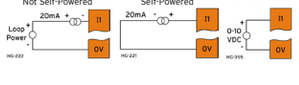
MODEL 2:
12 DC In, 6 Relay Out, (4) 12-bit Analog IN

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
0V	Common
A1 (%AI1)	Analog In 1
A2 (%AI2)	Analog In 2
A3 (%AI3)	Analog In 3
A4 (%AI4)	Analog In 4
0V	Common



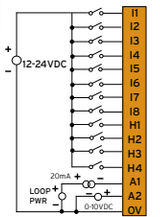
J2 (Black)	Name
C6 (%Q6)	Relay 6 COM
R6 (%Q6)	Relay 6 NO
C5 (%Q5)	Relay 5 COM
R5 (%Q5)	Relay 5 NO
C4 (%Q4)	Relay 4 COM
R4 (%Q4)	Relay 4 NO
C3 (%Q3)	Relay 3 COM
R3 (%Q3)	Relay 3 NO
C2 (%Q2)	Relay 2 COM
R2 (%Q2)	Relay 2 NO
C1 (%Q1)	Relay 1 COM
R1 (%Q1)	Relay 1 NO
H4 (%I12)	HSC4/Dig. In 12
H3 (%I11)	HSC3/Dig. In 11
H2 (%I10)	HSC2/Dig. In 10



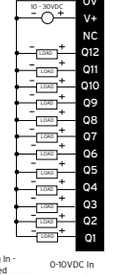


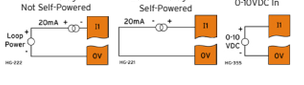
MODEL 3:
12 DC In, 12 DC Out, (2) 12-bit Analog IN

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)	HSC2/Dig. In 10
H3 (%I11)	HSC3/Dig. In 11
H4 (%I12)	HSC4/Dig. In 12
A1 (%AI1)	Analog In 1
A2 (%AI2)	Analog In 2
0V	Common



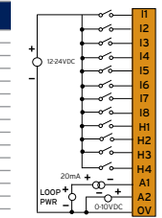
J2 (Black)	Name
0V	Common
V+	V+
NC	No Connect
Q12 (%Q12)	Digital Out 12
Q11 (%Q11)	Digital Out 11
Q10 (%Q10)	Digital Out 10
Q9 (%Q9)	Digital Out 9
Q8 (%Q8)	Digital Out 8
Q7 (%Q7)	Digital Out 7
Q6 (%Q6)	Digital Out 6
Q5 (%Q5)	Digital Out 5
Q4 (%Q4)	Digital Out 4
Q3 (%Q3)	Digital Out 3
Q2 (%Q2)	Dig.Out/PWM2
Q1 (%Q1)	Dig.Out/PWM1



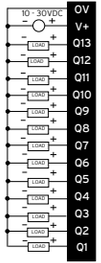


MODEL 4:
24 DC In, 16 DC Out, (2) 12-bit Analog IN

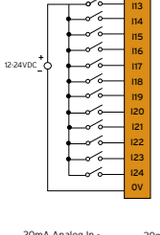
J1 (Orange)	Name
I1 (%I1)	Digital In 1
I2 (%I2)	Digital In 2
I3 (%I3)	Digital In 3
I4 (%I4)	Digital In 4
I5 (%I5)	Digital In 5
I6 (%I6)	Digital In 6
I7 (%I7)	Digital In 7
I8 (%I8)	Digital In 8
H1 (%I9)	HSC1/Dig. In 9
H2 (%I10)	HSC2/Dig. In 10
H3 (%I11)	HSC3/Dig. In 11
H4 (%I12)	HSC4/Dig. In 12
A1 (%AI1)	Analog In 1
A2 (%AI2)	Analog In 2
0V	Common



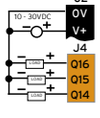
J2 (Black)	Name
0V	Common
V+	V+
Q13 (%Q13)	Digital Out 13
Q12 (%Q12)	Digital Out 12
Q11 (%Q11)	Digital Out 11
Q10 (%Q10)	Digital Out 10
Q9 (%Q9)	Digital Out 9
Q8 (%Q8)	Digital Out 8
Q7 (%Q7)	Digital Out 7
Q6 (%Q6)	Digital Out 6
Q5 (%Q5)	Digital Out 5
Q4 (%Q4)	Digital Out 4
Q3 (%Q3)	Digital Out 3
Q2 (%Q2)	Dig.Out/PWM2
Q1 (%Q1)	Dig.Out/PWM1

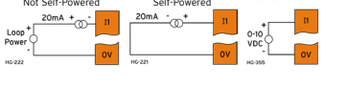


J3 (Orange)	Name
I13 (%I13)	Digital In 13
I14 (%I14)	Digital In 14
I15 (%I15)	Digital In 15
I16 (%I16)	Digital In 16
I17 (%I17)	Digital In 17
I18 (%I18)	Digital In 18
I19 (%I19)	Digital In 19
I20 (%I20)	Digital In 20
I21 (%I21)	Digital In 21
I22 (%I22)	Digital In 22
I23 (%I23)	Digital In 23
I24 (%I24)	Digital In 24
0V	Common



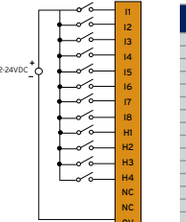
J4 (Orange)	Name
Q16 (%Q16)	Digital Out 16
Q15 (%Q15)	Digital Out 15
Q14 (%Q14)	Digital Out 14



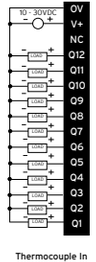


MODEL 5:
12 DC In, 12 DC Out, (2) 14/16-bit Analog IN (mA/V/Tc/mV/RTD), (2) 12-bit Analog Out

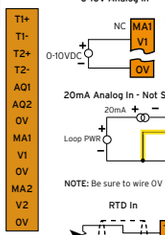
J1 (Orange)	Name
I1 (%I1)	Digital In 1
I2 (%I2)	Digital In 2
I3 (%I3)	Digital In 3
I4 (%I4)	Digital In 4
I5 (%I5)	Digital In 5
I6 (%I6)	Digital In 6
I7 (%I7)	Digital In 7
I8 (%I8)	Digital In 8
H1 (%I9)	HSC1/Dig. In 9
H2 (%I10)	HSC2/ Dig. In 10
H3 (%I11)	HSC3/ Dig. In 11
H4 (%I12)	HSC4/Dig. In 12
NC	No Connect
NC	No Connect
0V	Common



J2 (Black)	Name
0V	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

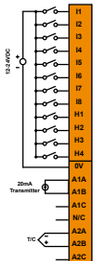


J3 (Orange)	Name
T1+ (%AI1)	TC (+) or RTD (I+) or 100 mV (1+)
T1- (%AI1)	TC (-) or RTD (I-) or 100 mV (1-)
T2+ (%AI2)	TC (2+) or RTD (2+) or 100 mV (2+)
T2- (%AI2)	TC (2-) or RTD (2-) or 100 mV (2-)
AQ1 (%AQ9)	10V or 20mA OUT (1)
AQ2 (%AQI0)	10V or 20mA OUT (2)
0V	Common
MA1 (%AI1)	0-20mA IN (1)
V1 (%AI1)	0-10V IN (1)
0V	Common
MA2 (%AI2)	0-20mA IN (2)
V2 (%AI2)	0-10V IN (2)
0V	Common

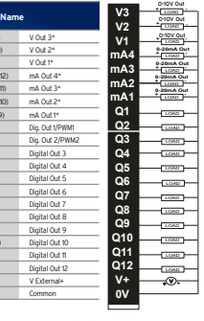


MODEL 6:
12 DC In, 12 DC Out, (6) 14/17-bit Analog IN (mA/V/TC/mV/RTD), (4) 12-bit Analog Out

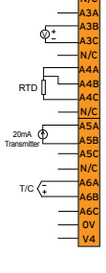
J1 (Orange/Green)	Name
J1A	I1 (%I1) — Digital In 1
	I2 (%I2) — Digital In 2
	I3 (%I3) — Digital In 3
	I4 (%I4) — Digital In 4
	I5 (%I5) — Digital In 5
	I6 (%I6) — Digital In 6
	I7 (%I7) — Digital In 7
	I8 (%I8) — Digital In 8
	H1 (%I9) — HSC1/ Dig. In 9
	H2 (%I10) — HSC2/ Dig. In 10
	H3 (%I11) — HSC3/ Dig. In 11
	H4 (%I12) — HSC4/ Dig. In 12
	0V — Common
J1B	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



J2 (Black/Green)	Name
J2A	V3 (%AQ11) — V Out 3*
	V2 (%AQI0) — V Out 2*
	V1 (%AQ9) — V Out 1*
	mA4 (%AQI2) — mA Out 4*
	mA3 (%AQI1) — mA Out 3*
	mA2 (%AQI0) — mA Out 2*
	mA1 (%AQ9) — mA Out 1*
	Q1 (%Q1) — Dig. Out 1/PWM1
	Q2 (%Q2) — Dig. Out 2/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/+
	0V — Common



J3 (Orange/Green)	Name
Univ. AI	NC — No Connection
	A3A (%AI05) — 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
Univ. AI	A5A (%AI37) — Univ. AI 5 Pin 1
	A5B (%AI37) — Univ. AI 5 Pin 2
	A5C (%AI37) — Univ. AI 5 Pin 3
	NC — No Connection
	A6A (%AI38) — Univ. AI 6 Pin 1
	A6B (%AI38) — Univ. AI 6 Pin 2
	A6C (%AI38) — Univ. AI 6 Pin 3
	0V — Common
	V4 (%AQ12) — V OUT 4*



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



Primary Power Port Pins		
PIN	SIGNAL	DESCRIPTION
1	Ground	Frame Ground
2	DC-	Input Power Supply Ground
3	DC+	Input Power Supply Voltage

NOTE: Primary Power Range: 10-30VDC

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 safe 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. Make sure the unit is turned OFF before making connection to terminals.
9. Make sure 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. Do not disconnect while circuit is live unless area is known to be non-hazardous.
13. Do not remove or replace jumpers or connectors while circuit is live unless the area is known to be free of ignitable concentrations of flammable gases or vapors.
14. EXPLOSION HAZARD – substitution of components may impair suitability for Class I, Division 2.
15. Use caution when making connections to the controller to protect against static discharge. Special care must be taken when replacing the battery or inserting or adjusting I/O or communication boards.
16. Use caution when connecting controllers to PCs via serial or USB. PCs and especially laptops may use "floating power supplies" that are ungrounded. This could cause a voltage potential between the laptop and controller. Make sure the controller and laptop are grounded for maximum protection.
17. Failure to follow these guidelines can damage the controller.

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.
3. AVERTISSEMENT - RISQUE D'EXPLOSION LA SUBSTITUTION DECOMPOSANTS 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-DANGEUREUSE ET NE CONTIENT PAS DE CONCENTRA TIONS INFLAMMABLES.

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

Technical Support

For further details, please refer to the datasheets. For assistance and manual updates, contact Technical Support at the following locations:

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

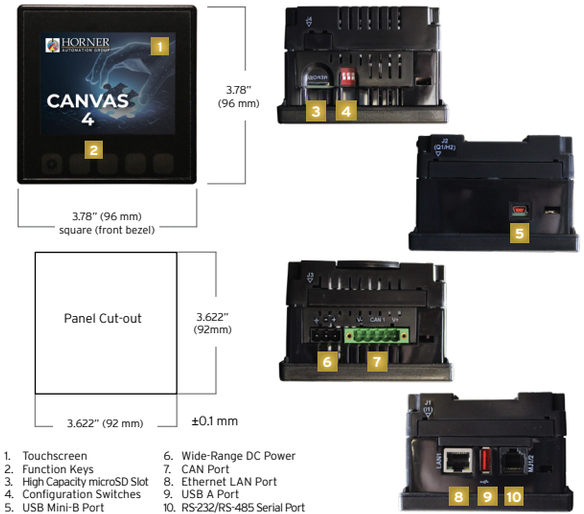
Europe
+353 (21) 4321-266
www.hornerautomation.eu
technical.support@horner-apg.com

Installation Procedure

The Canvas 4 utilizes a clip installation method to ensure a robust and watertight seal to the enclosure. Follow the steps below for the proper installation and operation of the unit. This equipment is a panel mounted device and is meant to be installed in an enclosure suitable for the environment, such that the equipment is only accessible with the use of a tool.

1. Carefully locate an appropriate place to mount the unit. Leave enough room at the top of the unit for insertion and removal of the microSD™ card.
2. Carefully cut the host panel, creating a 92 mm x 92 mm (with a tolerance of ±0.1 mm) into which the unit is to be installed. If the opening is too large, water may leak into the enclosure, potentially damaging the unit. If the opening is too small, the unit may not fit through the hole without damage.
3. Remove burrs and/or sharp edges, and ensure the panel is not warped in the cutting process.
4. Install and tighten the four mounting clips (provided in the box) until the gasket forms a tight seal. For included mounting clips, use a torque rating of 7-10 in·lbs (0.79-1.13 N·m).
5. Connect communications cables to the serial port, USB port, Ethernet port, and CAN port as required.

Port Connectors / Panel Cutout



1. Touchscreen
2. Function Keys
3. High Capacity microSD Slot
4. Configuration Switches
5. USB Mini-B Port
6. Wide-Range DC Power
7. CAN Port
8. Ethernet LAN Port
9. USB A Port
10. RS-232/RS-485 Serial Port

NOTE: See Precaution #16 about USB and grounding.

CE

HORNER AUTOMATION GROUP

Canvas 4 - HE-CV-035C

GETTING STARTED

1 Read this document to fully understand the Canvas 4 and safety requirements

2 Connect 24VDC power and I/O according to the quick reference guide and data sheet.

3 Refer to the Canvas 4 User Manual for further instructions, MAN1364.



Required Power (Inrush)	2A for < 1ms @ 24VDC
Primary Power Range	10-30VDC
Relative Humidity	5 to 95% , Non-Condensing
Clock Accuracy	± 20 ppm maximum at 25ºC (± 1 min/month)
Real Time Clock	Battery Backed, lithium coin
Operating Temperature	-10ºC to +60ºC
Storage Temperature	-20ºC to +60ºC
Weight	12 oz (340g) without I/O
Altitude	Up to 2000m
Rated Pollution Degree	Evaluated for Pollution Degree 2 Rating
Certifications (UL/CE)	North America: https://hornerautomation.com/certifications/ Europe: https://hornerautomation.eu/support/certifications-2/

This document is the property of Horner Automation Group and is subject to change.