

EXLW OCS QUICK REFERENCE GUIDE

General Specifications

Required Power (Steady State)	420mA @ 12VDC 230mA @ 24VDC
Required Power (Inrush)	25A for < 1ms @ 24VDC, DC switched
Primary Power Range	10 - 30VDC
Relative Humidity	5 to 95% non-condensing
Typical Power Backlight 100%	6.816W @ 24VDC
Power Backlight 50%	6.169W @ 24VDC
Power Backlight OFF	5.472W @ 24VDC
Clock Accuracy	+ / - 20 ppm maximum at 25°C (+/-1 min/month)
Real Time Clock	Battery Backed, Rechargeable Lithium
Operating Air Temp	-10°C to +60°C
Storage Temp	-20°C to +60°C
Weight	1.59 lbs (721.2g)
Altitude	Up to 2000m
Rated Pollution Degree	Evaluated for Pollution Degree 2 Rating
Certifications (UL/CE)	North America: https://hornerautomation.com/certifications/ Europe: https://www.hornerautomation.eu/support/certifications/2/

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EXLW Overview









- 1. Touchscreen
- 2. USB 2.0 "A": Flash Drive
- 3. LAN Port
- 4. PWR: 10-30VDC In
- 5. CAN Port

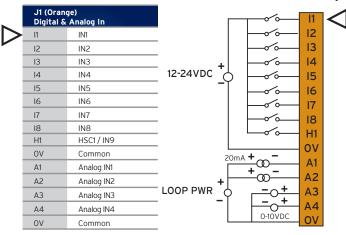
- 6. MJ3: RS-232/485
- 7. Dip Switches
- 8. MJ1/MJ2: RJ45 Serial Port
- 9. microSD: Data Storage
- 10. USB mini "B": Programming

NOTE: See Precaution #15 on page 4 about USB and grounding.

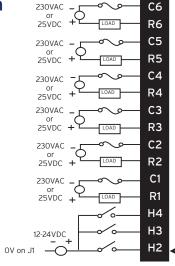
page 1 of 4



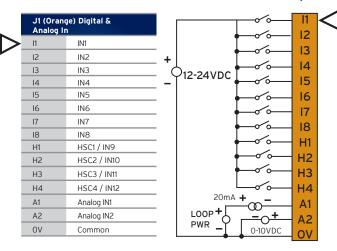
MODEL 2: 2 DC In, 6 Relay Out, 4 - 12-bit Analog In



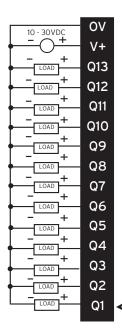
	(Black) Relay Out / tal In	
C6	Relay 6 COM	
R6	Relay 6 NO	
C5	Relay 5 COM	
R5	Relay 5 NO	
C4	Relay 4 COM	
R4	Relay 4 NO	
С3	Relay 3 COM	
R3	Relay 3 NO	
C2	Relay 2 COM	
R2	Relay 2 NO	
C1	Relay 1 COM	
R1	Relay 1 NO	
H4	HSC4 / IN12	
НЗ	HSC3 / IN11	
► H2	HSC2 / IN10	



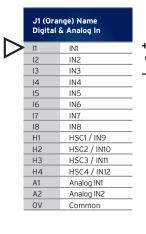
MODEL 3: 12 DC In, 12 DC Out, 2 - 12-bit Analog In

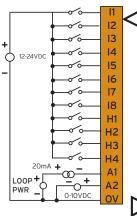


J2 (Black) Positive Logic Digital Out		
OV	Common	
V+	V+	
NC	No Connect	
Q12	OUT 12	
Q11	OUT 11	
Q10	OUT 10	
Q9	OUT 9	
Q8	OUT 8	
Q7	OUT 7	
Q6	OUT 6	
Q5	OUT 5	
Q4	OUT 4	
Q3	OUT 3	
Q2	OUT2/PWM2	
Q1	OUT1/PWM1	



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





	13		Digital	Jut
	14		OV	Common
	15		V+	V+
	16		NC	OUT 13
	-		Q12	OUT 12
	17		Q11	OUT 11
	18		Q10	OUT 10
	H1		Q9	OUT 9
	Н2		Q8	OUT 8
	H3		Q7	OUT 7
	-		Q6	OUT 6
	H4		Q5	OUT 5
	A1		Q4	OUT 4
+	A2		Q3	OUT 3
C	ov	_	Q2	OUT 2 / PWM 2
	UV	' I>	Q1	OUT 1 / PWM 1

J2 (Black) Name Positive Logic

	OV	VDC) - 30 ¹	10	
	V+	+	-(-)-		
	Q13	+	LOAD	_	
1		+		_	
IJ	Q12	+	LOAD		_ '
	Q11	Ť-	LOAD	_	
	Q10	+	LOAD		- ,
	Q9	+	LOAD		- ,
	Q8	+			
		+	LOAD	_	_ '
	Q7	+	LOAD		
	Q6	Ť–	LOAD		
	Q5	+	LOAD	_	
	Q4	+		_	_
		+	LOAD	_	_ '
	Q3	<u> </u>	LOAD		_ •
	Q2	+	LOAD	_	_ (
	Q1	+	LOAD	_	_
	٠,	•			



Positive Logic Digital Out

Q16 Q15

Q14

OUT16

OUT15

OUT14

	12	22 23 24 V
10 - 30VDC	J2 0V V+	
- + + + + + + + + + + + + + + + + + + +	J4 Q16	

114

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117

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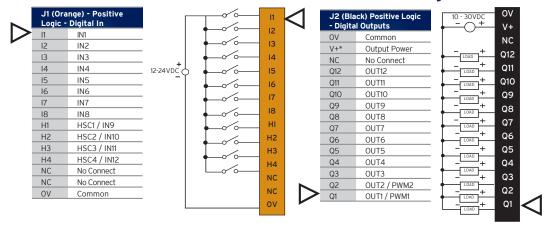
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page 2 of 4



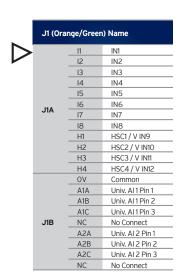
MODEL 5: 2 DC In, 12 DC Out, 2 - 14/16-bit Analog In (mA/V/TC/mV/RTD), 2 - 12-bit Analog Out



J3 (Orange) Name				
T1+	TC (1+) or RTD (1+) or 100 mV (1+)			
	TC (1-) or RTD (1-)			
T1-	or 100 mV (1-)			
T2+	TC (2+) or RTD (2+)			
12.	or 100 mV (2+)			
T2-	TC (2-) or RTD (2-)			
12	or 100 mV (2-)			
AQ1	10V or 20mA OUT (1)			
AQ2	10V or 20mA OUT (2)			
OV	Common			
MA1	0-20mA IN (1)			
V1	0-10V IN (1)			
OV	Common			
MA2	0-20mA IN (2)			
V2	0-10V IN (2)			
OV	Common			

See MAN1172 for Model 5 wiring details.

MODEL 6: 2 DC In, 12 DC Out, 6 - 14/17-bit Analog In (mA/V/TC/mV/RTD), 4 - 12-bit Analog Out



J3 (Orange/Green) Name

A3A

A3B

A30

A4A

A4B

A4C

NC.

A5A

A5B

A6A

A6B

A6C

OV

٧4

No Connection

Univ. Al 3 Pin 1

Univ. Al 3 Pin 2

Univ Al 3 Pin 3

No Connection

Univ. Al 4 Pin 1

Univ. Al 4 Pin 2

Univ. AI 4 Pin 3

No Connection

Univ. AI 5 Pin 1

Univ. AI 5 Pin 2 Univ. AI 5 Pin 3

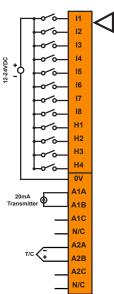
No Connection

Univ. AI 6 Pin 1

Univ. AI 6 Pin 2

Univ. Al 6 Pin 3

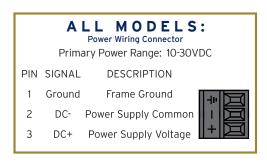
V OUT 4*



	N/C	
	A3A	
4.	АЗВ	
<u>φ±</u>	A3C	
	N/C	
	A4A	
RTD	A4B	
KID [A4C	
	N/C	
20mA	A5A	
ransmitter	A5B	
_	A5C	
	A5C N/C	
/ -	A6A	
T/C (-	A6B	
	A6C	
	ov	
	V4	

J2 (Bla	ack/Green) l	Name	V3 V2	0-10V Out
	V3	V OUT 3*	V1 -	0-10V Out
	V2	V OUT 2*	mA4	0-20mA Out
	V1	V OUT 1*	mA3	0-20mA Out
	mA4	mA OUT 4*	mA2 —	
J2A	mA3	mA OUT 3*	mA1 —	
	mA2	mA OUT 2*		
	mA1	mA OUT 1*	Q1 _	LOAD
	Q1	OUT 1 / PWM1	Q2	LOAD
	Q2	OUT 1 / PWM2	Q3	LOAD
	Q3	OUT 3	Q4 —	LOAD
	_Q4	OUT 4	Q5	LOAD
	Q5	OUT 5	Q6	LOAD
	Q6	OUT 6	Q7	LOAD
	Q7	OUT 7	Q8 _	LOAD
J2B	Q8	OUT 8	Q9	LOAD
025	Q9	OUT 9	Q10	
	Q10	OUT 10	Q11 _	LOAD
	Q11	OUT 11		LOAD
	Q12	OUT 12	Q12 _	LOAD
	V+	V External+	V+	 ,♥-
	OV	Common	0V -	

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



page 3 of 4

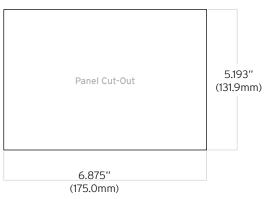


Dimensions





3.030" (77.0mm)



*+1mm/ -0mm cutout tolerance

Installation Procedure

- The EXLW utilizes a clip installation method to ensure a robust and watertight seal to the enclosure. Please follow the steps below for the proper installation and operation of the unit.
- This equipment is suitable for Class I, Division 2, Groups A, B, C and D or non-hazardous locations only.
- Digital outputs shall be supplied from the same source as the operator control station.
- Jumpers on connector JP1 shall not be removed or replaced while the circuit is live unless the area is known to be free of ignitable concentrations of flammable gases or vapors.
- Carefully locate an appropriate place to mount the EXLW. Be sure to leave enough room at the top of the unit for insertion and removal of the microSD™ card.
- Carefully cut the host panel per the diagram, creating a 175.0mm x 131.9mm (+1mm/-0mm) opening into which the EXLW may 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 OCS may not fit through the hole without damage.
- 3. Remove any burrs and or sharp edges and ensure the panel is not warped in the cutting process.
- Remove all Removable Terminals from the EXLW. Insert the EXLW through the panel cutout (from the front). The gasket must be between the host panel and the EXLW.
- Install and tighten the four mounting clips (provided in the box) until the gasket forms a tight seal
 - NOTE: Max torque is 0.8 to 1.13Nm, or 7 to 10 in-lbs.
- Reinstall the EXLW I/O Removable Terminal Blocks. Connect communications cables to the serial port, USB ports, Ethernet port, and CAN port as required.

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:

- 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.
- Make connections to the module first; then connect to the circuit to be monitored.
- 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.
- 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.
- 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.
- 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. 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.
- 15. 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.
- Failure to follow these guidelines can damage the controller and/or other devices.

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-JJ2 of the Canadian Electrical Code for installations within Canada and in accordance with the authority having jurisdiction.

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

Technical Support

For further details, please refer to the Datasheets, MAN1257 - MAN1262. For assistance and manual updates, contact Technical Support at the following locations:

North America

Europe

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

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

page 4 of 4