HORNER
AUTOMATION GROUP

OCS All-in-One Controllers

Product Catalog

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MICRO OCS SERIES

INDUSTRY LEADING ALL-IN-ONE CONTROLLER

Our **Micro OCS** line of products introduces a series of fixed I/O controllers with exceptional performance and a streamlined ordering and pricing structure. These powerful and efficient controllers are well-suited to perform many of the same high-end applications as our popular XL series at the price point of an introductory component – value engineering hard at work.

The **Micro OCS** family of products incorporates a similar all-in-one construction as with the XL series. By providing a fixed array of I/O, however, the Micro OCS Series provides a streamlined approach to the market. Applications that do not require the power of the XL products are perfectly suited to our Micro OCS line of products.

POWERFUL, SECURE CSCAPE PROGRAMMING SOFTWARE

The **Micro OCS Series** (developed using a single, industry-recognized software platform, Cscape) combines graphical ladder logic programming, operator interface development, I/O configuration and network configuration. The user-friendly interface provides free form and drag & drop editor, as well as more than 100 functions to choose from. In addition to the Cscape Advanced Ladder offering, Cscape also supports the IEC 1131 programming languages.

From the Horner website, hornerautomation.com, download the Cscape software or software updates at no charge. This free service allows you to avoid costly licensing fees while always having the most up-to-date software version.

For a comparison guide of the OCS line of products, please **CLICK HERE** to visit our website.

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PHYSICAL CHARACTERISTICS

1. Function keys
2. USB mini-B port
3. High capacity microSD slot
4. DC outputs
5. DC inputs
6. Analog I/O
7. RS232/RS485 serial port
8. DC power
9. CAN port (via RJ45)

CONTROLLER

CPU	32 Bit Arm
Logic Scan Rate	1.2 mS/K
Built-In Storage	16MB
Removable Memory	32GB microSD
Retentive Storage	32K Battery-Backed Ram
Programming Languages	Advanced Ladder or IEC: ST, LD, FBD, IL, SFC

USER INTERFACE

Display Technology	2.2" Transflective with LED
Resolution / Color	128 x 64, Monochrome
Keypad	20 Key Domed Membrane

CONNECTIVITY

Serial Ports	1 Port with RS-232 and RS-485
USB Ports (Mini-B)	1 Programming
CAN	1 Port 125K – 1 MB

OPERATING SPECS. & STANDARDS

Primary Power Range	24VDC +/- 10%
Operating Temperature	-10˚ to 60˚ C
Humidity	5 to 95% Non-Condensing
Ratings	IP65, CE, UL Type 3R, 4, 4x, 12, 12k, 13

PHYSICAL SPECIFICATIONS

Dimensions	mm: 89.76 tall x 119.18 wide x 35.8 total depth in: 3.53 tall x 4.69 wide x 1.41 total depth
Weight	270g / 9.5oz

STANDARD ONBOARD I/O

Total Digital Inputs	12 x 24VDC Sinking/Sourcing
Analog Inputs	4 x 4-20mA
Analog Outputs	2 x 4-20mA
High Speed Inputs	4 @ 10kHz
High Speed Outputs	2 @ 65kHz
Remote I/O	All Models Support SmartRail, SmartBlock, SmartStix, SmartMod, various 3rd party I/O devices

MODEL-DEPENDENT OUTPUTS

HE-X2A	12 x 24VDC Sourcing 0.5A
HE-X2R	6 x Relay 3A, 2 x Sinking 0.5A
HE-X2Starter	Starter Kit with 6 x Relay 3A, 2 x Sinking 0.5A

ACCESSORIES

SmartRail Modular I/O   SmartStix Terminal Block I/O

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PHYSICAL CHARACTERISTICS

1. Virtual function keys slide in from the right on command
2. USB mini-B port
3. High capacity microSD slot
4. DC outputs
5. DC inputs
6. Analog I/O
7. RS232/RS485 serial port
8. DC power
9. CAN port (via RJ45)
10. Ethernet LAN port

CONTROLLER

CPU	32 Bit Arm with Integrated Graphics
Logic Scan Rate	0.4 mS/K
Built-In Storage	16MB
Removable Memory	32GB microSD
Retentive Storage	128K Battery-Backed Ram
Programming Languages	Advanced Ladder or IEC: ST, LD, FBD, IL, SFC

USER INTERFACE

Display Technology	Wide 4.3" TFT Color 350 cd/m^2
Resolution / Color	480 x 272, 65K Colors
Touch Screen	Resistive

CONNECTIVITY

Serial Ports	1 Port with RS-232 and RS-485
USB Ports (Mini-B)	1 Programming
Ethernet	10/100 Support with Auto MDIX
CAN	1 Port 125K – 1 MB

OPERATING SPECS. & STANDARDS

Primary Power Range	24VDC +/- 20%
Operating Temperature	-10º to 60º C
Humidity	5 to 95% Non-Condensing
Ratings	IP65, UL Type 3R, 4, 4x, 12, 12k, 13

PHYSICAL SPECIFICATIONS

Dimensions	mm: 96 tall x 125 wide x 31 total depth in: 3.79 tall x 4.92 wide x 1.22 total depth
Weight	280g / 10oz

STANDARD ONBOARD I/O

Total Digital Inputs	12 x 24VDC Sinking/Sourcing
Analog Inputs	4 x 4-20mA, or 2 x RTD*
Analog Outputs	2 x 4-20mA
High Speed Inputs	4 @ 500kHz
High Speed Outputs	2 @ 65kHz
Remote I/O	All Models Support SmartRail, SmartBlock, SmartStix, SmartMod, various 3rd party I/O devices

*A 3rd and 4th RTD channel is available if Analog Outputs are not used

MODEL-DEPENDENT OUTPUTS

HE-X4A	12 x 24VDC Sourcing 0.5A
HE-X4R	6 x Relay 3A, 2 x Sinking 0.5A
HE-X4Starter	Starter Kit with 6 x Relay 3A, 2 x Sinking 0.5A

INPUTS/OUTPUTS MODEL OVERVIEW

	MODEL R	MODEL A
DC In	12	12
DC Out	2	12
Relays	6	–
HS In	4	4
HS Out	2	2
Analog In	mA x 4 or RTD* x 2	4
Analog Out	mA x 2	2

*A 3rd and 4th RTD channel is available if Analog Outputs are not used

There are four high-speed inputs of the total DC Inputs.
There are two high-speed outputs of the total DC outputs.

Model A supports sourcing outputs. Model R DC outputs are sinking with integral pull up resistors.

X5 SPECIFICATIONS AND TECHNICAL INFORMATION

PHYSICAL CHARACTERISTICS

1. Virtual function keys slide in from the right on command
2. USB mini-B port
3. High capacity microSD slot
4. 4 DC inputs, 4 analog inputs
5. RS232/RS485 serial port
6. USB A port
7. 4 DC outputs
8. Wide-range DC power
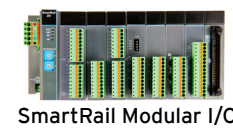9. CAN port (via RJ45)
10. Ethernet LAN port

CONTROLLER

Ladder Logic Memory	1MB
Logic Scan Rate	0.013 mS/K
Removable Memory	microSD*
Digital I/O Max	2048 / 2048
Analog I/O Max	512 / 512
Primary Power Range	10-30VDC

DISPLAY SPECIFICATIONS

Characters/Pixels	480 x 272
Display Technology	4.3" LCD with LED 450 nits
Function Keys	4

CONNECTIVITY

Total Active Ports	1 RS-232, 1 RS-485
USB Ports (A and Mini-B)	Yes
Ethernet	1 x 10/100 MHz Support with Auto MDIX Support

PHYSICAL SPECIFICATIONS

Dimensions	mm: 89.76 tall x 119.18 wide x 35.8 total depth in: 3.79 tall x 4.92 wide x 1.41 total depth
Weight	270g / 9.52oz

OPERATING SPECS. & STANDARDS

Operating Temperature	-10º to 60º C
Humidity (non-condensing)	5 to 95%

STREAMLINED ONBOARD I/O

|		
Digital Inputs	4	12-24Vdc, HSC 500KHz MAX
Digital Ouputs†	4	0.5A @ 24Vdc, PWM 500KHz MAX
Analog Inputs	4 (12-bit)	0-20mA, 4-20mA, 0-10Vdc

FULLY SUPPORTED REMOTE I/O

Digital Inputs	2048	Analog Outputs	512
Digital Outputs	2048	Gen. Purpose Registers (words)	8192 (1024 retentive)
Analog Inputs	512	Gen. Purpose Internal Coils (bits)	4096 (2048 retentive)

ACCESSORIES

SmartRail Modular I/O

SmartBlock Specialty I/O

SmartStix Terminal Block I/O

HE-XCK Programming Cable Kit Includes
USB Cable
Ethernet Cable
RS-232 Cable
USB/RS-232 Adapter

*please refer to MAN1043-01-EN for size and format details
†please refer to MAN1042-01-EN for wiring/installation details

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X7 SPECIFICATIONS AND TECHNICAL INFORMATION
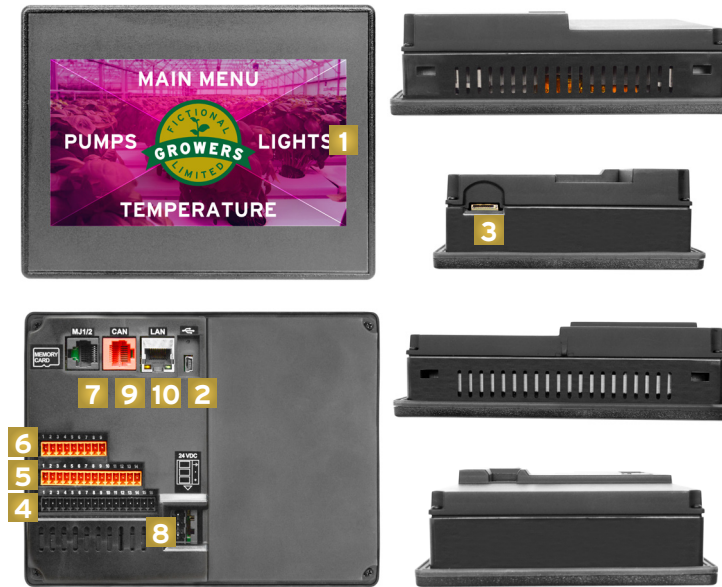
PHYSICAL CHARACTERISTICS

1. Virtual function keys slide in from the right on command
2. USB mini-B port
3. High capacity microSD slot
4. DC outputs
5. DC inputs
6. Analog I/O
7. RS232/RS485 serial port
8. DC power
9. CAN port (via RJ45)
10. Ethernet LAN port

PHYSICAL SPECIFICATIONS

Dimensions	mm: 143.50 tall x 186.08 wide x 52.88 total depth in: 5.65 tall x 7.33 wide x 2.08 total depth
Weight	590g / 20.8oz

STANDARD ONBOARD I/O

Total Digital Inputs	12 x 24VDC Sinking/Sourcing
Analog Inputs	4 x 4-20mA, or 2 x RTD*
Analog Outputs	2 x 4-20mA
High Speed Inputs	4 @ 500kHz
High Speed Outputs	2 @ 65kHz
Remote I/O	All Models Support SmartRail, SmartBlock, SmartStix, SmartMod, various 3rd party I/O devices

*A 3rd and 4th RTD channel is available if Analog Outputs are not used

MODEL-DEPENDENT OUTPUTS

HE-X7A	12 x 24VDC Sourcing 0.5A
HE-X7R	6 x Relay 3A, 2 x Sinking 0.5A
HE-X7Starter	Starter Kit with 6 x Relay 3A, 2 x Sinking 0.5A

INPUTS/OUTPUTS MODEL OVERVIEW

	MODEL R	MODEL A
DC In	12	12
DC Out	2	12
Relays	6	–
HS In	4	4
HS Out	2	2
Analog In	mA x 4 or RTD* x 2	4
Analog Out	mA x 2	2

*A 3rd and 4th RTD channel is available if Analog Outputs are not used

There are four high-speed inputs of the total DC Inputs.
There are two high-speed outputs of the total DC outputs.

Model A supports sourcing outputs. Model R DC outputs are sinking with integral pull up resistors.

CONTROLLER

CPU	32 Bit ARM with Integrated Graphics
Logic Scan Rate	0.4 mS/K
Built-In Storage	16MB
Removable Memory	32GB microSD
Retentive Storage	128K Battery-Backed Ram
Programming Languages	Advanced Ladder or IEC: ST, LD, FBD, IL, SFC

USER INTERFACE

Display Technology	7" TFT Color 300 cd/m^2
Resolution / Color	800 x 480, 65K Colors
Touch Screen	Resistive

CONNECTIVITY

Serial Ports	1 Port with RS-232 and RS-485
USB Ports (Mini-B)	1 Programming
Ethernet	10/100 Support with Auto MDIX
CAN	1 Port 125K – 1 MB

OPERATING SPECS. & STANDARDS

Primary Power Range	24VDC +/- 20%
Operating Temperature	-10º to 60º C
Humidity	5 to 95% Non-Condensing
Ratings	IP65, UL Type 3R, 4, 4x, 12, 12k, 13

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PHYSICAL CHARACTERISTICS

1 Touchscreen
2 High Capacity MicroSD Slot
3 RS232/RS485 Serial Connector, CAN Port (via RJ45) Ethernet LAN Port
4 USB mini-B port
5 Analog I/O, DC Inputs, DC Outputs
6 DC Power

PHYSICAL SPECIFICATIONS

Dimensions	mm: 264.998 wide x 167.818 tall x 52.07 overall depth in: 10.433 wide x 6.607 tall x 2.05 overall depth
Weight	590g / 20.8oz

STANDARD ONBOARD I/O

Total Digital Inputs	12 x 24VDC Sinking/Sourcing
Analog Inputs	4 x 4-20mA, or 2 x RTD*
Analog Outputs	2 x 4-20mA
High Speed Inputs	4 @ 500kHz
High Speed Outputs	2 @ 65kHz
Remote I/O	All Models Support SmartRail, SmartBlock, SmartStix, SmartMod, various 3rd party I/O devices

*A 3rd and 4th RTD channel is available if Analog Outputs are not used

MODEL-DEPENDENT OUTPUTS

HE-X10A	12 x 24VDC Sourcing 0.5A
HE-X10R	6 x Relay 3A, 2 x Sinking 0.5A

INPUTS/OUTPUTS MODEL OVERVIEW

	MODEL R	MODEL A
DC In	12	12
DC Out	2	12
Relays	6	-
HS In	4	4
HS Out	2	2
Analog In	mA x 4 or RTD* x 4	4
Analog Out	mA x 2	2

*A 3rd and 4th RTD channel is available if Analog Outputs are not used

There are four high-speed inputs of the total DC Inputs.
There are two high-speed outputs of the total DC outputs.

Model A supports sourcing outputs. Model R DC outputs are sinking with integral pull up resistors.

CONTROLLER

CPU	32-bit ARM with Integrated Graphics Controller
Logic Scan Rate	0.4 mS/K
Built-In Storage	16MB
Removable Memory	Up to 32GB microSD
Retentive Storage	128K Battery-Backed Ram
Programming Languages	Advanced Ladder or Full IEC 61131-3 languages

USER INTERFACE

Display Technology	10" Wide
Resolution / Color	1024 x 600, 65K Colors
Touch Screen	Resistive

CONNECTIVITY

Serial Ports	1 Port with RS-232 and RS-485
USB Ports (Mini-B)	USB 2.0 Programming only
Ethernet	1x10Mbps/100Mbps
CAN	125kB, 250kB, 500kB, 1 Mb

OPERATING SPECS. & STANDARDS

Primary Power Range	9 - 30VDC
Operating Temperature	-10˚ to 60˚ C
Humidity	5 to 95% Non-Condensing

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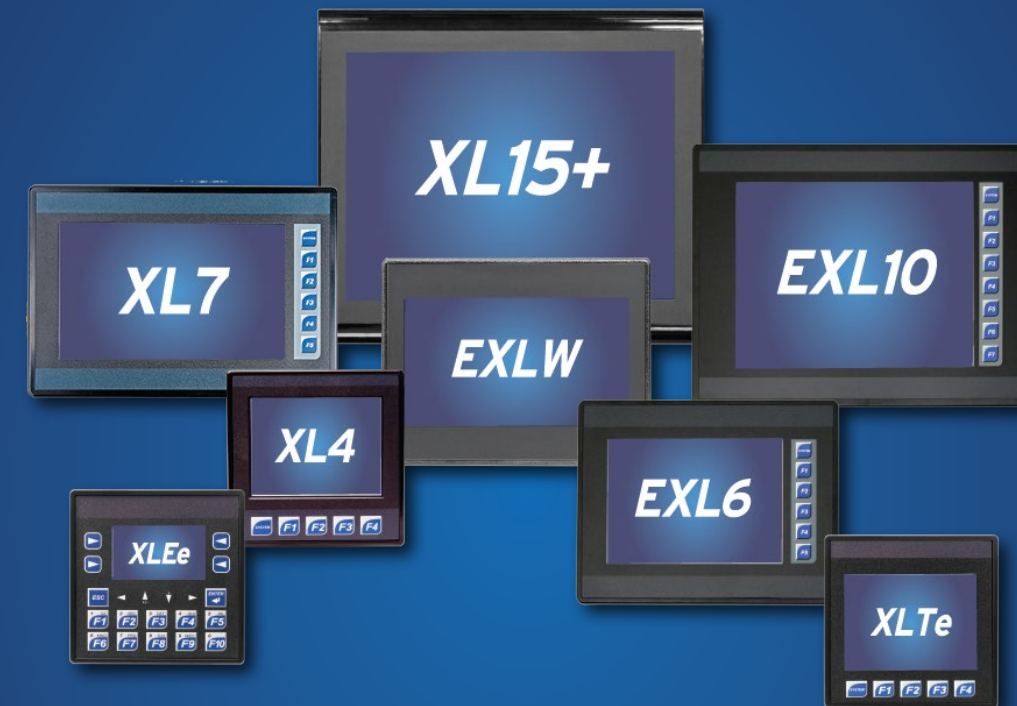
XL SERIES

INDUSTRY LEADING ALL-IN-ONE CONTROLLER

The **XL Series** provides the best all-in-one, affordable control solution for OEMs, integrators and end-users by combining a robust, reliable control product with an operator interface, I/O and networking into a single compact unit. The XL series is designed to provide ease of use, cost savings and flexibility for all operations, no matter the application.

CONNECTIVITY

The **XL Series** is designed as a modular system for easy selection and growth; CsCAN (CAN Based) high speed networking and Modbus RTU networking capabilities are standard in both series controllers. Ethernet is standard in the XL series of controllers, and available as an optional component in all other models. Remote I/O options offer high performance, accurate analog, and easy-to-configure digital only modules. Horner I/O has flexible communication options that easily expand current systems.

For a comparison guide of the OCS line of products, please **CLICK HERE** to visit our website.

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Class I, Division 2
Groups A, B, C, D
Type 4X

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Class I, Division 2
Groups A, B, C, D
Type 4X

XLEe SPECIFICATIONS AND TECHNICAL INFORMATION

PHYSICAL CHARACTERISTICS

1. DIN rail mounting clip
2. Wide-range DC power
3. CAN port
4. Ethernet LAN Port (optional)
5. High capacity microSD slot
6. RS232/RS485 serial ports
7. USB mini-B port
8. Transflective LCD screen
9. Programmable soft keys
10. Numeric / Function keys

CONTROLLER	
CPU	High Performance 32 Bit Arm with DSP and FPU Acceleration
Logic Scan Rate	0.7 mS/K
Built-In Storage	16Mb
Removable Memory	32GB microSD
Retentive Storage	32K Battery-Backed Ram
Programming Languages	Advanced Ladder or IEC: ST, LD, FBD, IL, SFC

USER INTERFACE	
Display Technology	2.2" Transflective LCD
Resolution / Color	128 x 64, Monochrome
Keypad	20 Key Domed Membrane

CONNECTIVITY	
Serial Ports	2 Ports with RS-232 and RS-485
USB Ports (Mini-B)	1 Programming
Ethernet	10/100 Support with Auto MDIX Support (optional)
CAN	1 Port 125Kb – 1Mb

STANDARD	ETHERNET	I/O MODELS
HE-XE100	HE-XE1E0	No Built-in I/O
HE-XE102	HE-XE1E2	12 DC in, 6 Relay Out, 4 – 12-bit Analog In
HE-XE103	HE-XE1E3	12 DC in, 12 DC Out, 2 – 12-bit Analog In
HE-XE104	HE-XE1E4	24 DC in, 16 DC Out, 2 – 12-bit Analog In
HE-XE105	HE-XE1E5	12 DC in, 12 DC Out, 2 – 14/16-bit Analog In (mA/V/Tc/mV/RTD), 2 – 12-bit Analog Out
HE-XE106	HE-XE1E6	12 DC in, 12 DC Out, 6 – 14/17-bit Analog In (mA/V/Tc/mV/RTD), 4 – 12-bit Analog Out
Remote I/O		All Models Support SmartRail, SmartBlock, SmartStix, SmartMod, various 3rd party I/O devices

OPERATING SPECS. & STANDARDS	
Primary Power Range	10-30VDC
Power	1-5W (depending on model/configuration)
Operating Temperature	-10˚ to 60˚ C
Humidity (non-condensing)	5 to 95% Non-Condensing
Environmental Ratings	IP65, UL Type 3R, 4, 4x, 12, 12k, 13

PHYSICAL SPECIFICATIONS	
Dimensions	mm: 96.0 tall x 96.0 wide x 57.5 deep in: 3.78 tall x 3.78 wide x 2.26 deep

XLTe SPECIFICATIONS AND TECHNICAL INFORMATION

PHYSICAL CHARACTERISTICS

1. DIN rail mounting clip
2. Wide-range DC power
3. CAN port
4. Ethernet LAN Port (optional)
5. High capacity microSD slot
6. RS232/RS485 serial ports
7. USB mini-B port
8. Transflective LCD touchscreen
9. Function keys

CONTROLLER	
CPU	High Performance 32 Bit Arm with DSP and FPU Acceleration
Logic Scan Rate	0.8 mS/K
Built-In Storage	16Mb
Removable Memory	32GB microSD
Retentive Storage	32K Battery-Backed Ram
Programming Languages	Advanced Ladder or IEC: ST, LD, FBD, IL, SFC

USER INTERFACE	
Display Technology	3.5" Transflective LCD
Resolution / Color	160 x 128, Monochrome
Keypad	5 Key Domed Membrane

CONNECTIVITY	
Serial Ports	2 Ports with RS-232 and RS-485
USB Ports (Mini-B)	1 Programming
Ethernet	10/100 Support with Auto MDIX Support (optional)
CAN	1 Port 125Kb – 1Mb

STANDARD	ETHERNET	I/O MODELS
HE-XT100	HE-XT1E0	No Built-in I/O
HE-XT102	HE-XT1E2	12 DC in, 6 Relay Out, 4 – 12-bit Analog In
HE-XT103	HE-XT1E3	12 DC in, 12 DC Out, 2 – 12-bit Analog In
HE-XT104	HE-XT1E4	24 DC in, 16 DC Out, 2 – 12-bit Analog In
HE-XT105	HE-XT1E5	12 DC in, 12 DC Out, 2 – 14/16-bit Analog In (mA/V/Tc/mV/RTD), 2 – 12-bit Analog Out
HE-XT106	HE-XT1E6	12 DC in, 12 DC Out, 6 – 14/17-bit Analog In (mA/V/Tc/mV/RTD), 4 – 12-bit Analog Out
Remote I/O		All Models Support SmartRail, SmartBlock, SmartStix, SmartMod, various 3rd party I/O devices

OPERATING SPECS. & STANDARDS	
Primary Power Range	10-30VDC
Power	1-5W (depending on model/configuration)
Operating Temperature	-10˚ to 60˚ C
Humidity (non-condensing)	5 to 95% Non-Condensing
Environmental Ratings	IP65, UL Type 3R, 4, 4x, 12, 12k, 13

PHYSICAL SPECIFICATIONS	
Dimensions	mm: 96.0 tall x 96.0 wide x 57.5 deep in: 3.78 tall x 3.78 wide x 2.26 deep

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Made in the USA with global components · CE · c UL us · Class I, Division 2 Groups A, B, C, D Type 4X

PHYSICAL CHARACTERISTICS

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. RS232/RS485 Serial Port

CONTROLLER

CPU	Single Core Arm
Logic Scan Rate	0.013ms/kB
Built-In Storage	128MB
Removable Memory	microSD
Retentive Storage	256kB
Programming Languages	Advanced Ladder or Full IEC 1131-3 languages

USER INTERFACE

Display Technology	3.5" TFT Transmissive Color (640 nits)
Resolution / Color	QVGA 320x240 • 16-bit (65,535)
Keypad	5 function keys

CONNECTIVITY

Serial Ports	1 with RS-232 and RS-485 on single Modular Jack
USB Ports (A and Mini-B)	USB 2.0 (480MHz) Programming & Data Access
Ethernet	10/100Mb (Auto MDX) Modbus TCP C/S, HTTP, FTP, SMTP, Cscape
CAN	Remote I/O, Peer-to-Peer Comms, Cscape

I/O MODELS

HE-XC1E0	No Built-in I/O
HE-XC1E2	12 DC in, 6 Relay Out, 4 – 12-bit Analog In
HE-XC1E3	12 DC in, 12 DC Out, 2 – 12-bit Analog In
HE-XC1E4	24 DC in, 16 DC Out, 2 – 12-bit Analog In
HE-XC1E5	12 DC in, 12 DC Out, 2 – 14/16-bit Analog In (mA/V/Tc/mV/RTD), 2 – 12-bit Analog Out
HE-XC1E6	12 DC in, 12 DC Out, 6 – 14/17-bit Analog In (mA/V/Tc/mV/RTD), 4 – 12-bit Analog Out
Remote I/O	All Models Support SmartRail, SmartBlock, SmartStix, SmartMod, various 3rd party I/O devices

OPERATING SPECS. & STANDARDS

Primary Power Range	10-30VDC
Operating Temperature	-10° to 60°C
Humidity (non-condensing)	5 to 95%
Ratings	IP65, UL Type 3R, 4, 4x, 12, 12k, 13, ABS

PHYSICAL SPECIFICATIONS

Dimensions (W x H x D)	mm: 96 x 96 x 57.5 in: 3.78 x 3.78 x 2.26
Weight	2 lbs or 907g

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Made in the USA with global components · CE · c UL us · Class I, Division 2 Groups A, B, C, D Type 4X

Built-in I/O

PHYSICAL CHARACTERISTICS

1. Touchscreen
2. Function Keys
3. USB 2.0 "A": Flash Drive
4. LAN Port
5. PWR: 10-30VDC In
6. CAN Port
7. MJ3: RS-232/485
8. Dip Switches
9. MJ1/MJ2: RJ45 Serial Port t
10. MicroSD: Data Storage
11. USB mini "B": Programming

CONTROLLER

CPU	Single Core Arm
Logic Scan Rate	0.013ms/kB
Built-In Storage	128MB
Removable Memory	microSD
Retentive Storage	256kB
Programming Languages	Advanced Ladder or IEC: ST, LD, FBD, IL, SFC

USER INTERFACE

Display Technology	5.77" VGA TFT, 450 cd/m²
Resolution / Color	640 x 480
Keypad	6 (5 function keys)

CONNECTIVITY

Serial Ports	3 with RS-232 and RS-485
USB Ports (A and Mini-B)	1 Host, 1 Programming
Ethernet	Single 10/100 Support with Auto MDIX Support
CAN	1 Port 125kb - 1Mb

I/O MODELS

HE-EXL1E0	No Built-in I/O
HE-EXL1E2	12 DC in, 6 Relay Out, 4 – 12-bit Analog In
HE-EXL1E3	12 DC in, 12 DC Out, 2 – 12-bit Analog In
HE-EXL1E4	24 DC in, 16 DC Out, 2 – 12-bit Analog In
HE-EXL1E5	12 DC in, 12 DC Out, 2 – 14/16-bit Analog In (mA/V/Tc/mV/RTD), 2 – 12-bit Analog Out
HE-EXL1E6	12 DC in, 12 DC Out, 6 – 14/17-bit Analog In (mA/V/Tc/mV/RTD), 4 – 12-bit Analog Out
Remote I/O	All Models Support SmartRail, SmartBlock, SmartStix, SmartMod, various 3rd party I/O devices

OPERATING SPECS. & STANDARDS

Primary Power Range	18-30VDC
Operating Temperature	-10° to 60°C
Humidity (non-condensing)	5 to 95%
Ratings	IP65, UL Type 3R, 4, 4x, 12, 12k, 13

PHYSICAL SPECIFICATIONS

Dimensions (W x H x D)	mm: 186.1 x 143.6 x 77 in: 7.326 x 5.66 x 3.03
Weight	1.12 lbs or 508g

Class I, Division 2
Groups A, B, C, D
Type 4X

PHYSICAL CHARACTERISTICS

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 t
9 MicroSD: Data Storage
10 USB mini "B": Programming

CONTROLLER	
CPU	Single Core Arm
Logic Scan Rate	0.013mS/kB
Built-In Storage	128MB
Removable Memory	microSD
Retentive Storage	256kB
Programming Languages	Advanced Ladder or IEC: ST, LD, FBD, IL, SFC

USER INTERFACE	
Display Type	7" TFT Color
Resolution / Color	800 x 480

CONNECTIVITY	
Serial Ports	3 with RS-232 and RS-485
USB Ports (A and Mini-B)	1 Host, 1 Programming
Ethernet	Single 10/100 Support with Auto MDIX Support
CAN	1 Port 125kb - 1Mb

I/O MODELS	
HE-EXLWE0	No Built-in I/O
HE-EXLWE2	12 DC in, 6 Relay Out, 4 – 12-bit Analog In
HE-EXLWE3	12 DC in, 12 DC Out, 2 – 12-bit Analog In
HE-EXLWE4	24 DC in, 16 DC Out, 2 – 12-bit Analog In
HE-EXLWE5	12 DC in, 12 DC Out, 2 – 14/16-bit Analog In (mA/V/Tc/mV/RTD), 2 – 12-bit Analog Out
HE-EXLWE6	12 DC in, 12 DC Out, 6 – 14/17-bit Analog In (mA/V/Tc/mV/RTD), 4 – 12-bit Analog Out

OPERATING SPECS. & STANDARDS	
Primary Power Range	10-30VDC
Operating Temperature	-10° to 60°C
Humidity (non-condensing)	5 to 95%
Ratings	IP65, UL Type 1, 3R, 4, 4x, 12, 12k, 13

PHYSICAL SPECIFICATIONS	
Dimensions (W x H x D)	mm: 186.1 x 143.8 x 77 in: 7.326 x 5.66 x 3.03
Weight	1.58 lbs or 721.2 g

Class I, Division 2
Groups A, B, C, D
Type 4X

PHYSICAL CHARACTERISTICS

1 Touchscreen
2 Function Keys
3 MJ1: RS232/ MJ2: 1/2 duplex RS485
4 Dip Switches
5 MJ3: RS-232/485 Serial Port
6 CAN 1 Port
7 Power: 10 - 30VDC In
8 Audio In & Out Ports
9 USB 2.0 "A": Flash Drive
10 LAN 1 & 2 Ports
11 CAN 2 Port
12 USB mini "B": Programming
13 microSD: Data Storage

CONTROLLER	
CPU	Single Core Arm
Logic Scan Rate	0.013ms/kB
Built-In Storage	128MB
Removable Memory	microSD
Retentive Storage	256kB
Programming Languages	Advanced Ladder or IEC: ST, LD, FBD, IL, SFC

USER INTERFACE	
Display Technology	7" TFT, 800 cd/m²
Resolution / Color	800 x 480
Keypad	6 function keys

CONNECTIVITY	
Serial Ports	1 with RS-232 and RS-485 on first Modular Jack (M1/2) 1 RS-232 or 1 RS 485 on second Modular Jack (MJ-3)
USB Ports (A and Mini-B)	1 Host, 1 Programming
Ethernet	Dual 10/100 Support with Auto MDIX Support
CAN	2 CAN Ports 125kb - 1Mb

I/O MODELS	
HE-XW1E0	No Built-in I/O
HE-XW1E2	12 DC in, 6 Relay Out, 4 – 12-bit Analog In
HE-XW1E3	12 DC in, 12 DC Out, 2 – 12-bit Analog In
HE-XW1E4	24 DC in, 16 DC Out, 2 – 12-bit Analog In
HE-XW1E5	12 DC in, 12 DC Out, 2 – 14/16-bit Analog In (mA/V/Tc/mV/RTD), 2 – 12-bit Analog Out
HE-XW1E6	12 DC in, 12 DC Out, 6 – 14/17-bit Analog In (mA/V/Tc/mV/RTD), 4 – 12-bit Analog Out
Remote I/O	All Models Support SmartRail, SmartBlock, SmartStix, SmartMod, various 3rd party I/O devices

OPERATING SPECS. & STANDARDS	
Primary Power Range	10-30VDC
Operating Temperature	-10° to 60°C
Humidity (non-condensing)	5 to 95%
Ratings	IP65, UL Type 3R, 4, 4x, 12, 12k, 13, ABS

PHYSICAL SPECIFICATIONS	
Dimensions (W x H x D)	mm: 210.06 x 143.76 x 43.94 in: 8.27 x 5.66 x 1.73
Weight	2 lbs or 907g

HA-330R6

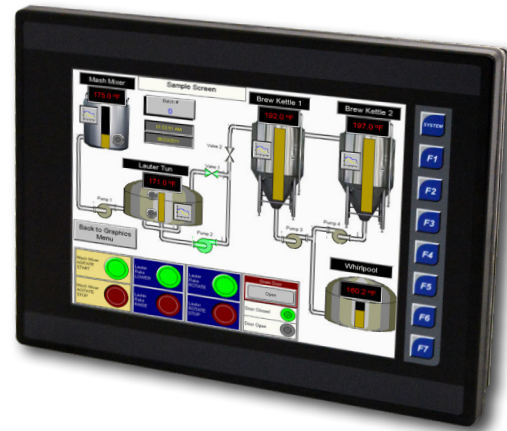HA-103R11

EXL10 SPECIFICATIONS AND TECHNICAL INFORMATION

XL15+ SPECIFICATIONS AND TECHNICAL INFORMATION

PHYSICAL CHARACTERISTICS (EXL10)

1 Touchscreen
2 Function Keys
3 Audio Out/In
4 USB 2.0 "A": Flash Drive
5 LAN1 Port
6 LAN2 Port
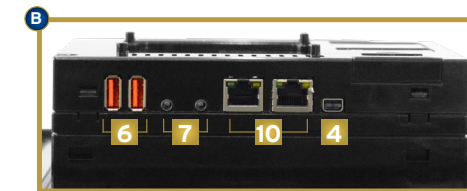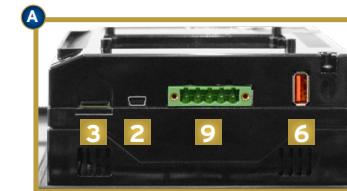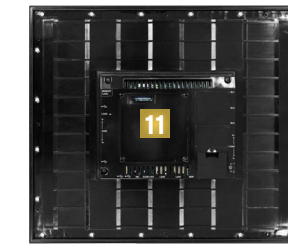7 Built-in I/O
8 MJ1/MJ2: RS-232 & 1/2 Duplex RS-485
9 Dip Switches
10 MJ3: RS-232/485
11 CAN1: CAN I/O & Fieldbus Port
12 Power: 10 - 30VDC In
13 microSD: Data Storage
14 USB mini "B": Programming
15 CAN2: CAN I/O and FieldBus Port

PHYSICAL CHARACTERISTICS (XL15+)

1 Virtual function keys slide in from the right on command
2 USB mini-B port
3 High capacity microSD slot
4 Mini display port (future feature)
5 3 RS232/RS485 serial ports
6 USB A ports (3)
7 Mic input / Audio output
8 Wide-range DC power
9 Dual CAN port
10 Dual Ethernet LAN port
11 Optional built-in I/O

EXL10

CONTROLLER

CPU	Single Core Arm
Logic Scan Rate	0.013ms/kB
Built-In Storage	128MB
Removable Memory	microSD
Retentive Storage	256kB
Programming Languages	Advanced Ladder or IEC: ST, LD, FBD, IL, SFC

USER INTERFACE

Display Technology	10.4" VGA TFT, 550 cd/m²
Resolution / Color	640 x 480
Keypad	8 keys (7 function keys)

CONNECTIVITY

Serial Ports	3 with RS-232 and RS-485
USB Ports (A and Mini-B)	1 Host, 1 Programming
Ethernet	Dual 10/100 Support with Auto MDX Support
CAN	2 CAN Ports 125kb - 1Mb

I/O MODELS

HE-EXV1E0	No Built-in I/O
HE-EXV1E2	12 DC in, 6 Relay Out, 4 – 12-bit Analog In
HE-EXV1E3	12 DC in, 12 DC Out, 2 – 12-bit Analog In
HE-EXV1E4	24 DC in, 16 DC Out, 2 – 12-bit Analog In
HE-EXV1E5	12 DC in, 12 DC Out, 2 – 14/16-bit Analog In (mA/V/Tc/mV/RTD), 2 – 12-bit Analog Out
HE-EXV1E6	12 DC in, 12 DC Out, 6 – 14/17-bit Analog In (mA/V/Tc/mV/RTD), 4 – 12-bit Analog Out
Remote I/O	All Models Support SmartRail, SmartBlock, SmartStix, SmartMod, various 3rd party I/O devices

OPERATING SPECS. & STANDARDS

Primary Power Range	18-30VDC
Operating Temperature	-10º to 60ºC
Humidity (non-condensing)	5 to 95%
Ratings	IP65, UL Type 3R, 4, 4x, 12, 12k, 13

PHYSICAL SPECIFICATIONS

Dimensions (W x H x D)	mm: 303.3x 230.6 x 61.7 in: 11.94 x 9.08 x 2.43
Weight	4.35 lbs or 1973.1g

XL15+

CONTROLLER

CPU	Dual Core ARM with Video Accelerators
Logic Scan Rate	0.006 mS/K
Built-In Storage	4GB
Removable Memory	128GB microSD / 2TB USB
Retentive Storage	512K Battery-Backed Ram
Programming Languages	Advanced Ladder or IEC: ST, LD, FBD, IL, SFC

USER INTERFACE

Display Technology	15" TFT Color 500 cd/m²
Resolution / Color	1024 x 767 / 16 Million Colors
Touch Screen	Resistive with Laminated Cover

CONNECTIVITY

Serial Ports	3 Ports with RS-232 and RS-485
USB Ports (A and Mini-B)	3 Host, 1 Programming
Ethernet	Dual 10/100/1000 Support with Auto MDIX Support
CAN	Dual Isolated 125K – 1 MB

I/O MODELS

HE-XP7E0	No Built-in I/O
HE-XP7E2	12 DC in, 6 Relay Out, 4 – 12-bit Analog In
HE-XP7E3	12 DC in, 12 DC Out, 2 – 12-bit Analog In
HE-XP7E4	24 DC in, 16 DC Out, 2 – 12-bit Analog In
HE-XP7E5	12 DC in, 12 DC Out, 2 – 14/16-bit Analog In (mA/V/Tc/mV/RTD), 2 – 12-bit Analog Out
HE-XP7E6	12 DC in, 12 DC Out, 6 – 14/17-bit Analog In (mA/V/Tc/mV/RTD), 4 – 12-bit Analog Out
Remote I/O	All Models Support SmartRail, SmartBlock, SmartStix, SmartMod, various 3rd party I/O devices

OPERATING SPECS. & STANDARDS

Primary Power Range	18-30VDC
Operating Temperature	-10º to 60º C
Humidity (non-condensing)	5 to 95%
Ratings	IP65, UL Type 3R, 4, 4x, 12, 12k, 13

PHYSICAL SPECIFICATIONS

Dimensions	mm: 320 tall x 370 wide x 79 deep in: 12.6 tall x 14.6 wide x 3.1 deep
Weight	3.46kg / 7.63lb

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XL Prime Series

The World's Most Advanced All-In-One Controller Just Outdid Itself

New users will be impressed by the power and speed... Current users will love the seamless transition from the XL Series!

MODELS:

XL4 Prime
X5 Prime
XL6 Prime
XLW Prime
XL7 Prime
XL10 Prime

Models X5 & XL15 coming soon...

XL15 Prime

For years, the Horner XL Series has enjoyed a reputation as the most highly functional All-in-one Controller available anywhere. These products are currently trusted with thousands of applications world-wide.

The NEW XL Prime Series builds upon that proven reputation – offering new and existing users alike performance upgrades and a highly secure, modern memory architecture. This is accomplished with a new Horner designed System on Module (SOM) - containing a faster CPU, onboard mass storage and 100% non-volatile memory. The only battery is a small coin cell – simply tasked with maintaining the clock.

If you are a new automation designer looking for an innovative, reliable control solution – the XL Prime Series offers a fully integrated product in hardware and software. If you are an existing XL Series user – your current application program will port straight through in less than 30 seconds. In either case you can't go wrong!

FEATURES:

ALL-IN-ONE CONTROL - performs all machine functions in a unified hardware design; Logic Control, Operator Interface, I/O and Networking.

MODERN MEMORY ARCHITECTURE - based on a custom designed SOM (System on Module) utilizing a powerful ARM microprocessor and 100% non-volatile memory for reliability.

HIGH-PERFORMANCE LOGIC ENGINE - fast scan times solving user logic using Variable-based Advanced Ladder logic or the IEC 6-1131 language set.

ONLINE PROGRAMMING - make logic changes without stopping the controller.

HIGH-RESOLUTION COLOR TOUCHSCREEN - for detailed graphics and nearly instantaneous screen updates.

ADVANCED HIGH-SPEED COUNTER - four built-in counters supporting frequencies over 500 kHz.

INDUSTRIAL ETHERNET AND REMOTE CONTROL - Ethernet IP, Modbus TCP and BACnet IP; FTP file transfer, Email. WebMI* for web-based Remote Monitoring; Push data to the cloud with MQTT* Sparkplug. *WebMI/MQTT require one-time license.

PLUG-AND-PLAY DATALOGGING - record machine and process variables to microSD or USB Flash Drive.

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XL PRIME SERIES PART NUMBERS

I/O OPTION	X5 Prime	XL4 Prime	XL6 Prime	XLW Prime	XL7 Prime	XL10 Prime	XL15 Prime*
Option 0	HE-XP5	HE-XPC1E0	HE-XPL1E0	HE-XPLWE0	HE-XPW1E0	HE-XPV1E0	HE-XP15E0
Option 2		HE-XPC1E2	HE-XPL1E2	HE-XPLWE2	HE-XPW1E2	HE-XPV1E2	HE-XP15E2
Option 3		HE-XPC1E3	HE-XPL1E3	HE-XPLWE3	HE-XPW1E3	HE-XPV1E3	HE-XP15E3
Option 4		HE-XPC1E4	HE-XPL1E4	HE-XPLWE4	HE-XPW1E4	HE-XPV1E4	HE-XP15E4
Option 5		HE-XPC1E5	HE-XPL1E5	HE-XPLWE5	HE-XPW1E5	HE-XPV1E5	HE-XP15E5
Option 6		HE-XPC1E6	HE-XPL1E6	HE-XPLWE6	HE-XPW1E6	HE-XPV1E6	HE-XP15E6

*This model coming soon; X5 Prime is available in noted model only

LOGIC CONTROLLER

CPU	ARM
Logic Scan Rate	0.02 ms/kB
Logic Program Size	2MB
Program Variables	50,000 words & 32,768 bits
I/O Variables	1,024 words & 4,096 bits
Logic Languages	Horner Advanced Ladder IEC 6-1131

CONNECTIVITY

USB Ports	USB A: Storage, WiFi (opt), Video USB mini-B: Programming
Serial Ports	1 - RS-232 and 1 - RS-485 Addl RS232/RS485 on XL7, XL10, XL15
Serial Protocols	Modbus Master/Slave, BACnet MSTP Slave SNP, DF1, ASCII, NMEA
Ethernet Ports	1 - X5 Prime, XL4 Prime, XL6 Prime, XLW Prime 2 - XL7 Prime, XL10 Prime, XL15 Prime
Ethernet Protocols	Modbus TCP Client & Server, BACnet IP Server, Ethernet IP I/O Device, Logix Tag Exchange, Ethernet Global Data, ASCII over Ethernet, WebMI, Email, FTP Server, NTP
CAN Ports	1 - X5 Prime, XL4 Prime, XL6 Prime, XLW Prime 2 - XL7 Prime, XL10 Prime, XL15 Prime
CAN Protocols	CsCAN, CANopen (Master & Slave) J1939, DeviceNet Scanner

USER INTERFACE

Model	Resolution	Physical Keys
X5 Prime	480 x 272	0
XL4 Prime	320 x 240	5
XL6 Prime	640 x 480	6
XLW Prime	800 x 480	0
XL7 Prime	800 x 480	6
XL10 Prime	640 x 480	8
XL15 Prime	1024 x 768	0

AUDIO & VIDEO

Video Playback	USB Video, mp4 320 x 240
Audio Playback	wav, mp3 XL7 Prime, XL10 Prime, XL15 Prime only

I/O OPTIONS

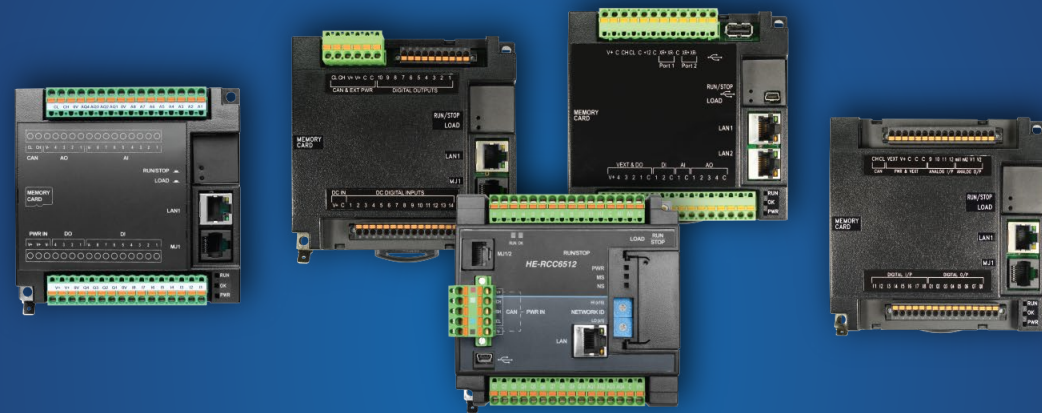|	
X5 Option (only)	4 DC In, 4 DC Out, 4 - 12 bit Analog In
Option 0	No Built-in I/O
Option 2	12 DC In, 6 Relay Out, 4 - 12-bit Analog In
Option 3	12 DC In, 12 DC Out, 2 - 12-bit Analog In
Option 4	24 DC In, 16 DC Out, 2 - 12-bit Analog In
Option 5	12 DC In, 12 DC Out, 2 - 14/16-bit Analog In (mA/V/Tc/mV/RTD), 2 - 12-bit Analog Out (mA/V)
Option 6	12 DC In, 12 DC Out, 6 - 14/17-bit Analog In (mA/V/Tc/mV/RTD), 4 - 12-bit Analog Out (mA/V)
Remote I/O	All Models Support SmartRail, SmartBlock, SmartStix, SmartMod and OCSI/O

PHYSICAL DIMENSIONS (WXHXD)

X5 Prime	mm / in	90 x 119 x 36 / 3.79 x 4.92 x 1.41
XL4 Prime	mm / in	96 x 96 x 58 / 3.78 x 3.78 x 2.26
XL6 Prime	mm / in	187 x 144x 47 / 7.34 x5.66 x 1.84
XLW Prime	mm / in	187 x 144x 47 / 7.34 x5.66 x 1.84
XL7 Prime	mm / in	211x 144 x 70 / 8.27 x5.66 x 2.72
XL10 Prime	mm / in	304 x 231 x 62 / 11.94 x 9.08 x 2.43
XL15 Prime	mm / in	371 x 320 x 104 / 14.57 x 12.6 x 4.08

MEMORY & STORAGE

Removable Mass Storage	microSD(>32GB) USB (>32GB)
Onboard Mass Storage (Program Storage)	EMMC (8GB)
High Speed RAM (Variable Storage)	MRAM (128kB)
All memory is 100% non-volatile (non-battery dependent)	

OPERATING SPECS. & STANDARDS

Primary Power Range	10-30VDC
Operating Temperature	-10° to 60°C
Relative Humidity	5 to 95% (non-condensing)
UL Rating	Class 1, Div 2; Groups A, B, C, D
UL Type Ratings	3R, 4, 4x, 12, 12k, 13
IP Rating	IP65

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RCC SERIES

HORNER
AUTOMATION GROUP

RCC SERIES

Simple Needs, Intuitive Design

Provides original equipment manufacturers (OEMs), integrators, and automation end-users with flexible, functional I/O and simple all-in-one controller options without a built-in screen.

LOWER COSTS, MORE OPTIONS, EASY-TO-USE

With fully integrated hardware and software, both the **RCC Series** and **XL Series** offer easier programming, installation, development and set-up. Our controllers have a small footprint and can easily retrofit into an existing system with little effort. Neither the XL nor the RCC products are limited to their on-board I/O. Many variations of distributed remote I/O, including SmartBlock, SmartStix, and SmartMod can be connected via CsCAN, Ethernet, or Modbus. RTU/Modbus based SmartMod I/O is also a cost-effective means of adding a small amount of analog I/O.

For a comparison guide of the OCS line of products, please **CLICK HERE** to visit our website.

Agriculture
▌ Increase overall productivity
▌ Reduce energy consumption

Building Automation
▌ Improve occupant comfort
▌ Economical operation systems

Material Handling
▌ Minimize HMI inefficiencies
▌ Track/log/catalog data

Oil and Gas
▌ Maximize capacity utilization
▌ Maintain emission standards

Renewable Energy
▌ Data logging, remote access
▌ Sunlight and UV protection

Water/Wastewater
▌ Operate chlorination systems
▌ Station pump control

Flexibility Meets Functionality

The RCC series is smart enough to perfectly complement our OCS family and ideal for applications where a screenless controller is the best fit. RCC controllers also pair well with the remote capabilities of the Horner webOCS line of products.

The RCC controllers are equipped with a range of digital and analog inputs and outputs - providing users with superior I/O options for both Discrete and Process Applications.

Additionally, most RCCs contain RS-232 & RS-485, CAN and 10/100 Ethernet - which provides you with serial connectivity, I/O expansion, Ethernet communications and advanced functions such as e-mail and web serving.

Programming, Data Logging and Alerts

Use the RCC's built-in serial and Ethernet ports for Cscape programming. Utilize Horner's user-friendly, ladder-logic based PLC software, our IEC 6-1131 options, and application defined communications.

Data logging, application updates and advanced recipe handling are made easy via the built-in removable microSD™ memory card. Log process based on individual events or specific times; everything is completely customizable - create virtual black box functionality for your machine.

Versatility Meets Precision – Horner webOCS

Register RCC controllers with Horner webOCS products to monitor and control plant data from the palm of your hand. Published directly from the OCS Controller, the webOCS line allows the same or unique web pages to be monitored and controlled from your computer, tablet or other mobile device.

Developed completely within our Cscape environment, webOCS allows for state-of-the-art HTML5 development without the need for web programming skills.

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HA-192R5

HORNER AUTOMATION GROUP

RCC972

Ladder Logic Memory	128KB
Logic Scan Rate	0.04 mS/K
Ethernet Support	Standard
Local Comment Storage	Yes
Built-in I/O Points	24
Digital I/O Max	2048 / 2048
Analog I/O Max	512 / 512

Serial Ports	1
Remote Access	WebMI, HTTP or EnvisionRV
USB Ports (A & Mini-B)	No
Integrated CsCan Network	Standard
Height (inches/mm)	4.370" / 111 mm
Width (inches/mm)	4.567" / 116 mm
Depth (inches/mm)	1.411" / 35.84 mm

*optional

RCC1410

Ladder Logic Memory	1024KB
Logic Scan Rate	0.04 mS/K
Ethernet Support	Standard
Local Comment Storage	Yes
Built-in I/O Points	24
Digital I/O Max	2048 / 2048
Analog I/O Max	512 / 512

Serial Ports	2
Remote Access	WebMI, HTTP or EnvisionRV
USB Ports (A & Mini-B)	No
Integrated CsCan Network	Standard
Height (inches/mm)	4.370" / 111 mm
Width (inches/mm)	4.567" / 116 mm
Depth (inches/mm)	1.411" / 35.84 mm

RCC8842

Ladder Logic Memory	1024KB
Logic Scan Rate	0.04 mS/K
Ethernet Support	Standard
Local Comment Storage	Yes
Built-in I/O Points	22
Digital I/O Max	2048 / 2048
Analog I/O Max	512 / 512

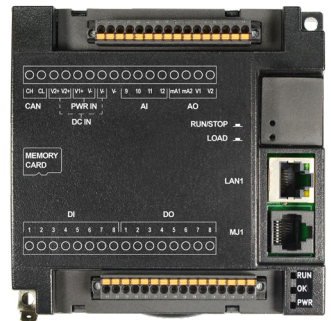| Serial Ports	2
Remote Access	WebMI, HTTP or EnvisionRV
USB Ports (A & Mini-B)	No
Integrated CsCan Network	Standard
Height (inches/mm)	4.370" / 111 mm
Width (inches/mm)	4.567" / 116 mm
Depth (inches/mm)	1.411" / 35.84 mm

RCC2414

Ladder Logic Memory	1024KB
Logic Scan Rate	0.04 mS/K
Ethernet Support	Standard, 2 Ports
Local Comment Storage	Yes
Built-in I/O Points	11
Digital I/O Max	2048 / 2048
Analog I/O Max	512 / 512

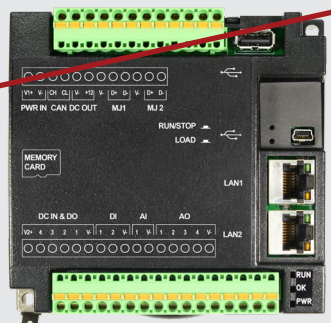| Serial Ports	2
Remote Access	WebMI, HTTP or EnvisionRV
USB Ports (A & Mini-B)	Yes
Integrated CsCan Network	Standard
Height (inches/mm)	4.370" / 111 mm
Width (inches/mm)	4.567" / 116 mm
Depth (inches/mm)	1.411" / 35.84 mm

LEGACY PRODUCT

RCC BACK

| RCC	Real Time Clock	DC In 12/24 VAC	DC Out 24 VDC	Analog In 0-20mA	Analog Out 0-20mA	Gen. Purpose Registers (words)	Gen. Purpose Internal Coils (bits)
972	no	8	4	8	4	4096	2048 (1024 retentive)
8842	yes	8	8	4	2	49999	32768 (16384 retentive)
2414	yes	2	4	1	4	49999	32768 (16384 retentive)
1410	yes	14	10	–	–		

HORNER AUTOMATION GROUP

RCC6512

High-speed Remote I/O & Advanced Co-Processor

The RCC6512 is a versatile product to handle high speed applications. This device combines a control co-processor along with high-speed digital and analog I/O with integrated networking.
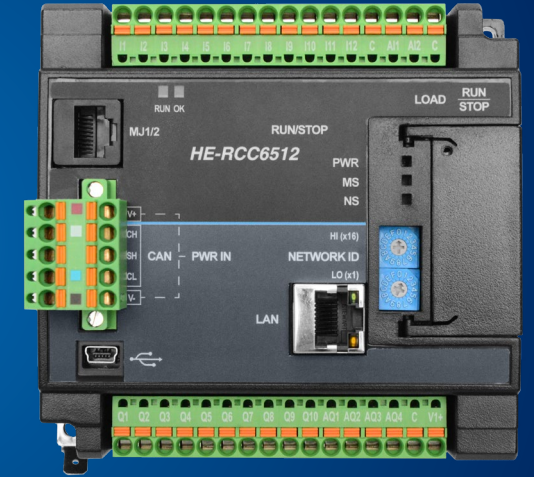
- Control Co-Processor programmed in Cscape

- Hardware high-speed I/O accelertor for handling high-speed inputs and outputs

- Eight high-speed counters that support totalizing, frequency, counting, pulse width measurement, period measurement or quadrature

- Ten sourcing high-speed outputs. Eight of which can be used as PWM signals

- Programmable input threshold for zero cross, 5V, 12V and 24V signals

- Programmable input filtering for 500kHz, 50kHz, and 5kHz

POWERFUL CO-PROCESSOR

The RCC6512 is designed as an add-on co-processor to any application requiring advanced high-speed counting. The RCC6512 is programmed in Advanced Ladder using Cscape

HIGH-SPEED INPUTS, HIGH-SPEED OUTPUTS

The RCC6512 is built around a FPGA chip which provides speed and flexibility for its generous complement of high-speed I/O. On the input side, up to 8 totalizers or 4 quadrature accumulators can be supported at frequencies up to 500kHz. Analog Filtering prevents spurious noise from interfering with legitimate signals for accurare counting. Digital outputs can be configured as either setpoint controlled outputs or PWM signals. Analog Outputs (+/- 10V) are provided with motor speed control in mind.

FLEXIBLE COMMUNICATIONS

The RCC6512 supports multiple connectivity options. The on-board Ethernet port (10/100Mbps) supports some of the most popular industrial ethernet protocols. These include Modbus TCP Server, Ethernet IP I/O Device and Ethernet Global Data (EGD). Horner's highly efficient CsCAN network is also onboard with its peer-to-peer architecture and superior noise immunity.

CsCan or Ethernet
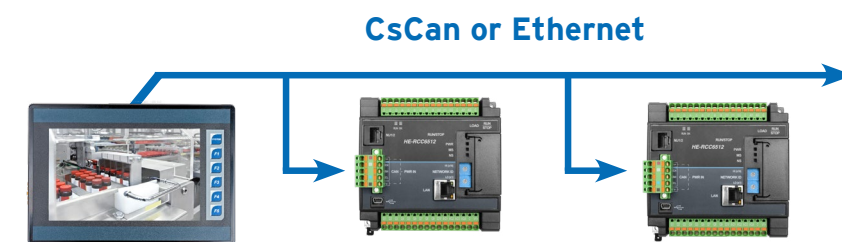
RCC6512 General Specifications

Item	Specification	Item	Specification
Co-Processor Specifications		I/O Specifications	
Cscape Control Language	Advanced Ladder Logic	High-Speed DC Inputs	8 (5V/12V/24V) pos/neg
Logic Size & Scan Rate	16kB, 0.7,uS/kB	Maximum HSC Frequency	500kHz (5k/50k/500k filter)
Programming Ports	USB, RS-232, microSD	General Purpose DC Inputs	4 (24V) pos/neg
General Purpose Registers (words)	2048 (256 Retentive)	High-speed DC Output	8 (5V/12V/24V) pos 0.5A
General Purpose Bits	2048 (Non-Retentive)	Max Frequency	500kHz
Digital I/O Registers	512 Input & 512 Output	General Purpose DC Outputs	2 (5V/12V/24V) pos 0.5A
Analog I/O Registers	256 Input & 256 Output	Analog Inputs	2 (0-10V, 0-20mA)
Dimensions (maximum)	4.67"H x 4.57"W x 2.81"D	Resolution, Accuracy	12-bits, 1% full scale
Required Power (steady-state)	120mA @ 24Vdc	Input Impedance	V: 100kohm mA: 15ohm
Primary Power Range	10-28Vdc	Analog Outputs	4 (-10V to +10V)
Operating/Storage Temperature	-10C to +60C	Resolution, Accuracy	12-bits, 0.25% full scale
Relative Humidity	5-95% Non-condensing	Minimum Load	500ohm

Part Number	Description
SmartBlock Standard	
HE579MIX102	Isolated mixed Digital/Analog I/O module (12/6/4)
HE579RTD100	Isolated RTD Indut Module, 4 channel
HE579RTD200	Isolated RTD Input Module, 8 channel
HE579THM100	Isolated Thermocouple Input Module, 4 channel
HE579MIX577	Isolated Thermocouple Input Module, 8 channel
HE579MIX577	4 Analog Inputs, 2 Analog Outputs (0-10V, 0-5V, 0-20mA, 4-20mA)
HE579MIX977	8 Analog inputs, 4 Analog Outputs (0-10V, 0-5V, 0-20mA, 4-20mA)
HE579ADC570	6 Analog Inputs (0-10V, 0-5V 0-20mA, 4-20mA, and 10 K thermistor)
HE579ADC970	SmartBlock 12x Analog In, +10, 4-20mA, Thermistor
HE579DAC107	4 Analog Outputs (0-10V, 0-5V, 0-20mA, 4-20mA)
HE579DAC207	8 Analog Outputs (0-10V, 0-5V, 0-20mA, 4-20mA)
HE579DIQ880	8 DC inputs and 8 relay outputs
HE579DIQ8881	8 DC inputs and 8-.5 amp DC outputs
HE579MIX105	Isolated Mixed Digital/Analog I/O Module (12/12/2/2)
HE579ACM300	AC power Monitor (3-phase)
HE579ACM302	AC Power Monitor Using Rogowski Inputs

Part Number	Description
SmartBlock Open-style	
HE-RLT12	Replacement relay for HE569DQM212
HE-SSR04	Replacement SSR for HE69DQM204
GE-SSR05	Replacement SSR for HE69DQM205
HE569DQM209	8 High Current Direct Connect Relays
HE569DQM212	8 High Current, Socketed Relays
HE569DQM212-12	8 High Current, Socketed Relays, supports 12V relay coils
HE569DQM204	8 High Current, Socketed SSRs (AC)
HE569DQM205	8 High Current, Socketed SSRS (DC)

Part Number	Description
SmartStix Standard	
HE559DIM610	16 DC Inputs (pos/neg)
HE559DIM710	32 DC Inputs (pos/neg)
HE559DQM602	16 Relay Outputs, 2A max
HE559DQM606	16 DC Outputs (pos) 0.5A max
HE559DQM706	32 DC Outputs (pos) 0.5A max
HE559DIQ816	16 DC Inputs (pos/neg) & 16 DC Outputs (pos) 0.5A max
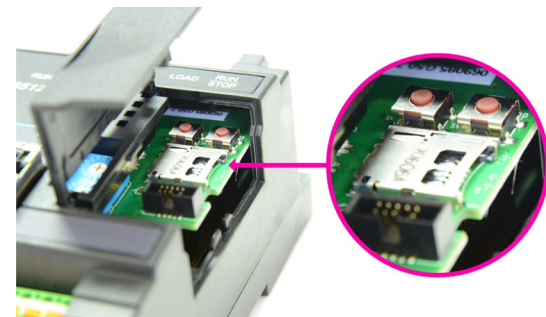
The RCC6512 features a microSD slot for data logging and maintenance functions.

SmartStix Digital I/O can be used alongside SmartBlock I/O & the RCC6512 Co-processor.

OCS-I/O

Highly Expandable & Flexible Remote I/O for OCS

OCS-I/O packs a lot of flexibility, capability, and expandability in a small package that makes it the perfect complementary CsCAN solution for OCS platforms.

Field-Swappable - In order to minimize downtime, the OCS-I/O modules are hot-swappable – even the base! This lets you pop in/out replacements without the need to stop your machine or process and be right back up and running.

Fieldbus Network - CsCAN, has both a CsCAN In and CsCAN Out in order to easily daisy-chain your CsCAN network with module RJ45 connections.

Expand to 7 modules per base & 16 modules per network Uses sturdy spring-clamp terminals to maintain a low-profile design

Compact Footprint - a loaded up base still fits in a footprint of 90H x 215W (mm) or 3.5H x 8.75W (in.)

Maybe You Only Need One More...

Sometimes you only need a little bit. Start with the CNX116 – which includes I/O right on the base! Meant as the perfect small amount of complementary I/O, the CNX116 gives you (2) **Flexible Inputs** (Digital or 12-bit Analog), (2) **Digital Outputs**, (1) 16-bit **Universal Analog Input** and (1) 12-bit **Analog Output** right onboard. Yes, you read that correctly – two inputs that can be used for either digital or analog signals, giving it up to 3 analog inputs without even needing another module!

...Or Maybe You Need A Lot

With expandability up to 7 modules per base and 16 bases per network, OCS-I/O can handle almost any amount of I/O needs. It even includes a CsCAN In and CsCAN Out port to allow you to easily daisy-chain multiple bases without requiring a lot of custom wiring.
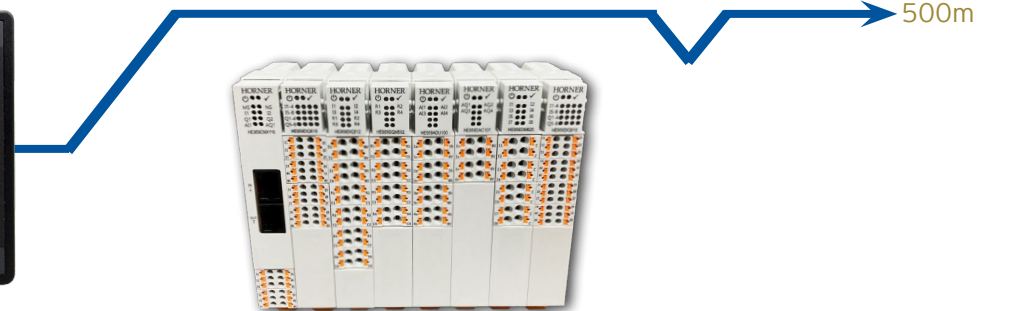
Either Way, Configuration Is a Breeze

Whether it's a little or a lot, OCS-I/O configuration is meant to be simple and effortless. It's configured using Cscape software, so when wired up, it can find the base and autopopulate all installed modules automatically. From there you may only need to tweak a couple of configurations for the base or modules to be ready to go. Cscape also calculates the I/O power usage for you automatically, so you'll never overload an I/O base.

500m

XL7

CAN-based OCS-I/O supports up to 16 bases with a maximum network distance of 500m.

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ADU100

Analog Inputs	4
Resolution	16-bit
Supported Input Types	RTD/TC/0-20mA/0-10V
Thermocouple Types	J/K/T/E/N/R/S
RTD Types	PT100, PT1000
Max Error at 25ºC	0.2%
Operating Air Temp	-40ºC to 60ºC

DAC107

Analog Outputs	4
Resolution	12-bit
Output Ranges	0-20mA/4-20mA/ +/-10V
Minimum 10V Load	500Ω
Maxmum Current Load	500Ω
Max Error at 25ºC	0.2%
Operating Air Temp	-40ºC to 60ºC

DIM620

AC Inputs	8
Commons per Module	1
Input Voltage Range	90 to 240VAC
Absolute Max Voltage	260 VAC
OFF to ON Response	<20ms
ON to OFF Response	<20ms
Operating Air Temp	-40ºC to 60ºC

DIQ512

Digital Inputs	4
Input Voltage Range	12 to 24 VDC
Commons per Module	4
Relay Outputs	4
Max Output Voltage	120VAC
Max Output Current	3A each
Operating Air Temp	-40ºC to 60ºC

DIQ616

DC Inputs	8
Input Voltage Range	12 to 24 VDC
Input Commons	1
DC Outputs	8 (0.5A)
Absolute Max Voltage	32DC
Output Commons	1
Operating Air Temp	-40ºC to 60ºC

DQM502

Relay Outputs	4
Max Current per Relay	8A AC / 5A DC
Max Total Current	16A
Max Output Voltage	240VAC
Expected Life	100K @ Rated Load
Operating Air Temp	-40ºC to 50ºC

CNX116

Max Number of Modules	7 per base
Flexible Inputs	2 (Digital or Analog)
Input Voltage Range	5V, 12V or 24V
Analog Input Types	0-20mA/4-20mA/0-10V
DC Outputs	2 (2A)
Output Voltage Range	10 to 30 VDC
Operating Air Temp	-40ºC to 60ºC

Universal Analog In	1
Input Resolution	16-bit
Supported Input Types	RTD/TC/0-20mA/0-10V
Max Error at 25ºC	0.2%
Analog Outputs	1
Output Resolution	12-bit
Output Ranges	0-20mA/4-20mA/0-10V

CNX116 Base			
Flexible Inputs Digital or Analog	DC Outputs	Universal Analog Inputs	Analog Outputs
2*	2	1	1

*I1 and I2 can be configured as either digital or analog inputs

OCS-I/O	AC Inputs	DC Inputs	Relay Outputs	DC Outputs	Universal Analog Inputs	Analog Outputs
HE959ADU100	0	0	0	0	4	0
HE959DAC107	0	0	0	0	0	4
HE959DIM620	8	0	0	0	0	0
HE959DIQ512	0	4	4	0	0	0
HE959DIQ616	0	8	0	8	0	0
HE959DQM502	0	0	4	0	0	0

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