



# OCS All-in-One Controllers

Product Catalog

[www.hornerautomation.com](http://www.hornerautomation.com)



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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](http://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.

# X2 SPECIFICATIONS AND TECHNICAL INFORMATION



## 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



# X4 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: 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
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\*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.

## 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 <sup>2</sup>
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	-10° to 60° C
Humidity	5 to 95% Non-Condensing
Ratings	IP65, UL Type 3R, 4, 4x, 12, 12k, 13

# 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	-10° to 60° C
Humidity (non-condensing)	5 to 95%

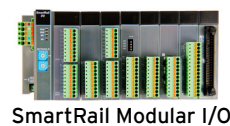
## STREAMLINED ONBOARD I/O

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

## FULLY SUPPORTED REMOTE I/O

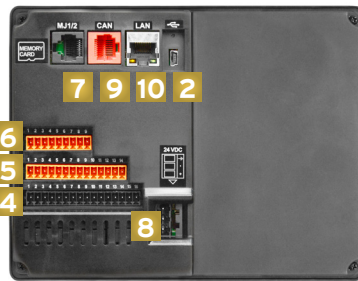
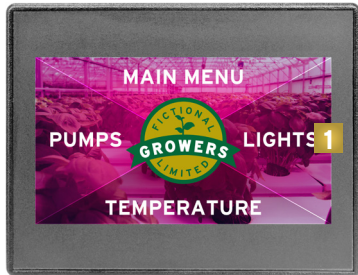
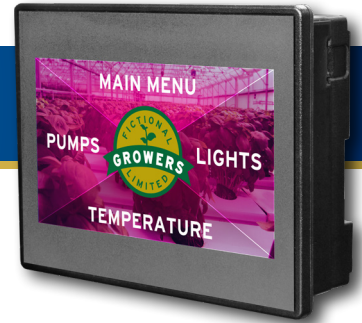
Digital Inputs	2048	Analog Outputs	512
Digital Outputs	2048	Gen. Purpose Registers (words)	8192 (1024 retentive)
Analog Inputs	512	Gen. Purpose Internal Coils (bits)	4096 (2048 retentive)

## ACCESSORIES



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

# 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 <sup>2</sup>
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	-10° to 60° C
Humidity	5 to 95% Non-Condensing
Ratings	IP65, UL Type 3R, 4, 4x, 12, 12k, 13

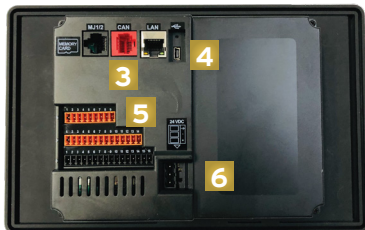


# X10 SPECIFICATIONS AND TECHNICAL INFORMATION



## 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



## 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.



# XLe 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, 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
- 6 RS232/RS485 serial ports
- 7 USB mini-B port
- 8 Transflective LCD touchscreen
- 9 Function keys

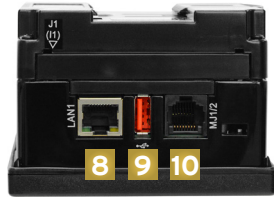
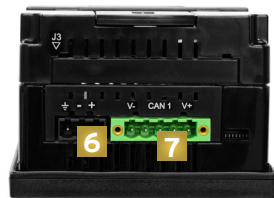
CONTROLLER	
CPU	High Performance 32 Bit Arm with DSP and FPU Acceleration
Logic Scan Rate	0.8 ms/K
Built-In Storage	16Mb
Removable Memory	32GB microSD
Retentive Storage	32K Battery-Backed Ram
Programming Languages	Advanced Ladder or IEC: ST, LD, FBD, IL, SFC
USER INTERFACE	
Display Technology	3.5" Transflective 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

# XL4 SPECIFICATIONS AND TECHNICAL INFORMATION



## 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

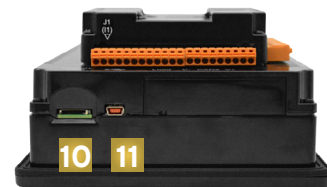
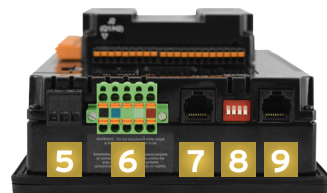
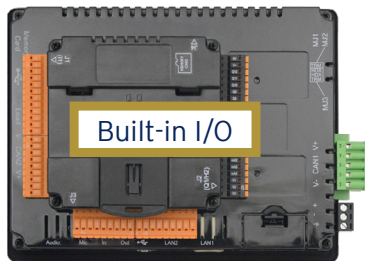
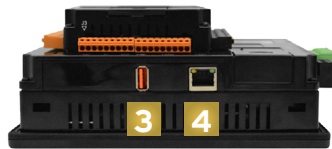
Primary Power Range	10-30VDC
Operating Temperature	-10° to 60°C
Humidity (non-condensing)	5 to 95%
Ratings	IP65, UL Type 3R, 4, 4x, 12, 12k, 13, ABS

### 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



# EXL6 SPECIFICATIONS AND TECHNICAL INFORMATION



## 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/m <sup>2</sup>
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

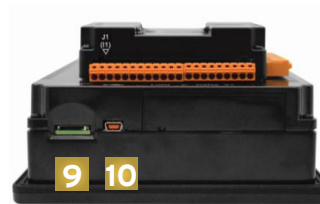
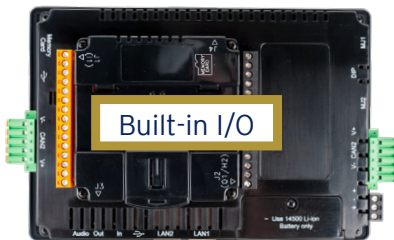
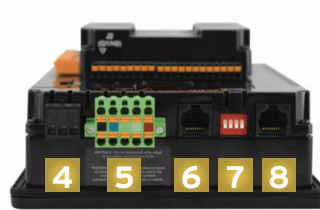
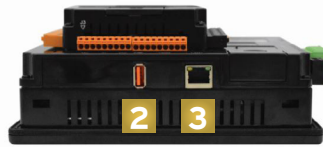
## OPERATING SPECS. & STANDARDS

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: 1861 x 143.6 x 77 in: 7.326 x 5.66 x 3.03
Weight	1.12 lbs or 508g

# EXLW SPECIFICATIONS AND TECHNICAL INFORMATION



## 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

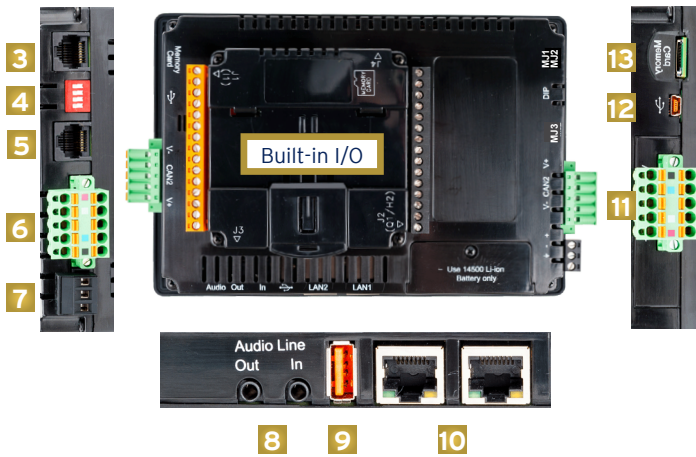


# XL7 SPECIFICATIONS AND TECHNICAL INFORMATION



## 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/m <sup>2</sup>
Resolution / Color	800 x 480
Keypad	6 function keys

## CONNECTIVITY

Serial Ports	1 with RS-232 and RS-485 on first Modular Jack (MJ1/2) 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

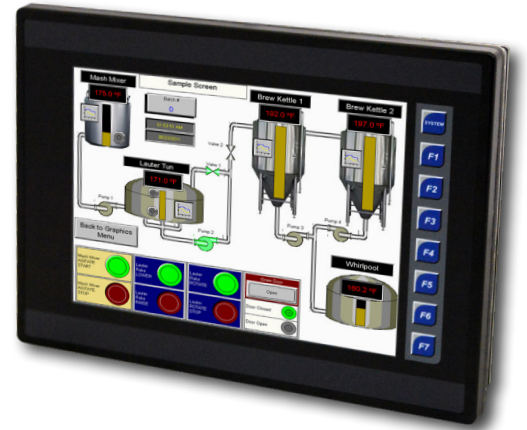
## OPERATING SPECS. & STANDARDS

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

# EXL10 SPECIFICATIONS AND TECHNICAL INFORMATION



## PHYSICAL CHARACTERISTICS

- 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

### 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/m <sup>2</sup>
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-EXVIE0	No Built-in I/O
HE-EXVIE2	12 DC in, 6 Relay Out, 4 - 12-bit Analog In
HE-EXVIE3	12 DC in, 12 DC Out, 2 - 12-bit Analog In
HE-EXVIE4	24 DC in, 16 DC Out, 2 - 12-bit Analog In
HE-EXVIE5	12 DC in, 12 DC Out, 2 - 14/16-bit Analog In (mA/V/Tc/mV/RTD), 2 - 12-bit Analog Out
HE-EXVIE6	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

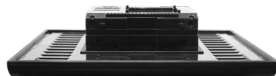
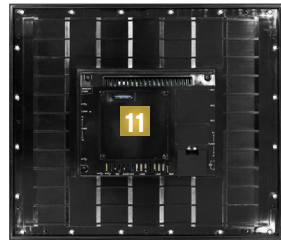
### OPERATING SPECS. & STANDARDS

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

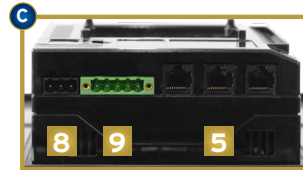
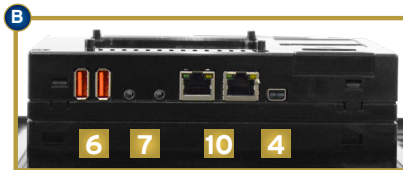
Dimensions (W x H x D)	mm: 303.3x 230.6 x 61.7 in: 11.94 x 9.08 x 2.43
Weight	4.35 lbs or 1973.1g

# XL15+ 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 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



## 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/m <sup>2</sup>
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

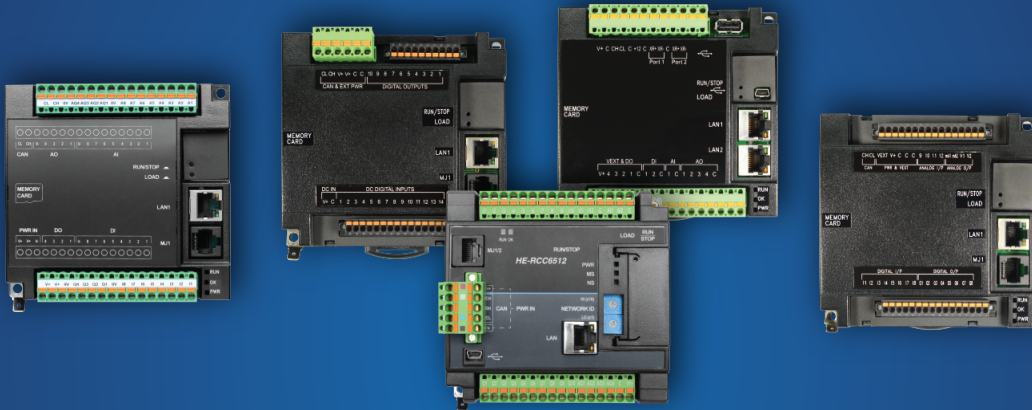
Primary Power Range	18-30VDC
Operating Temperature	-10° to 60° C
Humidity (non-condensing)	5 to 95%
Ratings	IP65, UL Type 3R, 4, 4x, 12, 12k, 13

## 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



## RCC SERIES



### 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.

# 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.



### 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.



RCC972

Ladder Logic Memory	128KB
Logic Scan Rate	0.013 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

RCC972



\*optional

RCC1410

Ladder Logic Memory	1024KB
Logic Scan Rate	0.013 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

RCC1410

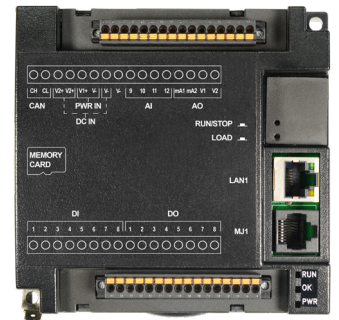


RCC8842

Ladder Logic Memory	1024KB
Logic Scan Rate	0.013 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

RCC8842

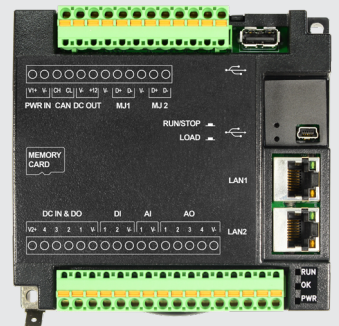


RCC2414

Ladder Logic Memory	1024KB
Logic Scan Rate	0.013 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

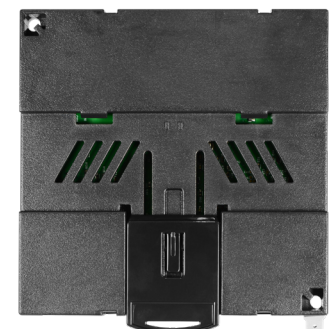
Serial Ports	2
Remote Access	WebMI, HTTP or EnvisionRV
USB Ports (A & Mini-B)	Yes
Integrated CsCan Network	Standard
Height (inches/mm)	4.370" / 111 mm
Width (inches/mm)	4.567" / 116 mm
Depth (inches/mm)	1.411" / 35.84 mm

RCC2414



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		
1410	yes	14	10	-	-		

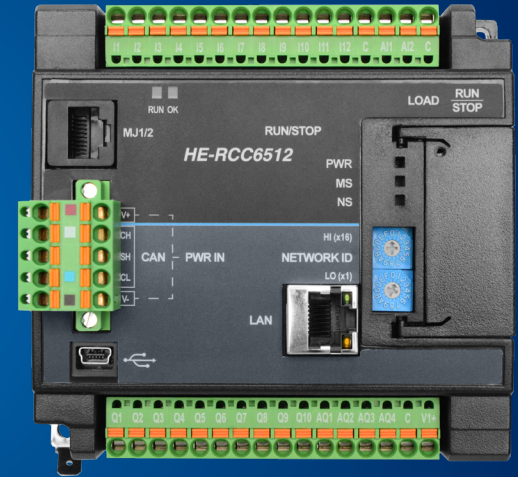
RCC BACK



# 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

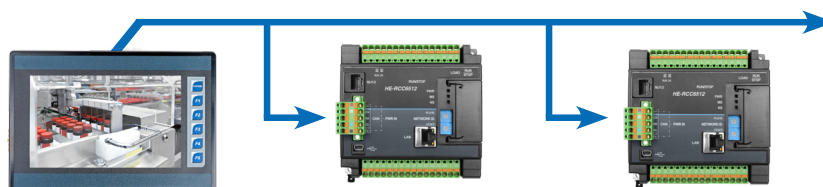
### HIGH-SPEED INPUTS, HIGH-SPEED OUTPUTS

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,µS/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 Input 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

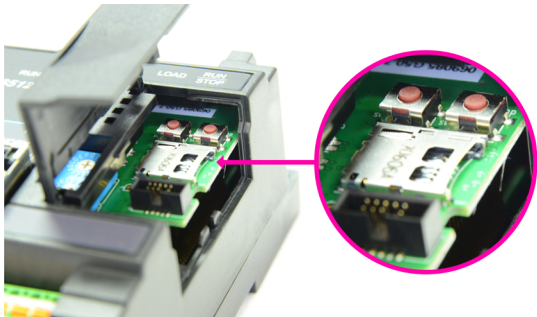
#### [SmartBlock Open-style](#)

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.