



A Next Generation OCS

XL Series OCS



**Compact
All-in-One
Control Solutions
with Controller,
Graphics,
Built-in I/O,
Networking
and Removable
Mass Storage
for Industrial
Applications**

New Low-Cost Compact “All-in-One” Controllers

Introducing the XL Series Operator Control Stations (OCS). Costing less than a PLC and operator interface, these devices include an Operator Interface, Built-in I/O, Networking and Removable Mass Data Storage. OCS is a robust, reliable control product that combines a traditional controller (programmed with ladder logic or IEC language) with an operator interface, I/O and networking into an integrated, all-in-one unit programmed using a single industry-recognized software package called Cscape™.

First with MicroSD™ Data Storage Memory

The XL Series is the first industrial product to use the latest standard in Removable Mass Storage, MicroSD™. This dime-sized memory, to date only found on video-enabled cellular phones, is available in densities ranging from 128MB to 2GB. This is ideal for data logging, machine recipes and application files and users can easily update their XL Series application program through this memory device.



An industry-first! The XL Series can store data or easily upload programs via MicroSD™ memory card.

Graphical LCD Displays, Built-in I/O and Add-on Communications

XL Series offers three graphical display options: 2.25" LCD with a keypad (128 X 64 pixels), 3.5" touch screen (160 X 128 pixels) and 5.7" color touch screen (320 X 240 pixels).



With one single FREE software program, Cscape™, you can easily program, debug and display graphics on any XL Series OCS.

XL Series models with built-in I/O have 22-44 points and include digital, analog and high-speed I/O. Using expansion I/O, the XL Series 256K memory supports over 5000 I/O. For machine control, the built-in high speed I/O can provide totalizing, frequency measurement, PWM generation and pulse outputs. The Universal Analog I/O is ideal for process control applications with high-resolution inputs. They can be configured for Thermocouple, RTD, 4-20mA, +/-100mV, and 0-10V signals.

XL Series models have two RS-232/RS-485 serial ports and an integrated CAN-based network (CsCAN™). The XL6 also adds a USB programming port. Plus, all XL Series models support add-on field installable communications options such as telephone, radio or cell modems. For XLe, XLt and XL6, an add-on 10/100MBit Ethernet card makes machine data and programming accessible plant-wide or world-wide — now supporting Modbus/TCP. The XL6e comes with on-board Ethernet as standard.

Benefits

- More compact and affordable than a separate PLC and Operator Interface
- Operates on 12 VDC and 24 VDC power
- Outdoor-readable or color touch screen displays for better process visualization and machine indication
- Built-in I/O with color-coded, removable terminal blocks with silk screening for easy wiring
- Removable MicroSD™ data storage for data logging and updating programs
- Two serial ports and downloadable protocols that interface with almost any PLC or Drive
- Ethernet, telephone, radio and cell modem option cards
- XL6e model supports web-serving using HTTP and file-serving with FTP

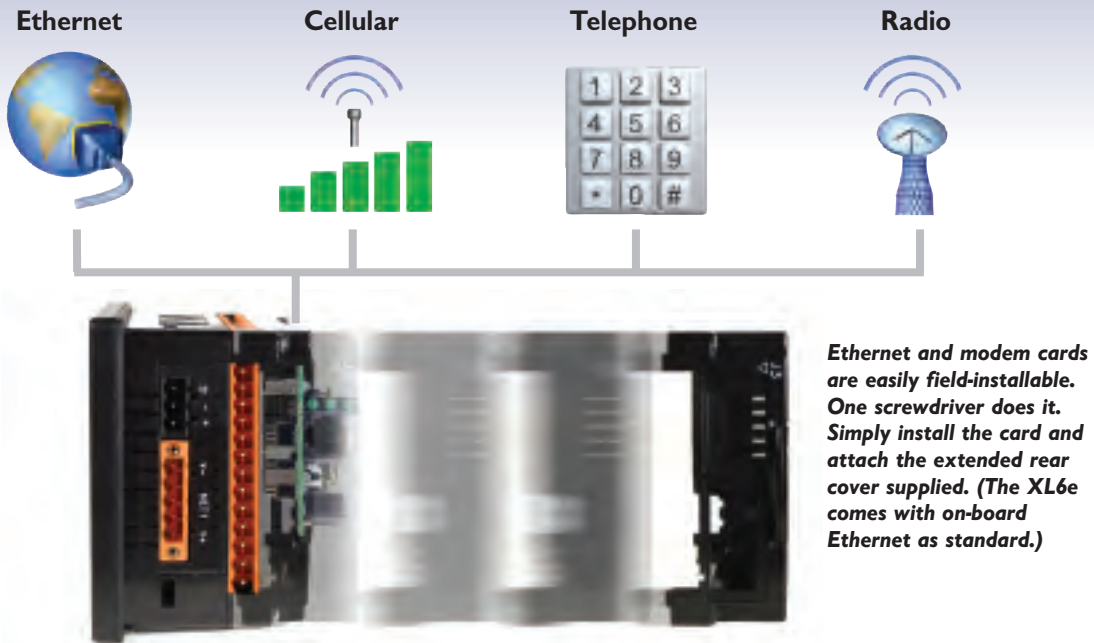


Mounting Options: XLe and XLt can be mounted on DIN rail or in a panel (taking less than 4" H X 4"W X 2.5" D)

Communications Options - Now including Modbus/TCP

The XL Series comes with a wide range of field installable add-on communications options. You can select from the following: 10/100MBit Ethernet, GSM/GPRS cellular, telephone modem and 900MHz radio modem. All options support Cscape™ programming, Modbus master and slave and OPC. Both the 10/100 Ethernet and GSM/GPRS cellular now also support Modbus/TCP slave. A GPS receiver unit is also available for mobile applications.

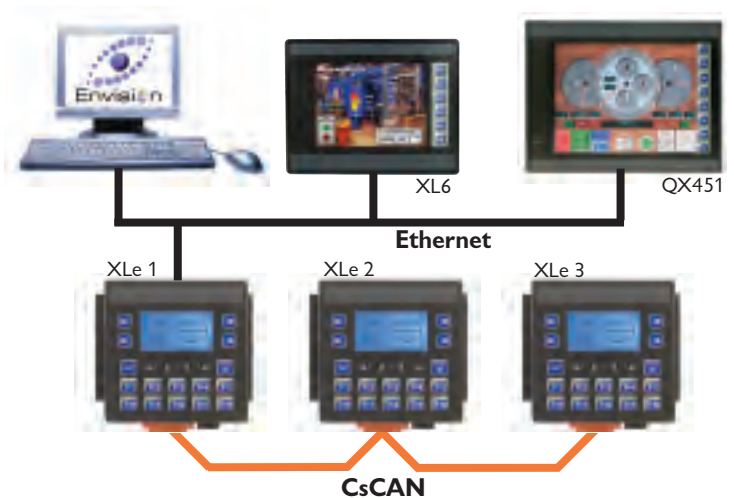
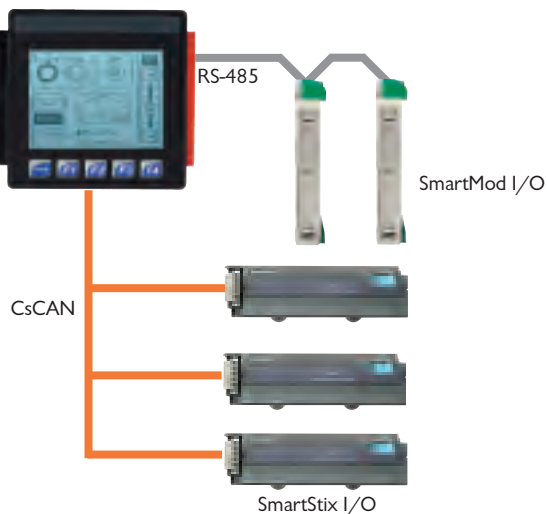
All communications options are easy to install and come with an extended rear cover to accommodate the option you select.



Connectivity

I/O Expansion. XL Series I/O is not limited to its 22-44 built-in I/O. SmartStix I/O connects to the high-speed CsCAN™ network and can be local or highly distributed. RTU/Modbus based SmartMod I/O is a cost effective means of adding specialty or a mix of I/O types.

Architecture. The XL Series supports CsCAN™ high-speed networking as standard and Ethernet networking as an option. Single-point-of-connect allows seamless communications between a computer and all networked controllers. In the diagram below, XLe 2 and XLe 3 are accessed by the PC over Ethernet and CsCAN™ through XLe 1. Through the optional use of Cscape™ EnvisionRV, you can view and access your OCS remotely via a PC interface.



New 5.7" TFT Touch Screen-XL6/XL6e OCS

The XL6 Touch Screen controller is Horner's newest addition to the XL Series of Operator Control Stations. XL6 incorporates a 5.7" TFT (thin film transistor) liquid crystal display capable of displaying a palette of 32,000 colors. The result is a photo quality interface that can display elaborately detailed objects and imagery.

As an example, the actual XL6 screen interface below was easily created in Cscape™ by first taking a photograph of the machine area, importing the resulting bitmap into Cscape™ and applying the application objects to the screen in the normal manner.

The XL6 is the first OCS to include a USB programming port that allows you to program the unit directly using a standard USB interface cable, eliminating the need for a USB to serial cable adapter connection.

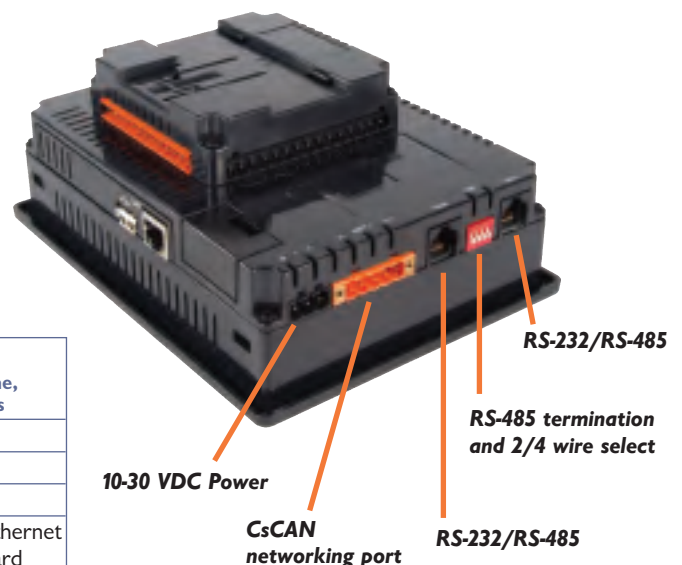
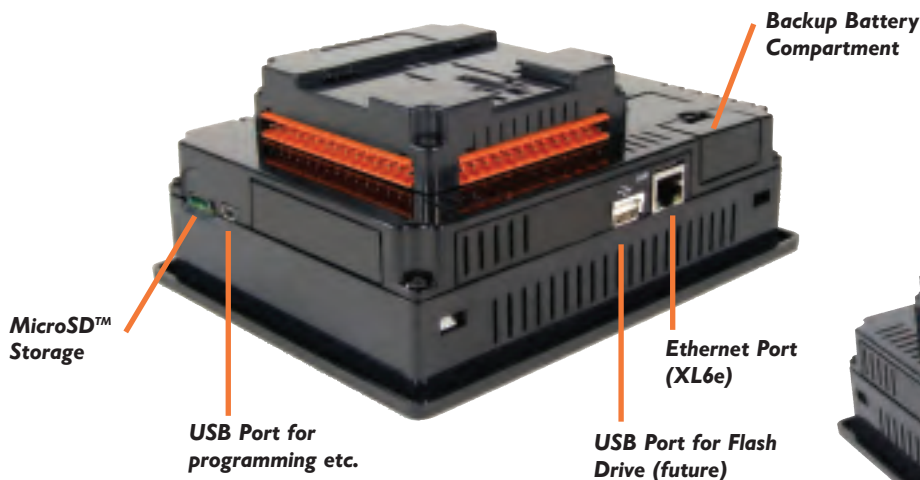


The XL6 offers fast graphics updates and a logic scan rate of 0.2mS/K, resulting in superior overall performance for larger applications.

Just like the XLe and XLt, the XL6 comes with color-coded input and output connectors for fast, easy wiring in the field. Plus, the XL6 also incorporates a newly designed battery compartment on the back that allows you to quickly change-out the memory back-up battery. Two battery connectors are included so you can install a new battery first, then remove the old one.



The XL6 features both MicroSD™ and USB (A) connectors for data. MicroSD™ supports up to 2GB of local storage, while the USB port will soon support portable file transfer to/from the XL6.



XL Series at a glance...

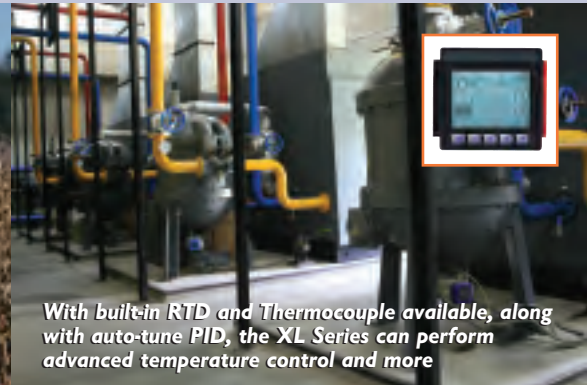
	Built-in I/O; Expandable	MicroSD™ Memory Datalog	Displays Graphics	Outdoor Readable	USB	Ethernet, Radio, Phone, Cell Options
XLe	yes	yes	2.25" LCD	no	no	yes
XLt	yes	yes	3.5" touch	best	no	yes
XL6	yes	yes	5.7" touch	good	yes	yes
XL6e	yes	yes	5.7" touch	good	yes	yes, Ethernet Standard

Applications

As a compact, powerful controller, the XL Series can be used in literally thousands of applications. From OEM machine control to machine monitoring in a plant environment, the XL Series can be instrumental in keeping you or your customer's automation activities running smoothly. Future expansion is not a concern because the XL Series is part of the wide ranging OCS product line — programmable throughout with a single FREE software package, Cscape™.



A small rugged package, 12Vdc compatibility, and removable mass storage are ideal for the agricultural environment



With built-in RTD and Thermocouple available, along with auto-tune PID, the XL Series can perform advanced temperature control and more



The XL Series compact size, affordable price, and fast response make it a natural for packaging machinery of all types



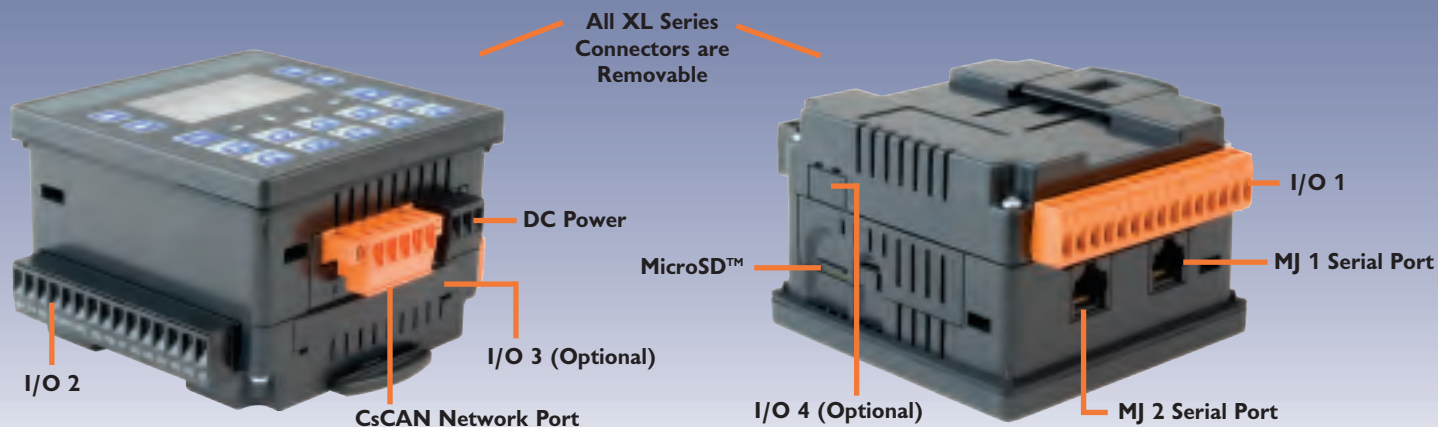
The XL Series offers the perfect I/O mix, size, and communications capability for Pump Control, Tank Monitoring and Remote Telemetry

Customization

OCS is designed to look like a “generic” operator station, fitting in with most cabinet and console designs and color schemes. But sometimes adding an individualized look can mean a world of difference in the overall usefulness of an operator station and the marketing of your machine or system.

- Apply a label on the overlay to add your company logo
- Substitute a custom keypad with your company's logo, colors and industry terms
- Design overlays in any language






Ordering Information

OCS Controllers				I/O Options			
XLe	XLt	XL6	XL6e	Digital In	Digital Out	Analog In	Analog Out
HE-XE102	HE-XT102	HE-XL102	HE-XL1E2	12 DC (4 HSC)	6 Relay	4	
HE-XE103	HE-XT103	HE-XL103	HE-XL1E3	12 DC (4 HSC)	12 DC (2 PWM)	2	
HE-XE104	HE-XT104	HE-XL104	HE-XL1E4	24 DC (4 HSC)	16 DC (2 PWM)	2	
HE-XE105	HE-XT105	HE-XL105	HE-XL1E5	12 DC (4 HSC)	12 DC (2 PWM)	2 Universal (T/C, RTD, mV, mA, V)	2
HE-XE100	HE-XT100	HE-XL100	HE-XL1E0	Same features and functions as other models but no built-in I/O			
Communications Options							
HE-XEC	10/100 Ethernet			HE-200GPS183GSM		GPS Satellite Receiver	
HE-XRC9	900 MHz Wireless Modem			HE-GSM04ANT		Cell Modem with T-bar Antenna (3M)	
HE-XMC	Telephone Modem						

Specifications

Display	XLe	XLt	XL6/XL6e	Networking	XLe	XLt	XL6e
Graphics/Text	Yes/Yes	Yes/Yes	Yes/Yes	Integrated CsCAN Network		Yes	
Pixels	128 X 64	160 X 128	320 X 240	Maximum CsCAN Distance		6000 feet/2 km	
Display Technology	2.25" Backlit LCD	3.5" Daylight Readable Touch	5.7" TFT 32,000 Colors	Programming Over Network		Yes	
Character Height	Adjustable	Adjustable	Adjustable	Peer-to-Peer Messaging		Yes	
				DeviceNet/PROFIBUS Master		No	
Keypad Touch Screen				Ethernet/Internet/Wireless			
Total Keys	20	5	6	Ethernet Support		Optional	On-board
Function Keys	10	4	5	Telephone Modem Support		Optional	
Numeric Keys	Shared	Pop-up Keypad	Pop-up Keypad	Wireless Modem Support		Optional	
OEM Faceplate Available	Yes	Yes	Yes	Cell Modem Support		Optional	
Controller				General Specifications			
Ladder Logic Memory	256KB		0.2 mS/K	Height (in/mm)	3.7" (95.1)	5.65" (143.6)	
Logic Scan Rate	1.2 mS/K			Width (in/mm)	3.7" (95.1)	7.33" (186.1)	
Memory Card Slot	Yes (up to 2GB)			Depth (in/mm)	2.5" (63.9)	3.46" (88)	
Local Comment Storage	Yes			Weight (oz/kg)	12.5 (.354)	26.5 (.751)	
Floating Point Support	Yes			Environmental	-0 to 50 C	-10 to 60	-10 to 60
AutoTune PID Capable	Yes			Washdown Applications	Yes	Yes	Yes
I/O Support							
Built-In I/O	Yes						
SmartStack I/O	Yes via CsCAN						
SmartStix I/O	Yes via CsCAN						
SmartMod I/O	Yes via Modbus Serial						
FOX Expansion I/O	No						
Serial Communications							
Total Active Ports	2		2 plus USB				
RS-232 Ports / RS-485 Ports	Yes/Yes						
PLC/Drive Protocols	Yes						
RTU/Modbus Master/Slave	Yes						
Serial ASCII In/Out	Yes						
USB Communications Port	No		Yes				

Horner APG

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www.hornerOCS.com

Horner is dedicated to saving you both time and money by providing the industry's widest range of all-in-one controllers

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