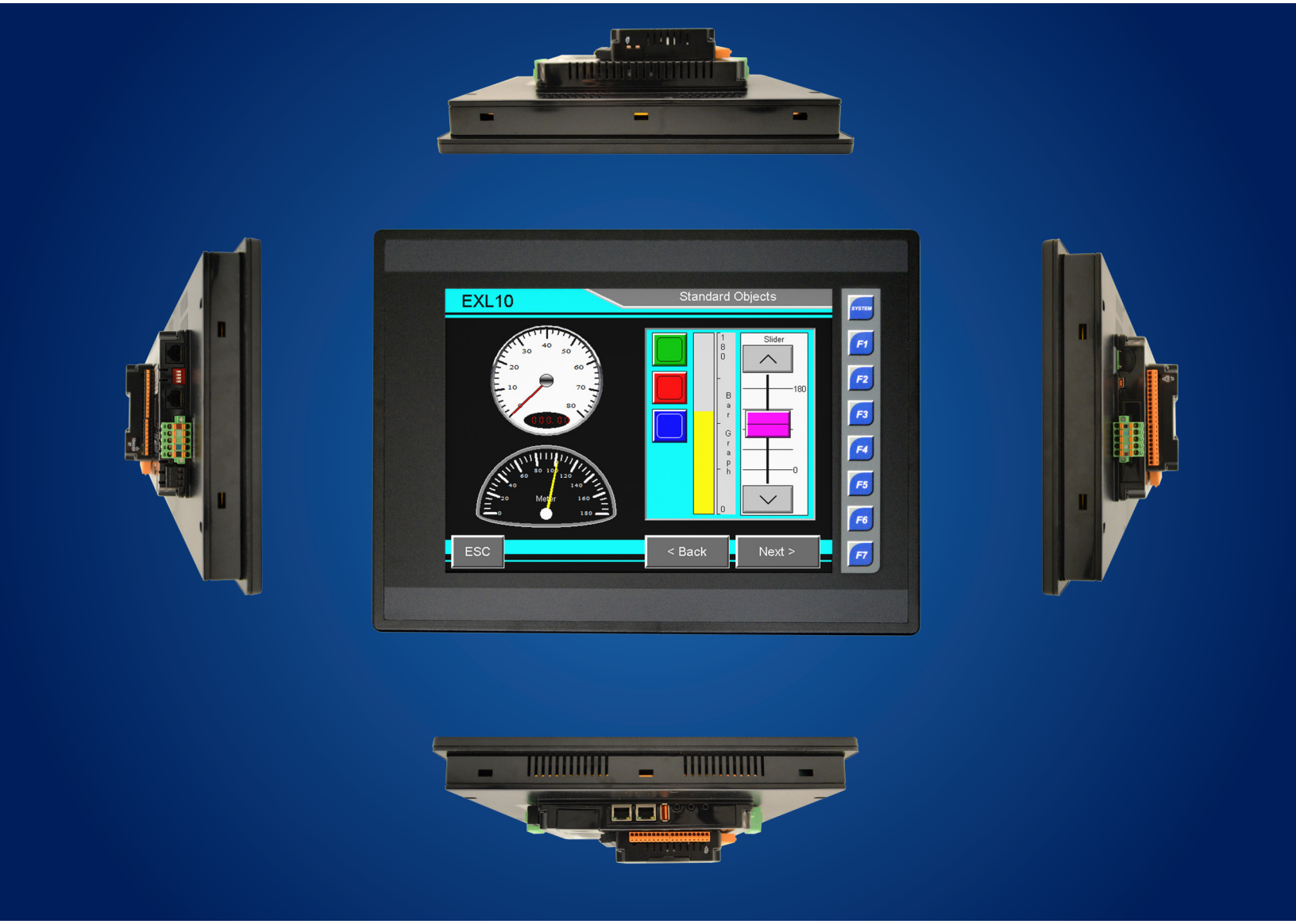
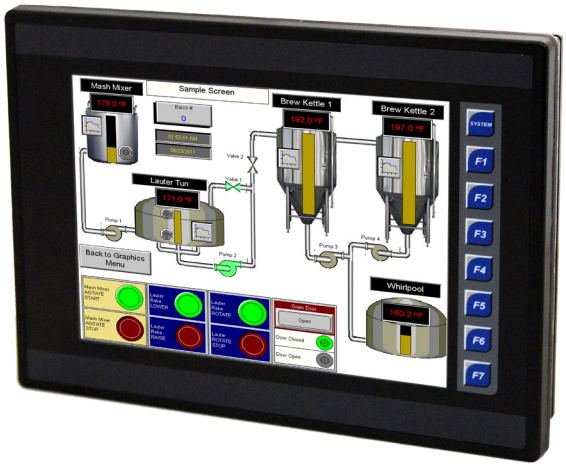
HORNER AUTOMATION GROUP

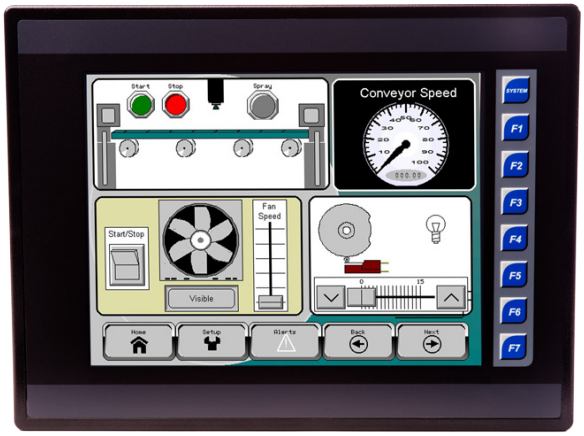


EXL10 OCS

White Paper

The EXL10





EXL10 with Cscape screens

Horner continues to grow its XL series of OCS (Operator Control Stations) of controllers, which are available in 4" up to 22" screens. The addition of a 10.4" screen option creates a more substantial offering in the mid-size line of controllers. The new EXL10 is an upgrade from the current XL10e.

SPEED AND FLEXIBILITY

The EXL10 has some hardware upgrades that will improve speed and connectivity improvements over the previous model, the XL10e. It is important to note, however, that the newer model uses the same software, Cscape, and has the exact same size specifications, to make upgrading as seamless as possible. Cscape supports both ladder logic and IEC 1131 programming.

The most noticeable difference is an upgrade in logic solving and screen response time. Customers will see an increase in logic scanning time on an order of magnitude, depending on the nature of the program. If the program is largely boolean, the EXL10 will be about 10 times faster than the XL10e, for example. Moving from screen to screen when touching the OCS also will be noticeably faster.

The EXL10 has one standard and one mini USB 2.0 port, and each of these is high retention, signalled by the orange color. These ports require about 3.37 pounds of force to remove connections so they're less likely to be accidentally unplugged. This is especially important in some hazardous locations. These ports can be plugged and unplugged live.

ENHANCED CONNECTIVITY

With dual 10/100 Ethernet ports, the EXL10 adds flexibility when linking to factory networks, and three serial ports allow for interfacing with a variety of devices or legacy technology that requires serial communications.

The additional Ethernet port provides a separate set of IP, net mask and default gateway addresses. This means that in an application

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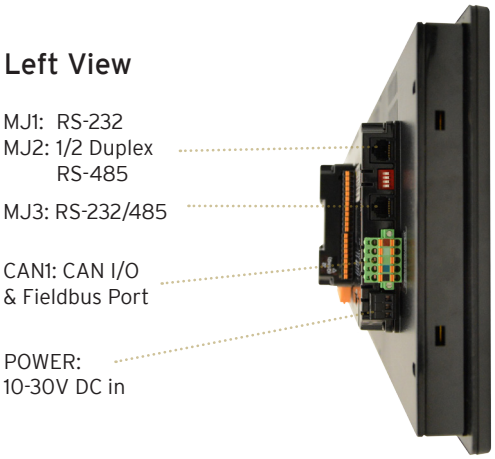
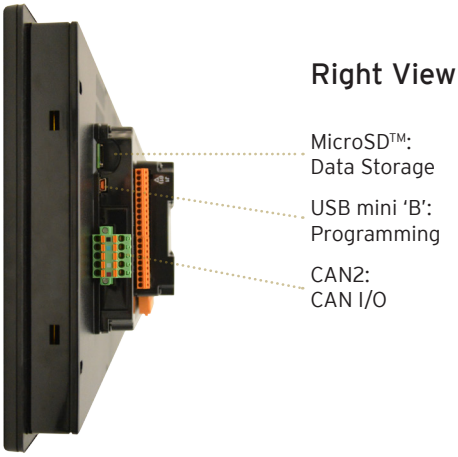
Left View

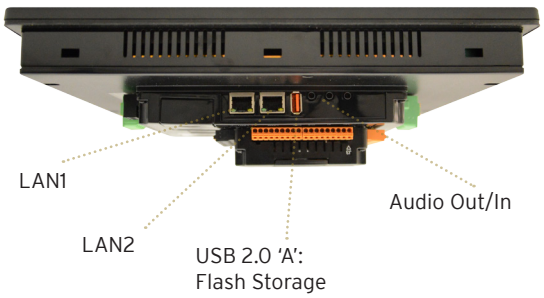


Right View



Top-Down View

Bottom-Up View



you can have one port dedicated for machine communications over Ethernet, such as I/O, third party devices, PLC networks, any other factory-level communications, and now a second Ethernet port is separate and isolated to interface with the wider factory information systems, such as SCADA, ERP, MRP, or other factory networks for sending email or transferring files.

With two CAN field bus ports, the EXL10 can now have one port for dedicated I/O activity and a second for interfacing with third party devices or even a secondary I/O network. One of these ports is fixed with the CSCAN protocol and the other is configurable in Cscape for CSCAN, or CANOPEN (Master or Slave), or DeviceNet (Master), or J1939 for mobile applications.

The I/O options available for the EXL10 received enhancements throughout, including 12-bit analog and higher frequency high-speed counters at 500 k/h.

AUDIO AND VIDEO

The EXL10 provides new options for MP3 and WAV audio files, which can be stored on the MicroSD card. The controller can be configured to trigger playback bits through the line out on the unit. This is good for audible cuing of the operator through various sound effects or spoken word instructions.

Two types of simple video modes are supported, both displayed in a 240x320 window on the screen, one screen at a time (NOTE: Ethernet-based and NTSC/PAL cameras are not supported).

One option is playback of prerecorded video (without audio) stored on the MicroSD card, which is good for an illustration of a machine function. For example, a new operator may benefit from seeing another person demonstrate an action in a video.

A USB video camera is another option in the 320x240 screen. This is useful for real-time monitoring of an area that cannot easily be viewed because of distance or hazardous environments.

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	FEATURES	XL10e	EXL10
Controller	Ladder Logic Memory	256 KB	1 MB
	Logic Scan Rate	0.2 mS/K	0.013 mS/K
	Removable Memory	microSD	
	Local Comment Storage	yes	
	Floating Point Support	yes	
	AutoTune PID Capable	yes	
	Motion Commands	yes	
Operator Interface	Characters/Pixels	640 x 480	
	Display Technology	10.4" VGA TFT Transmissive Color (550 nits)	
	Character Height	selectable fonts	
	Number of Pages	1023	
	Fields or Objects per Page	300	1023
	Total Keys	8	
	Function Keys	7	
	OEM Faceplate Available	yes	
I/O	Built-in I/O points	22 - 44	
	SmartStix, SmartRail, SmartBlock I/O Support	yes, CsCAN & Ethernet	
	Digital Inputs/Outputs, max	2048 / 2048	
	Analog Inputs/Outputs, max	512 / 512	
	General Purpose Registers (words)	9999	49999
	General Purpose Internal Coils (bits)	4096	32768
Ethernet/ Internet	Ethernet Support	standard	standard, 2 ports
	Remote Access	HTTP or EnvisionRV	
	Remote File Access	FTP or EnvisionFX	
Serial	Total Active Ports	2	3
	RS-232 Ports/RS-485 Ports	RS-232 / RS-485 (x2)	
	PLC/Drive Protocols	yes	
	RTU/Modbus Master/Slave	yes	
	Serial ASCII In/Out	yes	
	USB Ports (A and Mini-B)	yes	
Networking	Integrated CsCAN Network	standard	
	Maximum CsCAN Distance	6000 ft.	
	Programming Over Network	yes	
	Peer-to-Peer Messaging	yes	
Physical	Height (inches/mm)	9.08" / 230.6 mm	
	Width (inches/mm)	11.94" / 303.3 mm	
	Depth (inches/mm)	2.43" / 61.7 mm	
	I/O Module Depth	COM option adds 0.5" / 13 mm depth	
Operating	Operating Temperature†	-10 to 60°C	
	Humidity (non-condensing)	5 to 95%	
	Product Certifications/Approvals	UL Class 1 Div II, CE	
	Environmental Rating	UL Type 3R, 4, 4x, 12, 12k, 13	

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