



# Operator Control Station HE500OCS100 / OCS110

## Products Specifications and Installation Data

The following information is taken from the *Control Station Hardware Manual* (MAN0227). To obtain user manual updates, refer to Technical Assistance in this

### 1 SPECIFICATIONS

Table 1 – OCS100 /OCS110 Specifications		
Memory	OCS100	OCS110
Ladder Memory	64K	128K
Screen Memory	64K	128K
Register Memory	8K	24K
Ladder Execution Typical Execution Speed	0.7 ms. per 1K of boolean logic.	
Primary Power Range*	10-30VDC	
Primary Serial	Standard 9 pin RS-232 for programming, monitoring, and network administration. Modbus/RTU Master, Slave, ASCII Send and Receive, and CsCAN Serial also supported.	
CAN Power Range	12 – 25 VDC	
CAN Power Current	75mA maximum	
CAN Network	CsCAN Network / DeviceNet Slave	
Input / Output	<b>Local</b> (All Modules): Maximum of four (4) SmartStack Modules per OCS <b>Remote</b> (OCS110 / 210/ 250 / or RCS250 Modules): In addition to 4 local I/O modules, up to 20 remote SmartStack I/O Modules can be connected to an OCS or RCS using five Fiber Optic Bases, which each contain four I/O slots.	
Keypad	Faceplate made of Autotex® polyester by Autotype®. The material is resistant to most corrosive substances found in industrial environments. The material also holds up well in most industrial conditions. If used outdoors, the material can yellow or crack.	
UL	Class 1, Groups A, B, C, D, Division 2	
CE	Yes	
Operating Temperature	0°C to +60°C **	
Typical Power Draw *	160mA @ 24VDC	
Inrush Current *	200mA @ 24VDC for 70mS	
Humidity	5% to 95% non-condensing	
NEMA Standard	NEMA 4, 12 (Note: UL NEMA 4, 4x, 12 available as an option for OCS100 / 110, OCS200 / 210. This option is highly recommended for wash down environment.)	
Height	5.05" (128.24 mm)	
Width	9.05" (229.84 mm)	
Mounting Depth	2.00" (50.80 mm)	
User Keys	17	
Keypad	10 user-programmable keys + Shift, Esc, Enter and 4 direction keys	
Display	2x20 LCD w/backlight; 4.84w x 8.06h mm characters	
* These specifications are for OCS products without any SmartStack I/O Modules attached. The specifications for the SmartStack Modules can be found in the applicable SmartStack Data Sheets.		
** Although the OCS withstands the temperature range of 0°C to +60°C, such temperatures may decrease the life of the display. The recommended rating is 0°C to +50°C.		

## 2 INSTALLATION

### 2.1 Panel Cut-Out

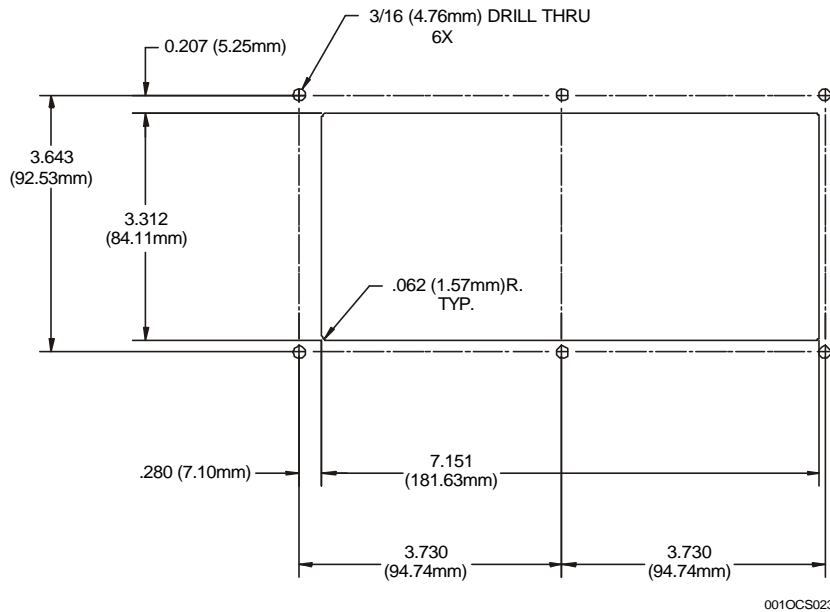


Figure 1 – Panel Cut-Out for the OCS100/110

### 2.2 Ports, Connectors and Wiring

#### 2.2.1 Primary Power Port

Table 2 – Primary Power Port Pins		
Pin	Signal	Description
1	V+	Input power supply voltage
2	V-	Input power supply ground

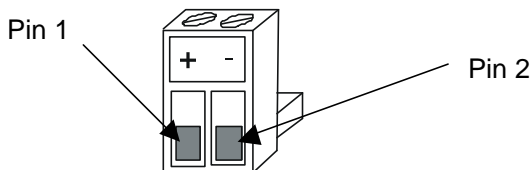


Figure 2 Power Connector (Primary Power Port)

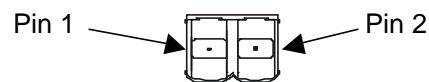


Figure 3 As viewed looking at the OCS models

**Note:** Power Supply Voltage Range is from 10-30 VDC.

**Warning:** To provide maximum noise immunity and to ensure minimum EMI radiation, the V- signal (DC power return) need to be connected to earth ground at the power supply. The user must ensure that the power supply selected is compatible with this method of grounding.

2.2.2 CAN / DeviceNet Network Port and Wiring

a. Network Connector

Table 3 – CAN Port Pins		
Pin	Signal	Description
1	V-	Power -
2	CN_L	Signal -
3	SHLD	Shield
4	CN_H	Signal +
5	V+	Power +

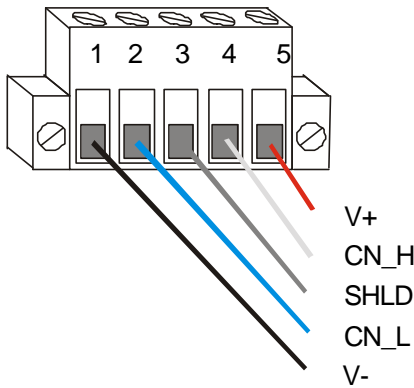


Figure 4– Network Connector

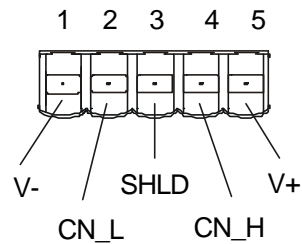


Figure 5– As viewed at the OCS

**Warning:** To provide maximum noise immunity and to ensure minimum EMI radiation, the V- signal (DC power return) need to be connected to earth ground at the power supply. The user must ensure that the power supply selected is compatible with this method of grounding.

b. Grounding

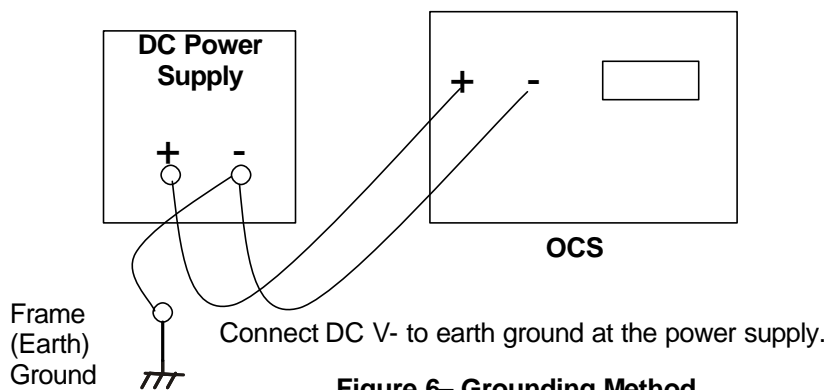


Figure 6– Grounding Method (OCS shown in this example.)

2.2.3 RS-232 Programming Port and Wiring

Pin	Signal	Description	Direction
1	DCD	Always high	Out
2	RXD	Received Data	Out
3	TXD	Transmitted Data	In
4	DTR	Data Terminal Ready	In
5	GND	Ground	-
6	DSR	Data Set Ready	Out
7	RTS	Request to Send	In
8	CTS	Clear to Send	Out
9	RI	Ring Indicate	Out

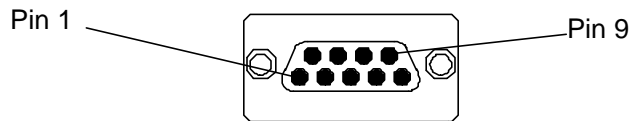


Figure 7 – RS-232 Port

The OCS units feature an RS-232 port (Programming/Debug) for connection to a personal computer. This port is used for the purposes of OCS programming, configuring, monitoring, and debugging. This port can also be used for general ladder logic controlled serial communications to printers, modems, terminals, etc. When ladder has control of this port, it is not available for programming or debugging. The wiring diagram for the RS-232 port is shown in Figure 8. If a permanent connection is to be made between the OCS and the personal computer, the use of a shielded, multiple conductor wire with a maximum length of 15.24 meters (50 feet) enables proper performance.

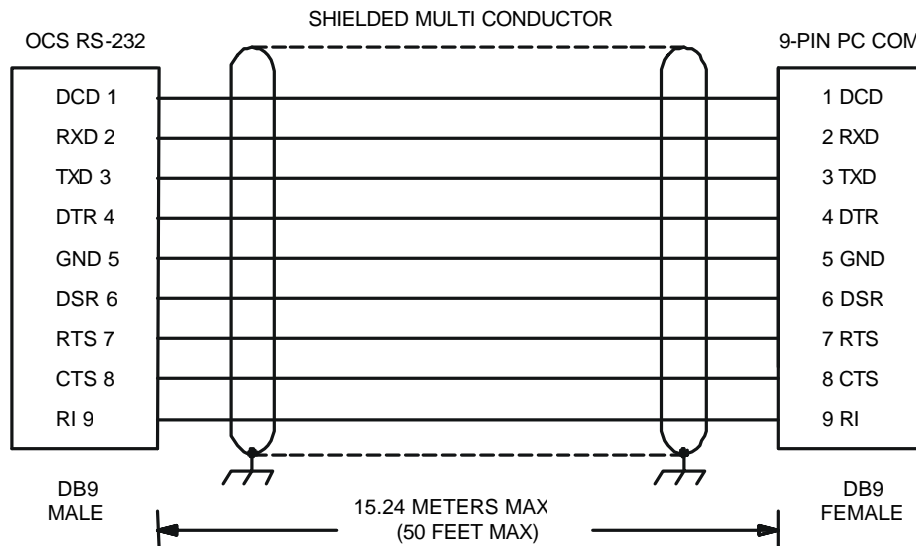


Figure 8- OCS to PC Wiring Diagram

### **3 SAFETY**

All applicable codes and standards need to be followed in the installation of this product.

### **4 TECHNICAL ASSISTANCE**

For technical manual updates and assistance, contact Technical Support at the following locations:

**North America:**

(317) 916-4274 or visit our website at [www.heapg.com](http://www.heapg.com).

**Europe:**

(+) 353-21-4321-266 or visit our website at [www.horner-apg.com](http://www.horner-apg.com)

NOTES