



<p><b>Caution</b></p> 	<p>The display panel is waterproof. But care should be taken to prevent grease, corrosive liquids and sharp objects from contacting the front panel.</p>
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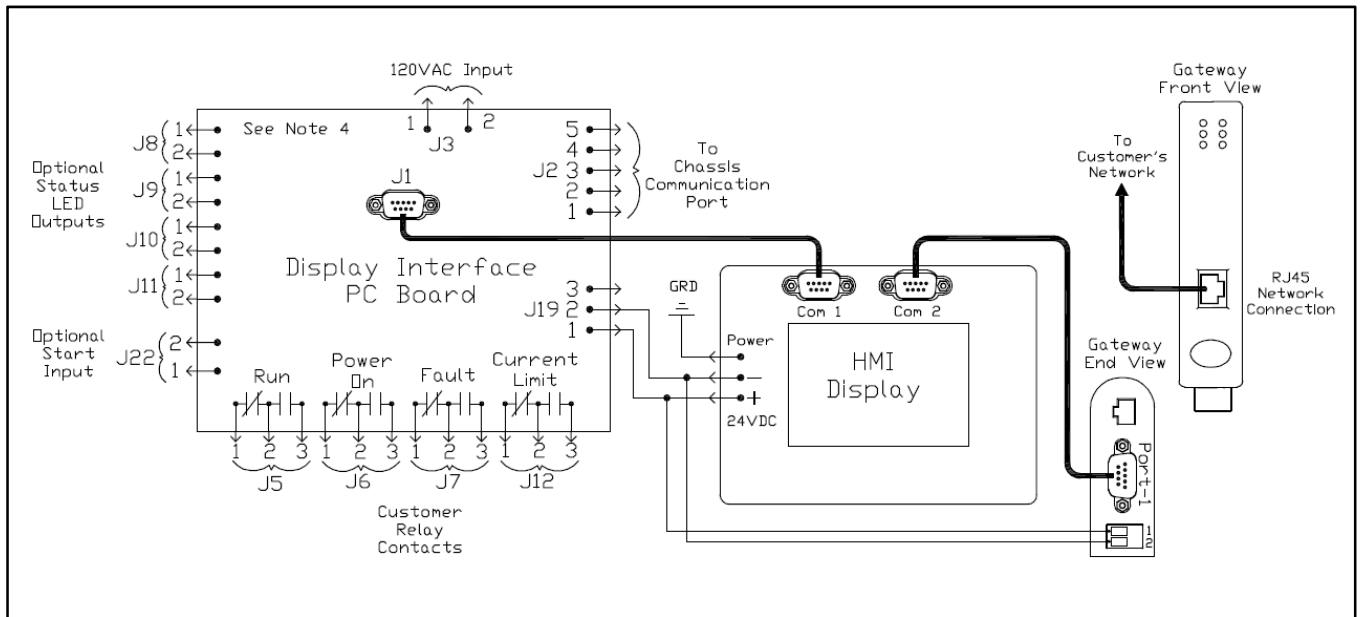
<p><b>Warning</b></p> 	<p>Many electronic components located within the Interface Module and HMI are sensitive to static electricity. Voltages imperceptible to human touch can reduce the life, and affect performance, or completely destroy sensitive electronic devices. Use proper electrostatic discharge (ESD) procedures when servicing the Interface Module and HMI.</p>
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**Wiring**

**Note:** Some of the following sections only apply if the Interface Module is not factory installed.

A wiring block diagram of the Interface Module components is available in **Figure 6.2**.

When selecting a mounting location for the unit, plan for the routing of commutation and power cable. Keep the wiring away from power wires where electrical noise could be induced. All wiring should conform to the requirements of the National Electric Code (NEC) and/or other applicable electrical codes. The length of the communication cable between the Interface module chassis communication port and the HarmonicGuard Active filter power converter module should not exceed 25 feet (7.6 meters).

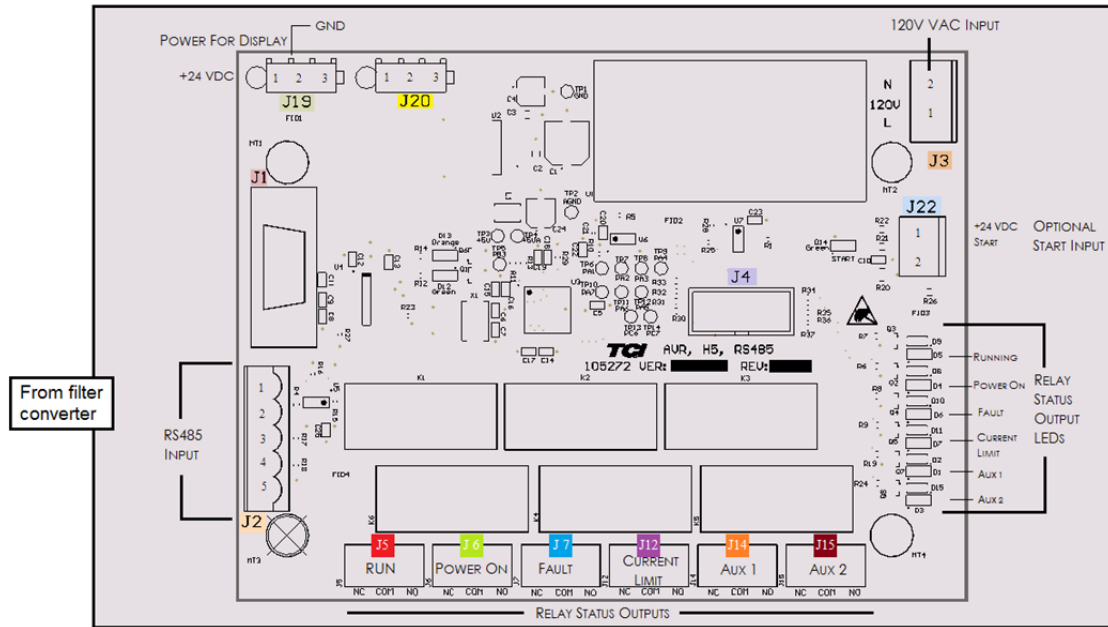


**Figure 6.2: Interface Module Connections**

**Interface PCB Connections**

Most customer connections to the Interface module will be made on the Interface PCB. Refer to connection diagrams in **Figure 6.3**. The details of the power and communications terminals are shown in **Table 6.1**. Form C relays are available on the Interface PCB, these connections are shown in **Table 6.2**. Four outputs are available on the Interface PCB.

The relay start command input connection on J22 of the interface PCB allows a contact closure to send a run command to the HarmonicGuard Active filter. The relay start command input will only be acknowledged if the Relay Run/Stop Enable is set to Enabled on the HMI Display setup screen. Pressing stop locally via the HMI Display will set the enable for the relay start command to DISABLED.



**Figure 6.3: Interface PCB connections**

**Table 6.1: Power & Communications Terminals**

Terminal	Pin	Description	Label	Rating
J1	1	HMI Display	For factory use	N/A
	2		Not Connected	
J2	3	RS485	B	N/A
	4		Ground	
	5		Not connected	
	1		Input Power	
2	Line			
J4	1	Micro Programming	For factory use	N/A
J19	1	HMI Power Supply	24 VDC	24 VDC
	2		Common	
	3		Not Connected	
J22	1	Start Command	24 VDC	Contact Closure
	2		Start	

**Note:** The power terminal on the back of the HMI display accepts 28 to 14 AWG stranded wire, with a tightening torque of 4.4 in-lb (0.5 Nm).

**Table 6.2: Form C Relay Contacts**

Terminal	Pin	Description	Label	Tightening Torque	Wire Range
J5	1	Run	Normally Closed	4.4 lbs-in (0.5 Nm)	28-14 Awg
	2		Common		
	3		Normally Open		
J6	1	Power On	Normally Closed	4.4 lbs-in (0.5 Nm)	28-14 Awg
	2		Common		
	3		Normally Open		
J7	1	Fault	Normally Closed	4.4 lbs-in (0.5 Nm)	28-14 Awg
	2		Common		
	3		Normally Open		
J12	1	Current Limit	Normally Closed	4.4 lbs-in (0.5 Nm)	28-14 Awg
	2		Common		
	3		Normally Open		

**Note:** Form-C relay contacts are gold plated with a load rating of 0.6A @ 125VAC general use; 0.2A @ 250VAC, 0.6A @ 125VAC, 2A @ 30VDC resistive. The minimum permissible load rating is 10uA, 10mVDC.

**HMI Display Connections**

**Note:** The following section describes the default ModbusRTU network connection available on the base model. If an optional advanced network Communications Gateway is included in the Interface Module, see the appendix for the specific Communications Gateway configuration.

The HMI display implements a ModbusRTU slave device over RS-485. This network connection is available on the COM2/3 DB9 connector on the back of the HMI Display (see **Figure 6.4**).

The output registers from the HarmonicGuard Active filter are mapped to Modbus register address 40500. The input registers to the HarmonicGuard Active filter are mapped to Modbus register address 40564. For definitions of the input and output data available via the network connection see **Table 6.3 and Table 6.4**.

If the optional network Communications Gateway is present the integrated ModbusRTU interface on the HMI Display will not be available. When configured, the Communications Gateway will occupy the ModbusRTU COM2/3 DB9 connector on the back of the HMI Display.