

# ***powermax1100***

## **Machine Interface Installation**

**Kits: 128144, 128168, 128169**

### **Field Service Bulletin IM-284 (P/N 802840)**

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## WARNING



**INSTALLATION MUST BE PERFORMED ONLY BY HYPERTHERM DISTRIBUTORS OR QUALIFIED ELECTRONICS TECHNICIANS!!**

**Do not connect cutting machine interface start signal if using the machine torch ON/OFF pendant!**

**SHOCK HAZARD:** Always turn off the power, unplug the cord and wait 5 minutes before removing any power supply cover. If the power supply is directly connected to a line disconnect switch, place switch in the OFF position. In the U.S., use a "lock-out / tag-out" procedure until the service or maintenance work is complete. In other countries, follow appropriate local or national safety procedures.

Part No.	Description
<b>All Kits</b>	
004726	Holeplug:Strain Relief
008279	Strain Relief :9 X .187-.312 Nylon
010981	Label:Pmx1100 Mach Interface
<b>023206</b>	<b>Cable: Interface 25'</b>
<b>041546</b>	<b>PCB Assy:Pmx1100 Mach Interface</b>
075386	M/S:6-32 X 1/2 PH Pan
075394	M/S:6-32 X 3/8 PH
<b>123099</b>	<b>Cable: Mach Interface</b>
<b>128144</b>	<b>Kit: Pmx1100 Machine Interface</b>
<b>129212</b>	<b>Linecord Cover SA:Pmx1100</b>
<b>128168</b>	<b>Kit: Pmx1100 Int. Machine Interface</b>
<b>129231</b>	<b>Linecord Cover SA:Pmx1100-International</b>
<b>128169</b>	<b>Kit: Pmx1100 CE Machine Interface</b>
<b>129232</b>	<b>Linecord Cover SA:Pmx1100 CE</b>

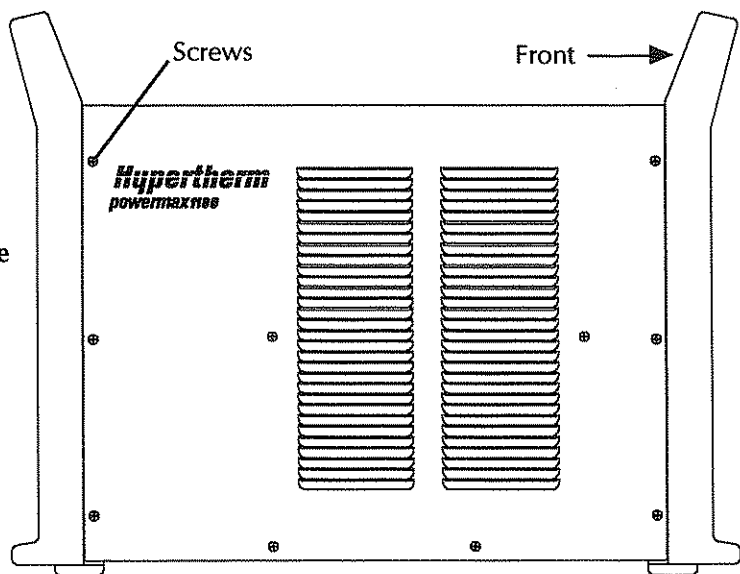
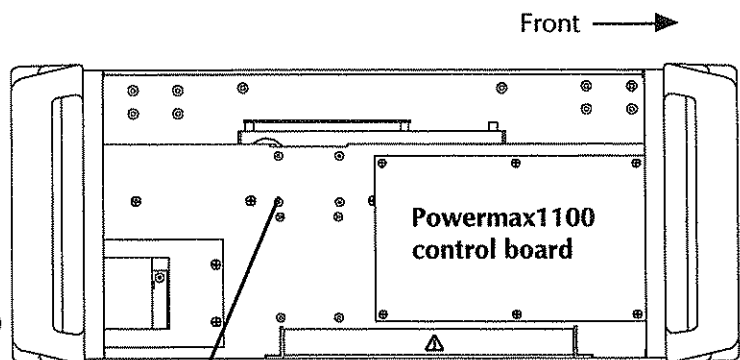


Figure 1 Cover Removal

1. Disconnect the power.
2. Remove the screws that secure the cover to the chassis - Fig. 1.
3. Remove the cover.
4. Locate the standoffs next to the Powermax1100 control board. The upper 4 standoffs will support the machine interface board (041546) - Fig. 2.



Standoffs to support machine interface board

Figure 2 Top View Before Machine Interface Board Installation

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5. Orient the machine interface board with the attached 4-wire harness facing the control board connector JP3 as shown in Fig. 3.
6. Mount the machine interface board with the screws provided in the kit.
7. Attach the 4-wire harness to the control board connector JP3 - Fig. 3.
8. Take the 2-wire harness that is attached to the machine interface board, and route it to the filter board as shown in Fig. 4.
9. Attach the 2-wire harness to J3 of the filter board.

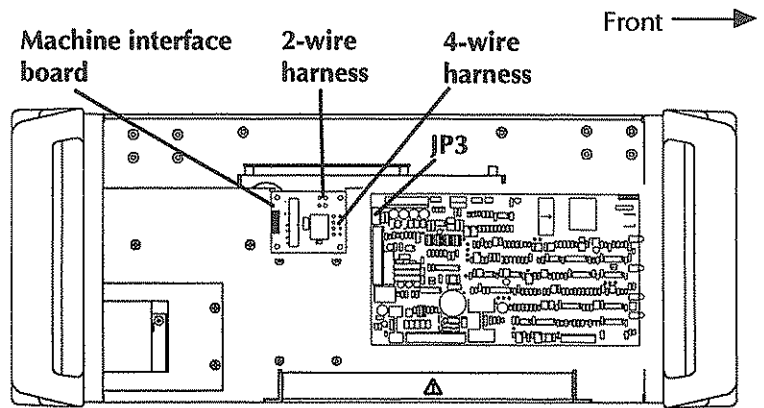


Figure 3 - Machine Interface Board Installation

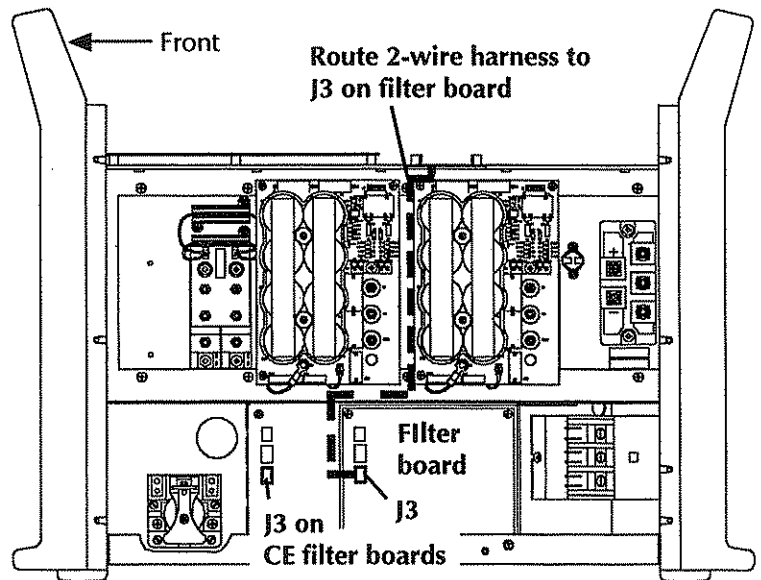


Figure 4 - Two-Wire Harness Feed and Connection

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10. Remove the hand torch power supply rear panel and disconnect the power cord. See Figs. 5 and 6.

- Loosen the power cord strain relief.
- Remove 8 rear panel screws.
- Slide the rear panel back over the power cord to gain access to the power supply contactor - Fig. 6.
- Remove the power cord wires from the contactor and the ground stud.
- Slide the power cord through the strain relief and remove the hand torch power supply rear panel.
- Remove the strain relief from the hand torch power supply rear panel and attach it to the machine torch power supply rear panel.

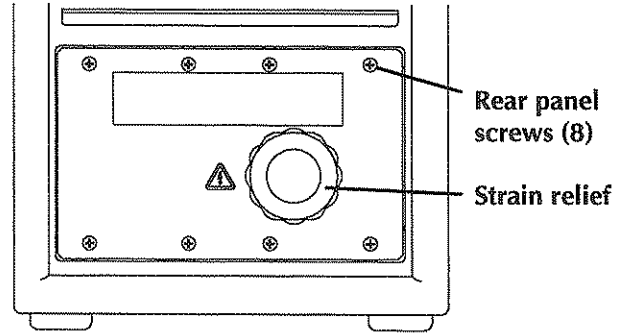


Figure 5 - Hand Torch Power Supply Rear Panel

11. Attach the internal machine interface cable (123099) to the machine torch rear panel - Fig. 7.

12. Attach the small strain relief (008279) to the machine torch power supply rear panel - Fig. 7.

Note: If arc voltage signals will not be necessary for torch height control, insert plug (004726) into the small strain relief. Tighten the strain relief.

13. Feed the power cord through the power cord strain relief - Fig. 7.

14. Attach the power cord wires to the contactor and ground stud - Fig. 6.

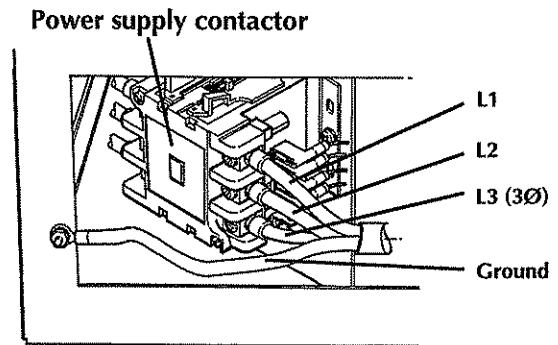


Figure 6 - Contactor Location with 3-Phase Cord Attached

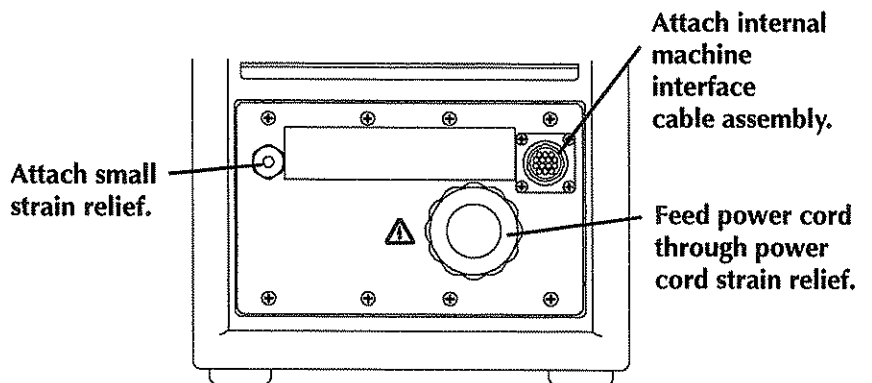


Figure 7 - Machine Torch Power Supply Rear Panel

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15. Feed the internal machine interface cable from the rear panel up to the machine interface board - Fig. 8.
16. Connect the green with yellow wire from the internal machine interface cable to the ground screw located near the machine interface board - Fig. 9.
17. See Fig. 9 and connect the remaining internal machine interface cable wires to the J1 terminal on the machine interface board.

Note: If arc voltage is necessary for activating a torch height control, the customer must supply an 18AWG, single pair, unshielded cable with a rating of 300V or greater. The arc voltage signal on the machine interface board can be accessed by feeding the arc voltage cable through the small strain relief and connecting the cable wires as shown in Fig. 9.

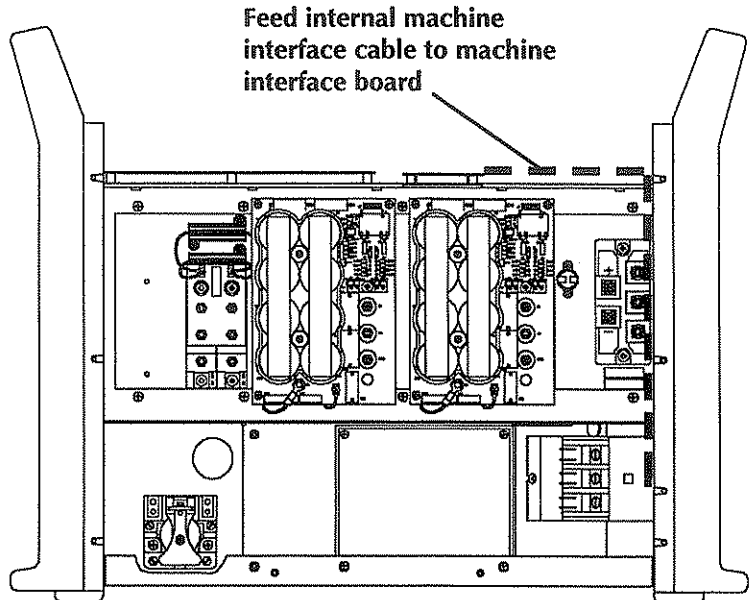


Figure 8- Feeding Internal Machine Interface Cable to Board

18. Attach the rear panel to the Powermax1100 with the 8 rear panel screws.
19. Tighten the power cord strain relief over the outer insulation of the power cord.
20. Tighten the small strain relief.
21. Replace the Powermax1100 cover. Secure the cover with screws.

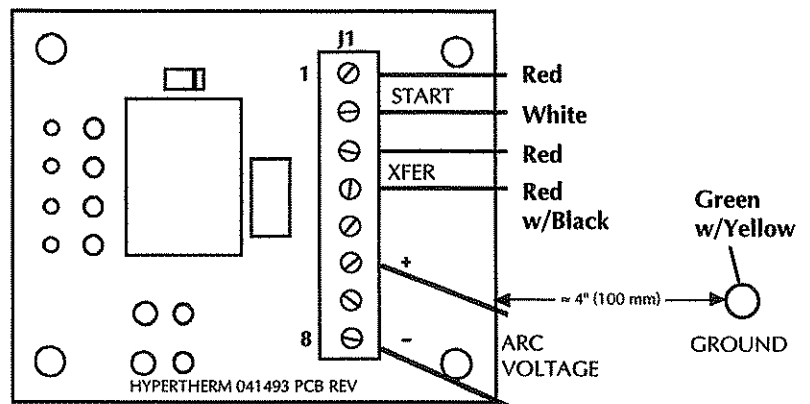


Figure 9 - Machine Interface Board

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22. Connect the external machine interface cable (023206) to the connector on the rear panel.

23. Make connections to machine interface - Fig. 10.

Note: To access 120VAC @ 125 ma for certain torch height control systems, the customer must provide a UL or CSA approved cable to pick up the voltage from the power supply fan. If the 120VAC signal is combined in a cable also carrying the start and transfer signals, the 120VAC must be double insulated.

24. Make connections for torch height control, if necessary - Fig. 11.

25. Place Machine Interface label as shown in Fig. 12.

Installation is complete.

If the machine interface does not function properly, contact Hypertherm Technical Service at 1 800 643 9878.

Refer to Powermax1100 operator manual IM273 (802730) for additional operation information.

<b>Signal:</b>	<b>START (start plasma)</b>
<b>Type:</b>	Input
<b>Notes:</b>	Normally open. 24VAC open circuit voltage at START terminals. Requires dry contact closure to activate.
<b>Rear panel sockets</b>	3, 4
<b>Cable wires</b>	Green, Black
<b>Signal:</b>	<b>XFER (start machine motion)</b>
<b>Type:</b>	Output
<b>Notes:</b>	Normally open. Dry contact closure when arc transfers. 120VAC maximum at machine interface relay or switching device.
<b>Rear panel sockets</b>	12, 14
<b>Cable wires</b>	Red, Black

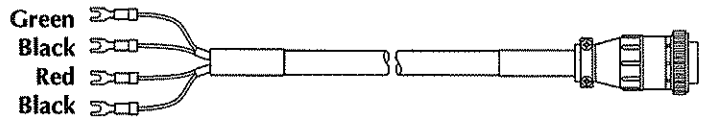


Figure 10 - External Machine Interface Cable (023206) and Signals

<b>Signal:</b>	<b>ARC VOLTAGE (torch height control)</b>
<b>Type:</b>	Output
<b>Notes:</b>	Full arc voltage. No voltage divider. 300VDC maximum. (Signal not available on rear panel connector.)
<b>J1-6</b>	+VDC
<b>J1-8</b>	-VDC

Figure 11 - Torch Height Control Signals

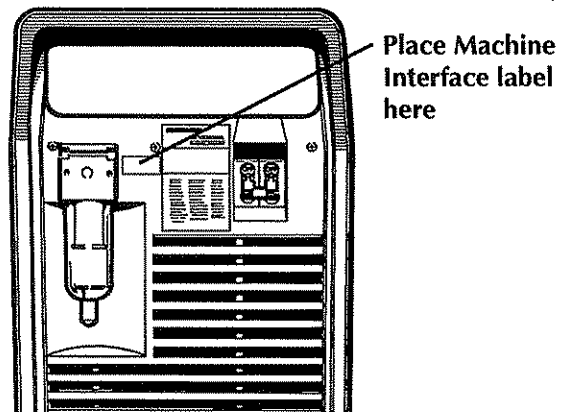


Figure 12 - Machine Interface Label Placement