How to connect Powermax105&125 with Thunder X-PRO
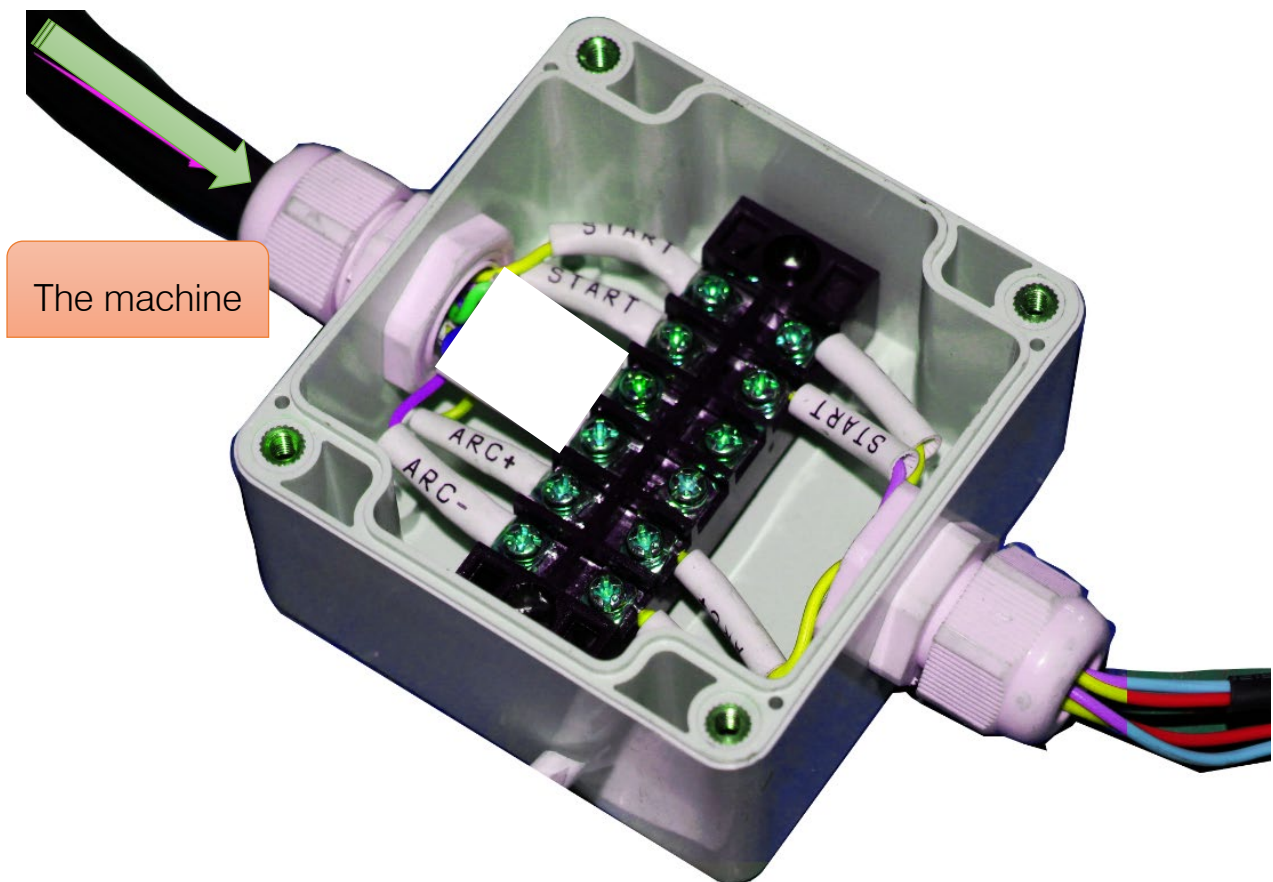
◆ The Powermax105&125 connect to Thunder X-PRO, 4 wires need to be connected.

◆ The Machine connect terminal:
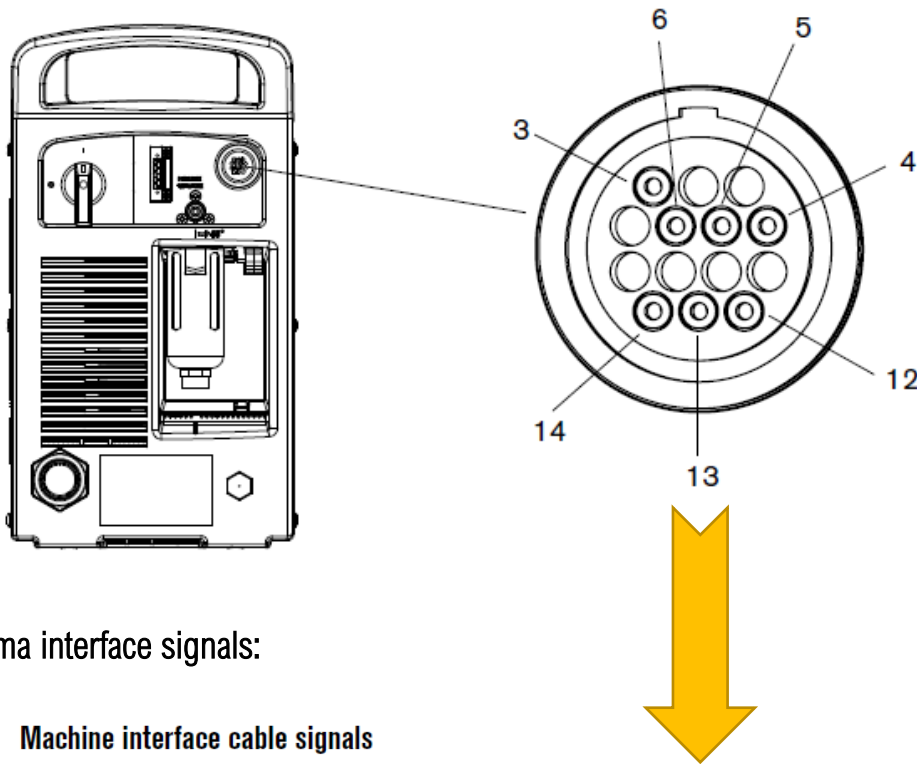
Machine	Aviation plug	Terminal No.	Description
Thunder X-PRO connect terminal	2-core	START	The CNC plasma arc initiation signal
		START	
	2-core	ARC+	The CNC arc voltage signal
		ARC-	

The machine

◆ POWERMAX105&125 connect terminal:

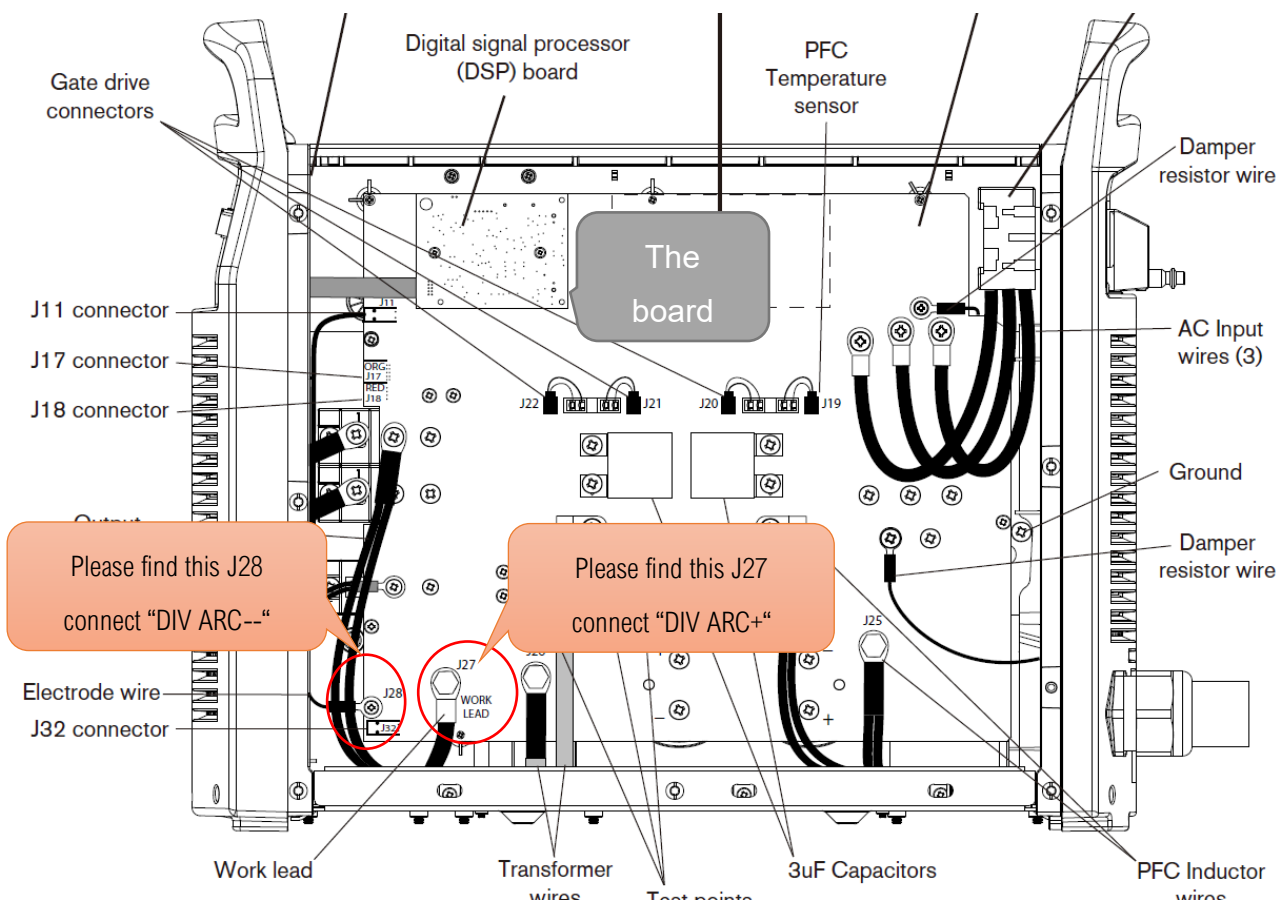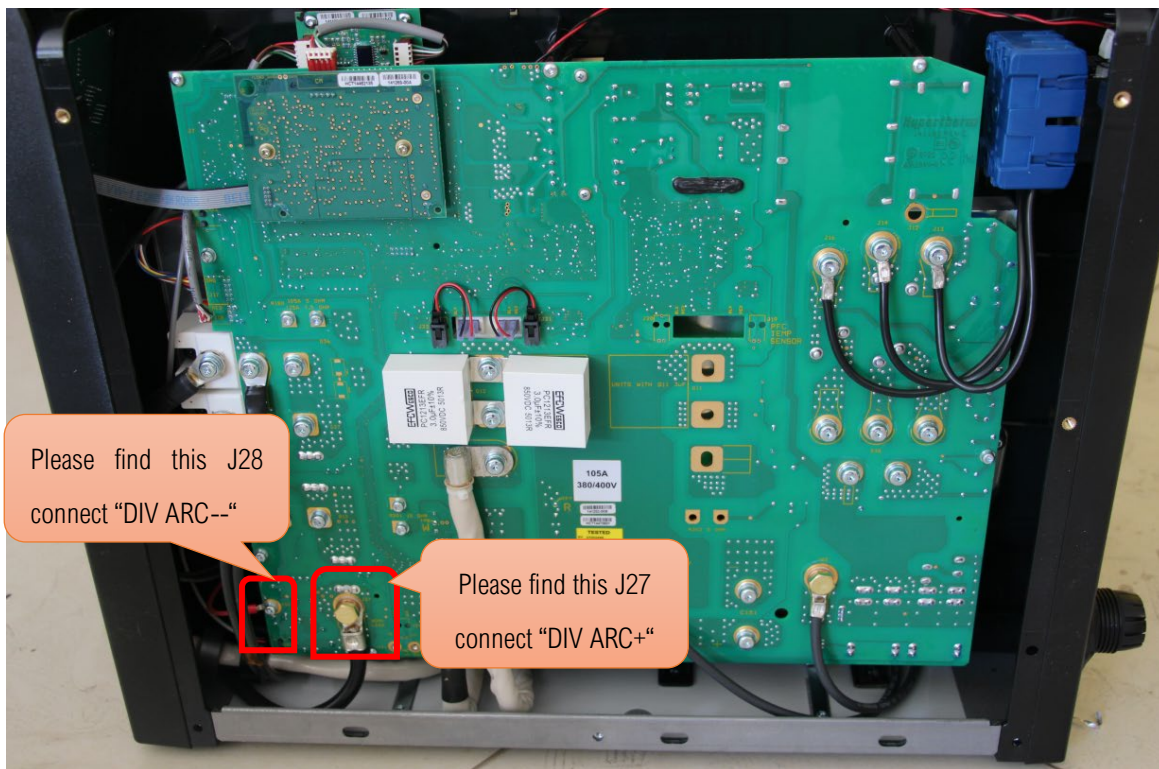Note: The customer needs to connect the power cable according to the actual plasma models.

Plasma interface signals:

Machine interface cable signals

Refer to the following table for the cable signal details when connecting the power supply to a torch height controller or CNC controller with a machine interface cable.

Signal	Type	Notes	Connector sockets	External cable wires	Internal cable wires
Start (start plasma)	Input	Normally open.	3	Green	Black
		15 VDC open circuit voltage at START terminals. Requires dry contact closure to activate.	4	Black	Red
Transfer (start machine motion)	Output	Normally open. Dry contact closure when the arc transfers.	12	Red	White
		120 VAC / 1 A maximum at the machine interface relay.	14	Black	Green
Voltage divider	Output	Divided arc signal of 20:1, 21.1:1, 30:1, 40:1, 50:1 (provides a maximum of 16 V).	5 (-)	Black (-)	Black (-)
			6 (+)	White (+)	Red (+)
Ground	Ground		13		Green/yellow

The original arc voltage position of the plasma power supply:

Please find this J28 connect "DIV ARC--"

Please find this J27 connect "DIV ARC+"

Gate drive connectors

Digital signal processor (DSP) board

PFC Temperature sensor

The board

Damper resistor wire

J11 connector

J17 connector

J18 connector

J22 J21 J20 J19

AC Input wires (3)

Ground

Damper resistor wire

Output

Please find this J28 connect "DIV ARC--"

Please find this J27 connect "DIV ARC+"

J25

Electrode wire

J28 J32

J27 WORK LEAD

J32 connector

Work lead

Transformer wires

Test points

3uF Capacitors

PFC Inductor wires

NOTES 1: Positive electrode (J27) of Plasma power is connected the ground wire. and check it by multimeter. If 【J27】 is not connected the ground wire, please find the other port.

Negative electrode(J29) of Plasma power is connected the plasma torch. and check it by multimeter; If 【J29】 is not connected the ground wire, please find the other port.

◆ Cable connecting method:

	Terminal No.	Corresponding interface of POWERMAX105&125	The interface position
Thunder X-PRO connect terminal	START	3　Input　　Start	POWERMAX105&125 Interface
	START	4　Input　　Start	
	ARC+	Positive electrode (work--J27)	
	ARC-	Negative electrode(J29)	

◆ Connect the machine to the plasma signal with terminal blocks:

Machine Signal

Plasma Signal