



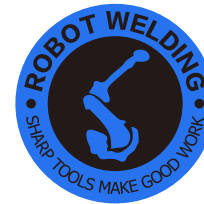
Sharp tools make good work

Pulse-MIG-II(IX) • WSM(Pulse TIG-DC) • NBC-X(M)
WSME(Pulse TIG AC-DC) • MZ(AC/DC) • ZX7 • LGK

Digital high-end inverted welder series

NET

DeviceNET
Ethernet
EtherCAT
CAN
CANopen
RS485
PROFINET IO



OPERATION MANUAL

Guangzhou Aucotech Automation Technology Ltd

Add: Room 903, Building E1, Design City, No. 7, Hexian
North Street, Helong Street, Baiyun District, Guangzhou City,
CHINA

Tel: +86 20 84898493

E-mail: info@aucotech.com.cn

Web: www.aucotech.com.cn

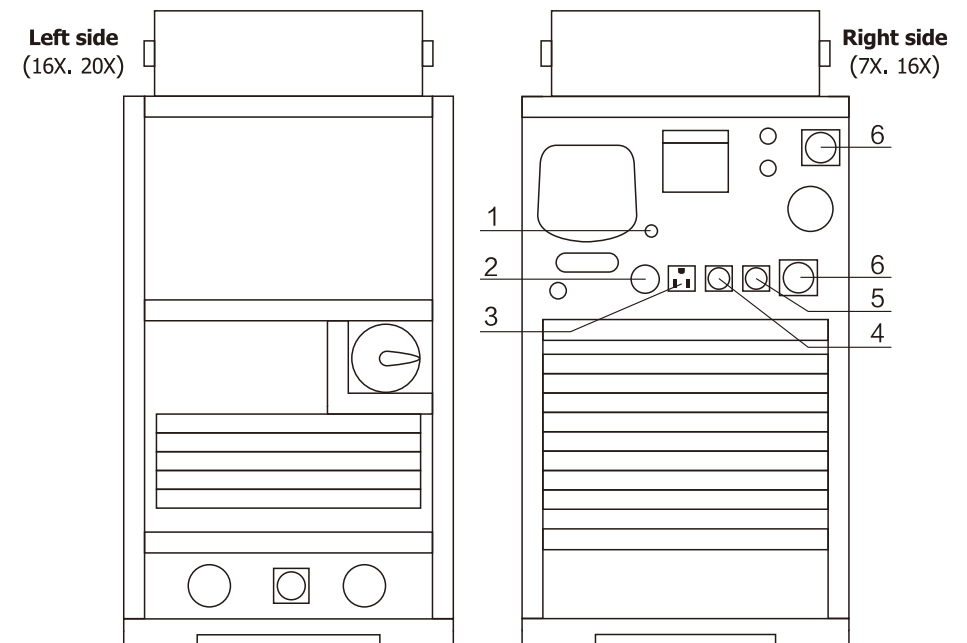
Pulse MIG IIR
Pulse MIG IXR
NBC-MR
Pulse WSM-R(RH)
Pulse WSME-R
MZ-R
LGK-R
Automatic Welding Robot

Thanks for choosing our Inverted Welding Equipment Series. For your safety, health and correct use of this product, please carefully read this Manual before use. We are appreciated for your cooperation.

Content

1. Introduction to control and interface	02
2. Port Description	03
3. Analog interface of original host computer	04
4. Extended Analog Interface (No.2)	05
5. Extended Analog Interface (No.3)	06
6. Digital Interface	07

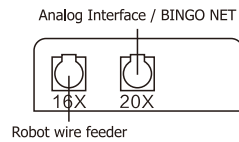
Introduction to control and interface



- 1) Insurance 5A
- 2) Water tank power supply AC 380V 50Hz
- 3) AC36V heating meter power supply
- 4) AC26V digital interface power supply
- 5) Water cooling signal
- 6) Robot interface box connection

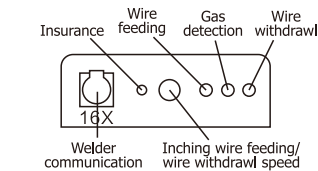
Port Description

Left side

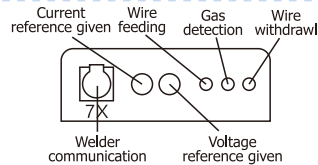
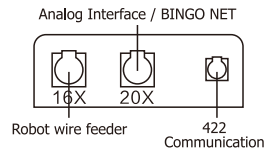


MIG-IXR
NBC-MR

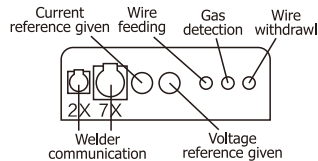
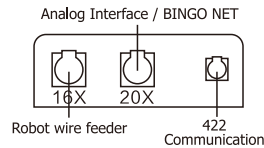
Right side



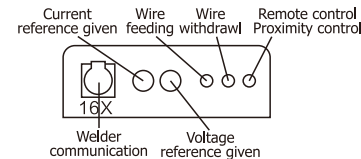
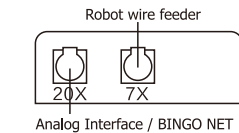
MIG-IIR
WSME-R



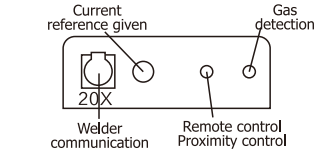
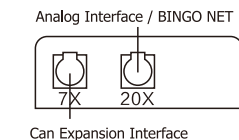
WSM-R(RH)



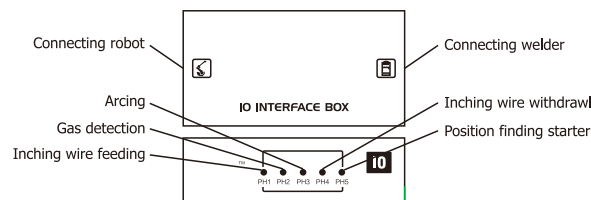
MZ-R



LGK-R



Extended analog interface



Analog interface of original host computer

	Signal meaning	Function	Signal form
1	Starting port feedback Contact signal	When the welding wire touches the workpiece, the starting port enable signal of the front end of the welding wire is pulled low, this signal is sent to the robot when the welder detects it	(ON: Valid)
2			
3	Starting port feedback Contact signal	When the welding wire touches the workpiece, the starting port enable signal of the front end of the welding wire is pulled low, this signal is sent to the robot when the welder detects it	(Closed: Valid)
4			
5	Voltage reference given	Corresponding arc length-5.0~+5.0 (Suitable for MIG-IIR, MIG-IXR) Corresponding to 14V-50V (Suitable for MIG-MR) Corresponding to 0.3-7m/min (Suitable for WSM-R, WSME-R)	DC0~8V analog voltage
6	Current reference given	Corresponding to 0~315A/500A (Suitable for WSME-R) Corresponding to 0~400A/500A (Suitable for WSM-R) Corresponding to 0~350A/500A/630A (Suitable for MIG-IIR, MIG-IXR, MIG-MR)	DC0~8V analog voltage
7	Manual wire feeding	Realizing manual wire feeding	(Closed: Valid)
8	Gas detection switch	Switching the shielding gas solenoid valve	(Closed: Valid)
9	Start-stop switch	Arcing command	(Closed: Valid)
10	Manual wire withdrawl	Realizing manual wire withdrawl	(Closed: Valid)
11	Common signal ground	Analog reference signal ground given	5, 6, 7, 8, 9, 10 common port
12	Current on and out contact	Current presence or absence (successful arcing)	(Closed: Valid)
13		Contact signal (with current on)	
14	Start port detection Enable signal	Robot output reference given	(Closed: Valid)
15		Starting position finding function	
16	Arc breaking detection		(Closed: Valid) Suitable for MIGHIR
17			
18	Anti-collision link		Connect the 2-core seat of wire feeder
19			

Remarks: The above signals are all switch signals except signals 5 and 6 which are analog level signals, among which signals 7, 8 and 9 are grounded (i. e. line 11) and the switch conduction state is on.

Extended Analog Interface (No.2)

2#	Signal meaning	Function	Direction	Signal form
1	Starting Port Feedback Contact Common Port	—	—	—
2	Starting port feedback Contact signal	When the welding wire touches the workpiece, the starting port enable signal of the front end of the welding wire is pulled low, this signal is sent to the robot when the welder detects it	W→R	Contact output (ON: Valid)-
3			R→W	-Contact output (Closed: Valid)
4	External power supply	Relay power supply	R→W	+24VDC Voltage
5	Voltage reference given	Corresponding arc length-5.0~+5.0 (Suitable for MIG-IIR, MIG-IXR) Corresponding to 14V - 50V (Suitable for MIG-MR) Corresponding to 0.3-7m/min (Suitable for WSM-R, WSME-R)	R→W	0~8V analog voltage
6	Current reference given	Corresponding to 0~315A/500A (Suitable for WSME-R) Corresponding to 0~400A/500A (Suitable for WSM-R) Corresponding to 0~350A/500A/630A (Suitable for MIG-IIR, MIG-IXR, MIG-MR)	R→W	0~8V analog voltage
7	Manual wire feeding	Realizing manual wire feeding	R→W	"0" valid
8	Gas detection switch	Switching the shielding gas solenoid valve	R→W	"0" valid
9	Start-stop switch	Arcing command	R→W	"0" valid
10	Manual wire withdrawal	Realizing manual wire withdrawal	R→W	"0" valid
11	Signal ground	Analog reference signal ground given	R→W	Analog signal ground
12	Current on and out contact	Real-time status of electric measuring current	W→R	Contact output (Closed: Valid)
13				
14	External power supply	Relay power supply	R→W	+24VDC Voltage
15	Start port detection Enable signal	Robot output reference given Starting position finding function	R→W	(Closed: Valid) "0" valid
16	Arc breaking alarm	Non-standard welding Welding arc break	W→R	(Closed: Valid) Suitable for MIG-IIR
17				
18	Anticollision module			Connect the 2-core seat of wire feeder
19				

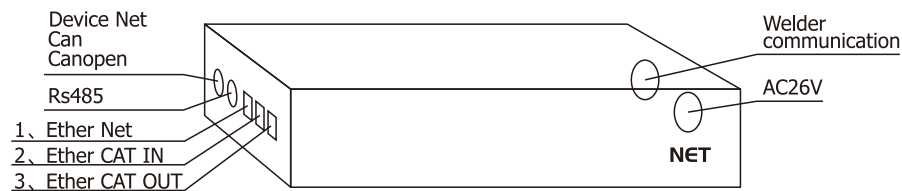
Extended Analog Interface (No.3)

3#	Signal meaning	Function	Direction	Signal form
1	Starting Port Feedback Contact Common Port	—	—	—
2	Starting port feedback Contact signal	When the welding wire touches the workpiece, the starting port enable signal of the front end of the welding wire is pulled low, this signal is sent to the robot when the welder detects it	W→R	Contact output (ON: Valid)-
3			R→W	-Contact output (Closed: Valid)
4	External power supply	Relay power supply	R→W	0V Voltage
5	Voltage reference given	Corresponding arc length-5.0~+5.0 (Suitable for MIG-IIR, MIG-IXR) Corresponding to 14V - 50V (Suitable for MIG-MR) Corresponding to 0.3-7m/min (Suitable for WSM-R, WSME-R)	R→W	0~8V analog voltage
6	Current reference given	Corresponding to 0~315A/500A (Suitable for WSME-R) Corresponding to 0~400A/500A (Suitable for WSM-R) Corresponding to 0~350A/500A/630A (Suitable for MIG-IIR, MIG-IXR, MIG-MR)	R→W	0~8V analog voltage
7	Manual wire feeding	Realizing manual wire feeding	R→W	+24VDC "High" active
8	Gas detection switch	Switching the shielding gas solenoid valve	R→W	+24VDC "High" active
9	Start-stop switch	Arcing command	R→W	+24VDC "High" active
10	Manual wire withdrawal	Realizing manual wire withdrawal	R→W	+24VDC "High" active
11	Signal ground	Analog reference signal ground given	R→W	Analog signal ground
12	Current on and out contact	Real-time status of electric measuring current	W→R	Contact output (Closed: Valid)
13				
14	External power supply	Relay power supply	R→W	(Closed: Valid) 0V voltage
15	Start port detection Enable signal	Robot output reference given Starting position finding function	R→W	(Closed: Valid) "0" valid
16	Arc breaking alarm	Non-standard welding Welding arc break	W→R	(Closed: Valid) Suitable for MIG-IIR
17				
18	Anticollision module			Connect the 2-core seat of wire feeder
19				

Digital Interface

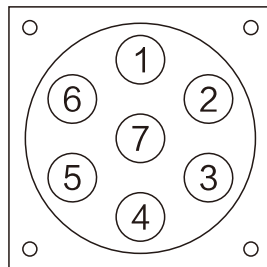
1. Brief introduction of interface box

The function indication of robot interface box is shown in the figure below, and the status and significance of indicator light are shown in the table below.



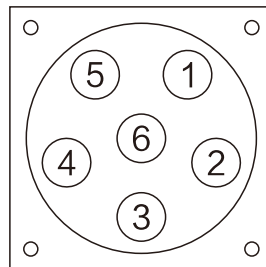
For all welder model

Device Net
Can
Canopen

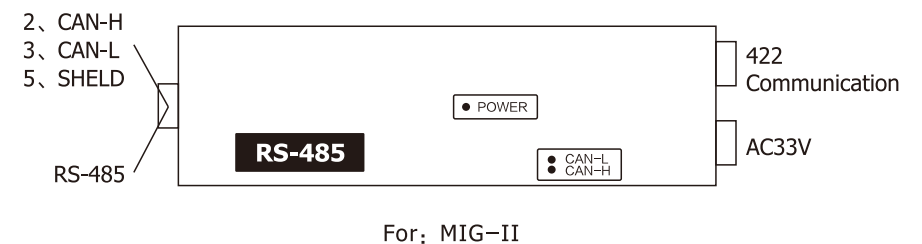
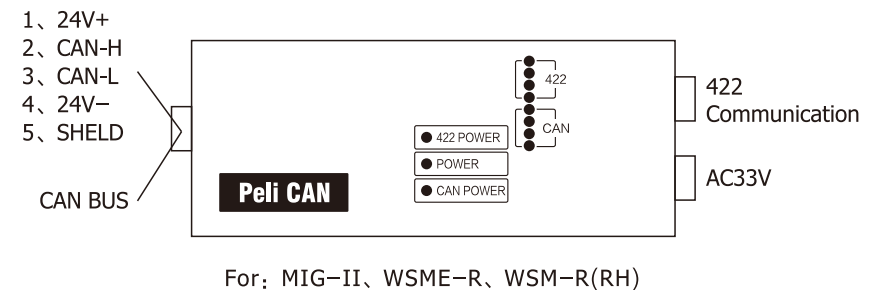
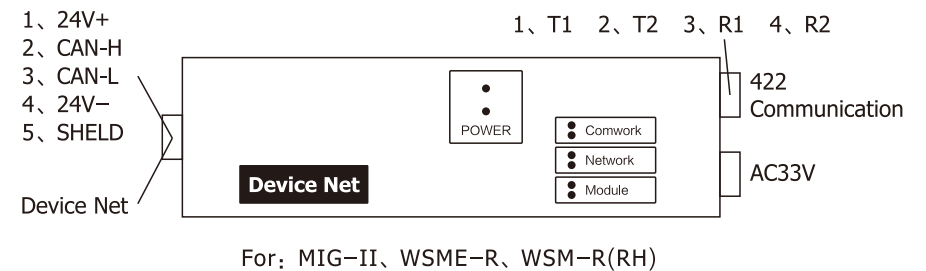


- ① 24V+
- ② CAN-H
- ③ CAN-L
- ④ 24V-
- ⑤ GND
- ⑥ Anti-collision
- ⑦ Anti-collision GND

Rs485

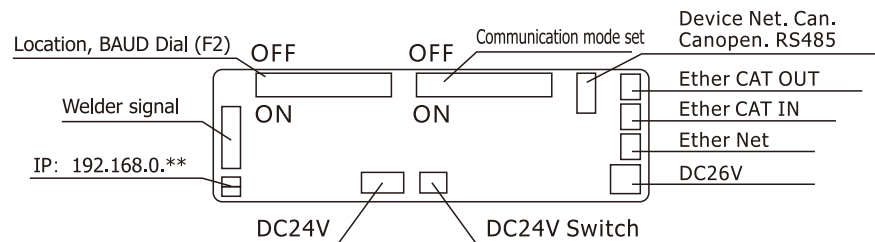
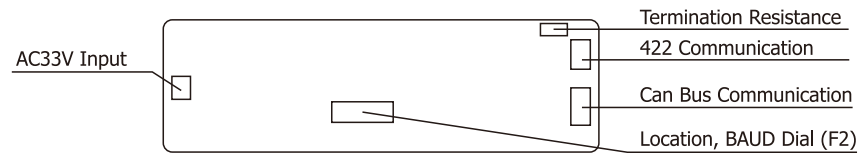
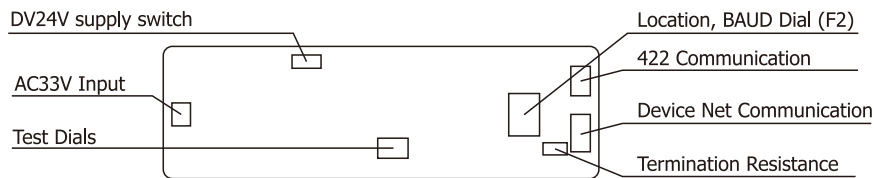


- ① T/R+
- ② T/R-
- ③ GND
- ④ Current feedback
- ⑤ Voltage feedback
- ⑥ Common port



2. Location and bus baud rate selection

Remove the bottom cover of the interface box and pull out the circuit board. SF1 on the circuit board is an 8-bit dial switch, as shown in the figure below. When the switch is turned to the ON position, it stands for 1, and 0 on the contrary. How to select location and bus baud rate are shown in the table below. When connecting Devicenet CAN BUS with robot, select 5 for location and 500 for baud rate.



表一

b1	b2	b3	b4	b5	b6		b7	b8	RS485 speed
0	0	0	0	0	0	Device Net	0	0	38400bps
0	0	1	0	0	0	Canopen	0	1	9600bps
0	1	0	0	0	0	RS485	1	0	19200bps
0	1	1	0	0	0	Can	1	1	4800bps
1	0	0	0	0	0	Ether Net	/	/	/
1	1	0	0	1	0	Ether Cat	/	/	/
1	0	1	0	0	0	Profi Net	/	/	/
1	1	1	0	0	0	Test mode	/	/	/

表二

b1	b2	b3	b4	b5	b6	b7	b8	Bus Baud Rate	Address
0	0	0	0	0	0	-	-	-	0
1	0	0	0	0	0	-	-	-	1
0	1	0	0	0	0	-	-	-	2
1	1	0	0	0	0	-	-	-	3
...	...	...	...	...	...	-	-	-	...
1	1	1	1	1	1	-	-	-	61
1	1	1	1	1	1	-	-	-	62
1	1	1	1	1	1	-	-	-	63
-	-	-	-	-	-	0	0	125kbps	-
-	-	-	-	-	-	1	0	250kbps	-
-	-	-	-	-	-	0	1	500kbps	-