



Panasonic Factory Automation PerformArc Robotic Welding System

Welder Setup

Welder Setup

Welder Configuration:

The Panasonic digital arc welding power supply communicates to the Panasonic digital robot using a 2-way highway that transfers vital information back and forth continuously. This 2-way highway is used to transmit information to maximize the effectiveness of the welding application at hand.

Communication can take place on any of the 5 RS-422 channels in the robot. Typically communication port #1 will be used to hook up the power supply attached to the PerformArc system. Upon initial connection of the welder to the robot, the two recognize each other and swap a variety of information to further assimilate the welder into the digital arc welding system. This communication is only required the first time that the two are connected.

The benefits of this highway may not be obvious until you begin welding. Control of the welding arc is crucial to the success or failure of any welding process. Differences in material, welding wire, shielding gases, part fit-up, etc can vary from day to day or even part to part. It is crucial to have the largest operation window possible when taking into account all of the possible production variables to minimize rework and maximize throughput.

Welder Setup:

As in most standard products it is impossible to cover all situations with one standard set-up. Thus, a PerformArc system is set up to a standard based on the welder and wire feeder that are connected to the system. The following pages will detail all of the welders that can be connected digitally to the Panasonic G2 Robot. While the standard setup might not exactly fit your application this is the way in which your system will be shipped. (Note: If more information is available at the time of manufacture your PerformArc standard setup might differ from what is contained on the following pages). It is also possible that your distribution or integration partner could also have customized this information to your application. Please verify this set up information is correct with respect to your welding application before programming any parts or developing welding parameters. An incorrect set up can have a significant impact on the welding performance.



Panasonic HM II Arc Welders:

Pulsing Power Supplies

3 Pulsing Modes & CV

Hybrid, Hard, Soft & CV

HMII350-

350A/36V 60% Duty Cycle
270A/31V 100% Duty Cycle
0.030" – 0.045" Wire Diameter

HMII500-

500A/45V 100% Duty Cycle
0.035" – 1/16th Wire Diameter

Digital 2-Way Communication

Robot Pendant Waveform Adjustment



Model	Material	Wire diameter						
		N/A	0.030	0.035	0.040	0.045	0.052	1/16
YD-350HM2	Steel	X	O	O	X	O	X	X
	Stainless	X	O	O	X	O	X	X
	Hard Alum	X	X	O	X	O	X	O
	Soft Alum	X	X	X	X	O	X	O
YD-500HM2	Steel	X	X	O	X	O	O	O
	Stainless	X	X	X	X	O	X	O
	Hard Alum	X	X	O	X	O	X	O
	Soft Alum	X	X	X	X	O	X	O

Model	Material	Welding				
		CO2	MAG	MIG	PMAG	PMIG
YD-350HM2	Steel	X	O	X	O	X
	Stainless	X	X	O	X	O
	Hard Alum	X	X	O	X	O
	Soft Alum	X	X	O	X	O
YD-500HM2	Steel	X	O	X	O	X
	Stainless	X	X	O	X	O
	Hard Alum	X	X	O	X	O
	Soft Alum	X	X	O	X	O

	Default Setting
O	Available For Selection
X	Not Available For Selection

Default Configuration
Steel 045" Wire Diameter
Pulsing using Mixed Gas

IMPORTANT: Your system may require changes to the standard set up based on your application.

Panasonic AA II Arc Welders:

Constant Voltage Power Supplies

AAII350

350A/35V 60% Duty Cycle
270A/31V 100% Duty Cycle
0.030" – 0.045" Wire Diameter

AAII500

500A/45V 100% Duty Cycle
0.035" – 1/16th" Wire Diameter

Digital 2-Way Communication

Robot Pendant Waveform Adjustment



Model	Material	Wire diameter						
		0.6	0.8	0.9	1.0	1.2	1.4	1.6
YD-350AA2	Steel	X	X	O	O	O	X	X
	Steel FCW	X	X	X	X	O	X	X
YD-500AA2	Steel	X	X	X	X	O	O	O
	Steel FCW	X	X	X	X	O	O	O

Model	Material	Welding				
		CO2	MAG	MIG	PMAG	PMIG
YD-350AA2	Steel	O	O	X	X	X
	Steel FCW	O	O	X	X	X
YD-500AA2	Steel	O	O	X	X	X
	Steel FCW	O	O	X	X	X

	Default Setting
O	Available For Selection
X	Not Available For Selection

Default Configuration
Steel 1.2mm Wire Diameter
Mixed Gas

IMPORTANT: Your system may require changes to the standard set up based on your application.

Panasonic GB I (External) and GX (Internal)Arc Welders:

Constant Voltage Power Supplies

GBI-350, GX (Internal GC1 350 Arc Welder)

350A/36V 60% Duty Cycle
 270A/31V 100% Duty Cycle
 0.8 mm – 1.2 mm Wire Diameter Solid
 1.2 mm Wire Diameter FCW

Digital 2-Way Communication

Robot Pendant Waveform Adjustment



GB/GX CV Power Supply Configuration Matrix

Model	Material	Wire diameter						
		0.6	0.8	0.9	1.0	1.2	1.4	1.6
YD-350GB / GC1	Steel	X	O	O	O	O	X	X
	Stainless	X	X	X	X	O	X	X
	Hard Alum	X	O	O	O	O	X	X
	Soft Alum	X	X	X	X	O	X	X

Model	Material	Welding				
		CO2	MAG	MIG	PMAG	PMIG
YD-350GB / GC1	Steel	O	O	X	X	X
	Stainless	O	O	X	X	X
	Hard Alum	X	X	O	X	X
	Soft Alum	O	X	O	X	X














	Default Setting
O	Available For Selection
X	Not Available For Selection

Default Configuration Steel 1.2mm Wire Diameter Mixed Gas

IMPORTANT: Your system may require changes to the standard set up based on your application.

Welder Function Setup

In the section below are the standard setup values for the Panasonic Digital Welders. Please verify this setup or modify as needed to your application as needed before programming or developing welding parameters as these settings can effect the welding outcome.

Description	AA Setup	HM Setup	GB / GX Setup
 Wire/Material/Weld Method	See previous section	See previous section	See previous section
 Adjust value	Standard	Standard	Standard
 Wave adjust data	Standard	Standard	Standard
 Unification/Individual	Individual	Individual	Individual
 Weld condition	Standard	Standard	Standard
 Inching speed	Hi: 168 Lo: 10	Hi: 168 Lo: 10	Hi: 168 Lo: 10
 Arc retry*	Invalid	Invalid	Invalid
 Stick release*	Invalid	Invalid	Invalid
 Restart overlap*	Invalid	Invalid	Invalid
 Tip change	Valid	Valid	Valid
 Weld monitor	Invalid	Invalid	Invalid
 Display weld condition	Machine Dependent	Machine Dependent	Machine Dependent
 Flying start	Invalid	Invalid	Invalid
 Select Pulse mode	Not Applicable	Hybrid	Not Applicable

Invalid – Available for setup but not in use. Setup by user is optional.