



ROBOT INTEGRATION

AUTOMATION OF WELDING PROCESSES

PARTNER UP AND GET A SHARE OF
our extensive knowhow and experience with robotic welding

MICATRONIC
WELDING VALUE

WELDING POWER SOURCES FOR ROBOT INTEGRATION

Welding power sources for robot integration complete with peripheral equipment for MIG/MAG, TIG and Plasma welding. Choose a robot integration setup, which matches today's technological requirements. Partner up and get a share of our extensive knowhow and experience with robotic welding.

ROBOTIC WELDING ADDS VALUE TO MANUFACTURERS' BUSINESS:

- Increased efficiency. Higher welding speed increases production output and lowers production time per workpiece.
- Increased production capacity. The increased production output enables manufacturers to attract large orders and to stay competitive.
- Improved product quality. Uniform welds and high quality in welding finish make manufacturers' products better.

COOPERATION WITH ROBOT MANUFACTURERS

Migatronik welding power sources are among the most advanced on the market. Our power sources and peripheral equipment for robot integration have been tested by experienced system integrators and are applied in automated welding solutions all over the world. Our cooperation with several manufacturers of industrial robots, such as FANUC Robotics, Yaskawa Motoman, KUKA, ABB and Universal Robots, gives us access to state-of-the-art robot technology. Our many years of experience on the market make us a reliable supplier of high-tech automated welding equipment.



WELDING POWER SOURCE BENEFITS

Dependability: MIG/MAG, TIG and Plasma welding power sources dedicated to robotic welding deliver dependable performance at all times.

Complete packages: The power sources are available in three flexible packages with all peripheral equipment necessary to ensure an efficient robotic welding setup.

Efficient communication: High-quality robot control interfaces ensure efficient and correct communication between welding power source and robot.

Compatibility: The robot control interface can integrate with all robot brands using anybus or analog/digital I/O communication.

Seam tracking: Seam tracking ensures exact welding of the seam throughout the welding process.

Touch sensing: Through touch sensing, the robot welding torch uses the tip of the welding wire to find the workpiece and sense where to start the weld.

Good arc ignition: Good arc ignition ensures a stable arc from the very beginning of each weld. This leads to uniformity, higher quality in welding finish and a better product.

Data collection (MIG): MigaLog software enables collection of welding data from the welding machine. It is possible to extract conclusive evidence for verification in accordance with EN and ISO welding standards.

Free software updates: Software updates are available for downloads at all times on migatronic.com.

IGC® - Intelligent Gas Control: An automated welding production has long arc hours and will have a large consumption of protection gas. Intelligent Gas Control technology prevents over-consumption of gas and ensures long-term savings. With weld pools always perfectly protected, the quality of each weld is improved.

IAC – Intelligent Arc Control: MIG welding with IAC entails a 100 per cent stable and focused short arc for downward welding of root passes. It ensures that also downward welds live up to quality requirements.

TIG-A-Tack: The semi-automatic TIG-A-Tack function makes extremely small and precise fixations without root protection gas in austenitic stainless steel. This lowers the risk of weakened corrosion resistance and deformation. The fixations are invisible in the final weld seam.

D.O.C.® (Dynamic Oxide Control): Quicker AC TIG welding. D.O.C. increases welding speed by 30 % and reduces consumption of both energy and tungsten electrodes. It ensures a controlled, narrow cleaning zone when welding aluminium.

Synergy Plus: Sets all primary pulse parameters for TIG welding in DC mode.

“The robot cell was 100 per cent accurate at the first go, and the finish of the large batches of welds is now beautiful and uniform. Migatronic’s high-tech power source is very efficient and powerful. It features a pulse function and intelligent gas control, which reduces weld spatter as well as gas consumption. All things considered, the robot cell has significantly reduced our production time and costs”

Roy Mæland, responsible for day-to-day operations at Aarsland Stål & Lakk, Norway

THE FLEXIBLE MIG/MAG ROBOT SETUP

ROBOT CONTROL INTERFACE

The RCI⁴ interface for all robot brands can be built into the power source or delivered as an external unit:

- RCI⁴ I/O, external interface
- AnyBus, external interface
- AnyBus, internal interface

Configurable solutions for AnyBus systems:

- EtherNet/IP
- PROFINET
- DeviceNet
- EtherCAT
- PROFIBUS

The RCI⁴ for I/O interface for MIG/MAG connects analog/digital I/O signals through a SUB-D-9 and a SUB-D-25 connector. Purchase of RCI⁴ Anybus allows the user to convert the interface into a Fieldbus interface, either mounted internally in the power source or externally in its own physical box. Both systems are easily configured as desired.

GRAPHIC/REMOTE²

Remote control unit for MIG power sources:

- Graphic display
- Impact-proof case with adjustable strap and suspension fittings
- Shielded signal cable

WIRE COIL HOLDER ^{*)}

External mounting of wire coil for MIG/MAG:

- Suits wire reels ø200/300 mm
- Incl. wire hub brake

^{*)} Optional



ROBOT WIRE FEEDER

RWF 30 MIG/MAG robot wire feeder with four roll wire feed system and electronic tacho control of wire feed speed. Available with:

- Built-in functions, e.g. IGC[®] supporting Migatronik MIG welding processes
- Built-in Air Blow system for cleaning of gas nozzle using compressed air
- Touch sensing

TECHNICAL DATA	RWF 30
Protection class	IP 23
Torch connection	EURO
Duty cycle, 100% 40°C A/%	430/100
Duty cycle, max. 40°C A/%	550/50
Standards	IEC60974-5. IEC60974-10 CL. A
Wire diameter, mm	0.6-1.6
Wire feed speed, m/min	0.5-30.0
Dimensions (HxWxL), mm	240x220x308
Weight, kg	6.8

POWER SOURCE: SIGMA SELECT ROBO





RWF 30 - robot wire feeder for SIGMA SELECT (MIG) with four-roll wire feed system and built-in functions.



Water coupling and current coupling are equipped with screw fastening

ROBOT CONTROL INTERFACE: RCI⁴



RCI⁴ Anybus Box for Sigma Select



RCI⁴ I/O Box for Sigma Select



RCI⁴ ANYBUS robot interface (built in Sigma Select)

MIG/MAG WELDING POWER SOURCES AND PERIPHERAL EQUIPMENT

MIG SOLUTIONS

MIG POWER SOURCES

Sigma Select Robo 300

Sigma Select Robo 400

Sigma Select Robo 550

MIG POWER SOURCES INCLUDE

Graphic control panel incl. 0.5 m cable

Diffusion-slow gashose, 2.7 m

Standard welding program package (Synergic function required)

MANDATORY EQUIPMENT

Air-cooled or water-cooled power source incl. flow control

RCI⁴ I/O or ANYBUS interface

RWF 30 (robot wire feeder): Four-roll wire feed system. Built-in functions, e.g. IGC[®] - Intelligent Gas Control, Touch Sensing, Air Blow system for cleaning of gas nozzle using compressed air.

OPTIONAL FUNCTIONS

Synergic DC

Synergic DC / Pulse

IAC – Intelligent Arc Control

PowerArc

Sequence

MigaJob

MigaLOG

DUO Plus

Sequence and Sequence Repeat

Welding function package: DUO Plus, MigaJob, MigaLog, Sequence, Sequence Repeat

OPTIONAL WELDING PROGRAM PACKAGES

Mild steel

Stainless steel

Aluminium

All included

Individual programs

OPTIONAL EQUIPMENT

Field bus module

Trolley

Interconnection with plug for RWF – Air

Interconnection with plug for RWF – Water

Earth cable

Wire feed roll

Mounting plate for RWF 30 (depending on robot)

Accessories for wires

Calibration certificate



SIGMA SELECT ROBO

Sigma Select ROBO 300, 400 and 550 A three-phase power sources for MIG/MAG welding of all materials. The power sources can be upgraded throughout their service lives by adding programs and functions according to requirements. Sigma Select ROBO is designed for intelligent welding beyond the ordinary.



THE FLEXIBLE TIG/PLASMA ROBOT SETUP

ROBOT CONTROL INTERFACE

The RCI² for TIG and Plasma is connected to the power source via CAN-bus and enables the user to choose between hard-wired transfer of both digital and analog I/O signals or Fieldbus-based transfer of signals between robot controller and power source.



The RCI² interface for all robot brands is a configurable solution for AnyBus systems:

- EtherNet/IP
- PROFINET
- DeviceNet
- EtherCAT
- PROFIBUS



EXTRA COOLING UNIT

External cooling of plasma torch for high performance and high duty cycle.

WIRE COIL HOLDER

External mounting of wire coil for TIG and Plasma:

- Suits wire reels $\varnothing 200/300$ mm
- Incl. wire hub brake

POWER SOURCE:
PI 350
PI 500 ROBO
PI 350 PLASMA

PI AC/DC EXTERNAL CONTROL PANEL

TIG AC/DC control panel with D.O.C[®] - function - all relevant parameters for professional welding results in all materials.



PI PLASMA EXTERNAL CONTROL PANEL

Plasma control panel with up to 64 programs stored in Plasma and TIG.



COLD WIRE FEEDER

TIG/Plasma feeder with four-roll wire feed system:

- Built-in functions, e.g. synchronised pulse on wire that follows machine settings
- Memory for individual settings
- Up to eight feeders connected to a welding machine

TECHNICAL DATA

CWF

Wire feed speed, m/min.	0.2-5.0
Wire dimension, mm	0.6-2.4
Dimensions (HxWxL), mm	276x211x276
Weight, kg	9.6





COLD WIRE FEEDER



Cold Wire Feeder: four-roll wire feed system, synchronised pulse on wire and memory for individual settings

ROBOT CONTROL INTERFACE



RC² I/O interface prepared for anybus communication.

TIG // PLASMA WELDING POWER SOURCES AND PERIPHERAL EQUIPMENT

TIG SOLUTIONS

TIG POWER SOURCES

Pi 350 DC W

Pi 350 AC/DC W

Pi 500 Robo DC W

Pi 500 Robot AC/DC W

TIG POWER SOURCES INCLUDE

RCI² I/O interface prepared for digital and analog communication incl. 6 m cable

CAN plug incl. CAN distributor box

Remote control plug incl. Arc Detect signal

IGC[®] - Intelligent Gas Control with flow control

Built-in water flow control

Diffusion-slow gas hose, 2.7 m

MANDATORY EQUIPMENT

Rack or standard trolley/wheels

OPTIONAL EQUIPMENT

Cold Wire Feeder

Wire feed roll

Holder for CWF

Fieldbus module

Mounting plate for CWF (depending on robot)

Accessories for wires

PI ROBO

Pi ROBO 350 and 500 A power sources for TIG welding of mild and stainless steel and aluminium, with or without pulse function. Pi power sources are designed for heavy duty welding with intelligent functions for improved efficiency and welding quality.



PLEMENT

PLASMA SOLUTIONS

PLASMA POWER SOURCE

Pi 350 Plasma W

PLASMA POWER SOURCE INCLUDES

RCI² I/O interface prepared for digital and analog communication incl. 6 m cable

IGC[®] - Intelligent Gas Control with flow control

Double CAN plug incl. CAN distributor box

Remote control plug incl. Arc Detect signal

Built-in water flow control

Diffusion-slow gashose, 2.7 m

MANDATORY EQUIPMENT

Rack or standard trolley/wheels

OPTIONAL EQUIPMENT

Cold Wire Feeder

Wire feed roll

Holder for CWF

Fieldbus module

Mounting plate for CWF (depending on robot)

External cooling unit

Accessories for wires

PI PLASMA

Pi Plasma 350 is a high-performance power source for welding mild and stainless steel, with or without pulse function. It ensures uniform, high-quality welds in the 5-350 A current range.



TECHNICAL DATA

We reserve the right to make changes.

POWER SOURCE	SIGMA SELECT ROBO 300 // 300 IAC	SIGMA SELECT ROBO 400 // 400 IAC	SIGMA SELECT ROBO 550
Current range (MIG), A	15-300	15-400	15-550
Mains voltage +/- 15% (50-60Hz), V	3x400	3x400	3x400
Fuse, A	16	20	35
Mains current, effective, A	15.4	17.5	27.2
Mains current, max., A	15.4	26.0	39.2
Power 100%, kVA	9.0	12.1	18.9
Power, max., kVA	10.7	18.0	27.1
Power factor	0.90	0.90	0.90
Open circuit voltage, V	50-60	65-70	75-80
Efficiency	0.85	0.85	0.90
Duty cycle 100% /20°C (MIG), A/%V	290/28,5 // 300/100/29,0	345/100/31,5 // 310/100/29,5	475/100/37.8
Duty cycle max. /20°C (MIG), A/%V		400/60/34,0 // 400/60/34,0	550/60/41.5
Duty cycle 100% /40°C (MIG), A/%V	220/25 // 270/100/27,5	300/100/29,0 // 280/100/28,0	430 / 100 / 35.5
Duty cycle 60% /40°C (MIG), A/%V	240/26	370/60/32,5 // 350/60/31,5	510 / 60 / 39.5
Duty cycle max. /40°C (MIG), A/%V	300/25/29,0 // 300/80/29,0	400/50/34,0 // 400/40/34,0	550 / 50 / 41.5
Application class	S/CE	S/CE	S/CE
Protection class	IP 23S // IP 23	IP 23	IP 23
Standards	IEC60974-1. IEC60974-10 Cl. A		
Dimensions (H x W x L. mm)	454x260x735	454x260x735	454x260x735
Weight, kg	26	35	36

POWER SOURCE	PI 350 DC W // 350 AC/DC W	PI 500 ROBO DC W // PI 500 ROBO AC/DC W	PI 350 PLASMA
Current range, A	5-350	5-500	5-350
Mains voltage +/- 15 %, V	3x400	3x400	3x400
Fuse, A	25	32	32
Mains current, effective, A	17.3	26.1 // 27.2	26,1
Mains current, max, A	22.7	33.7 // 35.1	23,3
Open circuit voltage, V	95	95	95
Efficiency	0.88	0.91 // 0.87	0.91
Duty cycle 100% /20°C, A/%V	340	475	350
Duty cycle max. /20°C, A/%V	350/95	500/80	350/100
Duty cycle 100% /40°C, A/%V	290/21.6	420/26.8	350/39.0
Duty cycle 60% /40°C, A/%V		500/30.0	
Duty cycle max. /40°C, A/%V	350/60/24.0	500/60/30.0	350/100/39
Application class	S/CE/CCC	S/CE /CCC	S/CE
Protection class	IP 23	IP 23	IP 23
Standards	EN/IEC60974-1. EN/IEC60974-2. EN/IEC60974-3. EN/IEC60974-10		
Dimensions (H x W x L. mm)	980x545x1090	980x545x1090	980x545x1090
Weight, kg	31 // 72	68 // 77	85

MIGATRONIC A/S
 Aggersundvej 33
 DK-9690 Fjerritslev, Danmark
 Tel: (+45) 96 500 600
 migatronik.com

MIGATRONIC
 WELDING VALUE