

/ Perfect Welding / Solar Energy / Perfect Charging



TPS/i Robotic Series

/ decoding the dna of the arc

TPS/i Series of
Robotic welding inverters



Exceptional, efficient, reliable.
TPS/i Robotics - the intelligent welding solution



/ Our customers obtain the best possible weld thanks to our continuous research and development.

/ Easy setup of weld schedules in the robot pendant means more efficiency in the work place.

/ TPS/i Robotics withstands the harshest of environments keeping production running.

ROBOTIC WELDING AT ITS FINEST

TPS/i was built with the future in mind. Each new system is configured for the applications you use today and can be expanded as your business changes. We are constantly developing welding processes, functions and characteristics to improve wherever there may be room. Updates and upgrades are easy, and in most cases can be done without a technician or specialized hardware. This modular concept ensures your machine is state-of-the-art for years to come.



PRECISION WIREFEEDING

Completely insulated, perfect wire feeding and highly dynamic motors enable responsive control and high welding speeds as a result. A clear window provides a clear view in tight spaces.



INTERFACE INSIDE

The compact robot interface is fully integrated in the power source, it can be used with any robot interface, and ensures reliable robot to welding system communication.



PLAIN-TEXT DISPLAY

A 7" touchscreen design ensures easy and efficient operation. The power source is the same for manual welding and robotic welding making an easy conversion for retrofits.



MAGNETIC CRASHBOX

/ Prevent damage to the welding torch in the event of a crash using the advanced magnetic crashbox. Maintains the TCP eliminating unnecessary downtime.

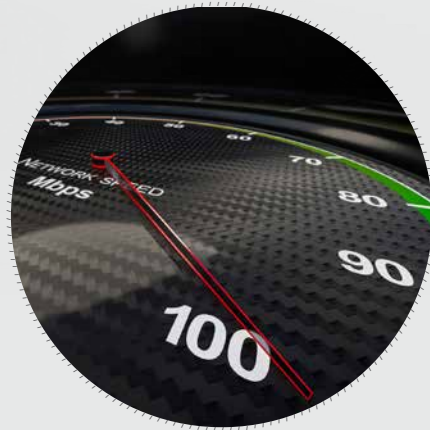
NEW, HEAVY DUTY TORCH NECK, LONG-LASTING HOSEPACK

/ Heavy duty components can withstand the harshest environments,



WF 25i ROBACTA DRIVE

High precision in a compact design. Featuring a highly dynamic motor and quick buttons, the robacta drive is the perfect solution for all wire types and especially soft wires.



SPEEDNET

/ SpeedNet guarantees high speed communication allowing for more precise process control and system statuses to be called up in real time. A 100 Mbit/s data bus carries the exchange of data between components.

TPS/i Welding Packages

/ Thanks to the modular design of the TPS/i and the Welding Packages, it is possible to create tailored solutions quickly and efficiently. The TPS/i can be configured differently to suit your applicaton's needs. WP Standard and WP Pulse* are available as standard, which can then be upgraded to LSC, PMC and/or CMT if required.

WELDING PACKAGE STANDARD



/ Usual level of Fronius top quality, optimized for the most common material and shielding gas combinations.

APPLICATION AREAS

/ Most common materials and shielding gas combinations

BENEFITS

/ Excellent ignition
/ Quick & Easy for general welding applications
/ Dynamic characteristic for deep, narrow penetration

WELDING PACKAGE LSC



/ Less spatter and increased arc stability.

APPLICATION AREAS

/ Light-gauge sheet welding
/ Optimized for root passes
/ 100% CO₂
/ Vertical-up welds

BENEFITS

/ Less spattering (less rework)
/ Optimal weld seam appearance
/ Higher welding speed (cost effectiveness)

WELDING PACKAGE CMT



/ A highly dynamic welding process with the most stable arc and the smallest amount of spattering.

APPLICATION AREAS

/ Joint welding (stainless steel applications, exhaust welding, food industry)
/ Rapid prototyping
/ Brazing, particularly where there are high demands in terms of heat input and process stability
/ Special joints such as copper, zinc, and steel-aluminum

BENEFITS

/ Faster welding
/ Even less spatter
/ More cost-effective
/ Extremely easy parameter setting

CMT MIX

/ This mixed process is a feature of CMT and provides a more controlled and higher heat input for aluminium and CrNi through defined pulse cycles.

APPLICATION AREAS

/ Especially for aluminium applications
/ Stainless steel applications

* Every "Welding Package Pulse" TPS/i welder includes the "Welding Package Standard" in the USA.

WELDING PACKAGE **PULSE**



/ The “Pulse”* process enables the user to weld using a pulsed arc and impresses due to its outstanding quality. In addition, it is optimized for the most common material and shielding gas combinations.

APPLICATION AREAS

/ General industry: conventional pulse arc for steel, aluminum, stainless, cored wires, and brazing

BENEFITS

/ Easy operation
/ Low spatter
/ Optimal seam appearance

WELDING PACKAGE **PMC**



/ Increased welding speeds, lower heat input.

APPLICATION AREAS

/ All material thicknesses; this process can be used in a customized manner and for application-specific requirements thanks to the stabilizers

BENEFITS

/ Higher welding speed, cost effectiveness
/ Lower heat input
/ Uniform penetration
/ Optimal weld seam appearance
/ Low risk of undercutting through use of new stabilizers
/ Easy parameter finding (assistance systems)

PMC MIX

/ This process is a feature of the PMC process, which assists the welder during positional welding.

ADDITIONAL APPLICATION AREAS

/ Medium to thick materials for steel and stainless steel.
/ Faster vertical-up and positional welding

PMC MIX DRIVE

/ This process is a feature of the PMC process, which enables a lower heat input in conjunction with the WF25i Robacta Drive.

APPLICATION AREAS

/ For visible weld seams, especially when welding aluminum
/ For joining heavy and light gauge sheets

BENEFITS

/ Optimal weld seam appearance
/ Good gap bridging ability

PMC’s “penetration stabilizer” and “arc length stabilizer” assistance systems ensure constant penetration and high welding speeds.

PENETRATION STABILIZER

/ Due to the intelligent wire control, the current and penetration remain constant if the stick out changes. The arc becomes dramatically more stable, and the penetration is much more constant.

WITHOUT PENETRATION STABILIZER



/ Stick-out 15mm
V= 10m/min
I: 300 - 250A
Steel 6mm



/ Stick-out 30mm
V= 10m/min
I: 300 - 250A
Steel 6mm

WITH PENETRATION STABILIZER



/ Stick-out 15mm
V= 10m/min
I: 300 - 250A
Steel 6mm



/ Stick-out 30mm
V= 10m/min
I: 300 - 250A
Steel 6mm

ARC LENGTH STABILIZER

/ The arc length stabilizer maintains a consistently short arc, which allows higher welding speeds to be achieved.



/ Video: comparison with and without arc length stabilizer.

EFFICIENCY

/ The perfect interaction of the processes (LSC, PMC and CMT) with the intelligent penetration and arc length stabilizer results in faster and higher quality production, along with reduced rejection rates.

SHORTER CYCLE TIMES

- / Quickest robot communication
- / Increased welding speeds

REDUCED SET UP TIMES

- / TeachMode - shortens the time required for component programming
- / Comfort Wire - allows easy and precise wire threading down to the work piece

ENHANCED QUALITY IN PRODUCTION

- / Less spatter, less rework
- / Constant penetration

Technical Data

	TPS 400i	TPS 400i LSC Adv.	TPS 500i	TPS 600i
Mains voltage	3 x 460 / 3 x 200V / 3x 230 V			3 x 460
Mains range	177 - 253 Vac			342 - 529 Vac
Max. effective primary current	30.5 A - 26.4 A		43.5 A - 37.4 A	46.6 A - 44.4 A - 39.2 A
Max primary current	48.2 A - 41.6 A		68.8 A - 59.2 A	60.1 A - 57.3 A - 50.6 A
Mains fuse protection	35 A slow blow		63 A slow blow	63 A slow blow
Mains tolerance	+/- 15%	+/- 15%	-10% / 15%	-10% / 15%
MIG current range	3 - 400A	3 - 400A	3 - 500A	3 - 600A
MIG voltage range	14.2 - 34.0	14.2 - 34.0	14.2 - 39.0	14.2 - 44.0
Duty cycle 104°F (40°C)	400A @ 40%	400A @ 40%	500A @ 40%	40%
	360A @ 60%	360A @ 60%	430A @ 60%	600A @ 60%
	320A @ 100%	320A @ 100%	360A @ 100%	500A @ 100%
Degree of protection	IP 23			
Dimensions (LxWxH)*	27.8" x 11.8" x 20.1"	27.8" x 11.8" x 28.4"	27.8" x 11.8" x 20.1"	27.8" x 11.8" x 20.1"
	(LxWxH mm)*	706 x 300 x 510	706 x 300 x 720	706 x 300 x 510
Weight*	103.8 lbs (47.1 kg)	140.2 lbs (63.6 kg)	103.8 lbs (47.1 kg)	103.6 lbs (47.0 kg)

*These values reflect the welding power supply only

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THREE BUSINESS UNITS, ONE GOAL: TO SET THE STANDARD THROUGH TECHNOLOGICAL ADVANCEMENT.

What began in 1945 as a one-man operation now sets technological standards in the fields of welding technology, photovoltaics and battery charging. Today, the company has around 3,800 employees worldwide and 1,242 patents for product development show the innovative spirit within the company. Sustainable development means for us to implement environmentally relevant and social aspects equally with economic factors. Our goal has remained constant throughout: to be the innovation leader.

Further information about all Fronius products and our global sales partners and representatives can be found at www.fronius.com

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