

/ Battery Charging Systems / **Welding Technology** / Solar Electronics



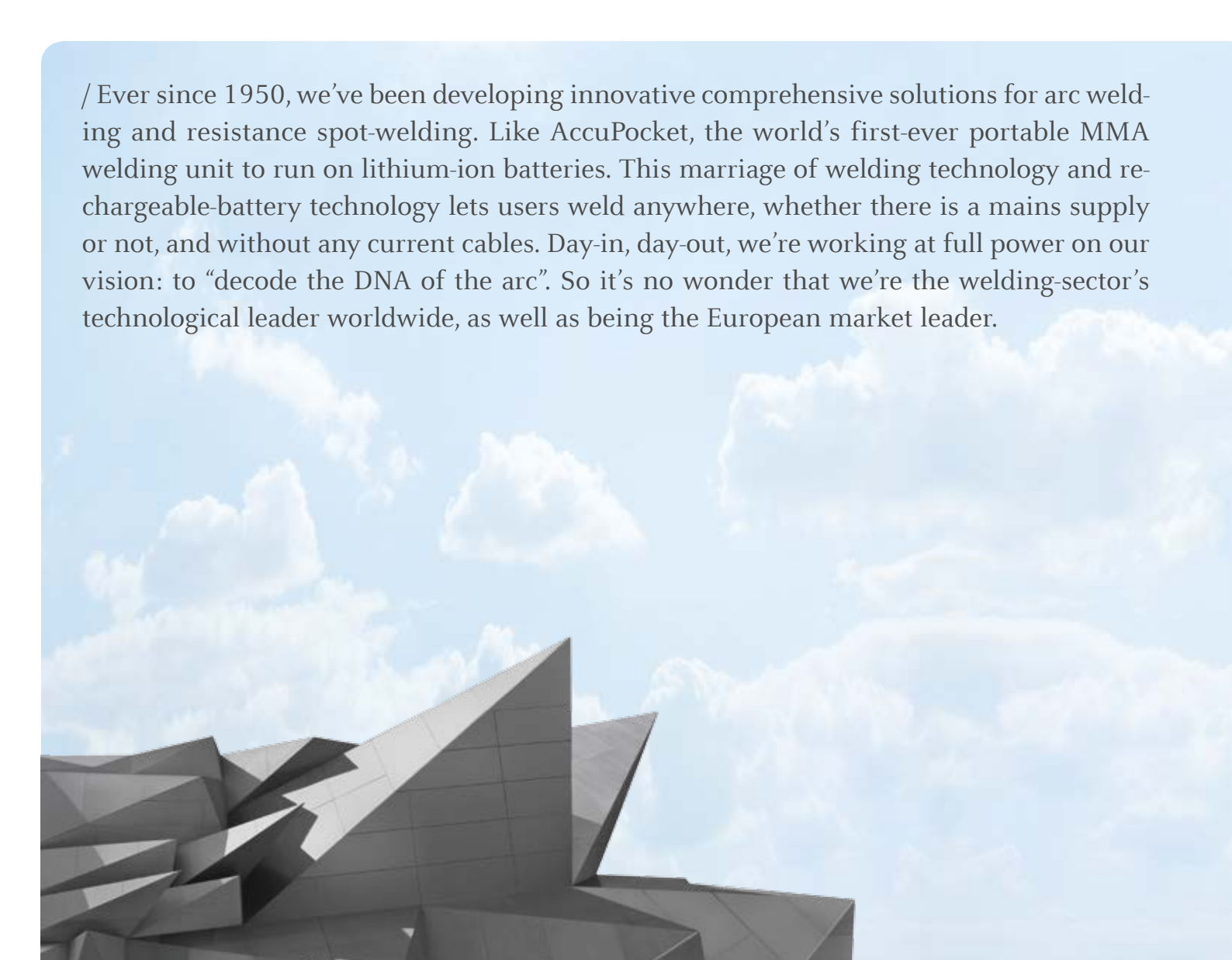
SHIFTING THE LIMITS



ACCUPOCKET 150/400

/ Off-grid MMA welding





/ Ever since 1950, we've been developing innovative comprehensive solutions for arc welding and resistance spot-welding. Like AccuPocket, the world's first-ever portable MMA welding unit to run on lithium-ion batteries. This marriage of welding technology and rechargeable-battery technology lets users weld anywhere, whether there is a mains supply or not, and without any current cables. Day-in, day-out, we're working at full power on our vision: to "decode the DNA of the arc". So it's no wonder that we're the welding-sector's technological leader worldwide, as well as being the European market leader.

SOME CONVINCING FACTS ABOUT US:

/ Fronius is the world market leader for robot welding.

/ Fronius brings you the very latest technologies for arc welding and resistance spot-welding.

/ Fronius guarantees a perfect interplay between all the components in its welding systems.

/ Fronius offers a perfectly co-ordinated programme of service, training and support.

/ Fronius has mastery of the entire spectrum: MMA, TIG, MIG/MAG, plasma, LaserHybrid.

/ Fronius is a byword for superlative product quality, economy and energy efficiency.



WELDING WITHOUT A MAINS CABLE. ACCUPOCKET MAKES IT POSSIBLE.

TECHNOLOGICAL LEAPS-AHEAD AT FRONIUS:

/ Turning visions into series-production-ready, cost-saving innovations – that’s what we’re known for in the industry:

1981

/ World’s first-ever primary transistor-switched MIG/MAG inverter power sources

1997

/ First fully digitised welding systems

2005

/ CMT – first metallurgical join of steel to aluminium

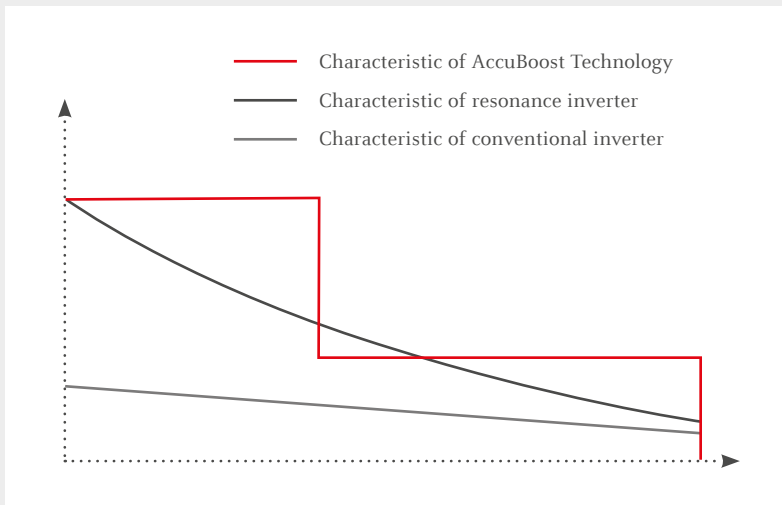
2013

/ AccuPocket – portable, cable-less welding now possible for the first time

ACCUBOOST TECHNOLOGY

/ AccuBoost delivers marked improvements in the ignition properties, arc stability and arc dynamics.

/ The integral high-performance rechargeable battery momentarily delivers above-averagely high short-circuiting currents during welding, reliably minimising electrode-sticking. The perfect interplay between the battery and the welding electronics also permits high welding voltage at high power. This prevents annoying arc-breaks.



/ Enhanced power range with AccuPocket as compared to conventional inverter technologies

/ AccuPocket welds all types of electrode (rutile, basic, CEL and special-purpose electrodes) up to a diameter of 3.25 mm. Steel, high-alloy steels and aluminium are all suitable base metals. This versatility makes the AccuPocket an attractive proposition in every user segment. A fully charged battery is enough to weld up to six 3.25 mm electrodes or up to eighteen 2.5 mm ones.



FEATURES:

HOTSTART

/ Perfect ignition behaviour on Cel and rutile electrodes.

SOFTSTART

/ SoftStart delivers a stable arc for basic electrodes that ignite at low welding amperages

CONTINUOUSLY ADJUSTABLE ARC-FORCE DYNAMIC

/ The arc-force dynamic can be continuously regulated so as to prevent weld-pool solidification and prolonged arc short-circuiting by momentarily increasing the amperage.

EXTRA TIG FUNCTIONS:

TAC

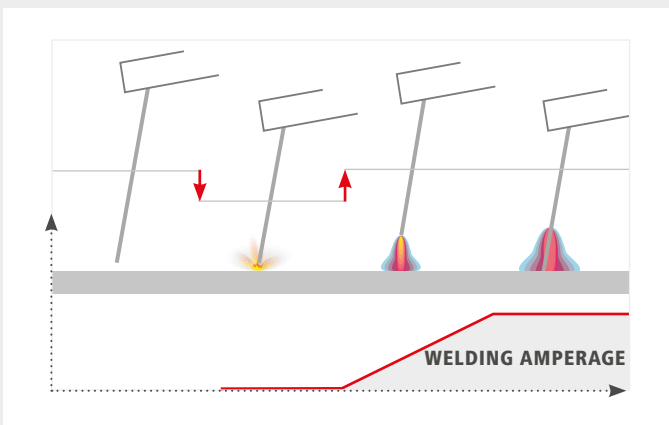
/ Quick and easy tacking made possible by pulsating arc, in one workstep

TIG PULSED-ARC

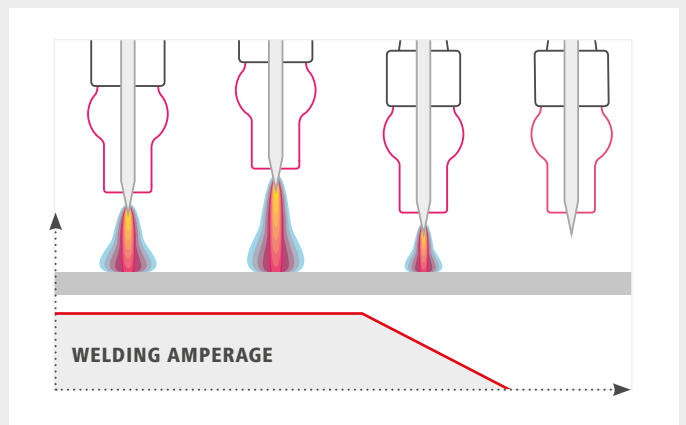
/ Makes for better control of the weld-pool in out-of-position work and when bridging gaps

TIG COMFORT STOP

/ A defined motion of the welding torch automatically lowers the welding amperage. This prevents annoying arc-breaks at the end of welding.



/ SoftStart delivers a stable arc for basic electrodes that ignite at low welding amperages.



/ TIG Comfort Stop: A defined up-and-down motion of the welding torch vis-à-vis the workpiece causes the welding current to drop automatically.

UNLIMITED MOBILITY FOR THE WELDER

/ Repair-welding high up in the mountains, field erection jobs out in the country or welding work at exposed locations: until recently, jobs like these always involved costly and time-consuming preparations. Long mains supply leads or big, heavy 8 kVA generators are now no longer necessary. Because AccuPocket ushers in a new and unprecedented era of mobile welding.





/ There no longer has to be mains power nearby. Now jobs needing up to six 3.25 mm electrodes or up to eighteen 2.5 mm ones can be welded autonomously. For more substantial welding applications, a small, compact 2 kVA generator is sufficient. And without any limitations on the welding power or the quality of the arc. Far from it – thanks

to AccuBoost Technology, AccuPocket welds extremely reliably and utilises its built-in power reserve to achieve perfect ignition and welding properties. Its advanced functional design – with very small dimensions, low weight and rugged build – makes AccuPocket the perfect companion at any field worksite.

-
- / Compact, lightweight, portable – 11 kg (incl. battery)
- / Rugged build for maximum operational reliability
- / Integral dust filter provides reliable protection against dirt
- / Ergonomically shaped handle for great on-the-move handling
- / The plastic support feet double as edge- and drag protectors
-

ACTIVECHARGER

Intelligent charging meets high-tech welding

/ Fronius also has a decades-long track-record of researching, developing and producing battery charging systems. Equipped with Active Inverter Technology, these charging systems are both intelligent and thrifty, and prolong the lifespan of the battery. The ActiveCharger was specially developed for recharging the high-capacity batteries in the AccuPocket.

THE PERFECT CHARGING CURRENT

/ With Active Inverter Technology, the charging system detects the condition of the battery and optimally adjusts the charging characteristic to match. This gentle charging heats up the battery less strongly, which prolongs its service life.

CHARGE AND WELD

/ The charger is designed so that welding can continue while the battery is being charged (hybrid mode). The charger detects the start of welding and automatically increases the charging power. This lessens wear-and-tear on the battery at the same time as lengthening the welding unit's duty cycle.

OPERATING MODES:

NORMAL CHARGE:

/ The 'normal' charging characteristic has been optimised to maximise battery lifespan. Charging duration: 45 minutes.

FAST CHARGE:

/ The charging characteristic for maximum welding-unit availability. Charging duration: 30 minutes.

COMPENSATION CHARGE:

/ The ActiveCharger automatically changes over to compensation charging once the battery is fully charged. There is no need to disconnect the AccuPocket from the charger.



LITHIUM-ION RECHARGEABLE BATTERIES

Safe high-power battery meets high-tech welding

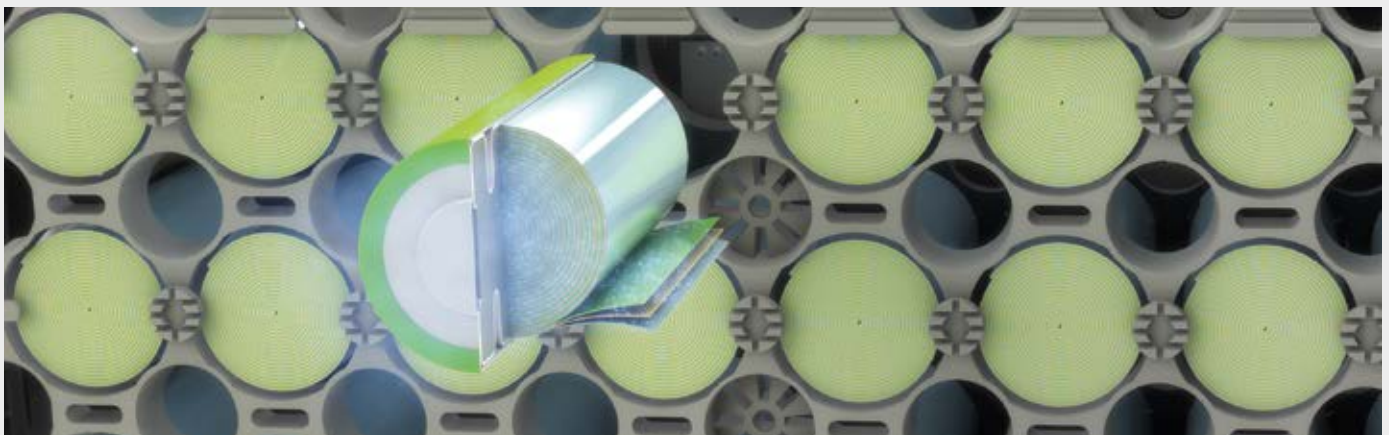
LiFePO₄ BATTERIES

/ The AccuPocket's battery is a high-performance iron-phosphate-based lithium-ion (LiFePO₄) battery with a capacity of approx. 400 Wh. This corresponds to the power of around 15 battery-powered screwdrivers.

/ The latest generation of LiFePO₄ batteries is small, light yet extremely powerful. Complying with stringent safety standards, these battery cells put in a particularly convincing performance in high-power applications.

LiFePO₄ batteries stand out for the following attributes:

- / High intrinsic safety
- / No memory effect
- / Long lifespan
- / Low self-discharge



SAFETY FEATURES

- / Voltage monitoring of all battery-cells
- / Cell balancing during charging
- / Charge monitoring
- / Short-circuit-proof
- / Protection against overcharging
- / Protection against exhaustive discharge and overheating

TECHNICAL DATA OF RECHARGEABLE BATTERY-PACK

- / Rated voltage: 52.8 V
- / Nominal capacity: 7.5 Ah
- / Rated energy: 396 Wh
- / Weight: 4.5 kg

BMS BOARD – BATTERY MANAGEMENT SYSTEM

- / Monitors all cells for uniform charging and discharging
- / Ensures that all battery-cells have uniform voltage and temperature
- / Safety cut-out

PERMANENTLY MOUNTED BATTERY-PACK

- / Highly robust, for mobile use
- / Fixed, solid mounting for perfect transmission of high welding currents; no exposed battery-connections
- / Optimum cooling concept with additional fans for extra-long lifespan
- / Easy to service

RUGGED CHARGER DESIGN

To withstand the rough-and-tumble of workday practice, the charger has been designed to fulfil IP43. In addition, the edges of the unit have been rubberised to give them extra protection.

The connection-points can be covered to protect them from soiling.

LOW POWER INPUT, LOW NETWORK LOAD

The mains network is subjected to significantly lower loads than is the case with mains-connected appliances. Even on a 120 V mains, the full 150 A of output power is still possible. This prevents the fuse being tripped.

Fluctuating mains voltages and voltage-drops caused by very long supply lines are equalised by the battery. This keeps the arc stable at all times.

GENERATOR-COMPATIBLE

Due to the low power input, it is also possible to use a much smaller generator (2 kVA) than for mains-connected appliances.

BATTERY LIFE

Battery lifespan is maximised by:

- / Cell balancing during charging
- / Protection against overcharging and exhaustive-discharge
- / Over/undertemperature protection
- / Active battery cooling
- / Optimum charging characteristics



EASY TO OPERATE

- / Easy, 1-knob operation
- / All parameters are continuously adjustable
- / Charge-level is shown directly on the unit

FUNCTIONAL DESIGN

When the machine was being developed, great emphasis was placed on functional design.

- / Handle and carrying-strap for easier transport
- / Facility for winding up the welding cables
- / Filter grille can be cleaned tool-lessly



TIG OPTION

Special TIG functions on AccuPocket TIG

- / Supports Up/Down welding torches
- / Integral gas solenoid valve
- / TIG pulsed-arc
- / TAC function
- / TIG Comfort Stop
- / Extra torch connector

SUPERIOR WELDING PROPERTIES THANKS TO ACCUBOOST TECHNOLOGY

Superior welding properties every time, regardless of the battery charge status and of the mains supply lead.

RUGGED POWER-SOURCE DESIGN

- / Permanently integrated rechargeable battery
- / Recessed user interface
- / Raised support feet to prevent penetration by water
- / Combined plastic/metal casing for maximum sturdiness



BATTERY MODE

Specially for repair welding in inaccessible terrain where there is no access to mains electricity. The welding energy is obtained from the rechargeable battery only. Up to 18 electrodes (2.5 mm) possible from one battery-charge. The charge-level is always displayed on the unit.

Because there is no mains supply lead, the machine is very suitable for welding in electrically hazardous environments such as those encountered in e.g. the welding of boilers and tanks, shipbuilding,



UTILISATION



GENERATOR MODE

Due to the low power input, a much smaller generator (2 kVA) can be used than for mains-connected appliances. This saves on investment outlays and makes mobile applications very much easier indeed. With AccuPocket, having to use big, heavy 8 kVA generators is definitely a thing of the past.



HYBRID MODE

In hybrid mode, the unit can be used for welding at the same time as being charged. The built-in power reserve provided by the battery ensures a constant arc despite any mains-voltage fluctuations, and prevents the mains fuse being tripped in the event of an overvoltage. Even on a 120 V mains, the full 150 A of output power is still possible.





ACCUCARE

The “no-worries” package for AccuPocket

AccuCare is the name of the 5-year “no-worries” package that Fronius offers for the AccuPocket. The customer chooses whether to sign up for AccuCare when purchasing the system. By paying a periodic flat-rate fee spread across 5 years, the customer enjoys complete peace of mind during this entire period – 5 years’ warranty on the whole system, and the guarantee of having a fully functioning battery.

- / Reduced purchase price for AccuPocket system.
- / Free battery-swap if residual capacity drops below 70%.
- / Repairs carried out professionally by Fronius experts.
- / Final disposal of dismantled battery is handled by Fronius.

TECHNICAL DATA

ACCUPOCKET

Rated voltage of battery		52.8 V
Charging current (normal charge)		10 A
Charging current (fast charge)		18 A
Battery capacity		396 Wh
Battery type		Lithium ion
Welding amperage range	Electrode-DC	10 - 140 A
	TIG-DC	3 - 150 A
Welding amperage in battery-only mode		
25 °C (77 °F)	approx. 6 min	140 A
25 °C (77 °F)	approx. 10 min	100 A
25 °C (77 °F)	approx. 18 min	60 A
Welding amperage in hybrid mode (MMA rod-electrode welding)		
25 °C (77 °F)	20 % duty cycle	140 A
25 °C (77 °F)	30 % duty cycle	100 A
25 °C (77 °F)	60 % duty cycle	60 A
25 °C (77 °F)	100 % duty cycle	42 A
Welding amperage in hybrid mode (TIG welding)		
25 °C (77 °F)	30 % duty cycle	150 A
25 °C (77 °F)	55 % duty cycle	100 A
25 °C (77 °F)	100 % duty cycle	72 A
Maximum amperage 180 A		
Welding power in MMA rod-electrode welding		
Open-circuit voltage		90 V
Reduced open-circuit voltage		15 V
IEC Ingress Protection rating		IP 23
Type of cooling		AF
Mark of conformity		CE
Dimensions L x W x H		435 x 160 x 320 mm

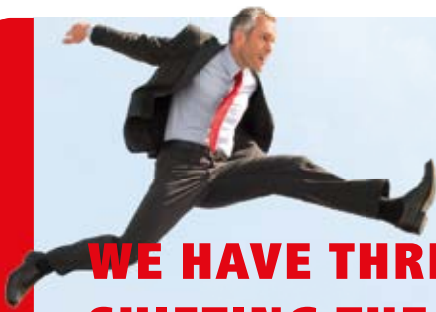
ACTIVECHARGER 1000

Mains voltage	- 230 V AC, +6% / -10%
Mains frequency	50 / 60 Hz
Mains current	max. 8.7 A eff.
Mains fuse protection	max. 16 A
Power efficiency	max. 96 %
Effective power	max. 1120 W
Power input (stand-by)	max. 2.4 W
Protection category	I (with PE conductor)
Max. permissible network impedance at interface (PCC) to public mains network	None
EMC emissions category	A
Mark of conformity	CE
Output-voltage range	30 - 58 V DC
Output current	18 A DC
Output power	max. 1044 W
Cooling system	Convection and fans
Dimensions (L x W x H)	270 x 168 x 100 mm
Weight (without cables)	approx. 2 kg
IEC Ingress Protection rating	IP43
Overvoltage category The unit may be run on neutral-earthed networks only.	II

OPERATING ENVIRONMENTS

Transport, storage or operation of the machine outside the stated range constitutes "non-compliant utilisation". The manufacturer shall not be liable for any damage resulting from such improper use.

	During operation:	During transport and storage:
Temperature range of ambient air:	-10 °C to + 40 °C	-20 °C to + 55 °C
Relative atmospheric humidity:	up to 50 % at 40 °C	up to 90 % at 20 °C
Ambient air:	Free of dust, acids, corrosive gases or substances etc. Elevation above sea level: up to 2000 m	



WE HAVE THREE DIVISIONS AND ONE PASSION: SHIFTING THE LIMITS.

/ What Günter Fronius started in 1945 in Pettenbach, Austria, has now become a modern day success story. Today, the company has around 3,000 employees worldwide and owns more than 850 active patents. Since the very beginning, our goal has not changed: to be the technology and quality leader. We shift the limits of what's possible. While others progress step by step, we innovate in leaps and bounds. The responsible use of our resources forms the basis of our corporate policy.

BATTERY CHARGING SYSTEMS

/ We started a technological revolution with Active Inverter Technology and are now the know-how leaders in battery charging technology. We are driven by the aim of providing intelligent energy management systems that ensure maximum energy efficiency and battery life in intralogistics together with total safety and top performance in the vehicle workshop.

WELDING TECHNOLOGY

/ We develop welding technologies, such as entire systems for arc and resistance spot welding, and have set ourselves the task of making impossible weld joints possible. Our aim is to »decode the DNA of the arc«. We are the technology leader worldwide and the market leader in Europe.

SOLAR ELECTRONICS

/ The greatest challenge of our time is to make the leap to a regenerative energy supply. Our vision is to use renewable energy to achieve energy independence. With our grid-connected inverters and products for monitoring photovoltaic systems, we are now one of the leading suppliers in solar electronics.

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

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