

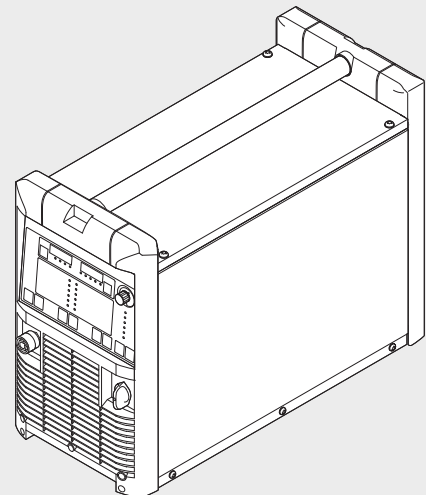


MagicWave 2600
MagicWave 2600 Cel
MagicWave 3000
TransTig 2600
TransTig 2600 Cel
TransTig 3000

EN-US

Operating instructions

TIG power source



42,0426,0022,EA 003-22032021

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Safety Instructions

Explanation of Safety Instructions

DANGER!

Indicates an immediate danger.

- ▶ Death or serious injury may result if appropriate precautions are not taken.
-

WARNING!

Indicates a possibly dangerous situation.

- ▶ Death or serious injury may result if appropriate precautions are not taken.
-

CAUTION!

Indicates a situation where damage or injury could occur.

- ▶ Minor injury or damage to property may result if appropriate precautions are not taken.
-

NOTE!

Indicates the possibility of flawed results and damage to the equipment.

General

The device has been manufactured using state-of-the-art technology and according to recognized safety standards. If used incorrectly or misused, however, it can cause

- Injury or death to the operator or a third party
 - Damage to the device and other material assets belonging to the operating company
 - Inefficient operation of the equipment
-

All persons involved in the commissioning, operation, maintenance, and servicing of the device must

- Be suitably qualified
 - Have knowledge of welding
 - Have completely read and followed these Operating Instructions
-

The Operating Instructions must always be at hand wherever the device is being used. In addition to the Operating Instructions, all applicable local rules and regulations regarding accident prevention and environmental protection must also be followed.

All safety and danger notices on the device must

- Be kept in a legible state
 - Not be damaged/marked
 - Not be removed
 - Not be covered, pasted, or painted over
-

For the location of the safety and danger notices on the device, refer to the section headed "General" in the Operating Instructions for the device.

Before switching on the device, remove any faults that could compromise safety.

Your personal safety is at stake!

Intended Use

The device is to be used exclusively for its intended purpose.

The device is intended exclusively for the welding process specified on the rating plate. Utilization for any other purpose, or in any other manner, shall be deemed to be "not in accordance with the intended purpose." The manufacturer is not responsible for any damage resulting from improper use.

Proper use also means

- Completely reading and obeying all instructions in the Operating Instructions
- Completely reading and obeying all safety instructions and danger notices
- Carrying out all the specified inspection and servicing work

Never use the device for the following applications:

- Thawing pipes
- Charging batteries
- Starting motors

The device is designed for operation in industry and business. The manufacture shall not be liable for any damage resulting from use in a living area.

The manufacture shall also not be liable for faulty or incorrect work results.

Environmental Conditions

Operation or storage of the device outside the stipulated area will be deemed as not in accordance with the intended purpose. The manufacturer accepts no liability for any damage resulting from improper use.

Temperature range of the ambient air:

- During operation: -10°C to +40°C (14°F to 104°F)
- During transport and storage: -20°C to +55°C (-4°F to 131°F)

Relative humidity:

- Up to 50% at 40°C (104°F)
- Up to 90% at 20°C (68°F)

Ambient air: free of dust, acids, corrosive gases or substances, etc.

Altitude above sea level: up to 2000 m (6561 ft. 8.16 in.)

Obligations of the Operating Company

- The operating company must only allow persons to work with the device if they
- Are familiar with the basic occupational safety and accident prevention regulations and are trained in handling the device
 - Have read and understood these Operating Instructions, especially the section "Safety Rules," and have confirmed this with their signature
 - Are trained according to the requirements for the work results

The safety-conscious work of the personnel must be checked regularly.

Obligations of Personnel

All persons who are assigned to work with the device must do the following before beginning the work:

- Follow the basic regulations for occupational safety and accident prevention
- Read these Operating Instructions, especially the section "Safety Rules," and confirm that they have understood and will follow them by signing

Before leaving the workplace, ensure that no personal injury or property damage can occur in one's absence.

Grid Connection

Devices with a high output can influence the energy quality of the grid due to their current consumption.

This may affect a number of device types in terms of:

- connection restrictions
- criteria regarding maximum permissible grid impedance *)
- criteria regarding the minimum required short-circuit power *)

*) both at the interface with the public grid

See technical data

In this case, the operator or the person using the device should check whether or not the device is allowed to be connected, where appropriate through discussion with the power supply company.

IMPORTANT! Ensure secure grounding of the grid connection!

Personal Protection and Protection of Others

You are exposed to numerous hazards while handling the device, for example:

- Flying sparks and pieces of hot metal
 - Arc radiation that poses a risk of injury to the eyes and skin
 - Hazardous electromagnetic fields that pose a risk of death for individuals with pacemakers
 - Electrical risks from grid current and welding current
 - Increased noise exposure
 - Harmful welding fumes and gases
-

Wear suitable protective clothing when dealing with the device. The protective clothing must have the following properties:

- Flame resistant
 - Insulating and dry
 - Covering the entire body and in good condition with no damage
 - Safety helmet
 - Cuffless pants
-

Protective clothing involves the following:

- Protecting the face and eyes from UV radiation, heat and flying sparks with a face guard featuring a regulation-compliant filter
 - Wearing regulation-compliant protective goggles with side protection behind the face guard
 - Wearing rigid, wet-insulating footwear
 - Protecting hands with appropriate gloves (featuring electrical insulation and thermal protection)
 - Wearing ear protection to reduce noise exposure and protect against injury
-

Keep persons, especially children, away during the operation of the devices and during the welding process. If persons are in the vicinity, however:

- Instruct them about all hazards (blinding hazard due to arcs, risk of injury from flying sparks, welding fumes hazardous to health, noise exposure, possible hazard due to grid current or welding current, etc.)
 - Provide suitable protective equipment or
 - Construct suitable protective walls and curtains.
-

Data regarding Noise Emission Values

The device produces a maximum noise level of <80 dB(A) (ref. 1pW) when idling and in the cooling phase following operation in relation to the maximum permitted operating point at standard loading in accordance with EN 60974-1.

A workplace-specific emission value for welding (and cutting) cannot be specified because this value depends on the welding process and the environmental conditions. It is influenced by a wide range of parameters, such as the welding process itself (MIG/MAG, TIG welding), the selected current type (direct current, alternating current), the

power range, the type of weld metal, the resonance properties of the workpiece, the workplace environment, and many other factors.

Danger from toxic gases and vapors

The fumes produced during welding contain toxic gases and vapors.

Welding fumes contain substances that cause cancer, as stated in monograph 118 from the International Agency for Research on Cancer.

Use at-source extraction source and a room extraction system.
If possible, use a welding torch with an integrated extraction device.

Keep your head out of the welding fumes and gases.

Take the following precautionary measures for fumes and harmful gases:

- Do not breathe them in.
- Extract them from the work area using appropriate equipment.

Ensure that there is a sufficient supply of fresh air. Ensure that there is a ventilation flow rate of at least 20 m³ per hour.

Use a welding helmet with air supply if there is insufficient ventilation.

If there is uncertainty as to whether the extraction capacity is sufficient, compare the measured toxic emission values against the permissible limit values.

The following components are factors that determine how toxic the welding fumes are:

- The metals used for the workpiece
- Electrodes
- Coatings
- Cleaning agents, degreasers, and the like
- The welding process used

Consult the corresponding material safety data sheets and manufacturer's instructions for the components listed above.

Recommendations for exposure scenarios, risk management measures and identifying working conditions can be found on the European Welding Association website under Health & Safety (<https://european-welding.org>).

Keep flammable vapors (such as solvent vapors) out of the arc radiation range.

When no welding is taking place, close the valve of the shielding gas cylinder or the main gas supply.

Danger from Flying Sparks

Flying sparks can cause fires and explosions.

Never undertake welding near flammable materials.

Flammable materials must be kept at least 11 meters (36 ft. 1.07 in.) from the arc or protected with a certified cover.

Keep suitable, tested fire extinguishers on hand.

Sparks and pieces of hot metal may also get into surrounding areas through small cracks and openings. Take appropriate measures to ensure that there is no risk of injury or fire.

Do not undertake welding in areas at risk of fire and explosion, or on sealed tanks, drums, or pipes if these have not been prepared in accordance with corresponding national and international standards.

Do not undertake welding on containers in which gases, fuels, mineral oils, and the like are/were stored. Residues pose a risk of explosion.

Risks from grid current and welding current

An electric shock can be fatal.

Do not touch voltage-carrying parts inside or outside the device.

During MIG/MAG welding and TIG welding, the welding wire, the wirepool, the feed rollers, as well as all pieces of metal that are in contact with the welding wire, are live.

Always place the wirefeeder on a sufficiently insulated base or use a suitable insulating wirefeeder holder.

Ensure suitable personal protection with dry temporary backing or cover with sufficient insulation against the ground potential. The temporary backing or cover must completely cover the entire area between the body and the ground potential.

All cables and leads must be secured, undamaged, insulated, and adequately dimensioned. Replace loose connections and scorched, damaged, or inadequately dimensioned cables and leads immediately.

Before every use, check power connections for secure fit by hand.

In the case of power cables with bayonet connectors, turn the power cable by at least 180° around the longitudinal axis and pretension.

Do not wrap cables or leads around your body or parts of the body.

Concerning the electrode (rod electrode, tungsten electrode, welding wire, etc.)

- Never immerse it in liquids to cool it
- Never touch it when the power source is switched on.

The open circuit voltage of a welding system may double, for example, between the electrodes of two welding systems. Touching the potentials of both electrodes at the same time may be life-threatening in some cases.

Have the grid and device supply lead regularly inspected by an electrician to ensure that the ground conductor is functioning properly.

Protection class I devices require a grid with a ground conductor and a connector system with ground conductor contact for proper operation.

Operation of the device on a grid without a ground conductor and on a socket without a ground conductor contact is only permitted if all national regulations for protective separation are observed.

Otherwise, this is considered gross negligence. The manufacturer accepts no liability for any damage resulting from improper use.

Use suitable equipment to ensure that the workpiece is sufficiently grounded if necessary.

Switch off unused devices.

When working at elevated heights, wear a safety harness to prevent falls.

Before working on the device, switch off the device and remove the grid plug.

Secure the device to prevent the grid plug from being connected and switched on again by applying a clearly legible and understandable warning sign.

After opening the device:

- Discharge all electrically charged components
- Ensure that all components are disconnected from the power supply.

If work is needed on voltage-carrying parts, bring in a second person who will switch off the main switch at the correct time.

Stray welding currents

If the following instructions are not observed, stray welding currents may occur, which pose a risk of the following:

- Fire
- Overheating of components connected to the workpiece
- Destruction of ground conductors
- Damage to the device and other electrical equipment

Ensure that the workpiece terminal is securely connected to the workpiece.

Secure the workpiece terminal as close to the spot to be welded as possible.

Position the device with sufficient insulation against electrically conductive environments, e.g., insulation against electrically conductive floors or electrically conductive mounts.

Observe the following when using electrical distributors, double-headed retainers, etc.: Even the electrode of the welding torch/electrode holder not in use carries electric potential. Ensure that there is sufficient insulation when the unused welding torch/electrode holder is stored.

In automated MIG/MAG applications, only guide the wire electrode from the welding wire drum, large spool or wirepool to the wirefeeder with insulation.

EMC Device Classifications

Devices in emission class A:

- Are only designed for use in industrial settings
 - Can cause line-bound and radiated interference in other areas
-

Devices in emission class B:

- Satisfy the emissions criteria for residential and industrial areas. This is also true for residential areas in which the energy is supplied from the public low-voltage grid.
-

EMC device classification as per the rating plate or technical data.

EMC Measures

In certain cases, even though a device complies with the standard limit values for emissions, it may affect the application area for which it was designed (e.g., when there is sensitive equipment at the same location, or if the site where the device is installed is close to either radio or television receivers).

If this is the case, then the operating company is obliged to take appropriate action to rectify the situation.

Test and assess the immunity of equipment in the vicinity of the device in accordance with national and international provisions. Examples of interference-prone equipment that could be affected by the device:

- Safety devices
 - Grid power lines, signal lines and data transfer lines
 - EMC and telecommunications equipment
 - Devices for measuring and calibrating
-

Supporting measures to avoid EMC problems:

1. Grid power supply
 - If electromagnetic interference occurs despite a grid connection that complies with regulations, take additional measures (e.g., use a suitable grid filter).
2. Welding power-leads
 - Keep them as short as possible
 - Route them close together (also to avoid EMF problems)
 - Route them far from other lines
3. Equipotential bonding
4. Workpiece grounding
 - If necessary, establish grounding using suitable capacitors

5. Shield, if necessary
 - Shield other devices in the vicinity
 - Shield the entire welding installation
-

EMF measures

Electromagnetic fields may cause health problems that are not yet known:

- Effects on the health of persons close by, e.g., those with pacemakers and hearing aids
 - Persons with pacemakers must seek advice from their doctor before staying in the immediate vicinity of the device and the welding process
 - Keep distances between welding cables and the head/torso of the welder as large as possible for safety reasons
 - Do not carry welding cables and hosepacks over one's shoulder or wrap them around one's body or body parts
-

Particular Hazard Areas

Keep hands, hair, loose clothing, and tools away from moving parts, such as:

- fans
 - gears
 - rollers
 - shafts
 - wire spools and welding wires.
-

Do not reach into rotating gears of the wire drive or into rotating drive parts.

Covers and side parts must only be opened/removed during maintenance and repair work.

During operation:

- Ensure that all covers are closed, and all side parts have been mounted properly.
 - Keep all covers and side parts closed.
-

The protrusion of welding wire from the welding torch represents a high risk of injury (cuts to the hand, facial and eye injuries, etc.)

Therefore always hold the welding torch away from the body (devices with wirefeeder) and use suitable protective goggles.

Do not touch the workpiece during or after welding—burning hazard.

Slag may fly off cooling workpieces. Therefore, also wear regulation-compliant protective equipment when reworking workpieces and ensure that other persons are sufficiently protected.

Leave the welding torch and other parts with a high operating temperature to cool before working on them.

Special regulations apply in areas at risk of fire or explosion
– follow the appropriate national and international regulations.

Power sources for work in areas with increased electrical hazard (e.g. boilers) must be labeled with the symbol (Safety). However, the power source may not be located in such areas.

Risk of scalding due to leaking coolant. Switch off the cooling unit before disconnecting connections for the coolant supply or return.

When handling coolant, observe the information on the coolant safety data sheet. The coolant safety data sheet can be obtained from your service center or via the manufacturer's website.

Only use suitable load-carrying equipment from the manufacturer when transporting devices by crane.

- Attach chains or ropes to all designated attachments of the suitable load-carrying equipment.
- Chains or ropes must be the smallest angle possible from vertical.
- Remove gas cylinder and wirefeeder (MIG/MAG and TIG devices).

In the event of crane attachment of the wirefeeder during welding, always use a suitable, insulating wirefeeder hoisting attachment (MIG/MAG and TIG devices).

If the device is equipped with a carrier belt or handle, then this is used exclusively for transport by hand. The carrier belt is not suitable for transport by crane, counterbalanced lift truck or other mechanical lifting tools.

All lifting equipment (belts, buckles, chains, etc.), which is used in association with the device or its components, must be checked regularly (e.g. for mechanical damage, corrosion, or changes due to other environmental influences).

The test interval and scope must at least comply with the respective valid national standards and guidelines.

There is a risk of colorless, odorless shielding gas escaping without notice if an adapter is used for the shielding gas connection. Use suitable Teflon tape to seal the thread of the shielding gas connection adapter on the device side before installation.

Undesired welding results

The following specifications concerning shielding gas quality must be met in order to ensure the safe and proper function of the welding system:

- Solid particle size <40µm
- Pressure dew point <-20 °C
- Max. oil content <25mg/m³

Use filters if necessary.

NOTE!

Ring lines in particular pose a risk of contamination

Danger from Shielding Gas Cylinders

Shielding gas cylinders contain compressed gas and may explode if damaged. Shielding gas cylinders are an integral part of the welding equipment, so they must be handled very carefully.

Protect shielding gas cylinders with compressed gas from excessive heat, mechanical impact, slag, open flames, sparks, and arcs.

Mount the shielding gas cylinders vertically and secure them in accordance with instructions so they cannot fall over.

Keep shielding gas cylinders away from welding or other electrical circuits.

Never hang a welding torch on a shielding gas cylinder.

Never touch a shielding gas cylinder with an electrode.

Risk of explosion: Never weld on a compressed shielding gas cylinder.

Always use suitable shielding gas cylinders for the application in question and the correct matching accessories (controller, hoses, and fittings, etc.) Only use shielding gas cylinders and accessories that are in good condition.

If a valve on a shielding gas cylinder is open, turn your face away from the outlet.

When no welding is taking place, close the valve of the shielding gas cylinder.

Leave the cap on the valve of the shielding gas cylinder when the cylinder is not connected.

Follow the manufacturer's instructions and applicable national and international provisions for shielding gas cylinders and accessories.

Safety Measures at the Setup Location and During Transport

A toppling device can be deadly! Set up the device securely on an even, solid surface

- The maximum permitted tilt angle is 10°.

Special regulations apply in areas at risk of fire or explosion

- Follow the appropriate national and international regulations.

Use instructions and checks within the company to ensure that the vicinity of the workplace is always clean and organized.

Only set up and operate the device in accordance with the protection class shown on the rating plate.

When setting up the device, ensure that there is an all-round clearance of 0.5 m (1 ft. 7.69 in.) to allow cooling air to circulate unhindered.

Take care to ensure that the applicable national and regional guidelines and accident prevention regulations are observed when transporting the device, especially guidelines concerning hazards during transport and shipment.

Do not lift or transport any active devices. Switch off devices before transport or lifting.

Before transporting the device, completely drain the coolant and dismantle the following components:

- wirefeeder
 - wirespool
 - shielding gas cylinder
-

It is essential to conduct a visual inspection of the device to check for damage after it has been transported but before commissioning. Have any damage repaired by trained service technicians before commissioning the device.

Safety Measures in Normal Operation

Only operate the device when all safety devices are fully functional. If the safety devices are not fully functional, there is a danger of:

- Injury or death to the operator or a third party
 - Damage to the device and other material assets belonging to the operating company
 - Inefficient operation of the device
-

Safety devices that are not fully functional must be repaired before the device is switched on.

Never bypass or disable safety devices.

Before switching on the device, ensure that no one can be put in danger.

The device must be examined at least once a week for externally detectable damage and functionality of the safety devices.

Always secure the shielding gas cylinder well and remove before transporting by crane.

Only the original coolant from the manufacturer is suitable for use in our devices due to its properties (electrical conductivity, anti-freeze, material compatibility, flammability, etc.)

Only use appropriate original coolant from the manufacturer.

Do not mix original coolant from the manufacturer with other coolants.

Only connect system components from the manufacturer to the cooling unit circuit.

If there is damage due to use of other system components or other coolants, the manufacturer accepts no liability for this and all warranty claims are forfeited.

Cooling Liquid FCL 10/20 is not flammable. The ethanol-based coolant is flammable in certain conditions. Only transport the coolant in closed original containers and keep away from sources of ignition.

Properly dispose of used coolant according to national and international regulations. The coolant safety data sheet can be obtained from your service center or via the manufacturer's website.

When the system is cool, always check the coolant level before starting welding.

Maintenance and repair

It is impossible to guarantee that bought-in parts are designed and manufactured to meet the demands made of them, or that they satisfy safety requirements.

- Use only original spare and wearing parts (also applies to standard parts).
- Do not carry out any modifications, alterations, etc. to the device without the manufacturer's consent.
- Components that are not in perfect condition must be replaced immediately.
- When ordering, please give the exact designation and part number as shown in the spare parts list, as well as the serial number of your device.

The housing screws provide the ground conductor connection for earthing the housing parts.

Only use original housing screws in the correct number and tightened to the specified torque.

Safety Inspection

The manufacturer recommends that a safety inspection of the device be performed at least every 12 months.

The manufacturer recommends calibrating power sources within the same 12-month interval.

A safety inspection by a certified electrician is recommended:

- After changes
- After alterations
- After repair, care, and maintenance
- At least every 12 months

For the safety inspection, follow the appropriate national and international standards and guidelines.

You can obtain more information about the safety inspection and calibration from your service center. The service center will provide the necessary documents upon request.

Disposal

Do not dispose of this device with normal domestic waste! To comply with the European Directive on Waste Electrical and Electronic Equipment and its implementation as national law, electrical equipment that has reached the end of its life must be collected separately and returned to an approved recycling facility. Any device that you no longer require must be returned to your dealer, or you must locate the approved collection and recycling facilities in your area. Ignoring this European Directive may have potentially adverse effects on the environment and your health!

Safety Symbols

Devices with the CE label satisfy the essential requirements of the low-voltage and electromagnetic compatibility directive (e.g. relevant product standards of the EN 60974 series).

Fronius International GmbH declares that the device complies with Directive 2014/53/EU. The full text of the EU Declaration of Conformity is available on the following website: <http://www.fronius.com>

Devices marked with the CSA test mark satisfy the requirements of the relevant standards for Canada and the USA.

Data backup

The user is responsible for backing up any changes made to the factory settings. The manufacturer accepts no liability for any deleted personal settings.

Copyright

Copyright of these Operating Instructions remains with the manufacturer.

Text and illustrations were accurate at the time of printing. Fronius reserves the right to make changes. The contents of the Operating Instructions shall not provide the basis for any claims whatsoever on the part of the purchaser. If you have any suggestions for improvement, or can point out any mistakes that you have found in the Operating Instructions, we will be most grateful for your comments.

Principle

The TIG power sources MW 2600 / 2600 CEL / 3000 (AC/DC) or TT 2600 / 2600 CEL / 3000 (DC), designed as primary switched welding systems, are a further development of transistor controlled welding systems. The supply voltage is rectified and chopped by a fast transistor switch with 80 kHz. An electronic controller adjusts the characteristics of the power source to the selected welding process.

Another interesting feature is the automatic cap-shaping for AC welding with MagicWave power sources. For optimum results, this function takes into account the diameter of the tungsten electrode used.



Fig.1 Power source MW 2600, TransTig 3000 and MagicWave 3000 with cooling unit and trolley

Device concept

The particular flexibility and the ease of adjustment to different tasks are typical of the power sources. The reasons for these pleasing features are both the modular product design and the options available for problem-free system extension.

They can adapt their power source to virtually any specific circumstance. For example, welding current control is infinitely variable via the torch trigger. In addition, an extensive range of remote controls is available for a wide variety of applications.

Field of application

There are numerous commercial applications for the MagicWave and the TransTig. For manual welding, but also for automation and robot tasks, they are the ideal power sources. In terms of materials, they are suitable for unalloyed and low-alloyed steel as well as for high-alloyed chrome/nickel steel.

These all-round properties are supported by an optimum ignition sequence.

For TIG AC welding, the MagicWave takes into account not only the electrode diameter, but also the current electrode temperature, based on the previous welding time and pause.

In addition, the MagicWave performs excellently in the field of welding aluminum, aluminum alloys and magnesium. You can optimally adjust the AC frequency to your requirements within a very wide range.

The power sources are all generator-compatible and offer the greatest possible robustness in operation thanks to protected operating elements and powder-coated housing. The wealth of available operating modes and special functions means the power sources are just as competent when performing MMA welding as TIG welding.

Warning notice on the device

US power sources are equipped with additional warning notices on the device. The warning notices must not be removed or painted over.

⚠ WARNING		Read American National Standard Z49.1, "Safety in Welding and Cutting" From American Welding Society, 550 N.W. LeJeune Rd., Miami, FL 33126; OSHA Safety and Health Standards, 29 CFR 1910, from U.S. Government Printing Office, Washington, DC 20462. CSA, W117-2 MB7 Code for Safety in Welding and Cutting.
Do not Remove, Destroy, Or Cover This Label		
ARC WELDING can be hazardous. <ul style="list-style-type: none"> Read and follow all labels and the Owner's Manual carefully Only qualified persons are to install, operate, or service this unit according to all applicable codes and safety practices. Keep children away. Pacemaker wearers keep away. Welding wire and drive parts may be at welding voltage. 		
	ELECTRIC SHOCK can kill. <ul style="list-style-type: none"> Always wear dry insulating gloves. Insulate yourself from work and ground. Do not touch live electrical parts. Disconnect input power before servicing. Keep all panels and covers securely in place. 	
	FUMES AND GASES can be hazardous. <ul style="list-style-type: none"> Keep your head out of the fumes. Ventilate area, or use breathing device. Read Material Safety Data Sheets (MSDSs) and manufacturer's instructions for materials used. 	
	WELDING can cause fire or explosion. <ul style="list-style-type: none"> Do not weld near flammable material. Watch for fire: keep extinguisher nearby. Do not locate unit over combustible surfaces. Do not weld on closed containers. 	
	ARC RAYS can burn eyes and skin; NOISE can damage hearing. <ul style="list-style-type: none"> Wear welding helmet with correct filter. Wear correct eye, ear and body protection. 	
	EXPLODING PARTS can injure. <ul style="list-style-type: none"> Failed parts can explode or cause other parts to explode when power is applied. Always wear a face shield and long sleeves when servicing. 	
⚠ AVERTISSEMENT		
	UN CHOC ELECTRIQUE peut etre mortel. <ul style="list-style-type: none"> Installation et raccordement de cette machine doivent etre conformes a tous les pertinents. SOUDAGE A L'ARC peut etre hasardeux. <ul style="list-style-type: none"> Lire le manuel d'instructions avant utilisation. Ne pas installer sur une surface combustible. Les fils de soudage et pieces conductrices peuvent etre a la tension de soudage. 	



Fig.3 US power source with additional warning notices

Minimum equipment for welding operations

General

Depending on the welding process, certain minimum equipment is required for working with the power source.
The following description contains the minimum equipment required for the respective welding procedure.

TIG AC welding

- MagicWave power source
 - Grounding cable
 - TIG welding torch with rocker switch
 - Gas connection (shielding gas supply) with gas pressure regulator
 - Filler metal, depending on application
-

TIG DC welding

- TransTig or MagicWave power source
 - Grounding cable
 - TIG welding torch with rocker switch
 - Gas connection (shielding gas supply)
 - Filler metal, depending on application
-

Manual metal arc welding

- TransTig or MagicWave power source
- Grounding cable
- Electrode holder
- Rod electrodes, depending on application

System components

General

The TransTig and MagicWave power sources can be operated with numerous system extensions and options.

Overview



Fig.4 System extensions and options

- (1) Power source
- (2) Cooling unit
- (3) Trolley with gas cylinder holder
- (4) TIG welding torch Standard / Up/Down
- (5) Remote control
- (6) Electrode cable
- (7) Grounding cable

Control Panel

General

WARNING!

Danger due to incorrect operation.

This can result in severe personal injury and damage to property.

- ▶ Read safety instructions
- ▶ Read all Operating Instructions, including those for the system components

An essential feature of the control panel is the logical arrangement of the operating elements. All welding parameters that are essential for daily work can be simply

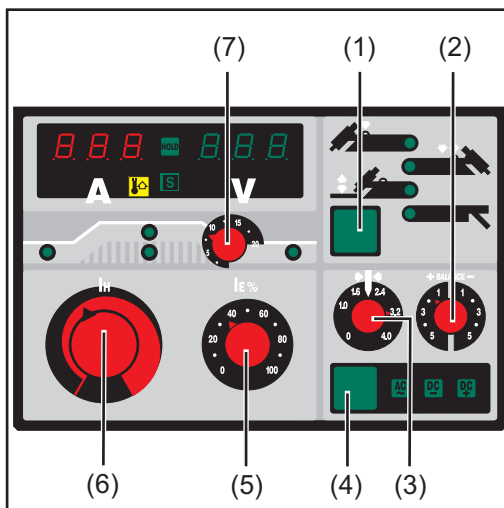
- selected with the keys
- changed by means of potentiometer
- shown on the display during welding.

NOTE!

Because of software updates, certain functions may be available for your device but not described in these Operating Instructions or vice versa. In addition, individual figures may also differ slightly from the operating controls of your device. These operating elements function in exactly the same way, however.

Overview

The following figure shows an overview of the essential settings for daily work, using the MagicWave control panel as an example. A detailed description of these settings can be found in the following chapter "Description of the functions".



(1) Select the operating mode:

- 2-step mode
- 4-step mode
- Contact ignition
- Rod electrode

(2) Balance controller (MagicWave only)

(3) Adjuster for tungsten electrode (MagicWave only)

-
- (4) **Select the process:**
- AC welding
 - DC- welding
 - DC+ welding (only with rod electrode)
-
- (5) **Final current**
-
- (6) **Main current controller**
-
- (7) **DownSlope or current lowering time**
-

MagicWave control panel

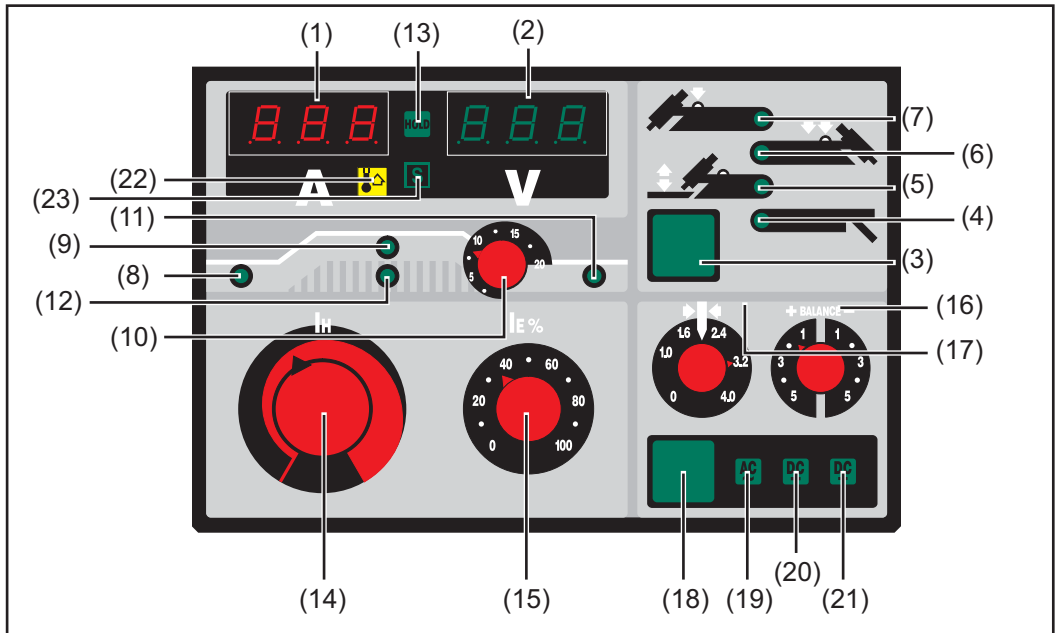





Fig.5 Control panel for MagicWave 2600 / 2600 CEL / 3000

- (1) **Welding current indicator** ... for displaying the main current I_H
- Set value ... desired welding current
 - Actual value ... actual welding current
- (2) **Welding voltage indicator**
- for displaying the current actual value of the welding voltage
- (3) **Mode button**
- (4) **Manual metal arc welding**
- 
- Manual metal arc welding symbol*
- (5) **Contact ignition**, can only be combined with TIG 2-step mode, or TIG 4-step mode
- 
- Contact ignition symbol*
- (6) **4-step mode** ... TIG welding with HF ignition
- 
- 4-step mode symbol*

- (7) 2-step mode ... TIG welding with HF ignition



2-step mode symbol

- (8) **LED indicator for starting current I_S** ... lights up when the starting current I_S is active
- (9) **LED indicator for main current I_H** ... lights up when the main current I_H is active
- (10) **DownSlope adjuster** ... continuously adjustable current downslope speed from the main current to the final current I_E . When the adjuster is actuated, the set value is displayed for 3 seconds.
- (11) **LED indicator final current I_E** ... lights up when the end current I_E is active
- (12) **LED indicator TIG pulse welding** ... flashes when the TIG pulse remote control TR50mc is connected.
- (13) **HOLD indicator** ... at the end of welding, the current actual values for the welding current and welding voltage are saved each time - the "hold" indicator illuminates.

The "hold" indicator relates to the last main current I_H reached.

The "hold" indicator goes out when:

- Welding restarts
- The main current I_H is adjusted
- The operating mode is changed
- The welding process is changed
- Turn power source off and on again

Important! If the main current phase was never reached, a foot remote control was used or TIG pulse welding was performed below 20 Hz, no hold values are output.

- (14) **Main current controller I_H** ... continuously adjustable in the range 3 - 260 / 300 A.

The LED display for main current I_H lights up when the MMA welding mode is selected.

Before the start of welding, the welding current display shows the set value for I_H . After the start of welding, the digital display shows the current actual value of the welding current.

- (15) **Final current controller I_E** ... percentage adjustment of the main flow to the final flow.

Adjustment is only possible in 4-step mode. Lowering takes place via the torch trigger.

- (16) **Balance controller** (MagicWave only) ... Function only available in the AC range.

Change of the positive and negative half-wave.

-5: highest melting capacity, lowest cleaning effect.

+5: highest cleaning power, lowest melting power.

- (17) **Tungsten electrode diameter adjuster** (MagicWave only) ... Setting range 0 - 4 mm (0 - 0.16 in.)

AC mode:

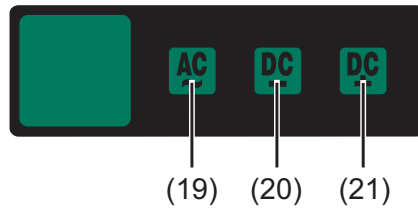
- automatic cap-shaping (see chapter on TIG welding)
- adjustment of the ignition current to the respective tungsten electrode diameter

DC mode:

- adjustment of the ignition current to the respective tungsten electrode diameter

Important! In the electrode operating mode, the adjuster is deactivated.

- (18) **Process key** ... to select the process, depending on the selected operating mode.



- (19) For the TIG AC welding process, select the operating mode 2-step mode / 4-step mode.
For the MMA AC welding process, select the MMA welding operating mode.
- (20) For the TIG DC welding process, select the operating mode 2-step mode / 4-step mode.
For the MMA DC- welding process, select the MMA welding operating mode.
- (21) For the TIG DC+ welding process, select the MMA welding operating mode.
- (22) **Overtemperature indicator** ... lights up if the power source heats up too much (e.g. due to exceeded duty cycle). Further information can be found in the chapter "Troubleshooting".
- (23) **S-sign indicator** ... lights up when the monitoring function is active.

Control panel for TransTig

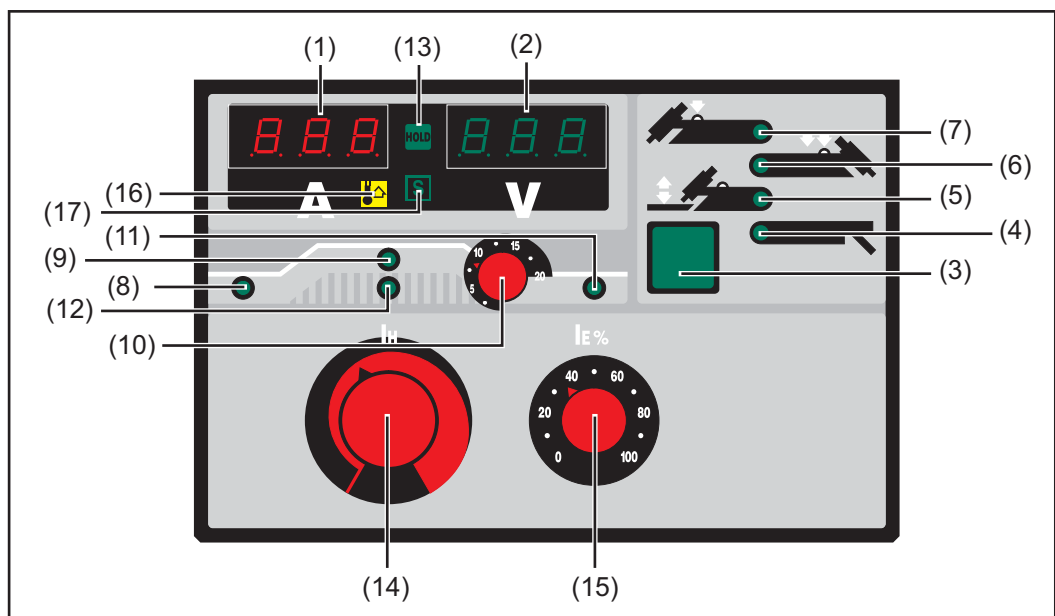


Fig.6 Control panel for TransTig 2600 / 2600 CEL / 3000

- (1) **Welding current indicator** ... for displaying the main current I_H
- Set value ... desired welding current
 - Actual value ... actual welding current
- (2) **Welding voltage indicator**
- for displaying the current actual value of the welding voltage
- (3) **Mode button**

(4) **Manual metal arc welding***Manual metal arc welding symbol*(5) **Contact ignition**, can only be combined with TIG 2-step mode, or TIG 4-step mode*Contact ignition symbol*

(6) 4-step mode ... TIG welding with HF ignition

*4-step mode symbol*

(7) 2-step mode ... TIG welding with HF ignition

*2-step mode symbol*(8) **LED indicator for starting current I_S** ... lights up when the starting current I_S is active(9) **LED indicator for main current I_H** ... lights up when the main current I_H is active(10) **DownSlope adjuster** ... continuously adjustable current downslope speed from the main current to the final current I_E . When the adjuster is actuated, the set value is displayed for 3 seconds.(11) **LED indicator final current I_E** ... lights up when the end current I_E is active(12) **LED indicator TIG pulse welding** ... flashes when the TIG pulse remote control TR50mc is connected.(13) **HOLD indicator** ... at the end of welding, the current actual values for the welding current and welding voltage are saved each time - the "hold" indicator illuminates.

The "hold" indicator relates to the last main current I_H reached.

The "hold" indicator goes out when:

- Welding restarts
- The main current I_H is adjusted
- The operating mode is changed
- The welding process is changed
- Turn power source off and on again

Important! If the main current phase was never reached, a foot remote control was used or TIG pulse welding was performed below 20 Hz, no hold values are output.

(14) **Main current controller I_H** ... continuously adjustable in the range 3 - 260 / 300 A.

The LED display for main current I_H lights up when the MMA welding mode is selected.

Before the start of welding, the welding current display shows the set value for I_H . After the start of welding, the digital display shows the current actual value of the welding current.

- (15) **Final current controller** I_E ... percentage adjustment of the main flow to the final flow.
Adjustment is only possible in 4-step mode. Lowering takes place via the torch trigger.
- (16) **Overtemperature indicator** ... lights up if the power source heats up too much (e.g. due to exceeded duty cycle). Further information can be found in the chapter "Troubleshooting".
- (17) **S-sign indicator** ... lights up when the monitoring function is active.

Connections, switches and system extensions

MagicWave / TransTig connections with Fronius welding torch central connector F

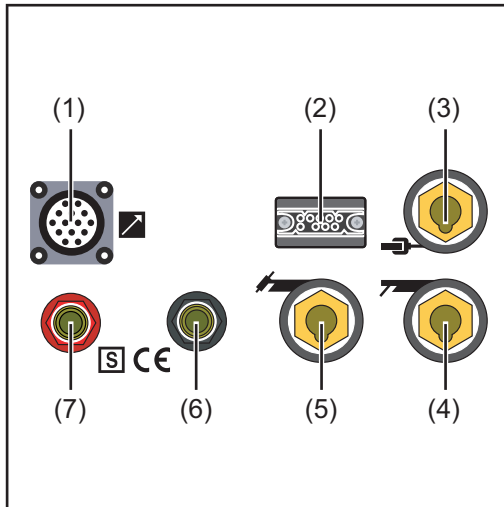


Fig.7 MagicWave connections on the front of the device

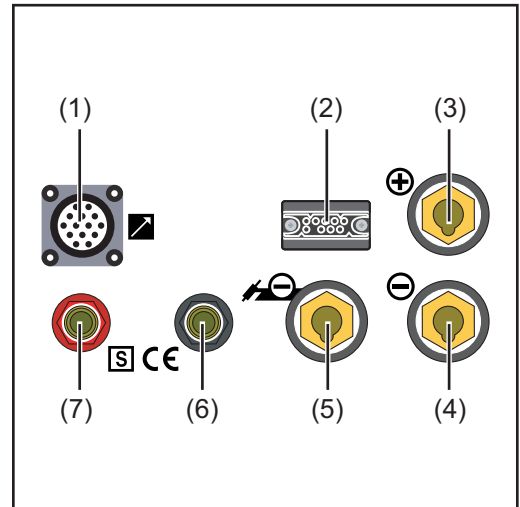


Fig.8 TransTig connections on the front of the device

- (1) **Remote control connection socket** ... standardized connection socket for system expansions
- (2) **Torch control connection socket** ... for connecting the welding torch plug socket
- (3) **MagicWave: Grounding cable connection socket** ... for connecting the grounding cable
TransTig: (+) - current socket with bayonet latch ... for connecting
 - the grounding cable for TIG welding
 - the electrode cable or grounding cable for manual metal arc welding (depending on the type of electrode used)
- (4) **MagicWave: Welding torch connection socket** ... for connecting the electrode cable during manual metal arc welding
TransTig: (-) - current socket with bayonet latch ... for connecting
 - the electrode cable or grounding cable for manual metal arc welding (depending on the type of electrode used)
- (5) **Connection socket for TIG welding torch** ... for connecting the TIG welding torch
- (6) **Connection socket for water supply** ... for connecting a water-cooled welding torch
- (7) **Connection socket for water return** ... for connecting a water-cooled welding torch

**MagicWave /
TransTig connections with weld-
ing torch central
connector GWZ**

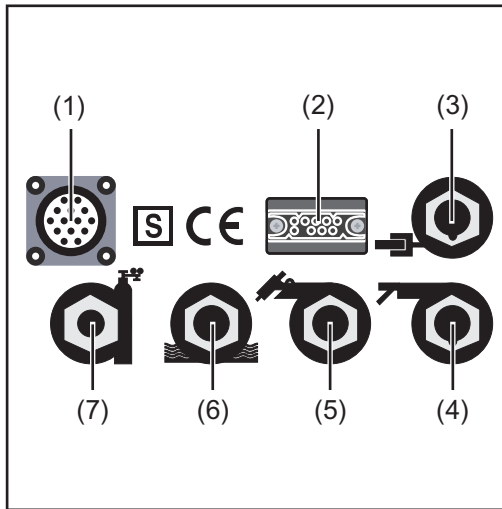


Fig.7 MagicWave connections on the front of the device

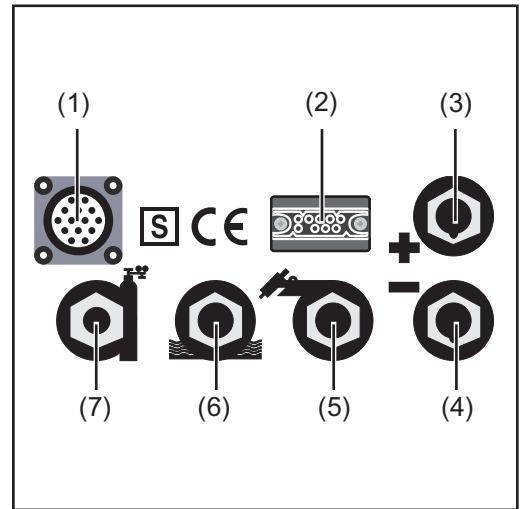


Fig.8 TransTig connections on the front of the device

- (1) **Remote control connection socket** ... standardized connection socket for system expansions
- (2) **Torch control connection socket** ... for connecting the welding torch plug socket
- (3) **MagicWave: Grounding cable connection socket** ... for connecting the grounding cable
TransTig: (+) - current socket with bayonet latch ... for connecting
 - the grounding cable for TIG welding
 - the electrode cable or grounding cable for manual metal arc welding (depending on the type of electrode used)
- (4) **MagicWave: Welding torch connection socket** ... for connecting the electrode cable during manual metal arc welding
TransTig: (-) - current socket with bayonet latch ... for connecting
 - the electrode cable or grounding cable for manual metal arc welding (depending on the type of electrode used)
- (5) **Connection socket for TIG welding torch** ... for connecting
 - the TIG welding torch
 - the water supply (water return) of a water-cooled TIG welding torch
- (6) **Connection socket for water supply** ... for connecting a water-cooled welding torch
- (7) **Shielding gas connection socket**

**MagicWave /
TransTig connections with weld-
ing torch central
connector GWZ**

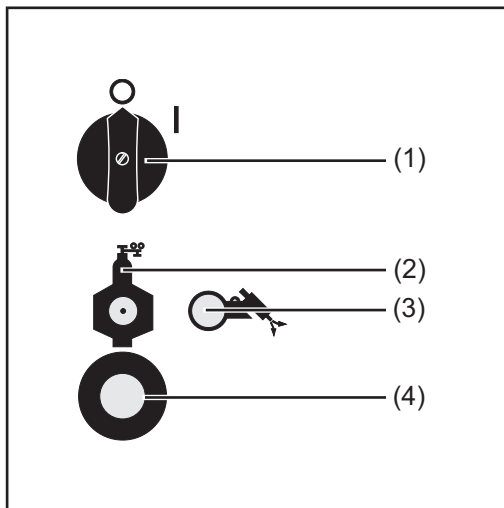


Fig.7 MagicWave connections on the front of the device

- (1) **Power switch** ... for switching the power source on and off
- (2) **Shielding gas connection socket**
- (3) **Gas-test button** ... for setting the required quantity of shielding gas on the gas pressure regulator. When the gas-test button is pressed, shielding gas flows out.
- (4) **Mains cable with strain relief**

Before installation

Safety



WARNING!

Danger due to incorrect operation.

This can result in severe personal injury and damage to property.

- ▶ Do not use the functions until you have fully read and understood the Operating Instructions
 - ▶ Read and understand all the Operating Instructions for the system components, especially the safety rules, in full
-

Intended use

The power source is only intended for TIG welding and MMA welding.

Any other use is deemed to be "not in accordance with the intended purpose." The manufacturer shall not be liable for any damage resulting from such improper use.

Intended use also means

- Following all the instructions in these Operating Instructions
 - Carrying out all the specified inspection and maintenance work
-

Setup regulations

The power source has been tested according to protection class IP 23. This means:

- Protection against penetration by solid foreign bodies larger than Ø 12.5 mm (.49 in.)
 - Protection against spraywater at any angle up to 60° from the vertical
-



WARNING!

Danger from devices falling or toppling over.

This can result in severe personal injury and damage to property.

- ▶ Place devices on a solid, level surface so that they remain stable.
-

The ventilation channel is a very important safety device. When selecting the setup location, ensure that the cooling air can enter or exit unhindered through the vents on the front and back. Any electrically conductive dust (e.g. from grinding work) must not be allowed to be sucked directly into the power source.

Mains operation

Appliances are designed for the grid voltage stated on the rating plate. If the mains cable or mains plug has not been attached to your version of the appliance, these must be installed according to national standards. Fuse protection for the grid lead can be found in the technical data.



WARNING!

Danger due to insufficiently dimensioned electrical installation.

This can result in severe personal injury and damage to property.

- ▶ The mains lead and its fuse protection must be rated accordingly
 - ▶ The technical data shown on the rating plate applies
-

Generator-powered operation

The power sources are compatible with any generator if the maximum specified apparent power is at least:

- MW 2600 / TT 2600: 18 kVA
- MW 2600 CEL / TT 2600 CEL: 20 kVA
- MW 3000 / TT 3000: 22 kVA

NOTE!

The voltage delivered by the generator must never fall outside of the mains voltage tolerance range. The mains voltage tolerance is specified in the "Technical data" chapter.

Commissioning

General

WARNING!

Danger of electric shock!

This can result in severe personal injury and damage to property.

- ▶ Set the power switch to the "O" position
 - ▶ Disconnect the device from the mains
-

The commissioning of the power source is described as follows:

- for the main application TIG welding,
- based on a standard configuration for a TIG welding system.

The standard configuration consists of the following components:

- Power source
- Cooling unit
- TIG manual welding torch
- Gas pressure regulator
- Gas cylinder
- Gas cylinder holder
- Trolley

The following steps are intended to provide you with an overview of commissioning the power source.

For detailed information on the individual steps, refer to the instructions for the corresponding devices.

Notes on the cooling unit

A cooling unit is recommended for the following applications:

- Robot mode
- Hosepacks over 5 m in length
- TIG AC welding
- General welding in the higher power range

The cooling unit is supplied with power via the power source. When the mains switch of the power source is switched to position "I", the cooling unit is ready for operation.

Connecting the shielding gas cylinder

CAUTION!

Danger from falling gas cylinder.

This can result in personal injury and damage to property.

- ▶ Use safety strap
 - ▶ Secure the safety strap at the height of the upper part of a gas cylinder
 - ▶ Never secure the safety strap to the neck of the cylinder
-

- 1 Fix the shielding gas cylinder to the trolley

- 2 Connect the shielding gas cylinder:
 - Remove the protective cap of the shielding gas cylinder
 - Briefly turn the valve of the shielding gas cylinder to the left to remove surrounding dirt
 - Check the seal on the gas pressure regulator
 - Screw the gas pressure regulator onto the shielding gas cylinder and tighten it

When using a TIG welding torch with integrated gas connection:

- 1 Connect the gas pressure regulator to the shielding gas connection socket on the rear of the power source using the gas hose
- 2 Tighten union nut

When using a TIG welding torch without integrated gas connection

- 1 Connect gas hose with gas pressure regulator

Establish a connection with the workpiece

- 1 Set the power switch to the "O" position
- 2 Insert the grounding cable into the positive current socket and lock
- 3 Connect the other end of the grounding cable to the workpiece

Connect the welding torch

- 1 Set the power switch to the "O" position
- 2 Insert the welding power-lead of the TIG welding torch into the negative current socket and twist it clockwise to lock
- 3 Connect the plug socket of the welding torch to the torch control connection socket and lock it
- 4 Equip welding torch (see Operating Instructions for welding torch)

When using a TIG welding torch with integrated gas connection:

- 1 Connect the gas pressure regulator to the shielding gas connection socket on the rear of the power source using the gas hose
- 2 Tighten union nut

Only when using a water-cooled welding torch:

- 1 connect the water connections of the welding torch to the water supply and water return connections of the cooling unit.

TIG Operating Modes

General



WARNING!

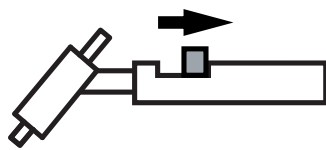
Danger due to incorrect operation.

This can result in severe personal injury and damage to property.

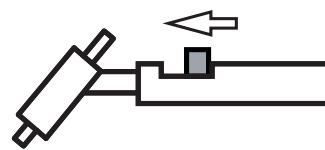
- ▶ Read these Operating Instructions
- ▶ All system component Operating Instructions, especially the safety rules

Follow the guidelines referring to setting, setting range, and units of measurement for the available welding parameters in the chapter "Program level preferences".

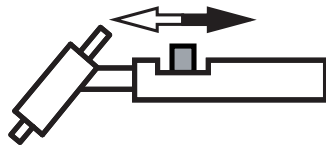
Symbols and explanations



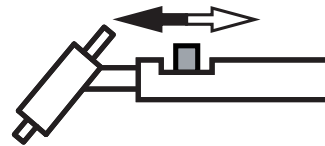
Pull back the torch trigger and hold it in this position



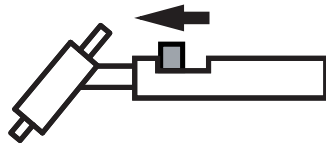
Release the torch trigger



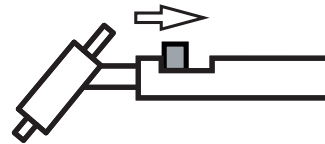
Briefly pull the torch trigger back (<0.5 s)



Briefly push the torch trigger forwards (<0.5 s)



Push the torch trigger forward and hold it in this position



Release the torch trigger

Explanation

GAS **Gas pre-flow time**

I_S **Starting-current phase:** the temperature is raised gently at low welding current, so that the filler metal can be positioned correctly

t_{up} **UpSlope phase:** the starting current is continually increased up to the welding current

I_H **Welding current phase:** even heat input into the parent material whose temperature is raised by the advancing heat

t_{down} **DownSlope phase:** steady lowering of the welding current until it reaches the final current.

I_E **Crater-fill phase:** to avoid local overheating of the parent material caused by heat accumulation at the end of welding. This prevents possible sagging of the weld seam.

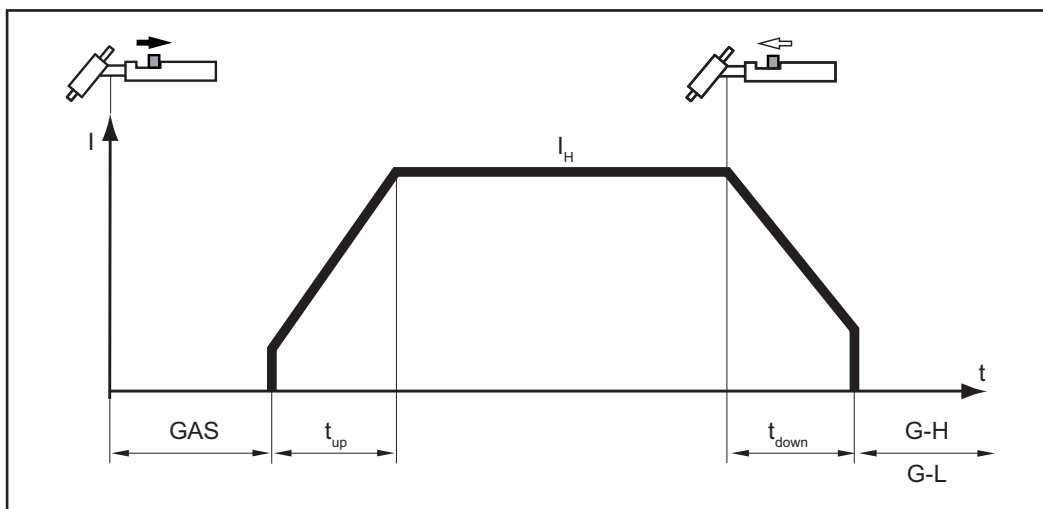
SPT	Spot welding time
G-...	G-H / G-L: Gas post-flow time

2-step

NOTE!

The welding parameter StS must be set to "OFF" (section [Available TIG parameters](#)). With the power source in its delivery condition, the welding parameter StS is set to "OFF".

- Welding: Pull back the torch trigger and hold it in this position
- End of welding: Release the torch trigger



2-step mode

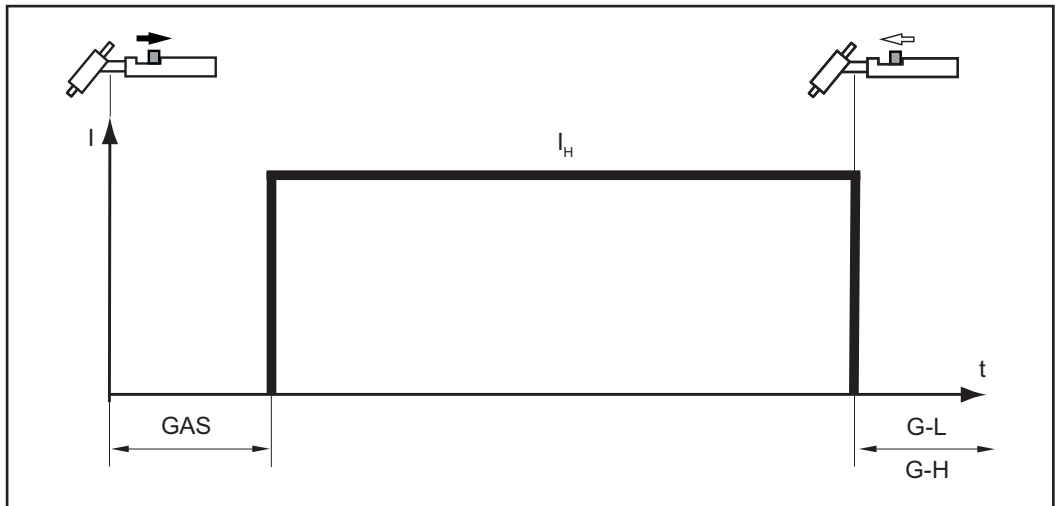
The explanation of the symbols and abbreviations can be found in the section [Symbols and explanations](#).

Special 2-step

NOTE!

The welding parameter StS must be set to "ON" (section ["Program level preferences"](#)). With the power source in its delivery condition, the welding parameter StS is set to "OFF".

- Welding: Pull back the torch trigger and hold it in this position
- End of welding: Release the torch trigger



Special 2-step mode

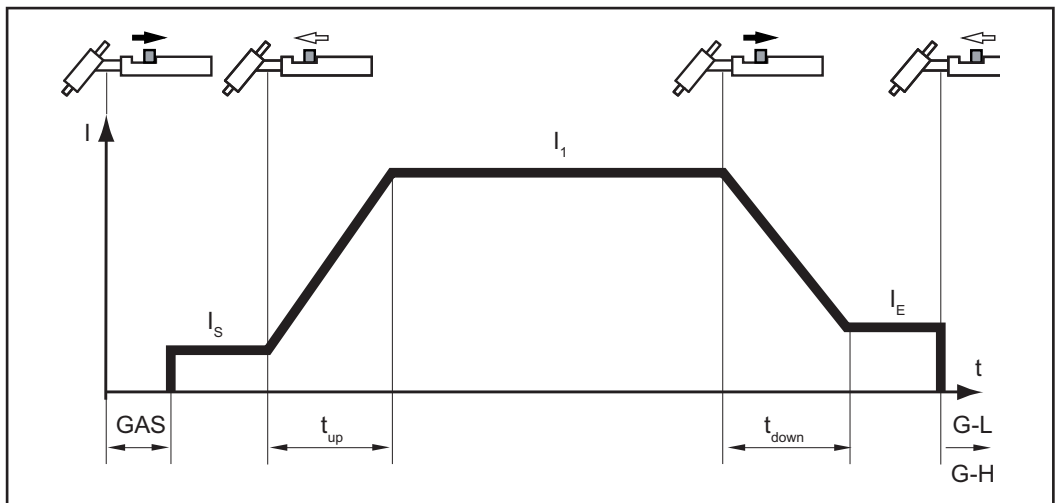
The explanation of the symbols and abbreviations can be found in the section [Symbols and explanations](#).

4-step

NOTE!

The welding parameter SFS must be set to "OFF" (section "[Program level preferences](#)"). With the power source in its delivery condition, the welding parameter SFS is set to "OFF".

- Start of welding with starting current I_S : Pull back the torch trigger and hold it in this position
- Welding with main current I_H : Release the torch trigger
- Lowering to final current I_E : Pull back the torch trigger and hold it in this position
- End of welding: Release the torch trigger



4-step mode

The explanation of the symbols and abbreviations can be found in the section [Symbols and explanations](#).

4-step with intermediate lowering

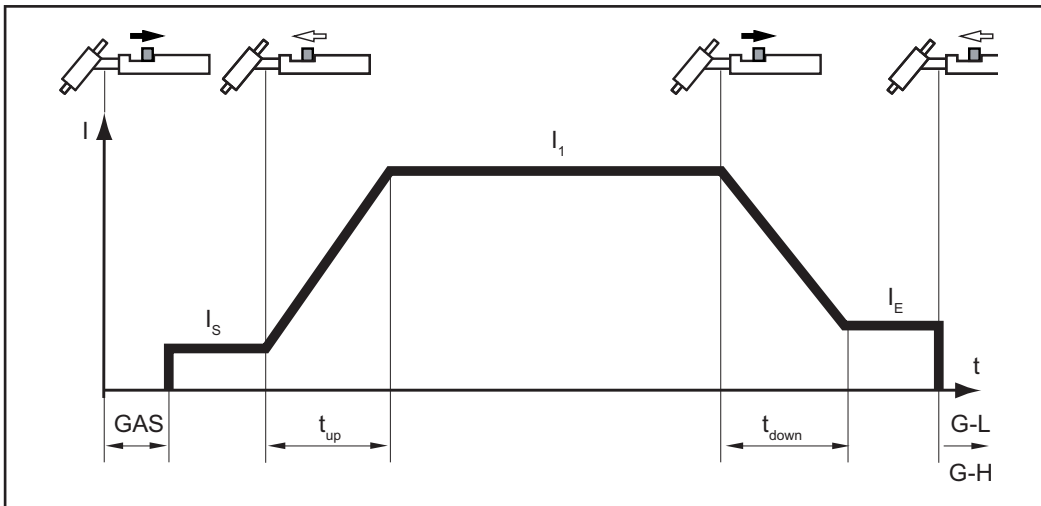
In the variant of 4-step mode shown below, an intermediate lowering to I_E of the welding current takes place by pressing and holding the torch trigger.

- Select 4-step mode

NOTE!

The welding parameter SFS must be set to "OFF" (section "Program level preferences"). With the power source in its delivery condition, the welding parameter SFS is set to "OFF".

- Intermediate lowering to the set lowering current I_E during the main current phase: Push the torch trigger forward and hold it in this position
- Resume main current: Release the torch trigger



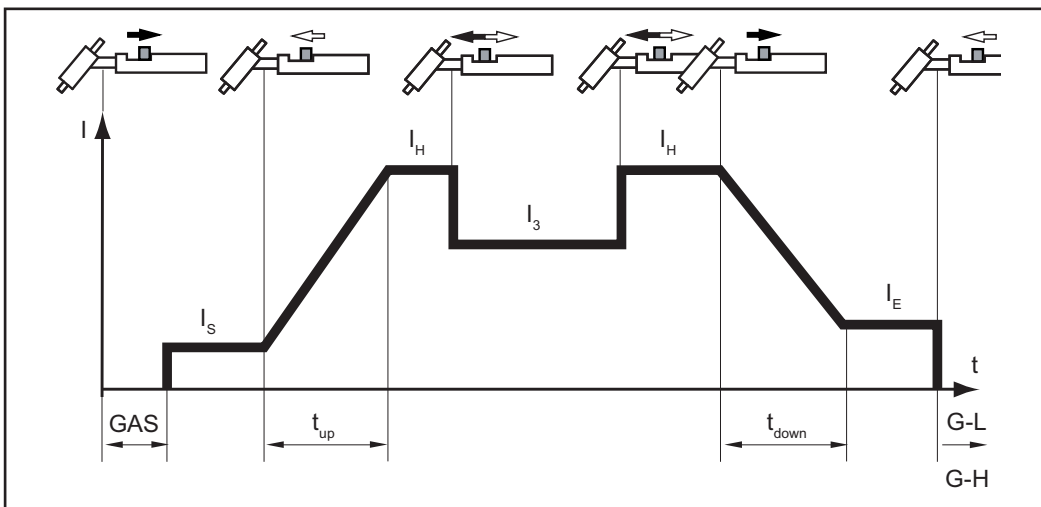
4-step with intermediate lowering mode

The explanation of the symbols and abbreviations can be found in the section [Symbols and explanations](#).

Special 4-step: Version 1

The variant of the special 4-step mode shown below enables the intermediate lowering to the set lowering current I_3 by means of TIG torches without double-button function by briefly pulling back the torch trigger again to return to the main current I_H .

- Select 4-step mode
- Set the setup parameter SFS to "1" (section "Program level preferences")



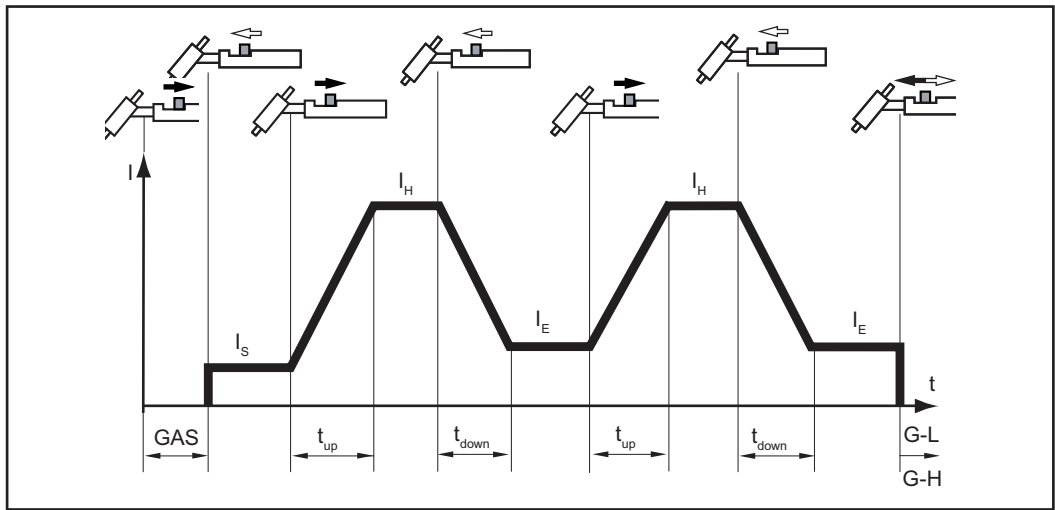
Special 4-step mode: Version 1

The explanation of the symbols and abbreviations can be found in the section [Symbols and explanations](#).

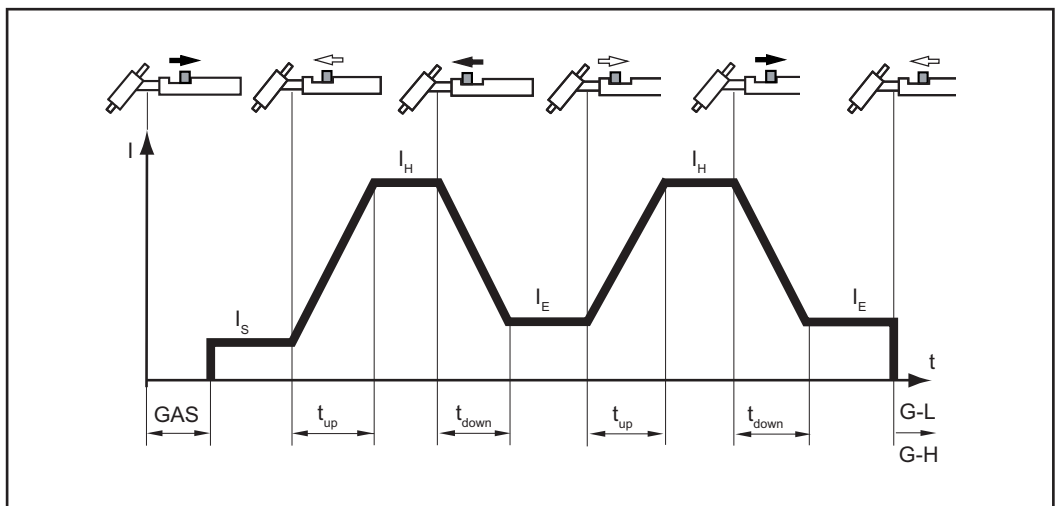
**Special 4-step:
Version 2-4**

The variants of the special 4-step mode shown below enable the intermediate lowering to the set lowering current by means of TIG torches with double-button function.

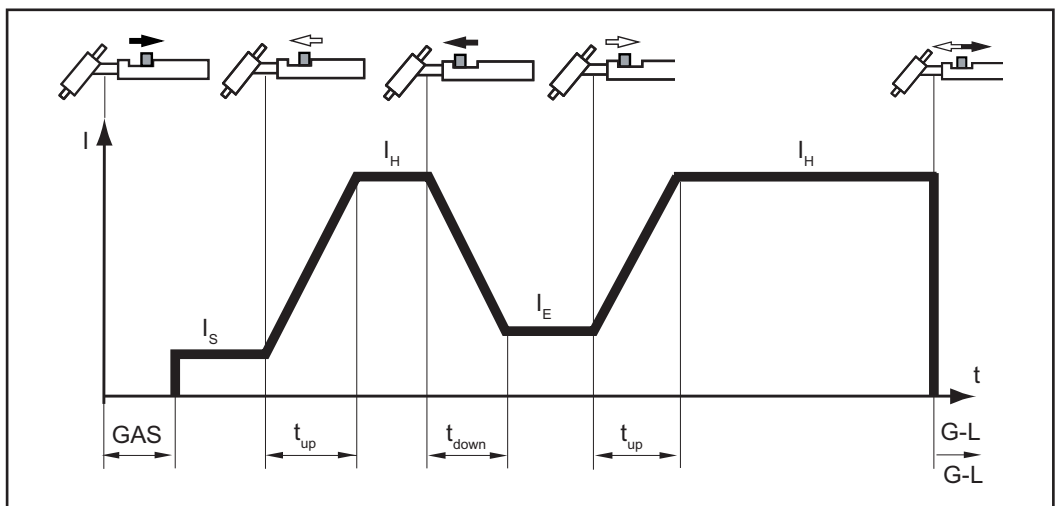
- Select 4-step mode
- Set the setup parameter SFS to "2, 3, 4 or 5" for the desired variant (section **"Program level preferences"**)



Special 4-step mode: Version 2



Special 4-step mode: Version 3



Special 4-step mode: Version 4

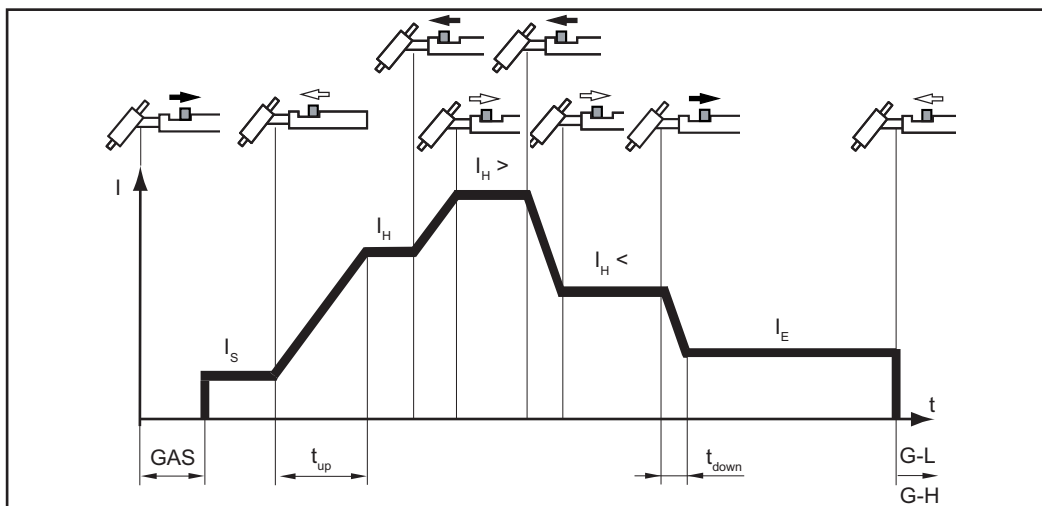
The explanation of the symbols and abbreviations can be found in the section [Symbols and explanations](#).

**Special 4-step:
Version 5**

The following variant of the special 4-step mode allows an increase and decrease of the welding current without welding torch Up / Down.

The longer the torch trigger is pressed during welding, the further the welding current increases (up to the maximum).

After releasing the torch trigger, the welding current remains constant. The longer the torch trigger is pressed forward again, the further the welding current is reduced.



Special 4-step mode: Version 5

The explanation of the symbols and abbreviations can be found in the section [Symbols and explanations](#).

TIG welding

Safety



WARNING!

Danger due to incorrect operation.

Operating the equipment incorrectly can cause serious injury and damage.

- ▶ Do not use the functions described here until you have fully read and understood the following documents:
 - ▶ These Operating Instructions
 - ▶ All system component Operating Instructions, especially the safety rules
-



WARNING!

Danger of electric shock.

An electric shock can be fatal. If the unit is connected to the grid during installation, there is a danger of serious injury and damage to property.

- ▶ Only carry out work on the device if the power switch is in the "O" position
 - ▶ Only carry out work on the device when it has been disconnected from the grid.
-

Preparation

- 1 Unplug the mains plug
- 2 Set the power switch to the "O" position
- 3 Insert the grounding cable into the positive current socket and lock
- 4 Connect the other end of the grounding cable to the workpiece
- 5 Insert the welding power-lead of the TIG welding torch into the negative current socket and twist it clockwise to lock
- 6 Connect the control plug of the welding torch to the torch control connection and lock it
- 7 Equip welding torch (see Operating Instructions for welding torch)
- 8 Screw the gas pressure regulator onto the shielding gas cylinder and tighten it

When using a TIG welding torch with integrated gas connection:

- 1 Connect the gas pressure regulator to the shielding gas connection socket on the rear of the power source using the gas hose
- 2 Tighten union nut

Only when using water-cooled welding torch and cooling unit:

- 1 connect the water connections of the welding torch to the water supply and water return connections of the cooling unit.
- 2 Insert the mains plug

Only if a remote control is used:

- 1 Connect the remote control to the remote control connection socket

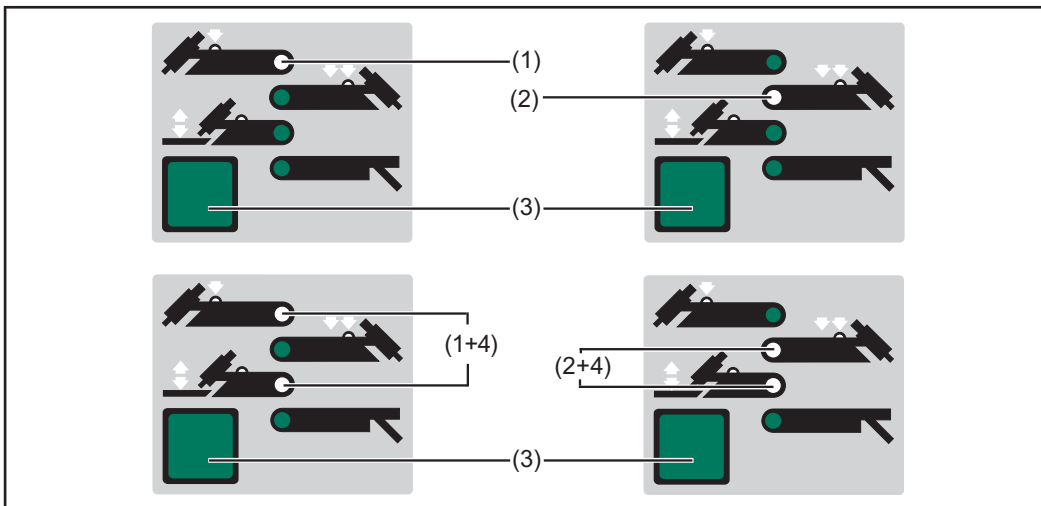
Select operating mode

WARNING!

Danger of electric shock.

This can result in severe personal injury and damage to property.

- ▶ When the power switch is switched to position "I", the tungsten electrode of the welding torch is live. Ensure that the tungsten electrode is not touching any people or electrically conductive or grounded parts (housing, etc.)



Select the operating mode using the key (3):

- Operating mode 2-step mode (1) with HF ignition
- Operating mode 4-step mode (2) with HF ignition
- Operating mode 2-step mode (1+4) with contact ignition
- Operating mode 4-step mode (2+4) with contact ignition

NOTE!

Do not use pure tungsten electrodes for TransTig power sources (color code: green).

Select process

Select the process using the key:



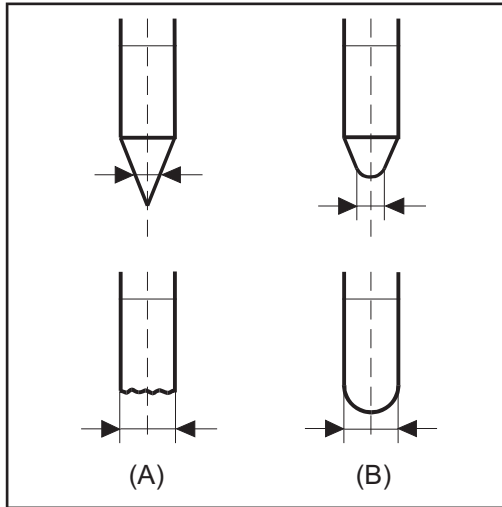
AC welding process



DC welding process

**Cap-shaping
(MagicWave)**

When the AC welding process is selected, automatic cap-shaping is available for the MagicWave power sources. For optimum results, this takes into account the set electrode diameter.



The automatic cap-shaping ensures the formation of the optimum cap during the welding start. Separate cap-shaping on a test workpiece is not necessary.

Cap-shaping

NOTE!

The AC welding process with activated cap-shaping is not necessary if a sufficiently large cap is formed on the tungsten electrode.

Set the electrode diameter on the tungsten electrode adjuster. Activate cap-shaping by briefly pressing the welding torch trigger forward.

Welding parameter setting

Use the potentiometers on the control panel to set the desired welding parameters.

A list of the welding parameters available in the program levels can be found in the section "[Program level preferences](#)".

Adjust the shielding gas quantity

- 1 Press the gas-test button
- 2 Set desired gas quantity

Ignition of the arc - general

For an optimal ignition sequence, when TIG AC welding is selected, the MagicWave power sources take into account the electrode diameter. In addition, the current electrode temperature is also calculated on the basis of the previous welding time and welding pause.

TIG synchronous welding AC (MagicWave)

Used for mains synchronization of two power sources, for simultaneous AC welding on both sides.

NOTE!

The phase sequence must be the same for both devices.

For information on setting the SYn parameter, refer to chapter "Program levels P1-P3", section "Program level AC parameter P3".

HF ignition

For information on setting the setup parameter HFt, refer to the section "**Program level preferences**".

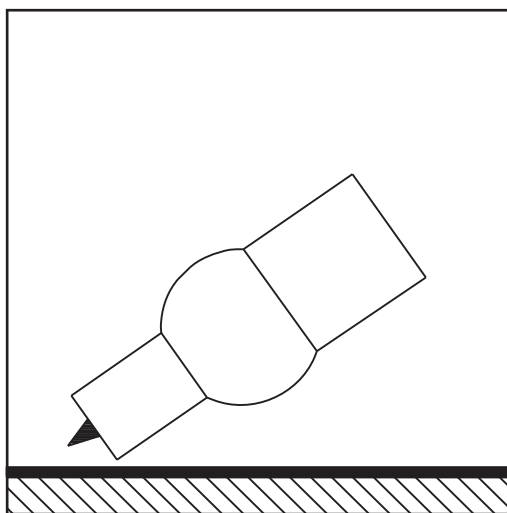
Use welding parameter HFt to set the time interval of the HF pulses to 0.01 s. When the power source is delivered, the welding parameter HFt is set to "0.01s".

NOTE!

If problems occur with sensitive devices in the immediate vicinity, increase the welding parameter HFt to up to 0.4 s.

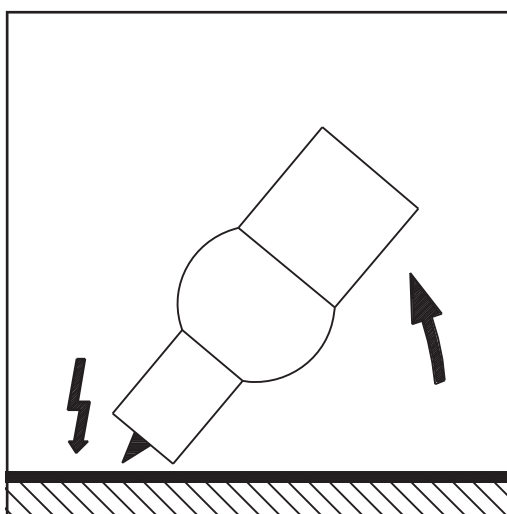
Unlike with contact ignition, there is no risk of contaminating the electrode and workpiece during HF ignition.

Proceed as follows to ignite the arc:



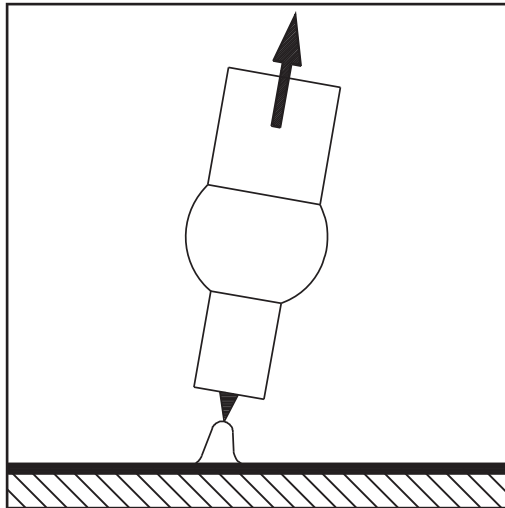
Apply the gas nozzle

- 1 Position the gas nozzle at the ignition point so that there is a distance of approximately 2 to 3 mm (0.08 to 0.12 in.) between the tungsten electrode and the workpiece. Distance exists.



Touchless HF ignition

- 1 Increase the tilt angle of the welding torch and press the torch trigger according to the selected operating mode (section **TIG Operating Modes**)
- 2 Arc ignites without touching the workpiece

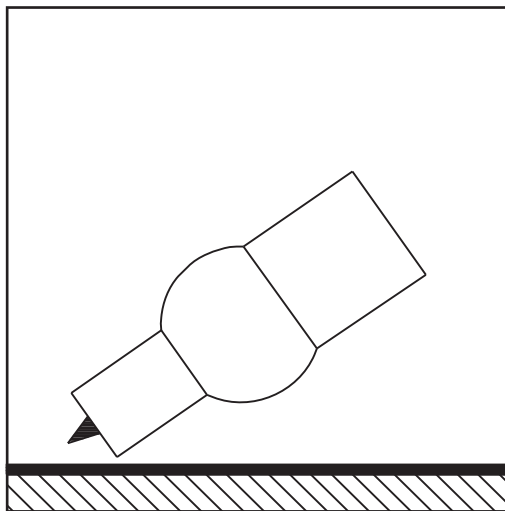


- 1 Tilt the welding torch to the normal position

Welding

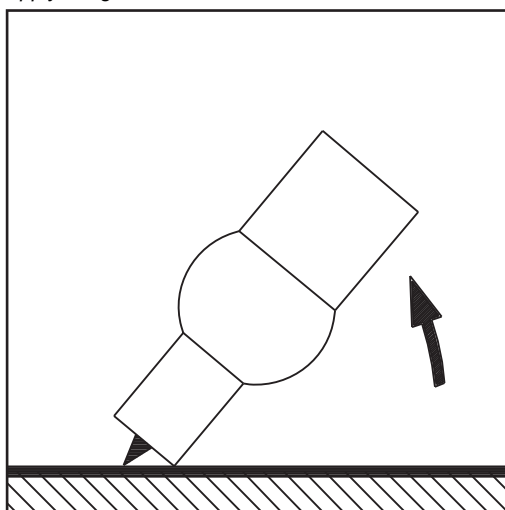
Contact ignition

Proceed as follows to ignite the arc:



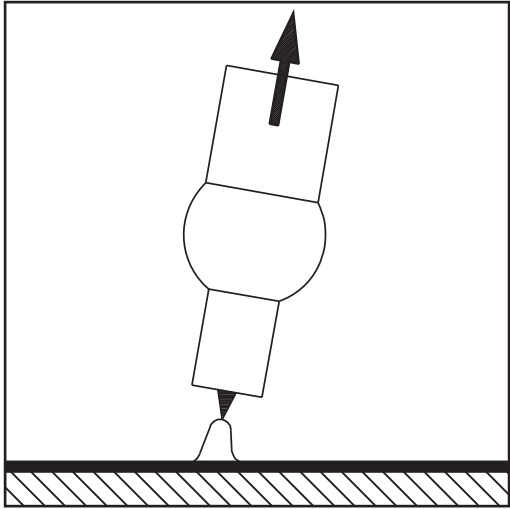
- 1 Position at the ignition point so that there is a distance of approximately 2 to 3 mm (0.08 to 0.12 in.) between the tungsten electrode and the workpiece. Distance exists

Apply the gas nozzle



- 1 Press torch trigger - shielding gas flows
- 2 Gradually tilt the welding torch up until the tungsten electrode touches the workpiece

Ignition through workpiece contact



- 1 Raise the welding torch and tilt it into the normal position, the arc ignites

Welding

Ignition monitoring

If no arc emerges within 5 seconds, the power source automatically switches off. Repeated pressing of the torch trigger is required for a new attempt.

Manual Metal Arc Welding

Safety

WARNING!

Danger due to incorrect operation.

This can result in severe personal injury and damage to property.

- ▶ Do not use the functions described here until you have fully read and understood the Operating Instructions.
 - ▶ Do not use the functions described here until you have fully read and understood all of the Operating Instructions of the system components, especially the safety rules.
-

Switch off existing cooling units (see section "[Program level preferences](#)" [Available TIG parameters](#))

WARNING!

Danger of electric shock.

An electric shock can be fatal. If the unit is connected to the grid during installation, there is a danger of serious injury and damage to property.

- ▶ Only carry out work on the device if the power switch is in the "O" position
 - ▶ Only carry out work on the device when it has been disconnected from the grid.
-

Preparation

- 1 Unplug the mains plug
- 2 Set the power switch to the "O" position
- 3 Remove TIG welding torch

NOTE!

The TransTig power source does not have a switchover between the processes MMA DC- welding / MMA DC + welding.

If the TransTig power source is to be changed from MMA DC- welding to MMA DC + welding, swap the electrode holder and grounding cable at the welding sockets.

- 1 Insert the grounding cable into the positive current socket and lock
- 2 Connect the other end of the grounding cable to the workpiece
- 3 Insert the welding power-lead into the negative current socket and twist it clockwise to lock
- 4 Insert the mains plug

Only if a remote control is used:

- 1 Connect the remote control to the remote control connection socket

Select operating mode

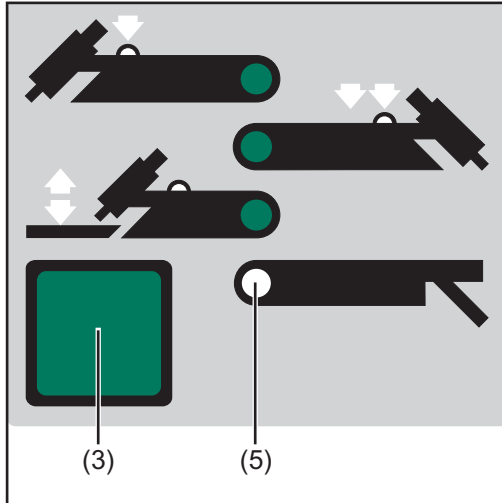
⚠ WARNING!

Danger of electric shock.

This can result in severe personal injury and damage to property.

- ▶ When the power switch is switched to position "I", the tungsten electrode of the welding torch is live. Ensure that the tungsten electrode is not touching any people or electrically conductive or grounded parts (housing, etc.).

- Switch the power switch to the "I" position



Select the operating mode using the key (3):

- Manual metal arc welding operating mode (5)

Select process (MagicWave)

- Select the process using the key:



AC welding process or



DC- welding process



DC+ welding process

Welding parameter setting

A list of the available welding parameters can be found in the section "[Program level preferences](#)".

- Welding voltage display shows open circuit voltage
- Connect remote control TPmc if necessary (set dynamic and HotStart)
- Preselect welding current IH
- Initiate welding process.

Remote control

Safety

⚠ WARNING!

Danger due to incorrect operation.

This can result in severe personal injury and damage to property.

- ▶ Read and understand these Operating Instructions
- ▶ Read and understand all the Operating Instructions for the system components, especially the safety rules

⚠ WARNING!

Danger of electric shock!

This can result in severe personal injury and damage to property.

- ▶ Only carry out work on the device if the power switch is in the "O" position,
- ▶ and the device has been disconnected from the grid.

General

A remote control is useful as soon as you want to make adjustments directly from the welding station. Special remote control cables in lengths of 5 or 10 m (197 or 394 in.) connect the remote control to the power source.

The following remote control types are available:

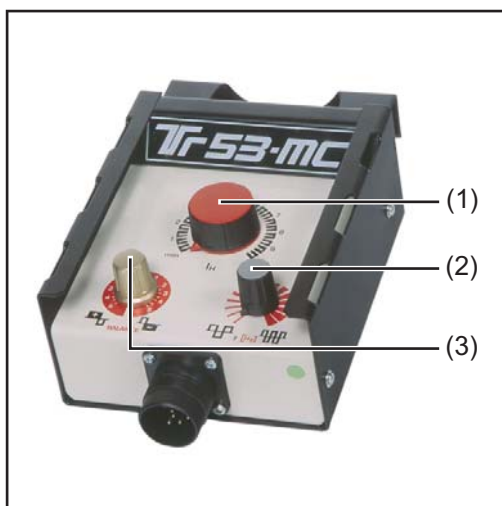
- TIG and MMA remote control (AC) TR53mc
- MMA and TIG remote control (DC) TPmc
- TIG pulse remote control (AC/DC) TR50mc
- TIG spot welding remote control (DC) TR51mc
- TIG foot controller (AC/DC) TR52mc

AC remote control TR 53mc

The AC remote control TR 53mc is especially suitable for TIG AC welding operation.

The following welding parameters can be set via the remote control:

- Main welding current IH
- AC balance
- AC frequency



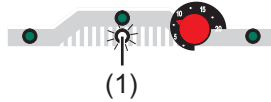
AC remote control TR53 mc

- (1) **Main current IH adjuster** ... for stepless adjustment of the welding current
- (2) **AC arc frequency adjuster** ... for changing the arc concentration
- (3) **Balance adjuster** ... for changing the positive and negative half-wave in the MMA and TIG AC range.

Important! When using the remote control for manual metal arc welding in the AC or DC range, the values set in the device apply for the HotStart current, HotStart time and dynamics. (Chapter "Program level preferences")

TIG pulse remote control TR 50mc

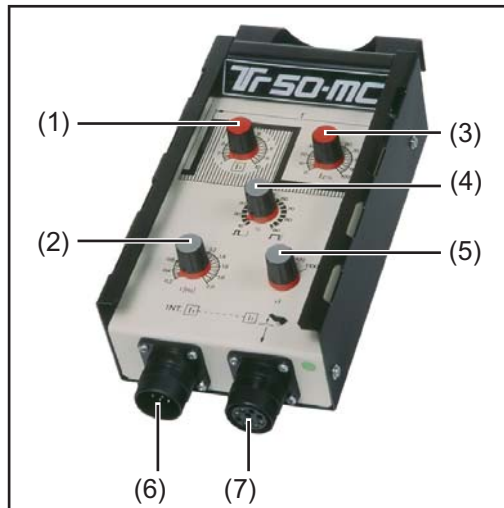
Connect the TIG pulse remote control to the LocalNet connection socket.



- TIG pulse welding indicator (1) flashes as soon as the remote control is connected.

Two operating modes are possible with the TR 50mc pulse remote control:

- Pulse current regulation I1 on remote control TR 50mc
- Pulse current regulation I1 with foot remote control TR 52mc

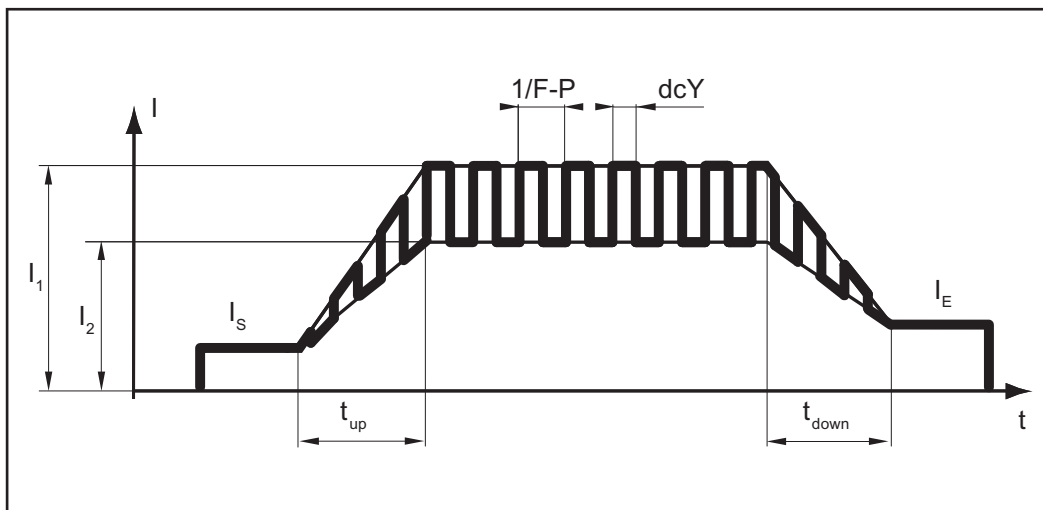


TIG pulse remote control TR 50mc

- (1) **Adjuster for pulse current I_1** ... for stepless adjustment of the pulse main current
- (2) **Adjuster for pulse frequency f** ... for stepless adjustment of the pulse frequency depending on the preselected frequency range (5)
- (3) **Adjuster for base current I_2** ... for percentage adjustment of the base current from the set value of the pulse current I_1 (1)
- (4) **Adjuster for duty cycle dcY** ... for percentage adjustment of the ratio between the pulse current phase and the base current phase.
Setting example for low heat input:
Duty cycle adjuster in position "10"
 - Short pulsing current phase of 10%
 - Long base current phase of 90%
- (5) **Adjuster for frequency range** ... for step-by-step pre-selection of the desired frequency
Setting ranges:

- 0.2–2 Hz
- 2–20 Hz
- 20–200 Hz
- 200–2000 Hz

The illustration below shows TIG pulsing with the DC welding process selected.



TIG pulsing - welding current progression curve

- **IS** Starting current
- **IE** Final current
- **tUp** UpSlope
- **tDown** ... DownSlope
- **F-P** Pulse frequency
(1/F-P = time between two pulses)
- **dcY**..... Duty cycle
- **I2** Base current
- **I1** Main current

- (6) **Power source connection socket** ... for connecting the remote control to the power source
- (7) **Foot remote control connection socket** ... for connecting the foot remote control TR 52mc. Particularly advantageous for manual TIG welding. The pulse welding current can be changed during the welding process (e.g. variable material thickness).

TIG foot remote control TR 52mc

The TIG foot remote control TR 52mc is especially suitable for welding complicated workpiece shapes.



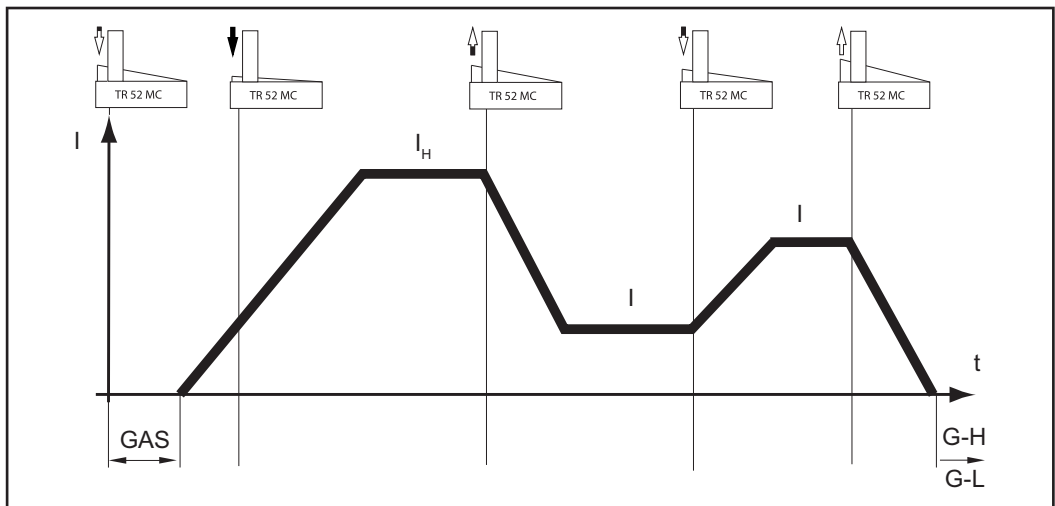
TIG foot remote control TR 52mc

Function:

- 2-step mode indicator lights up as soon as the remote control is connected (automatic switching)
- Set main current adjuster IH to desired maximum current
- Set gas pre-flow time and gas post-flow time directly at the power source (section "**Program level preferences**")
- Initiate ignition process by lightly stepping on the pedal
- Starting current IS, main current IH and final current can be controlled with the foot pedal

Important! Welding current does not exceed the preselected value when the pedal is depressed.

- Switch off welding current by completely depressing the pedal
- The welding process is interrupted, the gas post-flow time expires

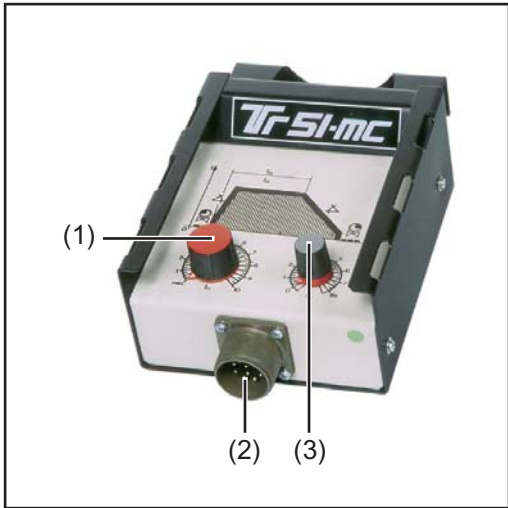


Functional sequence with remote foot control TR 52mc

TIG spot welding remote control TR 51mc

Welding of stainless constructions in the thin sheet area is often not possible due to severe material distortion. Likewise, joints that are only accessible from one side can be easily mastered using the TIG spot process.

Important! Aluminum materials cannot usually be joined by TIG spot welding, or if so then only poorly. The oxide skin between the sheets cannot be removed.

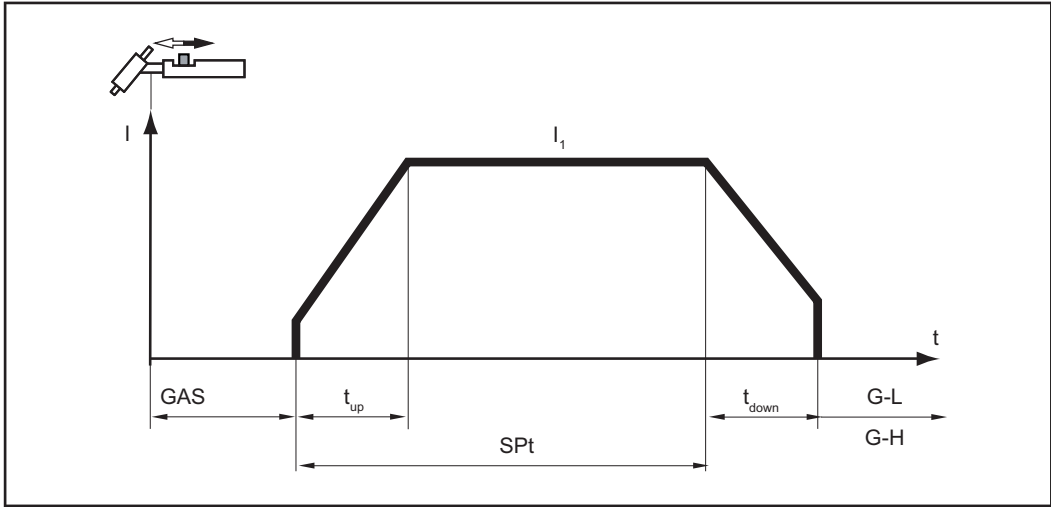


- (1) Controller for spot welding current I_1
- (2) Remote control connection socket
- (3) Spot welding time controller SPt (0.1 - 8 s)

TIG spot welding remote control TR 51mc

Functional sequence:

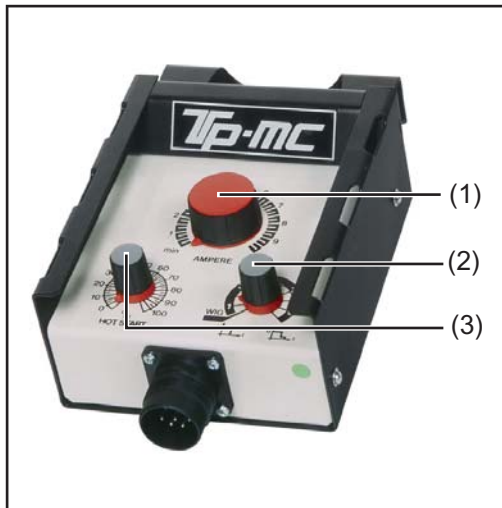
- 2-step mode indicator lights up as soon as the remote control is connected (automatic switching)
- Set current lowering time on the power source
- Use special spot welding nozzle (sits insulated on the cone)
- Mount tungsten electrode set back from nozzle edge (approx. 2-3 mm (0.10 in.) depending on spot size)
- Place welding torch on the sheet and apply slight pressure to the parent material
- Initiate spot welding process (avoid air gap)



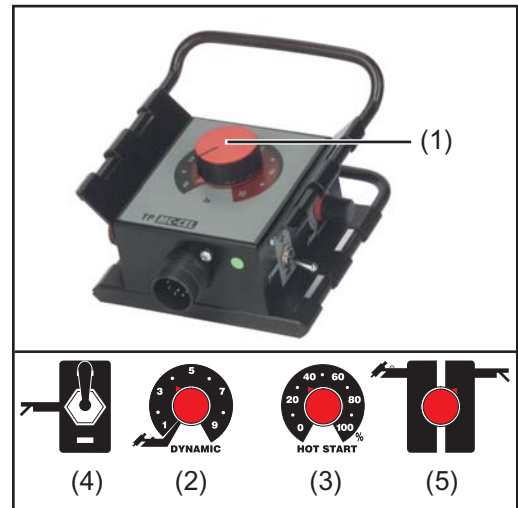
Spot welding

**Remote control
TP MC / TP MC-
CEL**

The TP MC / TP MC-Cel remote control is particularly suitable for MMA and TIG DC welding.



Remote control TP mc



Remote control TP mc-CEL

- (1) **Welding current adjuster ...** for stepless adjustment of the welding current
- (2) **Dynamic adjuster ... dYn - dynamic - dynamic correction**
To obtain the best possible welding results, the arc-force dynamic will sometimes need to be adjusted. For the setting of the "dYn" welding parameter, see the section [Select and change setup parameters](#).

Operating principle

At the moment of droplet transfer or in event of a short circuit, a short-term increase in the amperage will occur. To maintain a stable arc, the welding current temporarily rises. If the rod electrode is at risk of sinking into the weld pool, this action prevents the weld pool from solidifying, as well as reducing the duration of the arc's short circuit. The risk of the rod electrode sticking is therefore largely ruled out.

Setting range of welding parameter dYn

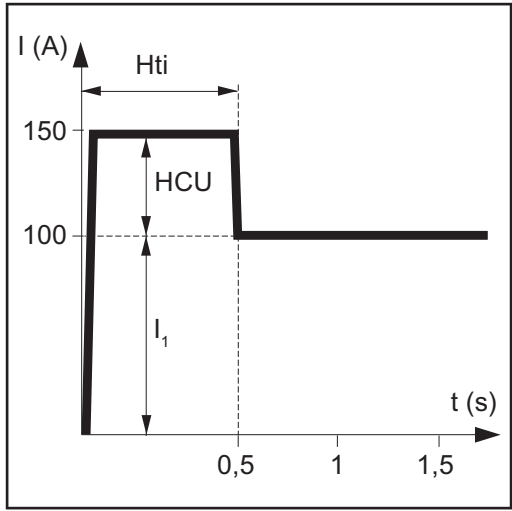
- 0 soft and low-spatter arc
- 10 harder and more stable arc

- (3) **HotStart adjuster ...** To obtain the best possible welding result, the HotStart function will sometimes need to be adjusted.

Advantages

- Improved ignition properties, even when using electrodes with poor ignition properties
- Better fusion of the parent material during the start-up phase, meaning fewer cold-shut defects
- Slag inclusions largely avoided

Refer to the section ["Program level preferences"](#) for the setting of the available welding parameters.



Key

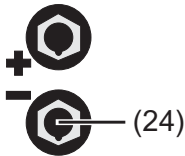
- HTI Hot current time = 0-2 s, factory setting 0.5 s
- HCU .. HotStart current = 0-100%
- I₁ Main current = set welding current

Function

During the specified hot-current time (Hti), the welding current is increased to a certain value. This value is 0-100% (HCU) higher than the set welding current (I₁).

Remote control - HotStart function

- (4) **Pole selector switch** ... for switching the electrode polarity
Important! The MMA cable must be connected to the connection socket (24).

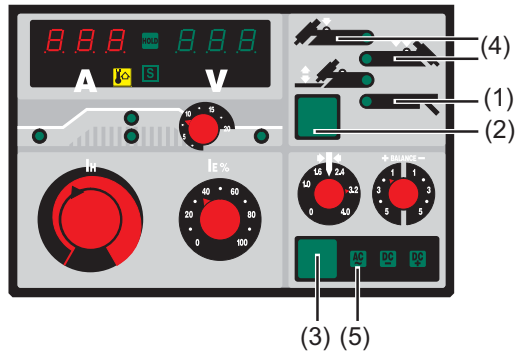


- (5) **Range switch for TIG or electrode**

Working with program levels

Overview

The following figure shows an overview of the welding parameter settings in the program level preferences, using the MagicWave control panel as an example. A detailed description of these settings can be found in the following chapters.



1. **Setup parameters for rod electrode:**
 - Hti Hot current time
 - HCU ... HotStart current
 - dYn Dynamic correction
 - PRO ... Save program
 - FAC ... Reset welding system
2. **Mode button**
3. **Process button**
4. **TIG welding parameters:**
 - GAS... Gas pre-flow
 - G-L Gas post-flow at minimum welding current
 - G-H.... Gas post-flow at maximum welding current
 - UPS... UpSlope
 - SCU... Starting current in % of IH
 - I3 Lowering current
 - HfT High frequency
 - SCU... Starting current rel/abs
 - StS..... Special 2-step mode
 - SFS ... Special 4-step mode
 - C-C.... Cooling unit control
 - E-S Power source shutdown
 - PRO ... Save program
 - FAC ... reset
5. **TIG AC:**
 - like operating mode TIG DC

"Program level preferences"

Access

- 1 Select the desired operating mode TIG/Electrode
- 2 Switch off power source
- 3 Switch on the power source while holding down the operating mode (3) or process (4) button.
- 4 Release mode (3) or process (4) button

Select and change setup parameters

- 1 Select the desired parameter using the operating mode (3) or process (18) button
- 2 Change the parameter value using the torch trigger

Available TIG parameters

NOTE!

If problems occur with sensitive devices in the immediate vicinity, increase the welding parameter HfT to up to 0.4 s.

GAS **Gas pre-flow**

Unit: Seconds
 Setting range: 0 - 20
 Factory setting: 0.4

G - L **Gas-Low**

Gas post-flow at minimum welding current (minimum gas post-flow time)
 Unit: Seconds
 Setting range: 2 - 26
 Factory setting: 5

G - H **Gas-High**

Gas post-flow time at maximum welding current
 Unit: Seconds
 Setting range: 2 - 26
 Factory setting: 15
 The setting value for G-H only applies if the maximum welding current is actually set. The actual value results from the momentary welding current. At medium welding current, for example, the actual value is half the set value for G-H.

UPS **UpSlope**

Time for transition from starting current I_S to welding current I_H
 Unit: %
 Setting range: DC: 0 - 100 / AC: 30 - 100 of the main current I_H
 Factory setting: DC: 29 / AC: 50

SCU **Start-Current**

Starting current
 Unit: Seconds
 Setting range: 0 - 20
 Factory setting: 0.4

I3	Lowering current Unit: % Setting range: 0 - 100 of the main current I_H Factory setting: 50
HFt	High Frequency time High frequency ignition: Time interval of the HF pulses Unit: Seconds Setting range: 0.01 - 0.4 Factory setting: 0.01
SCU	Start-Current Starting current Unit: - Setting range: rel / abs Factory setting: rel
StS	Special two-step Special 2-step mode Unit: - Setting range: ON / OFF Factory setting: OFF
SFS	Special four-step Special 4-step mode Unit: - Setting range: OFF / 1 - 5 Factory setting: OFF The variants of the special 4-step mode are described in the chapter "Operating modes".
C - C	Cooling unit control Cooling unit control (optional) Unit: - Setting range: Aut / ON / OFF Factory setting: Aut "Aut" setting Switches off the cooling unit 2 minutes after the end of welding "ON" settingCooling unit is always switched on "OFF" settingCooling unit remains permanently switched off
E - S	Emergency Stop to stop the power source via the robot Unit: - Setting range: ON / OFF Factory setting: OFF
PRO	Program save the set parameters by pressing the torch trigger
FAC	Factory Reset the welding system by pressing the torch trigger Available parameters when MMA welding mode is selected:
Hti	Hot-current time Hot current time

Unit: Seconds
 Setting range: 0.2 - 2.0
 Factory setting: 0.5

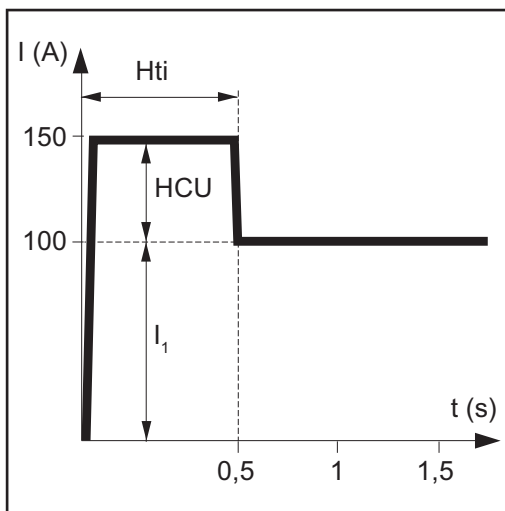
HCU Hot-start current

HotStart current
 Unit: %
 Setting range: 0 - 100
 Factory setting: 50

To obtain the best possible welding result, the HotStart function will sometimes need to be adjusted.

Advantages:

- Improved ignition properties, even when using electrodes with poor ignition properties
- Better fusion of the parent material during the start-up phase, meaning fewer cold-shut defects
- Slag inclusions largely avoided



Example of "HotStart" function

Key

Hti Hot current time = 0-2 s, factory setting 0.5 s
 HCU .. HotStart current = 0-100%, factory setting 50%
 I₁ Main current = set welding current

Function

During the specified hot-current time (Hti), the welding current is increased to a certain value. This value is 0-100% (HCU) higher than the set welding current (I₁).

dyn dYn - dynamic

Unit: A
 Adjustment range: 0 - 200
 Factory setting: 40

To obtain the best possible welding results, the arc-force dynamic will sometimes need to be adjusted.

Operating principle

At the moment of droplet transfer or in event of a short circuit, a short-term increase in the amperage will occur. To maintain a stable arc, the welding current temporarily rises. If the rod electrode is at risk of sinking into the weld pool, this action prevents the weld pool from solidifying, as well as reducing the duration of

the arc's short circuit. The risk of the rod electrode sticking is therefore largely ruled out.

Setting range of the parameter dYn

0 soft and low-spatter arc

100 harder and more stable arc

PRO Program

save the set parameters by pressing the torch trigger

FAC Factory

Reset the welding system by pressing the torch trigger

Program levels P1 - P3

- Access**
- 1 Switch on the power source while holding down the operating mode (3) or process (18) button. The display shows "---" for level preferences.
 - 2 Press the torch trigger until
 - --- appears "Program level preferences"
 - P1 appears ... Program level service menu
 - P2 appears ... Program level code lock
 - P3 appears ... Program level AC parameters
 - 3 Release mode (3) or process (18) button

- Select and change setup parameters**
- 1 Select the desired parameter using the operating mode (3) or process (18) button
 - 2 Change the parameter value using the torch trigger

Program level service menu P1 Service menu with various test programs

Program level code lock P2 When the power source is delivered, the code lock is deactivated. It is possible to enter a three-digit code.

Factory setting 321

NOTE!

If the code is entered incorrectly three times (ERR), the power source automatically switches to "LOC". The procedure must be repeated by switching off and on again.

Important! Changes to the number combination must be noted in writing.

- 1 Select program level P2
- 2 Enter current code (for new devices 321)
 - Set digit with main current controller IH (14)
 - Confirm digit with operating mode button (3)
 - Repeat the procedure twice until "Cod OFF" appears on the display.
- 3 Switch to "Cod ON" with torch trigger
- 4 CYC ... Cycle indicates how often the device can be switched on without having to enter a code.
- 5 Set the number of cycles with the torch trigger and confirm with the operating mode key (3)

Enter new numerical code:

- 1 Select 0-9 / A-H by means of the torch trigger
- 2 Press the operating mode key (3) to confirm the entry
- 3 Repeat procedure twice until code is entered
- 4 Press the torch trigger

- 5 Enter new code again to check
- 6 The code is automatically stored after the third acknowledgment
- 7 Power source is ready for welding

Deactivate code:

- 1 Enter program level P2
- 2 Enter current code
 - Set the IH digit with the adjuster
 - Confirm digit with operating mode button (3)
 - Repeat the procedure twice until "Cod ON" appears on the display
- 3 Press torch trigger "Cod OFF" appears
- 4 Change to "PRO" with the operating mode (3) or process (18) button.
- 5 Press the torch trigger
- 6 The current code is disabled and the power source is ready to weld

Important! The code from now on is 321 again.

When starting up the power source with the code lock activated, select digits using the IH adjuster and confirm with the operating mode button (3).

Program level AC parameters P3 (MagicWave)

Select parameters with the mode (3) or process (18) key and change their value with the torch trigger.

Available parameters:

ACF AC frequency

Unit: Hz
 Adjustment range: 40 - 100
 Factory setting: 60

POS Positive

half-wave
 Unit: -
 Setting range: tri / SIN / rEC / OFF * (only for TIG)
 Factory setting: SIN

nEG Negative

half-wave
 Unit: -
 Setting range: tri / SIN / rEC / OFF * (only for TIG)
 Factory setting: 60

PRO Program

save the set parameters by pressing the torch trigger

SYn Synchronous function

Unit: -
 Setting range: ON / OFF
 Factory setting: OFF

* tri (triangle), SIN (sine), rEC (rectangle)

Fault diagnosis and correction

Safety

 **WARNING!**

Danger of electric shock.

This can result in severe personal injury and damage to property.

- ▶ Before carrying out maintenance work on the device, carry out the following measures
- ▶ Set the power switch to - O -
- ▶ Unplug the device from grid power
- ▶ Attach a clear warning sign advising others not to switch the power source back on
- ▶ Use a suitable measuring instrument to ensure that electrically charged components (e.g., capacitors) are discharged

 **WARNING!**

Danger due to insufficient ground conductor connection!

This can result in severe personal injury and damage to property.

- ▶ The housing screws provide an adequate ground conductor connection for grounding the housing and should not be replaced under any circumstances by other screws that do not provide a reliable ground conductor connection.

Displayed service codes

If an error message appears on the screen that is listed here, the error can only be corrected by service personnel. Please note the displayed error message, as well as the serial number and configuration of the power source, and contact the After-Sales Service team with a detailed description of the error.

Error message from PC board UTI1A:

Err 102	
Cause:	Temperature sensor short circuit
Err 103	
Cause:	Temperature sensor interruption
Err 107	
Cause:	RAM access error
Err 109	
Cause:	Sec. overvoltage error
Err 110	
Cause:	Power source shutdown
Err 112	
Cause:	ADC offset error
Err 113	
Cause:	ADC gain error
Err 116	
Cause:	Cooling unit error
Err 117	
Cause:	Primary overcurrent error

Err 118	
Cause:	Supply voltage error (+5V, +15V)
Err 119	
Cause:	Serial transmission error
Err 120	
Cause:	Power module error
Err U-P	
Cause:	Primary overvoltage or undervoltage
Err 113	
Cause:	ADC gain error
Error message from PC board UTMS1	
Err 004	
Cause:	Timer error (82C54)
Err 006	
Cause:	Itarget compensation error
Err 007	
Cause:	RAM access error
Err 008	
Cause:	SEEPROM access error
Err 010	
Cause:	External error (only for robot operation)
Err 012	
Cause:	ADC offset error
Err 013	
Cause:	ADC gain error
Err 019	
Cause:	Serial transmission error
Err 021	
Cause:	Stack overflow

Power Source

Power source not working

Power source switched on, displays do not illuminate

Cause: Grid lead damaged or broken, grid plug not inserted

Remedy: Check grid lead, if necessary insert grid plug

Cause: Grid socket or grid plug faulty

Remedy: Replace faulty parts

Cause: Grid fuse

Remedy: Replace grid fuse

No welding current

Power switch ON, overtemperature indicator illuminates

Cause: Overloading

Remedy: Observe the duty cycle

Cause: Thermal automatic circuit breaker has tripped

Remedy: Wait until the power source automatically comes back on after the end of the cooling phase

Cause: Fan in the power source is faulty

Remedy: Contact After-Sales Service

No welding current

Power source switched on; displays and indicators light up

Cause: Incorrect ground connection

Remedy: Check ground connection and terminal for polarity

Cause: Power cable in welding torch damaged or broken.

Remedy: Replace the welding torch

No function after pressing torch trigger

Power source power switch is ON and indicators are lit up

Cause: Only for welding torches with an external control plug: Control plug not plugged in

Remedy: Plug in control plug

Cause: Power on remaining time after switching on not yet expired

Remedy: Wait 10 s after switching on

Cause: Welding torch or welding torch control line faulty

Remedy: Replace the welding torch

No shielding gas

All other functions are OK

Cause: Gas cylinder empty

Remedy: Change gas cylinder

Cause: Gas pressure regulator faulty

Remedy: Replace the gas pressure regulator

Cause: Gas hose is not fitted or is damaged

Remedy: Fit or change gas hose

Cause: Welding torch faulty

Remedy: Change welding torch

Cause: Gas solenoid valve faulty

Remedy: Contact After-Sales Service

Poor-quality weld properties

Cause: Incorrect welding parameters

Remedy: Check settings

Cause: Incorrect ground connection

Remedy: Check ground connection and terminal for polarity

Welding torch gets very hot

Cause: Welding torch is inadequately sized

Remedy: Observe duty cycle and load limits

Cause: For water-cooled systems only: Coolant flow too low

Remedy: Check water level, water flow rate, water contamination, etc. Coolant pump blocked: Switch on the shaft of the coolant pump at the gland using a screwdriver

Cause: For water-cooled systems only: C-C parameter is set to "OFF".

Remedy: In the Setup menu, set the "C-C" parameter to "Aut" or "ON".

Service, maintenance and disposal

General The power source only requires minimal care and maintenance under normal operating conditions. However, some important points must be noted to ensure that the welding system remains in a usable condition for many years.

 **WARNING!**

Danger of electric shock.

This can result in severe personal injury and damage to property.

- ▶ Set the power switch to the "O" position
- ▶ Unplug the device from grid power
- ▶ Attach a clear warning sign advising others not to switch the power source back on
- ▶ Use a suitable measuring instrument to ensure that electrically charged components (e.g., capacitors) are discharged

At every start-up

- Check mains plug and mains cable, as well as the welding torch, interconnecting hosepack, and ground earth connection for damage
- Check if the all-round clearance of the device is 0.5 m (1 ft. 7 in.) so that cooling air can circulate unimpeded

NOTE!

Air intake and exhaust openings must also not be blocked or even partially covered.

Every 2 months - If present: clean air filter

Every 6 months - Dismantle device side panels and blow the inside of the device clean with dry, reduced compressed air

NOTE!

Risk of damage to electronic parts. Do not bring the air nozzle too close to electronic parts.

- Also clean the cooling air ducts if there is a large accumulation of dust

Disposal Materials should be disposed of according to valid local and national regulations.

Spare parts

- [MagicWave 2600](#)
- [MagicWave 3000](#)
- [TransTig 2600](#)
- [TransTig 3000](#)

Technical data

Special voltage



WARNING!

Danger due to insufficiently dimensioned electrical installations.

Serious damage to property possible.

- ▶ The mains lead and its fuse protection must be rated accordingly.
- ▶ The technical data shown on the rating plate applies.

MagicWave 2600/2600CEL

	MW 2600	MW 2600CEL
Grid voltage	3x400 V	3x400 V
Mains voltage tolerance	-20% / +15%	-20% / +15%
Mains fuse, slow-blow	16 A	16 A
Apparent power at		
40% ED	-	15.7 kVA
50% ED	11.1 kVA	-
60% ED	10.6 kVA	10.4kVA
100% ED	8.1 kVA	8.1 kVA
Cos phi1		
150 A	0.99	0.99
260 A	0.99	0.99
Efficiency	86%	83%
Welding current range		
DC	3 - 260 A	3 - 260 A
AC	5 - 260 A	5 - 260 A
Welding current at 10 min/40°C		
40% ED	-	260 A
50% ED	260 A	-
60% ED	240 A	180 A
100% ED	185 A	145 A
Open circuit voltage	56 V DC	75 V DC
max. working voltage	40 V	48 V
Striking voltage (Up). The arc ignition device is suitable for manual operation.	9.5 kV	9.5 kV
Protection class	IP 23	IP 23
Type of cooling	AF	AF
Insulation class	F	F
Dimensions l/w/h	625/290/480 mm 24.61/11.42/18.90 in.	625/290/480 mm 24.61/11.42/18.90 in.
Weight (without cooling unit)	33 kg 72.75 lb.	30 kg 66.14 lb.
Mark of conformity	CE, CSA	CE, CSA
Safety signs	S	S

MagicWave 3000

	MW 3000	MW 3000
Grid voltage	3x230 V	3x400 V
Mains voltage tolerance	-20% / +15%	-20% / +15%
Mains fuse, slow-blow	20 A	16 A
Apparent power at		
40% ED	9.7kVA	-
50% ED	6.1 kVA	-
60% ED	-	11.8 kVA
100% ED	4.6 kVA	9.7 kVA
Cos phi1		
150 A	0.99	0.99
260 A	0.99	0.99
Efficiency	83%	85%
Welding current range		
DC	3 - 300 A	3 - 300 A
AC	5 - 300 A	5 - 300 A
Welding current at 10 min/40°C		
40% ED	300 A	-
50% ED	220 A	-
60% ED	-	300 A
100% ED	170 A	260 A
Open circuit voltage	60 V DC	56 V DC
max. working voltage	42 V	38 V
Striking voltage (Up). The arc ignition device is suitable for manual operation.	9.5 kV	9.5 kV
Protection class	IP 23	IP 23
Type of cooling	AF	AF
Insulation class	F	F
Dimensions l/w/h	625/290/480 mm 24.61/11.42/18.90 in.	625/290/480 mm 24.61/11.42/18.90 in.
Weight (without cooling unit)	34 kg 74.96 lb.	34 kg 74.96 lb.
Mark of conformity	CE, CSA	CE, CSA
Safety signs	S	S

**TransTig
2600/2600CEL**

	TT 2600	TT 2600CEL
Grid voltage	3x400 V	3x400 V
Mains voltage tolerance	-20% / +15%	-20% / +15%
Mains fuse, slow-blow	16 A	16 A
Apparent power at		
60% ED	10.5 kVA	10.7 kVA
100% ED	8.4 kVA	9.2 kVA

	TT 2600	TT 2600CEL
Cos phi1		
150 A	0.99	0.99
260 A	0.99	0.99
Efficiency	86%	89%
Welding current range		
DC	3 - 260 A	3 - 260 A
AC	-	-
Welding current at 10 min/40°C		
60% ED	260 A	260 A
100% ED	220 A	230 A
Open circuit voltage	83 V DC	80 V DC
Standardized working voltage		
TIG	10.1 - 20.4 V	10.1 - 22.0 V
Electrode	20.1 - 30.4 V	20.1 - 30.4 V
max. working voltage	38 V	65 V
Striking voltage (Up). The arc ignition device is suitable for manual operation.	9.5 kV	9.5 kV
Protection class	IP 23	IP 23
Type of cooling	AF	AF
Insulation class	F	F
Dimensions l/w/h	625/250/480 mm 24.61/9.84/18.90 in.	625/290/480 mm 24.61/11.42/18.90 in.
Weight (without cooling unit)	28 kg 61.73 lb.	28 kg 61.73 lb.
Mark of conformity	CE, CSA	CE, CSA
Safety signs	S	S

TransTig 3000

	TT 3000	TT 3000
Grid voltage	3x230 V	3x400 V
Mains voltage tolerance	-20% / +15%	-20% / +15%
Mains fuse, slow-blow	20 A	16 A
Apparent power at		
35% ED	9.7kVA	-
60% ED	6.1 kVA	-
65% ED	-	11.8 kVA
100% ED	4.6 kVA	9.7 kVA
Cos phi1		
150 A	0.99	0.99
300 A	0.99	0.99
Efficiency	85%	89%
Welding current range		
DC	3 - 300 A	3 - 300 A
AC	-	-

	TT 3000	TT 3000
Welding current at 10 min/40°C		
35% ED	300 A	-
60% ED	220 A	-
65% ED	-	300 A
100% ED	170 A	260 A
Open circuit voltage	83 V DC	83 V DC
Standardized working voltage		
TIG	10.1 - 22.0 V	10.1 - 22.0 V
Electrode	20.1 - 32.0 V	20.1 - 32.0 V
max. working voltage	60 V	38 V
Striking voltage (Up). The arc ignition device is suitable for manual operation.	9.5 kV	9.5 kV
Protection class	IP 23	IP 23
Type of cooling	AF	AF
Insulation class	F	F
Dimensions l/w/h	625/250/480 mm 24.61/9.84/18.90 in.	625/250/480 mm 24.61/9.84/18.90 in.
Weight (without cooling unit)	28 kg 61.73 lb.	28 kg 61.73 lb.
Mark of conformity	CE, CSA	CE, CSA
Safety signs	S	S

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