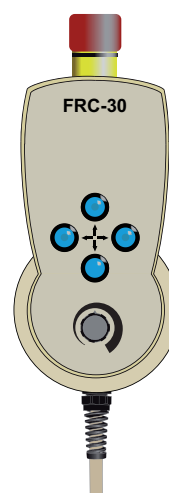


FRC-30

Operating instructions

Remote control



Dear Reader

Introduction

Thank you for choosing Fronius - and congratulations on your new, technically high-grade Fronius product! This instruction manual will help you get to know your new machine. Read the manual carefully and you will soon be familiar with all the many great features of your new Fronius product. This really is the best way to get the most out of all the advantages that your machine has to offer.

Please also take special note of the safety rules - and observe them! In this way, you will help to ensure more safety at your product location. And of course, if you treat your product carefully, this definitely helps to prolong its enduring quality and reliability - things which are both essential prerequisites for getting outstanding results.



Safety rules

DANGER!



“**DANGER!**” indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury. This signal word is to be limited to the most extreme situations. This signal word is not used for property damage hazards unless personal injury risk appropriate to this level is also involved.



WARNING!



“**WARNING!**” indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury. This signal word is not used for property damage hazards unless personal injury risk appropriate to this level is also involved.

CAUTION!



“**CAUTION!**” indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices that may cause property damage.

NOTE!



“**NOTE!**” indicates a situation which implies a risk of impaired welding result and damage to the equipment.

Important!

“**Important!**” indicates practical hints and other useful special-information. It is no signal word for a harmful or dangerous situation.

Whenever you see any of the symbols shown above, you must pay even closer attention to the contents of the manual!

General remarks



This equipment has been made in accordance with the state of the art and all recognised safety rules. Nevertheless, incorrect operation or misuse may still lead to danger for

- the life and well-being of the operator or of third parties,
- the equipment and other tangible assets belonging to the owner/operator,
- efficient working with the equipment.

All persons involved in any way with starting up, operating, servicing and maintaining the equipment must

- be suitably qualified
- know about welding and
- read and follow exactly the instructions given in this manual.

The instruction manual must be kept at the machine location at all times. In addition to the instruction manual, copies of both the generally applicable and the local accident prevention and environmental protection rules must be kept on hand, and of course observed in practice.

All the safety instructions and danger warnings on the machine itself:

- must be kept in a legible condition
- must not be damaged, must not be removed
- must not be covered, pasted or painted over

For information about where the safety instructions and danger warnings are located on the machine, please see the section of your machine's instruction manual headed “General remarks”.

General remarks
(continued)

Any malfunctions which might impair machine safety must be eliminated immediately - meaning before the equipment is next switched on.

It's your safety that's at stake!

Utilisation for intended purpose only



The machine may only be used for jobs as defined by the "Intended purpose".

The machine may ONLY be used for the welding processes stated on the rating plate.

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

Utilisation in accordance with the "intended purpose" also comprises

- complete reading and following of all the instructions given in this manual
- complete reading and following of all the safety instructions and danger warnings
- performing all stipulated inspection and servicing work.

The appliance must never be used for the following:

- Thawing pipes
- Charging batteries/accumulators
- Starting engines

The machine is designed to be used in industrial and workshop environments. The manufacturer shall not be liable for any damage resulting from use of the machine in residential premises.

likewise the manufacturer will accept no liability for defective or faulty work results.

Ambient conditions



Operation or storage of the power source outside the stipulated range is deemed to be "not in accordance with the intended use". The manufacturer shall not be liable for any damage resulting herefrom.

Temperature range of ambient air:

- when operating: - 10 °C to + 40 °C (14 °F to 104 °F)
- when being transported or stored: - 25 °C to + 55 °C (-13 °F to 131 °F)

Relative atmospheric 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.

Elevation above sea level: Up to 2000 m (6500 ft)

Obligations of owner/operator



The owner/operator undertakes to ensure that the only persons allowed to work with the machine are persons who

- are familiar with the basic regulations on workplace safety and accident prevention and who have been instructed in how to operate the machine
- have read and understood the sections on "safety rules" and the "warnings" contained in this manual, and have confirmed as much with their signatures
- be trained in such a way that meets with the requirements of the work results

Regular checks must be performed to ensure that personnel are still working in a safety-conscious manner.

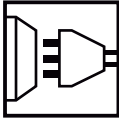
Obligations of personnel



- Before starting work, all persons to be entrusted with carrying out work with (or on) the machine shall undertake
- to observe the basic regulations on workplace safety and accident prevention
 - to read the sections on “safety rules” and the “warnings” contained in this manual, and to sign to confirm that they have understood these and will comply with them.

Before leaving the workplace, personnel must ensure that there is no risk of injury or damage being caused during their absence.

Mains connection



High-performance devices can affect the quality of the mains power due to their current-input.

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

- connection restrictions
- criteria with regard to maximum permissible mains impedance *)
- criteria with regard to minimum short-circuit power requirement *)

*) at the interface with the public mains network

see Technical Data

In this case, the plant 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.

Protection for yourself and other persons



When welding, you are exposed to many different hazards such as:

- flying sparks and hot metal particles
- arc radiation which could damage your eyes and skin



- harmful electromagnetic fields which may put the lives of cardiac pace-maker users at risk



- electrical hazards from mains and welding current



- increased exposure to noise



- noxious welding fumes and gases.

Anybody working on the workpiece during welding must wear suitable protective clothing with the following characteristics:

- flame-retardant
- isolating and dry
- must cover whole body, be undamaged and in good condition
- protective helmet
- trousers with no turn-ups



Protection for yourself and other persons (continued)



“Protective clothing” also includes:

- protecting your eyes and face from UV rays, heat and flying sparks with an appropriate safety shield containing appropriate regulation filter glass
- wearing a pair of appropriate regulation goggles (with sideguards) behind the safety shield
- wearing stout footwear that will also insulate even in wet conditions
- protecting your hands by wearing appropriate gloves (electrically insulating, heat-proof)
- To lessen your exposure to noise and to protect your hearing against injury, wear ear-protectors!



Keep other people - especially children - well away from the equipment and the welding operation while this is in progress. If there are still any other persons nearby during welding, you must

- draw their attention to all the dangers (risk of being dazzled by the arc or injured by flying sparks, harmful welding fumes, high noise immission levels, possible hazards from mains or welding current ...)
- provide them with suitable protective equipment and/or
- erect suitable protective partitions or curtains.

Information on noise emission values



The device generates a maximum sound power level of <math><80\text{ dB(A)}</math> (ref. 1pW) when idling and in the cooling phase following operation at the maximum permissible operating point under maximum rated load conditions according to EN 60974-1.

It is not possible to provide a workplace-related emission value during welding (or cutting) as this is influenced by both the process and the environment. All manner of different welding parameters come into play, including the welding process (MIG/MAG, TIG welding), the type of power selected (DC or AC), the power range, the type of weld metal, the resonance characteristics of the workpiece, the workplace environment, etc.

Hazards from noxious gases and vapours



The fumes given off during welding contain gases and vapors that are harmful to health.

Welding fumes contain substances which may cause birth defects and cancers.

Keep your head away from discharges of welding fumes and gases.

Do not inhale any fumes or noxious gases that are given off.

Extract all fumes and gases away from the workplace, using suitable means.

Ensure a sufficient supply of fresh air.

Where insufficient ventilation is available, use a respirator mask with an independent air supply.

If you are not sure whether your fume-extraction system is sufficiently powerful, compare the measured pollutant emission values with the permitted threshold limit values.

Hazards from noxious gases and vapours
(continued)

The harmfulness of the welding fumes will depend on e.g. the following components:

- the metals used in and for the workpiece
- the electrodes
- coatings
- cleaning and degreasing agents and the like

For this reason, pay attention to the relevant Materials Safety Data Sheets and the information given by the manufacturer regarding the components listed above.

Keep all flammable vapors (e.g. from solvents) well away from the arc radiation.



Hazards from flying sparks



Flying sparks can cause fires and explosions!

Never perform welding anywhere near combustible materials.

Combustible materials must be at least 11 meters (35 feet) away from the arc, or else must be covered over with approved coverings.

Have a suitable, approved fire extinguisher at the ready.

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

Do not perform welding in locations that are at risk from fire and/or explosion, or in enclosed tanks, barrels or pipes, unless these latter have been prepared for welding in accordance with the relevant national and international standards.

Welding must NEVER be performed on containers that have had gases, fuels, mineral oils etc. stored in them. Even small traces of these substances left in the containers are a major explosion hazard.

Hazards from mains and welding current



An electric shock is potentially life-threatening, and can be fatal.

Do not touch any live parts, either inside or outside the machine.



In MIG/MAG and TIG welding, the welding wire, the wire spool, the drive rollers and all metal parts having contact with the welding wire are also live.

Always place the wirefeeder on an adequately insulated floor or base, or else use a suitable insulating wirefeeder holder.

Ensure sufficient protection for yourself and for other people by means of a dry base or cover that provides adequate insulation against the ground/frame potential. The base or cover must completely cover the entire area between your body and the ground/frame potential.

All cables and other leads must be firmly attached, undamaged, properly insulated and adequately dimensioned. Immediately replace any loose connections, scorched, damaged or underdimensioned cables or other leads.

Hazards from mains and welding current

(continued)

Do not loop any cables or other leads around your body or any part of your body.

Never immerse the welding electrode (rod electrode, tungsten electrode, welding wire, ...) in liquid in order to cool it, and never touch it when the power source is ON.

Twice the open-circuit voltage of one single welding machine may occur between the welding electrodes of two welding machines. Touching the potentials of both electrodes simultaneously may be fatal.

Have the mains and the machine supply leads checked regularly by a qualified electrician to ensure that the PE (protective earth) conductor is functioning correctly.

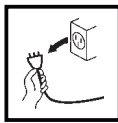
Only run the machine on a mains network with a PE conductor, and plugged into a power outlet socket with a protective-conductor contact.

If the machine is run on a mains network without a PE conductor and plugged into a power outlet socket without a protective-conductor contact, this counts as gross negligence and the manufacturer shall not be liable for any resulting damage.

Wherever necessary, use suitable measures to ensure that the workpiece is sufficiently grounded (earthed).

Switch off any appliances that are not in use.

Wear a safety harness if working at height.



Before doing any work on the machine, switch it off and unplug it from the mains.

Put up a clearly legible and easy-to-understand warning sign to stop anybody inadvertently plugging the machine back into the mains and switching it back on again.

After opening up the machine:

- discharge any components that may be storing an electrical charge
- ensure that all machine components are electrically dead.

If work needs to be performed on any live parts, there must be a second person on hand to immediately switch off the machine at the main switch in an emergency.

Stray welding currents



If the following instructions are ignored, stray welding currents may occur. These can cause:

- fires
- overheating of components that are connected to the workpiece
- destruction of PE conductors
- damage to the machine and other electrical equipment

Ensure that the workpiece clamp is tightly connected to the workpiece.

Attach the workpiece clamp as close as possible to the area to be welded.

On electrically conductive floors, the machine must be set up in such a way that it is sufficiently insulated from the floor.

Stray welding currents (continued)

When using current supply distributors, twin head wire feeder fixtures etc., please note the following: The electrode on the unused welding torch/welding tongs is also current carrying. Please ensure that there is sufficient insulating storage for the unused welding torch/tongs.

In the case of automated MIG/MAG applications, ensure that only insulated filler wire is routed from the welding wire drum, large wirefeeder spool or wirepool to the wirefeeder.



EMC device classifications



Devices with emission class A:

- are only designed for use in an industrial setting
- can cause conducted and emitted interference in other areas.

Devices with emission class B:

- satisfy the emissions criteria for residential and industrial areas. This also applies to residential areas in which power is supplied from the public low-voltage grid.

EMC device classification as per the rating plate or technical specifications

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 operator is obliged to take appropriate action to rectify the situation.

Examine and evaluate any possible electromagnetic problems that may occur on equipment in the vicinity, and the degree of immunity of this equipment, in accordance with national and international regulations:

- safety features
- mains, signal and data-transmission leads
- IT and telecoms equipment
- measurement and calibration devices

Ancillary measures for preventing EMC problems:

a) Mains supply

- If electromagnetic interference still occurs, despite the fact that the mains connection is in accordance with the regulations, take additional measures (e.g. use a suitable mains filter).

b) Welding cables

- Keep these as short as possible
- Arrange them so that they run close together (to prevent EMI problems as well)
- Lay them well away from other leads.

c) Equipotential bonding

d) Workpiece grounding (earthing)

- where necessary, run the connection to ground (earth) via suitable capacitors.

e) Shielding, where necessary

- Shield other equipment in the vicinity
- Shield the entire welding installation.

EMI Precautions



Electromagnetic fields may cause as yet unknown damage to health.

- Effects on the health of persons in the vicinity, e.g. users of heart pacemakers and hearing aids
- Users of heart pacemakers must take medical advice before going anywhere near welding equipment or welding workplaces
- Keep as much space as possible between welding cables and head/body of welder for safety reasons
- Do not carry welding cables and hose pack over shoulder and do not loop around body or any part of body

Particular danger spots



Keep your hands, hair, clothing and tools well away from all moving parts, e.g.:

- fans
- toothed wheels, rollers, shafts
- wire-spools and welding wires

Do not put your fingers anywhere near the rotating toothed wheels of the wirefeed drive.

Covers and sideguards may only be opened or removed for as long as is absolutely necessary to carry out maintenance and repair work.

While the machine is in use:

- ensure that all the covers are closed and that all the sideguards are properly mounted ...
- ... and that all covers and sideguards are kept closed.



When the welding wire emerges from the torch, there is a high risk of injury (the wire may pierce the welder's hand, injure his face and eyes ...). For this reason, when feeder-inching etc., always hold the torch so that it is pointing away from your body (machines with wirefeeder).



Do not touch the workpiece during and after welding - risk of injury from burning!


Slag may suddenly "jump" off workpieces as they cool. For this reason, continue to wear the regulation protective gear, and to ensure that other persons are suitably protected, when doing post-weld finishing on workpieces.

Allow welding torches - and other items of equipment that are used at high operating temperatures - to cool down before doing any work on them.



Special regulations apply to rooms at risk from fire and/or explosion. Observe all relevant national and international regulations.

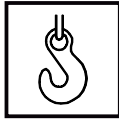


Power sources for use in spaces with increased electrical danger (e.g. boilers) must be identified by the  (for "safety") mark. However, the power source should not be in such rooms.



Risk of scalding from accidental discharge of hot coolant. Before unplugging the connectors for coolant forward flow and return flow, switch off the cooling unit.

Particular danger spots
(continued)



When hoisting the machines by crane, only use suitable manufacturer-supplied lifting devices.

- Attach the chains and/or ropes to **all** the hoisting points provided on the suitable lifting device.
- The chains and/or ropes must be at an angle which is as close to the vertical as possible.
- Remove the gas cylinder and the wirefeed unit (from MIG/MAG and TIG units).

When hoisting the wirefeed unit by crane during welding, always use a suitable, insulating suspension arrangement (MIG/MAG and TIG units).

If a machine is fitted with a carrying strap or carrying handle, remember that this strap is **ONLY** to be used for lifting and carrying the machine by hand. The carrying strap is **NOT** suitable for transporting the machine by crane, fork-lift truck or by any other mechanical hoisting device.



Danger of colourless and odourless inert gas escaping unnoticed, when using an adapter for the inert gas protection. Seal the adapter thread for the inert gas connection using Teflon tape before assembly.

Danger from shielding-gas cylinders



Shielding-gas cylinders contain pressurized gas and may explode if they are damaged. As shielding-gas cylinders are an integral part of the overall welding outfit, they also have to be treated with great care.

Protect shielding-gas cylinders containing compressed gas from excessive heat, mechanical impact, slag, naked flames, sparks and arcs.

Mount the shielding-gas cylinders in the vertical and fasten them in such a way that they cannot fall over (i.e. as shown in the instruction manual).

Keep shielding-gas cylinders well away from welding circuits (and, indeed, from any other electrical circuits).

Never hang a welding torch on a shielding-gas cylinder.

Never touch a shielding-gas cylinder with a welding electrode.

Explosion hazard - never perform welding on a pressurized shielding-gas cylinder.

Use only shielding-gas cylinders that are suitable for the application in question, together with matching, suitable accessories (pressure regulators, hoses and fittings, ...). Only use shielding-gas cylinders and accessories that are in good condition.

When opening the valve of a shielding-gas cylinder, always turn your face away from the outlet nozzle.

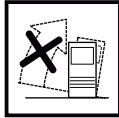
Close the shielding-gas cylinder valve when no welding is being carried out.

When the shielding-gas cylinder is not connected up, leave the cap in place on the shielding-gas cylinder valve.

Observe the manufacturer's instructions and all relevant national and international rules applying to shielding-gas cylinders and accessories.



Safety precautions at the installation site and when being transported



A machine that topples over can easily kill someone! For this reason, always place the machine on an even, firm floor in such a way that it stands firmly.

- An angle of inclination of up to 10° is permissible.



Special regulations apply to rooms at risk from fire and/or explosion. Observe all relevant national and international regulations.

By means of internal instructions and checks, ensure that the workplace and the area around it are always kept clean and tidy.

The appliance must only be installed and operated in accordance with the protection type stated on the specifications plate.

When installing the appliance, please ensure a clearance radius of 0.5 m (1.6ft.) , so that cool air can circulate freely.

When transporting the appliance, please ensure that the valid national and regional guidelines and accident protection regulations are followed. This applies in particular to guidelines in respect of dangers during transportation and carriage.

Before transportation, completely drain any coolant and dismantle the following components:

- Wire feed
- Wire wound coil
- Gas bottle

Before commissioning and after transportation, a visual check for damage must be carried out. Any damage must be repaired by trained service personnel before commissioning.

Safety precautions in normal operation



Only operate the machine if all of its protective features are fully functional. If any of the protective features are not fully functional, this endangers:

- the life and well-being of the operator or other persons
- the equipment and other tangible assets belonging to the owner/operator
- efficient working with the equipment.

Any safety features that are not fully functional must be put right before you switch on the machine.

Never evade safety features and never put safety features out of order.

Before switching on the machine, ensure that nobody can be endangered by your doing so.

- At least once a week, check the machine for any damage that may be visible from the outside, and check that the safety features all function correctly.
- Always fasten the shielding-gas cylinder firmly, and remove it altogether before hoisting the machine by crane.
- Owing to its special properties (in terms of electrical conductivity, frost-proofing, materials-compatibility, combustibility etc.), only original coolant of the manufacturer is suitable for use in our machines.
- Only use suitable original coolant of the manufacturer.
- Do not mix original coolant of the manufacturer with other coolants.

Safety precautions in normal operation

(continued)

- If any damage occurs in cases where other coolants have been used, the manufacturer shall not be liable for any such damage, and all warranty claims shall be null and void.
- Under certain conditions, the coolant is flammable. Only transport the coolant in closed original containers, and keep it away from sources of ignition.
- Used coolant must be disposed of properly in accordance with the relevant national and international regulations. A safety data sheet is available from your service centre and on the manufacturer's homepage.
- Before starting welding - while the machine is still cool - check the coolant level.



Preventive and corrective maintenance



With parts sourced from other suppliers, there is no certainty that these parts will have been designed and manufactured to cope with the stressing and safety requirements that will be made of them. Use only original spares and wearing parts (this also applies to standard parts).

Do not make any alterations, installations or modifications to the machine without getting permission from the manufacturer first.

Replace immediately any components that are not in perfect condition.

When ordering spare parts, please state the exact designation and the relevant part number, as given in the spare parts list. Please also quote the serial number of your machine.

Safety inspection



The owner/operator is obliged to have a safety inspection performed on the machine at least once every 12 months.

The manufacturer also recommend the same (12-month) interval for regular calibration of power sources.

A safety inspection, by a trained and certified electrician, is prescribed:

- after any alterations
- after any modifications or installations of additional components
- following repairs, care and maintenance
- at least every twelve months.

Observe the relevant national and international standards and directives in connection with the safety inspection.

More detailed information on safety inspections and calibration is available from your regional or national service centre, who will be pleased to provide you with copies of the necessary documents upon request.

Disposal



Do not dispose of this device with normal domestic waste!

To comply with the European Directive 2002/96/EC 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 our agent, or find out about 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 markings

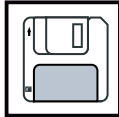


Equipment with CE-markings fulfils the basic requirements of the Low-Voltage and Electromagnetic Compatibility Guideline (e.g. relevant product standards according to EN 60 974). .



Equipment marked with the CSA-Test Mark fulfils the requirements made in the relevant standards for Canada and the USA.

Data security



The user is responsible for the data security of changes made to factory settings. The manufacturer is not liable, if personal settings are deleted.

Copyright



Copyright to this instruction manual remains the property of the manufacturer.

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Introduction

These operating instructions will help you familiarise yourself with the FRC-30. It is in your interest to read these instructions carefully and to observe the directions contained herein. This will prevent faults and incorrect operation or possible damage to the product or its system components.

Please also obey the safety rules; doing so will ensure greater safety when using the product. Careful handling of the product will repay you with years of safe and reliable operation. These are essential prerequisites for excellent results.



About this document

Function of this document

These operating instructions tell you how to commission and operate the FRC-30 in combination with its system components.

Look after the operating instructions carefully; they must always be to hand at the location where the product is being used. They can be used as a reference should any operational or functional problems occur in the future.

Target group

The FRC-30 operating instructions are designed for trained technicians or persons with practical welding experience. The manufacturer accepts no liability for damages caused by insufficient knowledge on the part of the user.

Abbreviations used

Abbrev.	Meaning in English	Meaning in German
FRC	Fronius Remote Control	Fronius Fernbedienung
FTU	Fronius Tripod Unit	Fronius Stativeinheit
FCU	Fronius Control Unit	Fronius Steuergerät
FTT	Fronius Tilting Turntable	Fronius Drehkipptisch
FRT	Fronius Rotation Table	Fronius Drehtisch
FRU	Fronius Rotator Unit	Fronius Rollenbock
FPT	Fronius Pneumatic Torch	Fronius Brenner-Absenkeinheit
FGU	Fronius Guide Unit	Fronius Führungseinheit
FSU	Fronius Swivel Unit	Fronius Brenner-Verstelleinheit
FTH	Fronius Torch Holder	Fronius Brennerhalter

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Meaning of the special safety instructions



"DANGER!" indicates immediate and real danger. If it is not avoided, death or serious injury will result.



"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. If it is not avoided, minor injury and/or damage to property may result.



"NOTE!" indicates a risk of flawed results and possible damage to the equipment.

"Important!" highlights tips for correct operation and other particularly useful information. It does not indicate a potentially damaging or dangerous situation.

If you see any of the symbols depicted in the "For your safety" section, extra care is required.

General

Device concept



FRC-30 remote control

The FRC-30 remote control is a system component and is used to position the powered FTU 1000-500/ 1500-1000/ 2000-1500 tripod units.

Proper use

The FRC-30 remote control should only be used for remotely operating the powered FTU 1000-500/ 1500-1000/ 2000-1500 Fronius tripod units. Any use above and beyond this purpose is deemed improper. The manufacturer shall not be liable for any damage resulting from such improper use.

The device can be used for:

- Manually positioning the tripod unit

It can be used in the following welding processes:

- MIG/MAG process
- CMT process
- TIG process

Proper use also includes:

- following all the information in the operating instructions
- using the spare parts stipulated by Fronius
- using this document in combination with the operating instructions for the integrated system components (tripod unit, power source, wire-feed unit, etc.)

Options

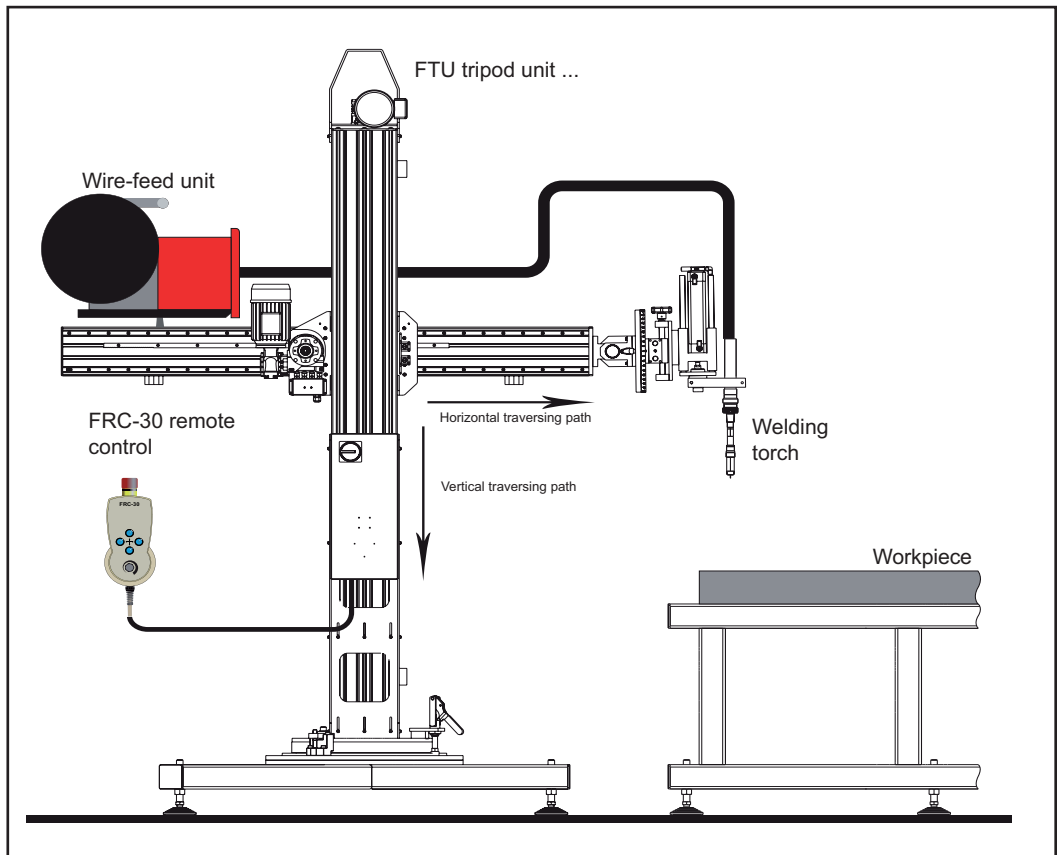
Remote control holder

Remote control holder is designed for wall mounting or for mounting on the vertical column of the tripod unit. The remote control can be kept in the holder.

System descriptions

Application

This figure shows the different traversing paths that can be controlled using the FRC-30.



Traversing path

Controls and connections

Safety



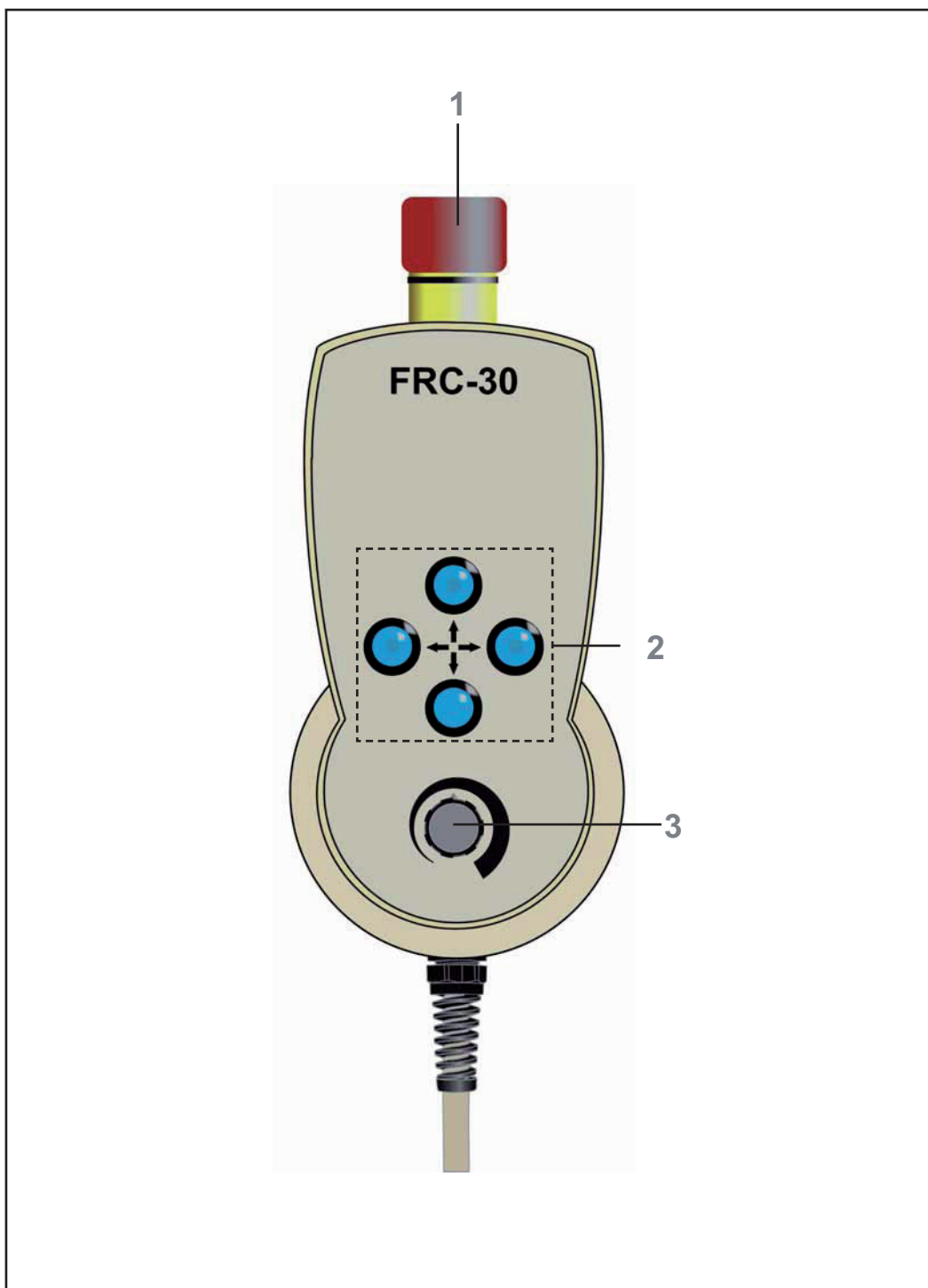
WARNING!

Incorrect operation may result in serious injury or damage.

Do not use the functions described until you have thoroughly read and understood the following documents:

- these operating instructions
- all operating instructions for the system components

FRC-30 remote control, front view



FRC-30 control panel

-
- 1 "Emergency Stop" button** The control voltage for the entire system is deactivated. All equipment is switched off. The system cannot be restarted.



IMPORTANT! It is vital that this protective feature is always checked before the system is started.

-
- 2 "Traversing direction" buttons**
Change the traversing direction to that indicated by the arrows: up/down, left/right. Press for longer than 5 seconds to activate high speed.

-
- 3 "Speed" knob**
The start speed is set using this knob.

Commissioning

Safety



WARNING!

Risk of injury or damage if the equipment is operated incorrectly. Do not use the functions described until you have thoroughly read and understood the following documents:

- these operating instructions
- all operating instructions for the system components

Checking the connections

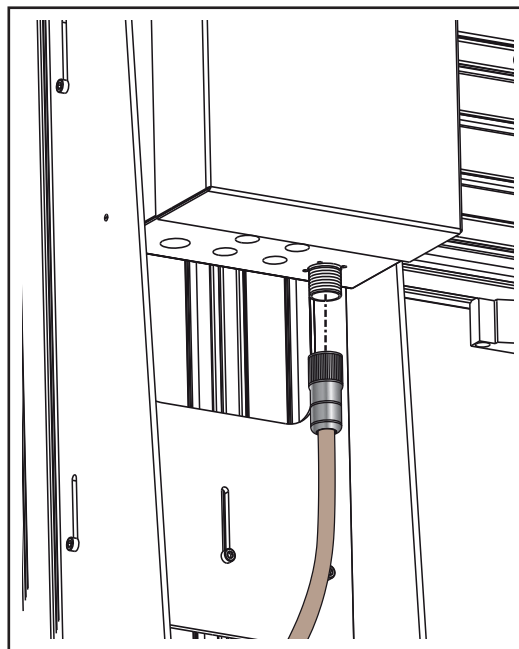
The following activities and work steps apply to the installed system. All connections must be established.

Check the connections to the following system components before commissioning:

- Tripod unit
- Power source
- Cooling circuit
- Gas cylinder
- Wire-feed unit
- Welding torch with hosepack
- Rotary unit (when using offset welding axis)
- Rotary unit controller (when using offset welding axis)

Precise information on the assembly and connection of the system components can be found in the relevant system component operating instructions.

Connecting the remote control



Connecting the FRC-30

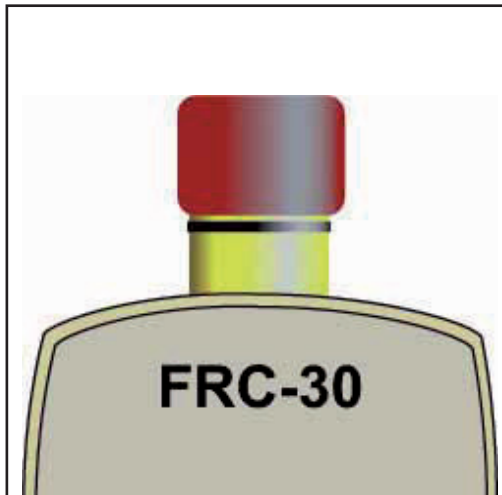
Important! The connection socket for the FRC-30 remote control is located on the underside of the tripod unit control box.

1. Connect the remote control plug to the connecting socket on the tripod unit control box.
2. Tighten the union nut by hand to fix the torch in place

**Checking the
EMERGENCY
STOP safety
equipment**



NOTE! The emergency safety equipment must be checked each time before starting work to ensure it is functioning correctly.



Emergency Stop button

1. Press the EMERGENCY STOP button on the FRC-30 remote control.
2. Check that the following operating statuses are correct:
 - control voltage on the tripod unit control is deactivated
 - all movements have stopped

**Positioning the
welding torch**



NOTE! The workpiece must be aligned and located in its welding position. You should check this before positioning the torch.

Press the manual move button and move the welding torch to the workpiece.

Important! If the button is held down for longer than five seconds, high speed mode is activated. This high speed is preset and cannot be altered.

Lowering and setting up the welding torch

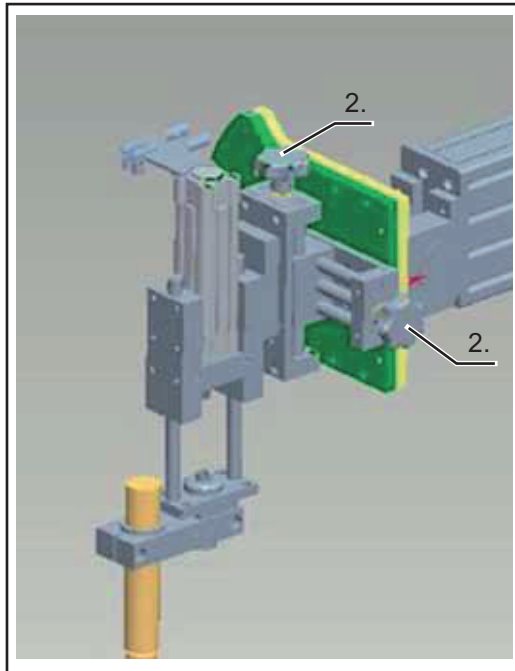


CAUTION!

Danger of the welding torch colliding with the workpiece.

If the torch is not moved back far enough, it may collide with the workpiece.

- Before lowering the welding torch, first make sure that it is positioned far enough back.



1. Turn the adjusting dial on the relevant mechanical adjustment unit (FGU, FSU) until the correct welding torch position is reached.

Setting up the welding torch

Loading a welding program

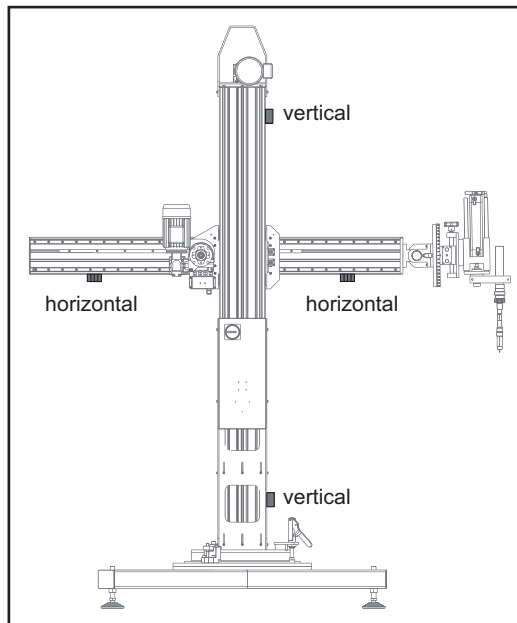
Load the relevant welding program on the control panel for the power source. More detailed information on managing welding programs can be found in the power source operating instructions.

Important! When an analogue power source is used, the requisite welding parameters must be set manually on the power source.

Information about the welding programs: For each workpiece, a corresponding welding program must be created. This contains a list of welding parameters that is saved under a specific program number (job number). These programs can be reloaded at any time, and corrected as required. The programs are managed from the power source control panel.

Setting the welding path lengths

Set up the welding path on the tripod unit according to the length or height of the work-piece. Reposition the vertical or horizontal contact cams depending on the welding direction.



Contact cams on the tripod unit

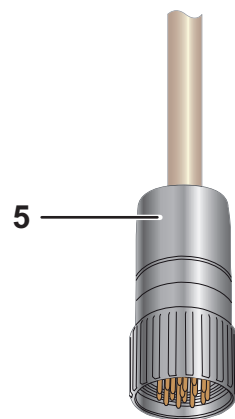
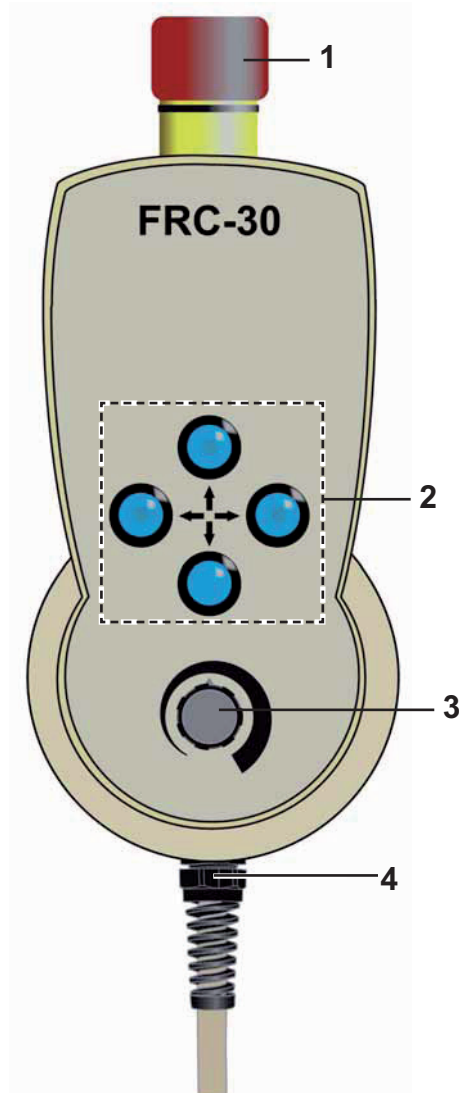
Important! Each contact cam is secured with two size 5 cheese-head screws fitted on the inside.

1. Undo the cheese-head screws using a hollow hexagon wrench
2. Move the contact cam to the desired position
3. Tighten the cheese-head screws

Technical data

FRC-30 technical data	Supply voltage	24 V DC voltage
	Dimensions l x w x h	200 x 90 x 60 mm
	Weight	2 kg
	Connecting cable length	3 m
	No. of pins on connecting plug	17
	Suitable types of tripod unit	FTU 1000-500
		FTU 1500-1000
	FTU 2000-1500	

Spare parts overview



Spare parts for FRC-30 remote control

Ordering details



NOTE! Only trained technicians may change parts and may only do so after having read the installation and dismantling instructions supplied.

When ordering spare parts for the FRC-30 remote control you should provide the following data:

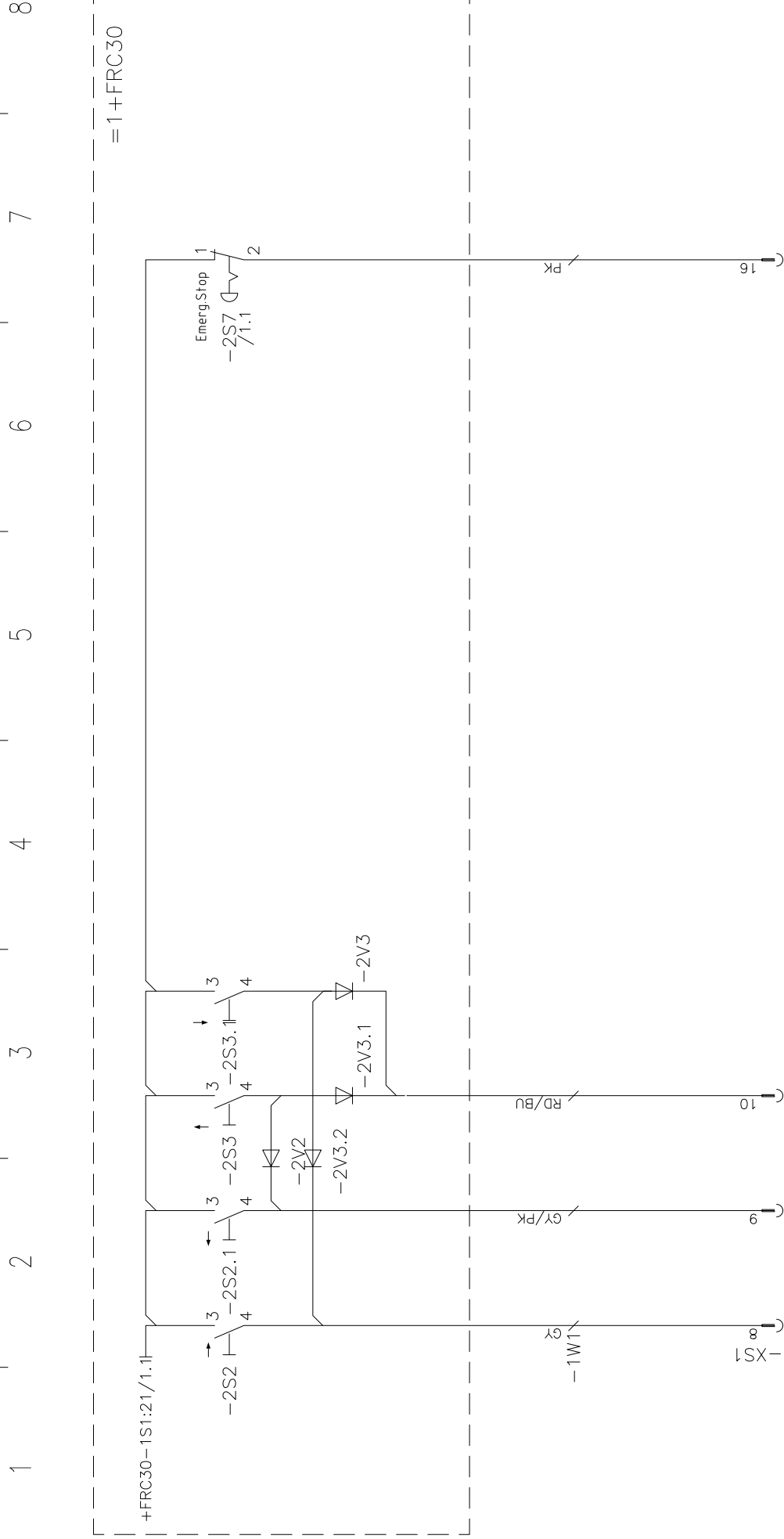
- exact designation of the spare part
- corresponding item number as per spare parts list
- model name of the device
- device serial number (shown on the rating plate)


Spare parts list

Item	Designation	Number	Item number
1	Emergency stop	1	38,0002,0056
	N.C. contact element for emergency stop	1	38,0002,0056
2	Push button (blue)	4	086757
3	Adjusting knob (black)	1	42,0406,0099
	Potentiometer 22k	1	41,0001,0001
4	Strain relief device	1	083641
5	Connecting plug with cable	1	38,0100,0201

Circuit diagrams





Revision	Datum	Name	Datum	Name	Beschreibung		Blatt
a					= 1		2
b					+		2
c					FTU2000-1500/ML		
d					Auftragsnummer		
					Kunde		
					Remote control FRC30		
					Fernregler FRC 30		
					Schaltplan		
					nur gültig		
					mit rotem		
					"OK"		
					Stempel		
							



FRONIUS INTERNATIONAL GMBH

TechSupport Automation

Froniusplatz 1, A-4600 Wels, Austria

E-Mail: support.automation@fronius.com

www.fronius.com

www.fronius.com/addresses

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