Operating instructions

GB

Remote control

RTAC1 19POL

General instructions

CAUTION

Read the operating instructions!
The operating instructions provide an introduction to the safe use of the products.

- Read the operating instructions for all system components!
- Observe accident prevention regulations!
- Observe all local regulations!
- Confirm with a signature where appropriate.

NOTE

In the event of queries on installation, commissioning, operation or special conditions at the installation site, or on usage, please contact your sales partner or our customer service department on +49 2680 181-0.
A list of authorised sales partners can be found at www.ewm-group.com.

Liability relating to the operation of this equipment is restricted solely to the function of the equipment. No other form of liability, regardless of type, shall be accepted. This exclusion of liability shall be deemed accepted by the user on commissioning the equipment.

The manufacturer is unable to monitor whether or not these instructions or the conditions and methods are observed during installation, operation, usage and maintenance of the equipment.
An incorrectly performed installation can result in material damage and injure persons as a result. For this reason, we do not accept any responsibility or liability for losses, damages or costs arising from incorrect installation, improper operation or incorrect usage and maintenance or any actions connected to this in any way.

1 Contents

2 Safety instructions

2.1 Notes on the use of these operating instructions

DANGER

Working or operating procedures which must be closely observed to prevent imminent serious and even fatal injuries.

- Safety notes include the "DANGER" keyword in the heading with a general warning symbol.
- The hazard is also highlighted using a symbol on the edge of the page.

WARNING

Working or operating procedures which must be closely observed to prevent serious and even fatal injuries.

- Safety notes include the "WARNING" keyword in the heading with a general warning symbol.
- The hazard is also highlighted using a symbol in the page margin.

CAUTION

Working or operating procedures which must be closely observed to prevent possible minor personal injury.

- The safety information includes the "CAUTION" keyword in its heading with a general warning symbol.
- The risk is explained using a symbol on the edge of the page.

CAUTION

Working and operating procedures which must be followed precisely to avoid damaging or destroying the product.

- The safety information includes the "CAUTION" keyword in its heading without a general warning symbol.
- The hazard is explained using a symbol at the edge of the page.

NOTE

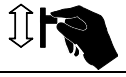
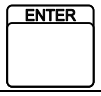
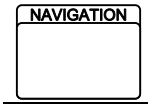
Special technical points which users must observe.

- Notes include the "NOTE" keyword in the heading without a general warning symbol.

Instructions and lists detailing step-by-step actions for given situations can be recognised via bullet points, e.g.:

- Insert the welding current lead socket into the relevant socket and lock.

2.2 Explanation of icons

Symbol	Description
	**Press**
	**Do not press**
	**Turn**
	**Switch**
	**Switch off machine**
	**Switch on machine**
	**ENTER (enter the menu)**
	**NAVIGATION (Navigating in the menu)**
	**EXIT (Exit the menu)**
	**Time display (example: wait 4s/press)**
	Interruption in the menu display (other setting options possible)
	**Tool not required/do not use**
	**Tool required/use**

2.3 General

DANGER

Electric shock!
Welding machines use high voltages which can result in potentially fatal electric shocks and burns on contact. Even low voltages can cause you to get a shock and lead to accidents.

- Do not touch any live parts in or on the machine!
- Connection cables and leads must be free of faults!
- Switching off alone is not sufficient!
- Place welding torch and stick electrode holder on an insulated surface!
- The unit should only be opened by specialist staff after the mains plug has been unplugged!
- Only wear dry protective clothing!
- Wait for 4 minutes until the capacitors have discharged!

Electromagnetic fields!
The power source may cause electrical or electromagnetic fields to be produced which could affect the correct functioning of electronic equipment such as IT or CNC devices, telecommunication lines, power cables, signal lines and pacemakers.

- Observe the maintenance instructions! (see Maintenance and Testing chapter)
- Unwind welding leads completely!
- Shield devices or equipment sensitive to radiation accordingly!
- The correct functioning of pacemakers may be affected (obtain advice from a doctor if necessary).

Validity of this document!
This document describes an accessory and is only valid in combination with the operating instructions for the power source being used (welding machine)!

- Read the operating instructions, in particular the safety instructions for the power source (welding machine)!

WARNING

Risk of accidents if these safety instructions are not observed!
Non-observance of these safety instructions is potentially fatal!

- Carefully read the safety information in this manual!
- Observe the accident prevention regulations in your country.
- Inform persons in the working area that they must observe the regulations!

Fire hazard!
Flames may arise as a result of the high temperatures, stray sparks, glowing-hot parts and hot slag produced during the welding process.
Stray welding currents can also result in flames forming!

- Check for fire hazards in the working area!
- Do not carry any easily flammable objects such as matches or lighters.
- Keep appropriate fire extinguishing equipment to hand in the working area!
- Thoroughly remove any residue of flammable substances from the workpiece before starting welding.
- Only continue work on welded workpieces once they have cooled down.
  Do not allow to come into contact with flammable material!
- Connect welding leads correctly!

WARNING

Risk of injury due to radiation or heat!
Arc radiation results in injury to skin and eyes.
Contact with hot workpieces and sparks results in burns.

- Use welding shield or welding helmet with the appropriate safety level (depending on the application)!
- Wear dry protective clothing (e.g. welding shield, gloves, etc.) according to the relevant regulations in the country in question!
- Protect persons not involved in the work against arc beams and the risk of glare using safety curtains!

Hazards due to improper usage!
Hazards may arise for persons, animals and material objects if the equipment is not used correctly. No liability is accepted for any damages arising from improper usage!

- The equipment must only be used in line with proper usage and by trained or expert staff!
- Do not modify or convert the equipment improperly!

CAUTION

Noise exposure!
Noise exceeding 70 dBA can cause permanent hearing damage!

- Wear suitable ear protection!
- Persons located within the working area must wear suitable ear protection!

CAUTION

Obligations of the operator!
The respective national directives and laws must be observed for operation of the machine!

- National implementation of the framework directive (89/391/EWG), as well as the associated individual directives.
- In particular, directive (89/655/EWG), on the minimum regulations for safety and health protection when staff members use equipment during work.
- The regulations regarding work safety and accident prevention for the respective country.
- Setting up and operating the machine according to IEC 60974-9.
- Check at regular intervals that users are working in a safety-conscious way.
- Regular checks of the machine according to IEC 60974-4.

Damage due to the use of non-genuine parts!
The manufacturer's warranty becomes void if non-genuine parts are used!

- Only use system components and options (power sources, welding torches, electrode holders, remote controls, spare parts and replacement parts, etc.) from our range of products!
- Only insert and lock accessory components into the relevant connection socket when the machine is switched off.

Trained personnel!
Commissioning is reserved for persons who have the relevant expertise of working with arc welding machines.

2.4 Transport

CAUTION

Damage due to supply lines not being disconnected!
During transport, supply lines which have not been disconnected (mains supply leads, control leads, etc.) may cause hazards such as connected equipment tipping over and injuring persons!

- Disconnect supply lines!

2.5 Scope of delivery

The delivery is checked and packaged carefully before dispatch, however it is not possible to exclude the possibility of damage during transit.

Receiving inspection

- Check that the delivery is complete using the delivery note!

In the event of damage to the packaging

- Check the delivery for damage (visual inspection)!

In the event of complaints

If the delivery has been damaged during transport:

- Please contact the last haulier immediately!
- Keep the packaging (for possible checking by the haulier or for the return shipment).

Packaging for returns

If possible, please use the original packaging and the original packaging material. If you have any queries on packaging and protection during transport, please contact your supplier.

2.5.1 Ambient conditions

CAUTION

Equipment damage due to dirt accumulation!
Unusually high quantities of dust, acid, corrosive gases or substances may damage the equipment.

- Avoid high volumes of smoke, vapour, oil vapour and grinding dust!
- Avoid ambient air containing salt (sea air)!

2.5.1.1 In operation

Temperature range of the ambient air:

- -25 °C to +40 °C

Relative air humidity:

- Up to 50% at 40 °C
- Up to 90% at 20 °C

2.5.1.2 Transport and storage

Storage in an enclosed space, temperature range of the ambient air:

- -30 °C to +70 °C

Relative air humidity

- Up to 90% at 20 °C

3 Intended use

WARNING

Hazards due to improper usage!
Hazards may arise for persons, animals and material objects if the equipment is not used correctly. No liability is accepted for any damages arising from improper usage!
- The equipment must only be used in line with proper usage and by trained or expert staff!
- Do not modify or convert the equipment improperly!

3.1 Use and operation solely with the following machines

- Tetrix 301, 351, 421, 451, 521, 551 AC/DC
- Tetrix 300 AC/DC
- Tetrix 270, 350, 500 AC/DC
- Tetrix 352 AC/DC Synergic
- Tetrix 350 AC/DC Plasma

3.2 Documents which also apply

3.2.1 Warranty

NOTE

For further information, please see the accompanying supplementary sheets "Machine and Company Data, Maintenance and Testing, Warranty"!

3.2.2 Declaration of Conformity

The designated machine conforms to EC Directives and standards in terms of its design and construction:
- EC Low Voltage Directive (2006/95/EC),
- EC EMC Directive (2004/108/EC),

This declaration shall become null and void in the event of unauthorised modifications, improperly conducted repairs, non-observance of the deadlines for the repetition test and / or non-permitted conversion work not specifically authorised by the manufacturer.
The original copy of the declaration of conformity is enclosed with the unit.

3.2.3 Service documents (spare parts)

DANGER

Do not carry out any unauthorised repairs or modifications!
To avoid injury and equipment damage, the unit must only be repaired or modified by specialist, skilled persons!
The warranty becomes null and void in the event of unauthorised interference.
- Appoint only skilled persons for repair work (trained service personnel)!

Spare parts can be obtained from the relevant authorised dealer.

4 Machine description – quick overview

4.1 Front view

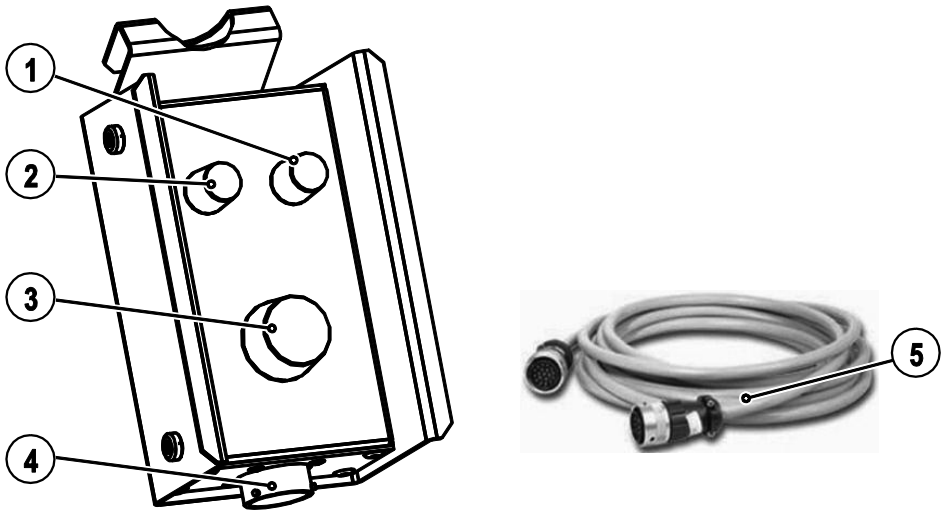
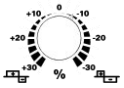
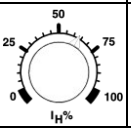


Figure 4-1

Item	Symbol	Description
1		**Alternating current balance (TIG AC)** Max. setting range: -15% to +15% (1% increments). The setting range may also be lower depending on the factory setting. Optimisation of cleaning effect and fusion penetration characteristics. **An increase in the positive half-wave means:** • greater cleaning effect • higher temperature of the tungsten electrode • greater ball formation on the tungsten electrode • broader weld seam, little fusion penetration **An increase in the negative half-wave means:** • narrower weld seam, deeper fusion penetration • reduced cleaning effect • lower temperature of the tungsten electrode • less ball formation on the tungsten electrode
2		**Alternating current frequency (TIG AC)** 50 Hz to 200 Hz (1 Hz increments). Constriction and stabilisation of the arc: At a higher frequency, the cleaning effect is increased. Particularly thin panels (welding with a low current), anodised sheet aluminium or highly contaminated articles for welding can be welded and cleaned perfectly at a higher frequency.
3		**Welding current rotary dial** Infinitely adjustable welding current, 0% to 100% of the main current preset on the power source.
4		**19-pole connection socket (analogue)** For connecting the control lead.
5		**<u>Remote control connector cable</u>** Use a 5, 10, or 20 m connector cable, depending on the design, for connecting the remote control to the power source.

5 Design and function

5.1 General

NOTE

Basically, all descriptions on the process settings in the standard operating instructions shall apply. This operating manual exclusively describes deviating control functions.

5.2 Connecting the remote control

CAUTION

Damage to the machine due to improper connection!
The remote controls have been developed to be connected to welding machines or wire feed units only. Connecting them to other machines may cause damage to the machines!

- Observe the operating instructions for the welding machine or wire feed unit!
- Switch off the welding machine before connecting!

NOTE

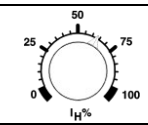
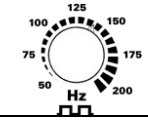
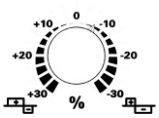
Observe documentation of other system components when connecting!

- Switch off the welding machine
- Insert the male connector plug (socket) into the remote control connection socket and lock by turning to the right.
- Insert the male connector plug (pin) into the remote control connection socket of the welding machine and lock by turning to the right.

5.3 Basic settings

- Preset the maximum welding current required for the welding task on the welding machine, set the welding parameters for the welding task correspondingly, and ensure that the unit is set to TIG welding.

5.4 Standard Mode

Operating element	Action	Result
		Set a reduced welding current
		Set alternating current frequency
		Set the alternating current balance

6 Maintenance, care and disposal

6.1 General

When used in the specified environmental conditions and under normal operating conditions, this machine is largely maintenance-free and requires a minimum of care.

There are some points, which should be observed, to guarantee fault-free operation of your welding machine. Among these are regular cleaning and checking as described below, depending on the pollution level of the environment and the length of time the unit is in use.

6.2 Maintenance work

DANGER

Do not carry out any unauthorised repairs or modifications!
To avoid injury and equipment damage, the unit must only be repaired or modified by specialist, skilled persons!
The warranty becomes null and void in the event of unauthorised interference.

- Appoint only skilled persons for repair work (trained service personnel)!

Repair and maintenance work may only be performed by qualified authorised personnel; otherwise the right to claim under warranty is void. In all service matters, always consult the dealer who supplied the machine. Return deliveries of defective equipment subject to warranty may only be made through your dealer. When replacing parts, use only original spare parts. When ordering spare parts, please quote the machine type, serial number and item number of the machine, as well as the type designation and item number of the spare part.

6.3 Maintenance work, intervals

6.3.1 Monthly maintenance tasks

- Check control leads and their strain relief for damage.
- Carry out functional test of operating, signalling, safety and/or adjustment devices.
- Other, general condition

6.4 Disposing of equipment

NOTE

Proper disposal!
The machine contains valuable raw materials, which should be recycled, and electronic components, which must be disposed of.

- Do not dispose of in household waste!
- Observe the local regulations regarding disposal!

6.4.1 Manufacturer's declaration to the end user

- According to European provisions (guideline 2002/96/EG of the European Parliament and the Council of January, 27th 2003), used electric and electronic equipment may no longer be placed in unsorted municipal waste. It must be collected separately. The symbol depicting a waste container on wheels indicates that the equipment must be collected separately.
  This machine is to be placed for disposal or recycling in the waste separation systems provided for this purpose.
- According to German law (law governing the distribution, taking back and environmentally correct disposal of electric and electronic equipment (ElektroG) from 16.03.2005), used machines are to be placed in a collection system separate from unsorted municipal waste. The public waste management utilities (communities) have created collection points at which used equipment from private households can be disposed of free of charge.
- Information about giving back used equipment or about collections can be obtained from the respective municipal administration office.
- EWM participates in an approved waste disposal and recycling system and is registered in the Used Electrical Equipment Register (EAR) under number WEEE DE 57686922.
- In addition to this, returns are also possible throughout Europe via EWM sales partners.

6.5 Meeting the requirements of RoHS

We, EWM HIGHTEC Welding GmbH Mündersbach, hereby confirm that all products supplied by us which are affected by the RoHS Directive, meet the requirements of the RoHS (Directive 2002/95/EC).

7 Technical data

NOTE

Performance specifications and guarantee only in connection with original spare and replacement parts!

7.1 RTAC1 19POL

Interface	19-pole
Dimensions L/W/H	260 x 150 x 75 mm
Weight	1,5 kg

8 Accessories

8.1 Connection and extension cables

Type	Designation	Item no.
RA5 19POL 5M	Remote control e.g. connection cable	092-001470-00005
RA10 19POL 10M	Remote control e.g. connection cable	092-001470-00010
RA20 19POL 20M	Remote control e.g. connection cable	092-001470-00020

9 Appendix A

9.1 Overview of EWM branches

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