



**EN**

## Retrofit option

### ON 12pol Retox TG.0002

Connection socket, welding torch control cable

099-002519-EW501

Observe additional system documents!

28.05.2019

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## General instructions

### **WARNING**



#### **Read the operating instructions!**

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

- Read and observe the operating instructions for all system components, especially the safety instructions and warning notices!
- Observe the accident prevention regulations and any regional regulations!
- The operating instructions must be kept at the location where the machine is operated.
- Safety and warning labels on the machine indicate any possible risks. Keep these labels clean and legible at all times.
- The machine has been constructed to state-of-the-art standards in line with any applicable regulations and industrial standards. Only trained personnel may operate, service and repair the machine.
- Technical changes due to further development in machine technology may lead to a differing welding behaviour.

**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/en/specialist-dealers](http://www.ewm-group.com/en/specialist-dealers).**

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.

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**1 Safety instructions****1.1 For your safety****⚠ WARNING**

**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)!



**Risk of accidents due to non-compliance with the safety instructions!**

**Non-compliance with the safety instructions can be fatal!**

- Carefully read the safety instructions in this manual!
- Observe the accident prevention regulations and any regional regulations!
- Inform persons in the working area that they must comply with the regulations!

**⚠ CAUTION**

**Obligations of the operator!**

**The respective national directives and laws must be complied with when operating the machine!**

- Implementation of national legislation relating to framework directive 89/391/EEC on the introduction of measures to encourage improvements in the safety and health of workers at work and associated individual guidelines.
- In particular, directive 89/655/EEC concerning the minimum safety and health requirements for the use of work equipment by workers at work.
- The regulations applicable to occupational safety and accident prevention in the country concerned.
- Setting up and operating the machine as per IEC 60974.-9.
- Brief the user on safety-conscious work practices on a regular basis.
- Regularly inspect the machine as per IEC 60974.-4.

**These supplementary sheets must be used in conjunction with the appropriate standard operating instructions for the described product! These supplementary sheets expand or replace one or more chapters of the same name(s) in the standard description.**

**Read and observe the operating instructions for all system components, especially the safety instructions!**

## 2 Intended use

### 2.1 General

#### WARNING



##### **Hazards due to improper usage!**

The machine has been constructed to the state of the art and any regulations and standards applicable for use in industry and trade. It may only be used for the welding procedures indicated at the rating plate. 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 its designated purpose and by trained or expert personnel!
- Do not improperly modify or convert the equipment!

These instructions apply only for the conversion of the following machines:

- Picotig 200 AC/DC 5P, -8P TG
- Picotig 200 AC/DC puls 5P, -8P TG
- Tetrax 230 Comfort 5P, -8P TM
- Tetrax 230 Comfort 2.0 puls 5P, -8P TM
- Tetrax 230 AC/DC Comfort 5P, -8P TM
- Tetrax 230 AC/DC Comfort 2.0 puls 5P, -8P TM

### 2.2 Short description of the working steps required

- Remove the 5-pole/8-pole connection socket (torch control lead).
- Install the 12-pole connection socket to operate a torch with a display or special functions.

## 3 Conversion

### 3.1 General

#### DANGER



##### **Risk of injury from electric shock!**

**Servicing machines that are not disconnected from the mains can lead to serious injuries!**

- Disconnect the machine completely from the mains.  
Pull out the mains plug!
- Wait for 4 minutes until the capacitors have discharged!

#### WARNING



##### **Protective earth PE!**

To protect persons and animals against dangerous live voltages and electric shocks in the event of a fault, the casing panels on the unit are connected to a green/yellow protective earth.

- After conversion, re-connect the protective earth to the casing panels!



***Wiring the accessories has to follow the machine's circuit diagrams at all times!***

***The circuit diagrams can be found in the machine (document pouch on the casing cover) and may also be included in these conversion instructions!***

## 3.2 Parts list

Before conversion, check that the retrofit kit is complete (see parts list).

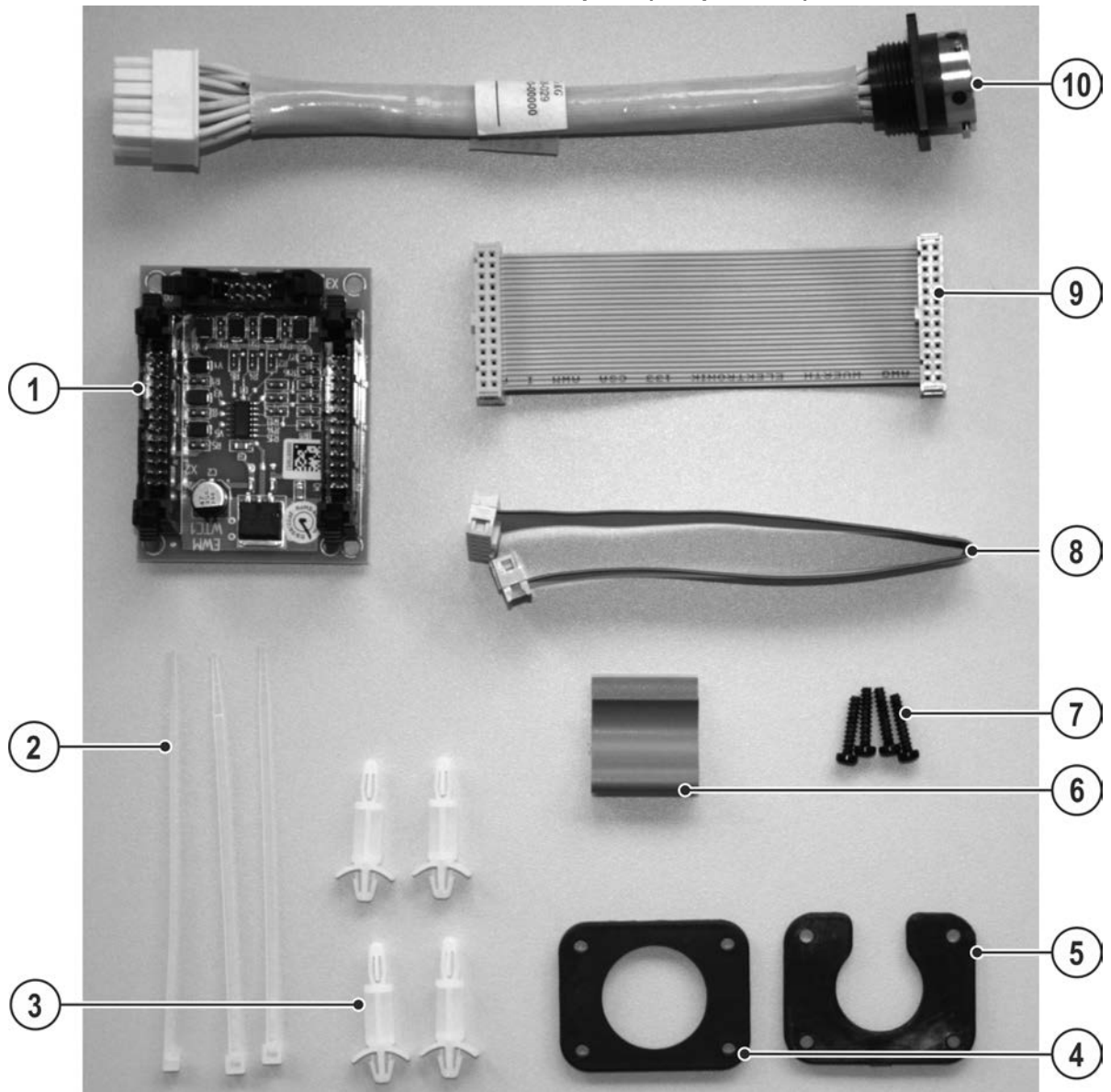


Figure 3-1

Item	Quantity	Description	Item number
1	1	PCB WTC1	040-000625-00000
2	3	Cable binder	044-001275-00000
3	1	Spacer	064-000720-00000
4	1	Assembly adaptor, 12-pole	094-012146-00000
5	1	Reducing adaptor 8/12 pole	094-012147-00000
6	1	Flat band cable fixing material	074-000159-00000
7	4	TORX screw M3 x 14	094-011612-00000
8	1	Flat cable, 230 mm	094-000114-00000
9	1	Flat band cable, 26-pole	094-000491-00000
10	1	Torch connection, 12-pole	094-013013-00000

### 3.3 Removal

- Unscrew the casing cover.

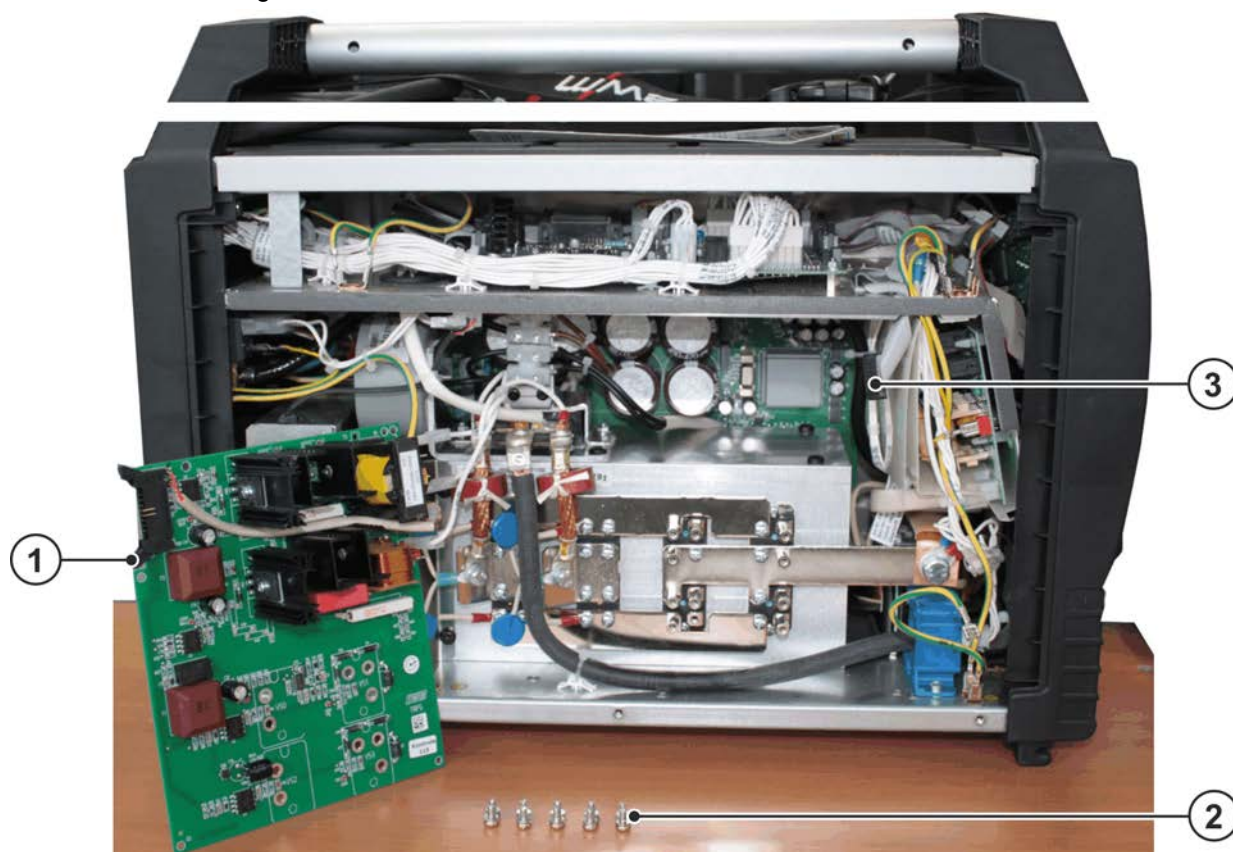


Figure 3-2

Removal of PCB TRF5 is only required for AC machines.

Item	Quantity	Description	Item number
1	4	M3 x 14 TORX screw	094-011612-00000
2	10	M4 x 8 Cross-recessed screw	
3	1	Flat band cable, 16-pole	

- Unfasten the cross-recessed screw from the TRF5, PCB.
- Remove the 16-pole flat band cable from PCB TRF5 and remove the PCB TRF5 sideways.



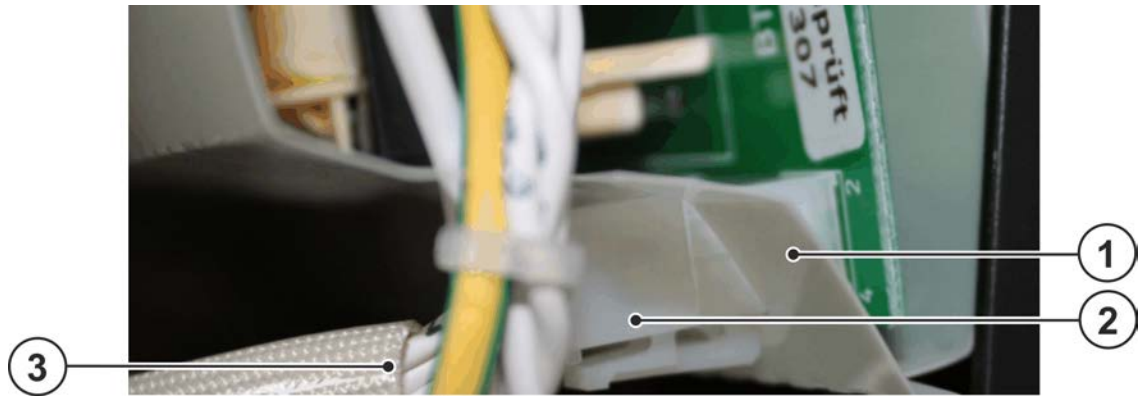


Figure 3-3

Item	Quantity	Description	Item number
1	1	PCB HFBTF5, slot X3	
2	1	Connector plug torch connection socket, 5-pole	
3	1	Torch connection socket, 5-pole	

- Remove the connector plug of the torch control cable from PCB HFBTF5, pin X3 (with 5-pole versions) or PCB HFBTF5, pin X2 (with 8-pole version).

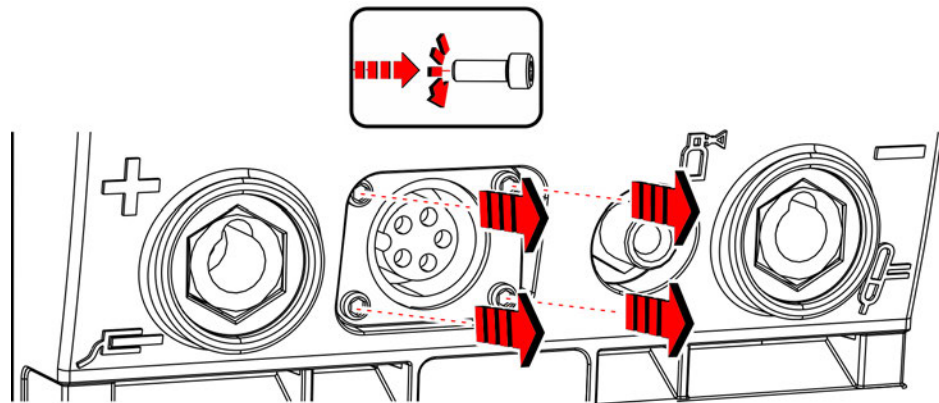


Figure 3-4

- Disconnect and remove the 5-pole/8-pole torch connection socket from the machine front.

### 3.4 Assembly

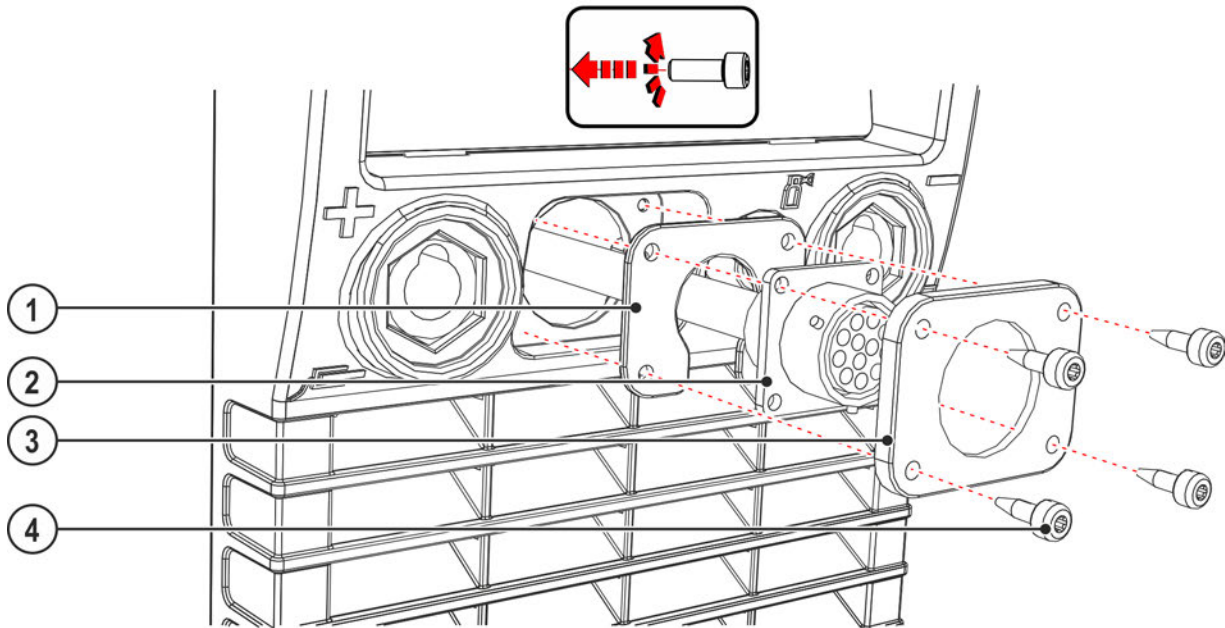


Figure 3-5

Item	Quantity	Description	Item number
1	1	Reducing adaptor 8/12 pole	094-012147-00000
2	1	Torch connection, 12-pole	094-013013-00000
3	1	Assembly adaptor, 12-pole	094-012146-00000
4	4	TORX screw M3 x 14	094-011612-00000

- Screw the 12-pole torch connection socket to the machine front using mounting material.

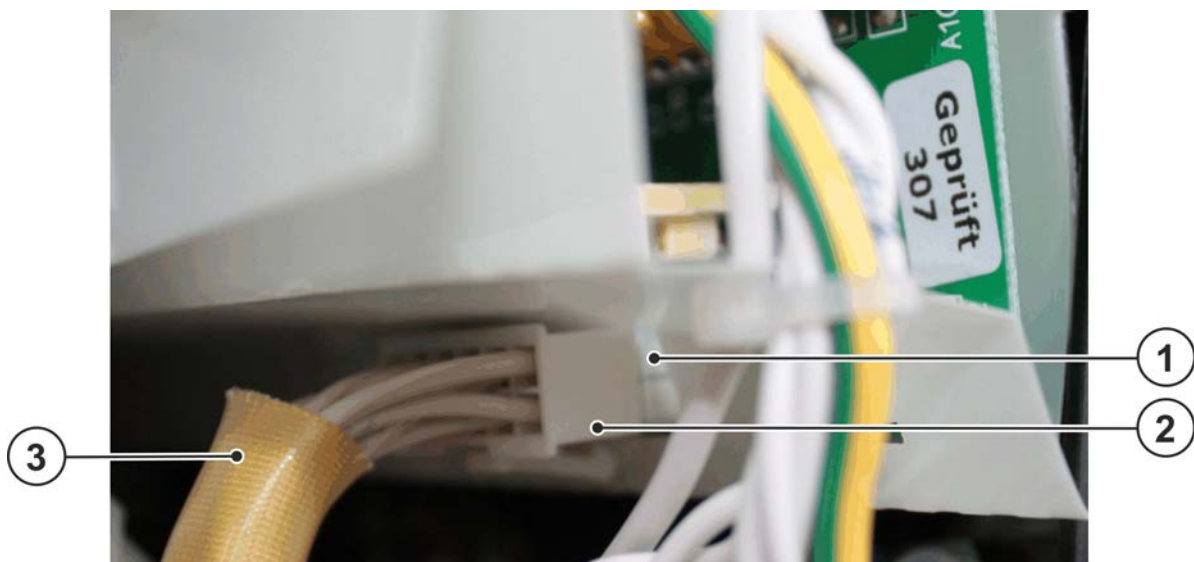


Figure 3-6

Item	Quantity	Description	Item number
1	1	PCB HFBTF5, slot X2	
2	1	Connector plug torch connection socket, 12-pole	
3	1	Torch connection, 12-pole	094-013013-00000

- Plug the connector plug of the torch connection socket into PCBHFBTF5, pin X2.



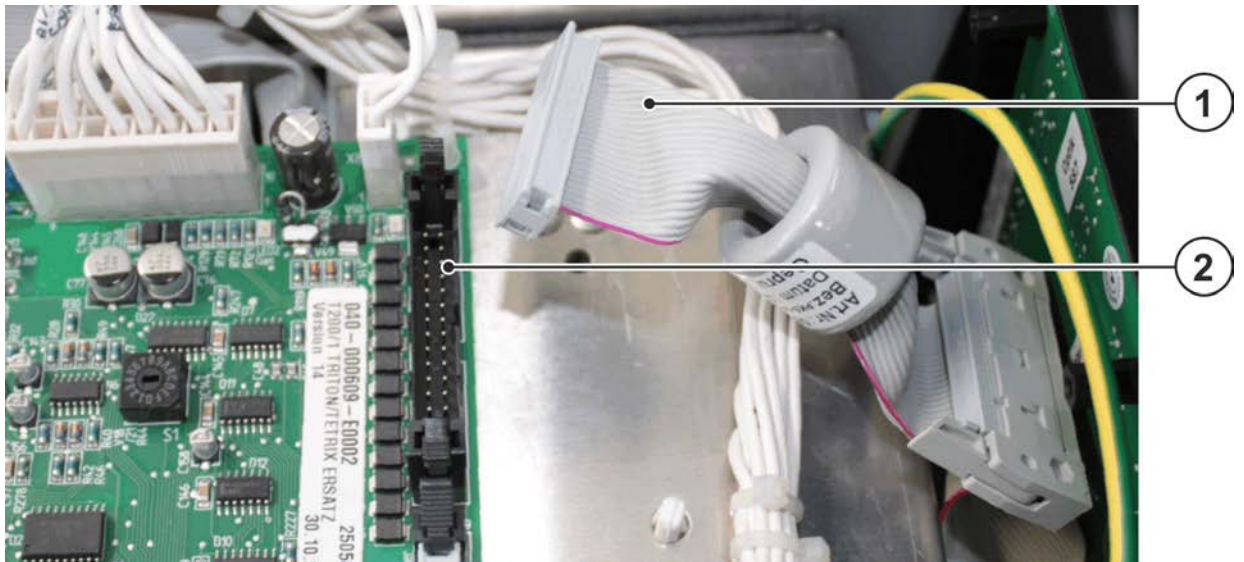


Figure 3-7

Item	Quantity	Description	Item number
1	1	Flat band cable, 26-pole	094-008189-00000
2	1	PCB T200, slot X3	

- Remove the 26-pole flat band cable from PCB T200, pinX3.

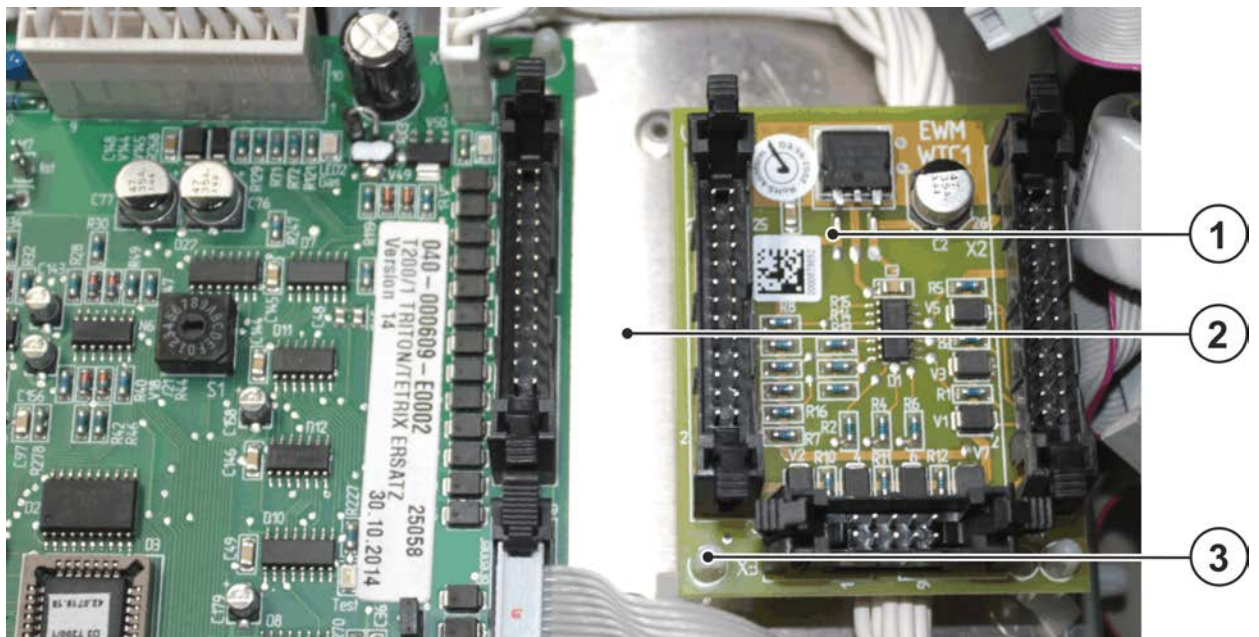


Figure 3-8

Item	Quantity	Description	Item number
1	1	PCB WTC1	040-000625-00000
2	1	Intermediate panel	
3	1	Spacer	064-000720-00000

- Attach PCB WTC1 to the intermediate plate using 4 spacers.



Figure 3-9

Item	Quantity	Description	Item number
1	1	Flat band cable, 26-pole	094-008189-00000
2	1	PCB <b>WTC1</b> , slot <b>X2</b>	

- Plug the previously removed 26-pole flat band cable into PCBWTC1, pin X2.

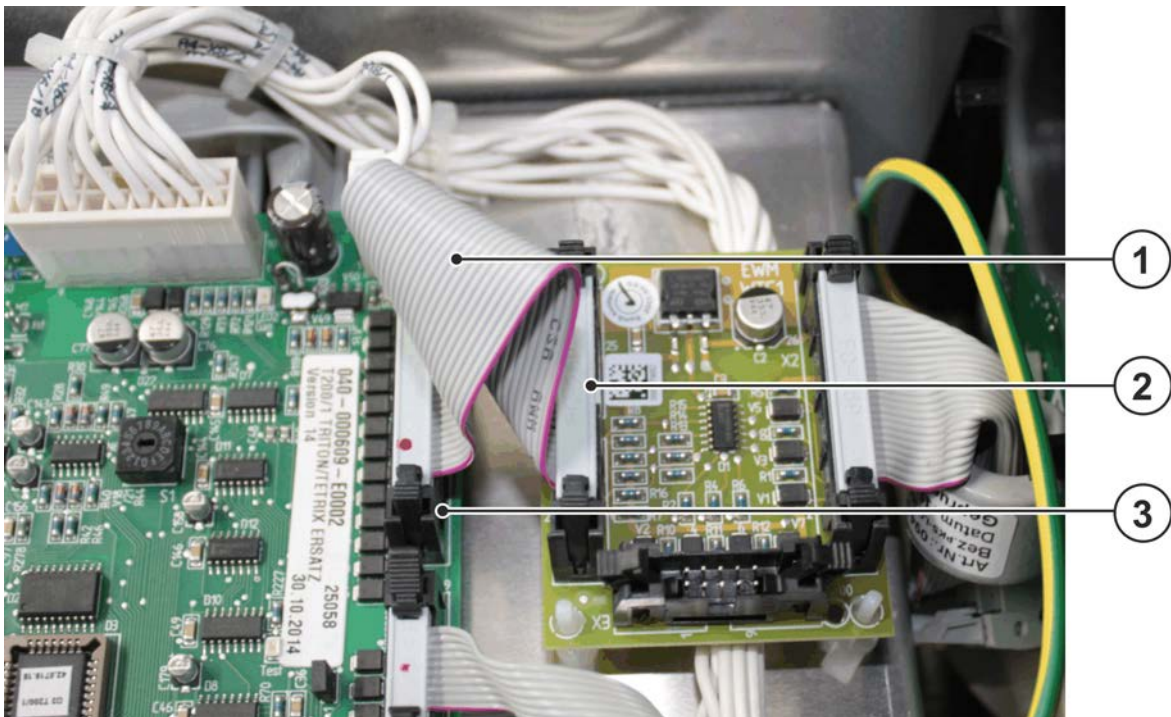


Figure 3-10

Item	Quantity	Description	Item number
1	1	Flat band cable, 26-pole	094-000491-00000
2	1	PCB <b>WTC1</b> , slot <b>X1</b>	
3	1	PCB <b>T200</b> , slot <b>X3</b>	

- Route the flat band cable of the 26-pole PCB T200, pin X3, to PCB WTC1, pin X1, and plug in..



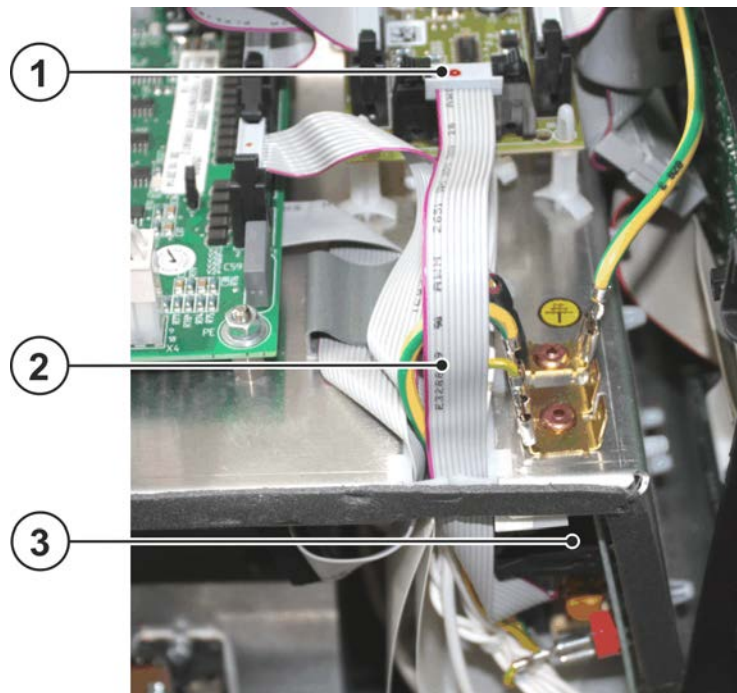


Figure 3-11

Item	Quantity	Description	Item number
1	1	PCB WTC1, slot X3	
2	1	Flat cable, 230 mm	094-000114-00000
3	1	PCB HFBTF5, slot X5	

- Route the flat band cable of PCB WTC1, pin X3, to PCB HFBTF5, pin X5, and plug in.
- Secure the flat band cable using the supplied cable binders and the cable clamp.



**Fasten PCB TRF5 with a max. torque of 1.5 Nm (AC machines only).**

- Assemble the machine in the reverse order.

### 3.5 Final inspection

#### 3.5.1 General

#### **⚠ WARNING**



#### **Protective earth PE!**

To protect persons and animals against dangerous live voltages and electric shocks in the event of a fault, the casing panels on the unit are connected to a green/yellow protective earth.

- After conversion, re-connect the protective earth to the casing panels!

## **WARNING**



**Danger due to failure to carry out the final inspection!**

**After installation or conversion, all mechanical and electrical connections must be checked for correct installation to avoid any potential injuries.**

- No leads or tubes should be squashed or laid on sharp edges.
- Check all mechanical connections to ensure that they are fitted correctly!
- Carry out the final inspection!
- Carry out the functional test!



**Dangers resulting from failure to perform test after conversion!**

**Before reconnection, “Inspection and Testing during Operation” according to IEC/BS EN 60974-4 “Arc welding systems – Inspection and Testing during Operation” has to be performed!**

- Perform test to IEC / DIN EN 60974-4!

**Keep the conversion instructions with the machine documentation!**

**When ordering spare parts, ensure that the item number and serial number of the machine are quoted!**