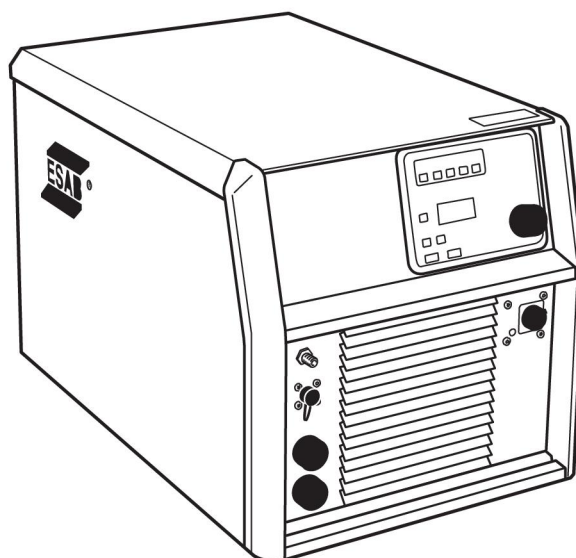




Origo™

Tig 3000i AC/DC



Instruction manual



EU DECLARATION OF CONFORMITY

According to:

The Low Voltage Directive 2014/35/EU;

The EMC Directive 2014/30/EU;

The RoHS Directive 2011/65/EU;

The Ecodesign Directive 2009/125/EC

Type of equipment

Arc welding power source

Type designation

TIG 3000i AC/DC

with serial number from 038 xxx xxxx

Brand name or trademark

ESAB

Manufacturer or his authorised representative established within the EEA

ESAB AB

Lindholmsallén 9, Box 8004, SE-402 77 Göteborg, Sweden

Phone: +46 31 50 90 00, www.esab.com

The following EN standards and regulations in force within the EEA has been used in the design:

EN IEC 60974-1:2018/A1:2019

Arc Welding Equipment - Part 1: Welding Power Sources

EN IEC 60974-3: 2019

Arc Welding Equipment - Part 3: Arc striking and stabilizing devices

EN 60974-10:2014/A1:2015,

Arc Welding Equipment - Part 10: Electromagnetic Compatibility (EMC) requirements

EU no. 2019/1784

Ecodesign requirements for welding equipment pursuant to Directive 2009/125/EC

Additional Information:

Restrictive use, Class A equipment, intended for use in locations other than residential.

IEC EN draft standard 26/708/CDV have been used to establish EU no. 2019/1784 data.

TIG 3000i AC/DC is part of the Origo product family.

By signing this document, the undersigned declares as manufacturer, or the manufacturer's authorised representative established within the EEA, that the equipment in question complies with the safety and environmental requirements stated above.

Place/Date

Göteborg
2020-12-16

Signature

Pedro Muniz
Standard Equipment Director

CE mark in 2020

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1 SAFETY

1.1 Meaning of symbols

As used throughout this manual: Means Attention! Be Alert!



DANGER!

Means immediate hazards which, if not avoided, will result in immediate, serious personal injury or loss of life.



WARNING!

Means potential hazards which could result in personal injury or loss of life.



CAUTION!

Means hazards which could result in minor personal injury.



WARNING!

Before use, read and understand the instruction manual and follow all labels, employer's safety practices and Safety Data Sheets (SDSs).



1.2 Safety precautions

Users of ESAB equipment have the ultimate responsibility for ensuring that anyone who works on or near the equipment observes all the relevant safety precautions. Safety precautions must meet the requirements that apply to this type of equipment. The following recommendations should be observed in addition to the standard regulations that apply to the workplace.

All work must be carried out by trained personnel well-acquainted with the operation of the equipment. Incorrect operation of the equipment may lead to hazardous situations which can result in injury to the operator and damage to the equipment.

1. Anyone who uses the equipment must be familiar with:
 - its operation
 - location of emergency stops
 - its function
 - relevant safety precautions
 - welding and cutting or other applicable operation of the equipment
2. The operator must ensure that:
 - no unauthorised person is stationed within the working area of the equipment when it is started up
 - no-one is unprotected when the arc is struck or work is started with the equipment
3. The workplace must:
 - be suitable for the purpose
 - be free from drafts

4. Personal safety equipment:
 - Always wear recommended personal safety equipment, such as safety glasses, flame-proof clothing, safety gloves
 - Do not wear loose-fitting items, such as scarves, bracelets, rings, etc., which could become trapped or cause burns
5. General precautions:
 - Make sure the return cable is connected securely
 - Work on high voltage equipment **may only be carried out by a qualified electrician**
 - Appropriate fire extinguishing equipment must be clearly marked and close at hand
 - Lubrication and maintenance must **not** be carried out on the equipment during operation



WARNING!

Arc welding and cutting can be injurious to yourself and others. Take precautions when welding and cutting.



ELECTRIC SHOCK - Can kill

- Install and ground the unit in accordance with instruction manual.
- Do not touch live electrical parts or electrodes with bare skin, wet gloves or wet clothing.
- Insulate yourself from work and ground.
- Ensure your working position is safe



ELECTRIC AND MAGNETIC FIELDS - Can be dangerous to health

- Welders having pacemakers should consult their physician before welding. EMF may interfere with some pacemakers.
- Exposure to EMF may have other health effects which are unknown.
- Welders should use the following procedures to minimize exposure to EMF:
 - Route the electrode and work cables together on the same side of your body. Secure them with tape when possible. Do not place your body between the torch and work cables. Never coil the torch or work cable around your body. Keep welding power source and cables as far away from your body as possible.
 - Connect the work cable to the workpiece as close as possible to the area being welded.



FUMES AND GASES - Can be dangerous to health

- Keep your head out of the fumes.
- Use ventilation, extraction at the arc, or both, to take fumes and gases away from your breathing zone and the general area.



ARC RAYS - Can injure eyes and burn skin

- Protect your eyes and body. Use the correct welding screen and filter lens and wear protective clothing.
- Protect bystanders with suitable screens or curtains.



NOISE - Excessive noise can damage hearing

Protect your ears. Use earmuffs or other hearing protection.

MOVING PARTS - Can cause injuries

- Keep all doors, panels and covers closed and securely in place. Have only qualified people remove covers for maintenance and troubleshooting as necessary. Reinstall panels or covers and close doors when service is finished and before starting engine.



- Stop engine before installing or connecting unit.
- Keep hands, hair, loose clothing and tools away from moving parts.

FIRE HAZARD

- Sparks (spatter) can cause fire. Make sure that there are no inflammable materials nearby.
- Do not use on closed containers.

MALFUNCTION - Call for expert assistance in the event of malfunction.

PROTECT YOURSELF AND OTHERS!**CAUTION!**

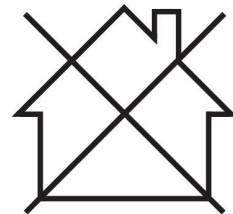
This product is solely intended for arc welding.

**WARNING!**

Do not use the power source for thawing frozen pipes.

**CAUTION!**

Class A equipment is not intended for use in residential locations where the electrical power is provided by the public low-voltage supply system. There may be potential difficulties in ensuring electromagnetic compatibility of class A equipment in those locations, due to conducted as well as radiated disturbances.

**NOTE!****Dispose of electronic equipment at the recycling facility!**

In observance of European Directive 2012/19/EC on Waste Electrical and Electronic Equipment and its implementation in accordance with national law, electrical and/or electronic equipment that has reached the end of its life must be disposed of at a recycling facility.

As the person responsible for the equipment, it is your responsibility to obtain information on approved collection stations.

For further information contact the nearest ESAB dealer.



ESAB has an assortment of welding accessories and personal protection equipment for purchase. For ordering information contact your local ESAB dealer or visit us on our website.

2 INTRODUCTION

The **Tig 3000i AC/DC** is a TIG welding power source for alternating current (AC) or direct current (DC). It can also be used for MMA welding.

ESAB accessories for the product can be found in the "ACCESSORIES" chapter of this manual.

2.1 Equipment

The power source is supplied with:

Instruction manual for the welding power source, instruction manual for the control panel and 5 m return cable.

Instruction manuals in other languages can be downloaded from the Internet: www.esab.com

2.2 Control panel

TA24 AC/DC



See the separate instruction manual for a detailed description of the control panel.

3 TECHNICAL DATA

Tig 3000i AC/DC	
Mains voltage	400 V, $\pm 10\%$, 3~ 50/60 Hz
Mains supply	$S_{sc \text{ min}}$ 5.3 MVA
Primary current	
I_{max} TIG	18 A
I_{max} MMA	22 A
No-load power demand when in the energy-saving mode, 6.5 min. after welding	26 W
Setting range	
TIG, AC* / DC	4-300 A
MMA	16-300 A
Permissible load at TIG, AC/DC	
35% duty cycle	300 A / 22 V
60% duty cycle	240 A / 19.6 V
100% duty cycle	200 A / 18 V
Permissible load at MMA	
30% duty cycle	300 A / 32 V
60% duty cycle	230 A / 29.2 V
100% duty cycle	190 A / 27.6 V
Power factor at maximum current	
TIG AC	0.85
TIG DC	0.90
MMA	0.91
Efficiency at maximum current	
TIG AC	71 %
TIG DC	71 %
MMA	76 %
Open-circuit voltage MMA	58 V
Operating temperature	-10 to + 40° C
Transportation temperature	-20 to + 55° C
Constant A-weighted sound pressure	< 70 dB
Dimensions l x w x h	652 x 249 x 423 mm
Weight	48.5 kg
Insulation class transformer	H
Enclosure class	IP 23
Application class	S

*) The minimum current during AC welding depends on the alloy used for the aluminium plates and their surface cleanliness.

Duty cycle

The duty cycle refers to the time as a percentage of a ten-minute period that you can weld or cut at a certain load without overloading. The duty cycle is valid for 40 °C / 104 °F, or below.

Enclosure class

The **IP** code indicates the enclosure class, i.e. the degree of protection against penetration by solid objects or water.

Equipment marked **IP23** is intended for indoor and outdoor use.

Application class

The symbol **S** indicates that the power source is designed for use in areas with increased electrical hazard.

Mains supply, $S_{sc\ min}$

Minimum short circuit power on the network in accordance with IEC 61000-3-12.

4 INSTALLATION

The installation must be carried out by a professional.

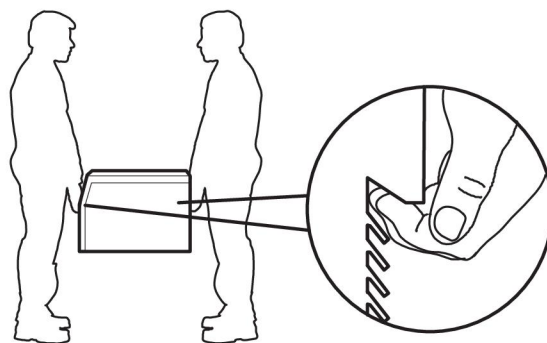


NOTE!

Mains supply requirements

This equipment complies with IEC 61000-3-12 provided that the short-circuit power is greater than or equal to S_{scmin} at the interface point between the user's supply and the public system. It is the responsibility of the installer or user of the equipment to ensure, by consultation with the distribution network operator if necessary, that the equipment is connected only to a supply with a short-circuit power greater than or equal to S_{scmin} . Refer to the technical data in the TECHNICAL DATA chapter.

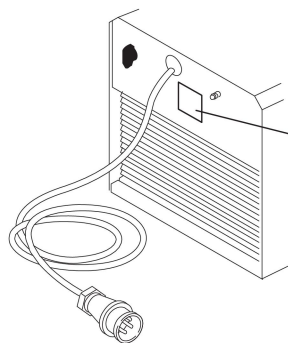
4.1 Lifting instruction



4.2 Location

Position the welding power source such that its cooling air inlets and outlets are not obstructed.

4.3 Mains power supply



Check that the welding power source is connected to the correct mains power supply voltage, and that it is protected by the correct fuse size. A protective earth connection must be made in accordance with regulations.

Rating plate with supply connection data

Recommended fuse sizes and minimum cable area

Tig 3000i AC/DC	TIG	MMA
Mains voltage	400 V 1-3~ 50/60 Hz	400 V 1-3~ 50/60 Hz
Mains cable area mm ²	4 mm / phase	4 mm / phase

Tig 3000i AC/DC	TIG	MMA
Phase current $I_{1\text{eff}}$	9 A	12 A
Fuse anti-surge	10 A	16 A
type C MCB	16 A	16 A

**NOTE!**

The mains cable areas and fuse sizes as shown above are in accordance with Swedish regulations. For other regions, supply cables must be suitable for the application and meet local and national regulations.

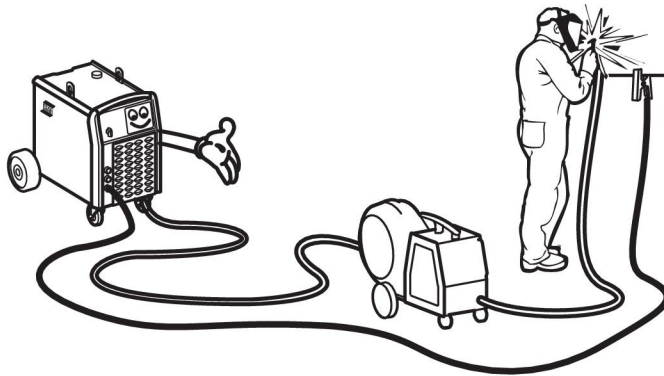
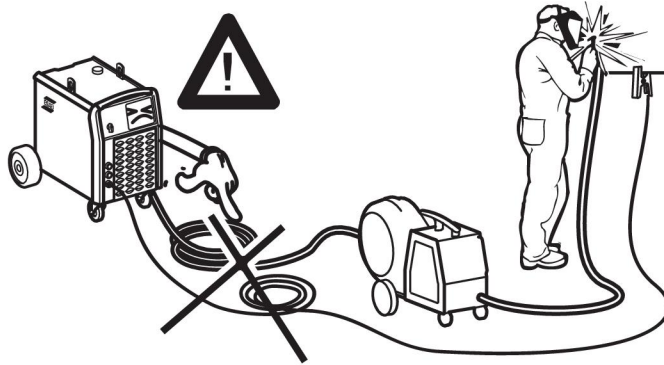
**NOTE!**

The welding power source is designed for connection to a 230 / 400 volt system with four conductors.

If the power source is to be used in countries with a higher supply voltage, the power source must be connected via a safety transformer.

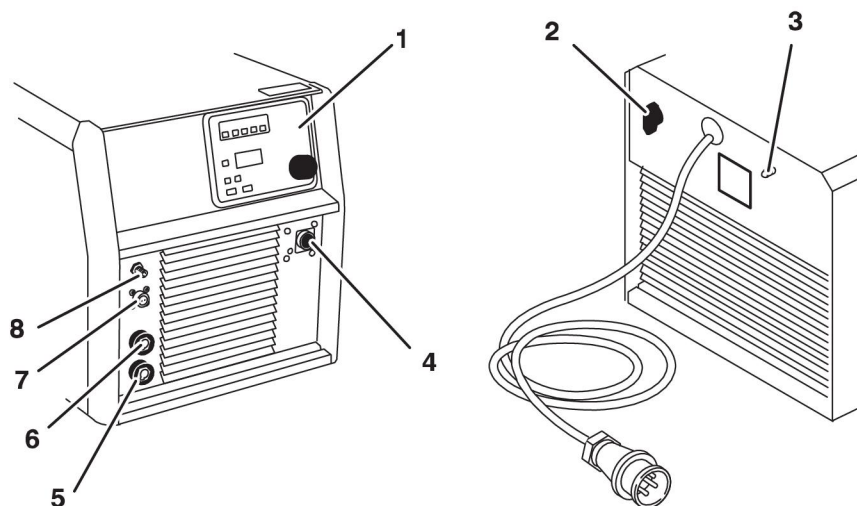
5 OPERATION

General safety regulations for handling the equipment can be found in the "SAFETY" chapter of this manual. Read it through before you start using the equipment!



5.1 Connections and control devices

- | | |
|--|--|
| 1 Control panel, see separate instruction manual | 5 Connection for return cable |
| 2 Mains voltage switch | 6 Connection for welding cable or welding torch |
| 3 Connection for shielding gas | 7 Connection for start signal from the welding torch |
| 4 CAN connection for cooling unit or remote control unit | 8 Connection for gas to the torch |



5.2 Key to symbols



MMA



TIG



Return clamp

5.3 Fan control

The power source has a time control that means that the fans continue to run for 6.5 minutes after welding has stopped, and the unit switches to energy-saving mode. The fans start again when welding restarts.

The fans run at reduced speed for welding currents up to 110 A, and at full speed for higher currents.

5.4 Overheating protection

The welding power source has overheating protection that operates if the temperature becomes too high. When this occurs the welding current is interrupted and a fault code is displayed on the control panel.

The overheating protection resets automatically when the temperature has fallen.

6 MAINTENANCE

**NOTE!**

Regular maintenance is important for safe and reliable operation.

**CAUTION!**

All warranty undertakings from the supplier cease to apply if the customer attempts any work to rectify any faults in the product during the warranty period.

Only those persons who have appropriate electrical knowledge (authorised personnel) may remove the safety plates to connect or carry out service, maintenance or repair work on welding equipment.

6.1 Inspection and cleaning

Power source

Check regularly that the welding power source is not clogged with dirt.

How often and which cleaning methods apply depend on: the welding process, arc times, placement, and the surrounding environment. It is normally sufficient to blow down the power source with dry compressed air (reduced pressure) once a year.

Clogged or blocked air inlets and outlets otherwise result in overheating.

Welding torch

- The wear parts of the welding torch should be cleaned and replaced at regular intervals in order to achieve trouble-free wire feed. Blow the wire guide clean regularly and clean the contact tip.

7 FAULT-TRACING

Try these recommended checks and inspections before sending for an authorised service technician.

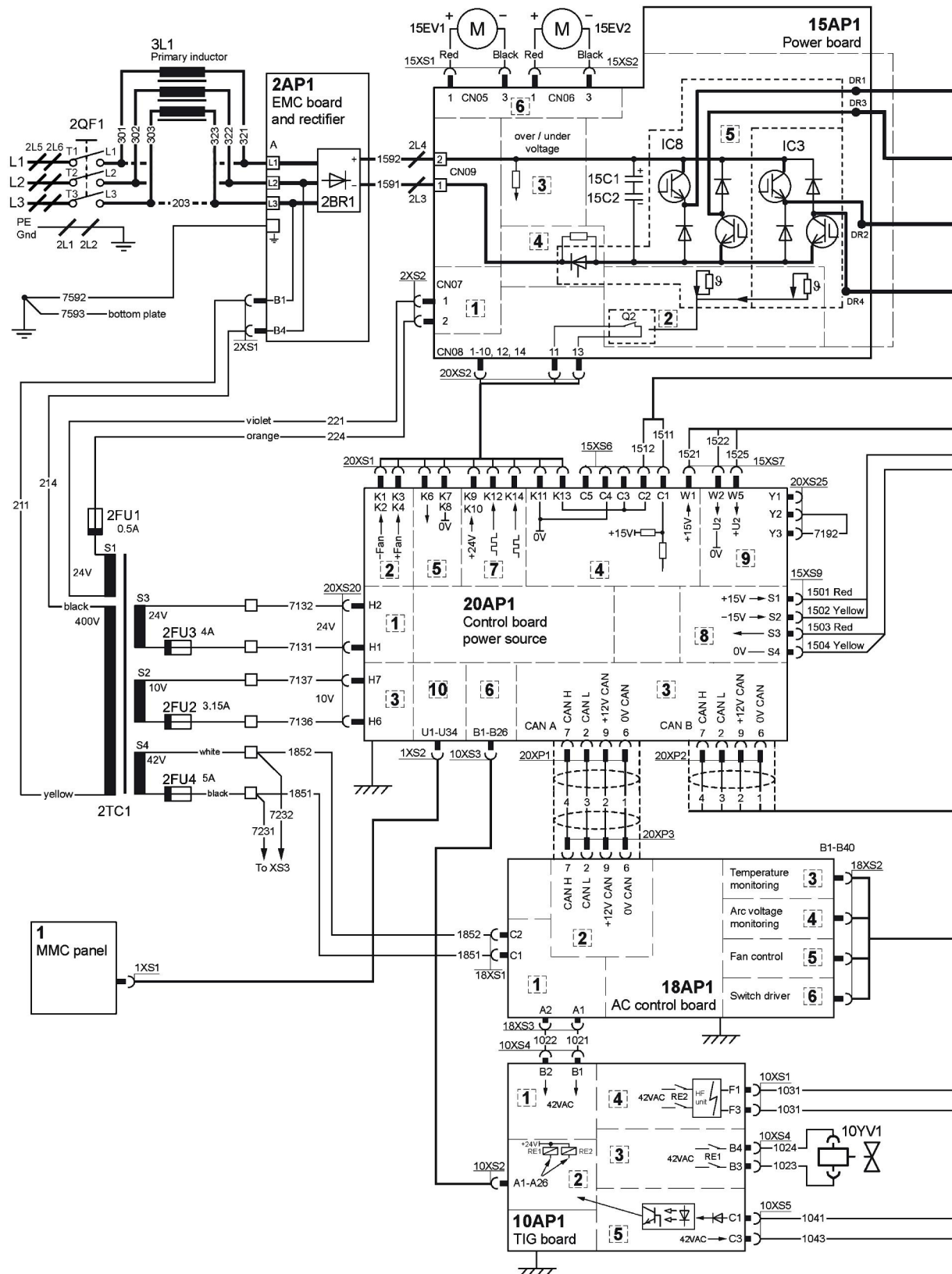
Type of fault	Corrective action
No arc.	• Check that the mains power supply switch is turned on. • Check that the welding current supply and return cables are correctly connected. • Check that the correct current value is set.
The welding current is interrupted during welding.	• Check whether the overheating protection has operated (fault code E6 is displayed on the control panel). • Check the mains power supply fuses.
The overheating protection trips frequently.	• Make sure that you are not exceeding the rated data for the welding power source (i.e. that the unit is not being overloaded).
Poor welding performance.	• Check that the welding current supply and return cables are correctly connected. • Check that the correct current value is set. • Check that the correct electrodes are being used. • Check the mains power supply fuses.

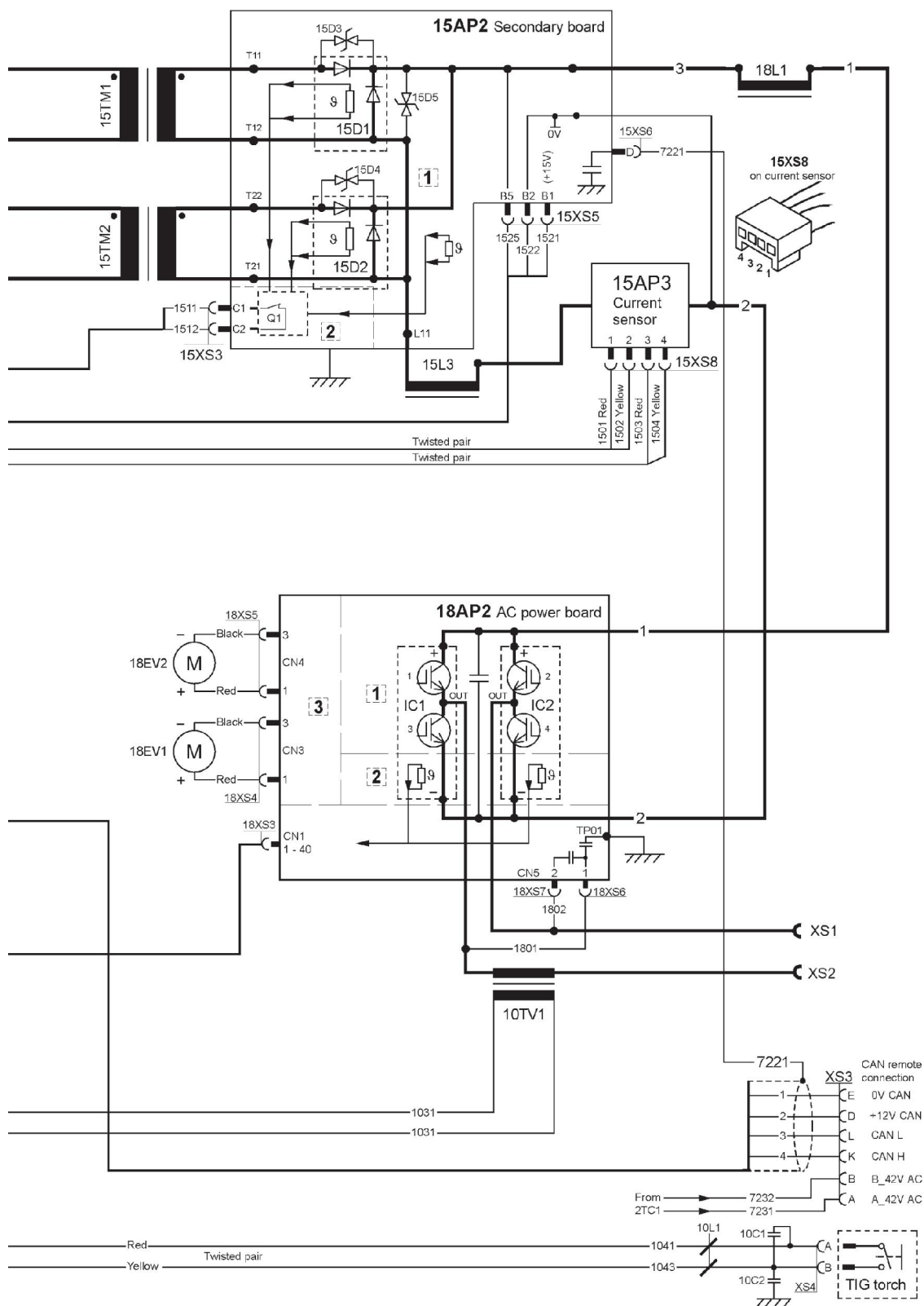
8 ORDERING SPARE PARTS

Tig 3000i AC/DC is designed and tested in accordance with the international and European standards IEC/EN 60974-1, IEC/EN 60974-3 and IEC/EN 60974-10. It is the obligation of the service unit which has carried out the service or repair work to make sure that the product still conforms to the said standard.

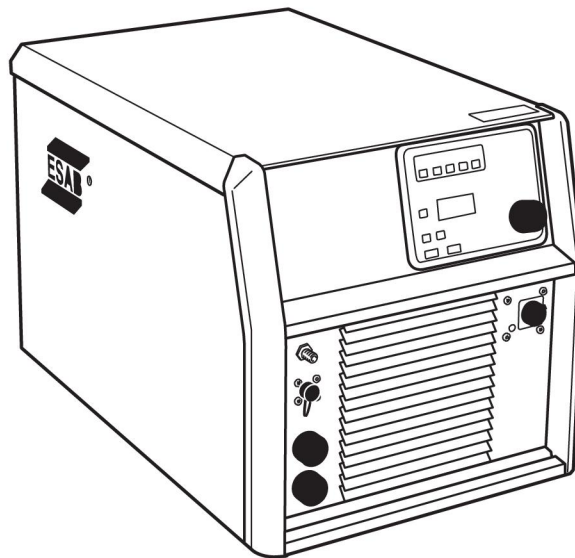
Spare parts and wear parts can be ordered through your nearest ESAB dealer, see esab.com. When ordering, please state product type, serial number, designation and spare part number in accordance with the spare parts list. This facilitates dispatch and ensures correct delivery.

DIAGRAM





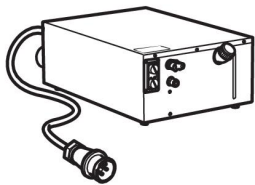
ORDERING NUMBERS

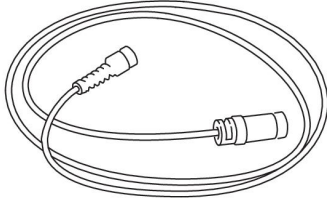


Ordering no.	Denomination	Type
0459 735 880	Welding power source	Origo™ Tig 3000i AC/DC, TA24 AC/DC
0459 839 006	Spare parts list	Tig 3000i AC/DC
0459 839 003	Spare parts list	Control panel Origo™ TA24 AC/DC
0459 944	Instruction manual	Control panel Origo™ TA24 AC/DC

Technical documentation is available on the Internet at: www.esab.com

ACCESSORIES

0459 366 890 0460 060 880	Trolley 2 wheel Trolley 4 wheel	
0459 840 880	Cooling unit CoolMidi 1800 Includes 5 m cable	
0465 720 002	ESAB ready mixed coolant (10 l / 2.64 gal) Use of any other cooling liquid than the prescribed one might damage the equipment. In case of such damage, all warranty undertakings from ESAB cease to apply.	
0459 491 910	Remote control adapter RA12 12 pole For analogue remote controls to CAN based equipment.	
0459 491 880	Remote control unit MTA1 CAN MIG/MAG: wire feed speed and voltage MMA: current and arc force TIG: current, pulse and background current	
0459 491 882	Remote control unit M1 10Prog CAN Choice of one of 10 programs MIG/MAG: voltage deviation TIG and MMA: current deviation	

0459 491 883	Remote control unit AT1 CAN MMA and TIG: current	
0459 491 884	Remote control unit AT1 CF CAN MMA and TIG: rough and fine setting of current.	
0459 491 912	Remote control unit RAT1 CAN For TIG-torch TXHr Including holder and 0.25 m cable	
0460 315 880	Remote control unit T1 Foot CAN Including 5 m cable	
0459 554 880	Remote cable CAN 4 pole - 12 pole 5 m	
0459 554 881	10 m	
0459 554 882	15 m	
0459 554 883	25 m	
0459 554 884	0.25 m	
0156 743 907	Return cable 5 m 50 mm²	

Information on Tig torches can be found in separate brochures.



A WORLD OF PRODUCTS AND SOLUTIONS.



For contact information visit esab.com

ESAB AB, Lindholmsallén 9, Box 8004, 402 77 Gothenburg, Sweden, Phone +46 (0) 31 50 90 00

<http://manuals.esab.com>

