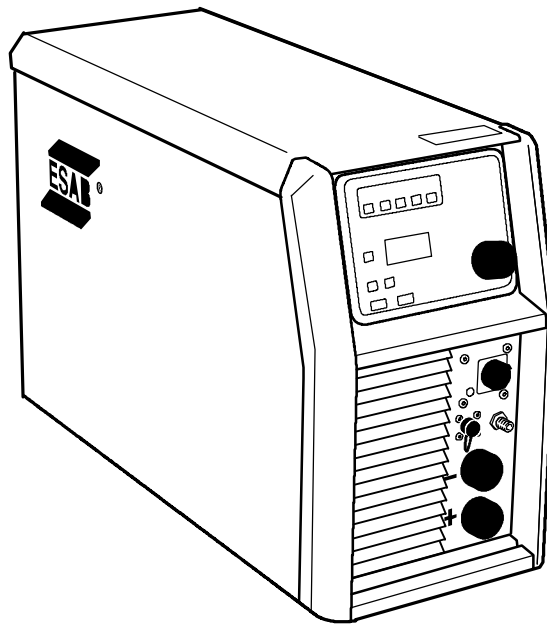




Tig 3000i

Origo™



Instruction manual

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1 DIRECTIVE

DECLARATION OF CONFORMITY

ESAB AB, Welding Equipment, SE-695 81 Laxå, Sweden, gives its unreserved guarantee that welding power source TYPE from serial number NO are constructed and tested in compliance with the standard EN 60974-1 /-3 and EN 60974-10 (Class A) in accordance with the requirements of directive (2006/95/EC) and (2004/108/EEC).

Laxå 2008-01-04



Kent Eimbrodt
Global Director
Equipment and Automation


2 SAFETY

Users of ESAB welding 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 welding 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 welding 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 welding equipment must be familiar with:
 - its operation
 - location of emergency stops
 - its function
 - relevant safety precautions
 - welding
2. The operator must ensure that:
 - no unauthorized person is stationed within the working area of the equipment when it is started up.
 - no-one is unprotected when the arc is struck
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.

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WARNING



Arc welding and cutting can be injurious to yourself and others. Take precautions when welding. Ask for your employer's safety practices which should be based on manufacturers' hazard data.

ELECTRIC SHOCK - Can kill

- Install and earth the welding unit in accordance with applicable standards.
- Do not touch live electrical parts or electrodes with bare skin, wet gloves or wet clothing.
- Insulate yourself from earth and the workpiece.
- Ensure your working stance is safe.

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.

FIRE HAZARD

- Sparks (spatter) can cause fire. Make sure therefore that there are no inflammable materials nearby.

NOISE - Excessive noise can damage hearing


- Protect your ears. Use earmuffs or other hearing protection.
- Warn bystanders of the risk.

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

Read and understand the instruction manual before installing or operating.


PROTECT YOURSELF AND OTHERS!

ESAB can provide you with all necessary welding protection and accessories.



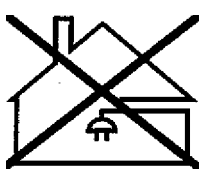
WARNING!


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.






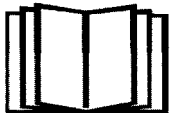
CAUTION!

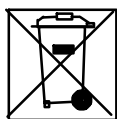
This product is solely intended for arc welding.



CAUTION!

Read and understand the instruction manual before installing or operating.



Do not dispose of electrical equipment together with normal waste!

In observance of European Directive 2002/96/EC on Waste Electrical and Electronic Equipment and its implementation in accordance with national law, electrical equipment that has reached the end of its life must be collected separately and returned to an environmentally compatible recycling facility. As the owner of the equipment, you should get information on approved collection systems from our local representative.

By applying this European Directive you will improve the environment and human health!

3 INTRODUCTION

The **Tig 3000i** is a TIG welding power source, which can also be used for MMA welding.

ESAB's accessories for the product can be found on page 15.

3.1 Equipment

The power sources is supplied with:

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

3.2 Control panel

The units are supplied with one of the following control panels:



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

4 TECHNICAL DATA

Tig 3000i	
Mains voltage	400 V, $\pm 10\%$, 3~ 50/60 Hz
Mains supply	$S_{sc \text{ min}}$ 1,4 MVA
Primary current	
I_{max} TIG	14.1 A
I_{max} MMA	19 A
No-load power demand when in the energy-saving mode, 6.5 min. after welding	30 W
Setting range	
MMA	16-300 A
TIG	4-300 A
Permissible load at TIG	
35% duty cycle	300 A / 22 V
60% duty cycle	240 A / 19.6 V
100% duty cycle	200 A / 18 V



Tig 3000i	
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	0.89
MMA	0.90
Efficiency at maximum current	
TIG	81.5 %
MMA	84 %
Open-circuit voltage	
MMA	57- 67 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	32.5 kg
Insulation class transformer	H
Enclosure class	IP 23
Application class	S

Duty cycle

The duty cycle refers to the time as a percentage of a ten-minute period that you can weld at a certain load without overloading.

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 designed 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, $S_{sc \text{ min}}$

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

5 INSTALLATION

The installation must be executed by a professional.

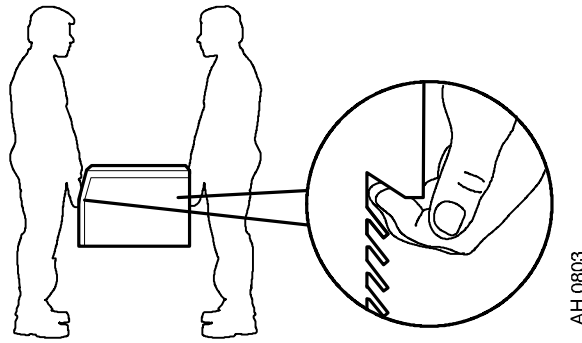
Note!

Mains supply requirements

High power equipment may, due to the primary current drawn from the mains supply, influence the power quality of the grid. Therefore connection restrictions or requirements regarding the maximum permissible mains impedance or the required minimum supply capacity at the interface point to the public grid may apply for some types of equipment (see technical data). In this case 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 may be connected.

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5.1 Lifting instruction

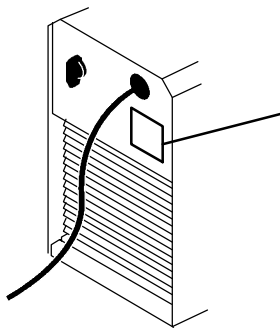


5.2 Location

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

5.3 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	TIG	MMA
Mains voltage	400 V 3~ 50 Hz	400 V 3~ 50 Hz
Mains cable area mm ²	4G2,5	4G2,5
Phase current I _{1eff}	8 A	13 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. Use the welding power source in accordance with the relevant national regulations.

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

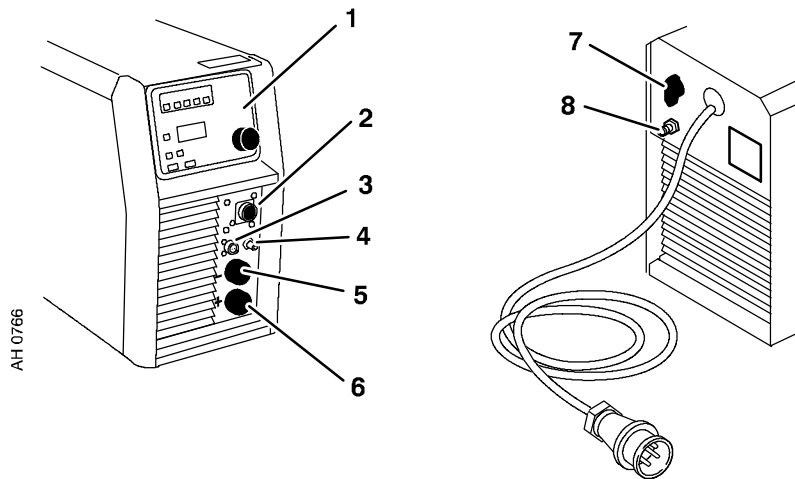
If the power source is to be used in countries with a higher supply voltage, the power source must be connected via a safety transformer.

6 OPERATION

General safety regulations for the handling of the equipment can be found on page 3. Read through before you start using the equipment!

6.1 Connections and control devices

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



6.2 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.

6.3 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.



7 MAINTENANCE

Regular maintenance is important for safe, reliable operation.



CAUTION!

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

Only those persons who have appropriate electrical knowledge (authorized personnel) may remove the safety plates.

7.1 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 welding torch's wear parts should be cleaned and replaced at regular intervals in order to achieve trouble-free welding.

8 FAULT-TRACING

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

Type of fault	Corrective action
No arc.	<ul style="list-style-type: none"> • 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.	<ul style="list-style-type: none"> • 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.	<ul style="list-style-type: none"> • 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.	<ul style="list-style-type: none"> • 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.

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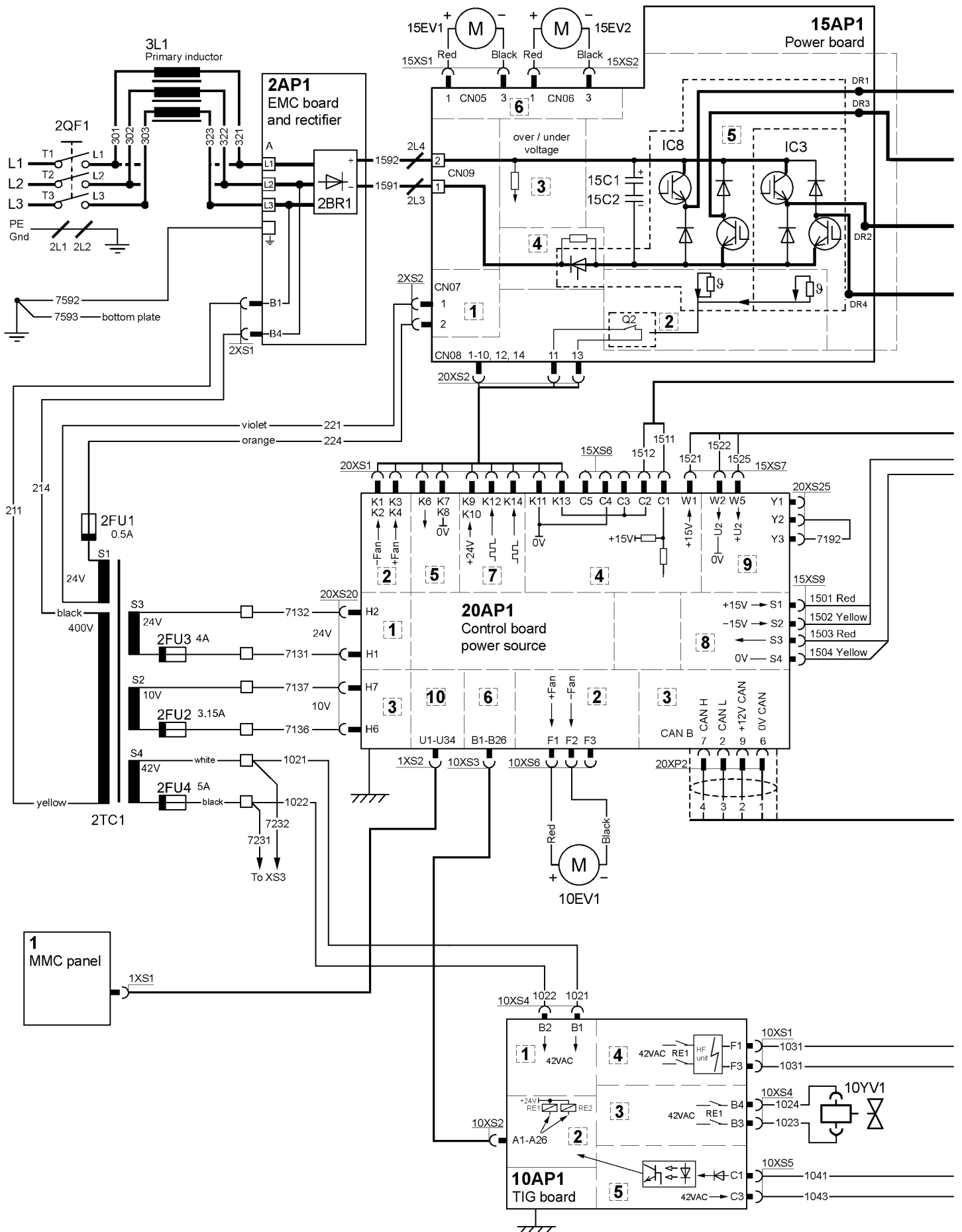
9 ORDERING SPARE PARTS

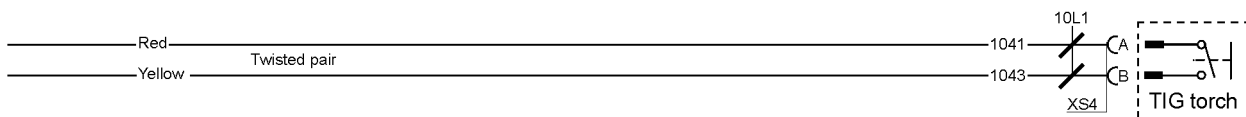
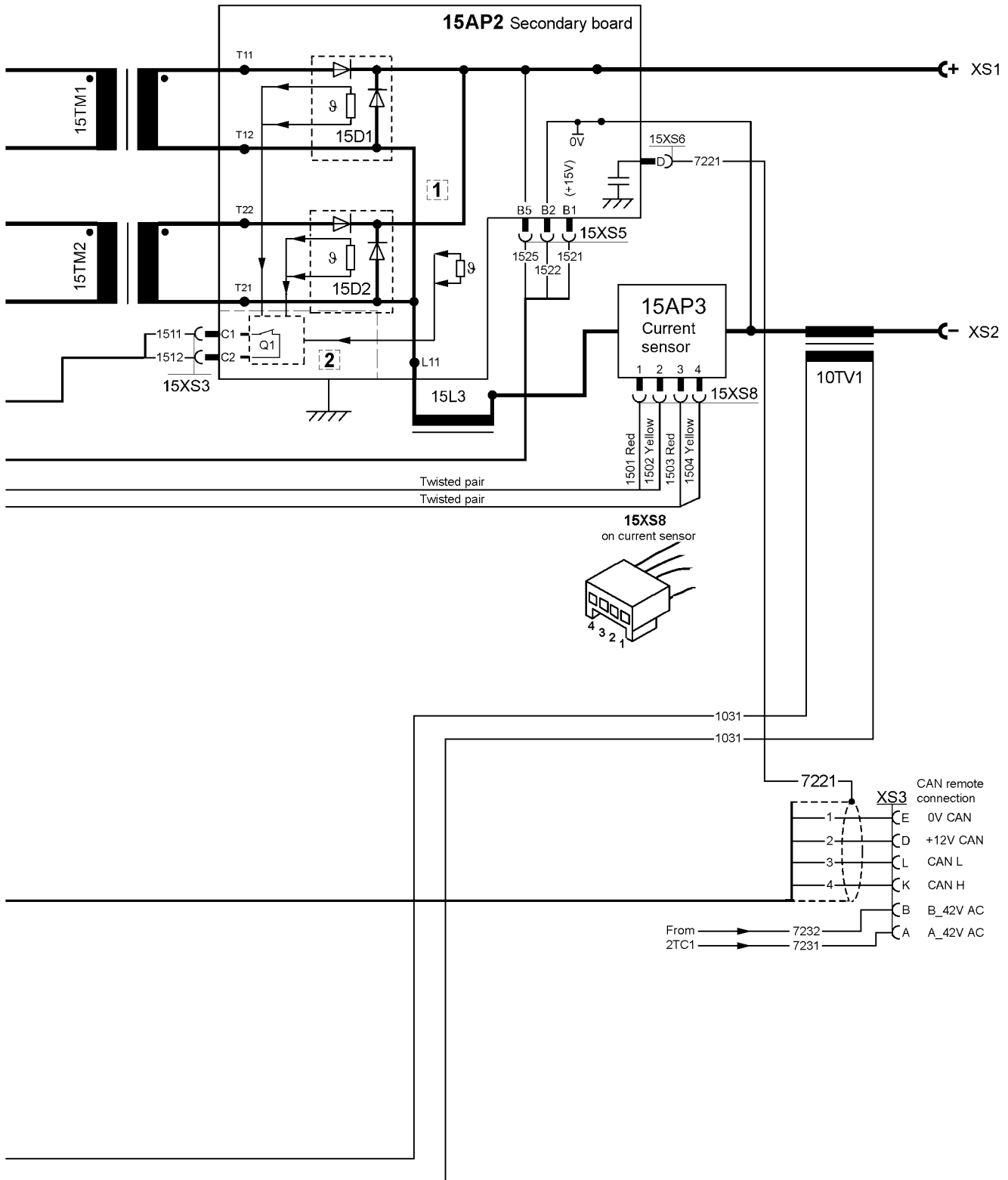
Tig 3000i is designed and tested in accordance with the international and European standards IEC/EN 60974-1, 60974-3 and EN 60974-10. It is the obligation of the service unit which has carried out the service or repair work to make sure that the product still conforms to the said standard.

Spare parts may be ordered through your nearest ESAB dealer, see the last page of this publication.



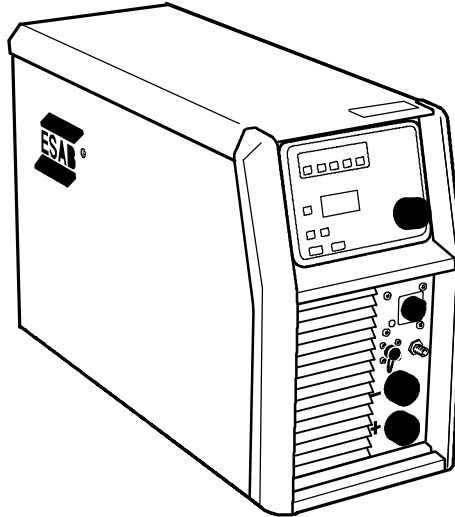
Diagram





Tig 3000i

Ordering number


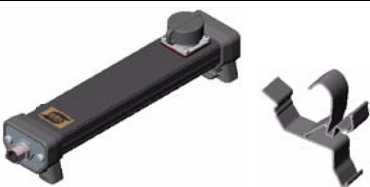







Ordering no.	Denomination	Type
0459 745 880	Welding power source	Origo™ Tig 3000i, TA24
0459 745 881	Welding power source	Origo™ Tig 3000i, TA23
0459 839 006	Spare parts list	Tig 3000i
0459 839 003	Spare parts list	Control panel Origo™ TA23, Origo™ TA24
0460 032	Instruction manual	Control panel TA23
0459 945	Instruction manual	Control panel TA24

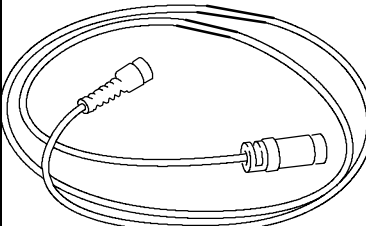

Instruction manuals and the spare parts list are available on the Internet at www.esab.com

Tig 3000i

Accessories

	<p>Trolley 0459 366 890</p>
	<p>Remote control adapter RA12 12 pole 0459 491 910 For analogue remote controls to CAN based equipment.</p>
	<p>Remote control unit MTA1 CAN 0459 491 880 MIG/MAG: wire feed speed and voltage MMA: current and arc force TIG: current, pulse and background current</p>
	<p>Remote control unit M1 10Prog CAN 0459 491 882 Choice of on of 10 programs MIG/MAG: voltage deviation TIG and MMA: current deviation</p>
	<p>Remote control unit AT1 CAN 0459 491 883 MMA and TIG: current</p>
	<p>Remote control unit AT1 CF CAN 0459 491 884 MMA and TIG: rough and fine setting of current.</p>
	<p>Remote control unit FS 002 CAN 0349 090 890 MMA and TIG: current</p>

Tig 3000i

	Remote cable CAN 4 pole - 12 pole	
	5 m	0459 544 880
	10 m	0459 554 881
	15 m	0459 554 882
	25 m	0459 554 883
0.25 m	0459 554 884	
	Return cable 5 m 50 mm²	
		0156 743 907

Information on Tig torches can be found in separate brochures.









ESAB subsidiaries and representative offices

Europe

AUSTRIA

ESAB Ges.m.b.H
Vienna-Liesing
Tel: +43 1 888 25 11
Fax: +43 1 888 25 11 85

BELGIUM

S.A. ESAB N.V.
Brussels
Tel: +32 2 745 11 00
Fax: +32 2 745 11 28

THE CZECH REPUBLIC

ESAB VAMBERK s.r.o.
Vamberk
Tel: +420 2 819 40 885
Fax: +420 2 819 40 120

DENMARK

Aktieselskabet ESAB
Herlev
Tel: +45 36 30 01 11
Fax: +45 36 30 40 03

FINLAND

ESAB Oy
Helsinki
Tel: +358 9 547 761
Fax: +358 9 547 77 71

FRANCE

ESAB France S.A.
Cergy Pontoise
Tel: +33 1 30 75 55 00
Fax: +33 1 30 75 55 24

GERMANY

ESAB GmbH
Solingen
Tel: +49 212 298 0
Fax: +49 212 298 218

GREAT BRITAIN

ESAB Group (UK) Ltd
Waltham Cross
Tel: +44 1992 76 85 15
Fax: +44 1992 71 58 03

ESAB Automation Ltd
Andover
Tel: +44 1264 33 22 33
Fax: +44 1264 33 20 74

HUNGARY

ESAB Kft
Budapest
Tel: +36 1 20 44 182
Fax: +36 1 20 44 186

ITALY

ESAB Saldatura S.p.A.
Mesero (Mi)
Tel: +39 02 97 96 81
Fax: +39 02 97 28 91 81

THE NETHERLANDS

ESAB Nederland B.V.
Amersfoort
Tel: +31 33 422 35 55
Fax: +31 33 422 35 44

NORWAY

AS ESAB
Larvik
Tel: +47 33 12 10 00
Fax: +47 33 11 52 03

POLAND

ESAB Sp.zo.o.
Katowice
Tel: +48 32 351 11 00
Fax: +48 32 351 11 20

PORTUGAL

ESAB Lda
Lisbon
Tel: +351 8 310 960
Fax: +351 1 859 1277

SLOVAKIA

ESAB Slovakia s.r.o.
Bratislava
Tel: +421 7 44 88 24 26
Fax: +421 7 44 88 87 41

SPAIN

ESAB Ibérica S.A.
Alcalá de Henares (MADRID)
Tel: +34 91 878 3600
Fax: +34 91 802 3461

SWEDEN

ESAB Sverige AB
Gothenburg
Tel: +46 31 50 95 00
Fax: +46 31 50 92 22

ESAB international AB
Gothenburg
Tel: +46 31 50 90 00
Fax: +46 31 50 93 60

SWITZERLAND

ESAB AG
Dietikon
Tel: +41 1 741 25 25
Fax: +41 1 740 30 55

North and South America

ARGENTINA

CONARCO
Buenos Aires
Tel: +54 11 4 753 4039
Fax: +54 11 4 753 6313

BRAZIL

ESAB S.A.
Contagem-MG
Tel: +55 31 2191 4333
Fax: +55 31 2191 4440

CANADA

ESAB Group Canada Inc.
Mississauga, Ontario
Tel: +1 905 670 02 20
Fax: +1 905 670 48 79

MEXICO

ESAB Mexico S.A.
Monterrey
Tel: +52 8 350 5959
Fax: +52 8 350 7554

USA

ESAB Welding & Cutting Products
Florence, SC
Tel: +1 843 669 44 11
Fax: +1 843 664 57 48

Asia/Pacific

CHINA

Shanghai ESAB A/P
Shanghai
Tel: +86 21 5308 9922
Fax: +86 21 6566 6622

INDIA

ESAB India Ltd
Calcutta
Tel: +91 33 478 45 17
Fax: +91 33 468 18 80

INDONESIA

P.T. ESABindo Pratama
Jakarta
Tel: +62 21 460 0188
Fax: +62 21 461 2929

JAPAN

ESAB Japan
Tokyo
Tel: +81 3 5296 7371
Fax: +81 3 5296 8080

MALAYSIA

ESAB (Malaysia) Snd Bhd
Selangor
Tel: +60 3 8027 9869
Fax: +60 3 8027 4754

SINGAPORE

ESAB Asia/Pacific Pte Ltd
Singapore
Tel: +65 6861 43 22
Fax: +65 6861 31 95

SOUTH KOREA

ESAB SeAH Corporation
Kyungnam
Tel: +82 55 269 8170
Fax: +82 55 289 8864

UNITED ARAB EMIRATES

ESAB Middle East FZE
Dubai
Tel: +971 4 887 21 11
Fax: +971 4 887 22 63

Representative offices

BULGARIA

ESAB Representative Office
Sofia
Tel/Fax: +359 2 974 42 88

EGYPT

ESAB Egypt
Dokki-Cairo
Tel: +20 2 390 96 69
Fax: +20 2 393 32 13

ROMANIA

ESAB Representative Office
Bucharest
Tel/Fax: +40 1 322 36 74

RUSSIA

LLC ESAB
Moscow
Tel: +7 095 543 9281
Fax: +7 095 543 9280

LLC ESAB

St Petersburg
Tel: +7 812 336 7080
Fax: +7 812 336 7060

Distributors

For addresses and phone numbers to our distributors in other countries, please visit our home page

www.esab.com



ESAB AB
SE-695 81 LAXÅ
SWEDEN
Phone +46 584 81 000

www.esab.com

