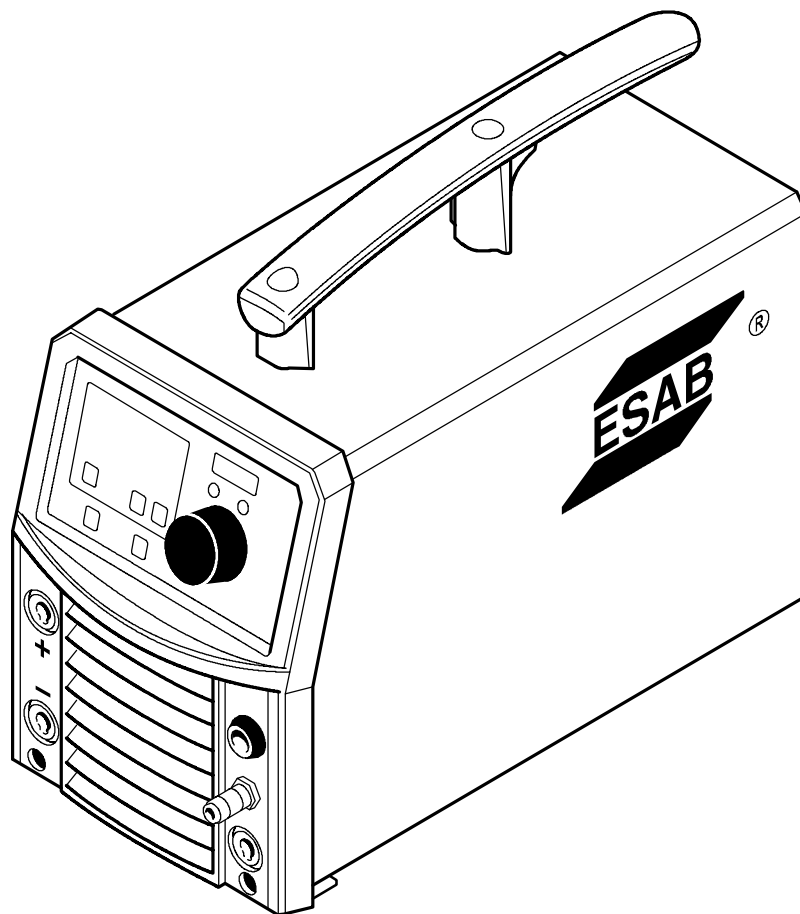




OrigoTig 150

OrigoTig 200



Bruksanvisning
Brugsanvisning
Bruksanvisning
Käyttöohjeet
Instruction manual
Betriebsanweisung
Manuel d'instructions
Gebruiksaanwijzing

Instrucciones de uso
Istruzioni per l'uso
Manual de instruções
Οδηγίες χρήσεως
Instrukcja obsługi
Návod k používání
Kezelési utasítások

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Rätt till ändring av specifikationer utan avisering förbehålles.
Ret til ændring af specifikationer uden varsel forbeholdes.
Ret til å endre spesifikasjoner uten varsel forbeholdes.
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Výrobce si vyhrazuje právo na změnu údajů bez předcházejícího upozornění.
Fenntartjuk az előzetes bejelentés nélküli változtatás jogát.


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1 DIRECTIVE

DECLARATION OF CONFORMITY

ESAB Welding Equipment AB, S-695 81 Laxå, Sweden, gives its unreserved guarantee that welding power source OrigoTig 150, OrigoTig 200 from serial number 316, 402 complies with standard IEC/EN 60974-1, in accordance with the requirements of directive (73/23/EEC) and addendum (93/68/EEC) and with standard EN 50199 in accordance with the requirements of directive (89/336/EEC) and addendum (93/68/EEC).

Laxå 2003-04-10



Henry Selenius
Vice President
ESAB AB Arc Equipment
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SWEDEN

Tel: + 46 584 81000

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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.



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.

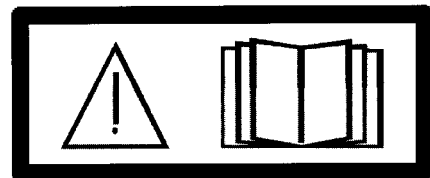
PROTECT YOURSELF AND OTHERS!

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



WARNING!

Read and understand the instruction manual before installing or operating.



WARNING!

Do not use the power source for thawing frozen pipes.



This product is solely intended for arc welding.

3 INTRODUCTION

The **OrigoTig** is a welding current power source intended for use with coated electrodes (MMA welding) and TIG welding.

3.1 Equipment

The **OrigoTig** is supplied with a mains cable and an instruction manual.

ESAB's accessories for the product can be found on page 182.

4 TECHNICAL DATA

	OrigoTig 150	OrigoTig 200
Mains voltage	230V, 1~ 50/60 Hz	230V, 1~ 50/60 Hz
Fuse (delayed-action)	16 A	20 A
Primary current I_{max}	36 A	36 A
Primary current I_{eff}	21 A	21 A
Voltage/current range (TIG) (MMA)	3 A / 10 V - 150 A / 16 V 4 A / 20 V - 150 A / 26 V	3 A / 10 V - 200 A / 18 V 4 A / 20 V - 150 A / 27 V
Maximum permissible load at TIG		
25% duty cycle		200 A / 18 V
35% duty cycle	150 A / 16 V	180 A / 17 V
60% duty cycle	120 A / 15 V	140 A / 15,5 V
100% duty cycle	95 A / 14 V	110 A / 14,5 V
Maximum permissible load at MMA		
25% duty cycle	150 A / 26 V	150 A / 26 V
35% duty cycle	140 A / 25,5 V	140 A / 25,5 V
60% duty cycle	110 A / 24,5 V	110 A / 24,5 V
100% duty cycle	90 A / 23,5 V	90 A / 23,5 V
Power factor at maximum current	0,62	0,62
Efficiency at maximum current	77 %	79 %
Open-circuit voltage	71 - 78 V	71 - 78 V
Operating temperature	-10 °C - + 40 °C	-10 °C - + 40 °C
Constant A-weighted sound pressure	<70 db	<70 db
Dimensions, l x b x h	380 x 180 x 300 mm	380 x 180 x 300 mm
Weight	9 kg	9 kg
Enclosure class	IP 23C	IP 23C
Application class	S	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.

4.1 Parameter setting

Settings	Setting range	In steps of:	Default value
Welding method	TIG or MMA	-	TIG
2/4-stroke	2 stroke or 4 stroke	-	2-stroke
HF / Lift Arc™	HF or LiftArc™	-	HF
Slope down time	0-10 s	0.1 s	1.0 s
Gas post-flow	0-25 s	0.1 s	2.0 s
Current TIG OrigoTig 150	3 - 150 A	1 A	100 A
Current TIG OrigoTig 200	3 - 200 A	1 A	100 A
Current MMA OrigoTig 150	3 - 150 A	1 A	60 A
Current MMA OrigoTig 200	4 - 150 A	2 A	100 A

5 INSTALLATION

The installation must be executed by a professional.



WARNING!

This product is intended for industrial use. In a domestic environment this product may cause radio interference. It is the user's responsibility to take adequate precautions.

5.1 Placing

Place the power source so that its cooling air inlets and outlets are not obstructed.

5.2 Rating plate

The rating plate is located on the underside of the power source or on the rear plate.

5.3 Mains power supply

Make sure that the welding power source is connected to the correct supply voltage and that it is protected by the correct fuse rating. The standards for the country in question must be complied with as regards the mains cable area. A protective earth connection must be made in accordance with regulations.

5.3.1 Recommended fuse sizes and minimum cable areas

	OrigoTig 150	OrigoTig 200
Mains voltage	230 V \pm 10 %, 1-phase	230 V \pm 10 %, 1-fas
Mains frequency	50-60 Hz	50-60 Hz
Fuse (delayed-action)		
85A 35% duty cycle MMA	10 A	10 A
120A 20% duty cycle MMA	16 A	16 A
150A 25% duty cycle MMA	20 A*)	20 A
180A 25% duty cycle MMA		25 A
Mains cable, area	3 x 2.5 mm ²	3x2,5 mm ²
Welding cable, area MMA	16 mm ²	16 mm ²
Welding cable, area TIG	16 mm ²	25 mm ²

*) **NOTE!** The mains plug is approved for maximum 16A.

North American version: Mains cable plug for is approved for maximum 18 A.

Australian-version: The mains cable plug is approved for maximum 15A.

Note! The cable area and fuse rating above comply with Swedish regulations. Use the welding power source in accordance with the relevant national regulations.

6 OPERATION

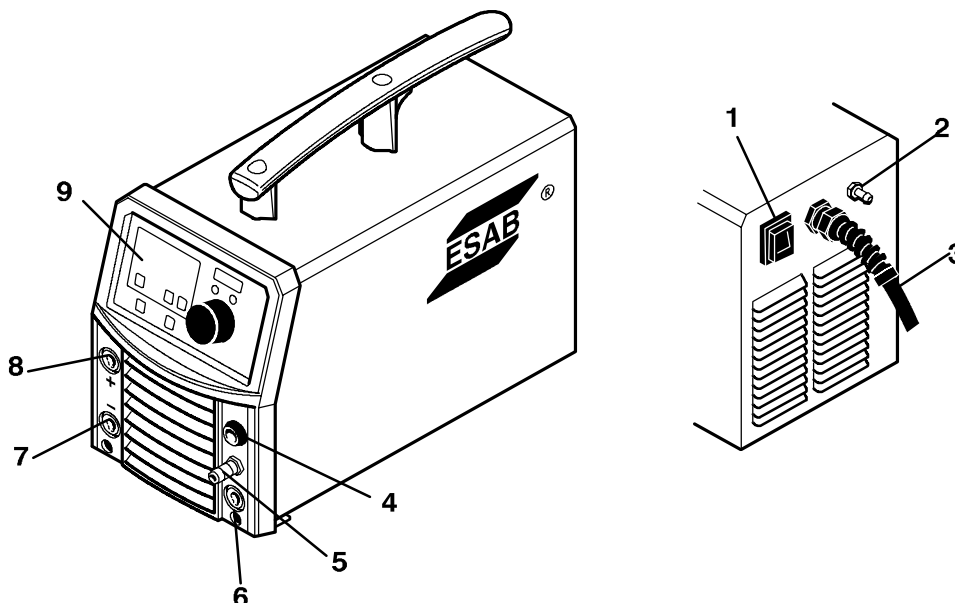
General safety regulations for the handling of the equipment can be found on page 48. Read through before you start using the equipment!

6.1 Connections and control devices

Make sure that the welding power source is connected to the correct supply voltage and that it is protected by the correct fuse rating.

- | | |
|-------------------------------------|-----------------------------------|
| 1 Mains switch | 6 Gas nipple TIG torch (OKC) |
| 2 Connection (gas bottle connector) | 7 Welding cable connection (+) |
| 3 Mains cable | 8 Connection for return cable (-) |
| 4 TIG torch connection | 9 Control panel (see 6.2) |
| 5 TIG torch gas connection | |

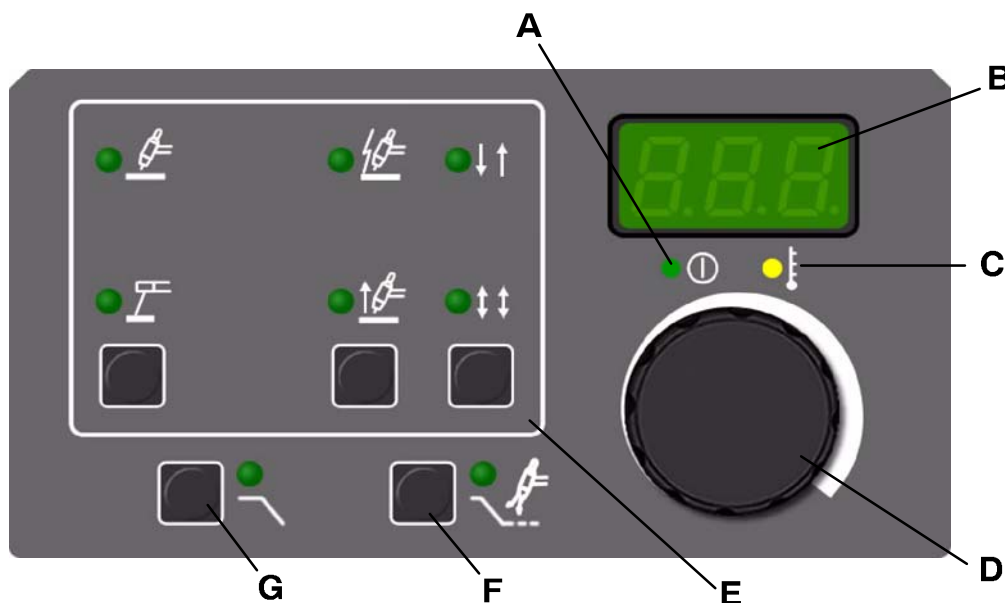
7 and **8** are used for welding current supply and return cable connection during MMA welding



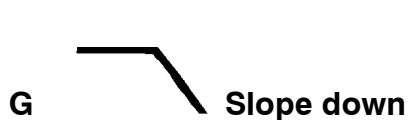
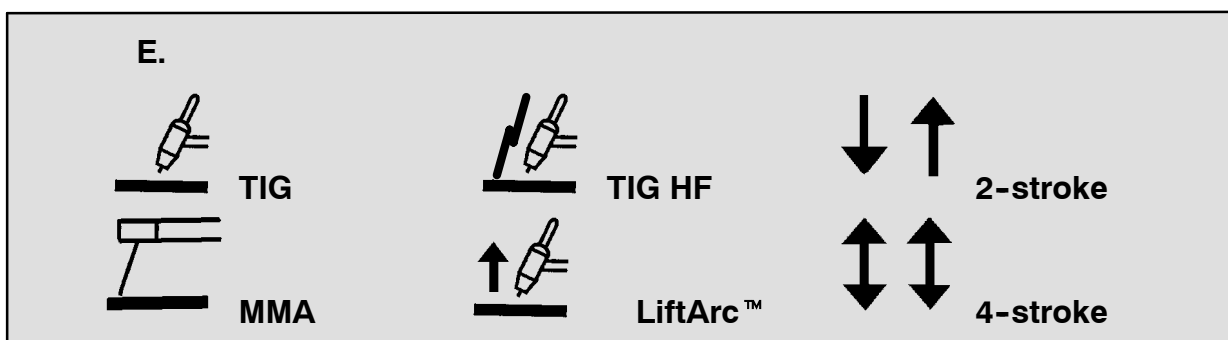
6.2 Control panel

The power source checks the LEDs and all segments in the display when main switch is turned on. The machine type and program version are also displayed.

- A** Mains voltage (green) LED
- B** Data display
- C** Overheating (yellow) LED
- D** Knob for setting data.
Increase (+) or Decrease (-) selected by the function pushbuttons



6.2.1 Panel function symbols (E - G)



6.3 Overheating protection

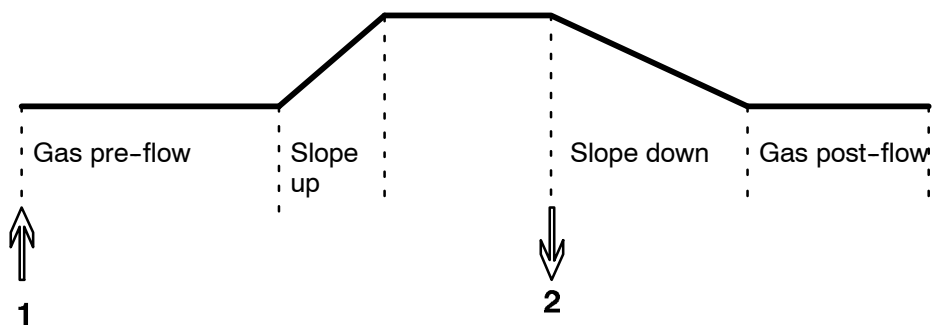
The welding power source has a thermal overload trip which operates if the temperature becomes too high, interrupting the welding current and lighting a yellow indicating lamp on the front of the power source. The thermal overload trip resets automatically when the temperature has fallen.

7 WELDING

7.1 TIG welding

During TIG welding, the return cable must be connected to (+) and the TIG torch to (-). If they are connected in reverse, the tungsten electrode will melt.

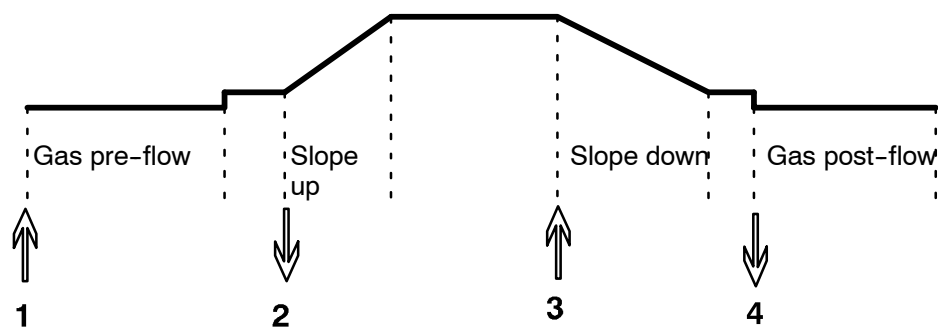
7.1.1 2-stroke



Functions when using 2-stroke control of the welding torch.

In the **2-stroke** control mode, pressing the trigger switch starts gas pre-flow (if used) and strikes the arc (1). The current rises to the set value (as controlled by the slope up function, if in operation). Releasing the trigger switch (2) reduces the current (or starts slope down if in operation) and extinguishes the arc. Gas post-flow follows if it is in operation.

7.1.2 4-stroke



Functions when using 4-stroke control of the welding torch.

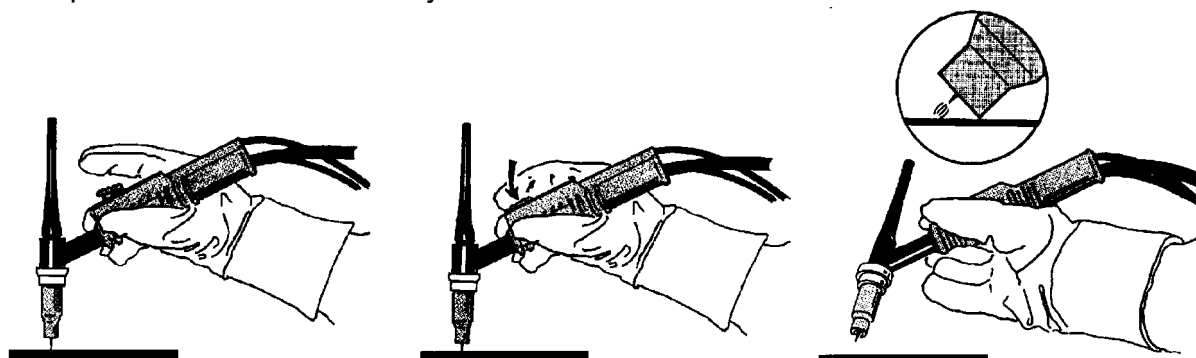
In the **4-stroke** control mode, pressing the trigger switch starts gas pre-flow (if used) (1). At the end of the gas pre-flow time, the current rises to the pilot level (a few ampere), and the arc is struck. Releasing the trigger switch (2) increases the current to the set value (with slope up, if in use). At the end of welding, the welder presses the trigger switch again (3), which reduces the current to pilot level again (with slope down, if in use). Releasing the switch again (4) extinguishes the arc and starts gas post-flow.

7.1.3  HF


The HF function strikes the arc by means of a spark from the tungsten electrode to the workpiece as the electrode is brought closer to the workpiece.

7.1.4  LiftArc™

The lift arc function strikes the arc when the electrode is brought into contact with the workpiece and then lifted away from it.



Striking the arc with the Lift Arc function. Step 1: the electrode is touched on to the workpiece. Step 2: the trigger switch is pressed, and a low current starts to flow. Step 3: the welder lifts the torch from the workpiece: the arc strikes, and the current rises automatically to the set value.

7.1.5  Gas post-flow

This controls the time during which shielding gas flows after the arc is extinguished.

7.1.6  Slope down

TIG welding uses slope down, by which the current falls 'slowly' over a controlled time, to avoid craters and/or cracks when a weld is finished.

Current

A higher current produces a wider weld pool, with better penetration into the workpiece.

The current set value can be changed irrespective of which menu is displayed. This value is displayed in the main menu only.

7.2 MMA welding

The OrigoTig gives direct current, and you can weld most metals to alloy and non-alloy steel, stainless steel and cast iron.

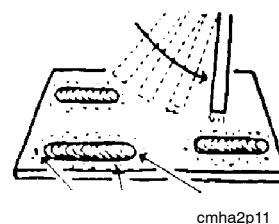
The OrigoTig 150 allows you to weld most coated electrodes from \varnothing 1.6 to \varnothing 3.25.

The OrigoTig 200 allows you to weld most coated electrodes from \varnothing 1.6 to \varnothing 4.0

MMA welding may also be referred to as welding with coated electrodes. Striking the arc melts the electrode, and its coating forms protective slag.

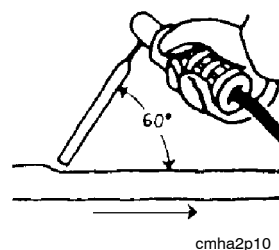
If, when striking the arc, the tip of the electrode is pressed against the metal, it immediately melts and sticks to the metal, rendering continued welding impossible. Therefore, the arc has to be struck in the same way that you would light a match.

Quickly strike the electrode against the metal, then raise it so as to give an appropriate arc length (approx. 2 mm). If the arc is too long, it will crackle and spit before finally going out completely.



If you are working on a welding bench, check before attempting to strike the arc that residual waste metal, pieces of electrode or other objects do not insulate the part to be welded.

Once the arc has been struck, move the electrode from left to right. The electrode must be at an angle of 60° to the metal in relation to the direction of welding.



When you want to weld wide beads, or when you want the weld to be so thick that you have to weld in a number of layers, however, you have to use lateral movements.

8 MAINTENANCE

Regular maintenance is important for safe, reliable operation.

Note!

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.

The OrigoTig requires little maintenance. In normal cases, it is sufficient to blow it clean using dry compressed air once a year, but this should be done more often if it is set up in a dusty, dirty area.

9 FAULT TRACING

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

Type of fault	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 thermal overload trips operate frequently.	<ul style="list-style-type: none"> • Check whether the thermal overload trips have operated (indicated by the yellow lamp on the front panel). • Check the main power supply fuses.
The thermal overload trip operates 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.

9.1 Fault codes

The OrigoTig comes with built-in fault monitoring. If a fault occurs, a code is shown in the display.

If any of these fault codes (**Exx**) reappears once the unit has been restarted, the welding power source should be sent to an authorised ESAB service workshop for repair.

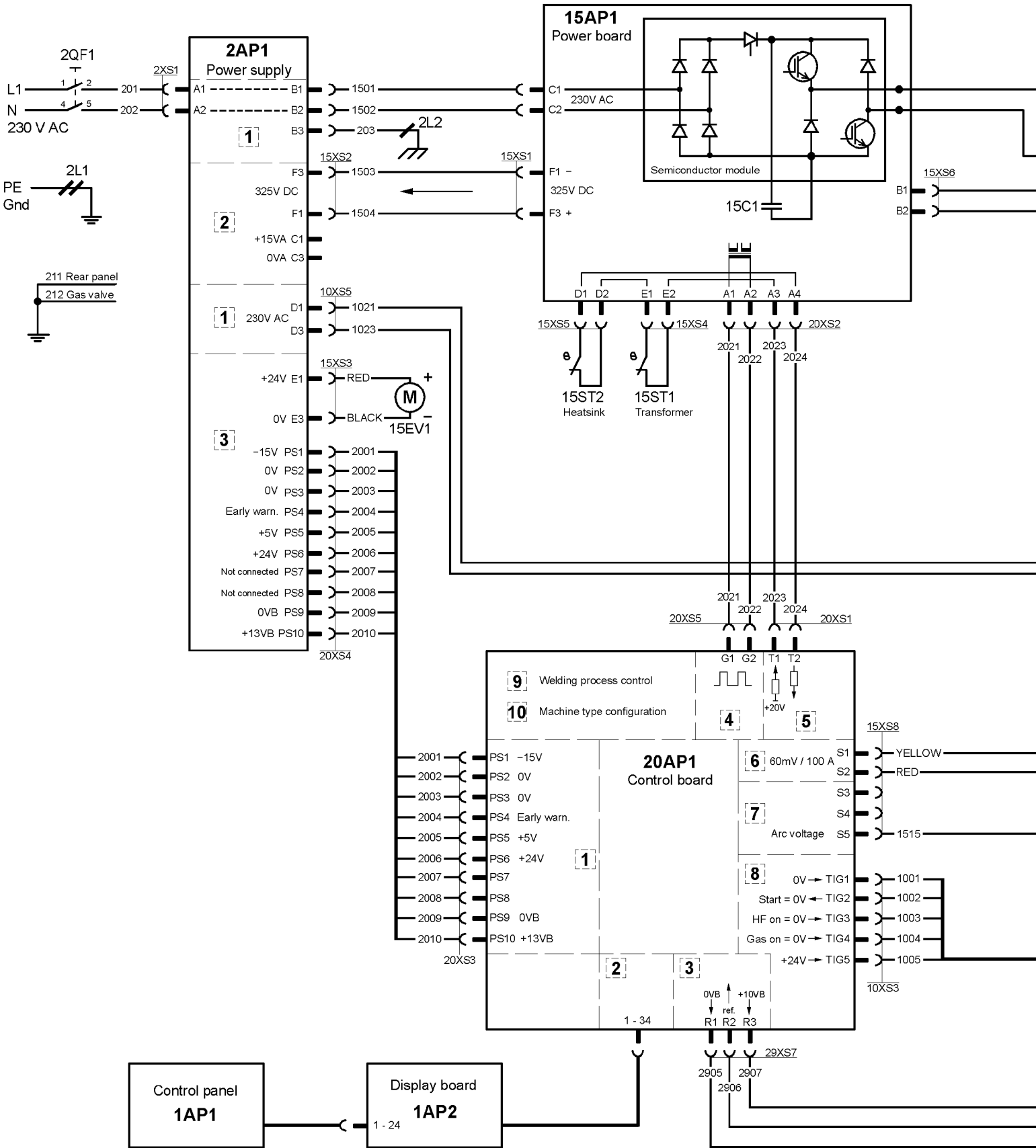
10 ORDERING SPARE PARTS

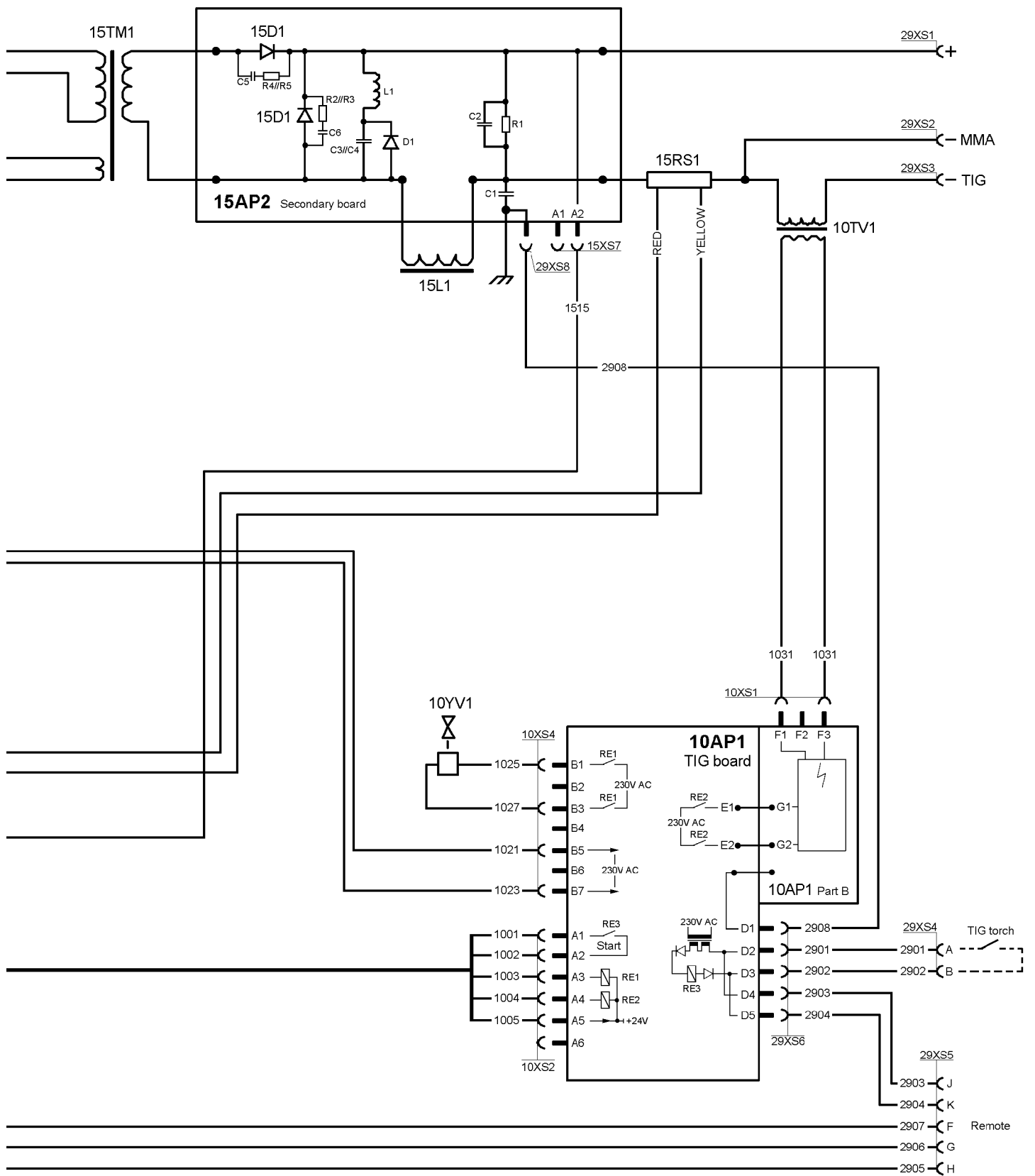
OrigoTig 150, OrigoTig 200 is designed and tested in accordance with the international and European standards IEC/EN 60974-1 and EN 50199. It is the obligation of the service unit which has carried out the service or repair work to make sure that the product still conforms to the said standard.

Repair and electrical work should be performed by an authorized ESAB serviceman. Use only ESAB original spare and wear parts.

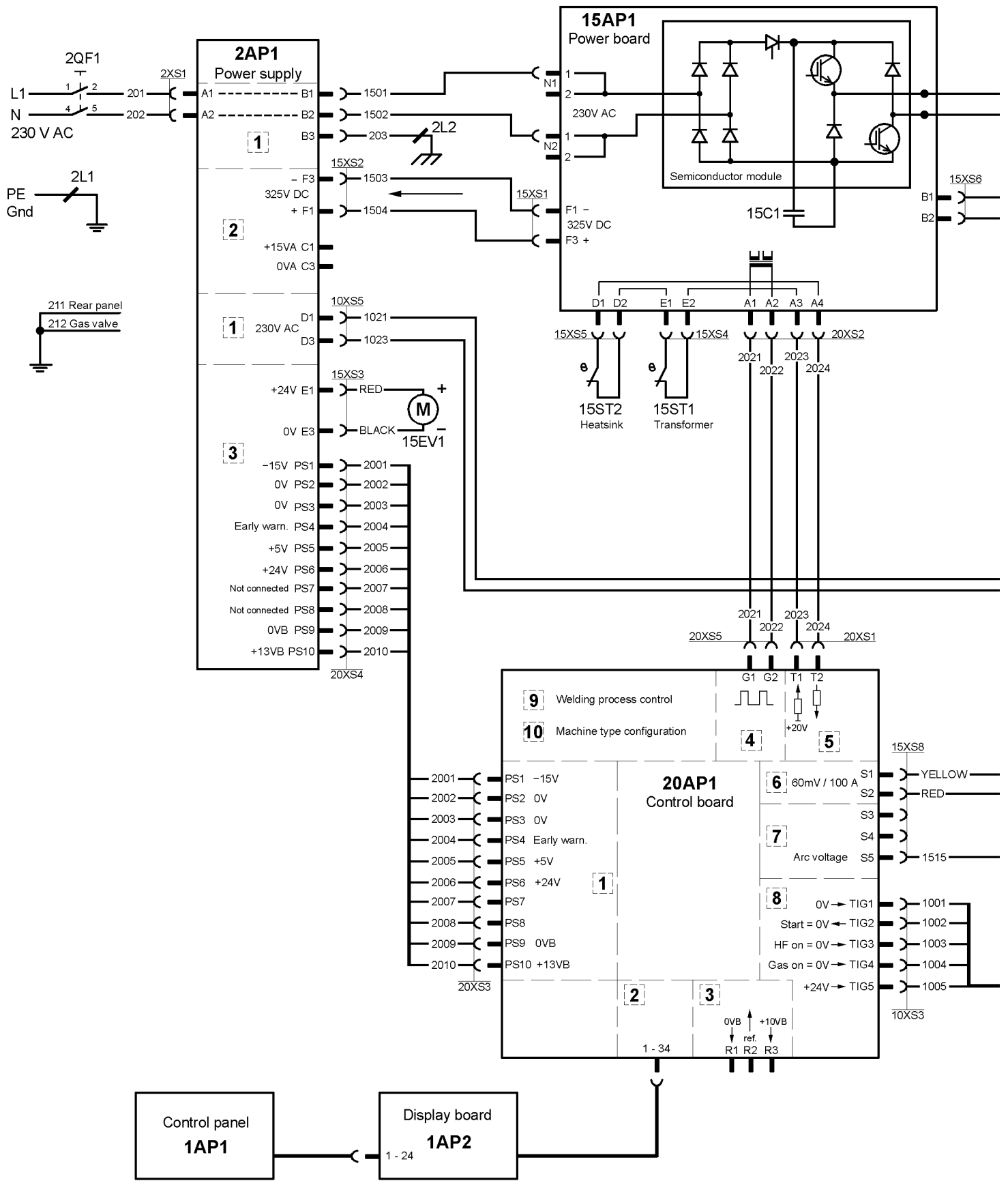
Spare parts may be ordered through your nearest ESAB dealer, see the last page of this publication.

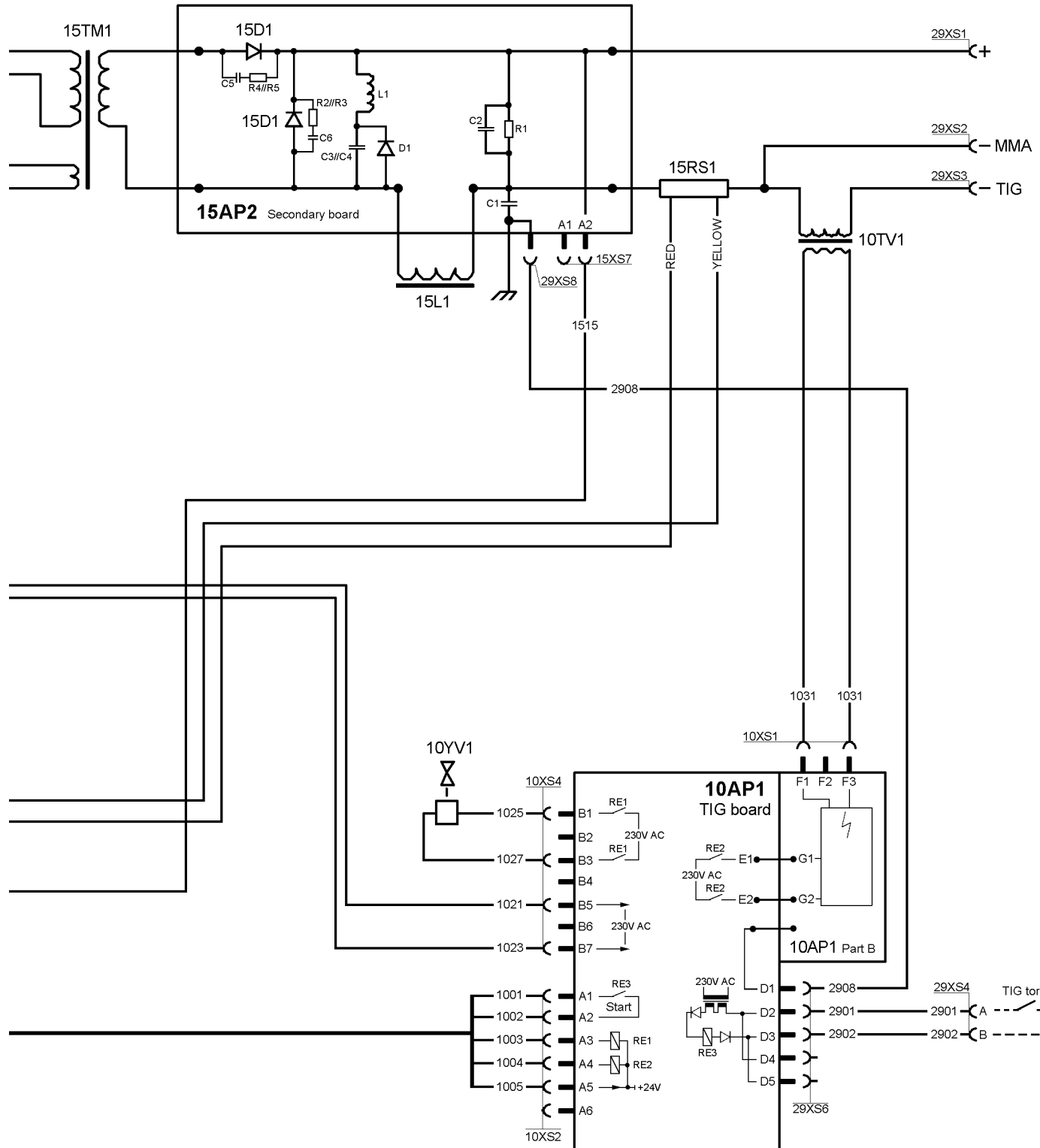
Schema Skema Skjema Johdotuskaavio Diagram Schaltplan Schéma
 Schema Esquema Schema Esquema Σχήμα σύνδεσης Schema
 Schemat Kapcsolási rajz





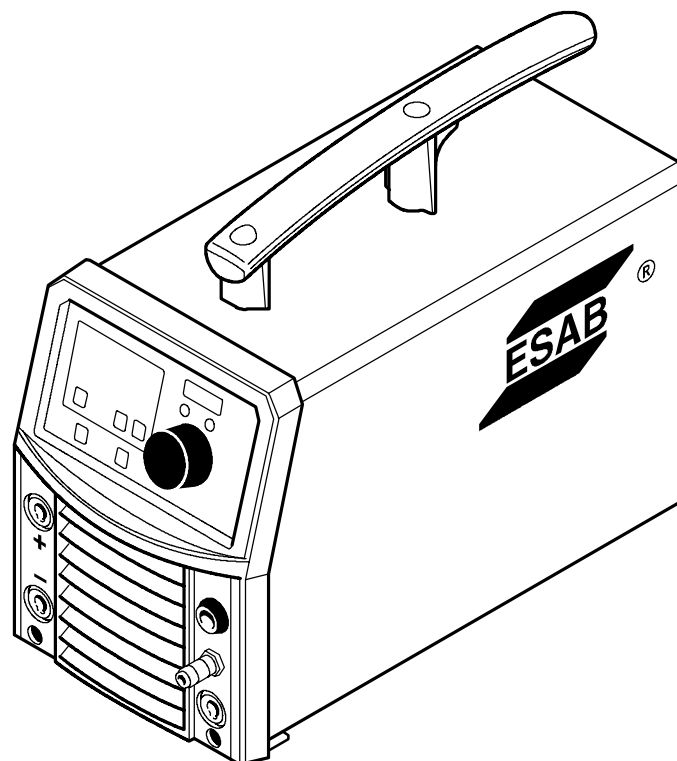
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 Schemat Kapcsolási rajz





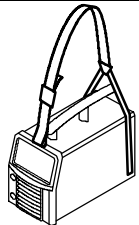
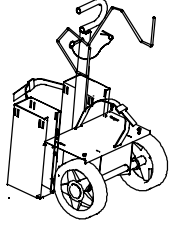
OrigoTig 150, OrigoTig 200

Beställningsnummer Bestillingsnummer Bestillingsnummer Tilausnumero
 Ordering number Bestellnummer Numéro de référence Bestelnummer
 Referencia de pedido No. di codice Números de referência Αριθμός
 παραγγελίας Objednací číslo Numer zamówieniowy Rendelési szám



Ordering no.	Denomination	Type	Notes
0459 200 881	Power source OrigoTig 150	for 230 V mains voltage	
0459 200 887	Power source OrigoTig 150	for 230 V mains voltage	Australian version
0459 200 883	Power source OrigoTig 200	for 230 V mains voltage	
0459 262 990	Spare part list	OrigoTig 150 / 200	

**Tillbehör Tilbehør Tilbehør Lisävarusteet Accessories Zubehör
Accessoires Accessoires Accesorios Accessori Acessórios Αξεσουάρ
Spotřební díly Wyposażenie Kopó alkatrészek**

	MMA welding and return cable kit ("crocodile" type holder) 0349 501 078
	MMA welding and return cable kit ("screwe" type holder) 0349 501 079
	Shoulderstrap 0459 368 880
	Trolley small gas bottle 0459 366 880
	Tig Torch (BTF 150 OKC25 0458 218 890

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