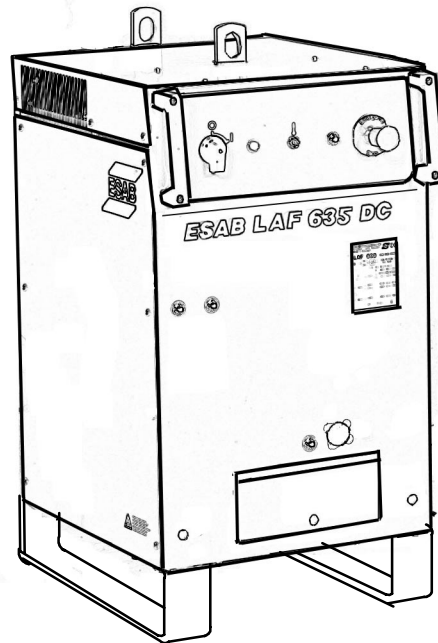


LAF 635



**Bruksanvisning
Brugsanvisning
Bruksanvisning
Käyttöohjeet
Instruction manual
Betriebsanweisung**

**Manuel d'instructions
Gebruiksaanwijzing
Instrucciones de uso
Istruzioni per l'uso
Manual de instruções
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Rätt till ändring av specifikationer utan avisering förbehålles.
 Ret til ændring af specifikationer uden varsel forbeholdes.
 Rett til å endre spesifikasjoner uten varsel forbeholdes.
 Oikeudet muutoksiin pidätetään.
 Rights reserved to alter specifications without notice.
 Änderungen vorbehalten.
 Sous réserve de modifications sans avis préalable.
 Recht op wijzigingen zonder voorafgaande mededeling voorbehouden.
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 Διατηρείται το δικαίωμα τροποποίησης προδιαγραφών Χωρίς προειδοποίηση.

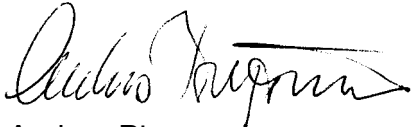
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1 DIRECTIVE

DECLARATION OF CONFORMITY

Esab Welding Equipment AB, 695 81 Laxå, Sweden, gives its unreserved guarantee that welding power source LAF 635 from serial number 810 complies with standard EN 60974-1, in accordance with the requirements of directive (73/23/EEA) and addendum (93/68/EEA) and standard EN 50199 in accordance with the requirements of directive (89/336/EEA) and addendum (93/68/EEA).

Laxå 1998-03-31



Anders Birgersson
Managing Director
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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 work place.

All work must be carried out by trained personnel well familiar 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
 - 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.
 - that no-one is unprotected when the arc is struck
3. The work place must:
 - be suitable for the purpose
 - be free from draughts
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 **shall 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. 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 keep fumes and gases 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 ear defenders 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!

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.

3 INTRODUCTION

3.1 General

LAF 635 is a remote-controlled 3-phase welding power source designed for high-efficiency mechanical gas metal arc welding (MIG/MAG) or sub arc welding (SAW). It is always to be used in combination with ESAB's control box A2-A6 Process Controller (PEH).

LAF is fan-cooled and monitored by a thermal overload protection. When the protection enters into action a yellow indicating lamp on the front panel goes on and is reset automatically as soon as the temperature has gone down to an acceptable level.

The welding power sources and the control unit are linked together over a 2-wire bus enabling precision control of the welding process.

All welding parameter settings for the power source can be made by the operator on the front panel of the control unit.

The operation of the power source is completely controlled and monitored by this unit. Even the start and stop qualities can be set by way of the control unit. The preset welding current parameters can also be monitored in the course of welding.

For more detailed information regarding the settings and the working mode of the welding power source, please refer to the A2-A6 Process Controller (PEH) instruction manual.

3.2 Technical data

	LAF 635
Main connection	400/415 V 3~50 Hz 440 V 3~60 Hz
Permissible load at:	
100 % duty cycle	630 A/44 V
60 % duty cycle	800 A/44 V
Setting range:	75 A / 18 V – 800 A / 44 V (46 V)
No-load voltage	54 V
No-load power	150 W
Efficiency	0,84
Power factor	0,90
Weight	260 kg
Dimensions L x W x H	652 x 483 x 800 652 x 483 x 916 (including foot)
Class of enclosure	IP 23
Class of application	S

Enclosure class

The **IP** code indicates the enclosure class, i. e. the degree of protection against penetration by solid objects or water. Equipment marked **IP 23** 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 INSTALLATION

4.1 General

The installation shall be executed by a professional.

4.2 Assembling and placing

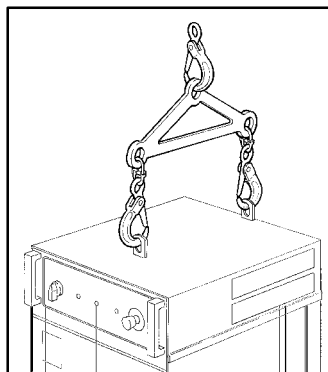


WARNING - TIPPING RISK!

Fasten the equipment – particularly if the ground is uneven or slanting.

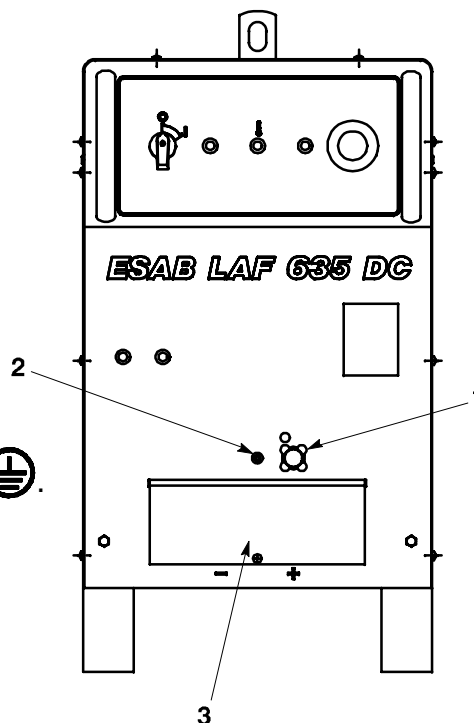
- Fit the supports supplied. Place the welding power source in such a way that the cooling air intake and outlet remain free.

Lifting instructions



4.3 Connections

- On delivery the welding power source is connected for 400 V. For other supply voltage, switch over to the desired voltage on the main transformer and the control transformer according to the connection instructions on page 99.
- Make sure the mains cable has the right sectional area and fuse it with an adequate fuse according to applicable local directions (see table on page 40).
- Connect the earth cable to the screw marked .
- Tighten the cable support, placed on the backside of the welding power source.
- Connect the mains cable to the main terminal blocks L1, L2 and L3.
- Connect the control cable between the LAF welding power source and the control unit to the 12-pole contact (1) on the front of the welding power source.
- Connect 1 pin socket measure cable (2).
- Connect a suitable welding and return cable to the contact rails marked + and - . The rails are placed inside the lid (3) on the front of the welding power source.



4.4 Mains connection

LAF 635	50 Hz/60 Hz
Voltage V	400/415/440 V
Current A 100%	52
Cable area mm ²	4 x 16
Fuse slow A	63

4.5 PC board

DIP switches

The PC board (AP1) has two DIP switches (SW1 and SW2) which are preset on delivery. The settings are not to be changed.

When spare parts are supplied the settings of the DIP switches must be checked (and set, if necessary) before fitting the PC board into the welding power source.

- **DIP switch SW1**
To make the communication with the A2-A6 Process Controller (PEH) work DIP switch 1 (SW1) must be set.
- **DIP switch SW2**
DIP switch 2 (SW2) must be set in order to inform the A2-A6 process controller (PEH) about the rating of the power source that is connected.

Setting of DIP switch SW1

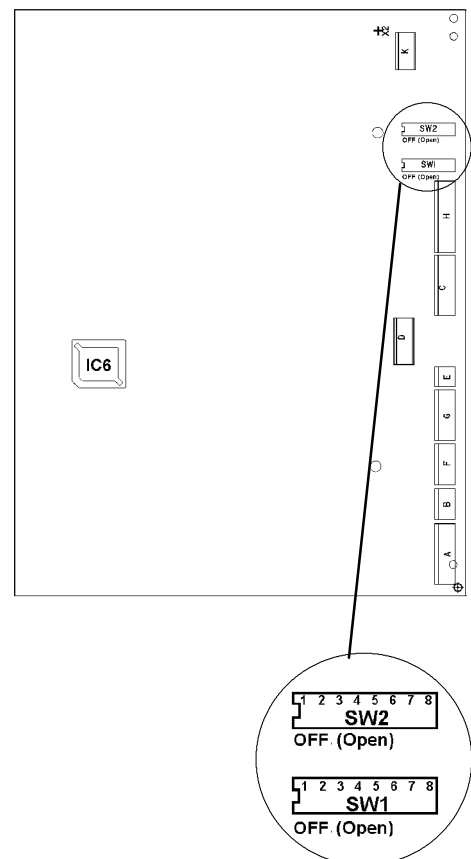
- Set pole 6 to “OFF” position and all other poles to “ON”.

Setting of DIP switch SW2

- Set pole 1 and 3 to “OFF” (Open) position and all other poles to “ON”.

Welding power source program

The welding power source program is stored in the flash memory **IC 6**. The capsule is fitted in a holder and is replaceable.



5 OPERATION

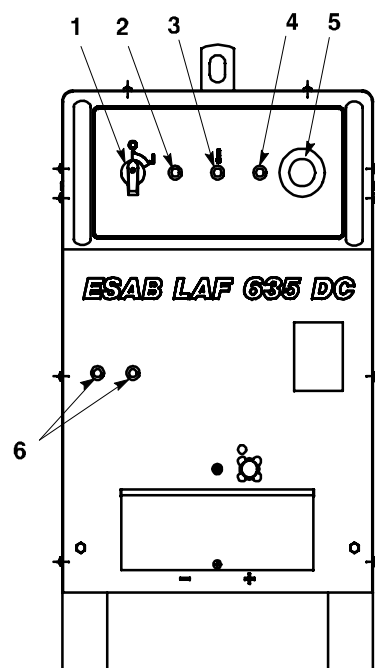
5.1 General

General safety regulations for the handling of the equipment appear from page 36. Read through before you start using the equipment!

5.2 Controls

The front panel contains:

1. Main switch, breaking the incoming mains voltage for the welding power source.
2. Indicating lamp (white), showing that the main switch is activated.
3. Indicating lamp (yellow), showing that the thermal protection has entered into action due to overheating in the transformer. The lamp is reset when the temperature has gone down to an acceptable level.
4. Pushbutton, for the resetting of automatic fuse FU2 for 42 V supply voltage.
5. Emergency pushbutton. When the button is activated the main contactor in the power source trips and the supply voltage for the control box is broken. (The emergency button on the control unit has the same function).
6. Pushbuttons, for the resetting of automatic fuse FU3 for 230 V supply voltage.



5.3 Start-up

- Connect the return cable to the work piece.
- Set the main switch (1) to position "I".
The white indicating lamp (2) goes on and the fan starts.
- Set the welding parameters and start welding by way of the control box (see the A2-A6 Process Controller 0443 745 XXX instruction manual).

6 MAINTENANCE

6.1 Cleaning

- Clean the welding power source as necessary.
Dry compressed air is recommended for the purpose.



WARNING!

Blocked air inlets or outlets will lead to overheating.

7 ORDERING OF SPARE PARTS

Spare parts are ordered through your nearest ESAB representative, see back cover. When ordering spare parts, please state machine type and number as well as designation and spare part number as shown in the spare parts list on page 101. This will simplify dispatch and ensure you get the right part.

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