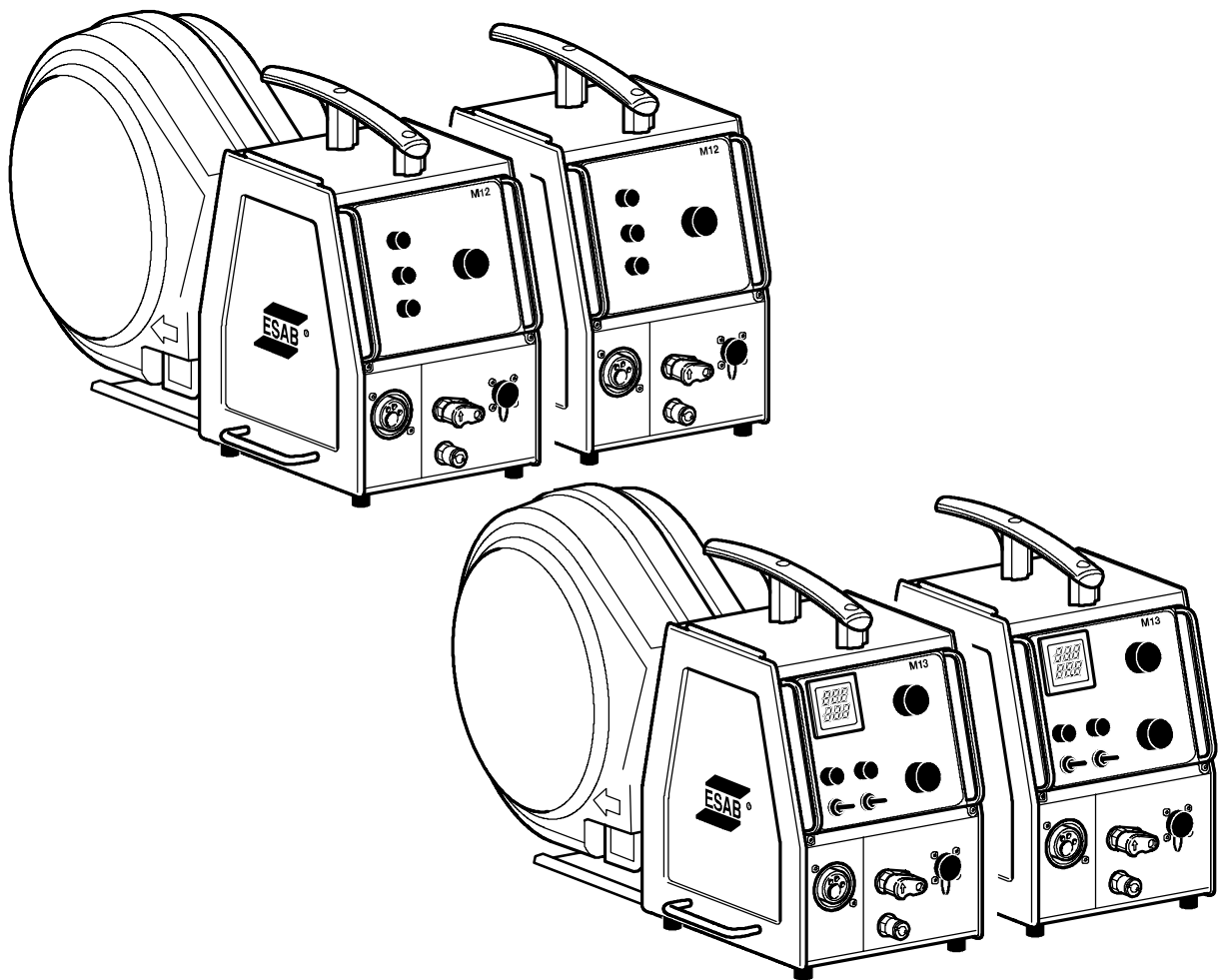


ESABFeed 30-4 M12

ESABFeed 30-4 M13

ESABFeed 48-4 M12

ESABFeed 48-4 M13



Service manual

READ THIS FIRST	3
INTRODUCTION	3
TECHNICAL DATA	4
WIRING DIAGRAM	5
Component description	5
ESABFeed 30 M12, ESABFeed 48 M12	6
ESABFeed 30 M13, ESABFeed 48 M13	8
DESCRIPTION OF OPERATION	10
13AP1 Control board	10
13AP1:1 Power supply	10
13AP1:2 Activation, power source	10
13AP1:3 Crater filling	11
13AP1:4 Voltage adjustment	13
13AP1:5 Gas valve	14
13AP1:6 2-stroke / 4-stroke	14
13AP1:7 Burn-back time	15
13AP1:8 Wire feed speed	15
13AP1:9 Motor driving / braking	16
13AP1:10 Tachometer input	17
13AP1:11 Current relay, Creep start / Normal start	18
13AP1:12 Start / Stop	18
13AP1:13 Processor, Starting sequence, Motor type	19
13AP1:14 Gas purge	20
13AP1:15 Inching	20
13AP1:16 Remote control input	21
13AP1 Component positions	22
13AP2 Digital display	24
SERVICE INSTRUCTIONS	26
What is ESD?	26
Spare parts for connection sets	27
INSTRUCTIONS	28
SAFETY	28
Lifting instructions	29
OPERATION	30
ESABFeed M12, connections and control devices	30
ESABFeed M13, connections and control devices	31
Water connection	31
Setting the wire feed pressure	32
MAINTENANCE	32
SPARE PARTS	33
NOTES	33

READ THIS FIRST

Maintenance and repair work should be performed by an experienced person, and electrical work only by a trained electrician. Use only recommended replacement parts.

This service manual is intended for use by technicians with electrical/electronic training for help in connection with fault-tracing and repair.

Use the wiring diagram as a form of index for the description of operation. The circuit board is divided into numbered blocks, which are described individually in more detail in the description of operation. All component names in the wiring diagram are listed in the component description.

This manual contains details of all design changes that have been made up to and including June 2005.

The manual is valid for ESABFeed 30-4 M12, ESABFeed 30-4 M13, ESABFeed 48-4 M12 and ESABFeed 48-4 M13 with serial no. 238-xxx-xxxx, 410-xxx-xxxx, 440-xxx-xxxx, 502-xxx-xxxx.

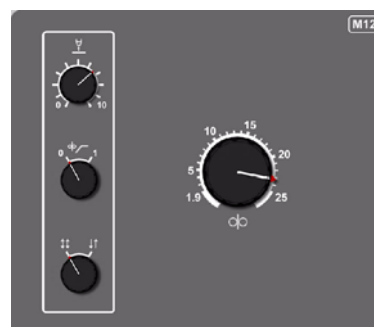
The ESABFeed 30-4 M12, ESABFeed 30-4 M13, ESABFeed 48-4 M12 and ESABFeed 48-4 M13 are designed and tested in accordance with international and European standard IEC/EN 60974-1 and EN 50199.
On completion of service or repair work, it is the responsibility of the person(s) etc. performing the work to ensure that the product does not depart from the requirements of the above standard.

INTRODUCTION

The ESABFeed 30-4 and ESABFeed 48-4 wire feed units with control panel M12 are intended for MIG/MAG-welding together with stepped welding power sources.

They can be used together with wire on ESAB's MarathonPac™, or on wire bobbin (standard Ø 300 mm, accessory Ø 440 mm).

The wire feed unit can be installed either at the power source, suspended above the workplace, on a support arm or on the floor with or without wheel set.



The ESABFeed 30-4 and ESABFeed 48-4 wire feed units with control panel M13 are intended for MIG/MAG-welding together with infinitely adjustable welding power sources.

They can be used together with wire on ESAB's MarathonPac™, or on wire bobbin (standard Ø 300 mm, accessory Ø 440 mm).

The wire feed unit can be installed either at the power source, suspended above the workplace, on a support arm or on the floor with or without wheel set.



TECHNICAL DATA

	ESABFeed 30-4	ESABFeed 48-4
Power supply	42 V 50 – 60 Hz	42 V 50 – 60 Hz
Power requirement	336 VA	378 VA
Motor current I_{\max}	8 A	9 A
Control panel M12, settings data		
Wire feed speed	1.9–25.0 m/min	1.9–25.0 m/min
Burnback time	0–0.5 s	0–0.5 s
Creep start	OFF or ON	OFF or ON
2/4 stroke	2 stroke or 4 stroke	2 stroke or 4 stroke
Control panel M13, settings data		
Wire feed speed	1.9–25.0 m/min	1.9–25.0 m/min
Burnback time	0–0.5 s	0–0.5 s
Crater filling time	0–5.1 s	0–5.1 s
Creep start	OFF or ON	OFF or ON
2/4 stroke	2 stroke or 4 stroke	2 stroke or 4 stroke
Welding gun connection	EURO	EURO
Max. diameter wire bobbin	300 mm (*440 mm)	300 mm (*440 mm)
Wire dimension	0.6–1.6 mm	0.6–2.4 mm
Weight		
basic version	11.5 kg	14.5 kg
with sealed bobbin holder	15 kg	19 kg
Dimensions (l x w x h)		
basic version	380 x 275 x 400 mm	380 x 275 x 400 mm
with sealed bobbin holder	690 x 275 x 420 mm	690 x 275 x 420 mm
Shielding gas	All types intended for MIG/MAG welding	All types intended for MIG/MAG welding
max pressure	5 bar	5 bar
Coolant	50% water / 50% glycol	50% water / 50% glycol
max pressure	5 bar	5 bar
Permissible load at		
60% duty cycle	630 A	630 A
Enclosure class	IP23	IP23
with wire bobbin *440mm	IP2X	IP2X

* Accessory

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.

Equipment marked **IP2X** is designed for indoor use.

WIRING DIAGRAM

Component description

13AP1	Main circuit board with control electronics: see the description on page 10.
13AP2	Circuit board with display: see the description on page 24. Only ESABFeed with M13 panel.
13C1 - 13C3	Capacitor 0.1 μ F, decoupling.
13CXX	Capacitor 4700 μ F. Must be fitted when an intermediate wire feed unit is in use in extreme applications (low mains voltage and long cables).
13G1	ESABFeed 30: Tachogenerator, 667 Hz output at a wire speed of 25 m/min. The tachogenerator is incorporated in motor 13M1. ESABFeed 48: Tachogenerator, 814 Hz output at a wire speed of 25 m/min. The tachogenerator is incorporated in motor 13M2.
13M1	Motor, rated voltage 42 V. ESABFeed 30.
13M2, 13M3	Motor, rated voltage 12 V. ESABFeed 48.
13RP1	Potentiometer, 10 k Ω , for setting the wire feed speed.
13RP2	Potentiometer, 10 k Ω , for setting the welding voltage. Only ESABFeed with M13 panel.
13RP3	Potentiometer, 10 k Ω , for setting the burn-back time.
13RP4	Potentiometer, 10 k Ω , with incorporated switch, for setting the crater fill time. Only ESABFeed with M13 panel.
13S1	Microswitch, monitoring the water connection. The pump in the water cooling unit starts when the switched is closed.
13SA1	Switch, 2/4-stroke changeover. When the switch is closed, 4-stroke control mode is selected.
13SA2	Switch, Creep start function On/Off. When the switch is open, creep start function is operative.
13XP1	23 pole panel plug, for connection to the welding power source.
13XP2	Panel plug for welding current connection from the power source.
13XS . .	Connectors with the designation 13XS . . are socket connectors.
13XS13	23 pole panel socket for remote control.
13YV1	Gas valve

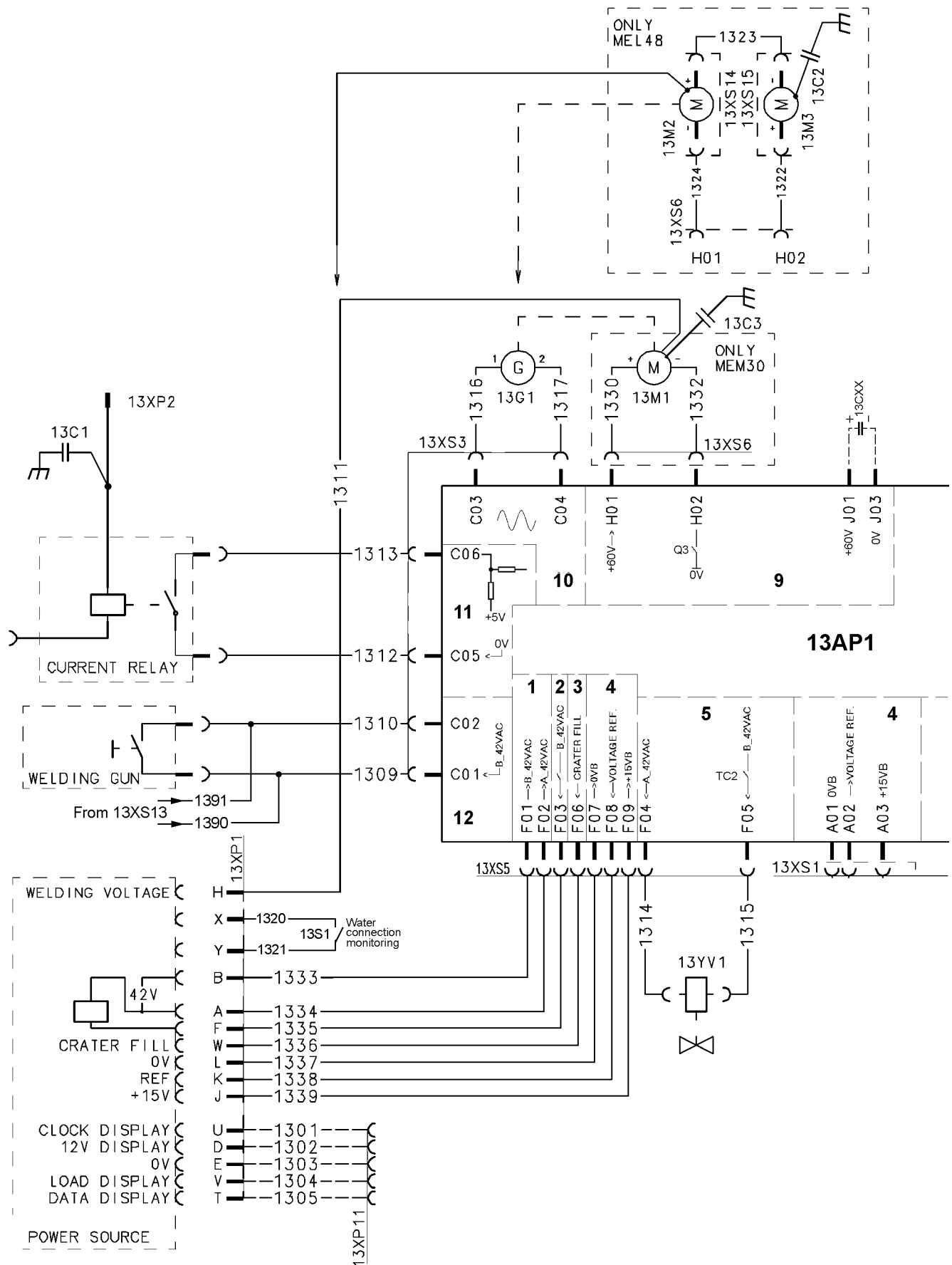


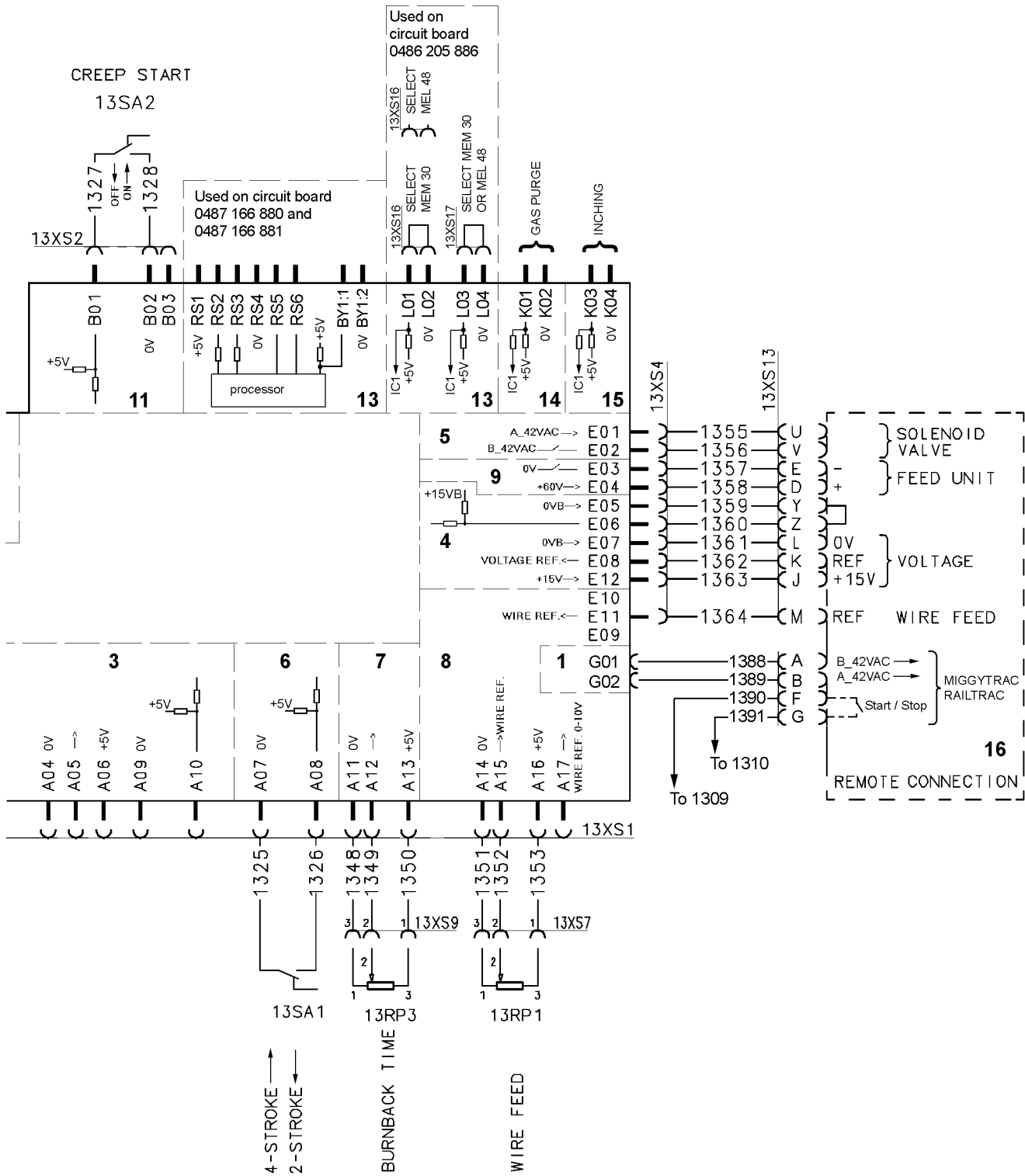
WARNING !

STATIC ELECTRICITY can damage circuit boards and electronic components.

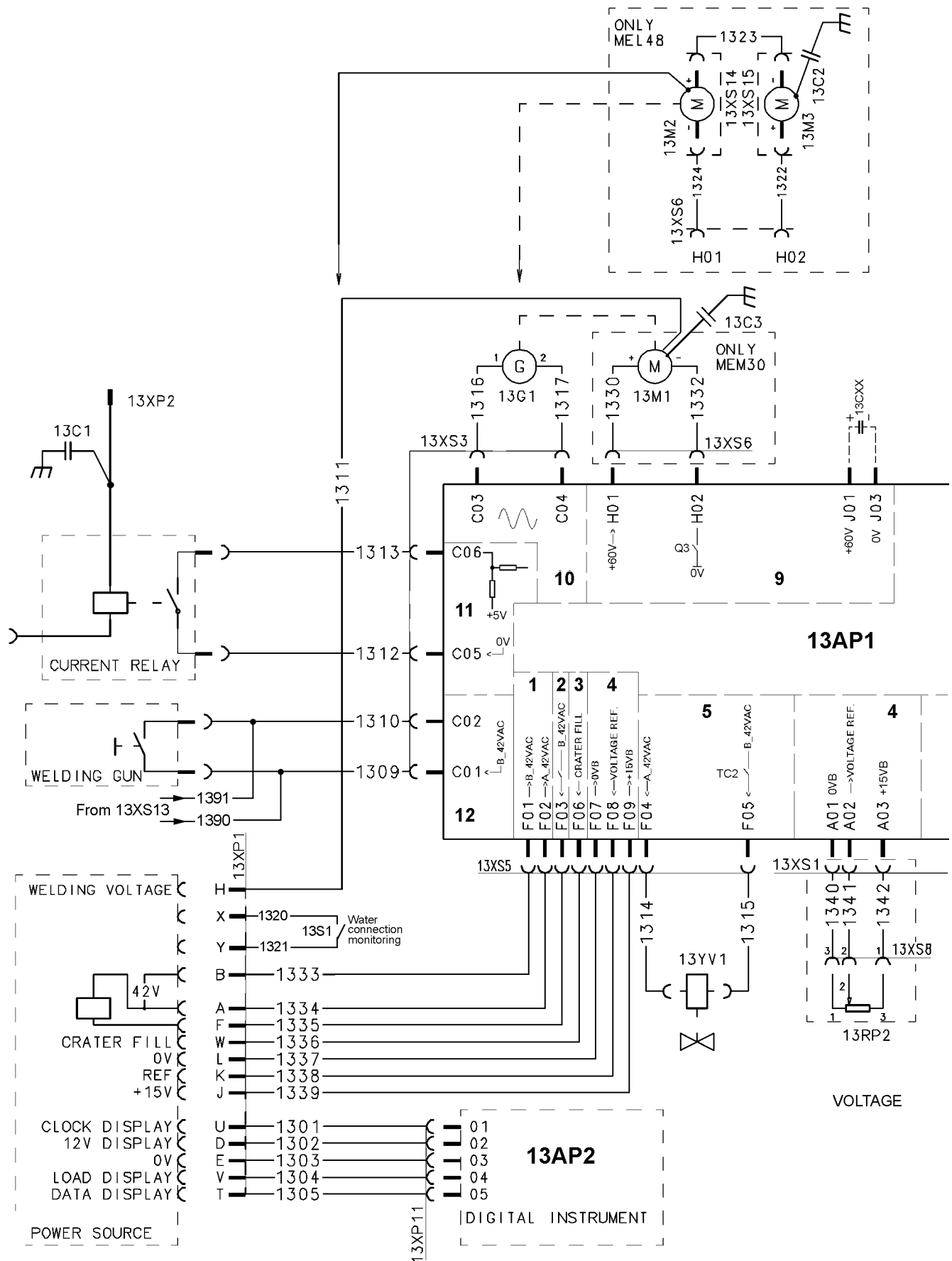
- Observe precautions for handling electrostatic-sensitive devices.
- Use proper static-proof bags and boxes.

cwfu0de1





ESABFeed 30 M13, ESABFeed 48 M13



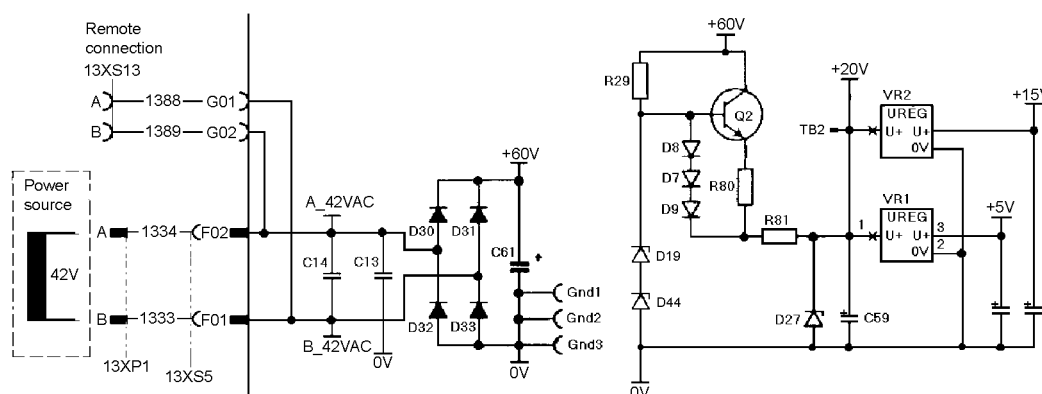
DESCRIPTION OF OPERATION

13AP1 Control board

From serial no. 410-xxx-xxxx a new version of the control board (0487 166 xxx) is fitted to the feed units. The control boards are interchangeable up to and including serial no. 238-xxx-xxxx, from serial no. 410-xxx-xxxx the new version of the control board must be used.

There are two versions of the new board, one for the 30-4 feed units and one for the 48-4 units. The hardware is identical, but the software is set up for one of the types when the board is tested.

13AP1:1 Power supply



The wire feed unit receives 42 V from the control power supply transformer in the welding power source via connector 13XP1.

42 V AC is supplied to the welding gun trigger switch, the gas valve and the contactor. In addition, terminals G01 and G02 supply 42 V to a Miggytrac or a Railtrac unit if this is used together with the wire feed unit.

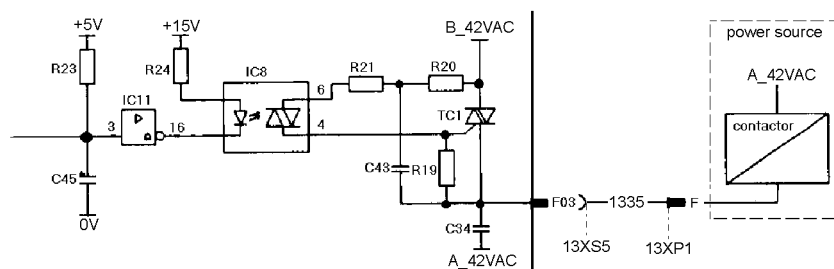
DC power supplies

Diodes D30 - D33 rectify the 42 V supply to 60 V. Capacitor C61 smooths the supply, which is then used to power the wire feeder motor.

Transistor Q2 is a pre-regulator that drops the voltage from 60 V to 20 V. Q2 is current-limited to about 200 mA.

VR1 and VR2 are voltage regulators, producing 5 V and 15 V respectively. The circuit board's microprocessor monitors the voltages. If the 15 V supply falls below 13 V, the wire feed unit is stopped.

13AP1:2 Activation, power source



The start signal is connected to the power source via pin F in connector 13XP1.

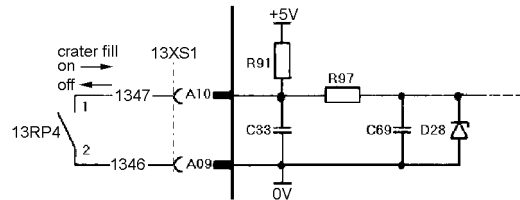
13AP1:3 Crater filling

This function is only used by units with control panel M13.

The crater fill function can be used when the feed unit is working with a ESAB Mig or LAW power source.

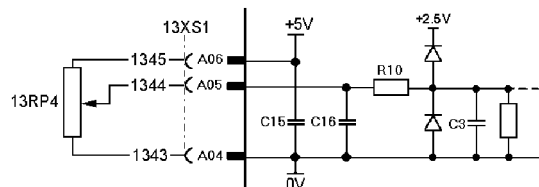
The crater fill function comprises the following modules :

- An input for selecting crater fill function On/Off.



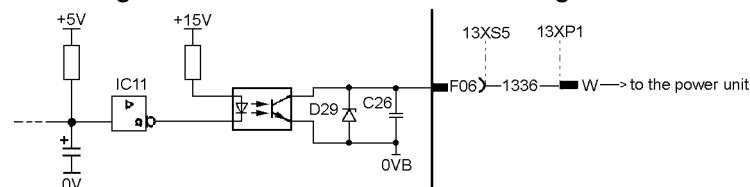
Closing switch 13RP4 activates the function.

- Potentiometer 13RP4 sets the crater fill time.



Times between 0 and 5.1 seconds can be set.

- An output, 13XP1;W, which supplies a signal to the power source when the voltage is to be reduced for crater filling.



The emitter of the transistor in the optocoupler is connected to 0 VB, i.e. to the neutral of the power source voltage reference.

The crater fill function operates as follows :

Phase 1

When in 2-stroke control mode, releasing the welding gun trigger switch reduces the wire feed speed to 84% of its original value. In 4-stroke control mode, crater filling starts when the trigger switch is pressed for the second time. The optocoupler is activated, supplying a signal to the power source that crater filling has started, causing the power source to reduce its output voltage.

Phase 1 continues for a time as determined by the setting of potentiometer 13RP4, up to a maximum of 1.27 seconds.

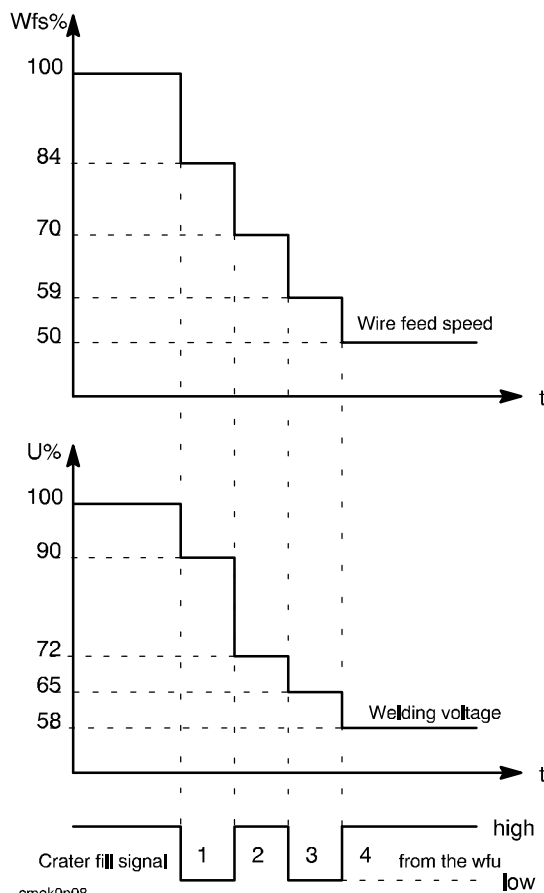
Phase 2

Phase 2 starts when phase 1 finishes. The wire feed unit further reduces the wire speed to 84% of the value during phase 1. The optocoupler turns off, giving the power source a signal further to reduce the voltage. Phase 2 continues also for a maximum of 1.27 seconds.

Phases 3 and 4

Phases 3 and 4 are repeats of phases 1 and 2. After phase 4, during which wire feed speed is 50 % of the original value, welding concludes with the preset burn-back time.

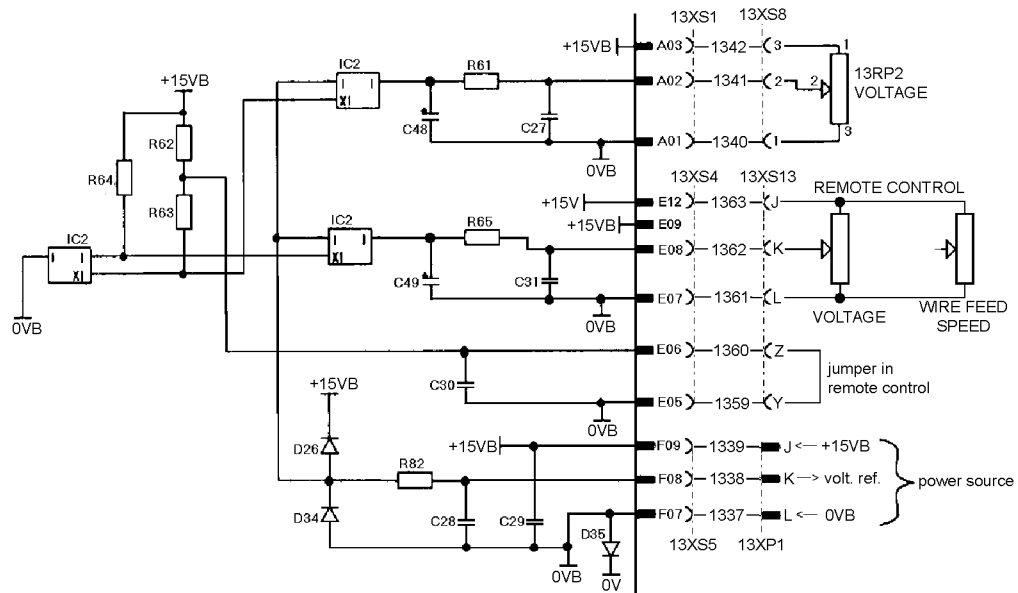
If, when in 4-stroke control mode, the welding gun trigger switch is released while crater filling is in progress, crater filling will be interrupted.



Wire feed speed and welding voltage during crater filling

13AP1:4 Voltage adjustment

This function is only used by units with control panel M13.

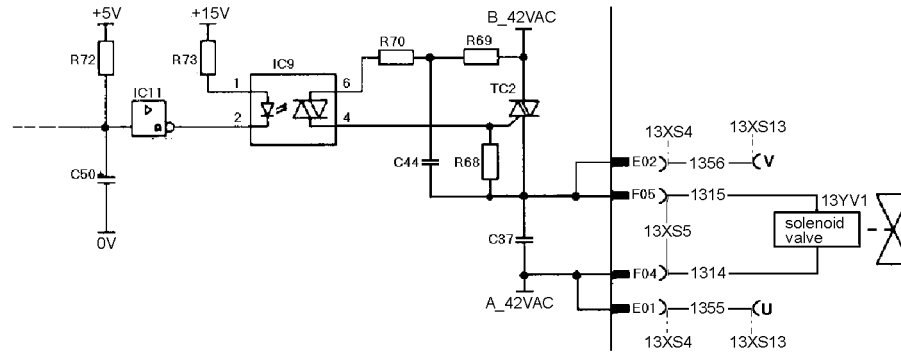


When the wire feed unit is connected to a power source with steplessly variable output voltage, potentiometer 13RP2 on the front of the unit can be used to control the power source output voltage.

The +15 VB and 0 VB voltages are supplied by the power source via connector XP01. The voltage adjustment circuits are **not** galvanically isolated from the other circuits on circuit board 13AP1.

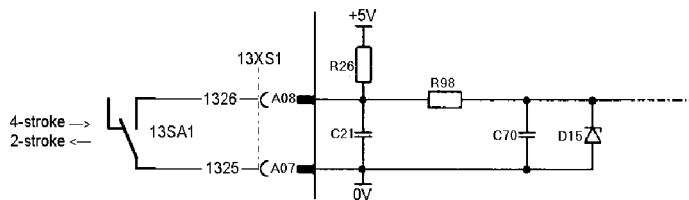
The remote control unit for voltage control is connected to pins J, K, L, Z and Y in connector 13XS13. A link must be fitted between pins Z and Y in order to activate the unit.

13AP1:5 Gas valve



The gas valve is connected to connectors F04 and F05. If an intermediate wire feed unit is being used, its gas valve is connected via pins V and U in the remote control connector (13XS13).

13AP1:6 2-stroke / 4-stroke



2-stroke

When switch 13SA1 is open, 2-stroke control mode is selected. This means that closing the welding gun trigger switch starts the wire feed motor, opens the gas valve and closes the power source contactor.

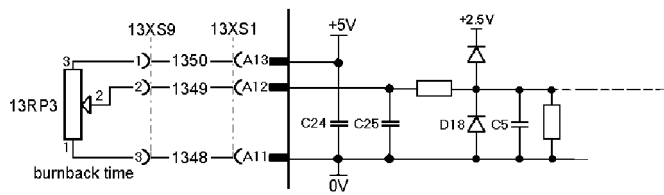
Releasing the switch stops the motor, releases the contactor and closes the gas valve. If crater filling and/or burn-back time are operative, they will be activated before welding ceases.

4-stroke

When switch 13SA1 is closed, 4-stroke control mode is selected. This means that first closure of the trigger switch operates the gas valve, with the wire feed motor starting, and the power source contactor operating, when the trigger switch is released.

Closing the trigger switch for the second time stops the motor and de-energises the contactor in the power source. Releasing the switch closes the gas valve. If crater filling and/or burn-back time are operative, they will be activated before welding ceases.

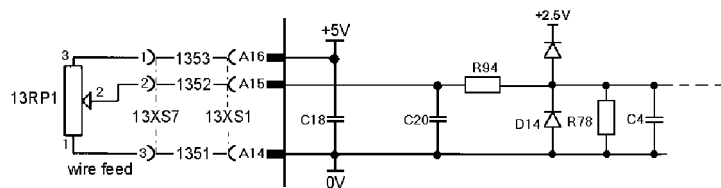
13AP1:7 Burn-back time



The burn-back time is the time from when motor braking starts until the machine contactor opens. It can be adjusted by potentiometer 13RP3 between 0 and 0.5 seconds.

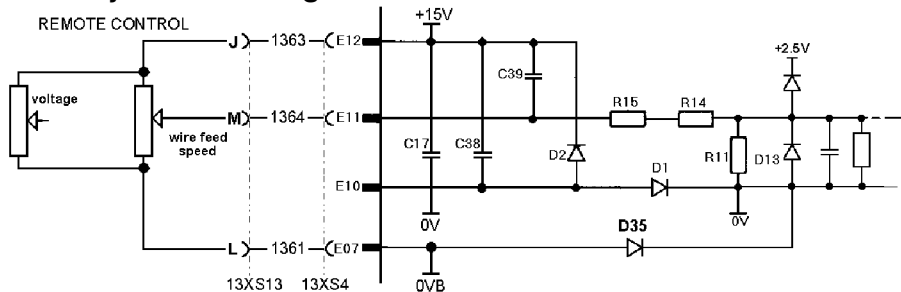
13AP1:8 Wire feed speed

Adjustment on the front panel of the feeder unit



Potentiometer 13RP1 controls the wire feed speed over a range from 1.9 to 25 metres/minute.

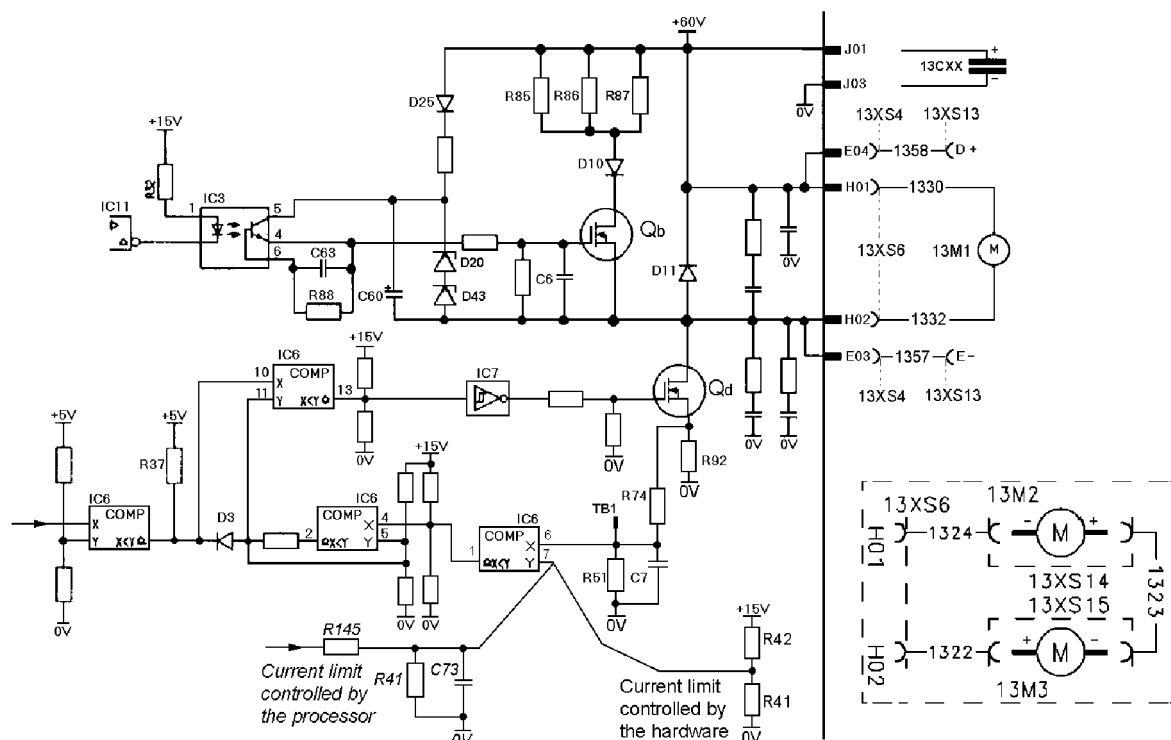
Adjustment using the remote control unit



Wire feed speed reference from the remote control unit

Potentiometer 13RP1 is disengaged when a remote control unit is connected to input 13XS13. The circuit board microprocessor senses that the remote control unit is connected by means of the voltage drop across diode D35. When the remote control unit is connected, the voltage on connector E11 cannot drop below about 0.6 V.

13AP1:9 Motor driving / braking



The motor is powered by the smoothed +60 V supply. Pulse width modulation, controlled by transistor Qd, is used to vary the motor voltage. The pulse frequency is 39 kHz, the old version of the board has a pulse frequency of 12 kHz. The maximum conducting time of the pulses is 99% of the pulse cycle time. Freewheel diode D11 maintains motor current during the pulse breaks.

ESABFeed 30: At a drive roller speed of 273 r/min, the wire feed speed is 25 m/min.

ESABFeed 48: At a drive roller speed of 166 r/min, the wire feed speed is 25 m/min.

If the wire speed deviates from the set value by more than 1.5 m/min for more than five seconds, wire feed will be stopped.

Pins D and E in the remote control unit connector 13XS13 provide power for the motor in an intermediate wire feed unit or for a PKE (push/pull) welding gun. If an intermediate wire feed unit is being used in extreme applications (low mains voltage and long cables), an additional 4700µF smoothing capacitor 13CXX must be connected (ordering number 0193 141 048).

Current limit

The voltage drop across resistor R92 provides a signal that is proportional to the motor current. When the current exceeds the current limit, IC6:2 turns off the gate pulse to Qd. When the current drops, Qd conducts again at the next gate pulse. The first version of the control board (0486 205 886) has a fixed current limit at 15.4 A. The current limit is related to the pulse peak current.

The new version of the control board (0487 166 88x) has a dynamic current limit controlled by the processor.

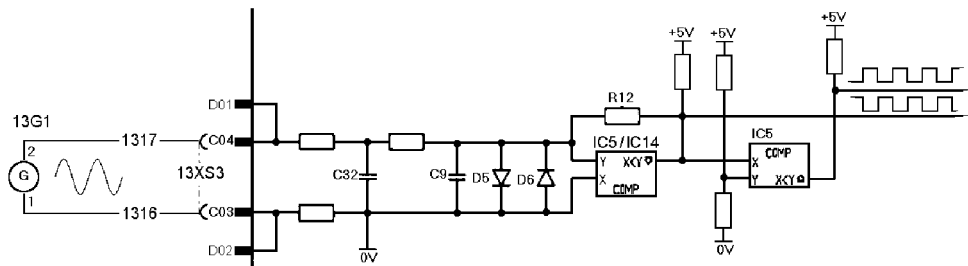
ESABFeed 30: The current limit is 20 A on starting. When the set speed is achieved, this is reduced to 13 A.

ESABFeed 48: The current limit is 20 A on starting. When the set speed is achieved, this is reduced to 15 A.

Braking

When the motor starts, capacitor C60 charges up to 15 V, with zener diodes D20 and D43 limiting the voltage across it. Braking is activated by the optocoupler IC3. When the transistor in IC3 is turned on by the LED, 15 V from capacitor C60 is connected to the gate of transistor Qb. Transistor Qb turns on and short circuits the motor through the resistors R85–R87. The resistors limit the braking current to about 20 A.

13AP1:10 Tachometer input



The tachometer 13G1 is fitted inside the motor casing. Comparator IC5 / IC14 converts the sine wave signal from the tachogenerator to a square wave at the same frequency.

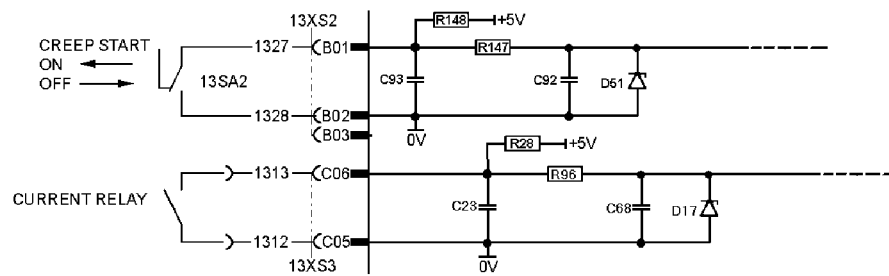
ESABFeed 30:

At a wire feed speed of 25 m/min, it produces a signal frequency of 667 Hz.

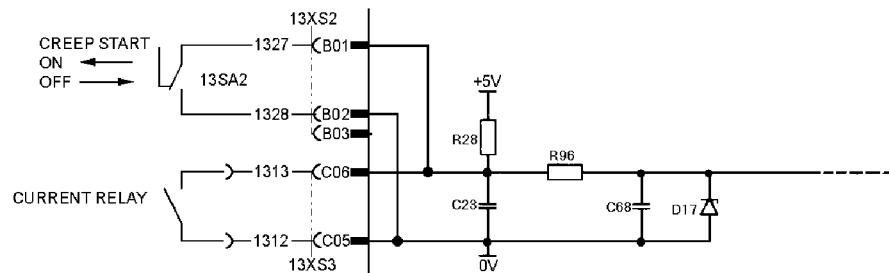
ESABFeed 48:

At a wire feed speed of 25 m/min, it produces a signal frequency of 814 Hz.

13AP1:11 Current relay, Creep start / Normal start



The new version of the control board, 0487 166 88x



The first version of the control board, 0486 205 886

Current relay

The current relay operates if the welding current exceeds 20 A. If the crater filling function has been selected, it will work only when the current relay has operated.

Creep Start

The creep start function is activated when switch 13SA2 is open. Creep start means that the motor runs at a speed of 1.9 m/minute until the current relay is activated. When the relay operates, the speed increases to the set speed.

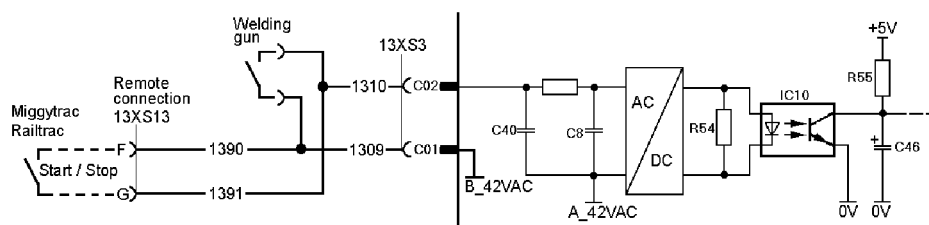
The new version of the control board, 0487 166 88x:

If the current relay does not operate within three seconds after starting, the motor speed increases to the set speed in any case.

The first version of the control board, 0486 205 886:

If the current relay does not operate within one second after starting, the motor speed increases to the set speed in any case.

13AP1:12 Start / Stop



The trigger switch in the welding gun is supplied at 42 V AC. Closing the switch energises optocoupler IC10, pulling down the voltage across C46.

When the Miggytrac or the Railtrac is used, the start signal to the feed unit is supplied by the remote input.

The new version of the control board, 0487 166 88x:

When wire feed starts, the power source generates welding voltage. If this is not followed by a flow of welding current within three seconds, the power source shuts down the welding power supply, although wire feed continues until the welding gun switch is released.

The first version of the control board, 0486 205 886:

When wire feed starts, the power source generates welding voltage.

13AP1:13 Processor, Starting sequence, Motor type

Processor

The processor stores the machine program. It monitors the power supply voltages: if the voltages drop to too low a level, wire feed is stopped, as described in section 13AP1:1 above.

The processor also monitors speed. If the wire speed deviates from the set value by more than 1.5 m/min for more than five seconds, wire feed will be stopped.

Starting sequence, circuit board 0487 166 88x

The circuit board displays the starting sequence from power-up.

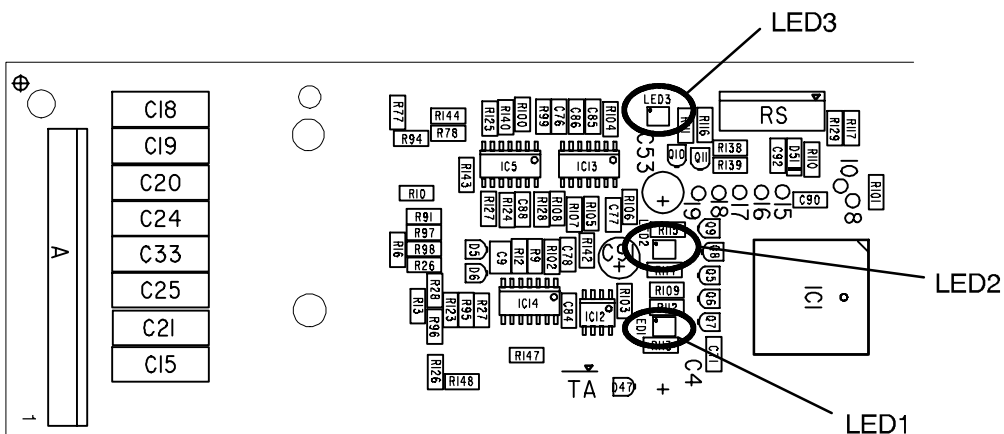
1. LED1 lights red during 5 seconds. The software is in the boot mode.
2. LED1, LED2 and LED3 lights green. The software has started the application mode.
3. LED1 flashes continuously with a green light. The board is initiated, and the wire feed unit is in the application program.

The starting sequence above applies to boards with software version 2.00A and later.

Boards with software version 0.27A have LED indication as described in paragraphs 2 and 3 above.

Boards with software version prior to 0.27A have no LED indication.

The software version is indicated by a label on the processor, IC1.



LEDs on circuit board 13AP1

Motor type

The wire feeder mechanisms MEM 30 and MEL 48 need different software for the motors. On the first version of the control board (0486 205 886) the motor type is selected by the hardware. On the new version the motor type is selected by the software.

The new version of the control board, 0487 166 88x:

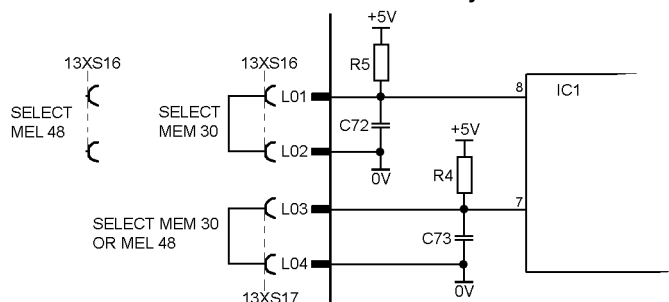
When the board is tested, the software is set up for one of the motor types.

Circuit board 0487 166 880 is set up for ESABFeed 30-4

Circuit board 0487 166 881 is set up for ESABFeed 48-4

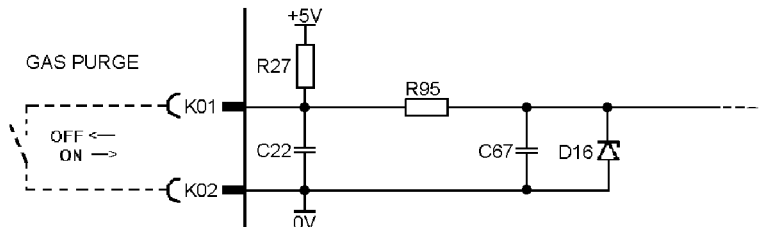
The first version of the control board, 0486 205 886:

To enable the processor IC1, to select the correct software for the ESABFeed 30-4, connection L01 must be linked to L02 and L03 to L04. For the ESABFeed 48-4 there is a link only between L03 and L04.



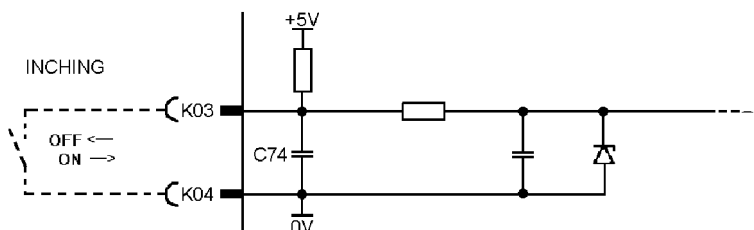
Selection of motor type, circuit board 0486 205 886

13AP1:14 Gas purge



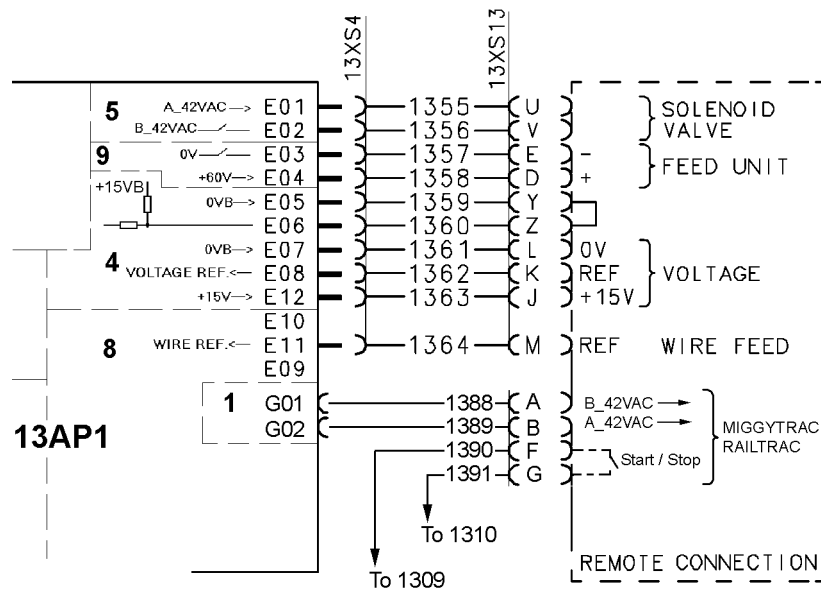
The circuit board has an input for gas purge, this is not used by the ESABFeed.

13AP1:15 Inching



The circuit board has an input for inching, this is not used by the ESABFeed.

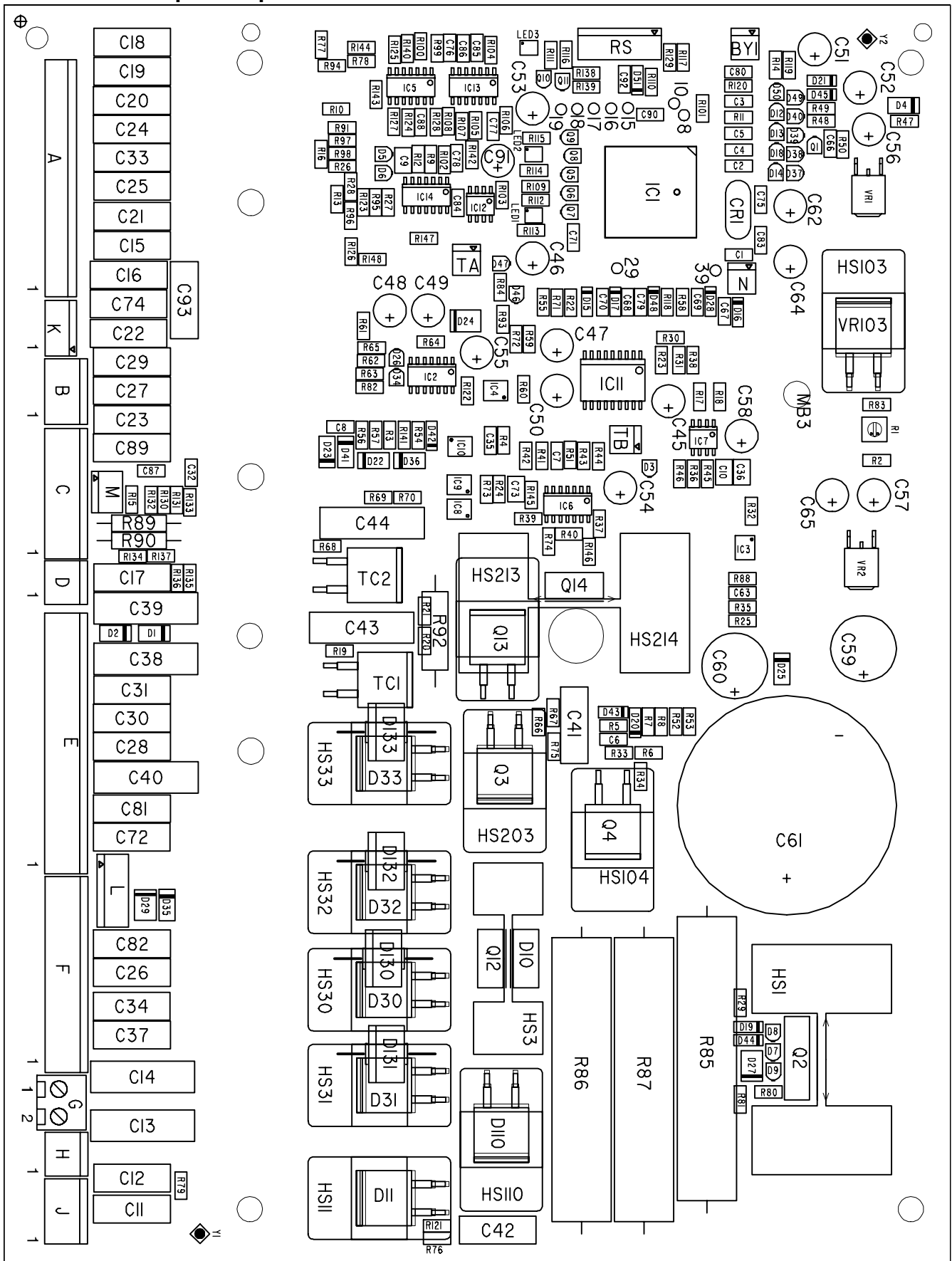
13AP1:16 Remote control input



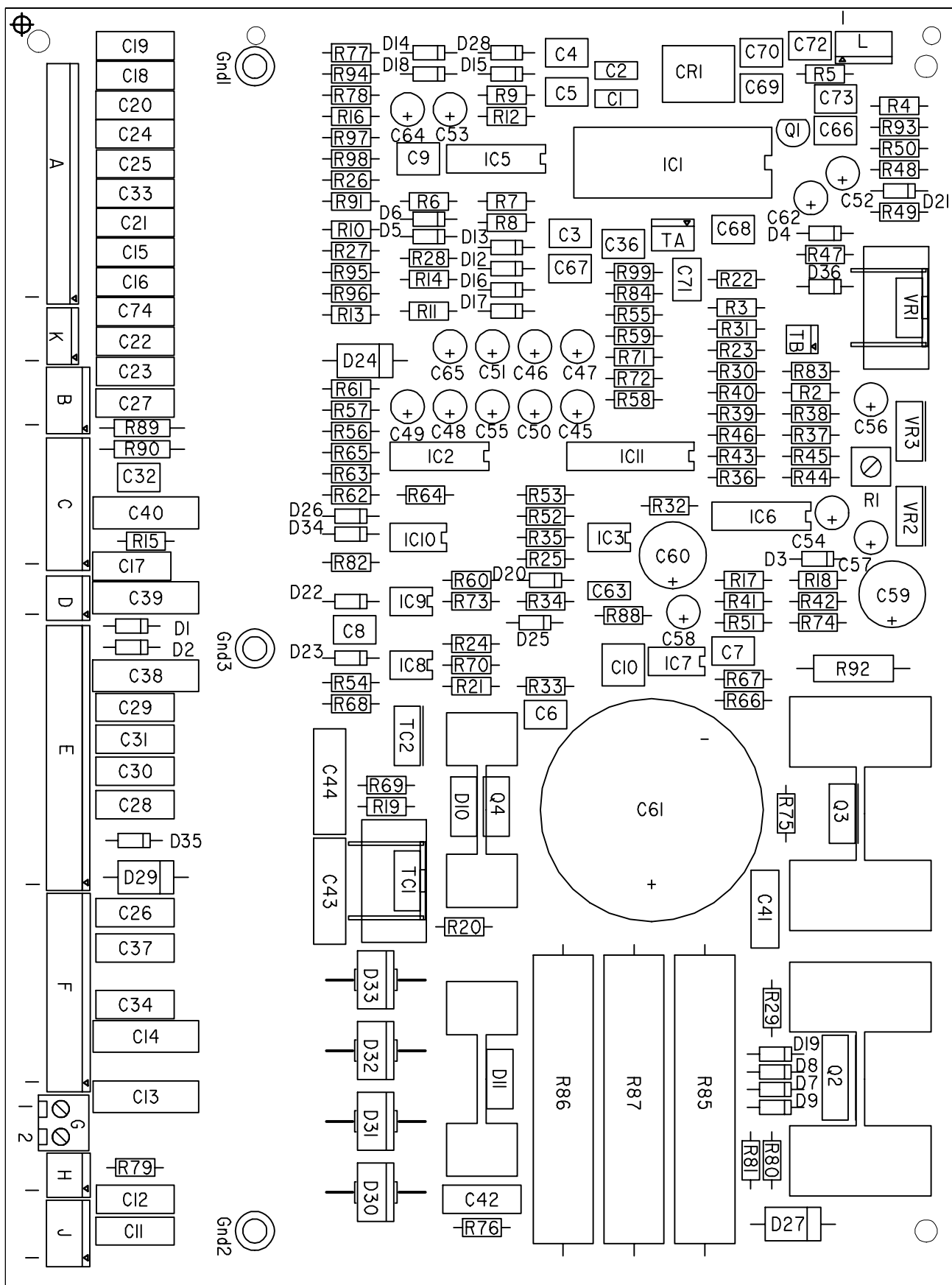
The following items can be connected to the remote control input :

- Wire feed speed remote control unit: pins M, J and L in 13XS13.
- Welding voltage remote control unit, if the power source is of thyristor-controlled or transistor-controlled type: pins J, K, L, Z and Y in 13XS13.
- MEK 25 intermediate wire feeder unit.
- Equipment for mechanized welding: Miggytrac or Railtrac

13AP1 Component positions



The new version of the control board, 0487 166 88x



The first version of the control board 0486 205 886

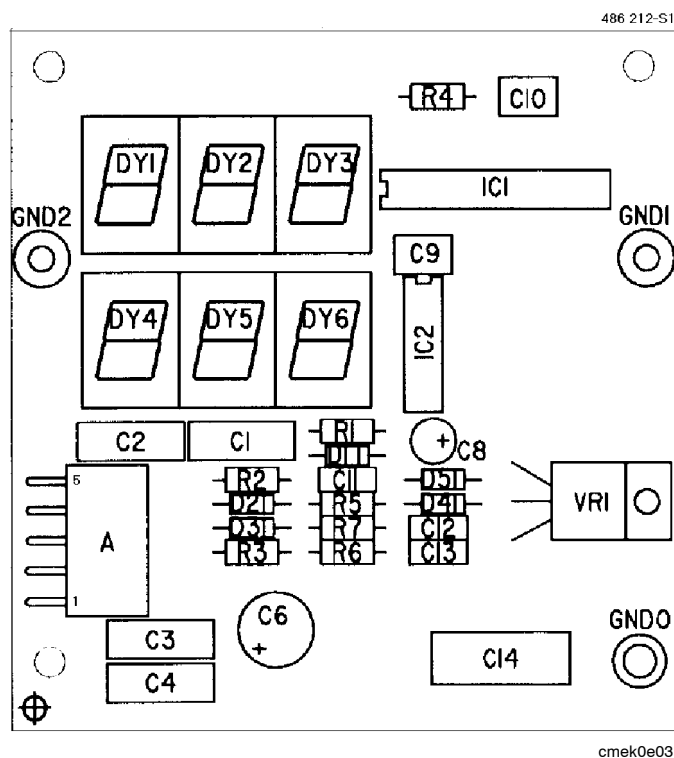
13AP2 Digital display

The digital display unit is standard in the ESABFeed 30 and ESABFeed 48 with control panel M13.

The instrument can be connected either to the wire feeder unit or to the ESABMig power source. Connection to the power source requires a connection kit. The instrument can be used only when the wire feeder unit is connected to an ESABMig or LAW power source.

The display board has two rows of 7-segment displays, with three displays in each row. The upper row displays arc voltage and the lower displays the welding current.

Data is transmitted serially to the display board from the power source, via inputs A1, A4 and A5. A smoothed 12 V DC power supply is supplied to the board via inputs A2 and A3 from the welding power source. Voltage regulator VR1 produces a 5 V output.



Component positions, display board 13AP2



Edition 050630

SERVICE INSTRUCTIONS



WARNING !

STATIC ELECTRICITY can damage circuit boards and electronic components.

- Observe precautions for handling electrostatic-sensitive devices.
- Use proper static-proof bags and boxes.

What is ESD?

A sudden transfer or discharge of static electricity from one object to another. ESD stands for Electrostatic Discharge.

How does ESD damage occur?

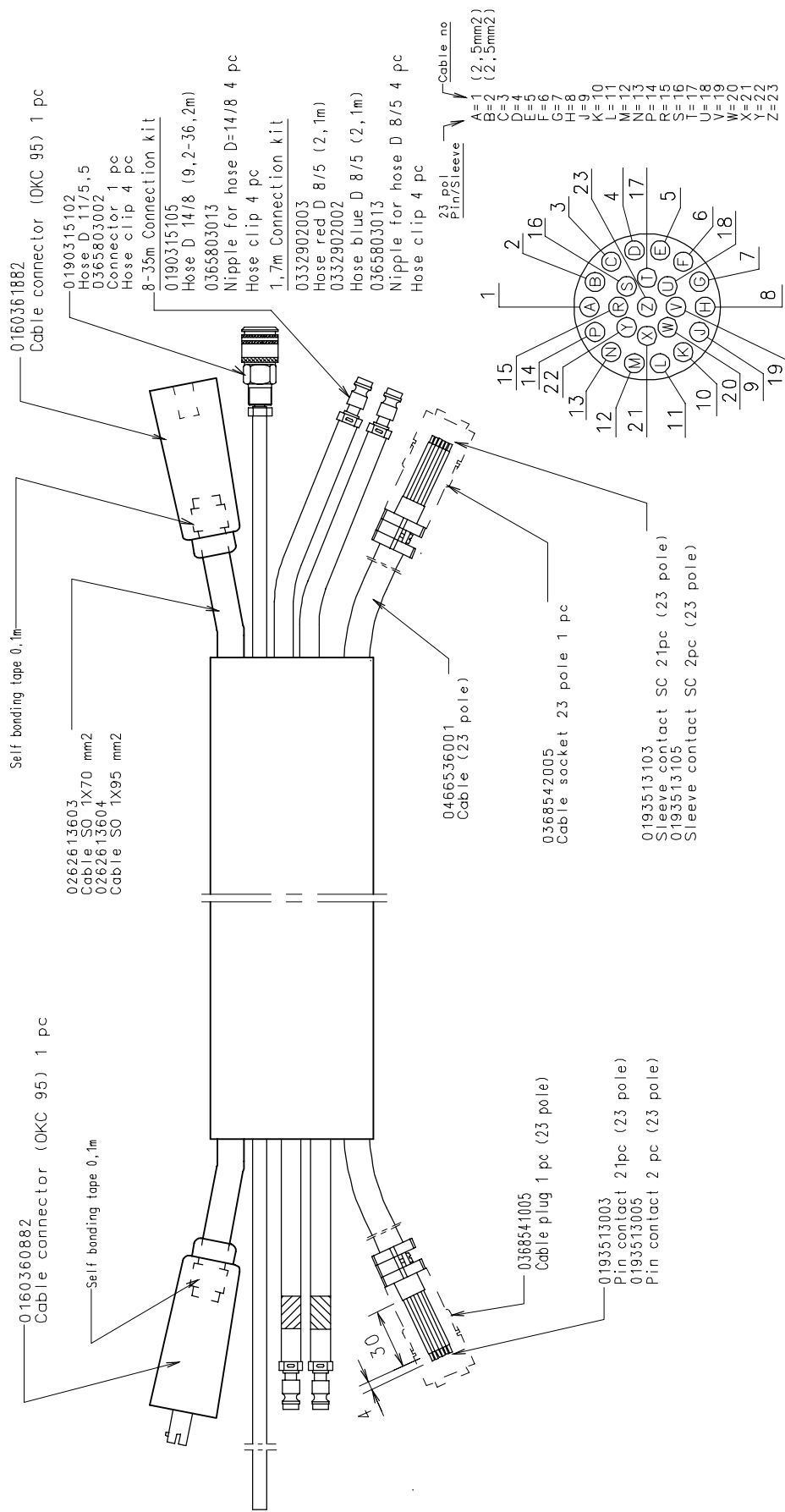
ESD can cause damage to sensitive electrical components, but is not dangerous to people. ESD damage occurs when an ungrounded person or object with a static charge comes into contact with a component or assembly that is grounded. A rapid discharge can occur, causing damage. This damage can take the form of immediate failure, but it is more likely that system performance will be affected and the component will fail prematurely.

How do we prevent ESD damage?

ESD damage can be prevented by awareness. If static electricity is prevented from building up on you or on anything at your work station, then there cannot be any static discharges. Nonconductive materials (e.g. fabrics), or insulators (e.g. plastics) generate and hold static charge, so you should not bring unnecessary nonconductive items into the work area. It is obviously difficult to avoid all such items, so various means are used to drain off any static discharge from persons to prevent the risk of ESD damage. This is done by simple devices: wrist straps, connected to ground, and conductive shoes.

Work surfaces, carts and containers must be conductive and grounded. Use only antistatic packaging materials. Overall, handling of ESD-sensitive devices should be minimized to prevent damage.

Spare parts for connection sets



INSTRUCTIONS

This chapter is an extract from the instructions for the ESABFeed 30-4 and ESABFeed 48-4 with control panels M12 and M13.

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.

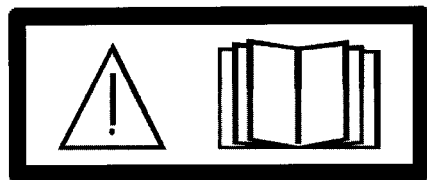
All work must be carried out by trained personnel well-acquainted with the operation of the welding equipment. Incorrect operation of the equipment may lead to hazardous situations which can result in injury to the operator and damage to the equipment.

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 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
3. The workplace 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 **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.



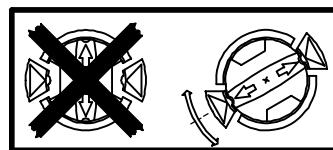
WARNING!

Read and understand the instruction manual before installing or operating.



WARNING!

To prevent the reel from sliding off the hub: Lock the reel in place by turning the red knob as shown on the warning label attached next to the hub.



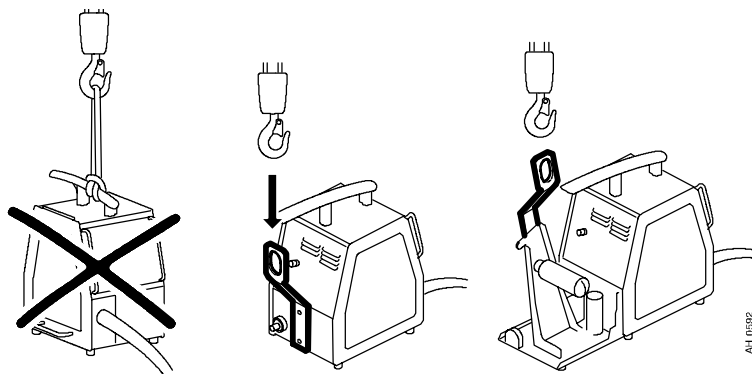


WARNING!

Rotating parts can cause injury, take great care.



Lifting instructions



Ordering number for the lifting eye can be found in the spare parts list.

Note! If another mounting device is used, this should be insulated from the wire feed unit.

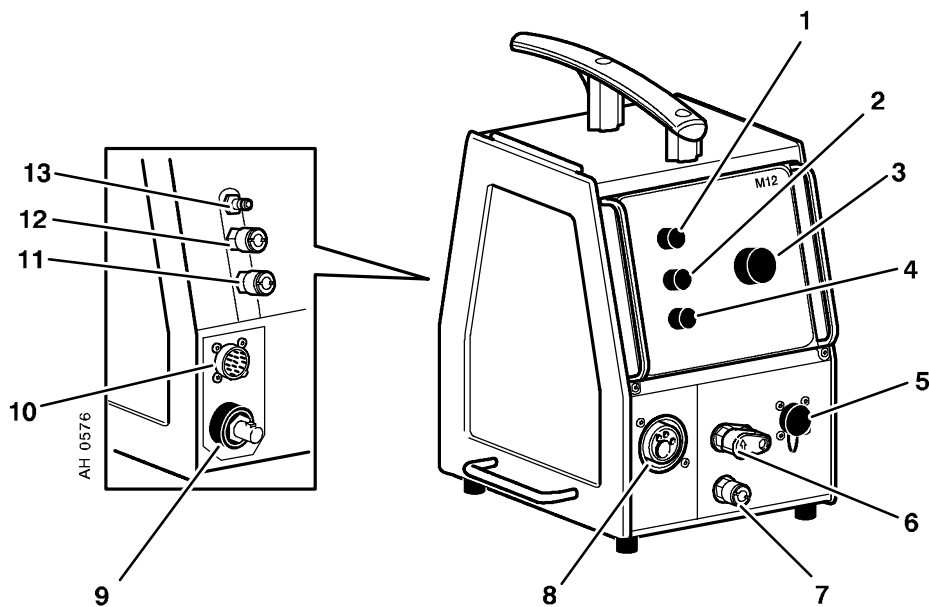
OPERATION

ESABFeed M12, connections and control devices

- | | |
|---|--|
| 1 Knob for setting burnback time | 8 Connection for welding gun |
| 2 Switch for creep start OFF / ON | 9 Connection for welding current from power source, (OKC) |
| 3 Knob for setting wire feed speed. | 10 Connection for control cable from power source |
| 4 Switch for 2-stroke / 4-stroke | 11 Connection RED, for cooling water to power source (cooling unit) |
| 5 Connection for remote control unit | 12 Connection BLUE, for cooling water from power source (cooling unit) |
| 6 Connection BLUE, with ELP* for cooling water to welding gun | 13 Connection for shielding gas |
| 7 Connection RED, for cooling water from welding gun | |

NOTE! Cooling water connections only available on certain models.

* ELP = ESAB Logic Pump, see "Water connection" below.

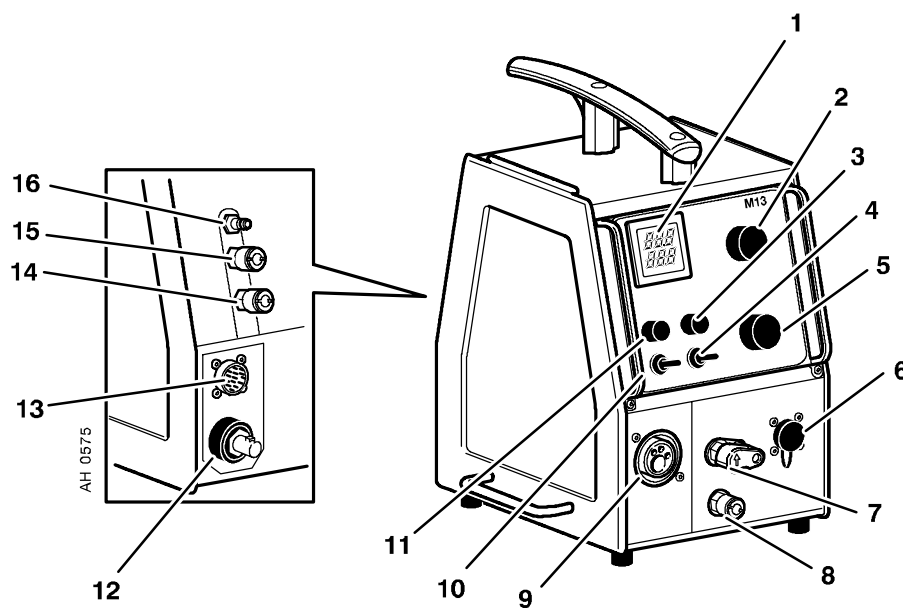


ESABFeed M13, connections and control devices

- | | |
|---|---|
| 1 Display | 9 Connection for welding gun |
| 2 Knob for setting the voltage | 10 Switch for 2-stroke / 4-stroke |
| 3 Knob for setting crater filling time | 11 Knob for setting burnback time |
| 4 Switch for creep start OFF / ON | 12 Connection (OKC), for welding current from power source |
| 5 Knob for setting wire feed speed. | 13 Connection for control cable from power source |
| 6 Connection for remote control unit | 14 Connection RED, for cooling water to power source (cooling unit) |
| 7 Connection BLUE, with ELP* for cooling water to welding gun | 15 Connection BLUE for cooling water from power source (cooling unit) |
| 8 Connection RED, for cooling water from welding gun | 16 Connection for shielding gas |

NOTE! Display (digital instrument) and cooling water connections only available on certain models.

* ELP = ESAB Logic Pump, see "Water connection" below.



Water connection

When connecting a water-cooled welding gun, the power source's main power supply switch must be in the Off position and the cooling unit switch must be in position "ELP/0".

The wire feed unit with water connection is equipped with a detection system **ELP** (ESAB Logic Pump), which checks that the water hoses are connected. When connecting a water-cooled welding gun, the water pump starts.

Detection only works with power sources that are equipped with ELP.

Setting the wire feed pressure

Start by making sure that the wire moves smoothly through the wire guide. Then set the pressure of the wire feeder's pressure rollers. It is important that the pressure is not too great.

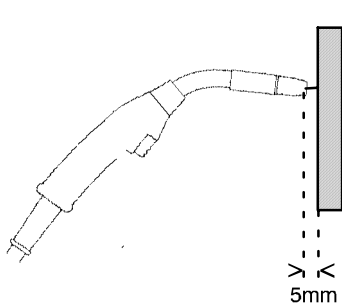


Fig 1

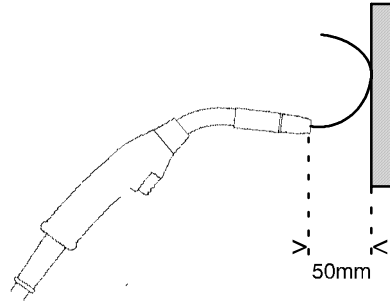


Fig 2

To check that the feed pressure is set correctly, you can feed out the wire against an insulated object, e.g. a piece of wood.

When you hold the welding gun approx. 5 mm from the piece of wood (fig. 1) the feed rollers should slip. If you hold the welding gun approx. 50 mm from the piece of wood, the wire should be fed out and bend (fig. 2).

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.

Inspection and cleaning

Wire feed unit

Check regularly that the wire feed unit is not clogged with dirt.

- Cleaning and replacement of the wire feed unit mechanism's worn parts should take place at regular intervals in order to achieve trouble-free wire feed. Note that if pre-tensioning is set too hard, this can result in abnormal wear on the pressure roller, feed roller and wire guide.

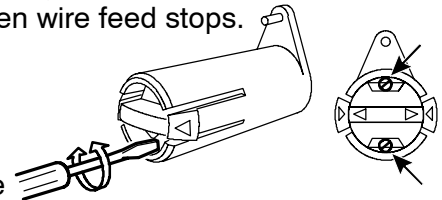
The brake hub

The hub is adjusted when delivered, if readjustment is required, follow the instructions below. Adjust the brake hub so that wire is slightly slack when wire feed stops.

- **Adjusting the braking torque:**
 - Turn the red handle to the locked position.
 - Insert a screwdriver into the springs in the hub.

Turn the springs clockwise to reduce the braking torque

Turn the springs anticlockwise to increase the braking torque. **NB:** Turn both springs through the same amount.



Welding gun

- Cleaning and replacement of the welding gun's wear parts should take place at regular intervals in order to achieve trouble-free wire feed. Blow the wire guide clean regularly and clean the contact tip.

SPARE PARTS

The spare parts lists are published in separate documents.

Product	filename
ESABFeed 30-4 M12 & ESABFeed 48-4 M12	0459 161 990
ESABFeed 30-4 M13 & ESABFeed 48-4 M13	0459 162 990

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[illegible]

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