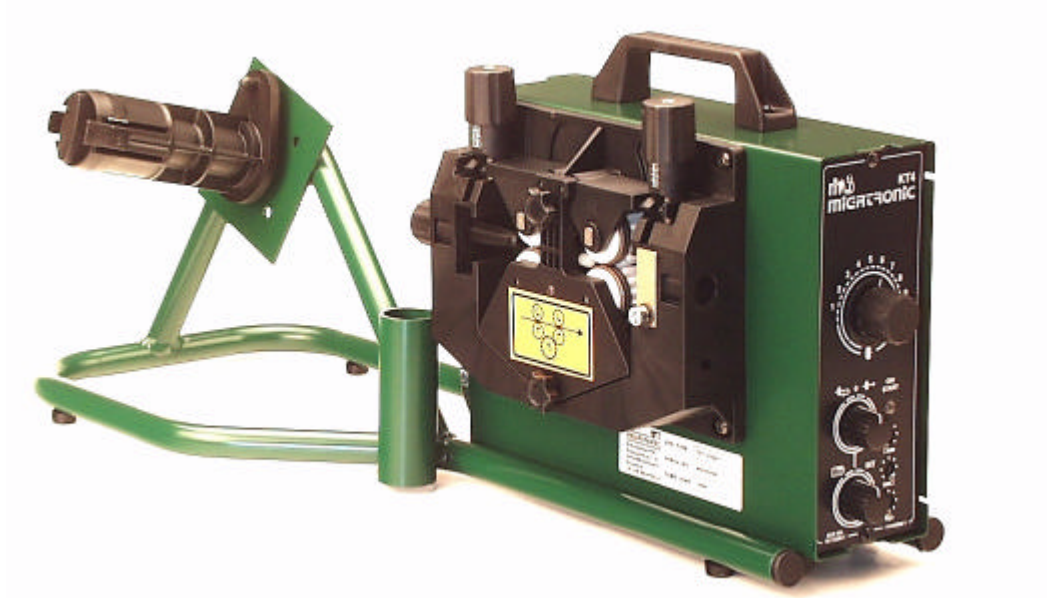


## INSTRUCTIONS MANUAL KT-4 COLD WIRE FEED UNIT



Version D. March 2004

Subject to modification without notice.

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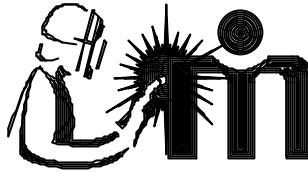
### IMPORTANT SAFETY INSTRUCTION

This instruction manual must always be readily accessible to the personnel who shall install, operate and service the KT-4.

Reading of the instruction manual assumes knowledge of welding, and the dangers associated with it, at a level which corresponds to that of a professionally trained welder.

NEVER touch the rotating wire drive rolls with your fingers. When replacing the wire drive rolls, the KT-4 must be switched off at the 0/1 switch.

## EC declaration of conformity



## EU declaration of conformity

<b>Manufacturer</b>	
Company name :	Migatronic Automation A/S
Address :	Knøsgaardvej 112
	DK 9440 Aabybro
Telephone :	(+45) 98 – 24 42 33

hereby declares that

<b>Machine/control unit.</b>	
Product :	Cold wire feed unit
Type :	KT-4
Part no. :	79112506-1

is manufactured in compliance with the provisions in the COUNCIL'S DIRECTIVE of 14 June 1989 on the mutual harmonisation of the member states' legislation regarding machines (89/392/EEC and amended by 91/368/EEC and 93/44/EEC) with particular reference to the directive's appendix I on important health and safety requirements in connection with the design and manufacture of machines (cf. the Danish Labour Inspectorate's regulation no. 561 of 24 June 1994).

10-3-1999

Søren C. Jensen

## General description

The KT-4 is designed for the feeding of cold wire for use with Migatron's TIG welding machines and robot plants.

The KT-4 can be remotely controlled using a remote control unit, a foot pedal or robot plant.

The following sockets can be found on the KT-4's rear panel:

- 6-pole Start In socket in which the KT-4 is started.
- 6-pole Start Out socket where, for example, a welding machine can be started.
- 19-pole socket for connection of remote control unit, foot pedal or robot plant.
- 8-pole socket for connection to Migatron welding machine.
- 220 - 240V~ mains connection with connector cable.

Possibility of detection of arc signal from 5-15V. Active 0, or 1 level.

Possibility of regulation of wire speed to 0, i.e. at rest and no wire feed. Particularly useful when using a robot plant.

The KT-4 is started by completing the circuit on pins 2&6 on the "START IN" socket. This signal is normally used to start the welding machine, and it is therefore necessary to connect the KT-4's "START OUT" socket to the welding machine so that the KT-4 and the welding machine are started simultaneously.

Once the KT-4 has received its start signal, the lamp on the KT-4's front panel will change colour from red to yellow. This indicates that the KT-4 is now in its wait position and that "START OUT" of the KT-4 has been established.

The wait position means that the KT-4 is ready to start.

*Factors which bring the KT-4 into the wait position are:*

- The KT-4 is waiting for the arc signal from the welding machine. Only if the 8-pole cable is connected between the KT-4 and the welding machine.  
The KT-4 is waiting for the arc signal from the 6-pole "START OUT" socket. Only if jumper J2 on the control circuit board is open. (Refer to the section "Jumpers and connections on the KT-4 circuit board").
- The KT-4 will be in the wait position if the remote control unit is connected, and the wire on the remote control unit is switched off.
- The KT-4 will be in the wait position until the pre-set delayed wire start interval has expired.

When the pre-set wire start interval has expired, the KT-4 will begin to feed wire and the lamp on the KT-4 will now change colour to green.

When the start signal to the KT-4 is removed, the "START OUT" of the KT-4 will cut out immediately and the KT-4 will stop feeding wire either immediately or after the interval "DELAYED WIRE STOP" has expired.

As soon as the wire has stopped, it is possible to reel in the wire for a period which can also be set on the front panel of the KT-4.

If the KT-4 is used in connection with manual welding, it is possible to change the start/stop of the KT-4 from 2-stroke to 4-stroke trigger.

However, it is not possible to use the handle regulator on the torch handle if the start signal from the welding torch runs via the KT-4.

2-stroke trigger means that the wire is fed when "START IN" is activated, and stops when the "START IN" signal is interrupted.

4-stroke trigger means that the wire will be fed when "START IN" is activated once. The trigger can now be released and the wire will continue to be fed until "START IN" is again activated once.




## Functional description

### Controls on the KT-4's front panel





Figure 1.


The following refers to figure 1.

- 1: Setting of the wire speed when the KT-4 is used in the “INT” internal position or when shunting wire manually.  
The wire speed can be regulated down to 0m/min., which means that a stable wire speed is not achieved until the knob is turned to approx. 1 on the scale.  
\* Wire speed can be set in the range 0-4 m/min.
- 2: Rotating switch for manual wire shunting. If the knob is turned to position , the wire will be reeled in with a reduced fixed speed. In the centre position, the wire is switched off, and if the knob is turned to position , the wire will be fed at the speed which has been set on the knob, pos. 1.  
Manual wire shunting is primarily used when adjusting, starting and replacing wire rolls.  
*Note! In order to manually shunt the wire, the switch, pos. 3, must be in the centre position.*
- 3: Function switch. If the switch is turned to position , the KT-4 can be controlled via a remote control unit or robot set-up. In the centre position, the KT-4 can only be controlled manually with the switch, pos. 2 (manual wire shunting). In the “INT” position, the wire speed is regulated via the knob, pos. 1.

- 4: Control lamp which indicates the status on the KT-4 using different colours. The colours chosen match the highway traffic light system, and should therefore be easy to remember.
- Red light indicates: the KT-4 has stopped and is on standby.  
Yellow light indicates: the KT-4 has started and is in the wait position. The wait position may, for instance, be due to delayed wire start, which can be set on the knob, pos. 5, or it may be due to the KT-4 waiting for a signal from the welding machine that the arc has been established.  
Green light indicates: The wire is running forwards normally. Flashing green indicates that the wire is being reeled in (reverse).

- 5:  Setting of delayed wire start, i.e. the delay from when the KT-4 has started until feeding of the wire begins.
- If the KT-4 is connected to a welding machine with arc control, the delay period will not commence until the arc has been established. Thus a reliable repetition of the wire feed is ensured.
- \* The delay can be set in the range 0-3 seconds.

- 6:  Setting of delayed wire stop, i.e. the delay from when the KT-4 has stopped until the wire stops.
- This function is used in cases where wire feeding is required as part of the slope-down welding process.
- \* The delay can be set in the range 0-5 seconds.

- 7:  Setting of wire return time, i.e. the period for which the wire is in reverse. Is used particularly for aluminium welding.
- \* The period can be set in the range 0-1.5 seconds.

\* Variations can occur, and specifications may vary from those stated here.

## Connections on the KT-4's rear panel

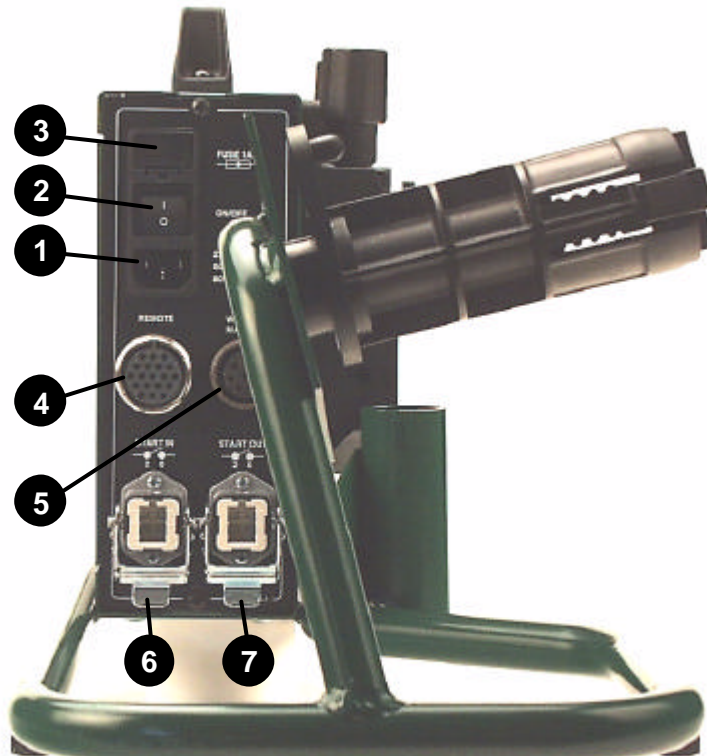


Figure 2.

The following refers to figure 2.

- 1: Mains connection 220-240V~ using connector plug. The mains connection must be with earth.
- 2: Main switch for the KT-4. If the button is pushed in at the top, the KT-4 is switched on.
- 3: Main fuse for the KT-4. In order to replace the fuse, eject the fuse holder by pressing the locking pin upwards and pulling out the fuse holder at the same time. When replacing the fuse, the mains cable must be disconnected from the KT-4.
- 4: Connection of the remote control unit or robot interface. Remote control unit types KTF and 8911 can be used.  
Pin connections:  
*A: Current information 0-10V DC. To the welding machine.*  
*B: 0V/GND (REF.0V)*  
*C: Earth/ connected to cabinet*  
*D: Direction signal for wire. +15-24V = Wire in reverse.*  
*E: Start wire: Output from the KT-4. +15V = Start wire.*  
*F: Start wire: Input on the KT-4. +15-24V = Start wire.*  
*G: +24V DC for remote control unit. Max. 200mA. Short-circuit protected.*  
*H: GND for remote control unit.*  
*M: Wire speed 0-10V.*  
Other pins not connected.



5: Connection to the welding machine's remote control input.

This socket is only connected if one wishes to control the welding current via the KT-4, or if arc control\* via the welding machine is required.

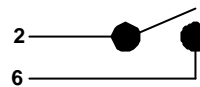
Pin connections:

A: Current information 0-10V DC.  
B: 0V/GND (REF.0V)  
E: Arc signal from the welding machine \*  
Other pins not connected.

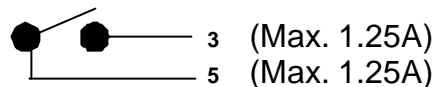
6: Start In. The KT-4 is started via this socket. Furthermore, if the KT-4 is started from another control unit, it is possible to send an arc signal to this control unit via this connection.

Pin connections:

2: Trigger input START KT-4  
6: - # -



3: Relay output: Arc\* established.  
5: - # -



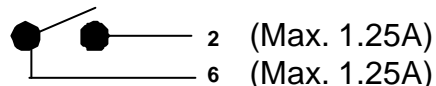
7: Start Out: This socket sends a relay signal which can be used to start a welding machine or another control unit in the set-up. Furthermore, this socket enables the KT-4 to be given an arc signal from, for instance, an arc unit. This is particularly useful if the welding machine does not support an arc signal.

In order to be able to use this arc input, jumper J2 on the control circuit board must be open. (Refer to the section "Jumpers and connections on the KT-4 circuit board").

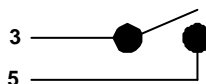
(Only DC TIG welding).

Pin connections:

2: Relay signal: Start Out.  
6: - # -



3: Arc input from, e.g. arc unit.  
5: - # -



\* Not all welding machines support arc control.  
Contact your dealer with regard to your welding machine.

## Jumpers and connections on the KT-4 circuit board

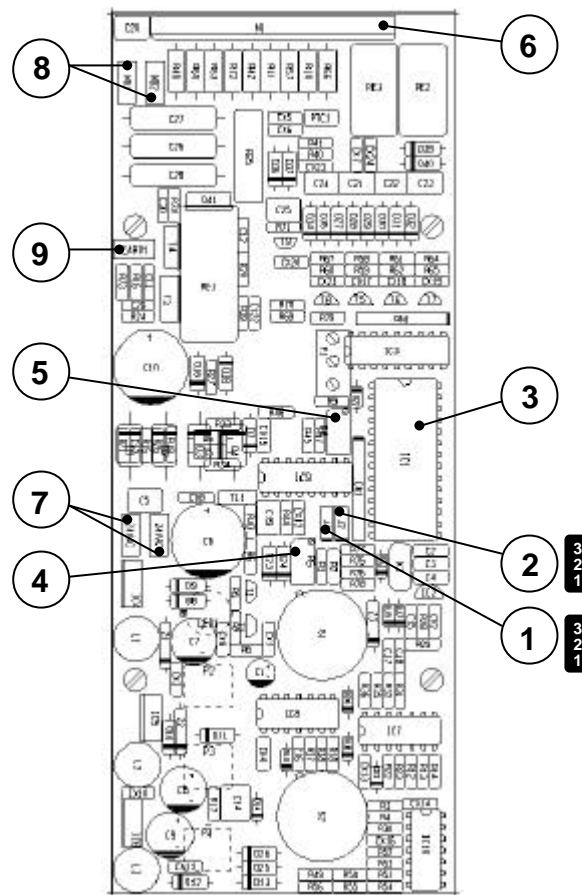


Figure 3.

The following description refers to figure 3.

### 1: **Switching between 2 & 4-stroke trigger**

Jumper J1. Switching between 2 & 4-stroke trigger of the KT-4. The KT-4 is normally delivered set up for 2-stroke trigger. The jumper will sit between pins 1&2, i.e. the bottom 2 pins. If the KT-4 is to be switched to 4-stroke trigger, the jumper should be moved to pins 2&3, i.e. the top 2 pins.

### 2: **Switching of arc signal from the welding machine**

Jumper J2. Switching of arc signal. Depending on the welding machine, this jumper can be used to determine how the KT-4 will react to the arc signal which is received from the welding machine.

*Jumper pins 1&2:*

*0V=Arc established (8-pole connector)*

*Jumper pins 2&3:*

*5-15V=Arc established (8-pole connector)*

*Jumper open:*

*The KT-4 ignores the arc signal from the 8-pole connector, and an arc signal MUST be supplied to the 6-pole "START OUT" socket before the KT-4 will run normally.*

**3: Replacement of microprocessor**

The microprocessor controls 99% of the KT-4's functions.

If the microprocessor is replaced, make sure that it is positioned with the "notch" facing upwards.

It is not normally necessary to replace the microprocessor unless a change in the KT-4's mode of operation is required.

**4: Adjustment of maximum wire feed speed**

Trimmer which determines the KT-4's maximum speed.

Normally the maximum speed is set at 26.00V.

Rotating the trimmer clockwise increases the speed, whilst rotating the trimmer anticlockwise reduces the speed.

**5: Adjustment of wire return speed**

Trimmer which determines the KT-4's wire return speed.

Normal return speed is 4.00V.

Rotating the trimmer clockwise increases the return speed, whilst rotating the trimmer anticlockwise reduces the return speed.

**6: Multiplug which connects the KT-4 to all input and output sockets.**

Internal cable connections.

**7: Supply voltage to the KT-4's control circuit board, 24V ~**

Can be randomly oriented.

**8: Connection of the KT-4's wire motor.**

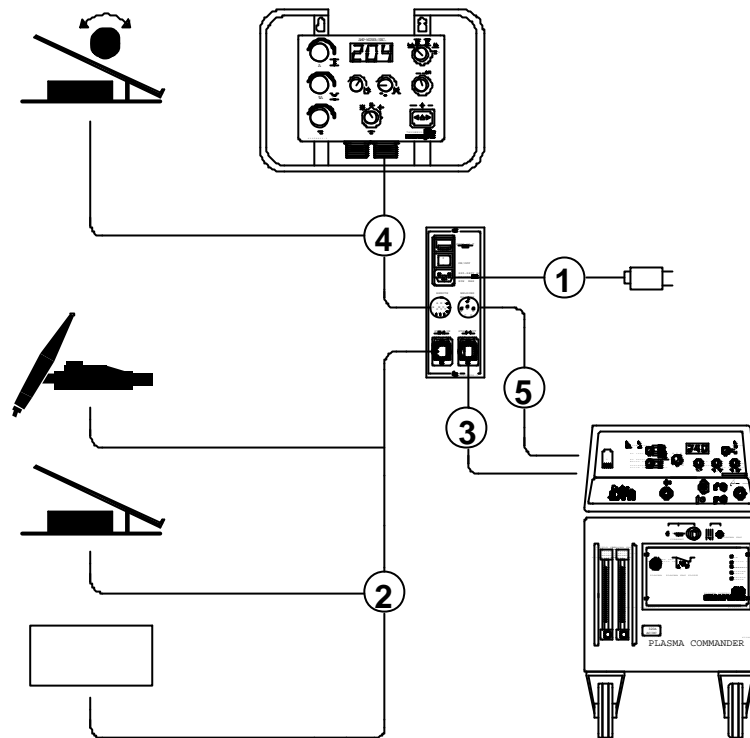
Red cable to "MO1" and green cable to "MO2".

**9: Connection of earth cable, yellow/green cable.**

Electrical noise decoupling.

## Connection examples

### Overall connection diagram



The above diagram illustrates how the KT-4 is normally connected.


- 1: 220-240V~ 50/60Hz. Connected to mains socket with EARTH CONNECTION.
- 2: "START IN" socket. This socket is used to start the KT-4. Pins 2&6 are the trigger connections.  
Normally this socket is connected to the TIG torch, foot pedal, control unit or other unit used to start the KT-4.
- 3: "START OUT" socket. This socket is a relay output which starts the welding machine. Pins 2&6 are connected to the relay in the KT-4.  
The relay in the KT-4 will switch on the welding machine at the same time as "START IN" is activated. It is thus simply a connection through the KT-4 which tells the KT-4 that welding has begun.  
The KT-4 will begin feeding wire once the pre-set interval "DELAYED WIRE START" has expired. If the socket, pos. 5, is connected, the wire will not begin to run until the welding arc has been established. (Welding machines with arc control).
- 4: Connection of remote control unit, 8911, KTF, or foot pedal with start/stop and the possibility of regulating the wire speed.
- 5: Cable between the KT-4 and the welding machine. This connection is only necessary if one wishes to regulate the welding current via the remote control unit connected to the KT-4, or if the welding machine is equipped with a usable arc signal which can tell the KT-4 when the welding arc has been established.

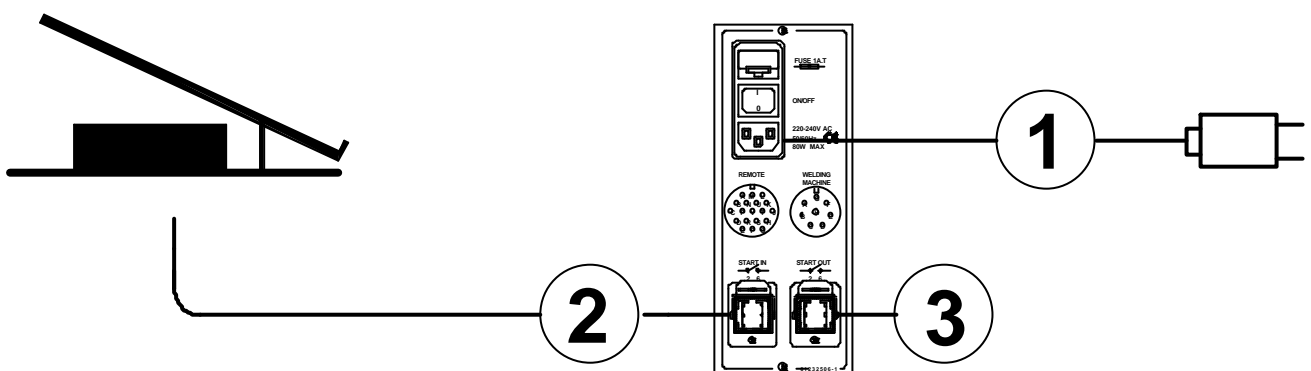
## Example of connection of foot pedal for start/stop of wire

The following shows how a foot pedal is connected to the KT-4.

Used mainly for manual welding.

It is possible to connect the welding machine to the socket, pos. 3, in which pins 2&6 are the trigger signal to the welding machine. The welding machine will start when the foot pedal is activated, and the wire will run when the interval "DELAYED WIRE START" has expired.

The KT-4 must be in the "INT" position. If remote control unit 8911 is connected, the KT-4 must be in  remote control position.



- 1: 220-240V~ 50/60Hz. Connected to mains socket with EARTH CONNECTION.  
*Mains cable with connector plug and Danish earth, 5 metres. 92260150-1*
- 2: Trigger signal to the KT-4. Pins 2&6 are the trigger signal in the socket.  
Foot pedal no. 76111100-1 can be used.  
Adapter cable for foot pedal No. 74320017-1 necessary.
- 3: Start signal to the welding machine. Pins 2&6 are the start signal in the socket.  
*Intermediate cable No. 74320002-1 can be used. Standard 5 metres.*

## Example of connection of foot pedal with start/stop and speed regulation of wire

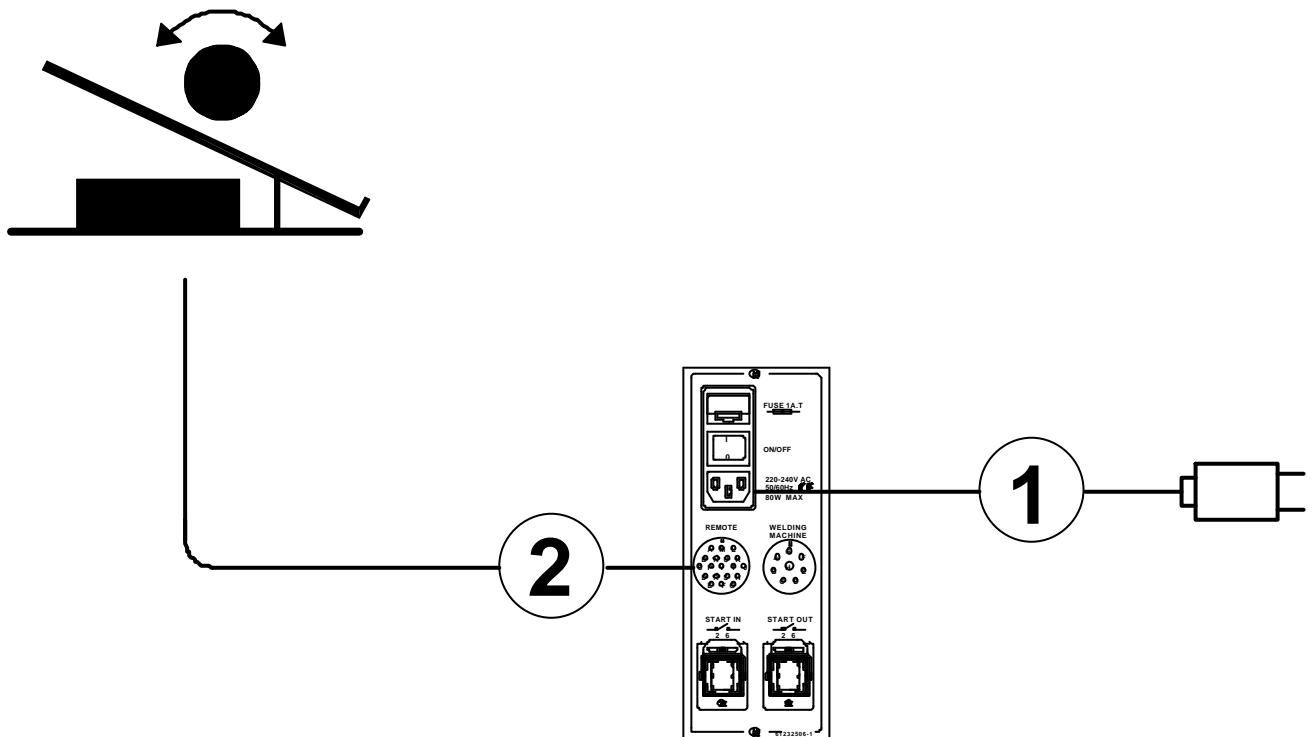
The following shows how a foot pedal with start/stop and speed regulation is connected to the KT-4.

Used for manual welding.

The settings “DELAYED WIRE START”, “DELAYED WIRE STOP” and “WIRE RETURN” *cannot* be used with this configuration.

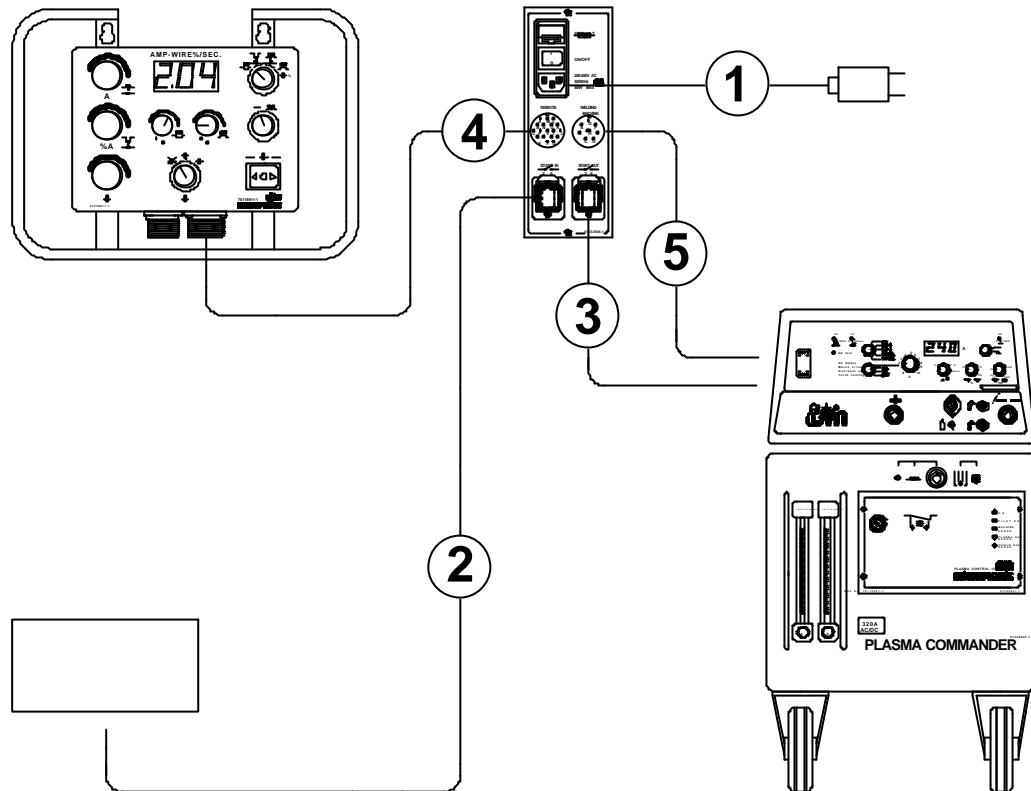
It is *not* possible to start the welding machine via the KT-4 with this configuration.

The KT-4 must be in the  remote control position.



- 1: 220-240V~ 50/60Hz. Connected to mains socket with EARTH CONNECTION.  
*Mains cable with connector plug and Danish earth, 5 metres. 92260150-1*
- 2: Trigger signal and speed information to the KT-4.  
Foot pedal No. 76111102-1 can be used.  
Cable between KT-4 and foot pedal No. 74341030-1  
Standard length 5 metres.

## Example of connection to Plasma Commander/TIG Commander



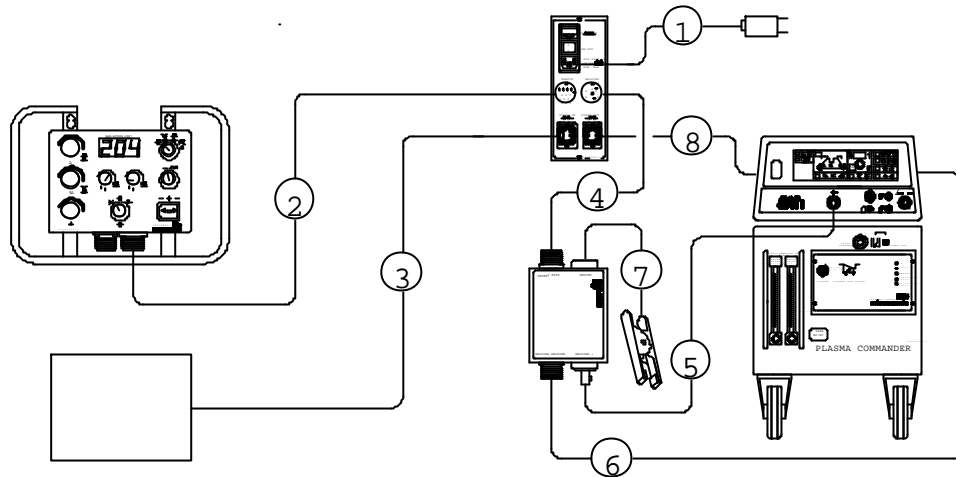
- 1: 220-240V~ 50/60Hz. Connected to mains socket with EARTH CONNECTION. *Mains cable with connector plug and Danish earth, 5 metres. 92260150-1*
- 2: Trigger signal to the KT-4, e.g. turntable control unit. Pins 2&6 are the trigger signal in the socket. *Intermediate cable No. 74341021-1 can be used. Standard 5 metres.*
- 3: Start signal to the welding machine. Pins 2&6 are the start signal in the socket. *Intermediate cable No. 74320002-1 can be used. Standard 5 metres.*
- 4: Connection of 8911 or KTF remote control unit. *Intermediate cable 74341011-0 can be used. Standard 6 metres.*
- 5: Intermediate cable between the KT-4 and the welding machine. *Intermediate cable 74340003-0 can be used. Standard 5 metres.*

The KT-4 must be in the  remote control position.

The section “Connections on the KT-4’s rear panel” describes the signals in the intermediate cables.

In order to use the welding machine’s arc signal, the electronic unit in the welding machine must be modified. Fit PTC1 in order to use the arc signal.  
(Only Plasma Commanders/TIG Commanders with analogue unit).

## Example of connection to Plasma Commander/TIG Commander AC/DC



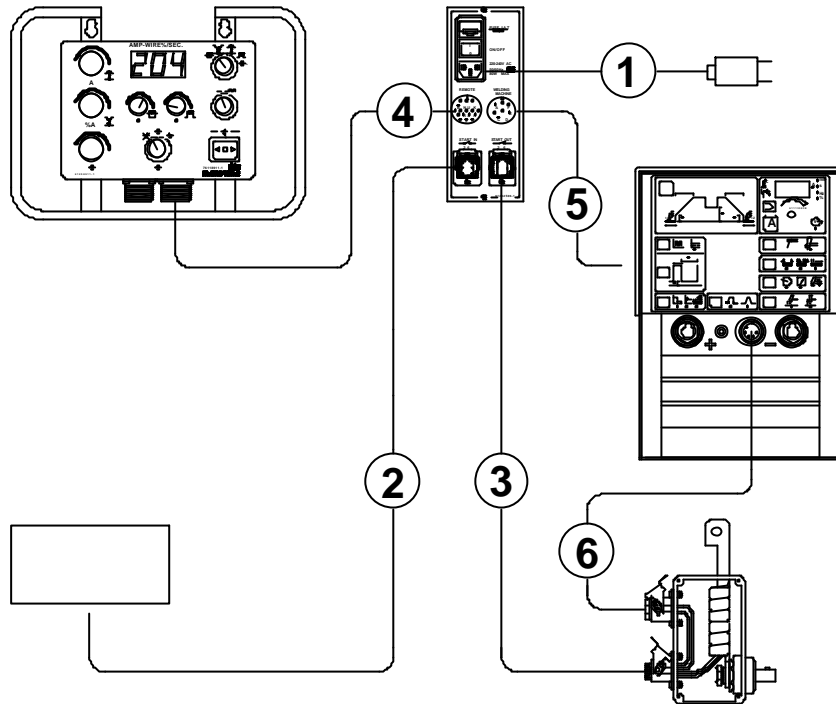
- 1: 220-240V~ 50/60Hz. Connected to mains socket with EARTH CONNECTION. *Mains cable with connector plug and Danish earth, 5 metres. 92260150-1*
- 2: Connection of 8911 or KTF remote control unit. *Intermediate cable 74341011-0 can be used. Standard 6 metres.*
- 3: Trigger signal to the KT-4, e.g. turntable control unit. Pins 2&6 are the trigger signal in the socket. *Intermediate cable No. 74341021-1 can be used. Standard 5 metres.*
- 4: Intermediate cable between the KT-4 and the Arc detect box, 8 pins. The KT-4 receive the Arc detect signal from pin E i the 8 pin plug. 15V = no Arc, and 0V = Arc. J2 on KT4 pcb must be in position "1&2". (Refer to the section "Jumpers and connections on the KT-4 circuit board"). *Arc detect box item no. 76118818-1*  
*Intermediate cable No. 74340003-0 can be used. Standard 5 metres.*
- 5: Ground cable – extension 2,5m. 80525002-0
- 6: Intermediate cable between the Arc detect box and the welding machine. *Intermediate cable 74340000-0 can be used. Standard 0,75 metres.*
- 7: Ground cable with ground clamp. *Ground cable 50mm<sup>2</sup> 80505003-0 can be used. Standard 3 metres.*
- 8: Start signal to the welding machine. Pins 2&6 are the start signal in the socket. *Intermediate cable No. 74320002-1 can be used. Standard 5 metres.*

The KT-4 must be in the  remote control position.

The section "Connections on the KT-4's rear panel" describes the signals in the intermediate cables.



## Example of connection to Pilot 1600/2400 where an external arc unit is used

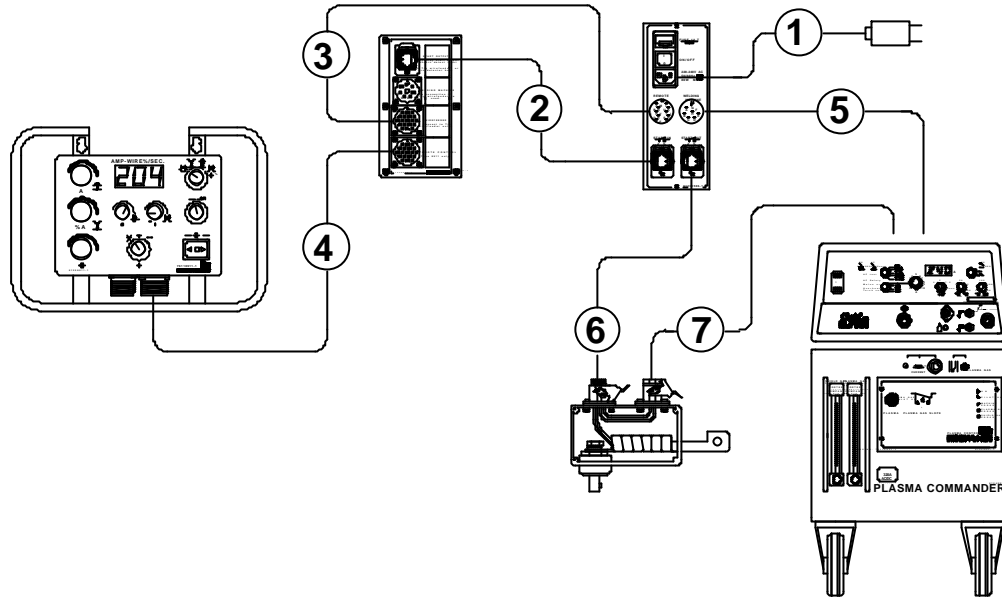


- 1: 220-240V~ 50/60Hz. Connected to mains socket with EARTH CONNECTION.  
*Mains cable with connector plug and Danish earth, 5 metres. 92260150-1*
- 2: Trigger signal to the KT-4, e.g. turntable control unit. Pins 2&6 are the trigger signal in the socket.  
*Intermediate cable No. 74341021-1 can be used. Standard 5 metres.*
- 3: Intermediate cable from the KT-4 and the arc unit. Start welding is via pins 2&6, and the KT-4 receives the arc signal via pins 3&5 from the arc unit. Can only be used for DC welding. Jumper J2 on the control circuit board must be in the "Open" position . (Refer to the section "Jumpers and connections on the KT-4 circuit board").  
*Intermediate cable No. 74341020-1 can be used. Standard 5 metres.*
- 4: Connection of 8911 or KTF remote control unit.  
*Intermediate cable 74341011-0 can be used. Standard 6 metres.*
- 5: Intermediate cable between the KT-4 and the welding machine.  
*Intermediate cable 74340003-0 can be used. Standard 5 metres.*
- 6: Start signal to the welding machine. Pins 2&6 are the start signal in the socket. There must be a connection between 2&4 in the socket at the Pilot machine if the Pilot machine is not equipped with a water module.  
*Intermediate cable No. 74320003-1 can be used. Standard 5 metres.*

The KT-4 must be in the  remote control position.

The section "Connections on the KT-4's rear panel" describes the signals in the intermediate cables.

## Example of connection to Robot interface 76119999-1 with or without external arc unit



- 1: 220-240V~ 50/60Hz. Connected to mains socket with EARTH CONNECTION. *Mains cable with connector plug and Danish earth, 5 metres. 92260150-1*
- 2: Trigger signal to the KT-4 from the robot interface. Pins 2&6 are the trigger signal in the socket. The robot interface receives the arc signal from the KT-4 via pins 3&5 in the socket. *Intermediate cable No. 74341021-1 can be used. Standard 5 metres.*
- 3: Intermediate cable between the robot interface and the KT-4. *Intermediate cable 74341011-0 can be used. Standard 6 metres.*
- 4: Connection of 8911 remote control unit. *Intermediate cable 74341011-0 can be used. Standard 6 metres.*
- 5: Intermediate cable between the KT-4 and the welding machine. *Intermediate cable 74340003-0 can be used. Standard 5 metres.*
- 6: Intermediate cable from the KT-4 and the arc unit. Start welding is via pins 2&6, and the KT-4 receives the arc signal via pins 3&5 from the arc unit. Can only be used for DC welding. Jumper J2 on the control circuit board must be in the "Open" position. (Refer to the section "Jumpers and connections on the KT-4 circuit board"). *Intermediate cable No. 74341020-1 can be used. Standard 5 metres.*

If the welding machine can provide an arc signal via the 8-pole cable, the arc unit can be omitted and the cable, pos. 6, can be fitted directly to the welding machine.

- 7: *Intermediate cable No. 74320002-1 can be used. Standard 5 metres.*

The KT-4 must be in the  remote control position.

**NOTE!** If this configuration is used without remote control, plug no. 17210090-1 must be inserted instead of the remote control.

The section "Connections on the KT-4's rear panel" describes the signals in the intermediate cables.

## Trouble shooting

### Symptom:

### Reaction:

---

No light on the KT-4.

Check the mains connection, mains cable, 0/1 switch.  
Check the fuse on the rear panel of the KT-4.  
Switch off the KT-4 for 30 seconds and switch it on again.


If this does not remedy the problem, contact service.

The KT-4 will not run.

Set the KT-4 to manual shunting of the wire.  
Test that the KT-4 can manually shunt wire back and forth.  
If this is not possible, contact service.  
If the KT-4 can run with manual shunting, try the tips below.

### Does the lamp on the KT-4 change colour from red to yellow?


- **If no:**

Check the function switch on the front of the KT-4. In order to be able to feed wire out, the switch must be in the  remote control position if the remote control unit is fitted, or otherwise in the "INT" position.

The KT-4 is not receiving a start signal. Check the cable which is inserted in the "START IN" socket. Pins 2&6 must complete the circuit before the KT-4 can run.

- **If yes:**

If a remote control unit is fitted, check that the wire is not switched off on the remote control.

Check  setting of delayed wire start. If the delay is set at a high value, then in the case of short welding times it may mean that the KT-4 does not feed any wire since the delayed wire start interval may be longer than the welding time itself.

If the 8-pole socket to the welding machine is connected, check that the arc signal is present in the welding machine, and that the KT-4's jumper for the arc signal is correctly set. (Refer to the section "Jumpers and connections on the KT-4 circuit board").

TIP: Try removing the 8-pole cable between the KT-4 and the welding machine. If the KT-4 now begins to feed wire, then it is the arc signal from the welding machine which is preventing the KT-4 from running correctly.

If the above fails to solve the problem, contact service.

**Symptom:****Reaction:**

---

The KT-4 will not run, even though the lamp on the KT-4 has switched to green.

Check that the wire speed knob is not turned down to minimum. The wire will begin to run at approx. 1 on the scale.

If a remote control unit is fitted to the KT-4, check that the wire speed knob is not at minimum here. The wire will not begin to run until the display on the remote control unit shows approx. 10%.

If this fails to solve the problem, contact service.

The KT-4 starts, but the welding machine does not.

Check the cable which runs from the KT-4's "START OUT" to the welding machine's start/trigger input. Try to short-circuit pins 2&6 in the connector which runs down to the welding machine. The welding machine should now start. If it does not start, check the connections and the socket on the welding machine.

If this fails to solve the problem, contact service.

The KT-4 starts, the welding machine starts, but the welding machine continues to weld even though the start signal to the KT-4 has been released.

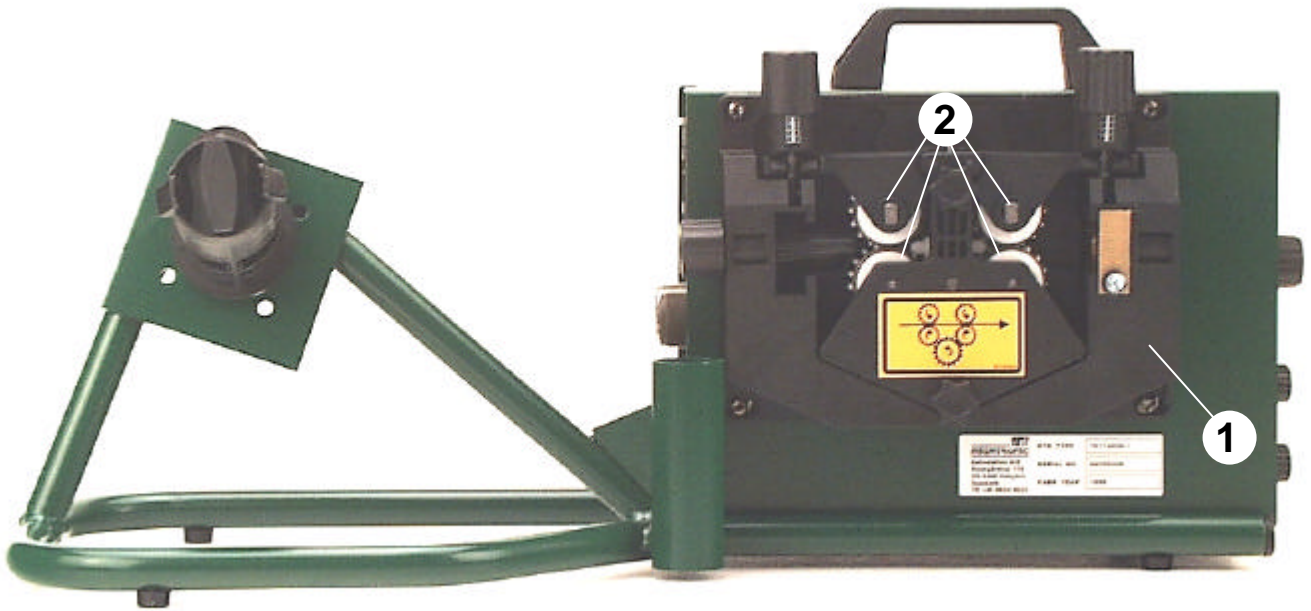
Check the welding machine's trigger setting. Set the welding machine to 2-stroke trigger.

The KT-4 does not emit an arc signal.

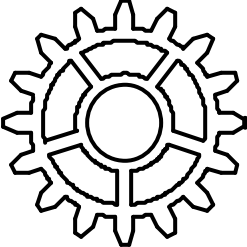
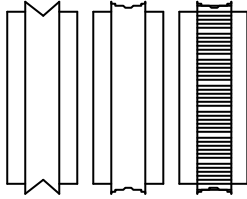
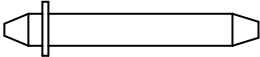
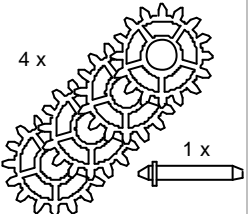
Check that the welding machine connected to the KT-4 has an arc signal available in the 8-pole plug. Check the jumper for the arc signal on the KT-4. (Refer to the section "Jumpers and connections on the KT-4 circuit board").

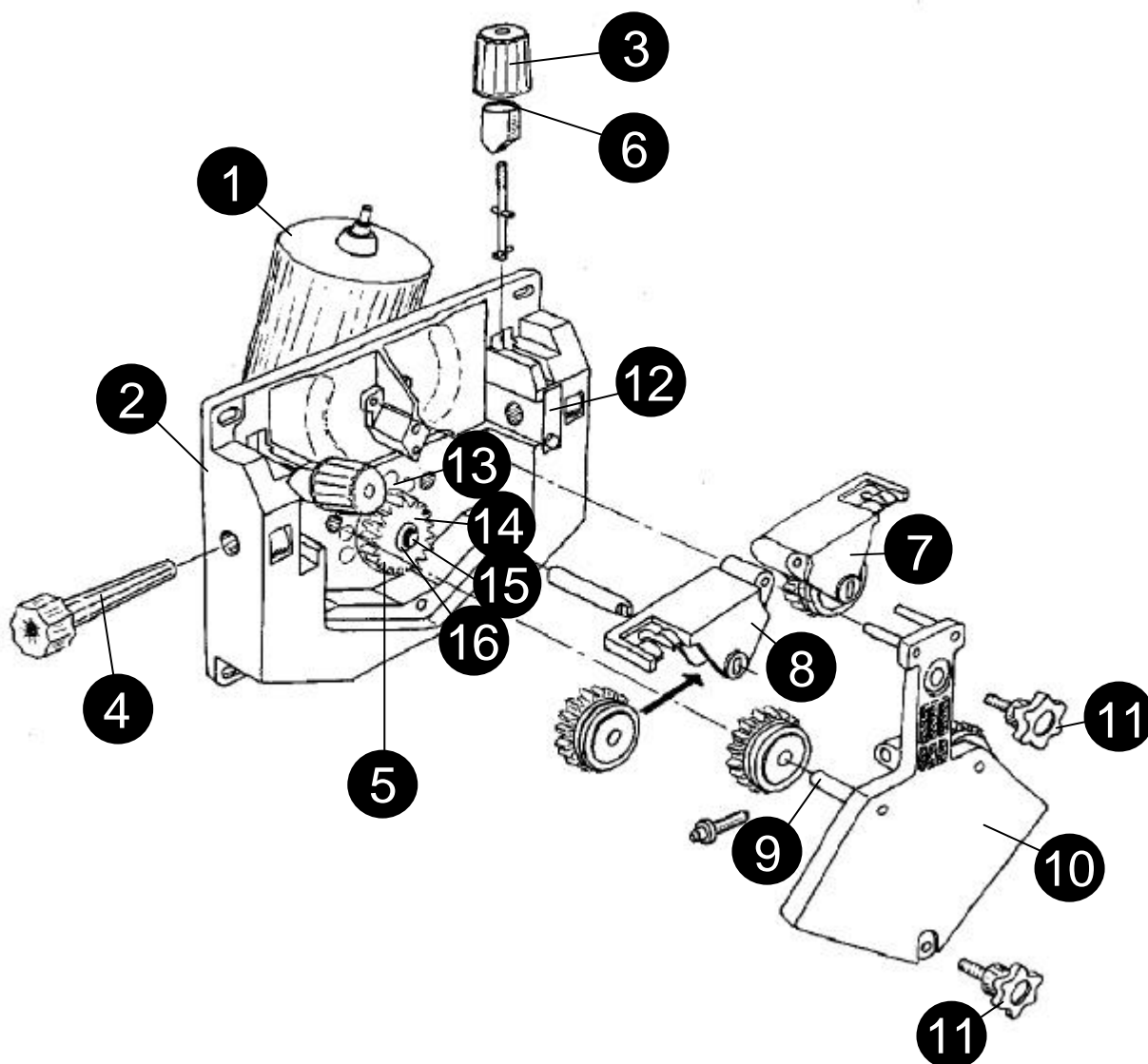
## Spare parts list

### Wire feed unit and drive rolls



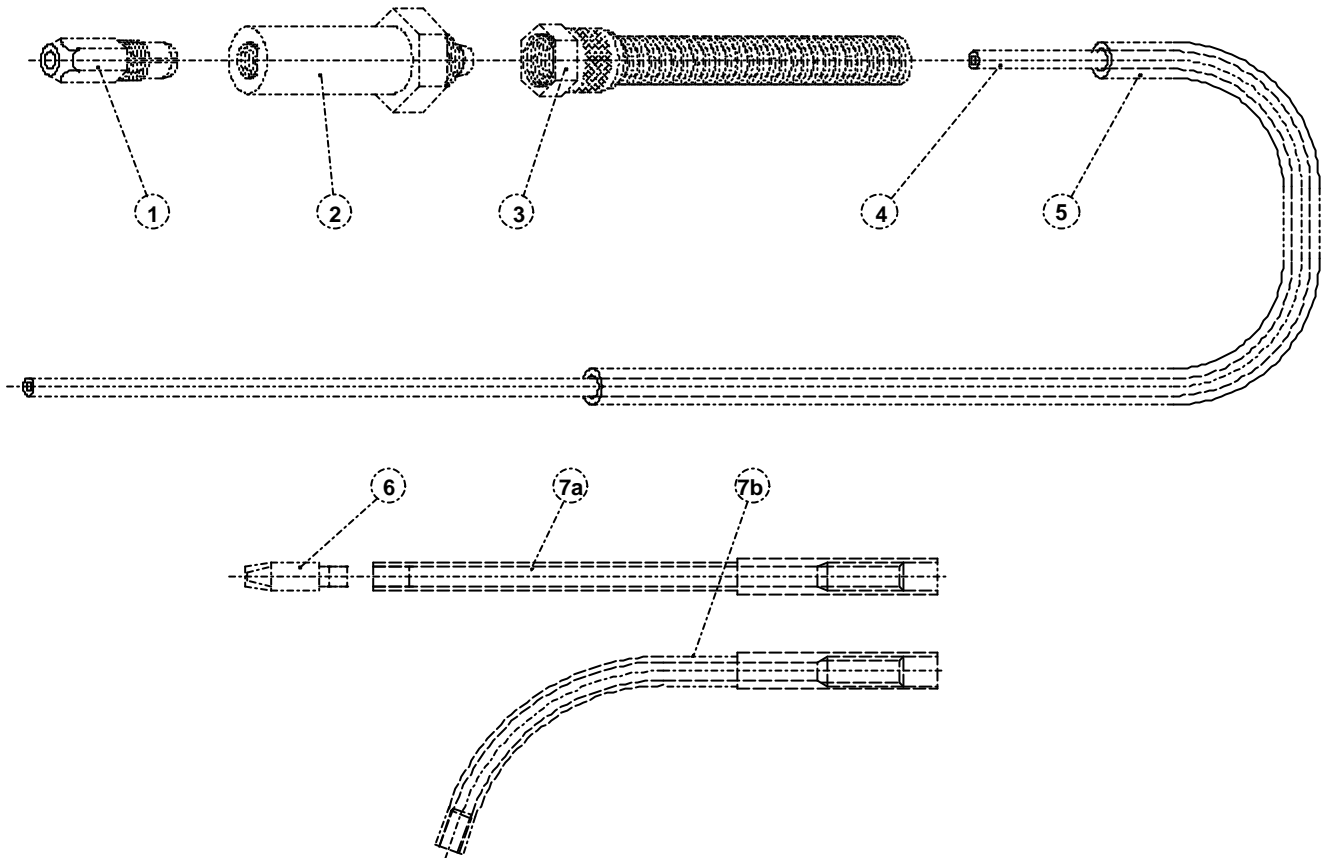
- 1: Complete wire feed unit, without motor and wire drive rolls. Part No. 73410144-0  
 2: Wire drive rolls and wire guides can be ordered according to the table below.

Gear		Roll		Pin		Gear Set	
							
72300000-0	White 0.8 mm	X		45050223-0	White 1.2 mm	73940054-0	
72300001-0	Blue 1.0 mm	X		45050224-0	Blue 1.5 mm	73940055-0	
72300002-0	Blue 1.0 mm		X	45050224-0	Blue 1.5 mm	73940056-0	
72300003-0	Red 1.2 mm	X		45050225-0	Red 2.0 mm	73940057-0	
72300004-0	Red 1.2 mm		X	45050225-0	Red 2.0 mm	73940058-0	
72300005-0	Red 1.2 mm		X	45050225-0	Red 2.0 mm	73940059-0	
72300006-0	Orange 1.4 mm		X	45050225-0	Red 2.0 mm	73940060-0	
72300007-0	Orange 1.4 mm		X	45050225-0	Red 2.0 mm	73940061-0	
72300008-0	Pink 1.6 mm		X	45050225-0	Red 2.0 mm	73940062-0	
72300009-0	Pink 1.6 mm		X	45050225-0	Red 2.0 mm	73940063-0	



<b>Pos. No.</b>	<b>Description</b>	<b>Part No.</b>
1	Wire feed motor 402743 33RPM	17220016-1
2	Wire bracket	45050216-0
3	Top for wire stretcher	45050220-0
4	Wire inlet	45050222-0
5	Gear wheel	44450003-0
6	Spring for wire stretcher	42110118-0
7	Right wire boom	45050218-0
8	Left wire boom	45050219-0
9	Shaft for boom Ø10	25110078-0
10	Front plate for wire feed unit	45050217-0
11	Thumbscrew M5*16	40950516-0
12	Contact bar for wire feed	33220020-0
13	Seeger locking ring Ø10*1	42510010-0
14	Groove 3*10	18080003-0
15	Allen screw for gear wheel 4*12	40310412-1
16	Disc spring for gear wheel	41811204-0

## KT-4 hose

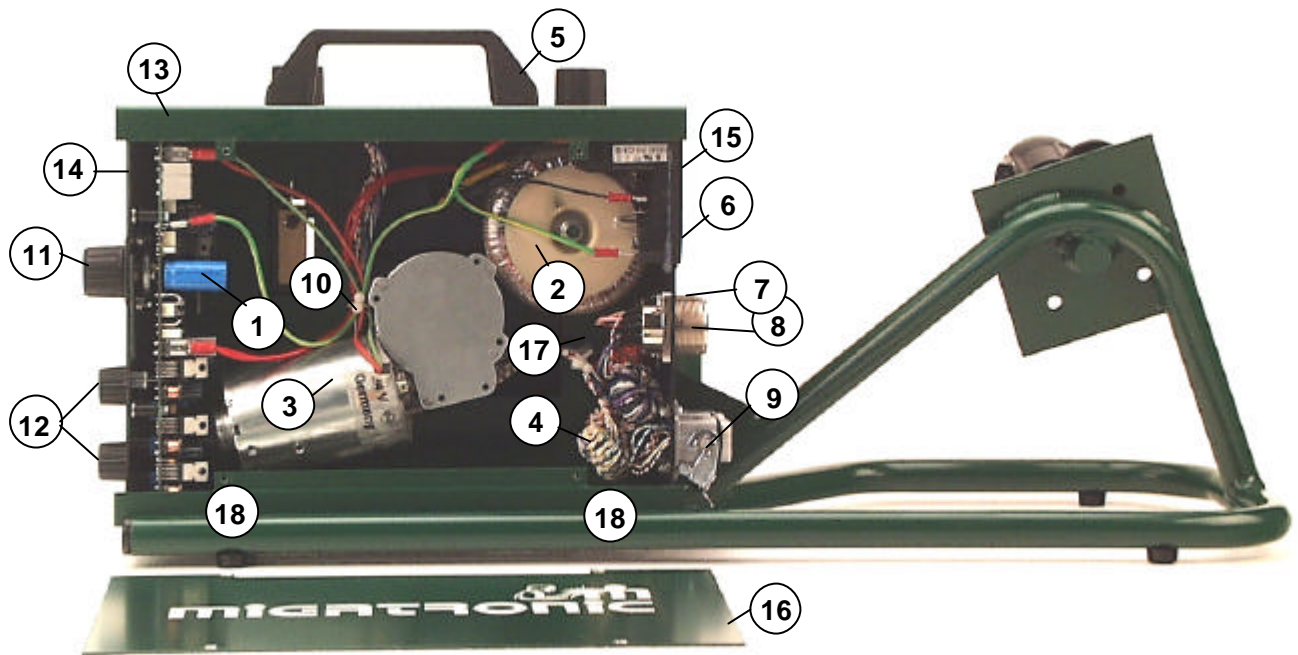


<b>Pos. No.</b>	<b>Description</b>	<b>Part No.</b>
1	Wire guide holder	80100035-0
2	Connection piece	80100020-1
3	Union with relieving spring	43126004-1
4a	Wire guide $\varnothing$ 1.2 – white	92593005-0
4b	Wire guide $\varnothing$ 1.5 – blue	92593006-0
4c	Wire guide $\varnothing$ 2.0 – red	92593007-0
5	Supersoft pipe	92580008-1
6a	Contact nozzle $\varnothing$ 0.8	80130002-0
6b	Contact nozzle $\varnothing$ 1.0	80130003-0
6c	Contact nozzle $\varnothing$ 1.2	80230023-0
6d	Contact nozzle $\varnothing$ 1.6	80230024-0
7a	Inlet nozzle, straight	25420067-1
7b	Inlet nozzle, curved	25420066-1

Complete hose 3 metres with blue wire guide No. 80490005-1

**Note: Contact nozzles, pos. 6, and inlet nozzle, 7a or 7b, must be ordered separately.**

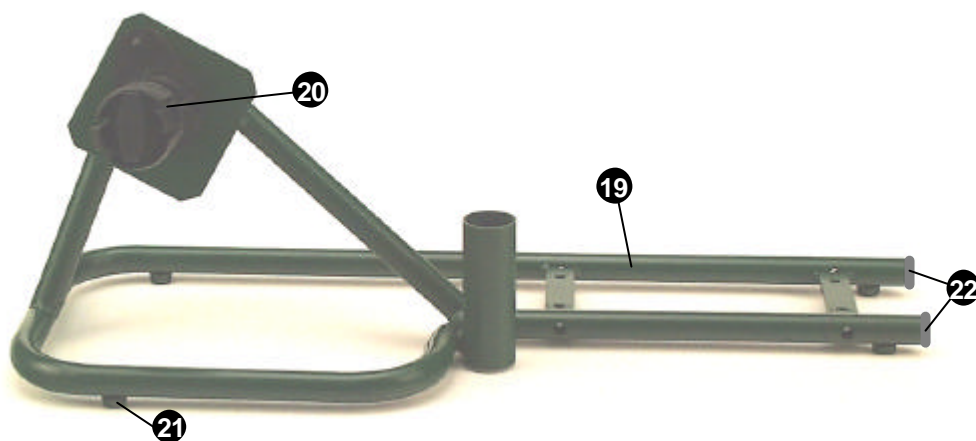
## KT-4 unit



<b>Pos. No.</b>	<b>Description</b>	<b>Part No.</b>
1	Complete unit/control unit	76112506-1
2	Transformer 230V / 24V 80VA	16160100-1
3	Wire feed motor 402743 33RPM	17220016-1
4	Cable network complete	74472506-1
5	Handle for wire feed unit	45050065-0
6	Connector plug connection unit	18180009-1
6	Fuse holder for connection unit	18180008-1
6	1A.T Fuse 5 * 20mm	17172010-0
7	8-pole flange socket	17200023-0
8	19-pole flange socket	17200026-0
9	6-pole socket, female	17200001-0
9	Flange housing for 6-pole socket	18200102-0
10	Cable holder/clips	18470005-0
11	Knob Ø28 without line, matt black	18503605-0
11	Cover for Ø28 knob. Without line	18521205-0
11	Arrow dial 36mm	18519001-0

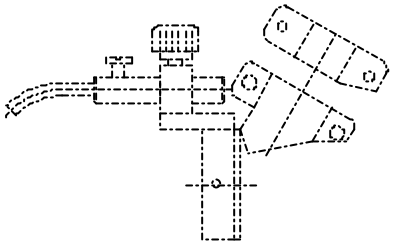
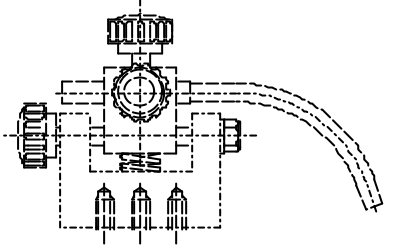
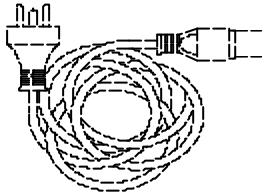
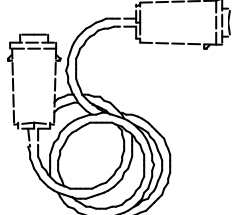
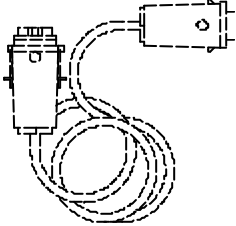
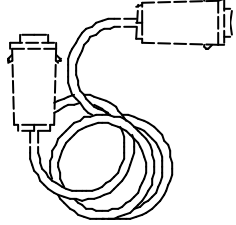
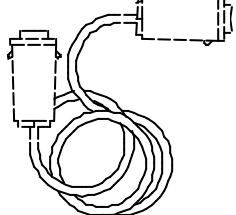


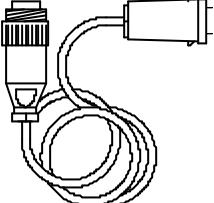
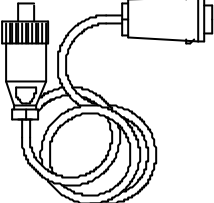
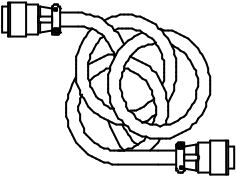
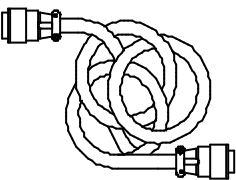
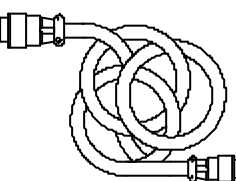
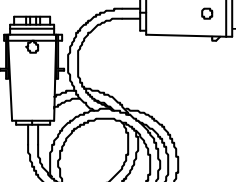
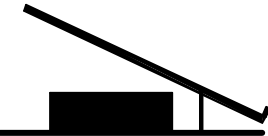
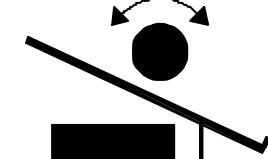
<b>Pos. No.</b>	<b>Description</b>	<b>Part No.</b>
12	Push-on knob, 21.5mm. HEVA pos. B	18508009-0
13	Cabinet green	70101002-1
14	Separate front/front panel – serigraph - with weld bolts	61242506-1
15	Separate rear panel – serigraph	61232506-1
16	Separate side panel green	24611015-1
17	Clip nut M5	41318405-0
18	Base for wire feed unit KT-4	45050212-0

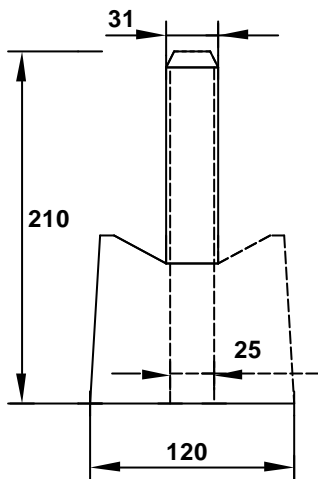


<b>Pos. No.</b>	<b>Description</b>	<b>Part No.</b>
19	Holder for wire reel complete	78857004-1
20	Brake hub complete	75610001-0
21	Pressure rivet shoe	45050061-0
22	Filler plug/ferrule ø20	45050034-0

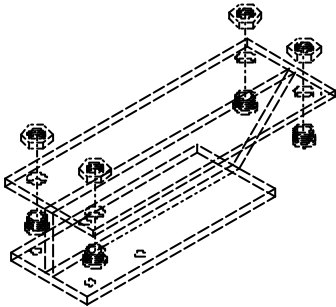
## Accessories

	<p>Fittings for manual wire feed. Mounted on TIG torch. No. 75100421-1</p>
	<p>Fittings for mechanical wire feed. Possibility for fine-adjustment of wire feed. No. 75100422-1</p>
	<p>Mains cable with connector plug and Danish earth. Standard length 5 metres. No. 92260150-1</p>
	<p>6-pole cable between KT-4 and welding machine. Male/male plug. Only pins 2&amp;6 are fitted. Standard length 5 metres. No. 74320002-1</p>
	<p>6-pole extension cable between welding torch and "START IN" on the KT-4. Male/female plug. Only pins 2&amp;6 are fitted. Standard length 5 metres. No. 74320007-1</p>
	<p>6-pole cable between KT-4 and arc unit 76118817-1. Cable must be fully fitted. Male/female plug. Standard length 5 metres. No. 74341020-1</p>
	<p>6-pole cable between KT-4 and another control unit. Cable must be fully fitted. Male/male plug. Standard length 5 metres. No. 74341021-1</p>

	<p>6-pole cable between KT-4/arc unit and Pilot 1600/2400 or Commander/Navigator TIG welding machine. Male/male plug. Only pins 2&amp;6 are connected. Connection between 2&amp;4 in the round plug. Standard length 5 metres. No. 74320003-1</p>
	<p>Adapter / extension cable from Pilot 1600/2400 or Commander/Navigator TIG welding torch (7-pole male) to 6-pole male. Pins 2&amp;6 are connected. Standard length 5 metres. No. 74320018-1</p>
	<p>8-pole intermediate cable between KT-4/robot interface and welding machine. Male/male plug. Fully connected. Standard length 5 metres. No. 74340001-0</p>
	<p>19-pole intermediate cable between KT-4 and 8911 remote control unit/robot interface. Male/male plug. Fully connected. Standard length 6 metres. No. 74341011-0</p>
	<p>Intermediate cable 19-pole / 8-pole between KT-4 and foot pedal 76111102-1. Male/male plug. Standard length 5 metres. No. 74341030-1</p>
	<p>Adapter cable for foot pedal 76111100-1 Converts from 4-pole female plug to 6-pole male plug. Male/male plug. Standard length 1 metre. No. 74320017-1</p>
	<p>Foot pedal for manual start/stop of the KT-4. Adapter cable no. 74320017-1 required. No. 76111100-1</p>
	<p>Foot pedal for manual start/stop and speed regulation of the wire. Intermediate cable No. 74341030-1 required. No. 76111102-1</p>



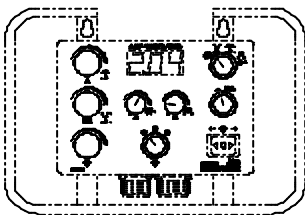
Support for KT-4. Isolates the KT-4 from the workpiece.  
Can be mounted on a 25mm pipe.  
No. 45050258-0



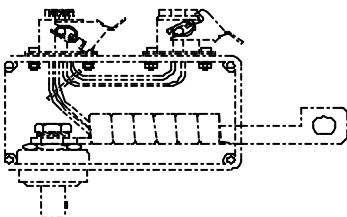
Mounting plate for mounting the KT-4 on the robot plant.  
No. 78857005-1

### ROBOT KIT

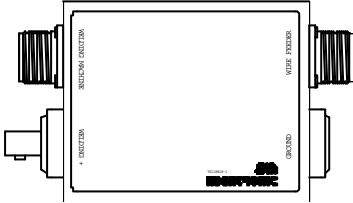
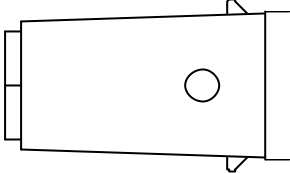
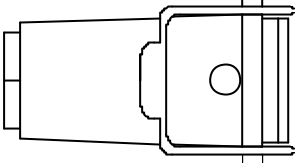
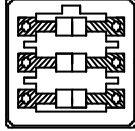
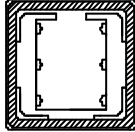
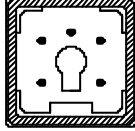
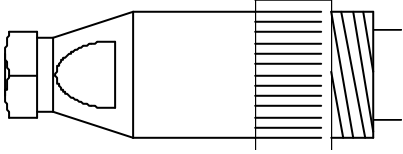
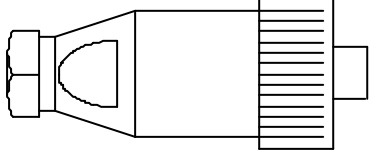
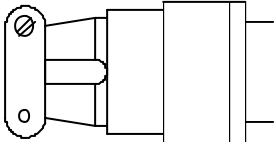
Complete mounting kit for robot plant.  
Consists of: Wire holder, mounting plate, diverse intermediate hoses and fittings.  
No. 78862506-1

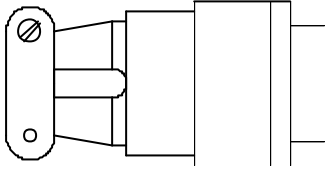


Pulse remote control unit 8911.  
Regulation of wire speed and welding current.  
Intermediate cable 74341011-0 required.  
No. 76118911-1

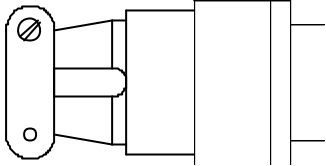


Arc unit. Can be used in configurations in which the welding machine does not emit an arc signal.  
Can only be used for DC welding.  
Welding current > 20 Amperes.  
No. 76118817-1

	<p>Arc unit. Can be used in configurations in which the welding machine does not emit an arc signal.  Can also be used for AC welding.  Welding current &gt; 5 Amperes.  No. 76118818-1</p>
	<p>Housing for multiplug. Used at "START IN" and "START OUT" on the KT-4.  No. 18200101-0</p>
	<p>Housing for multiplug. Used in connection with extension of a cable.  No. 18200103-0</p>
	<p>6-pole male insert socket. Used at "START IN" and "START OUT" on the KT-4.  Also used for many welding machines' "START INPUT"  No. 17210001-0</p>
	<p>6-pole female insert plug. Used in the fabrication of extension cable with multiplug housing 18200103-0  No. 17200001-0</p>
	<p>5-pole male insert plug. Used, for example, in the fabrication of adapter cable between foot pedal No. 76111100-0 and the KT-4.  No. 17210002-1</p>
	<p>7-pole male multiplug. Used, for example, for start/stop of Pilot 1600/2400.  No. 17210057-0</p>
	<p>7-pole female multiplug. Used, for example, for extension cable between Pilot 1600/2400 or Commander/Navigator welding torch &amp; the KT-4's "START IN" socket.  No. 17200057-1</p>
	<p>8-pole multiplug. Used between the KT-4 and the welding machine.  No. 17210024-0</p>



19-pole multiplug. Used, for example, for connections at the KT-4's remote control input.  
No. 17210026-0



19-Pin plug with jumpers.  
Must be used on machines equipped with a Tig interface, and the remote control is not used.  
Connect the plug on the remote control plug on the Tig interface.  
No. 17210090-1

## Technical specifications

Wire speed as a function of the position of the speed control knob

or -

Wire speed as a function of an external control signal 0-10V

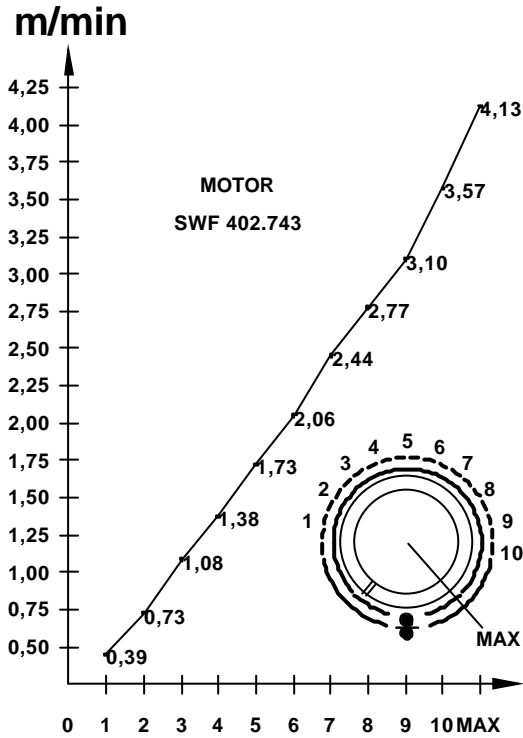


Figure 4

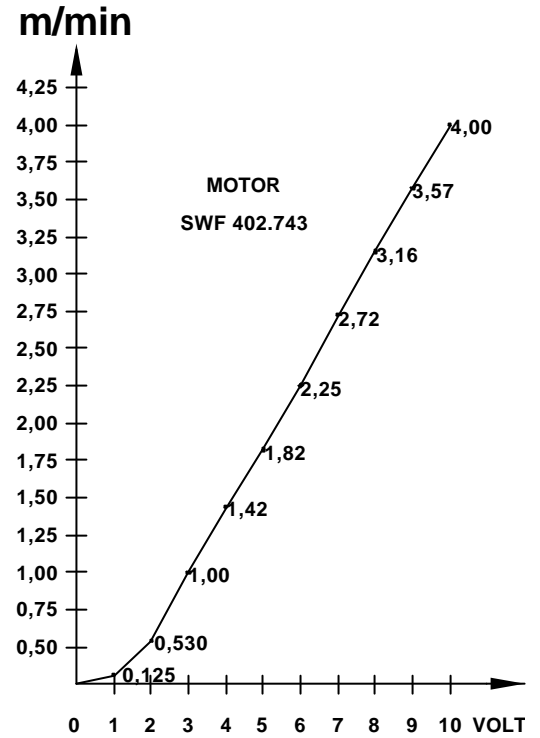


Figure 5

**Figure 4** shows the relationship between the wire speed and the position of the speed control knob. The X-axis shows the knob's position from 1 – 10, and the Y-axis shows the amount of wire the KT-4 will feed at the knob position set.

**Figure 5** shows the relationship between a control signal 0-10V from, for instance, a robot and the amount of wire provided. The X-axis shows the control signal from 0-10V, and the Y-axis shows the amount of wire the KT-4 will feed as a function of the control signal.

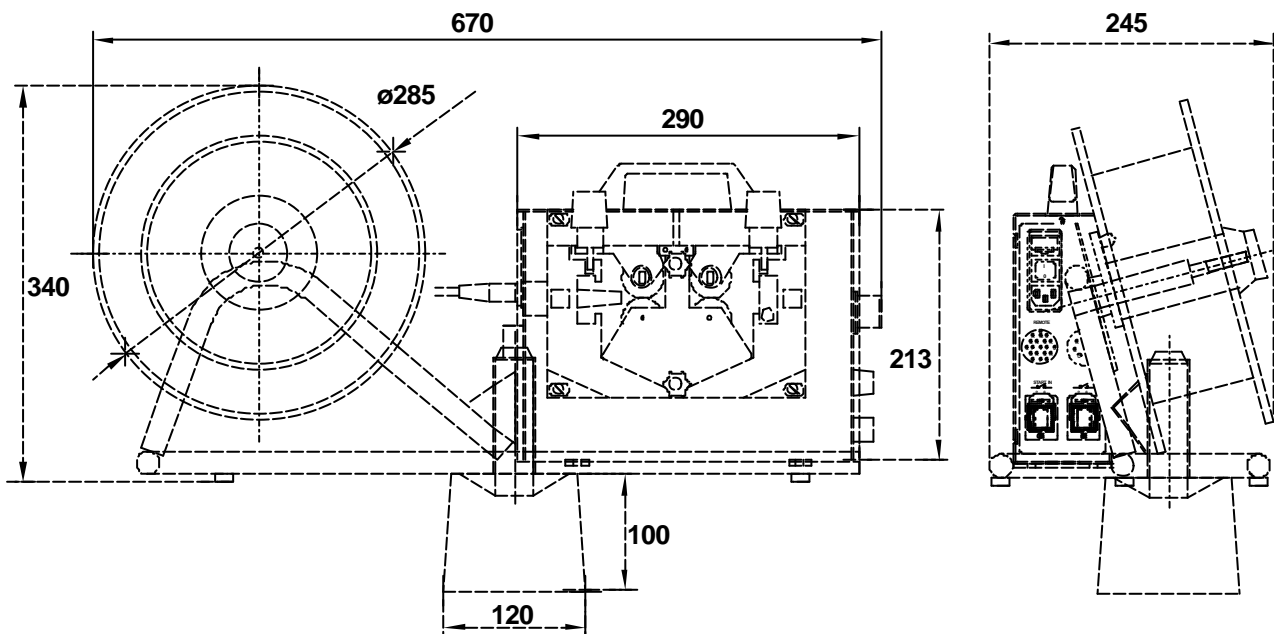
It should be noted that if the wire speed is below "1" on the scale / under 0.5V control signal, the wire feed motor's torque will be very low and the wire speed may be unstable.

In this case, it is therefore advisable to change to a thinner wire and then run the wire at a speed greater than "1" on the scale.

## General

Mains voltage:	220-240V~ 50/60Hz
Mains connection:	10A with earth
Input power max.:	80 Watt
Wire speed:	0-4m/min *
Wire dimension:	ø0.8 - ø1.6
Wire reel:	5-15 kg
Weight without wire reel holder:	7 kg
Weight with wire reel holder:	10 kg

Dimensioned sketch:



\* It should be noted that if the wire speed is below "1" on the scale / under 0.5V control signal, the wire feed motor's torque will be very low and the wire speed may be unstable.

In this case it is therefore advisable to change to a thinner wire and then run the wire at a speed greater than "1" on the scale.





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[www.migatronic-automation.dk](http://www.migatronic-automation.dk)  
[info@migatronic-automation.dk](mailto:info@migatronic-automation.dk)