

ROBOT INTERFACE LIGHT

Instruction manual

Arc detector kit 78861330
Interface 69111333 – 69111334 – 69111335

FUNCTIONS	KIT number			
	78861330*	69111333	69111334	69111335
Arc detect output	•	•	•	•
Error input	•	•	•	•
Trigger input (welding start)		•	•	•
Current/wire speed control				
Voltage/Trim control		•		•
Welding wire short circuit output			•	•

* see separate information

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ENGLISH



WARNING



Arc welding and cutting can be dangerous to the user, people working nearby, and the surroundings if the equipment is handled or used incorrectly. Therefore, the equipment must only be used under the strict observance of all relevant safety instructions. In particular, your attention is drawn to the following:

Electricity

- The welding equipment must be installed according to safety regulations and by a properly trained and qualified person. The machine must be connected to earth through the mains cable.
- Make sure that the welding equipment is correctly maintained.
- In the case of damaged cables or insulation, work must be stopped immediately in order to carry out repairs.
- Repairs and maintenance of the equipment must be carried out by a properly trained and qualified person.
- Avoid all contact with live components in the welding circuit and with electrodes and wires if you have bare hands. Always use dry welding gloves without holes.
- Make sure that you are properly and safely earthed (e.g. use shoes with rubber sole).
- Use a safe and stable working position (e.g. avoid any risk of accidents by falling).

Light and heat emissions

- Protect the eyes as even a short-term exposure can cause lasting damage to the eyes. Use a welding helmet with suitable radiation protection glass.
- Protect the body against the light from the arc as the skin can be damaged by welding radiation. Use protective clothes, covering all parts of the body.
- The place of work should be screened, if possible, and other persons in the area warned against the light from the arc.

Welding smoke and gases

- The breathing in of the smoke and gases emitted during welding is damaging to health. Make sure that any exhaust systems are working properly and that there is sufficient ventilation.

Fire hazard

- Radiation and sparks from the arc represent a fire hazard. As a consequence, combustible materials must be removed from the place of welding.
- Working clothing should also be secure against sparks from the arc (e.g. use a fire-resistant material and watch out for folds and open pockets).
- Special regulations exist for rooms with fire- and explosion hazard. These regulations must be followed.

Noise

- The arc generates acoustic noise according to welding task. In some cases, use of hearing aids is necessary.

Dangerous areas

- Special consideration must be taken when welding is carried out in closed areas or in heights where there is a danger of falling down.

Positioning of the machine

- Place the welding machine so there is no risk that the machine will tip over.
- Special regulations exist for rooms with fire- and explosion hazard. These regulations must be followed.

Use of the machine for other purposes than it is designed for (e.g. to unfreeze water pipes) is strongly deprecated. If the occasion should arise this will be carried out without responsibility on our part.

**Read this instruction manual carefully
before the equipment is installed and in operation**

Electromagnetic emissions and the radiation of electromagnetic disturbances

This welding equipment for industrial and professional use is in conformity with the European Standard EN/IEC60974-10 (Class A). The purpose of this standard is to prevent the occurrence of situations where the equipment is disturbed or is itself the source of disturbance in other electrical equipment or appliances. The arc radiates disturbances, and therefore, a trouble-free performance without disturbances or disruption, requires that certain measures are taken when installing and using the welding equipment. **The user must ensure that the operation of the machine does not occasion disturbances of the above mentioned nature.**

The following shall be taken into account in the surrounding area:

1. Supply and signalling cables in the welding area which are connected to other electrical equipment.
2. Radio or television transmitters and receivers.
3. Computers and any electrical control equipment.
4. Critical safety equipment e.g. electrically or electronically controlled guards or protective systems.
5. Users of pacemakers and hearing aids etc.
6. Equipment used for calibration and measurement.

7. The time of day that welding and other activities are to be carried out.
8. The structure and use of buildings.

If the welding equipment is used in a domestic establishment it may be necessary to take special and additional precautions in order to prevent problems of emission (e.g. information of temporary welding work).

Methods of reducing electromagnetic emissions:

1. Avoid using equipment which is able to be disturbed.
2. Use short welding cables.
3. Place the positive and the negative cables close together.
4. Place the welding cables at or close to floor level.
5. Remove signalling cables in the welding area from the supply cables.
6. Protect signalling cables in the welding area, e.g. with selective screening.
7. Use separately-insulated mains supply cables for sensitive electronic equipment.
8. Screening of the entire welding installation may be considered under special circumstances and for special applications.

GENERAL DESCRIPTION

The Robot light interface provides you with an easy way to connect the SIGMA² power source to an automat or simple robot.

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* see separate information.

Arc detect output

This output is mainly used to start the movement of the automat or robot. It is also used as start signal for fumes exhaust motors etc.

Error input

Input signal is send from the automation system to the SIGMA² power source, in order to stop the welding process immediately in case of faulty operation of the automation system.

Trigger input

Torch trigger input signal is connected also to the 14 pin plug.

Current control / wire speed control

This is the input used to control the welding current when the SIGMA² is set to synergic mode, and wire speed when set to manual mode.

Important: Set the current setting to maximum on the SIGMA² control panel by turning the left potentiometer clock wise. This will enable the automat to control the entire current/wire speed range.

Synergic mode: 0 – 9.5V dc = Welding current minimum til maximum depending on program number.

Manual mode: 0 – 9.5V dc = 1 to 30 meter pr. minut.

Trim voltage / Welding voltage control

This is the input used to control the Trim voltage when the SIGMA² is set to synergic mode, and welding voltage when set to manual mode.

Synergic mode: 0 – 9.5V dc = -9,9V to +9,9V trim voltage.

Manual mode: 0 – 9.5V dc = 10V to 50V.

Welding wire short circuit output

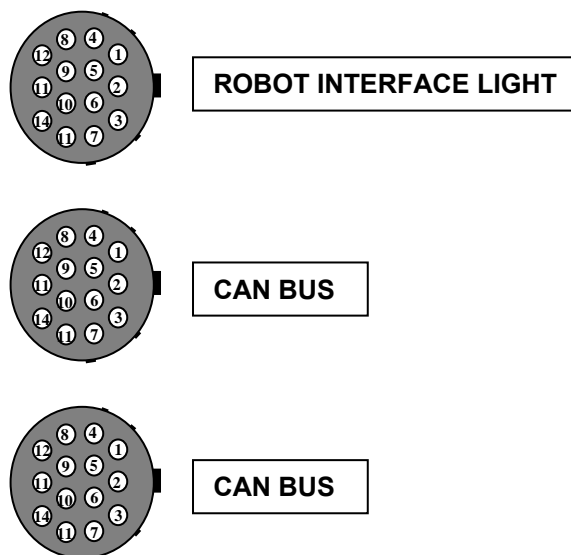
This output signal is used when security for the robot arm is needed. If the welding wire has got stock to the work piece, then it is not allowed to move the robot arm because it will cause serious damage to the robot arm and work piece fixture.

By connecting this output to the robot controller the robot arm can be prevented from moving when the welding wire has got stock in the work piece.

Galvanic separated output is connected to a relay in the automat or robot, with a maximum current load of 30mA.

Connection for kit 69111333 – 34 and 35

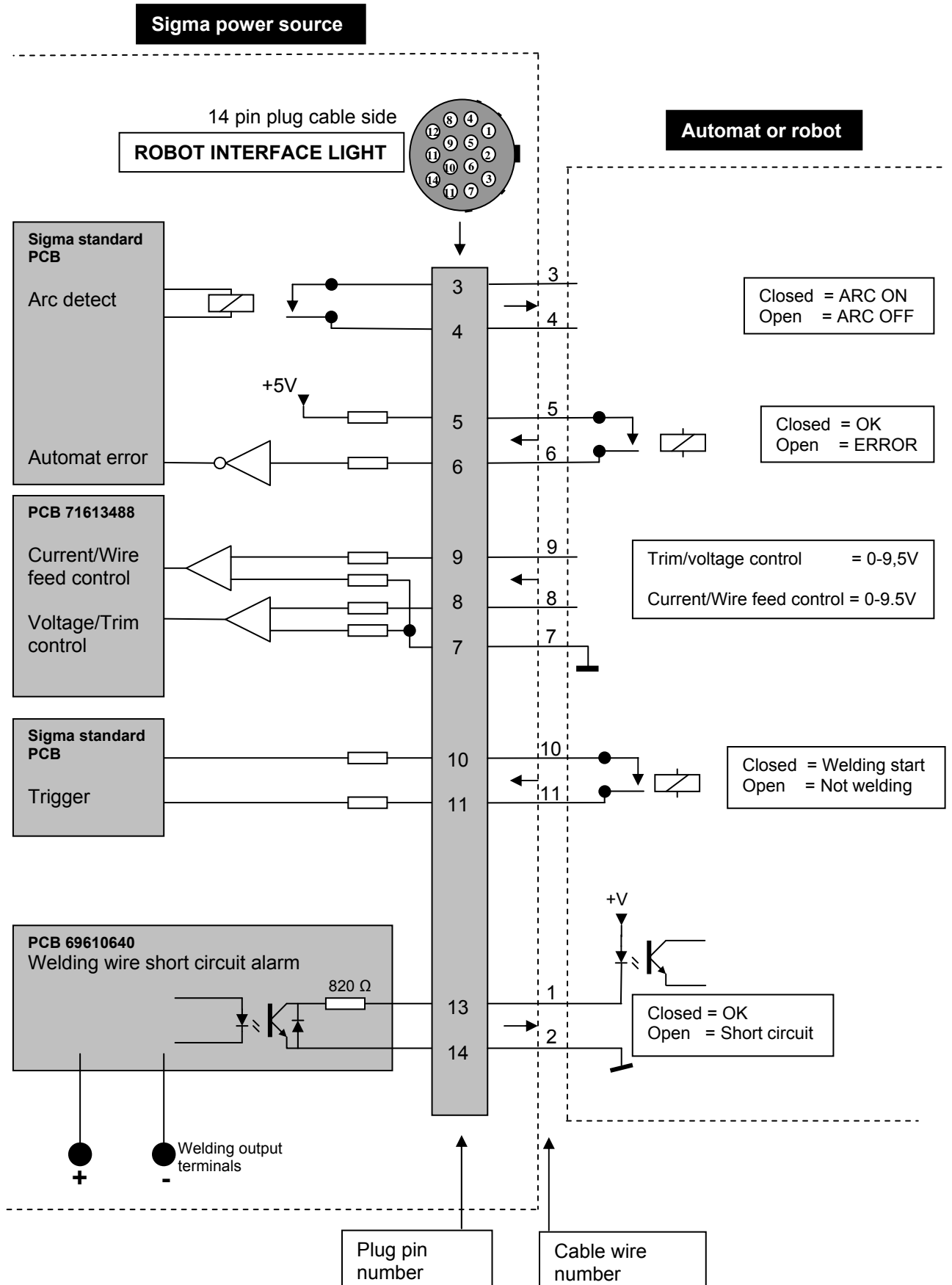
Connect the automat or robot to the 14 pin plug which is marked ROBOT INTERFACE LIGHT. See the circuit diagram.



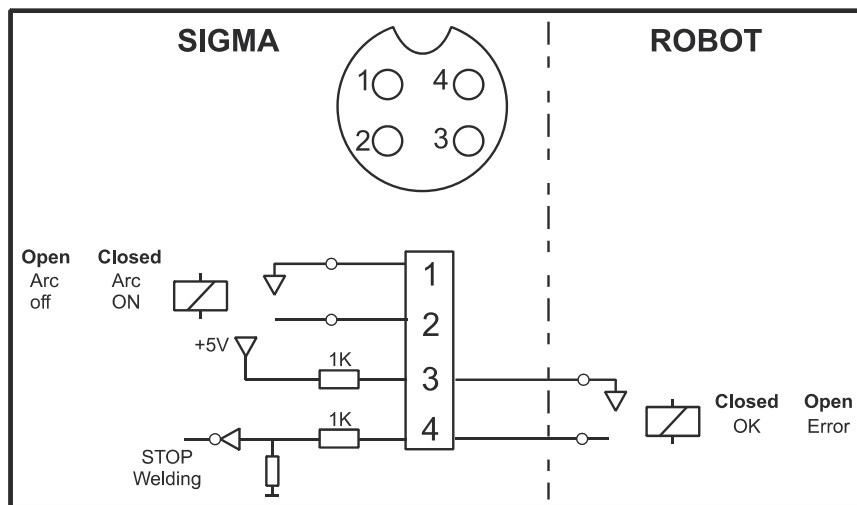
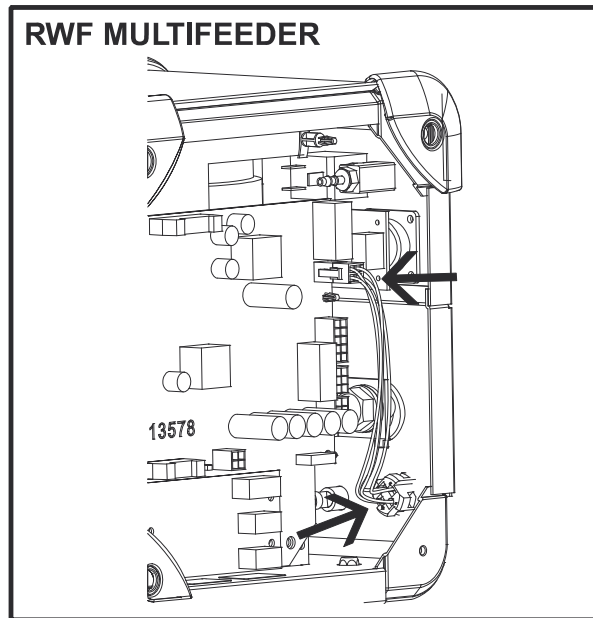
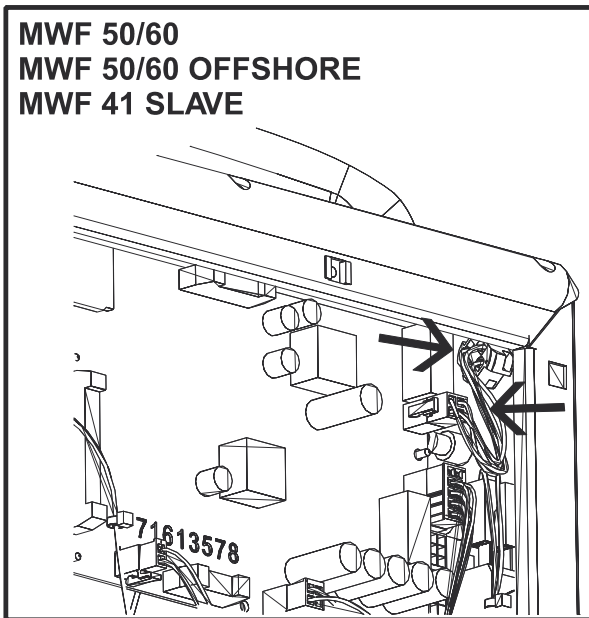
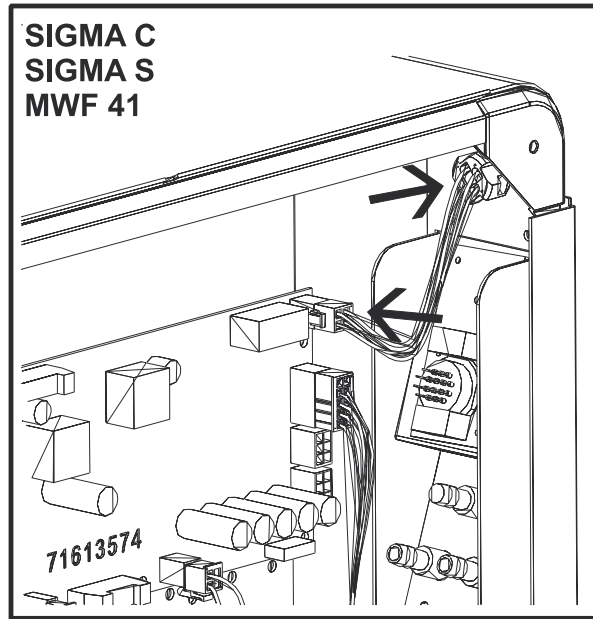
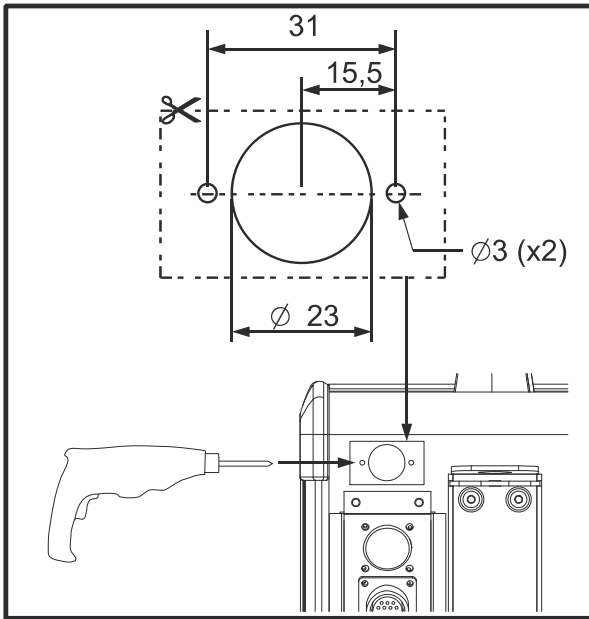
Disclaim

MIGATRONIC disclaims all responsibility for damaged on automation or robot equipment connected to the SIGMA² power source.

Circuit diagram



ARC DETECTING KIT SIGMA



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