

Power Supply and Indicator Unit Type 5024-1



Fig. 1 · Type 5024-1

Mounting and Operating Instructions

EB 9539 EN

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1 Application

The Type 5024-1 Power Supply and Indicator Unit is used to supply power to two-wire transmitters (4 to 20 mA) such as Media 6 devices (Type 5006), Type 6051 Electrical Transmitters for Pressure or CTMd pressure sensors from the AB company and other devices.

In addition to displaying current data on the LC display, two floating contacts indicate when adjustable minimum and maximum values are reached.

The direction of action of the alarm contacts over relays that open or close when the minimum or maximum value is reached together with the corresponding illumination of an LED is selectable over switches.

Technical data

Power Supply and Indicator Unit Type	5024-1001	5024-1002	5024-1003
Power supply	230 V, 45 to 60 Hz	115 V, 45 to 60 Hz	24 V, 45 to 60 Hz
Power consumption	Approx. 1.8 VA		
Measuring circuit	4 to 20 mA		
Transmitter power supply	24 V at 20 mA		
Output	2 floating contact alarms, max. 250 V AC/3 A		
Contact rating	≥ 10 ⁶ with AC voltage and max. 300 Ω resistive load		
Perm. ambient temperature	0 to 50 °C		
Degree of protection	IP 54		



- ▶ *The device may only be mounted, started up or serviced by fully trained and qualified personnel, observing the accepted industry codes and practices. In these mounting and operating instructions, the term experienced personnel refers to individuals who are able to evaluate the responsibilities assigned to them as well as recognize potential hazards due to their specialized training, knowledge, and experience as well as their special knowledge of the relevant standards.*
- ▶ *Proper shipping and appropriate storage are assumed.*

Note:

The device with a CE marking fulfills the requirements of the European Pressure Equipment Directive 97/23/EC as well as the Directive 89/336/EEC. The declaration of conformity can be viewed and downloaded on the Internet at <http://www.samson.de>.

2 Installation

Mount the device directly in the control room or to a wall using the supplied mounting clips, nuts and bolts.
Refer to the dimensional diagram on page 5 for the distances between holes.

2.1 Electrical connections



For electrical installation, you are required to observe the relevant electrotechnical regulations and the accident prevention regulations that apply in the country of use. In Germany, these are the VDE regulations and the accident prevention regulations of the employers' liability insurance.

2.1.1 Determining the direction of action for the contact alarms

When connecting the relay contacts **c**, **nc** and **no** for **A1** and **A2** (see Fig. 2 for switching function), the direction of action must be set at the selector switches A1 and A2 (located at the top right-hand corner of the lower board) as follows:

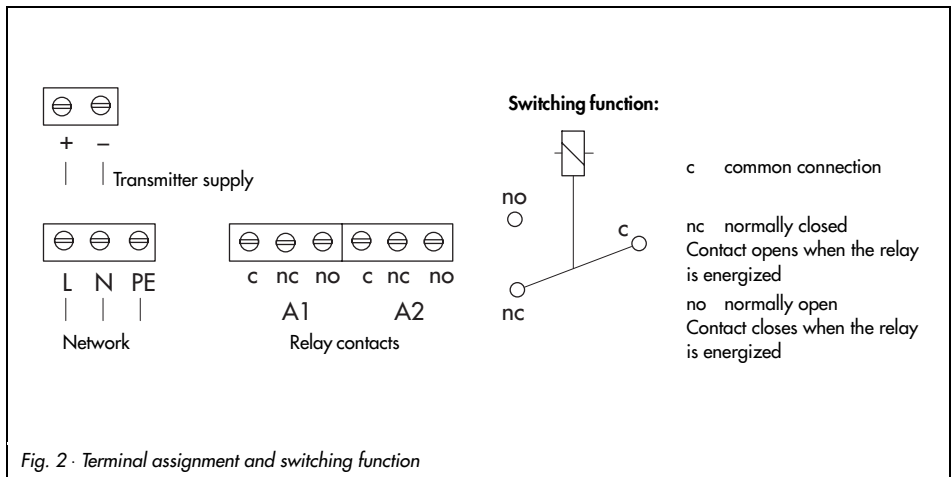
Point on switch is visible:

When **minimum alarm** is reached, the relay is energized and the LED is illuminated.

Point on switch is not visible:

When the **maximum alarm** is reached, the relay is energized and the LED is illuminated.

Connect wires to terminals over the cable glands as illustrated in Fig. 2.



3 Operation

3.1 Positioning the decimal point and selecting label with engineering units

A jumper located on the top right-hand corner of the display board can be installed at four different positions, depending on where the decimal point should be positioned.

Refer to Fig. 3 for the setting.

Select the required multiplication factor and the appropriate engineering units from the supplied adhesive label and stick them on the front cover below the display.

3.2 Setting the display

The display can be set in combination with a rheostat of $R = 10\text{ k}\Omega$ and an ammeter or, alternatively, a pressure transmitter or differential pressure transmitter that has already been adjusted.

An ammeter can be connected to the TEST terminals for the transmitters.

3.2.1 Adjusting zero

Required for this adjustment:

2-wire signal from, for example, the transmitter must be 4 mA

- Turn potentiometer **N** on the display board until the required initial value appears on the LC display.

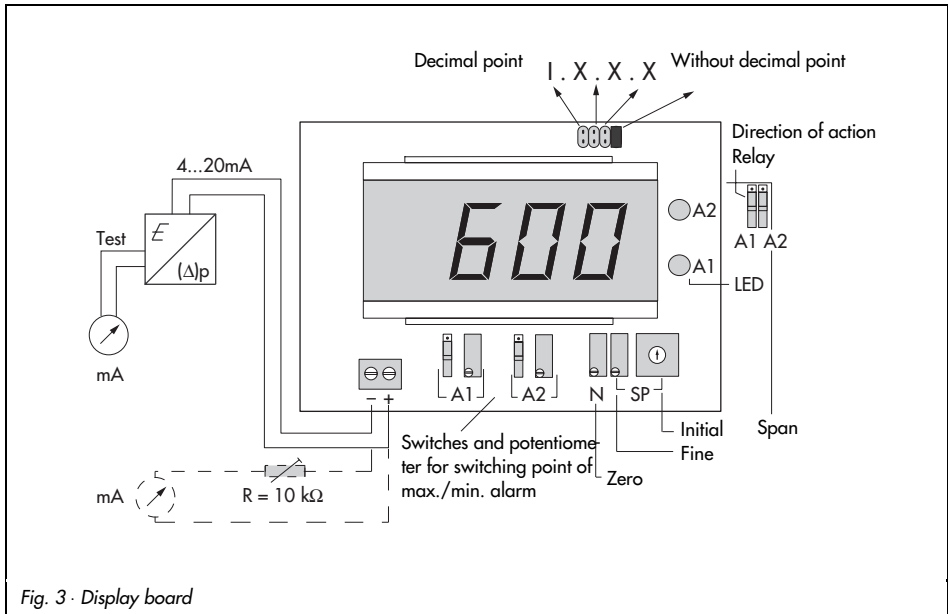


Fig. 3 · Display board

3.2.2 Adjusting span:

Required for this adjustment:
2-wire signal from, for example, the transmitter must be 20 mA

- ▶ First adjust the rotary switch SP (initial adjuster), then the potentiometer SP (fine adjuster) until the required final value appears on the LC display.

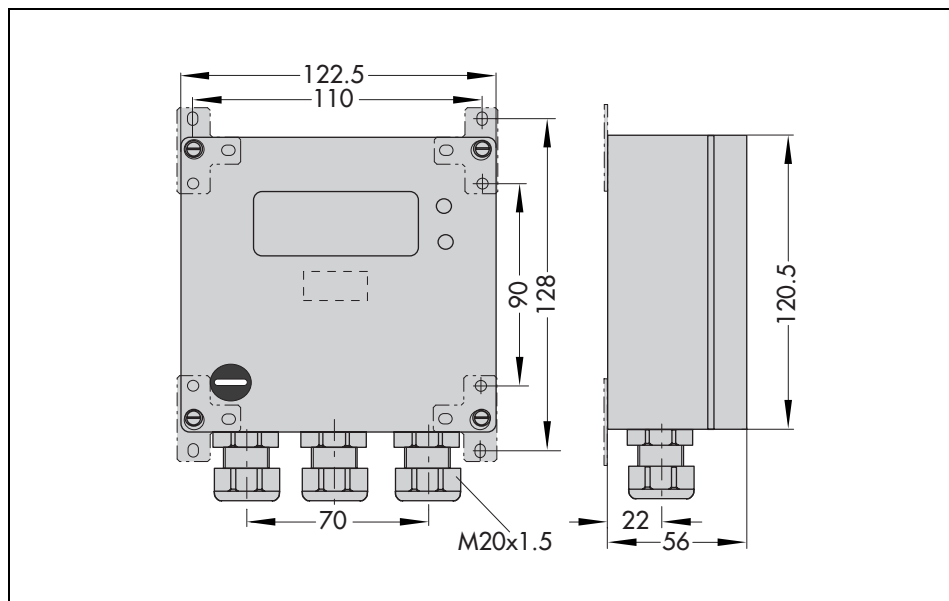
3.3 Setting the contact alarms

Set the contact alarms **A1** and **A2** over the selector switch and potentiometer located at the bottom of the display board (Fig. 3).

To set the required switching point, adjust the corresponding selector switch for A1 or A2 to **point not visible**. The currently adjusted limit value then appears on the LC display.

Set the associated potentiometer until the required limit value appears on the display. Reset the selector switch to **point visible** to display value supplied by the transmitter.

Dimensions in mm





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