

Mounting and Operating Instructions

EB 9519-1 EN (1151-0032)



Media 5 · Option module with 4 to 20 mA current output

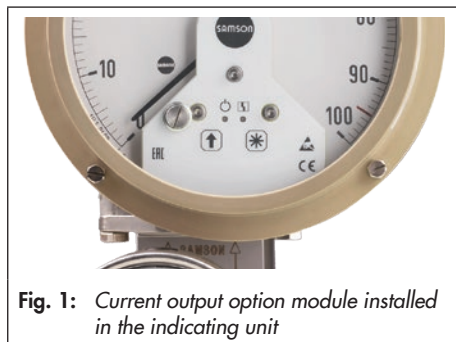
Firmware version 1.02

These instructions supplement ► EB 9519, which contains detailed information on the Media 5 Differential Pressure and Flow Meter.

1 4 to 20 mA current output

The option module can be added to the standard version of the Media 5. It is installed in the indicating unit and can either be ready installed in the device on delivery or retrofitted later.

The current output module upgrades the analog reading of the device by issuing the current signal which can be used as a reading or for further processing.



Zero calibration, span calibration, characteristic selection and issuing of a 4 mA or 20 mA test signal (ammeter function) are selected over keys.

The angle of the pointer axis is measured by the magnetoresistive measuring system and converted into an electric signal.

To operate the option module, a transmitter supply voltage of $U_B = 12$ to 36 V is required for the 4 to 20 mA measuring circuit.

For this purpose, the SAMSON Type 5024-1 Power Supply and Indicator Unit can be used (► EB 9539). It supplies the voltage and indicates the measuring signal.

⚠ WARNING

*The current output option module is **not** suitable for use in hazardous areas.*

1.1 Retrofitting

The retrofit kit (item no. 1402-1501) includes the following parts:

- 1 Printed circuit board with operating controls
- 2 Terminal board
- 3 Magnetoresistive measuring system with mating plate
- 4 Self-adhesive dot on film
- 5 Cable gland
- 6 Nameplate (label)

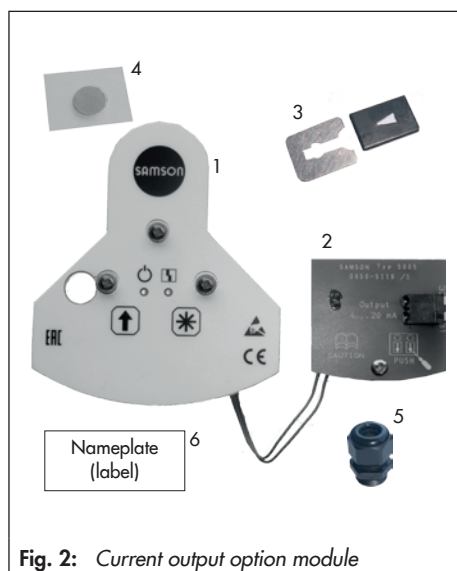


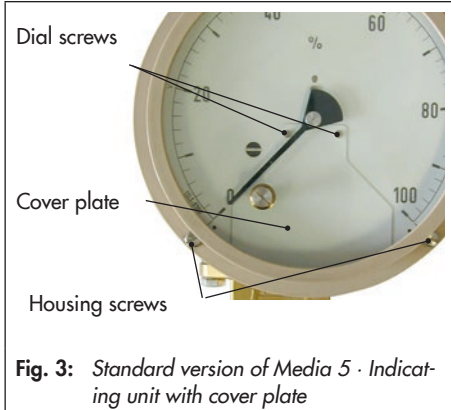
Fig. 2: Current output option module

4 to 20 mA current output

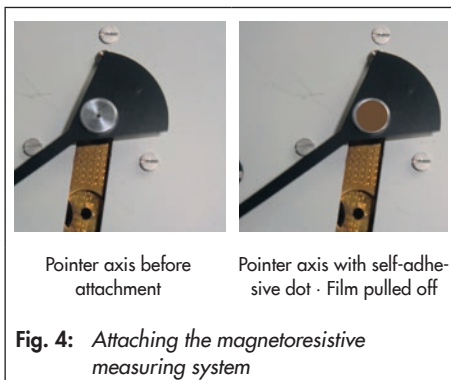
Installing the current output option module

How to proceed:

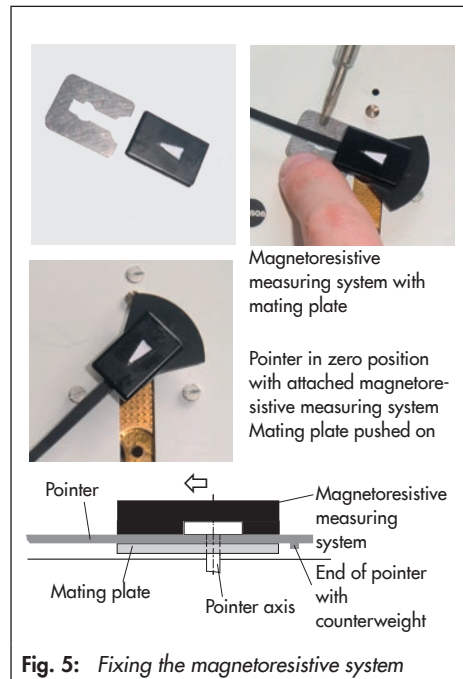
Installing the printed circuit board, magneto-resistive measuring system and terminal board



1. Undo the four housing screws. Remove the housing cover.
2. Unscrew the two dial plate screws and remove the cover plate. Retighten dial plate screws.
3. Place the magneto-resistive measuring system on the pointer.



- Self-adhesive dot on film: pull off brown backing.
 - Stick the film with self-adhesive dot, adhesive side facing downward, centrally on the pointer axis (see Fig. 4).
 - Pull off film. Make sure that the self-adhesive dot remains stuck on.
 - Place the magneto-resistive measuring system, with the **arrow** pointing toward the **pointer**, onto the pointer axis. Press it down.
4. Turn the pointer from the zero position to the approx. 90° position.
 5. Slide the mating plate underneath the pointer and magneto-resistive measuring system to fasten the elements together. Make sure it fits properly.



i Note

The mating plate must rest flat underneath the pointer.

Pay particular attention to the counterweight at the end of the pointer.

- If the terminal board has not yet been connected, connect the connecting cable and connector at the back of the printed circuit board.

Plug the micro connector into the socket on the printed circuit board.

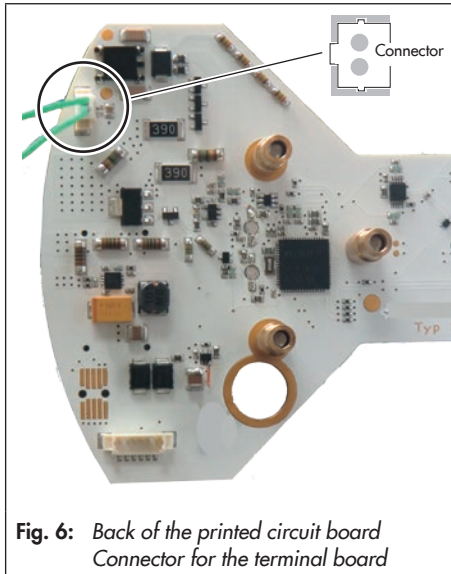


Fig. 6: Back of the printed circuit board
Connector for the terminal board

- Place on the current output option module with connected terminal board in place of the cover plate.



Fig. 7: Current output option module
Fastening screws

- Fasten the option module using the three fastening screws (Phillips Z1)
- Insert the terminal board at the side underneath the dial plate.
Use Phillips screwdriver to tighten the retaining screw.
- Insert the connecting cable into the guiding of the indicating unit.

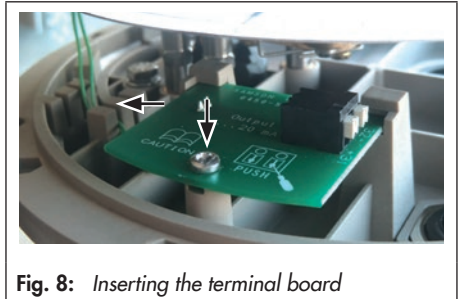


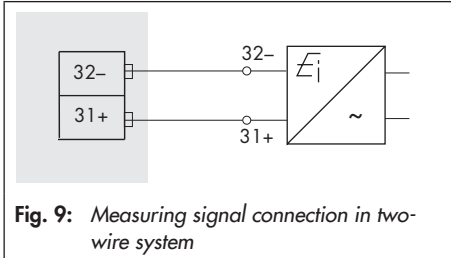
Fig. 8: Inserting the terminal board

- Guide the measuring signal lines (min. 8 mm stripped length) through the cable gland and connect them to the spring-cage terminal (31, 32) on the terminal board (see Fig. 10). Observe the correct polarity.

4 to 20 mA current output

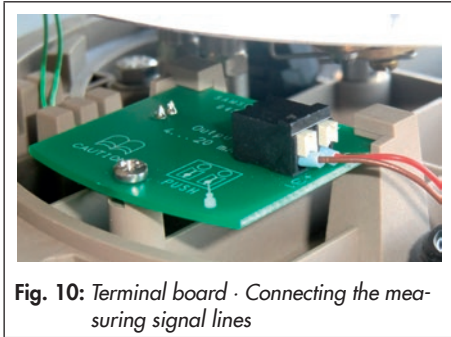
Measuring signal connection

The option module with current output is designed as a two-wire system.



The same pair of conductors transmit the 4 to 20 mA measuring signal and the required power supply ($U_B = 12$ to 36 V DC) for the two-wire transmitter.

It is connected to the terminal board over two spring-cage terminals.



⚠ WARNING

The current output option module is **not** suitable for use in hazardous areas.

1.2 Settings

To operate the option module, a transmitter supply voltage of $U_B = 12$ to 36 V (DC) is required for the 4 to 20 mA measuring circuit.

For this purpose, the SAMSON Type 5024-1 Power Supply and Indicator Unit can be used. It supplies the voltage and indicates the measuring signal.

The option module has a **green** LED (1) and a **red** LED (2) as well as a **↑** key (3) and ***** key (4) to perform settings.

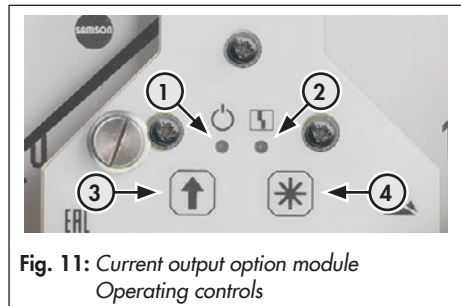


Fig. 11: Current output option module
Operating controls

Green LED	Status indication (standard operation)
Red LED	Error indication (LED permanently on) Press * key to confirm. The unit is restarted.
* key	Execute/confirm The red LED blinks briefly once to indicate that a function is being performed. After completion, the unit returns to standard operation.
↑ key	Select function/data

The **green** LED indicates standard operation of the option module. Four different levels can be selected.

Press the **↑** key to change between levels. The LED blinking pattern indicates which level has been selected.

The required function can be set or performed in the selected level.

Level	Blinking pattern
Zero calibration	■ ■ ■
Span calibration	■■ ■■
Characteristic	■■■ ■■■ ■■■
4 mA/20 mA ammeter	■■■■ ■■■■ ■■■■

Zero calibration

The electric zero is adapted to the mechanical zero. As a result, a 4 mA signal is also issued at $\Delta p = 0$ bar corresponding to the pointer's zero point.

Zero can be calibrated in the scale range between approx. -5° and 135° (see Fig. 12).

Activate **zero calibration** level

Key	LED	Function
1x ↑ key	Green	Blinking pattern ■ ■ ■
* key	Red	Zero calibration active The red LED blinks briefly once to indicate that calibration is in progress. Current pointer position $\hat{=}$ 4 mA.
	Green	Change to standard operation

The **red** LED is permanently lit (error indication) if the calibration range is exceeded.

Span calibration

The measuring span can be calibrated continuously without affecting zero or the measuring accuracy (see Fig. 12). The pointer position corresponds to the end point with 20 mA output signal.

As a result, the end points can easily be adapted to the measured medium, especially when attachable or multiple dial plates are used.

A measuring span calibration is possible in the pointer range **>95°** (based on the pointer's zero point, see Fig. 12).

The **red** LED is permanently lit (error indication) if the calibration range is exceeded.

Activate **span calibration** level

Key	LED	Function
2x ↑ key	Green	Blinking pattern ■■ ■■
* key	Red	Span calibration active The red LED blinks briefly once to indicate that calibration is in progress. Current pointer position $\hat{=}$ 20 mA.
	Green	Change to standard operation

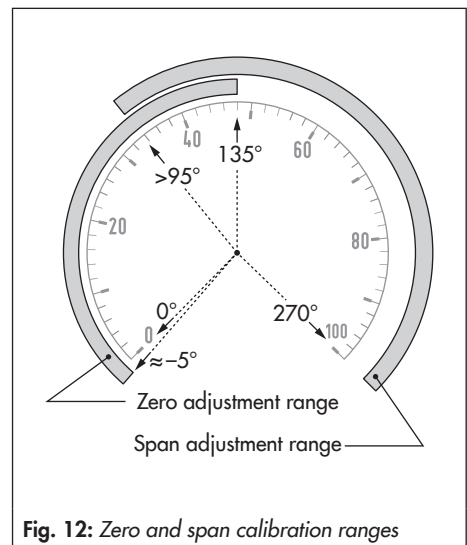


Fig. 12: Zero and span calibration ranges

EB 9519-1 EN



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