

## EY-FM 270: Field module analogue outputs 0...10 V, modu270

### How energy efficiency is improved

SAUTER EY-modulo 2 – tried and tested technology to meet the highest requirements

### Features

- Remote unit as part of the SAUTER EY3600 and EY-modulo 2, 4 and 5 system families
- Regulation, control, monitoring and optimisation of operational systems, e.g. in HVAC engineering
- 4 analogue outputs
- Independent, local priority operation through external power supply
- Individual activation of field module
- Manual control for each analogue output
- Manual operation feedback available
- Priority function with definable signal values in the event of system errors
- Front insert for direct labelling



EY-FM270F001

### Technical data

#### Power supply

Power supply	24 V~, ±20%, 50...60 Hz 24 V=, ±10%
Current consumption	≤ 190 mA
Power consumption	≤ 1.8 W

#### Ambient conditions

Operating temperature	0...45 °C
Storage and transport temperature	-25...70 °C
Admissible ambient humidity	10...85% rh, no condensation

#### Inputs/Outputs

Connections	Screw terminals for - power supply - function activation - priority control - control of devices - feedback signals for manual operation
Analogue outputs	4 × 0...10 V, max. 20 mA (source) or 4 × 2...10 V=, max. 5 mA (sink)

#### Construction

Dimensions W x H x D	105 × 90 × 60 mm
Weight	0.2 kg

#### Standards and directives

Type of protection	IP 00 (EN 60529)
Protection class	III (EN 60730-1)
Environment class	3K3 (IEC 60721)

CE conformity as per	EMC directive 2004/108/EC <sup>1)</sup>	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4
----------------------	---	---

#### Overview of types

Type	Properties
EY-FM270F001	Field module for analogue outputs 0...10 V, modu270

#### Accessories

Type	Description
0920000170	Front insert, printable, yellow, 1 A4 sheet with 6 inserts each, perforated

<sup>1)</sup> EN 61000-6-2: In order to meet the European Standard, the power cable for the outputs must not exceed 30 metres in length



## Additional information

Fitting instructions	MV P100006618
Declaration on materials and the environment	MD 92.930

## Engineering notes

The modu270 field module is mounted directly on an EN 60715 top-hat rail in the cabinet or at a suitable location in the HVAC installation.



► The device may only be connected when the system is disconnected from the electrical supply.

The actuation, feedbacks and plant devices of the field module are connected to screw terminals. The following conditions must be observed:

- Conductor cross-section min. 0.8 mm<sup>2</sup>, max. 2.5 mm<sup>2</sup> copper wire in accordance with standards and national installation requirements.
- Special standards such as IEC/EN 61508, IEC/EN 61511, IEC/EN 61131-1, IEC/EN 61131-2 and similar were not taken into account.
- Local standards regarding installation, application, access, access rights, accident prevention, safety, dismantling and disposal must be taken into account. Furthermore, installation standards EN 50178, 50310, 50110, 50274 and 61140 must be observed.



Note:

For further information on the installation, see the fitting instructions P100006618.

## Description of operation

As a remote unit with 4 analogue outputs, the field modules enables direct actuation of plant devices. The module requires an external power supply of 24 V AC or DC and can be activated by various devices (automation stations (AS), PLCs, etc.). The functions of the individual channels (signal 0...10V) and feedbacks (manual mode status) are provided by wiring connection terminals nos. 20...24 and nos. 26...30. All channels can be controlled manually with slide switches and potentiometers. Due to the external power supply, the field module can be used for system-independent, local priority operation.

Number of outputs	4
Type of outputs	0...10 V=, max. 20 mA (source) or 2...10 V=, max. 5 mA (sink)





Note:

► The outputs are not protected against external voltage!

The slide switches and potentiometers on the front of the device can be used to actuate the channels individually.

## Slide switch

Position	Description
<b>Auto</b>	The AUTO position enables external signal control
	Position  Manual 0...10 V signal output via potentiometer

## Intended use


This product is only suitable for the purpose intended by the manufacturer, as described in the "Description of operation" section.

All related product documents must also be adhered to. Changing or converting the product is not admissible.

## Automatic mode

Activation of the analogue outputs by connecting terminals nos. 21...24 (F1...F4) and terminal no. 20 (ground). The actuation is generally from an AS, PLC, etc.

## Feedbacks

The activation of a manual function can be tapped individually for each channel at the corresponding feedback terminal. 

The COM terminal is for the shared ground connection of the feedbacks. These are generally connected as digital inputs for an AS.

## LED signal lamps

On the front of the device is a Power LED (green) that indicates the power supply of the field module.

## Priority mode

The priority mode is used to achieve a direct, defined signal value for the analogue outputs in the case of a malfunction in the actuation (e.g. AS failure).

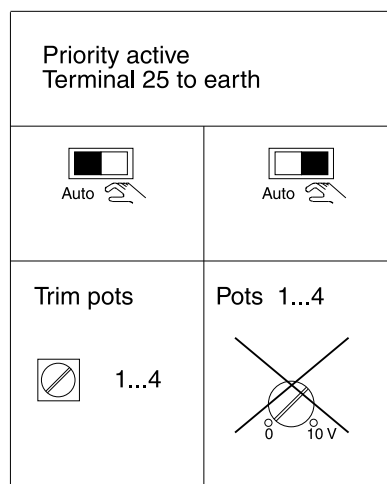
If the Priority connection (terminal no. 25) is connected directly with the ground, the signal value of the outputs are via the trim potentiometers F1...F4. The factory setting of the trim potentiometers is approximately 50% of the signal value. This corresponds to an output signal of approximately 5 V. The trim potentiometers are located in the middle of the top of the device.



Note:

In priority mode, manual controlling of the outputs via potentiometers on the operating level is not possible!

## Operation diagram for priority mode



## Labelling concept

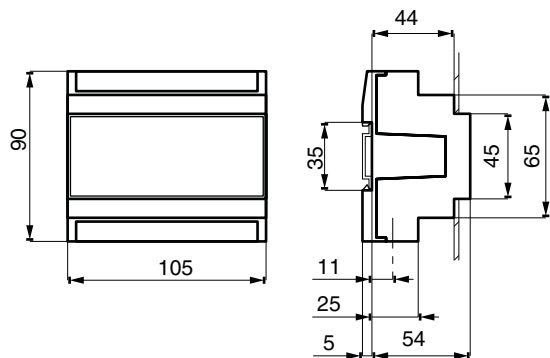
The printable front insert, which can be inserted behind the transparent cap, enables the output channels to be labelled individually. Labelling sheets in DIN A4 format are available for this. The labelling is usually carried out using texts generated from SAUTER CASE engineering software, and the labels are created using commercial printers.

## Disposal

When disposing of the product, observe the currently applicable local laws.

More information on materials can be found in the Declaration on materials and the environment for this product.

**Dimension drawing**



**Connection diagram**

