

Technical Data / Instruction Manual

DA-04-VX

Article no. 80027003

Analog module with 4 analog outputs 0-10V or 1-10V



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1. Notes on documentation

These instructions are intended for qualified personnel who are familiar with the assembly, installation and operation of the ISYGLT system. It is essential that you read these operating instructions through before commissioning and keep them accessible for further use.

SEEBACHER cannot accept any liability for damage or malfunctions resulting from failure to observe these instructions.

1.1. Retention of documents

These instructions and all other applicable documents are part of the product. They must be handed over to the device operator. The operator will store the documents so that they can be made available if necessary.

1.2. Symbols used

Observe the following safety and other instructions in the manual:



Handling instruction

The hand indicates that you should carry out an act.



Danger!

Immediate danger to life!



Attention!

General notes, useful information and special features

2. Safety instructions



Observe the following general safety instructions when installing and commissioning the device:

Assembly and installation of the ISYGLT module may only be carried out by a qualified electrician. Other activities in connection with the ISYGLT module, such as assembly and installation of system components with tested standard plug connections, as well as operation and configuration of the ISYGLT module may only be carried out by trained staff.

Observe the electrical installation regulations of the country in which the device is installed and operated as well as its national accident prevention regulations. In addition, observe internal company regulations (work, operating and safety regulations).



Before working on the ISYGLT module system, it must be disconnected from the power supply and secured against being switched on again. After completion of the assembly, installation and maintenance work, an electrical check must be carried out! Check all protective conductor connections and the voltages at all connection plugs as well as at each individual module slot.

2.1. Intended usage

The module is exclusively suitable for regulation (control) in connection with ISYGLT system components. Any other use is not intended. The limit values stated in the technical data must not be exceeded under any circumstances. This applies in particular to the permissible ambient temperature range and the permissible IP protection type. For applications with a higher required IP protection type, the ISYGLT module must be installed in a housing or a cabinet with a higher IP protection type.

2.2. Predictable mishandling

The module must not be used in the following cases in particular:

- explosive area

When operating in explosive areas, sparking can lead to deflagration, fire or explosions.

2.3. Safe handling

This module corresponds to the state of the art and the recognised safety regulations. Each device is tested for function and safety before delivery.

Only operate this module in perfect condition in accordance with the operating instructions, the applicable regulations and directives of the country in which the device is installed and operated, and the applicable safety and accident prevention regulations.

The module is designed for cabinet installation on a 35mm DIN rail according to EN 60715 in corresponding standard housings. Extreme environmental conditions impair the function of the product.

- Protect module from shocks
- Use module indoors only
- Protect module from humidity

In addition to these safety instructions, you must also observe the special safety instructions listed in the individual chapters for the individual acts.

2.4. Qualification of staff

Assembly, commissioning, operation, maintenance, decommissioning and disposal may only be carried out by qualified staff. Work on electrical parts may only be carried out by a trained electrician in accordance with the applicable regulations and directives. Other activities in connection with the ISYGLT module, such as assembly and installation of system components with tested standard plug connections, as well as operation and configuration of the ISYGLT module may only be carried out by trained staff.

2.5. Changes to the product

Unauthorized modifications to the ISYGLT module which are not described in this or the other applicable instructions can lead to malfunctions and are prohibited for safety reasons.

2.6. Use of spare parts and additional equipment

The module may be damaged if unsuitable spare parts and additional equipment are used. Only use original spare parts and additional equipment from the manufacturer.

2.7. Liability notes

SEEBACHER accepts no liability or warranty whatsoever for damage and consequential damage caused by non-compliance with the technical regulations, instructions and recommendations. SEEBACHER shall not be liable for any costs or damage incurred by the user or third parties as a result of the use of this equipment, in particular improper use of the equipment, misuse or malfunction of the connection, malfunction of the equipment or connected devices.

SEEBACHER accepts no liability for printing errors.

3. Warranty

We provide warranty within the framework of the statutory provisions. These are limited to the intended use of the module and refer to the repair or replacement of the ISYGLT module. Please send the device with an attached error description to our company address given below.

4. Declaration of Conformity

The valid declaration of conformity for the module can be requested from us free of charge by stating type and article no. as follows:

By phone: +49(0)8041/77776
By fax: +49(0)8041/77772
By mail: info@seebacher.de

5. Service address

Seebacher GmbH

Marktstrasse 57
83646 Bad Tölz
GERMANY

Phone: +49 (0) 80 41 / 77 77 6
Fax: +49 (0) 80 41 / 77 77 2

www.seebacher.de
info@seebacher.de

6. Maintenance / Care / Disposal

The product is maintenance-free. It is sufficient from time to time to remove any dust deposits. This may only be done in a power-free state.

Disposal (European Union)

Do not dispose of product in household waste! Products with this symbol



must be disposed of according to the EU directive WEEE 2012/19/ EU on waste electrical and electronic equipment at the local collection points for waste electrical and electronic equipment!

7. Storage

The product must be stored in a dry place, protected from dirt and mechanical stress. After damp or dirty storage, the product may only be operated after a condition check by an authorised electrician.

8. Assembly

(Only by certified electrician!)

Mount the product only when it is in a power-free state!

Switch off the power supply, check that there is no voltage, secure against being switched on again!

The device may only be operated at voltages according to the technical data and loaded with the currents defined therein. Only use suitable equipment (system modules).

Check that there are no loose parts in the product. If this is the case and the presence of such parts is not explicitly described, do not install or commission the product.

Only use suitable cables and fixing screws.

Assembly site

- The product can be installed in any position in a casing to be determined by the electrician (distribution box, switch cabinet). Observe maximum ambient temperature!

Assembly steps

(Read completely before assembly!)

- Mount the device in a suitable casing.
- Make the electrical connections according to the wiring diagram.
- Configure the DIP switches according to your requirements.
- Only after a complete connection and a visual test by a qualified electrician, the system may be put under voltage.

9. Product description

The analog output module is equipped with 4 independent analog outputs. The output voltage range, resolved with 8 bits, is 0-10V, but can be reprogrammed within 0-10V via software (e.g. 1-10V for connecting standardised ECGs). The voltage outputs are galvanically separated from the subnet and from the operating voltage of the module. There is no potential separation between the 4 outputs.

The outputs can be loaded as current source or current sink with 20mA per output. 0-10V and 1-10V control is easily possible with this module. The module can also be set from speed calculation to absolute time calculation by parameterisation per channel. With this, all conceivable control tasks from individual light dimming to use for complex lighting scenarios can be easily realised.

The following functions can be performed independently by the DA module:

- Calculation of rise times from 0.5 seconds to 12 hours
- Autonomous running from current analog ACTUAL values to preset analog SETPOINT values at a preset speed (optionally in a preset time)
- Feedback „Analog value reached“ after execution of time functions
- Stop function during the execution of time functions
- OVERSAMPLING error correction (With the so-called „OVERSAMPLING“, the DA module automatically corrects the jumps in the analog values caused by the cycle times of the BUS system. For this purpose, the analog values between the BUS cycles are transformed back into the resolution of 8 bits by linearisation. This prevents, for example, flickering when controlling dimmers. During programming the OVERSAMPLING is called SOFT function.)
- Execution of blinking functions
- Adaptation to different light sources and dimmers
- Calculation of defined and definable curves
- Calculate minimum and maximum settings per channel to use full 8 bit width
- Complex emergency operation function

Inputs / Outputs

- 4 analog outputs 0(1)-10V
- 1 emergency operating input „E“. The function can be parameterised per channel.

Function displays

- 1 red LED indicates the operating voltage
- 1 yellow LED flashes to indicate communication with the master via the subnet
- 1 green LED indicates the regulation of the outputs (LED flashes until the desired final value is reached)

Connections

- 1 connection for the subnet (BUS A and B, RS-485)
- 1 connection for the operating voltage (Ub, 0V)
- 4 outputs 0-10V (1-10V)
- 4 GND connections for outputs (internally connected)
- 1 emergency operating connection
- 2 P-COM connections (subnet and operating voltage)

Design

- Plastic housing light grey, snap-on to 35mm DIN rail, 3 HP

Special function DIP switch 1

- Reserve
 - Switch must be set to OFF

Parameterisation

In the ISYGLT ProgramDesigner there are various parameterisation options:

- Minimum-maximum values per channel
- Function of the feedback bit per channel
- Definition of the curve calculation
- Definition of the emergency operation
- Setting the dimming curves
- Emergency operation in case of BUS failure

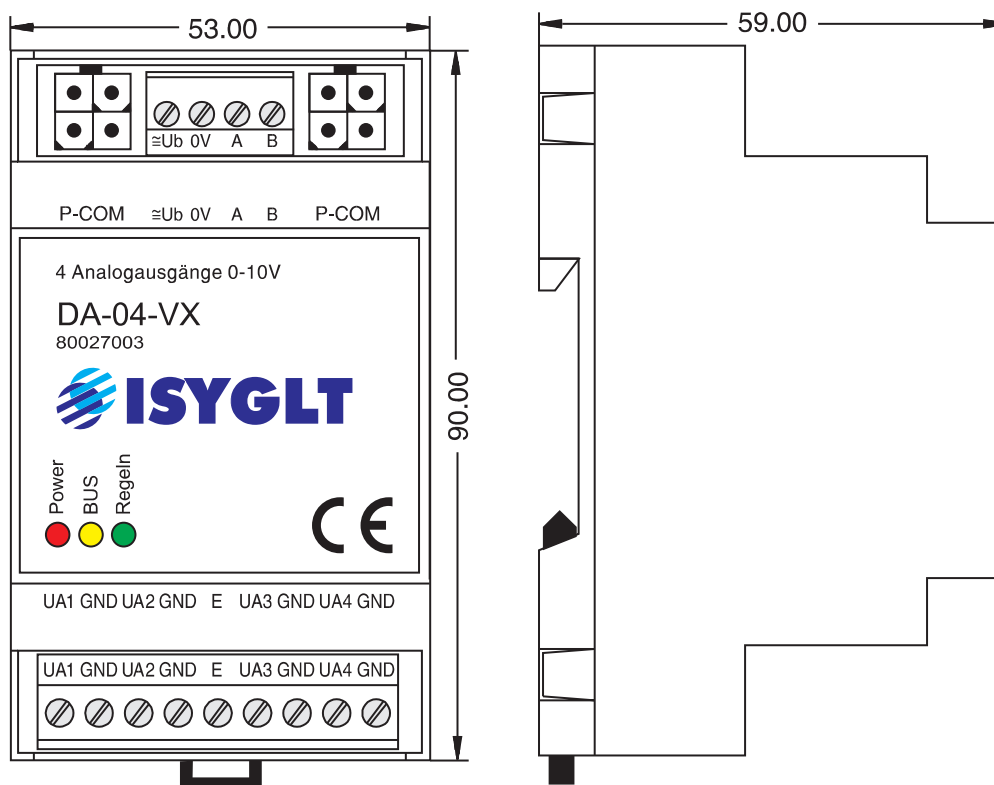
10. Technical data

| | |
|-------------------------|--|
| Type designation | DA-04-VX |
| Article no. | 80027003 |
| Operating voltage | 18V to 35V DC or 18V to 27V AC |
| Current consumption | max. 120mA at 35V and full load of the outputs max. 200mA at 18V and full load of the outputs |
| Output voltage | 4 analog channels, 8 bit resolution 0-10V |
| Output current | 20mA per channel, operation as current source or current sink (total 80mA) |
| Isolation voltage | 300V (subnet / analog outputs) |
| Subnet (RS-485) | max. 5.6V limitation by Z-diodes |
| Dimensions | WxHxD 53x90x59mm DIN-rail mounted device (3 HP) |
| Weight | 200g |
| Connection | Screw terminals pluggable and P-COM connectors |
| Operating temperature | -10°C to +50°C |
| Storage temperature | -25°C to +70°C |
| Humidity | 0-85% r. h. non-condensing |
| Protection class | IP30 |
| CE mark | Yes |

10.1. Pin assignment

| | |
|-------------|---|
| $\cong U_b$ | Operating voltage |
| 0V | Operating voltage |
| A | Subnet (BUS A, RS-485) |
| B | Subnet (BUS B, RS-485) |
| E | Emergency operating input |
| GND | Reference potential (ground) for analog outputs (4x internally connected) |
| UA1 | Analog output channel 1 |
| UA2 | Analog output channel 2 |
| UA3 | Analog output channel 3 |
| UA4 | Analog output channel 4 |

View



11. Wiring diagram

