

MANAFA



RESI-POTI-AO



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1 History

Date	Editor	Description
23.02.15	DI HC Sigl	First English version

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2 Contents

RESI-POTI-AO.....	1
1 HISTORY.....	2
2 CONTENTS.....	3
3 IMPORTANT SECURITY NOTES.....	4
4 GENERAL INFORMATION.....	6
5 MOUNTING AND CONNECTIONS.....	8
5.1 ASSEMBLING.....	8
5.2 CLAMPS AND LEDS.....	9
5.3 DIP SWITCH SETTINGS.....	10
5.4 WIRING DIAGRAM.....	11
6 SPECIFICATIONS.....	13
6.1 DIMENSIONS.....	13

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3 IMPORTANT SECURITY NOTES



Danger to life through electrical current!

Only skilled personal trained in electro-engineering should perform the described steps in the following chapters. Please observe the country specific rules and standards. Do not perform any electrical work while the device is connected to power.

Pay attention to the following rules:

1. Disconnect the system from power
2. Secure the system against automatic power on
3. Check that the system is de-energized
4. Cover other energized parts of the system

IMPORTANT HINT: Before you start with the installation and the initial setup of the device, you have to read this document and the attached installation guide and the actual manual for the device very carefully. You have to follow all the herein given information very accurate!

- Only authorized and qualified personnel are allowed to install and setup the device!
- The connection of the device must be done in de-energized state!
- Do not perform any electrical work while the device is connected to power!
- Disable and secure the system against any automatic restart or power on procedure!
- The device must be operated with the defined voltage level!
- Supply voltage jitters must not exceed the technical specifications and tolerances given in the technical manuals for the product. If you do not obey this issue, the proper performance of the device cannot be guaranteed. This can lead to fail functions of the device and in worst case to a complete breakdown of the device!
- You have to obey the current EMC regulations for wiring!
- All signal, control and supply voltage cables must be wired in a way, that no inductive or capacitive interference or any other severe electrical noise disturbance may interfere with the device. Wrong wiring can lead to a malfunction of the device!
- For signal or sensor cables you have to use shielded cables, to avoid damages through induction!
- You have to obey and to apply the current safety regulations given by the ÖVE, VDE, the countries, their control authorities, the TÜV or the local energy supply company!
- Obey country-specific laws and standards!
- The device must be used for the intended purpose of the manufacturer!
- No warranties or liabilities will be accepted for defects and damages resulting from improper or incorrect usage of the device!
- Subsequent damages, which results from faults of this device, are excluded from warranty and liability!
- Only the technical data, wiring diagrams and operation instructions, which are part to the product shipment are valid!
- The information on our homepage, in our datasheets, in our manuals, in our catalogues or published by our partners can deviate from the product documentation and is not necessarily always actual, due to constant improvement of our products for technical progress!
- In case of modification of our devices made by the user, all warranty and liability claims are lost!
- The installation has to fulfill the technical conditions and specifications (e.g. operating temperatures, power supply, ...) given in the devices documentation!
- Operating our device close to equipment, which do not comply with EMC directives, can influence the functionality of our device, leading to malfunction or in worst case to a breakdown of our device!

Titel:	Manual RESI-POTI-AO converter	Datum	Seite	Von
		23.02.2015	4	13

- Our devices must not be used for monitoring applications, which solely serve the purpose of protecting persons against hazards or injury, or as an emergency stop switch for systems or machinery, or for any other similar safety-relevant purposes!
- Dimensions of the enclosures or enclosures accessories may show slight tolerances on the specifications provided in these instructions!
- Modifications of this documentation is not allowed!
- In case of a complaint, only complete devices returned in original packing will be accepted!

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4 General Information

With our RESI-POTI-AO converter we offer an electronic signal converter to transform a potentiometer signal (voltage divider) into a standard analogue output signal of 0 to 10Vdc.

This converter is an ideal interface between your user device like a room temperature control unit or a setpoint device in a switchboard cabinet and your control unit with an analogue input for 0 to 10Vdc signals like a PLC or DDC.

- Conversion of 2 wire or 3 wire potentiometer signal into a standard analogue output signal of 0 to 10Vdc.
- 3 wire connection: Potentiometers with a resistor between 1kOhm and 100kOhm can be used
- 2 wire connection: Potentiometers with a resistor of 1kOhm 2kOhm, 5kOhm or 10kOhm can be used
- All settings can be done via a 4 pin DIP switch
- LED indication for power supply and the analogue output signal
- Output of a standard analogue signal between 0 to 10Vdc
- Power supply with 24VDC
- Power consumption <0.6W
- Mountable onto a EN50022 DIN rail

Type	Description	Voltage	Power	Weight
RESI-POTI-AO	Converter for 2 wire or 3 wire connected potentiometer (voltage divider) into a standard analogue signal between 0 to 10Vdc, DIP switches for setup	24 V=	<0.6W	50 g

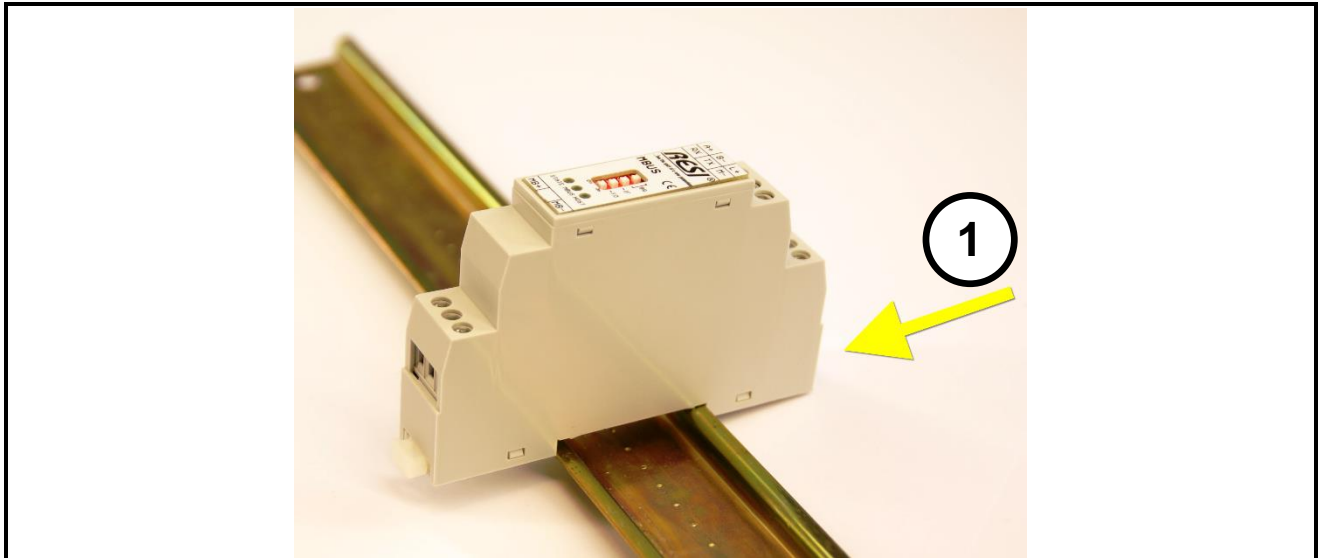
Technical data		
Power supply		
Supply voltage	24 V= +/-10%	Storage temperature
Power LED indicator	Ja	Operation temperature
		Humidity
Power consumption	<0.6W	Protection class
		Dimensions LxWxH
		Weight
		Mounting
2 wire connection		
Potentiometer types	1kOhm, 2kOhm, 5kOhm or 10kOhm	
LED indicator	Yes, change of brightness from 0 to100%	
3 wire connection		
Potentiometer types	1kOhm bis 100kOhm	
LED indicator	Yes, change of brightness from 0 to100%	
Clamps		
Clamp wire cross section	Max. 1,5 mm ²	CE conformity
Tightening torque	Max. 0.5Nm	Yes

5 Mounting and Connections

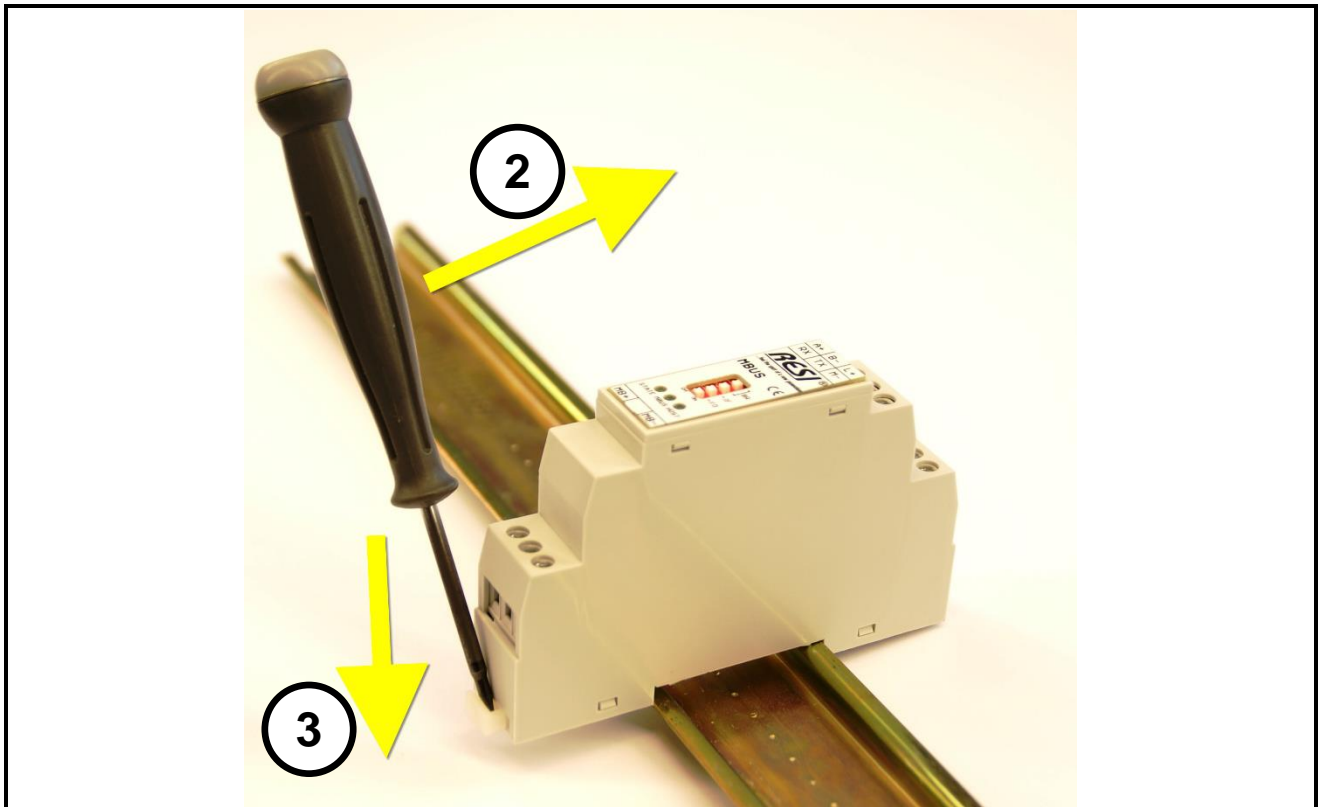
5.1 Assembling

Our RESI-POTI-AO converter is designed for mounting on a 35mm DIN-EN50022 rail. Please note, that there are symbol photos used in the mounting pictures below.

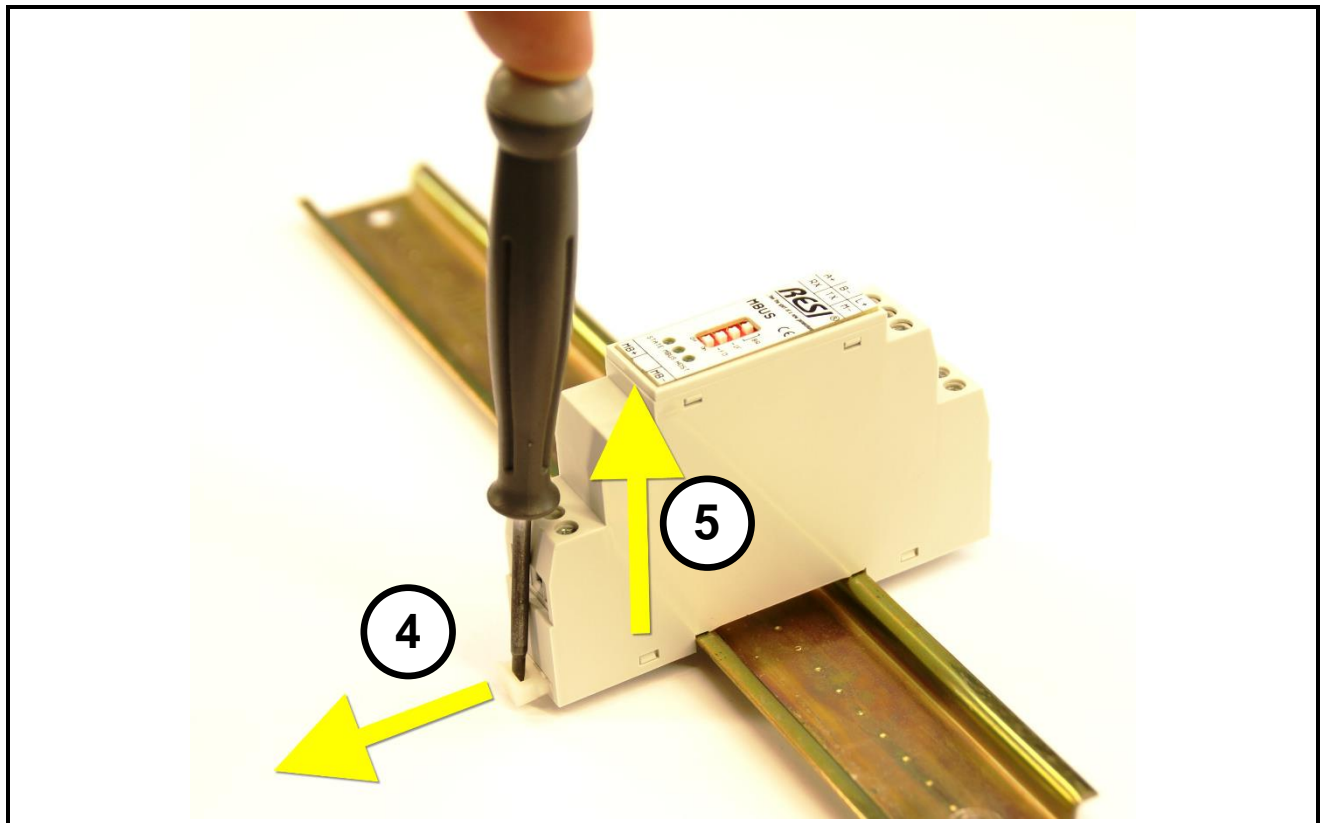
At first, put the converter with the top side on the DIN rail (1).



Then open the clamp lever on the bottom side with a screw driver (2) and press the device on the DIN rail (3). Release the clamp lever. The module is now placed correctly on the DIN rail.



To dismount the module from the DIN rail first open the clamp lever with a screwdriver on the bottom side (4). Hold the clamp lever opened while you lift the module from the DIN rail (5). Then remove the converter from the bar with while pulling it on the top side.



5.2 Clamps and LEDs

	RESI-POTI-AO
L+	Power supply
M-	L+: 24 V= M-: Ground
O+	Analogue output signal between 0 to 10Vdc.
O-	O+ is AO+ signal and O- is AO ground signal
P+	Connection of the potentiometer:
PIN	2 wire connection: potentiometer to P-, voltage divider to PIN
P-	3 wire connection: potentiometer between P+ and P-, voltage divider to PIN
POWER	Power-LED, is permanent on, if the converter is under power.
OUT	Output LED, displays the current position of the potentiometer with the brightness of the LED

Table: Description of connectors and LEDs of the RESI-POTI-AO converter

5.3 DIP switch settings

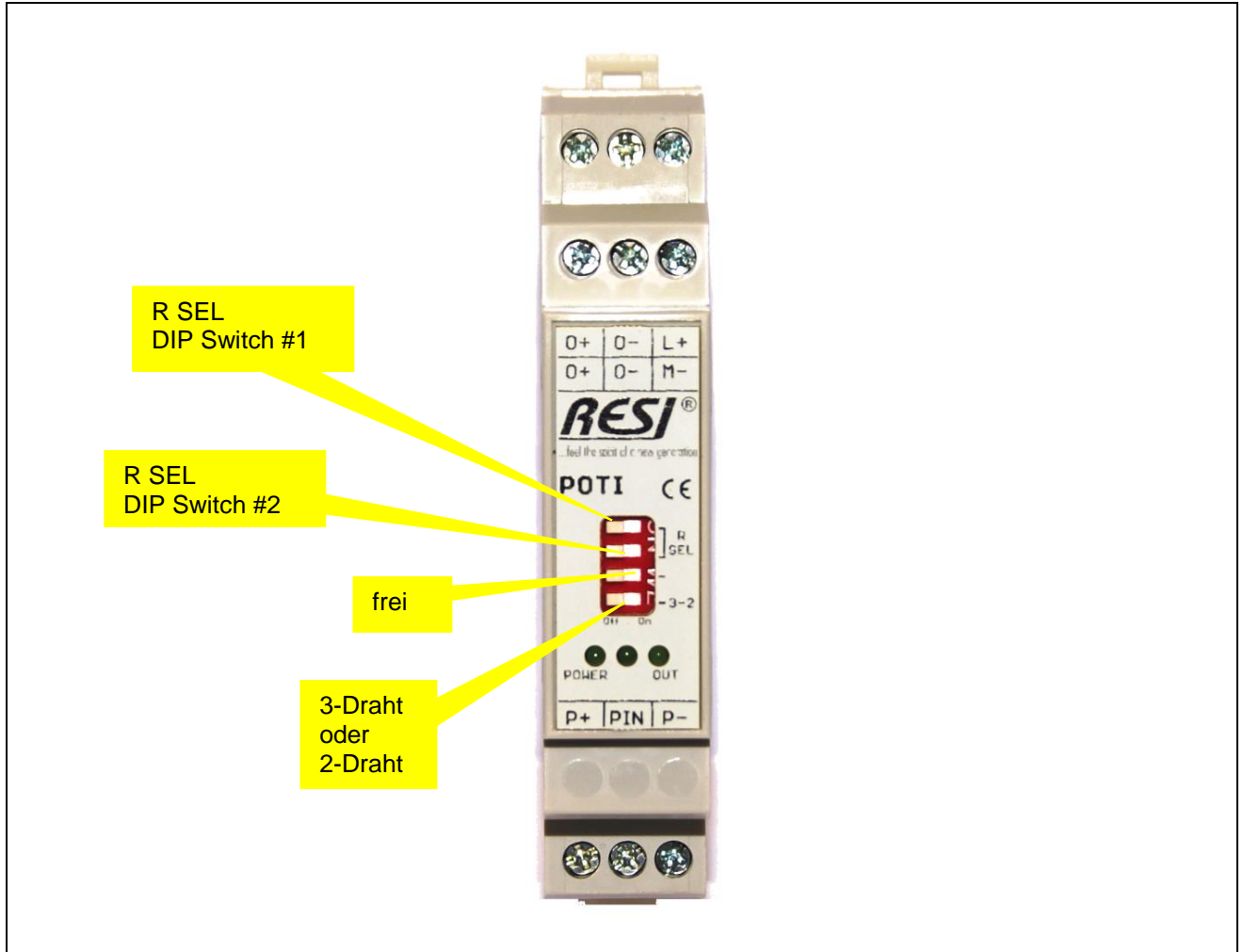


Illustration: Description of the DIP switch settings and the LED indicators

DIP Switch	RESI-POTI-AO
R SEL Select Resistor	2 wire connection: DIP1 DIP2 Potentiometer OFF OFF 10kOhm ON OFF 5kOhm OFF ON 2kOhm ON ON 1kOhm 3 wire connection: DIP1 DIP2 Potentiometer ON ON 1kOhm up to 100kOhm HINT: All other DIP switch positions are forbidden!
3-2 Connection Type	Selects the physical connection type of the potentiometer: 3=3 wire potentiometer is used 2=2 wire potentiometer is used

Table: Description of the DIP switch functions

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5.4 Wiring diagram

In the below illustrations you will see the type of connection of the converter:

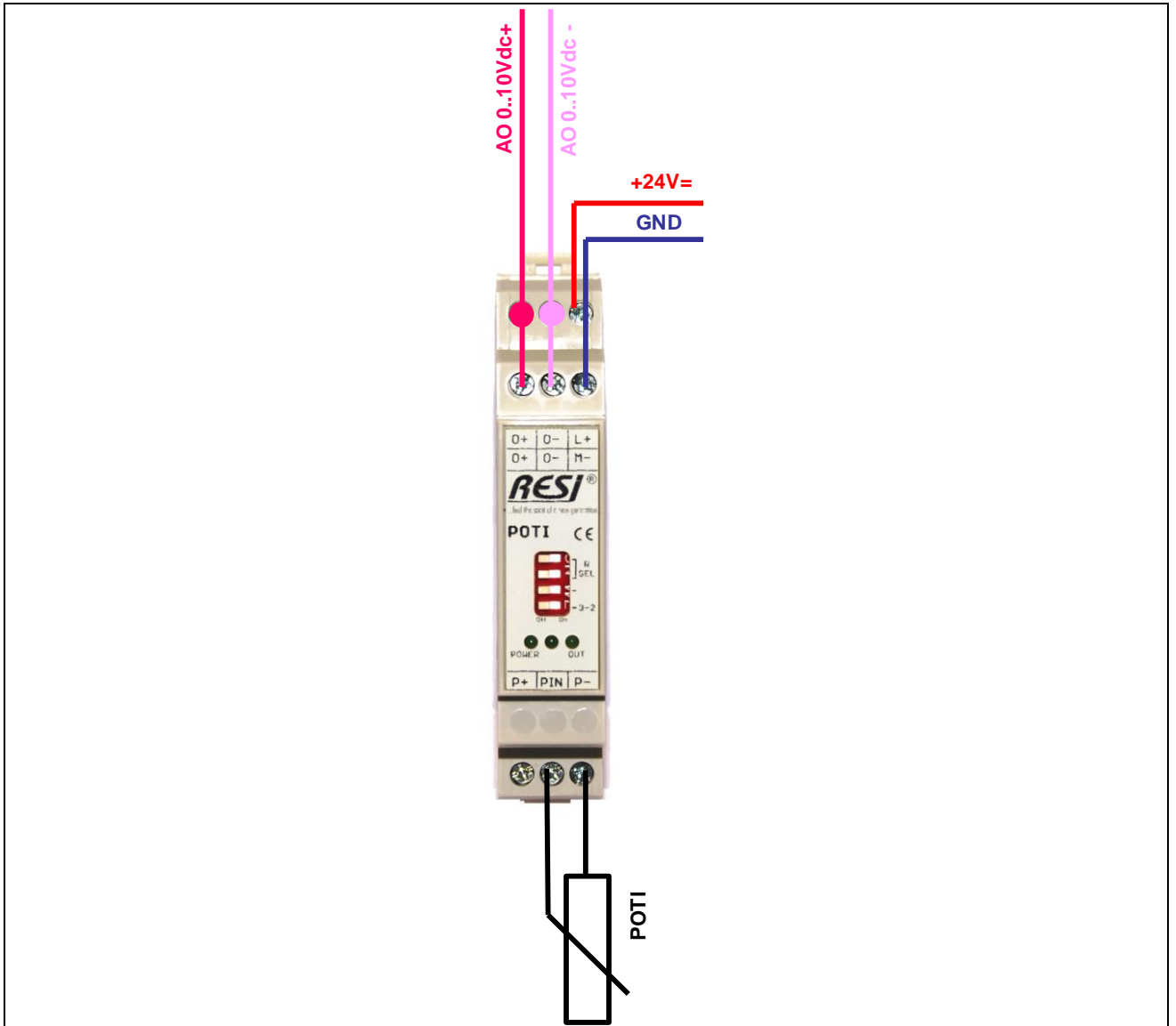


Illustration: Wiring diagram for the RESI-POTI-AO to use potentiometer with 2 wire connection

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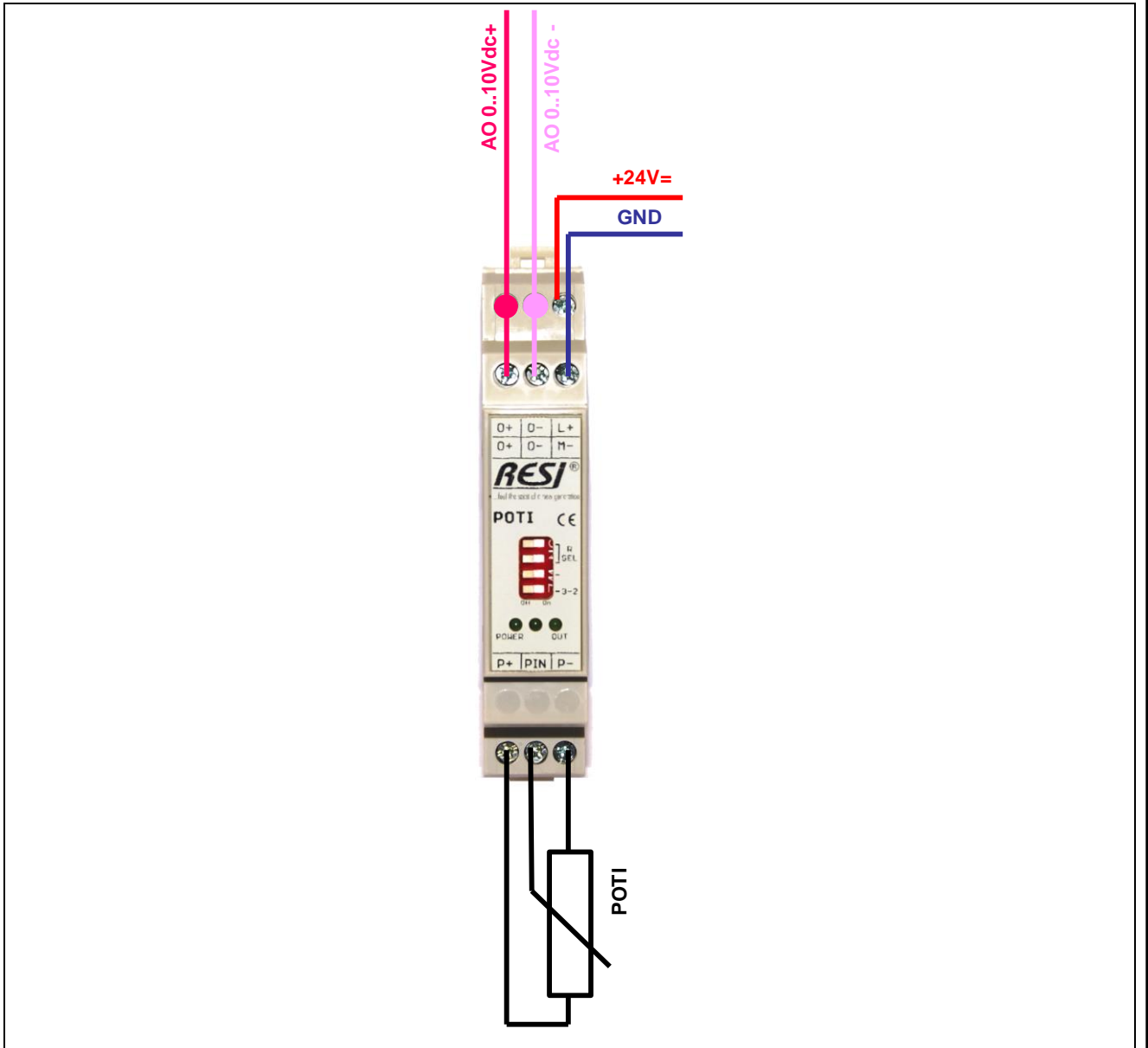


Illustration: Wiring diagram for the RESI-POTI-AO to use potentiometer with 3 wire connection

6 Specifications

6.1 Dimensions

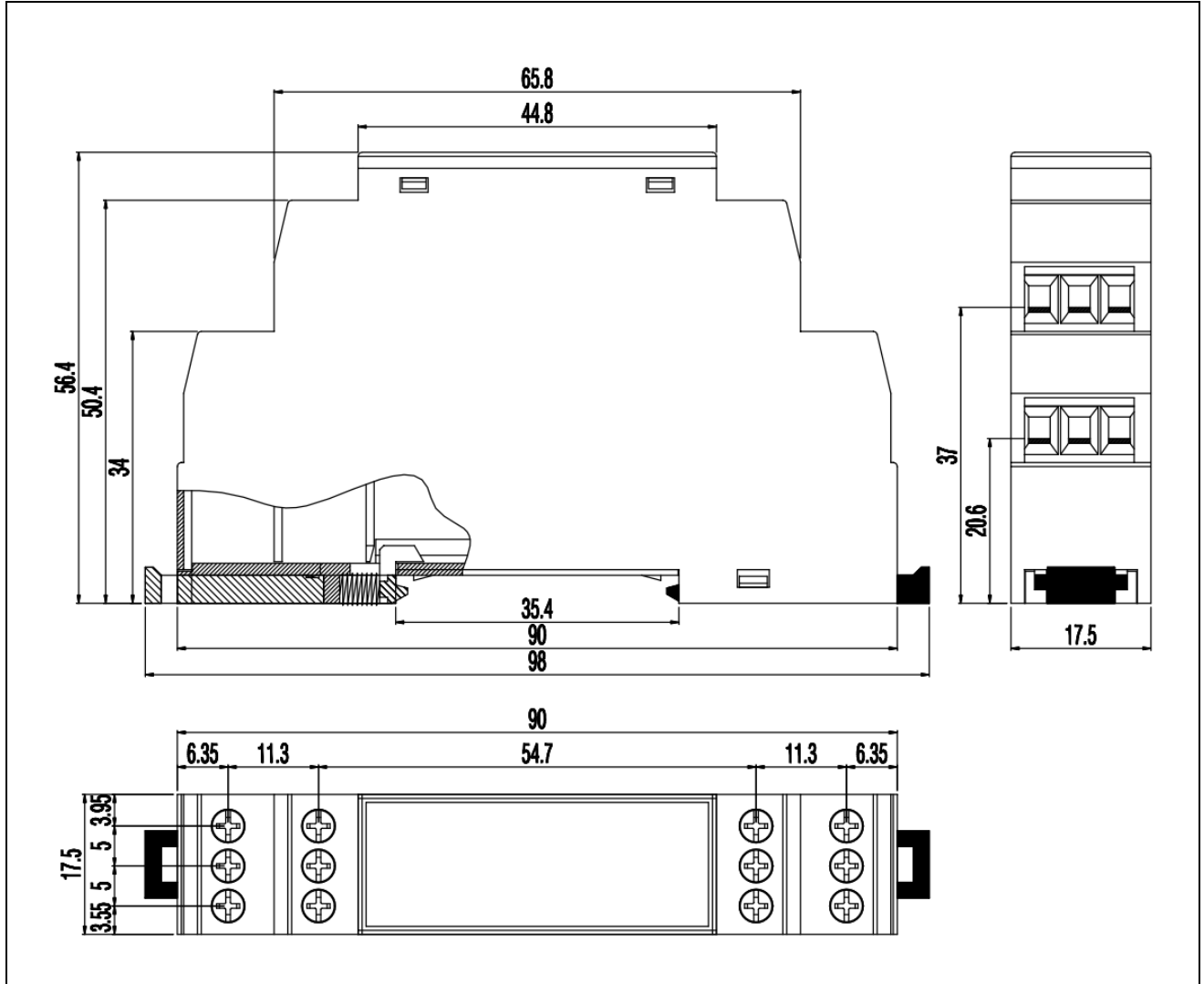


Illustration: dimension illustration in mm

Dimensions	
Enclosure dimensions L x W x H (mm)	17,5 x 90 x 58
Weight	60 g
Colour	Grey RAL7035
Material	PA - UL 94 V0
Protection class	IP20 based on DIN 40050/EN 60529

Table: Data of enclosure