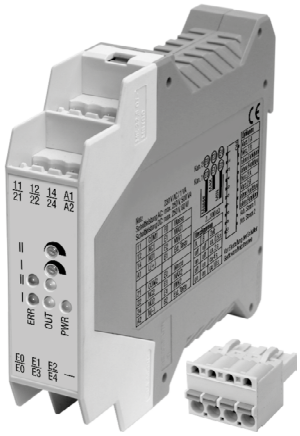
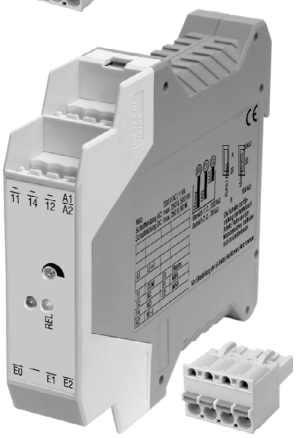




ER-01

Conductive Electrode Relay

Features

/ Single or dual channels

/ 24 V DC or 230 V AC

/ Secured galvanic isolation

/ MIN-MAX control

/ Limit value identification in conductive fluids

/ Operating and closed-circuit switchable

Description:

The ER-01 electrode relay outputs a measuring voltage to a ground electrode and to one or more additional electrodes. While immersing the ground electrode and another electrode into the fluid that needs to be monitored, a low AC measuring current flows signaling the presence of a medium. Flow of this AC is intercepted by ER-01 and evaluated. Possible electrolytic disintegration of the medium and hazardous contact voltages are safely avoided, since the measuring current is very low and is not capable of generating any galvanic elements.

The ER-01 series of electrode relays can also be used as simple contact network relay in which, for example, potential-free REED contacts replace the electrodes. This is an important aspect if the maximum power rating of the REED emitter is insufficient for connecting the required heavy loads.

Application:

Electrode relays are used in combination with conductive rod screw type or suspended electrodes (see also Profimess' KS-...), if the level of conductive fluids needs to be registered, controlled or regulated. In this, limit level switching (overflow and dry run) as well as MIN-MAX controls can be implemented. In this case, the relay at the output is changed over when one of the two limit levels is activated, with the result that the filling level reciprocates between these two predefined levels.

Electrical Specifications:

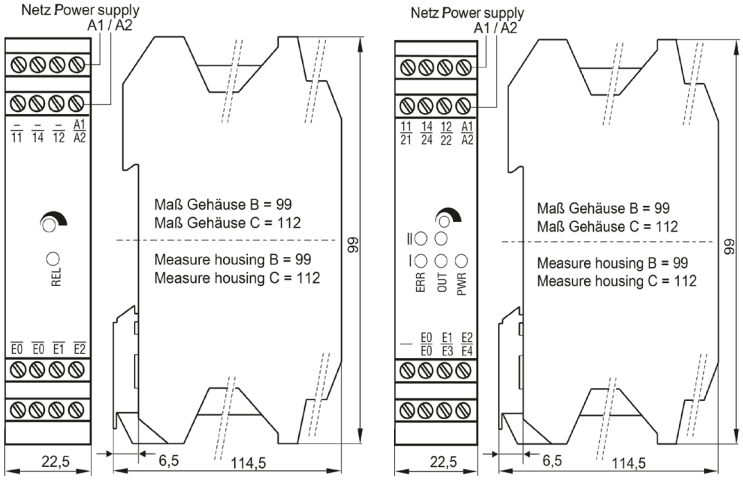
Supply voltage /	ER-01.x.24: 24 V DC ER-01.x.230: 230 V AC, 48-62 Hz (24 V AC, 42 V AC, 48 V DC, 115 VAC 240 V AC and 127 V AC on request)
Power consumption /	max. 1 W / VA
Input /	
Open-circuit voltage:	≤ 10 VAC
Short-circuit current:	≤ 5 mA
Switching delay:	fixed about 0.5 s (0.5 s to 10 s switchable in 4 respectively 16 steps on request)
Sensitivity range:	2. . .30 kΩ, 2. . .300 kΩ 10. . . 1000 kΩ, 0,2. . .3 kΩ
Output /	
Contacts:	one potential-free change-over-contact per channel (optionally additional change-over-contact for single channel version)
Switching voltage:	min. 5 Vmax. 250 VAC, max. 150 VDC
Switching current:	min. 5 mA **Single channel version:** max. 5 A bei cos φ = 1 max. 3 A/AC bei cos φ = 0,7 max. cos φ = 1 **Two channel version:** max. 3 A at cos φ = 1 max. 1 A/AC at cos φ = 0,7 max. cos φ = 1
Operating-/closed-circuit current /	switchable
Switching load:	min. 300 mW **Single channel version:** max. 1250 VA 150 W (30 VDC/5 A) **Two channel version:** max. 750 VA 150 W (30 VDC/5 A) 18 W (150 VDC/0.12 A)
Protection class / EN 60529	terminals IP20, housing IP40
CE marking /	as per low voltage directive EN61010-1 as per EMV directive EN61326-1
Options /	EX approval: interface detection for media of different conductivities approval for overfill protection as per German WHG (German Water Resources Act); SIL 2

Technical Specifications:

Operating temperature /	-20. . .+60°C
Storage temperature /	-30. . .+80°C
Weight /	ca. 150 g
Dimensions /	99.0 x 22.5 x 114.5 mm (L x B x T)
Connectors /	plug-in terminals

Dimensions in mm:

ER-01.1 **ER-01.2**



Ordering Codes:

Order number	**ER-01.**	**1.**	**24.**	**1**

ER-01 Conductive Electrode Relay

No. of Channels /
1 = 1 channel with one change-over-contact
2 = 2 channels with one change-over-contact per channel

Supply voltage /
□□□ = specify other voltage in detailed text
24 = 24 VDC
230 = 230 VAC

Options /
0 = no special features
1 = specify special features in detailed text

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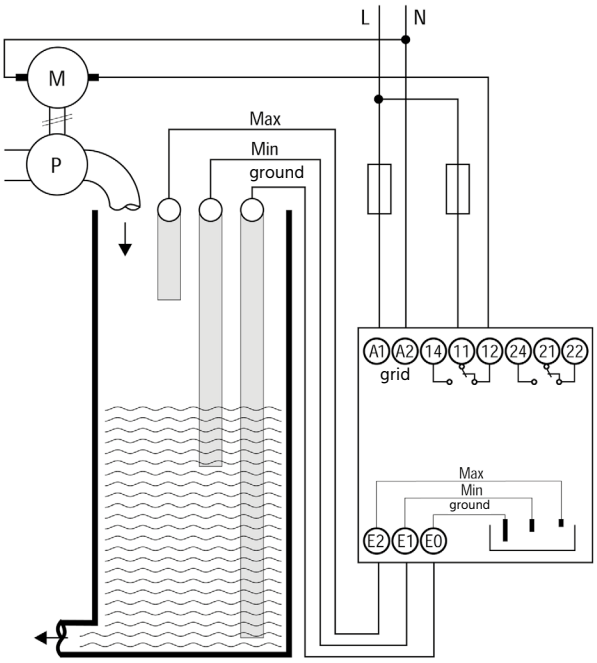
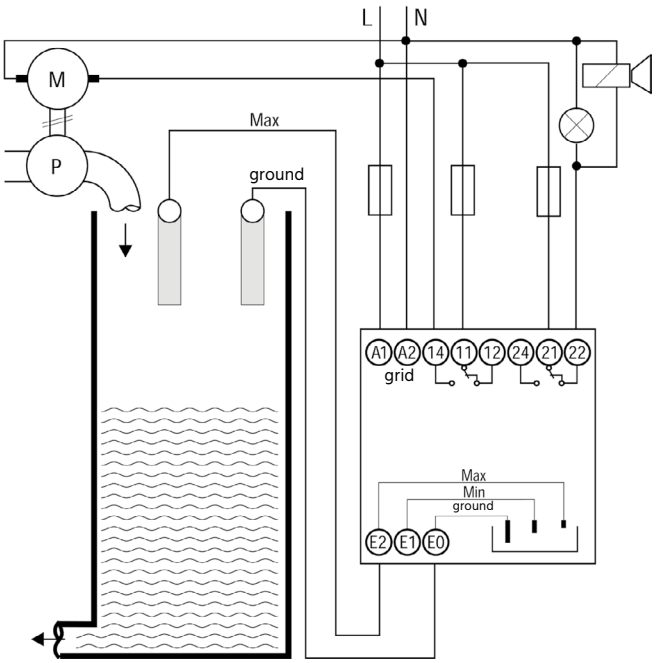
Connection examples 1 channel relay

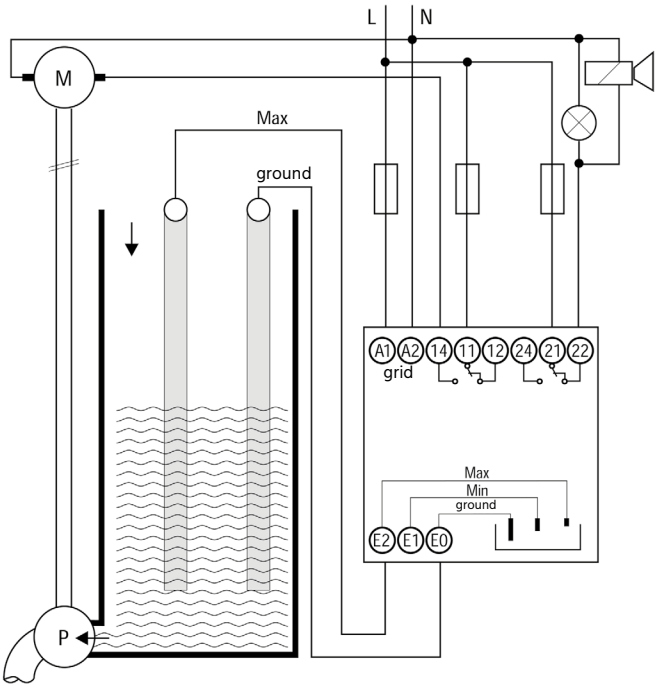
Connection example for filling
Limit level detection in active current operation
(min/max operation)



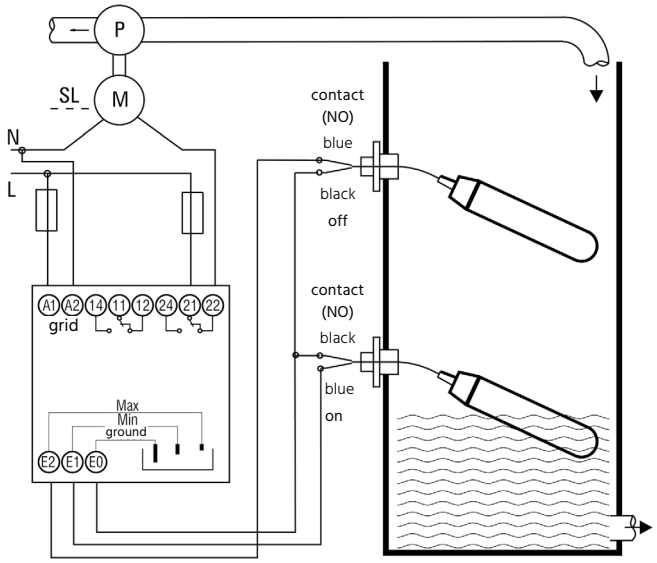
Connection example for overflow
Limit level detection in standby current operation
(Optional: 1 channel relay, 2 change-over contacts)



Connection example for dry run
Limit level detection in active current operation
(Optional: 1 channel relay, 2 change-over contacts)

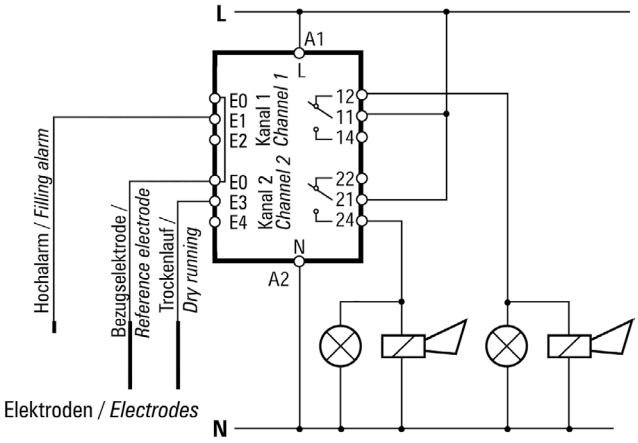


Connection example for filling
Limit level detection in active current operation
with float switches

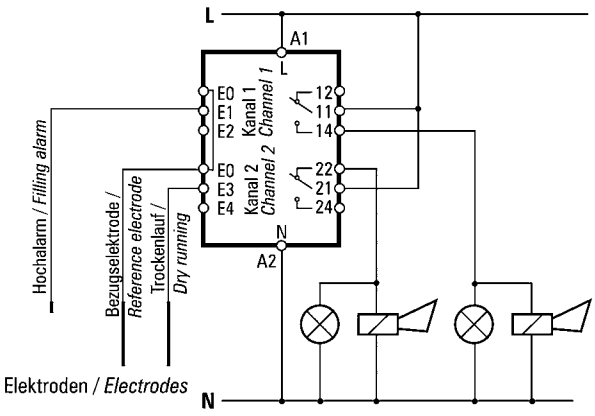


Connection examples 2 channel relay

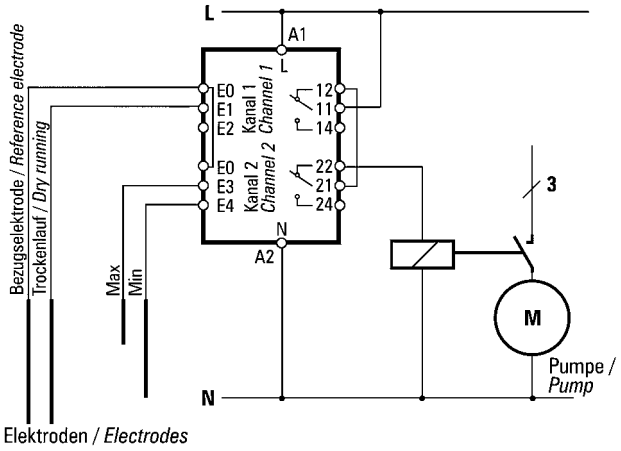
Channel 1: high alarm,
Channel 2: dry run standby current, high alarm, dry run



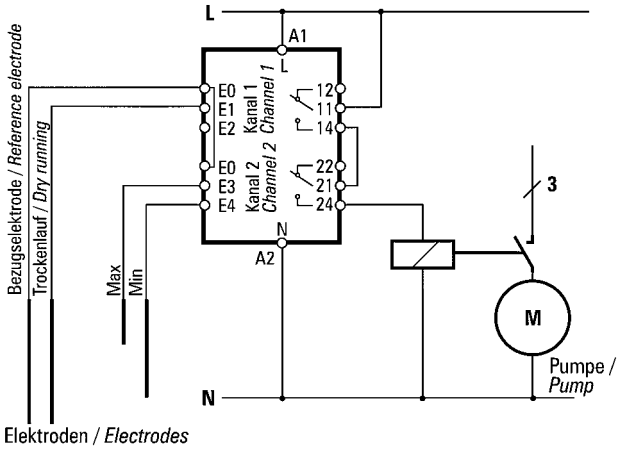
Channel 1: high alarm,
Channel 2: dry run active current, high alarm, dry run



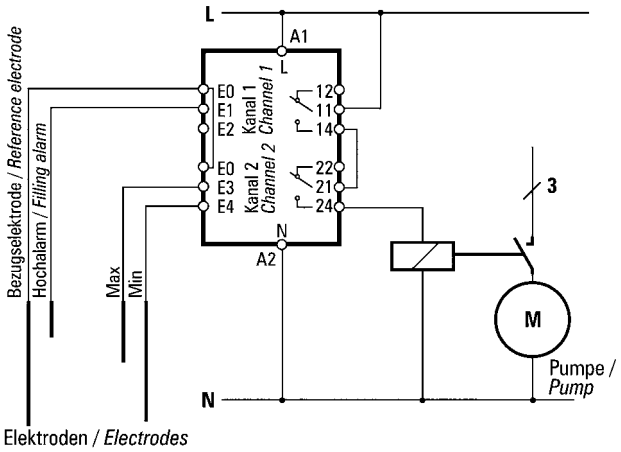
Channel 1: dry run,
Channel 2: min/max standby current, empty container



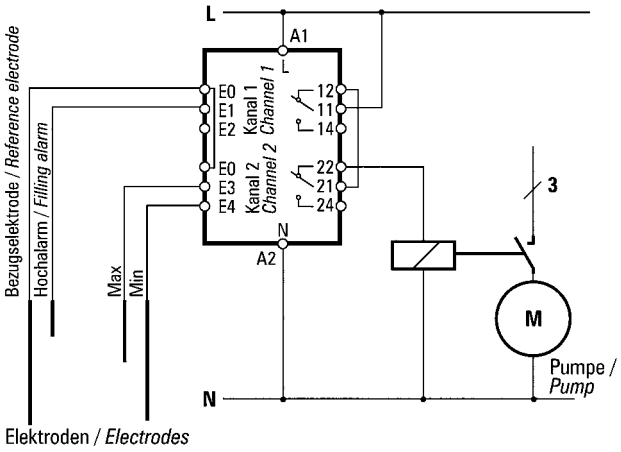
Channel 1: dry run,
Channel 2: min/max active current, empty container



Channel 1: high alarm,
Channel 2: min/max standby current, fill container



Channel 1: high alarm,
Channel 2: min/max active current, fill container



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