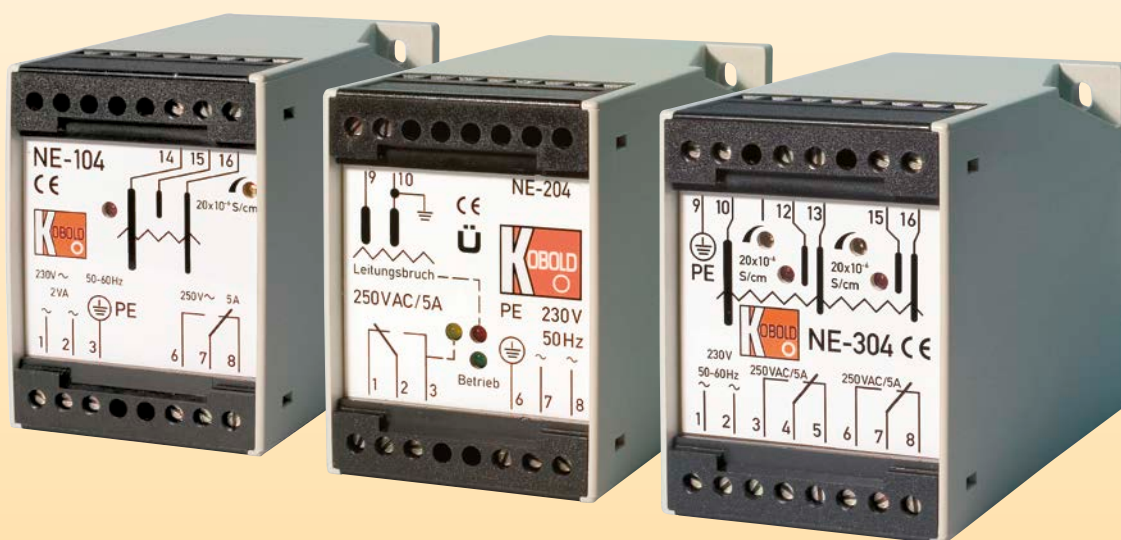


NE-104/-204/-304



- For use with conductive electrodes
 NES, NEW, NEH and LNK
- Limit signal
- Min./Max. controller
- Power supply: 230 V_{AC}, 110 V_{AC}, 24 V_{AC}



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Description

KOBOLD electrode relays of model NE- are used with conductive level switches NES, NEH, NEW and LNK for level monitoring and control of conductive liquids.

An electrode relay NE-104 is required for single point signalling. It possesses additionally a bi-stable interval relay which lock and is therefore suitable for pump control.

With relay NE-304 and a level conductive switch with two signal and one ground electrodes, two level limits could be detected.

The relay outputs could be configured as a Min./Max. control or as a single limit switch.

The relay NE-204 is used together with the conductive level limit switch NEW for water contaminating liquids. It should be used for tanks and vessels for storage of non-flammable, water contaminating liquids.

Technical Details

NE-104, NE-304

Power supply:	230, 110, 24 V _{AC} ± 15%; 50-60 Hz
Power input:	NE-104: approx. 2 VA NE-304: approx. 4 VA
Floating voltage:	approx. 10 V _{AC}
Short-circuit-current:	approx. 0.5 mA
Sensitivity:	adjustable 0-50 kΩ
Response time:	approx. 1 s
Output:	NE-104: 1 floating changeover contact NE-304: 2 floating changeover contacts
Switching capacity:	max. 250 V _{AC} , 5 A, 600 VA
Housing:	Makrolon®
Protection:	housing: IP 40 terminals: IP 20
Ambient temperature:	-20 °C ... +60 °C
Dimensions:	75 x 55 x 110 mm
Installation:	DIN rail mount or wall mount
Signalling:	LED red: monitoring state

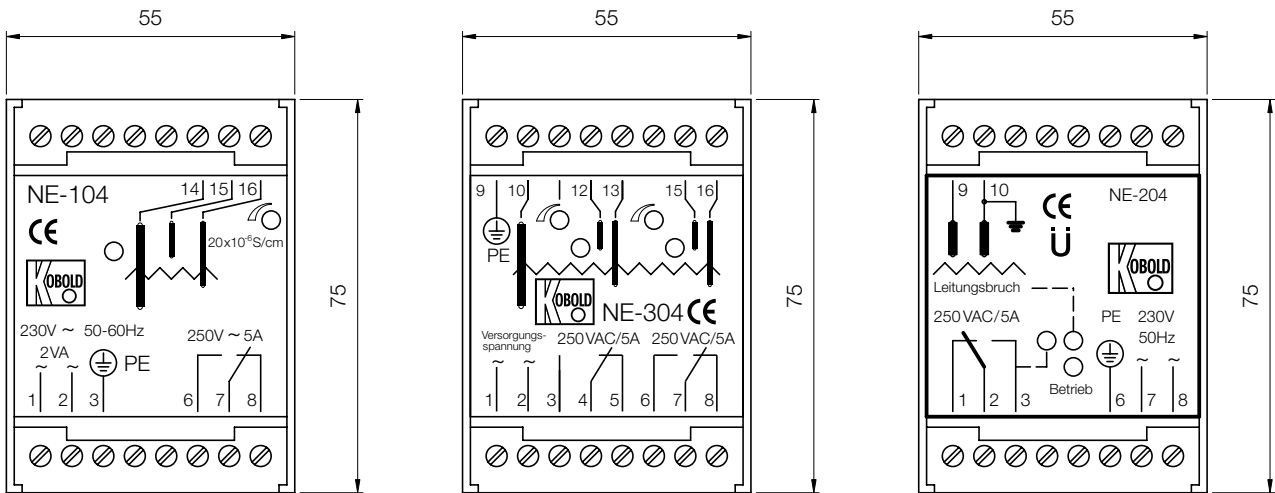
NE-204

Power supply:	24, 230 V _{AC} ± 15%; 50-60 Hz
Power input:	approx. 2 VA
Floating voltage:	approx. 20 V _{AC}
Short-circuit-current:	approx. 4 mA
Sensitivity:	approx. 50 kΩ
Response time:	approx. 1 s
Output:	1 floating changeover contact
Switching capacity:	max. 250 V _{AC} , 5 A, 600 VA
Housing:	Makrolon®
Protection:	housing: IP 40 terminals: IP 20
Ambient temperature:	-20 °C ... +60 °C
Dimensions:	75 x 55 x 110 mm
Installation:	DIN rail mount or wall mount
Signalling:	LED green: auxiliary power on LED red: open-circuit LED yellow: monitoring state

Monitoring the mains supply: by dropping out the switch contact

Monitoring electrode: lead by dropping out the switch contact, red LED lights up

Dimensions [mm]



Order Details (Example: NE-104 0)

Model	Description	Number of outputs	Power supply
NE-	Electrode relay	104 = 1 limit signal or 1 Min./Max. controller 304 = 2 limit signals or 2 Min./Max. controller 204 = 1 limit signal	0 = 230 V _{AC} 1* = 110 V _{AC} 2 = 24 V _{AC}
		504** = 1 limit signal or 1 Min./Max. controller	8 = 24 - 240 V _{AC}

* Not with NE-204

** See separate data sheet NE-5048

NE-104/-204/-304



- For use with conductive electrodes
 NES, NEW, NEH and LNK
- Limit signal
- Min./Max. controller
- Power supply: 230 V_{AC}, 110 V_{AC}, 24 V_{AC}



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Description

KOBOLD electrode relays of model NE- are used with conductive level switches NES, NEH, NEW and LNK for level monitoring and control of conductive liquids.

An electrode relay NE-104 is required for single point signalling. It possesses additionally a bi-stable interval relay which lock and is therefore suitable for pump control.

With relay NE-304 and a level conductive switch with two signal and one ground electrodes, two level limits could be detected.

The relay outputs could be configured as a Min./Max. control or as a single limit switch.

The relay NE-204 is used together with the conductive level limit switch NEW for water contaminating liquids. It should be used for tanks and vessels for storage of non-flammable, water contaminating liquids.

Technical Details

NE-104, NE-304

Power supply: 230, 110, 24 V_{AC} ± 15%;
50-60 Hz

Power input: NE-104: approx. 2 VA
NE-304: approx. 4 VA

Floating voltage: approx. 10 V_{AC}

Short-circuit-current: approx. 0.5 mA

Sensitivity: adjustable 0-50 kΩ

Response time: approx. 1 s

Output: NE-104:
1 floating changeover contact
NE-304:
2 floating changeover contacts

Switching capacity: max. 250 V_{AC}, 5 A, 600 VA

Housing: Makrolon®

Protection: housing: IP 40
terminals: IP 20

Ambient temperature: -20 °C ... +60 °C

Dimensions: 75 x 55 x 110 mm

Installation: DIN rail mount or wall mount

Signalling: LED red: monitoring state

NE-204

Power supply: 24, 230 V_{AC} ± 15%; 50-60 Hz

Power input: approx. 2 VA

Floating voltage: approx. 20 V_{AC}

Short-circuit-current: approx. 4 mA

Sensitivity: approx. 50 kΩ

Response time: approx. 1 s

Output: 1 floating changeover contact

Switching capacity: max. 250 V_{AC}, 5 A, 600 VA

Housing: Makrolon®

Protection: housing: IP 40
terminals: IP 20

Ambient temperature: -20 °C ... +60 °C

Dimensions: 75 x 55 x 110 mm

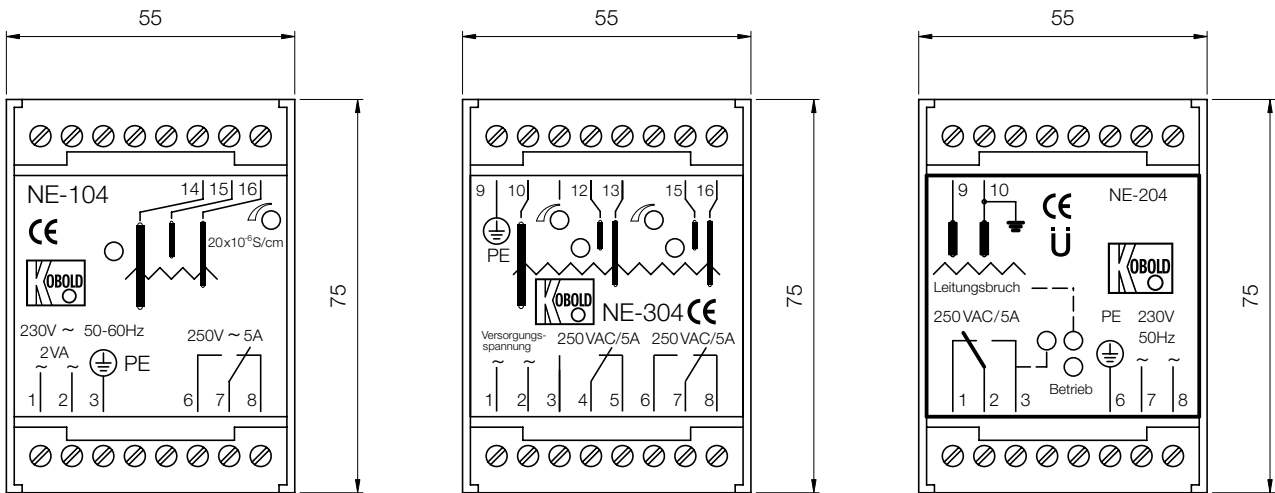
Installation: DIN rail mount or wall mount

Signalling: LED green: auxiliary power on
LED red: open-circuit
LED yellow: monitoring state

Monitoring the mains supply: by dropping out the switch contact

Monitoring electrode: lead by dropping out the switch contact, red LED lights up

Dimensions [mm]



Order Details (Example: NE-104 0)

Model	Description	Number of outputs	Power supply
NE-	Electrode relay	104 = 1 limit signal or 1 Min./Max. controller 304 = 2 limit signals or 2 Min./Max. controller 204 = 1 limit signal	0 = 230 V _{AC} 1* = 110 V _{AC} 2 = 24 V _{AC}
		504** = 1 limit signal or 1 Min./Max. controller	8 = 24 - 240 V _{AC}

* Not with NE-204

** See separate data sheet NE-5048



Conductive Level Limit Switches

for conductive liquids



measuring
•
monitoring
•
analysing

NES



- p_{\max} : 30 bar; t_{\max} : 150 °C
- Connection: G 1/2, G 1 1/2
- Electrode material:
stainless steel,
Hastelloy®, titanium
- Coating material:
polyolefine, PTFE

N



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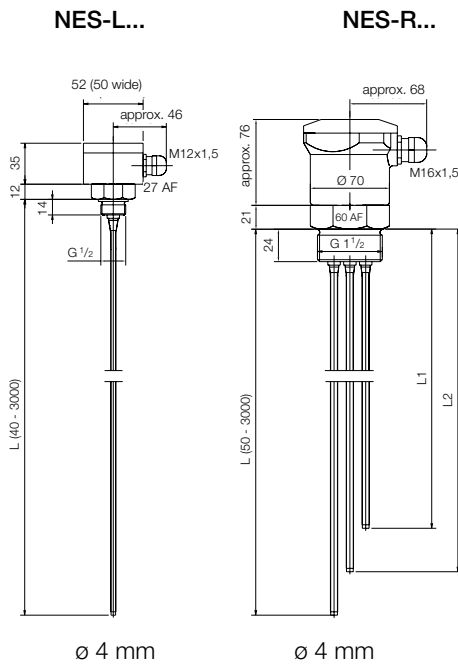
Description

KOBOLD limit switches of model NES are used for level monitoring and pump control of conductive liquids. The design without any moving parts allows service with critical media with, for example, solid content, negligible density or high viscosity. The instruments operate on the conductive principle. A low a.c. voltage is applied between the conductive wall of the tank or the earth electrode (longest electrode) and a switching point electrode. If the conductive medium touches the electrodes, a negligible alternating current flows across the electrodes and the conductive medium to the electrode relay. The relay amplifies the alternating current and operates an relay or a pump controller. An electrode relay of model NE-104 is required per switch point for signalling. For min./max. control two switching point electrodes must be connected to the relay. Relay NE-304 operates as two single relays (NE-104).

Technical Details

Housing: polyamide or aluminium
 Connections: polypropylene, PTFE or stainless steel 1.4571
 G 1/2 (single electrode)
 G 1 1/2 (2-6 fold electrode)
 Electrodes: stainless steel 1.4571, Hastelloy® or Titanium
 Max. length of electrodes: 3000 mm
 Electrode coating: polyolefine, complete coating
 PTFE complete or partial coating
 No. of electrodes: 1...6
 Max. temperature: 90°C (polyolefine coating)
 150°C (PTFE coating)
 Max. pressure: 6 bar (PTFE connection)
 15 bar (polypropylene connection)
 30 bar (stainless steel connection)
 Min. conductivity: 20 µS/cm
 Protection: IP 65

Dimensions



Electrode relay

For technical details please refer data sheet NE

Order Details for Electrode Relay

Description of electrode relay	Supply		
	Order no. 24 V _{AC}	Order no. 230 V _{AC}	Order no. 110 V _{AC}
1 limit signal or 1 min./max. control	NE-1042	NE-1040	NE-1041
2 limit signals or 2 min./max. controllers	NE-3042	NE-3040	NE-3041



Order Details (Example: NES-R E A P 1)

Model	Description	Housing	Electrode material	Electrode coating	Screwed fitting	Number of electrodes*
NES-	Conductive level limit switches	R = polyamide L = aluminium	E = stainless steel	A = polyolefine complete coating	E = stainless steel P = polypropylene	1 = 1 electrode 2 = 2 electrodes
			H = Hastelloy® C T = titanium E = stainless steel	T = PTFE partial coating (300 mm) V = PTFE-complete coating	E = stainless steel F = PTFE	3 = 3 electrodes 4 = 4 electrodes 5 = 5 electrodes 6 = 6 electrodes

* Please specify the length of electrodes in the clear text