

Data Sheet

NK21 | Conductive level control switch

Main Features

- Application for contaminated media
- Robust device model
- Adjustable probe length
- Low assembly costs
- Integrated electronics
- High immunity to interference
- Electric isolation
- LED progress indicator

Areas of Application

- Process engineering
- Process technology
- Environmental technology
- Automotive engineering



General

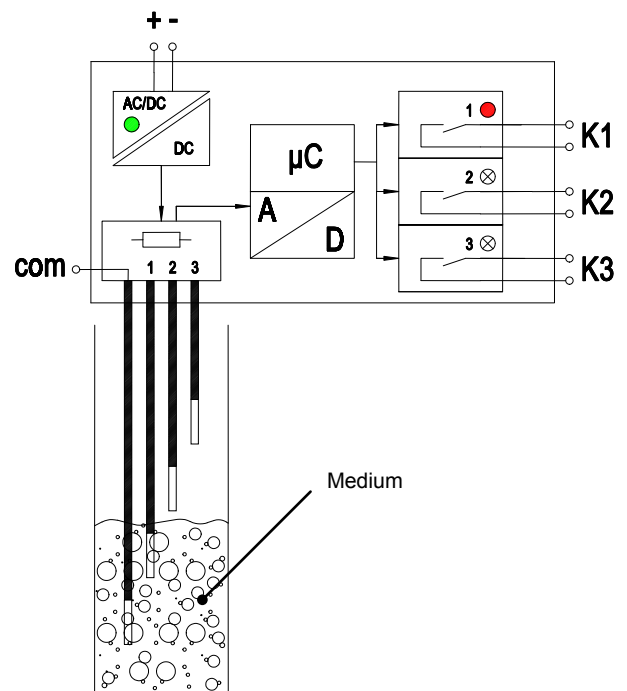
The level control switch NK21 is suited for the level detection in containers with electrically conductive media. It operates according to the principle of conductive measuring and is suited for numerous measurement tasks. The device has three measuring probes (electrodes) and a common probe (com) that can also be connected to the container if required. The probe lengths can be optionally shortened and therefore adapted to the process.

At the electrodes there is a low AC voltage. If these are moistened by the conductive medium, a current starts to flow that is analyzed by the integrated electronics. The threshold limit (resistance range of the medium) can be adjusted in 10 steps by the user.

Three PhotoMOS contacts are available as output signal the switching function of which (see wiring diagram) can be set at the plant. The contacts are electrically isolated from the measuring circuit. The switching status is indicated by light emitting diodes.

Another light emitting diode indicates the operating status of the device.

Functional schematic

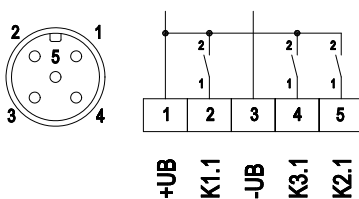


Technical Data

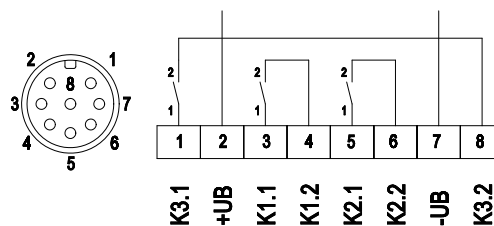
| | |
|-----------------------------------|--|
| General | |
| Permissible ambient temperature | -10°C to +70°C |
| Permissible medium temperature | 60°C |
| Max. operating pressure | 16bar |
| Connection thread | G1½" |
| Protection class | IP 68 |
| Max. probe length | 2000mm (please state rod lengths on ordering) |
| Measuring frequency | 120Hz |
| Measuring voltage | max. 5 V AC (at the electrode rods) |
| Sensitivity | 5-60 kOhm (can be adjusted in steps) |
| Hysteresis | 1.5 kOhm |
| Min. conductivity of the medium | 2µS/cm |
| Electrical connection | |
| Operating voltage +U _B | 24 VAC/VDC ±15% (electrically isolated from the measuring circuit) |
| Max. current consumption | ca. 50mA |
| Test voltage | 1kV |
| Outputs | |
| 3 PhotoMOS relays | |
| Contact function | Break contact / make contact (programmable at the plant) |
| Reference potential | Non-floating (+U _B) Floating |
| M12 plug (IEC 61076-2-101) | 5-pin 8-pin |
| Max. switching voltage | 24 VAC/VDC ±15% 30 VAC/VDC |
| Max. switching current | 200mA |
| R _{ON} | < 1 Ohm (thermally protected) |
| Material | |
| Casing | Polyoxymethylene (POM) |
| Material: electrodes | stainless steel 1.4404 |
| Electrode coating | Kynar® shrink-fit tubing |

Wiring diagram

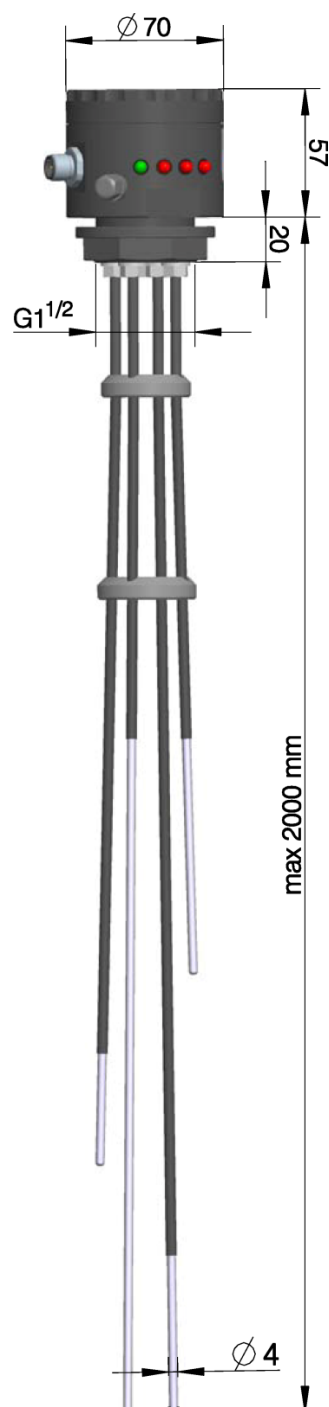
Non-floating contact



Floating contact



Dimensional drawings



Order codes

Conductive level control switch

| | | | | | | | | | | | | | |
|------|---|---|---|---|---|---|--|---|---|---|---|---|--|
| NK21 | 9 | R | y | y | y | y | | 9 | 0 | 0 | 0 | 0 | |
|------|---|---|---|---|---|---|--|---|---|---|---|---|--|

Design

Electrodes with Kynar® shrink-fit tubing> 9

Casing lead

Plastic casing with male thread G1½> R

Installation length (from sealing surface max. 2000 mm)

Rod No. 1 ____ mm> y

Rod No. 2 ____ mm> y

Rod No. 3 ____ mm> y

Rod No. 4 ____ mm> y

(kindly always indicate)

Contact function (PHOTO MOS relay)

Break contact (non-floating) 1

Make contact (non-floating) 2

Break contact (floating) 3

Make contact (floating) 4

Operating voltage

24 VAC/VDC ±15%> 9

Accessories

| Article | Description |
|----------|------------------------------------|
| 01002154 | PVC nut G1 1/2" with female thread |