

# MAXIMAT® VK C

**Compact overflow sensor  
with integrated measuring transducer**

DIBT Approval Z-65.11-355



## INSTRUCTION MANUAL

**BAMO MESURES**

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**Compact overflow sensor**

**MAXIMAT® VK C**

12-11-2014

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**MES**

**555-02/1**

## CAUTION

Trained personnel may only perform installation, initial start-up and maintenance.

All applicable European and national regulations regarding installation of electrical equipment must be adhered to.

- The device may only be connected to supply power complying with the specifications included in the technical data and on the serial plate.
- The device must be disconnected from all sources of power during installation and maintenance work!
- The device may only be operated under the conditions specified in the operating instructions!

## DESCRIPTION

The MAXIMAT VK C, compact overfill sensor, is used as an overfill monitoring device for permanently installed containers used for the storage of non-flammable, water endangering liquids.

It is equipped with three different output circuits:

- A binary output for controlling a coupling relay or the digital input at a PLC
- A 0 to 20 mA current output for controlling an analog input channel, e.g. a programmed logic controller (PLC)
- Self-monitoring measuring circuit in combination with the MAXIMAT SHR C... measuring transducer with a 2 wires connection.

### Applications:

Note that stored liquids may not tend to deposit and to stick on. The minimal specific weight is 0.7 kg/L.  
Designed for oils, emulsified solutions and for non-conductive liquids.

## TECHNICAL FEATURES

Main power supply: 15...26 V DC; caution: DC current circuit should be protected by a fuse of 250 mA  
Power consumption: approx. 3 W  
Ambient temperature: -20...+60°C  
Operating pressure: atmospheric, 0.8...1.1 bar

Terminal housing: PBT, fibre glass reinforced, IP 65 acc. EN 60 529  
Process connection: Adjustable union with threaded BSP 2" or flange /PN10

Terminals: screw connectors, IP 20; max. wire cross-section 2.5 mm<sup>2</sup>  
Cable gland: M20x1.5 [cable Ø 5...9 mm]

Outputs:  
• Switch [+DO / -DO]: optocoupler NPN, maximum 30 mA  
• Switch [+AO / -AO]: current 0...20 mA

Configuration: with 4 DIP switches  
Lighting signal: 1 LED inside the terminal housing for correct operating system

DIP Switches:

| Operating mode       | DIP1 | DIP2 | DIP3 | DIP4 |
|----------------------|------|------|------|------|
| Binary output        | ON   | ON   | ON   | OFF  |
| Current output / PLC | OFF  | OFF  | OFF  | OFF  |
| MAXIMAT SHR C        | OFF* | OFF* | OFF* | OFF* |

\* = Default setting

Indicators:  
Green LED on the connector PCB  
LED illuminated = Run  
LED off = Alarm / error

**Note:**  
Be sure to examine the  
DIP switch settings before  
switching supply power on!

### Measuring circuit for use with SHR C...

Maximal inductance: approx. 5 mH  
Maximal capacitance: approx. 0.5 µF

### CE mark

in accordance with low-voltage directive (2006/95/CE) and EMC directives (2004/108/EG)

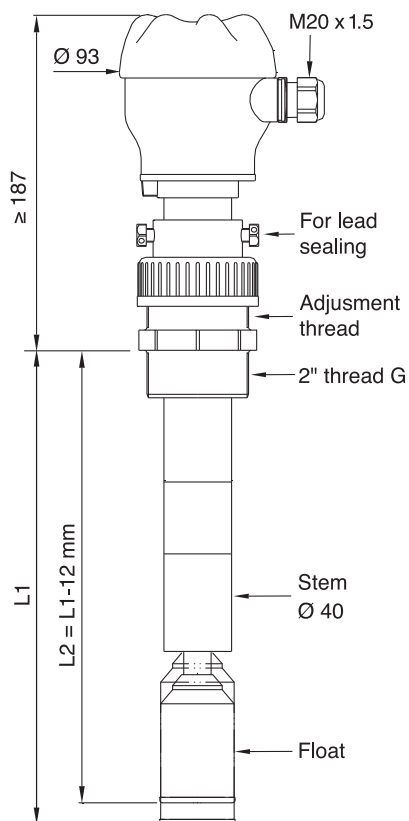
### DIBT Approval

DIBT Z-65.11-355, for overfilling detection WHG § 19, and VLAREM II

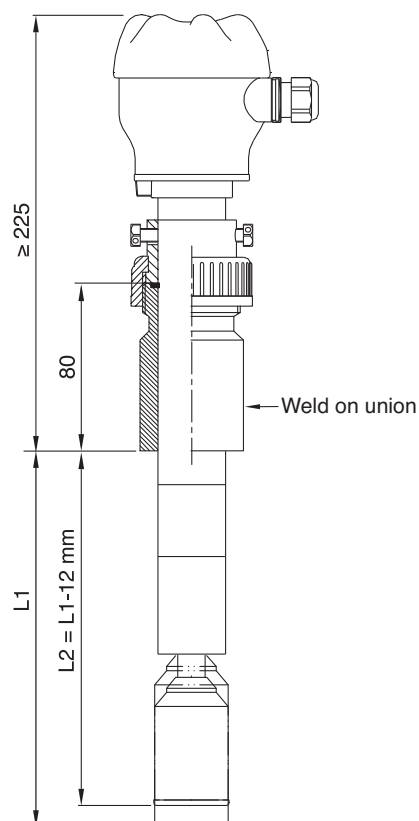
### Note:

The accompanying "General Building Supervisory Approval N° Z-65.11-355" is an integral part of the operating instructions and all stipulations contained therein must be adhered to!

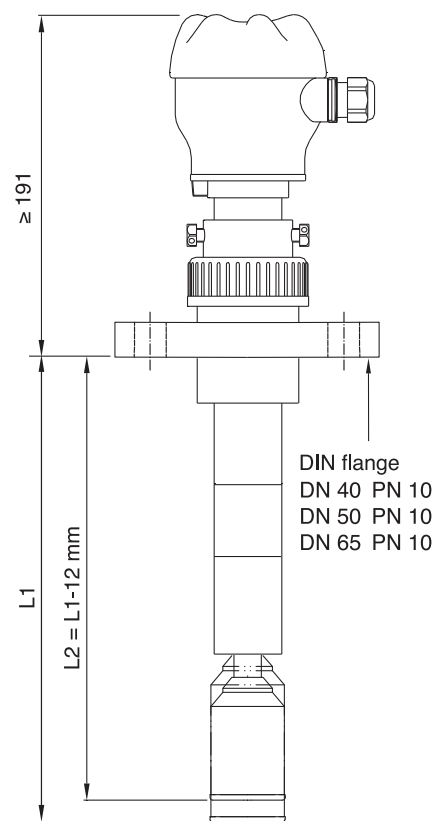
## DIMENSIONS



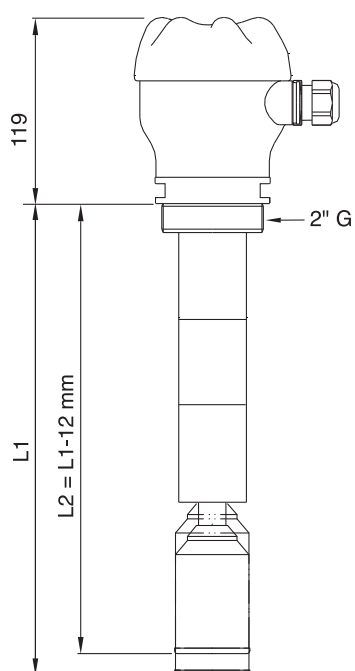
MAXIMAT VK C 3L...



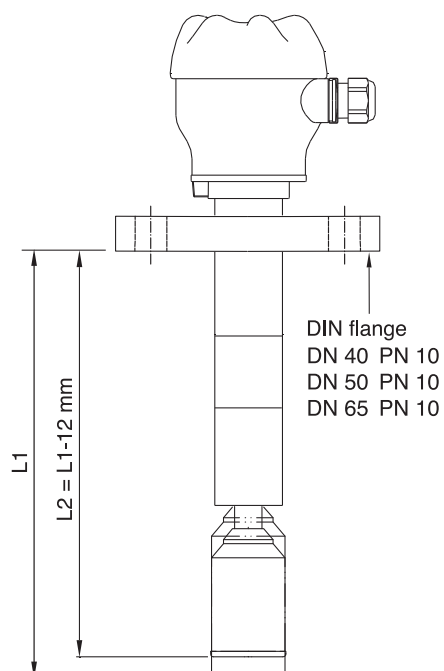
MAXIMAT VK C 5L...



MAXIMAT VK C 4L...

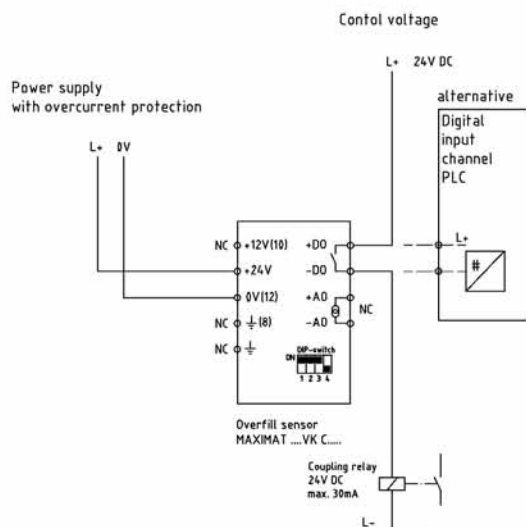


MAXIMAT VK C 1L...

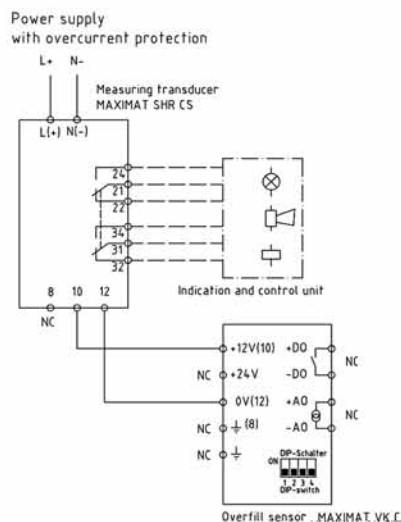


MAXIMAT VK CD 2L...

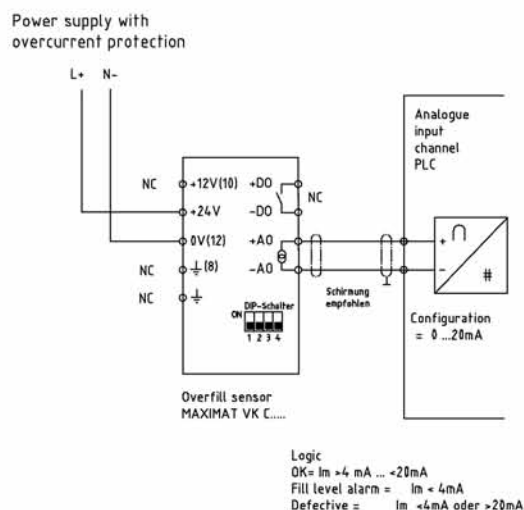
## ELECTRICAL CONNECTION



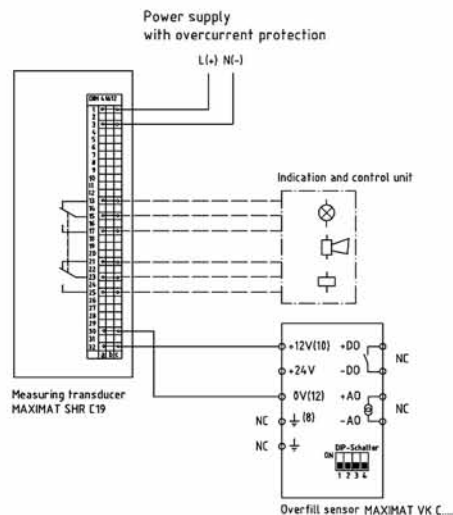
MAXIMAT VK C... binary output to coupling relay



MAXIMAT VK C... to MAXIMAT SHR CS measuring transducer



MAXIMAT VK C... current output to PLC analogue input



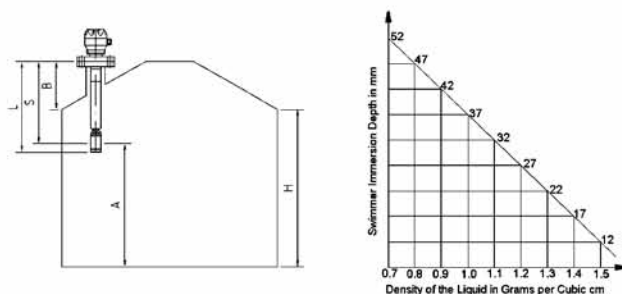
MAXIMAT CK C... to MAXIMAT SHR C19 transducer

## ADJUSTMENT INSTRUCTIONS

The maximum allowable fill-level of any given tank can be determined, for example, in accordance with TrbF 280 no. 2.2. Triggering level A is then calculated in accordance with attachment 1, or the approval guidelines for overfill inhibitors (ZG-ÜS). Dribbling quantities and switching delay times must be taken into consideration. Switching delay time can be adjusted at the MAXIMAT SHR C measuring transducer within a range of 0.3 to 3 seconds.

Installation length L determines the fill-level monitor's triggering point. Dimensions are calculated as follows:

- H = tank height
- A = triggering level
- B = connector
- E = immersion depth, table E
- S = triggering point
- $L = H - A + B + E + 3$
- $S = L - E - 3$



Guide tubes included with MAXIMAT VK.3L and MAXIMAT VK.4L adjustable level monitors are supplied 50 mm longer than dimension L, so that the fill-level monitor can be adapted to correspond to triggering level A during installation. It is thus possible to readjust dimension L. After the triggering point has been set, the locking screws are tightened and sealed against tampering. Due to the fact that this seal is not removed during periodic testing, dimension L is always fixed, i.e. no readjustment is necessary.