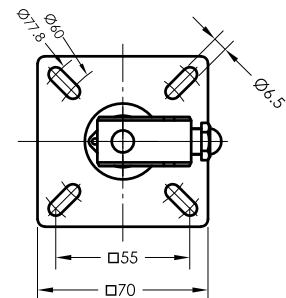
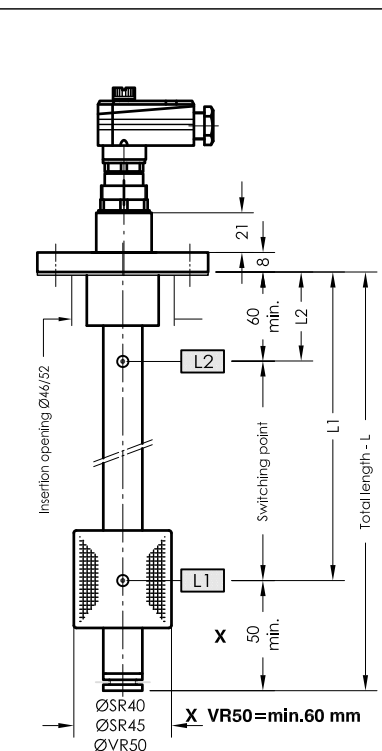


# NR 70 - TMA

Level temperature regulator for tank Insert  
Temperature output 4-20 mA

serial No. Date

MA-GB- 300 11/17



Pin assignment

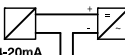
Order code

Connector variants

### Plug securing power supply

- 1 = Temperature
- 2 = +24V DC
- 3 = combined
- L1-L3
- 4 = L1
- 5 = L2
- 6 = L3

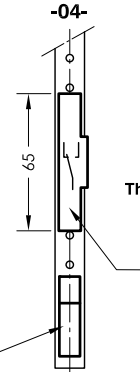
### Temperature



SPS, controller etc.

Thermal element

### Level contact -04-



### Level contact -OK-

Contact strip grid 10mm

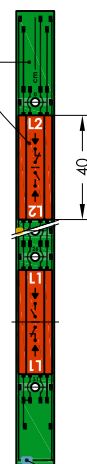
Cableless bistable single contact cartridge OK-L2

The minimum distance between two contact cartridges is 50mm.

The make or break function is freely adjustable by 180°-rotation of the contact cartridge.

Bistable changeover-contact cartridges.

The minimum distance between two fixed contact cartridges is 70mm.



### Level contact -03-

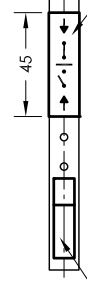
Strip with perforations 10mm

Bistable plain-contact cartridges.

The minimum distance between two contact cartridges is 50mm.

The make or break function is freely adjustable by 180°-rotation of the contact cartridge.

Thermal element



## Specimen order

**NR 70 -TMA-SR45-L300-03-L1/200/S-MS-M12**

Float type  
SR40  
SR45  
VR50

Total length-L  
switching tube (mm)  
Standard length  
L=250 L=500  
L=370 L=800

### Level contact type

- OK = cordless contact max. L = 500
- 01 = fixed, plain
- 02 = fixed, changeover
- 03 = adjustable, plain
- 04 = adjustable, changeover

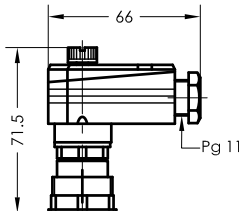
### Switching point L1-L3/ mm from sealing edge

- Ö = break
  - S = make
  - W = changeover
- Function with increasing level

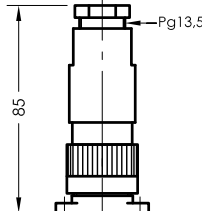
Plug socket connector  
DIN 43651  
6 pol. + PE  
M12

Execution  
MS = Brass  
VA = Flange,  
Switching tube,  
and float  
stainless steel

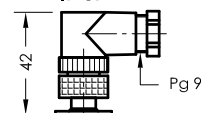
DIN 43651  
(EN 175201-804)  
6+PE IP 65



6 pol. + PE  
IP 67



Serie M12  
IP 67



Technical data

## Description

The level temperature regulator type NR 70 - TMA for tank insert is a solenoid switch operating without contact with the function of monitoring and regulating liquid levels and temperatures.

The switching tube contains bistable protective gas contacts. They may be fixed or alternatively mounted as an adjustable contact cartridge on a perforated strip. For fixed contacts, the contact intervals and their functions must be given. Plain contact cartridges can be subsequently adjusted for height. The function of make or break can then be altered by turning the cartridge through 180° degrees.

The permanent magnet built into the float switches the contacts when the level changes. The switching difference (hysteresis) is 4 mm. For temperature monitoring, the temperature dependent signal emitted from a Pt100 resistor mounted in the contact tube is converted with the installed transducer into a temperature linear current change of 4-20mA.

The level controller is maintenance-free when nondeposit media are used. For inductive loads, a protective circuit must be provided (free-wheeling diode/RC element).

The device must only be installed by specialists.

Max. viscosity SR 45 - 320mm<sup>2</sup>/S  
VR 50 - 320mm<sup>2</sup>/S

## Technical data

Switching tube	Brass or stainless steel max. L = 2000mm
Connection flange	Polyamid or stainless steel with flat seal
Nominal pressure	1 bar max. - float Hard-PU SR40/SR45 10 bar max. - float stainless steel VR50
Temperature of medium	100°C max.
Switching potential	Datasheet IN - GB - 003(004)
Operating voltage	12V ... 30V DC
Measuring range	4-20 mA = 0-100%
Thermal element	Pt100
Number of functions	max. 3 can be incorporated
Load	RB = $\frac{U-12V}{20mA}$
Mounting position	vertical ± 30°
Other temperature ranges	on request



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