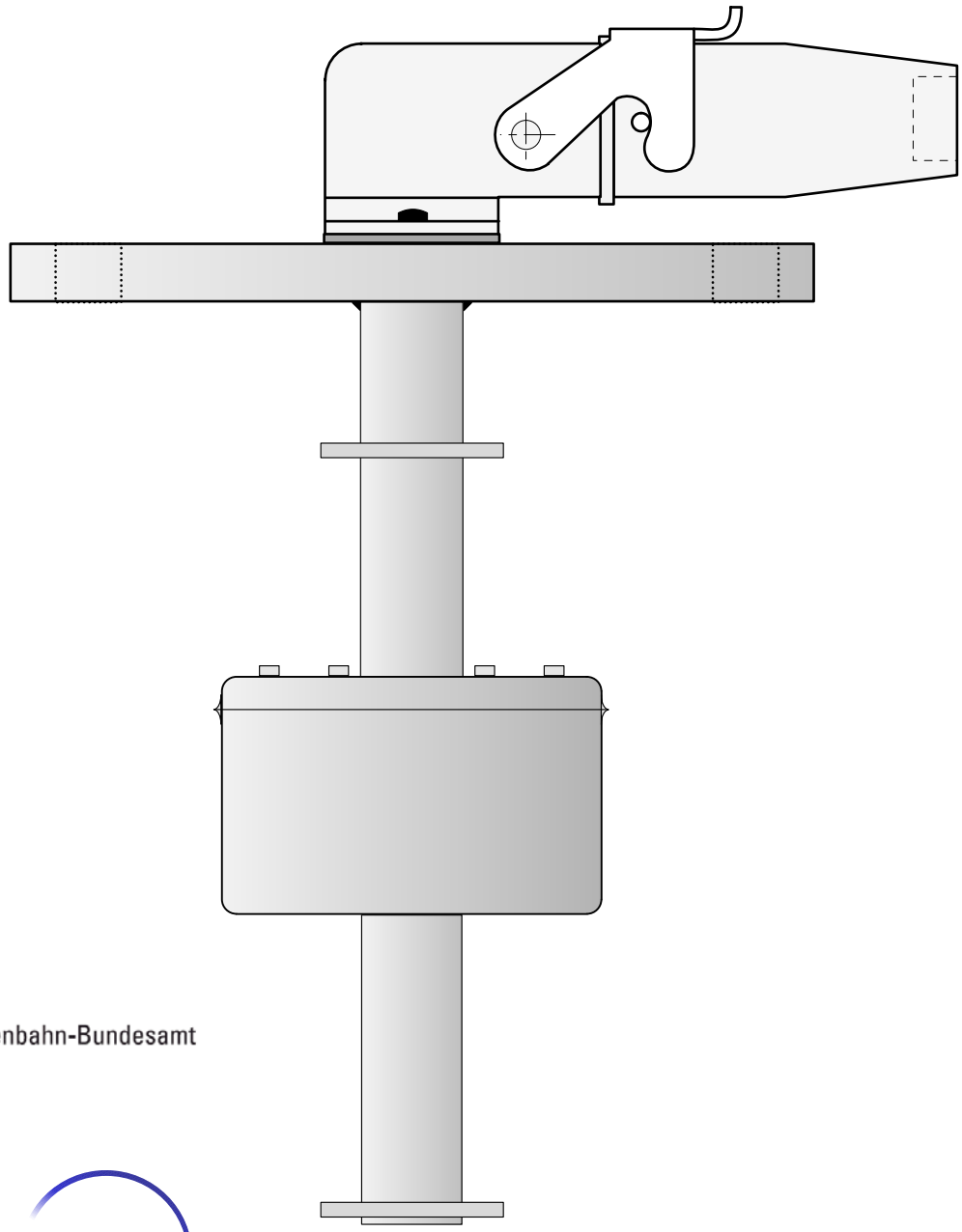
Filling Level Sensor

with level limit switch as overfill protector



Eisenbahn-Bundesamt

TÜV NORD

MWAT 2

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MWAT 2 Filling Level Sensor
with level limit switch as overfill protector

Description

KROMA MWAT 2 filling level sensors are designed to continuously measure liquid levels of tanks, while also having an overfill signaling feature. Level measurement is accomplished through a six-chamber safety float. A magnet inside the ring float serves to switch reed contacts which are potentiometer taps provided in the sliding pipe. The signal available at the electrical output is an analogous resistance signal proportional to the filling level. The distance (grid) between reed contacts is 10 mm or 20 mm. Just before the maximum level is reached, the float actuates an overfill switch (limit value monitor). As the overfill protector circuit of the connected fuelling facility breaks, the fuelling process automatically stops. The encapsulated thermistor of the MWAT 2 prevents the switch from being overloaded and permits connection of conventional fuelling facilities. In addition to level measurement, the MWAT 2 is also suited to be used as overfill protector. The thermistor makes the MWAT 2 compatible with filling stations of German Railways and road tank cars. The filling level sensor is especially approved for use in construction rail vehicles by the National Railways' Office of Germany (EBA).

The integral resistance transducer of the KROMA MWAT 2 permits direct connection of several KROMA BAZ level indicators or KROMA MWU transformers.

The MWAT filling level sensor can be furnished with different connecting elements (AA) and sliding pipes up to three meters long (L).

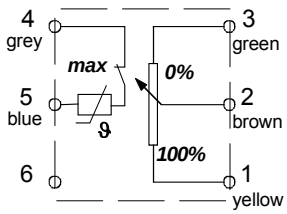
Special Features

- Six-chamber safety float of polyamide
- Screw plug or flange and sliding pipe of stainless steel 1.4571
- High degree of protection (IP 65)
- Vibration- and shockproof
- Tested by the Technical Inspection Board (TÜV) (certificate no. W/FP 4507/01)
- Tested according to German railways' standard BN 411002/EN 50155 (approved for use on rail vehicles
- Type approval as overfill protector for construction rail vehicles (certificate no. EBA 32AZ3/0355/01)

Technical Data

Potentiometer resistance:	2 to 10 kΩ
Supply current (potentiometer):	< 5 mA
Circuit:	Three-wire potentiometer
Grid:	10 mm or 20 mm
Limit value monitor circuit:	max. 18V; 0.150A; R_{25}=115 to 220Ω
Sliding pipe:	Length L_{max} = 3 m, ∅ = 14 mm
Connecting elements:	Refer to outline drawings.
Connection:	Refer to outline drawings.
Liquid temperature range:	-40°C to +70°C
Storage temperature range:	-55°C to +70°C
Operating pressure:	Depressurized (0.8 to 1.1 bar)
Density:	>= 700 kg/m
Vibratory strength:	20 m/s² (5 to 150 Hz)
Shock resistance:	50 m/s²

Terminal Assignment



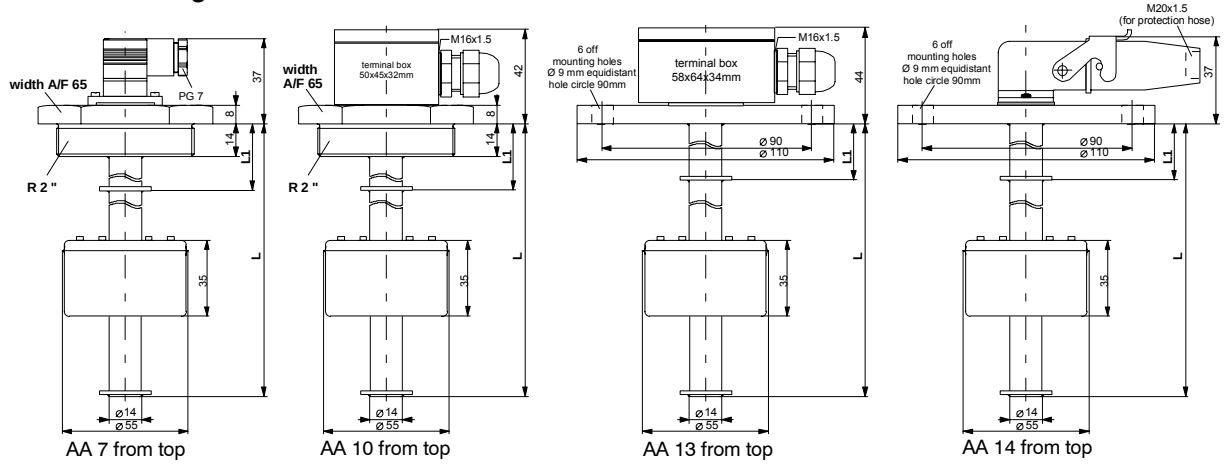
overfill switch — resistance transducer

Information required with order (typical order)

MWAT 2 . 7 1 0 - 500 / 50

KROMA MWAT 2 level sensor
Connecting elements "**7**"=AA7 (R2"/plug) (for other AAs, refer to overview)
Grid "**1**" = 20 mm, "2" = 10 mm
Mounting position "**0**" from top, "1" from bottom
Total length L = **500** mm
Upper float stop L1 = **50** mm

Outline Drawing



AA 7 from top — AA 10 from top — AA 13 from top — AA 14 from top

Subject to technical modifications.