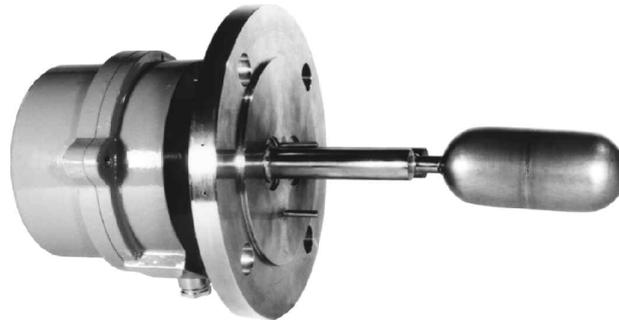


## Level switch type 86

Designed for constant and long-term maintenance free operation the **level switch type 86** is used to control liquid levels in containers. The unit is side mounted by flange to the container.



### Operation

A float or displacer with strong weight and lift forces is fixed to the lever arm which rotates on the vertical plane. Two columns support the bearing for the lever arm. A permanent magnet is situated at the upper end of the lever which operates either one or two switch contacts.

### Advantages

- Suitable for contaminated and aggressive media.
- Model EEx de II CT6 according to ATEX
- For operating temperatures up to 350 °C and operating pressures up to 320 bar.
- Model available for use in maritime and humid tropical climates.
- Long-term continuity of spares availability.

### Suitability

- Automatic control of tank farms.
- Level control in heating oil boilers.
- Overflow detection in containers (with German Water Authority Approval = WHG).

### Standard model type 86

- Connecting flange ( standard ) DN 50 PN 16 / 2" ANSI 150 lbs RF
- Diameter of float Ø 45 x 100 mm
- Size „x“ = 200 mm (face of flange to end of float).
- Either one or two encapsulated S.P.D.T. reed contacts.

### Technical data

<i>Media</i>	Liquids with density $\geq 0,5 \text{ kg/dm}^3$ .
<i>Repeatability of set point with „x“ = 200 mm</i>	about 2 mm level difference.
<i>Hysteresis</i>	between on and off about 5 mm level difference.
<i>Pressure range</i>	PN 10 to PN 320, higher values on request.
<i>Operating temperature</i>	Standard model up to 100 °C medium temperature. Special model <b>Ht</b> up to 350 °C medium temperature, also suitable for intrinsically safe circuits.
<i>Ambient air temperature</i>	- 35 to + 80 °C. - 20 to + 40 °C (explosionproof model). - 20 to + 50°C ( Ex ia model )

**Size „x“**  
(Face of flange to end of float) 200 mm, 300 mm or to suit customers requirements.

**Materials**     *Standard model*     wetted parts are made of corrosion and acid resistant stainless steel, material no. 1.4571 (A 316 Ti), switch housing aluminium.

*Special model*     wetted parts are made of Monel; SMO; Hastelloy C or Titan; PVC; PVDF or PTFE. Switch housing SS 1.4408 ( AISI CF-8).

**Protection class**     switch housing according to DIN EN 60529, IP 65.

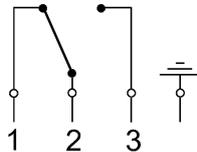
**Cable entry**     M20 x 1,5 or to suit customers requirements.

**Switch contacts**

**Switch contact ( S.P.D.T.)**

Typ	Contact-material	U max	I max	P max
GWW / GWW ht	AgSnO	250 V AC/DC	3:00 AM	450 VA / 300 W
GWG / GWG ht	Gold	42 V AC/DC	300 mA	13 VA / 13 W
177 GWW	AgSnO	250 V AC/DC	2:00 AM	450 VA / 300 W
177 GWG	Gold	42 V AC/DC	300 mA	13 VA / 13 W

**Wiring diagram**



**Further variation:**

- Connection flange DN...PN or ANSI lbsRF
- Float diameter ≤ 62 mm
- Size x = 300mm

**Hazardous class variation**

Type 86(Ex)ib     simple electrical equipment acc. EN 60079-11/5.7  
 Type 86(Ex)     EEx de II CT&  
 Type 86(Ex)ia     II ½ GD EEx c ia T85°c IP65  
 Type 86(Ex)de     II ½ GD EEx c de T85°c IP65

**Alternatives**

Type 86ind with inductive proximity sensor or pneumatic contact.  
 Instrument installed in float chamber



08/2012 Subject to technical changes