

Tank Gauge Transmitter AT-5000

Tank gauge transmitter for level limit and
alarm contact transmission



Introduction

The AT-5000 series of transmitters are used for transmitting level limit data from the LT series of mechanical float gauges.

The AT-5000 is a limit contact unit that has six contacts available for controlling the level of the tank contents. The flameproof enclosure allows both units to be installed in hazardous areas, e.g. petrochemical industry.

Features

- Simple, trouble-free operation: Provides reliable data transmission and level control
- Variety of contact outputs are available
- Can be retrofitted into existing systems
- Remote data indication and recording
- Flameproof versions are available to measure and control flammable or explosive liquids
- Limit contact set points are freely adjustable through a wide measuring range; this enables precise liquid level control
- Easy to mount; reduces installation costs

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Technical Data

Weight:
 Weatherproof: approx. 7 kg
 Flameproof: approx. 13 kg

Protection:
 Weatherproof: IP65
 Flameproof: EEX de IIB T6 (CESI) or d2G4 (JIS)

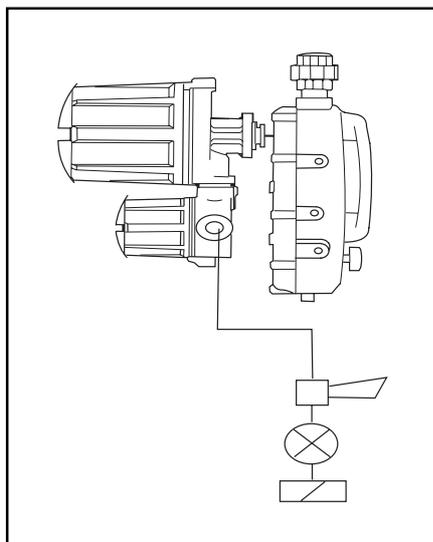
Output
Limit contacts:
 Max. 6 points (SPDT)

Contact rating:
 AC max 220V, 4.2 A (2 points),
 2.8 A (4 points), 2.2 A (6 points)
 DC max 125 V, 0.5 A

Accuracy:
 Switching point: $\pm 0.5\%$ of fall span
 Hysteresis: 2% of fall span

Ambient temperature:
 -20 ~ +60°C

Measuring System



A complete measuring system

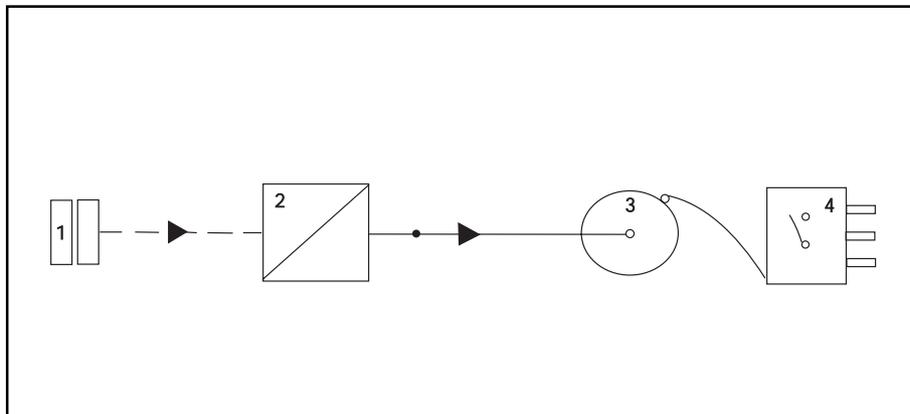
AT series of tank gauge transmitters are used in conjunction with mechanical float gauge such as LT series.

AT series are mounted via an internal coupling, directly onto the rear cover of the mechanical float gauge.

Cabling and power supply requirements for AT series are dependent on the type of output signal that is required by each model.

The measuring range and limit contacts are pre-set before delivery although it is possible to adjust them later.

Operating Principle



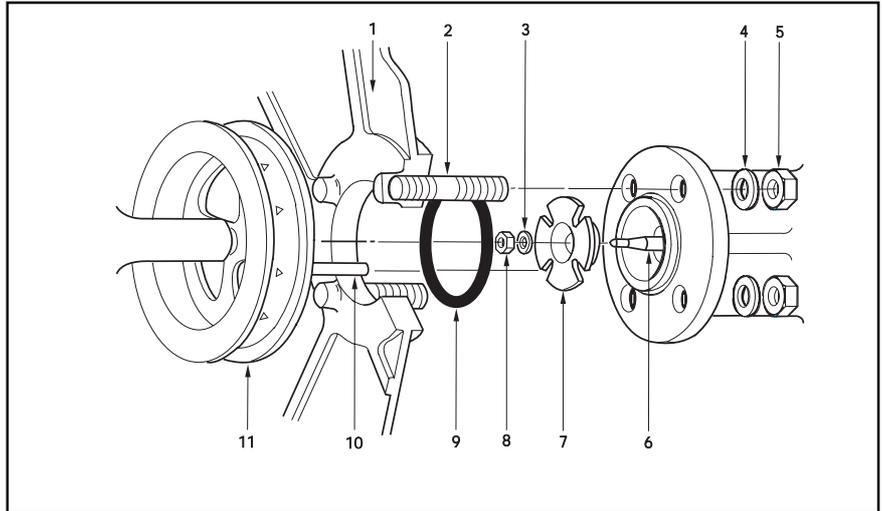
Operating principle of AT-5000
 1. Coupling
 2. Gear
 3. Cam wheel
 4. Microswitch

AT-5000 level limit transmitter operates on a simple mechanical basis. The float gauge drive shaft operates preset cam wheels which in turn activates the microswitches to provide the limit contacts. A maximum of 6 limit contacts are available.

Installation

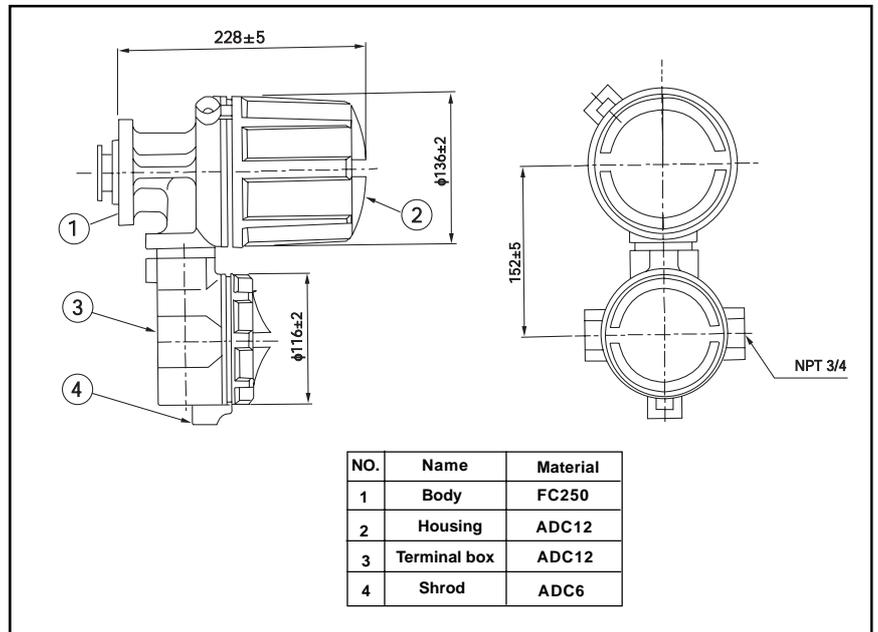
Installation of the AT-5000 onto a mechanical float gauge

1. Back of mechanical float gauge
2. Threaded bolt
3. Studded washer
4. Spring washer
5. Hexagonal nut
6. Drive shaft
7. Coupling
8. Hexagonal nut
9. O ring
10. Drive pin
11. Sprocket wheel



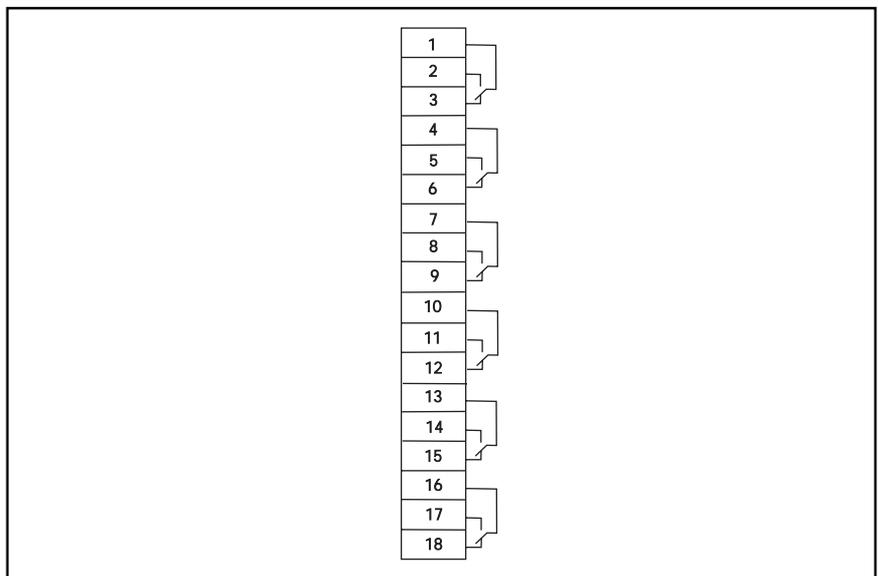
Direct coupling of the transmitter drive shaft to the gauge sprocket provides support for the AT transmitter. It also keeps conversion errors to a minimum.

Dimensions



Dimensions (mm) of AT-5000 tank gauge transmitter

Electrical Connection



Right: Electrical connection for AT-5000 alarm output

Product Structure Code

LEVEL LIMIT TRANSMITTER AT-5000 SERIES

Combined with mechanical level gauges LT1100/1200/1600
for signal transmission of contact output to control room devices / annunciator

- Alarm output
- 2 Output: 2 points
- 4 Output: 4 points
- 6 Output: 6 points

Function

- 0 Standard function
- 1 Special version

Approval

- B Flame proof: d2G4 with cable gland, TIIS
- C Flame proof: EEx e IIB T6, CENELEC
- E Flame proof: d2G4, TIIS
- W Weather proof: IP65

Level gauge combination

- 1 LT-1100/1200/3100/3200 Right=300mm low pressure
- 2 LT-1400/1600/3400/3600 Right=300mm high pressure
- 3 LTC-2100 Left: 600mm
- 4 LTC-2230/2240 Right: 600mm

Measuring range

- 1 Range: 2.5m (not available or LTC)
- 2 Range: 5m
- 3 Range: 10m
- 5 Range: 20m
- 6 Range: 30m
- 9 Special version

Alarm contact

- 1 Type "A" normal open
- 2 Type "B" normal close
- 3 Type "C" transfer contact

Cable entry

- A Cable entry: 1 x G (PF) 3/4"
- C Cable entry: 1 x G (PF) 1 1/2"
- G Cable entry: 1 x G (PF) 1" cable gland, TF22-13
- H Cable entry: 1 x G (PF) 1" cable gland, TF22-15
- K Cable entry: 1 x G (PF) 1 1/4" cable gland, TF28-21
- R Cable entry: 1 x NPT 3/4"
- S Cable entry: 1 x NPT 1"
- T Cable entry: 1 x M25
- U Cable entry: 1 x PG21

Colour

- 0 Standard (silver)
- 9 Special version



Tank Gauge Transmitter

Supplementary Documentation

- Tank Gauging
System Information SI 001 N/e

- LT 1000/1200/1600 Float Tank Gauge
Technical Information TI 005 N/e

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