

# AT600 Magnetostrictive Level Transmitter

Compact magnetostrictive level transmitter for external mount  
K-TEK Products



## Features

- Designed to mount externally to a KM26 or other Magnetic Level Gauge
- High resolution 4-20 mA output
- Simple mounting and installation
- No process piping or valve required
- Very compact design
- Suitable for high temperature applications
- Calibrates without opening enclosure
- Stainless steel enclosure

## SPECIFICATIONS

### Electronic Transmitter

Housing type	Explosion Proof 316L Stainless steel with 1/2" FNPT Connection
Mounting	Stainless steel clamps for KM26 chamber
Measuring Range	1 to 16 ft./4.9m (12" increments standard)
Repeatability	.01% of full scale or 0.030", whichever is greater
Non-Linearity	.02% of full scale or .07", whichever is greater
Accuracy	.02% of full scale or .10", whichever is greater
Loop Supply Voltage	13.5 to 36 VDC
Polarity Protection	Diode in series with loop
Output	Standard 4-20 mA DC; Calibration via magnets
Failsafe	Field Selectable: Upscale or Downscale
Operating Temperature	-40 to 450°F / -40 to 232°C Ambient
Humidity	0 to 100% R.H., non-condensing
Enclosure Rating	IP67

### Sensor Tube

Material	316L Stainless Steel standard, 5/8" O.D.
Process Temperature	-40 to 500°F / -40 to 260°C with options

### Approvals



#### Factory Mutual Research Corporation:

XP/II/1/ABCD/T6 Ta=77°C; I/1/AEx d IIC/T6 Ta=77°C;  
DIP / II ,III / 1 / EFG / T6 Ta=77°C  
IS/II/1/ABCD/T4 Ta=77°C; I/O/AEx ia IIC/T4 Ta=77°C-ELE 0035/NC; Entity;  
NI/II/2/ABCD/T4 Ta=77°C; S/II,III/2/FG/T5 Ta=77°C; NEMA 4X

#### CSA International:

##### Hazardous Locations

Class I, Div. 1, Grps A,B,C,D; Class II, Div. 1, Grps E,F,G; Class III;  
Class I, Zone 1, Ex d, IIC T6:

##### Intrinsically Safe Entity - For Hazardous Locations:

Class I, Div. 1, Grps A,B,C,D, Temp. Code T4;  
Class I, Zone 0, Ex ia IIC T4 when installed per drawing ELE0035,  
Max. operating temp. 77°C, Encl. Type 4X.

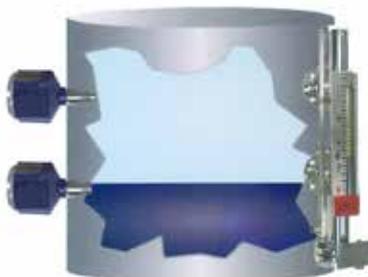
#### ATEX :

Flameproof: EX II 1/2 GD T85C EEx d IIC T6  
Intrinsically Safe: EX II 1 GD T85C EEX ia IIC T6

Safety



Third Party Safety Integrity Level (SIL) data (FMEDA analysis) for Safety Instrument Systems engineering is available.



**Sample Application**  
**AT600 Mounted on KM26**  
**Level Gauge for Total Level**  
**Indication with RS80 for Hi /**  
**Low Alarm**

## ORDERING INFORMATION

AT600/a/b/c/d/ef:

**/a Mounting (Not field changeable)**

- B** Bottom Connected Electronic Housing **Standard**
- T** Top Connected Electronic Housing

**/b Transmitter Configuration**

- L** Local Transmitter; Process Temperature up to 200°F (93°C) **Standard** or 300°F (149°C) with insulation
- L9** Transmitter Mounted to Extended Sensing Tube with 90°, 3" Radius. Required For High Process Temperature up to 300°F (149°C) without insulation, 450°F (232°C) with insulation pad.

**/c Probe Type**

- R1** 5/8" OD Probe **Standard**

**/d Electrical Connection**

- F5** 1/2" FNPT **Standard**
- M2** M20 Connection
- RF** RFI Filter with 1/2 in. MNPT connection and flying leads

**/e Approvals**

- FM** Factory Mutual and CSA Canadian Standard Association
- CEI** ATEX Intrinsically Safe
- CEX** ATEX Flameproof



**/f Measuring Length**

- ML** Specify the measuring length in inches or mm

**Available Accessories:**

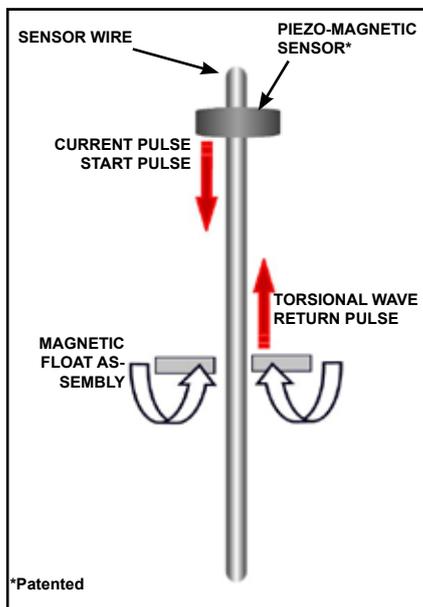
- M20:** M20 Connection
- M20SS:** M20 316SS Female Electrical Connection
- IHPAD:** Insulation Pad for Magnetic Bargraph

### PRINCIPLE OF OPERATION:

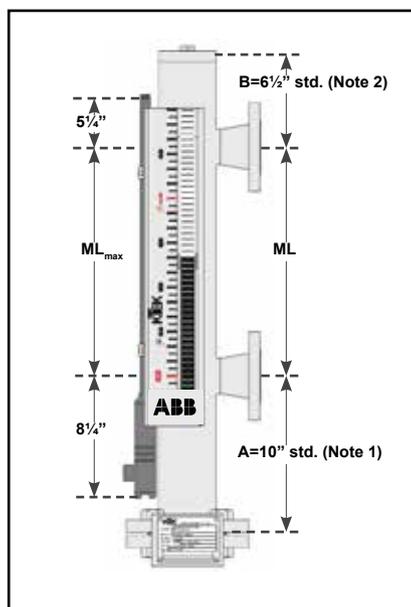
The AT600 is based upon the magnetostrictive principle. The sensing tube contains a wire which is pulsed at fixed time intervals. The interaction of the current pulse with the magnetic field created by the magnetic float causes a torsional stress wave to be induced in the wire. This torsion propagates along the wire at a known velocity, from the position of the magnetic float and toward both ends of the wire. A patented piezo-magnetic sensing element placed in the transmitter assembly converts the received mechanical torsion into an electrical return pulse. The microprocessor-based electronics measures the elapsed time between the start and return pulses and converts it into a 4-20 mA output which is proportional to the level being measured.

- NOTE 1: This dimension will need to be extended for:
- a. KM26 with shuttle indicator and ANSI 600# or higher flange rating.
  - b. KM26 with magnetic bargraph indicator and ANSI 300# or higher flange rating or 2 1/2" float chamber with 150# weld neck flanges.

NOTE 2: This dimension may need to be extended for a KM26 with flanged top closure.



**PRINCIPLE OF OPERATION**



**DIMENSIONS**

# Contact us

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