



AccuTrak™ Model AT200

EXTERNAL MOUNTED MAGNETOSTRICTIVE LEVEL TRANSMITTER

FEATURES

- ? Designed to Mount Externally to K-TEK KM26 or Other Magnetic Level Gauge
- ? High Accuracy: .01% of Full Scale
- ? Superior Piezo Ceramic Sensor (Patent # 5,473,245)
- ? Simple Calibration
- ? Never Requires Recalibration: Set It & Forget It
- ? Dual Compartment Housing with Separate Field Terminal Compartment
- ? Total and/or Interface Level Measurement
- ? Process Temperature Range -320° F to 800° F (-196 to 427°C) with options
- ? Field Replaceable Module
- ? Built In RFI / EMI Filter

OPTIONS

- ? Local Indication with LCD Display
- ? Two Level Indications
- ? HART Protocol
- ? Honeywell DE Output
- ? Foundation Fieldbus Output
- ? Glass Viewing Window
- ? 316L SS Enclosure
- ? 20 Point Strapping Table

SPECIFICATIONS

Electronic Transmitter

Housing type	Explosion Proof Powder Coated Cast Aluminum or Stainless Steel Dual Compartment
Electrical Connection	1/2" FNPT or M20
Repeatability	.005% of full scale or 0.015", whichever is greater
Non-Linearity	.01% of full scale or .035", whichever is greater
Accuracy	.01% of full scale or 0.050", whichever is greater
Supply Voltage	13.5 to 36 VDC - Loop Powered ; 9 to 32 VDC - Foundation Fieldbus
Reverse Polarity Protection	Diode in series with loop
Output	Standard 4-20 mA DC Loop HART protocol (optional) Foundation Fieldbus (optional) <ul style="list-style-type: none"> ? ITK4.01 Compliant ? 5 AI and 5 PID blocks ? 12.5 mA Quiescent Current Draw ? LAS Capable Honeywell DE (optional)
Dampening	Field adjustable by means of pushbuttons. Range: 0.1 to 36 seconds
Burnout	Jumper selectable upscale (21 mA) or downscale (3.6mA)
Temperature	-40 to 170°F (-40 to 77°C) ambient
Humidity	0 to 100% R.H., non-condensing



SPECIFICATIONS

Sensor Tube

- Material 316L SS
- Process Temp. -320 to 250°F (-196 to 121°C) ; 800°F (427°C) with options
- Measuring Range 1 to 50 feet (304.8mm to 15.24m) ; 90 degree probes 1 to 25 feet (304.8mm to 7.62m)
- Mounting Stainless steel clamps for KM26 Magnetic Level Gauge chamber (included)

Approvals:



FM Factory Mutual Research Corporation
 XP / I / 1 / ABCD / T6; DIP / II, III / 1 / EFG / T6
 IS / I / 1 / CD / T4 - ELE0001¹
 IS / I / 1 / ABCD / T4 - ELE1036^{1,2}
 NI / I / 2 / ABCD / T4
 TYPE 4X



CSA Canadian Standards Association
 XP / I / 1 / ABCD / T6; DIP / II, III / 1 / EFG / T6
 IS / I / 1 / CD / T4 - ELE0001¹
 NI / I / 2 / ABCD / T4
 TYPE 4X



ATEX
 FP: II 1/2 GD EEx d IIC T6 T80°C; 02 ATEX 132659
 IS: II 1/2 GD EEx ia IIB T6 T80°C; 02 ATEX 132658¹
 IS: II 1/2 GD EEx ia IIC T4 T80°C; 02 ATEX 132658^{1,2}
 Ingress protection: IP67



GOST Russia
 FP: 1ExdIICT6
 IS: 0ExiaIIBT6¹
 Ingress protection: IP67
 Sanitary Hygienic Certificate



IEC International Electromechanical Commission
 IS: EX ia IIB T4 ; IECEx ULD 06.0013X¹



Chinese Approvals Available
 when purchased through
 K-TEK (Tianjin) Level Co. LTD.
 TEDA-Tianjin, China +86 (22) 598 13078

- Notes: 1. Excludes RI (secondary analog output) & Honeywell DE options.
 2. Fieldbus & FISCO

Safety Third Party Certified Safety Integrity Level (SIL) data (FMEDA analysis) for Safety Instrument Systems

PRINCIPLE OF OPERATION:

The AT200 is based upon the magnetostrictive principle. The sensing tube contains a wire which is pulsed at fixed time intervals creating a magnetic field around the wire. The interaction of the magnetic field around the wire and 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 ceramic 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 position measurement which is proportional to the level of the float.

<p>AT200 Components</p>	<p>Principle of Operation</p>	<p>AT200 Dimensions</p>
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ORDERING INFORMATION

AT200/a/b/c/d/e/f/g/h:

/a Mounting

- B Bottom Connected Electronic Housing
- BW Bottom Connected Electronic Housing with Window Cover
- T Top Connected Electronic Housing
- TW Top Connected Electronic Housing with Window Cover

/b Transmitter Configuration

- L Standard Local Transmitter Housing
Note: Process Temperature up to 200°F (93°C) or 300°F (149°C) with insulation pad or KM26 chamber insulation.
- L9 Transmitter Housing Mounted to Extended Sensing Tube with 90°, 3" Radius Bend
Notes: 1. Required For High Process Temperature up to:
A. 300°F (149°C) without insulation pad or chamber insulation
B. 450°F (232°C) with insulation pad or chamber insulation
C. 800°F (427°C) with KM26 chamber insulation
2. Order insulation pad or KM26 chamber insulation separately
3. 25 ft. (7.6m) maximum measuring length
4. LCD Indicators will be visible at 90° from horizontal
- C Offset Transmitter Housing with Vapor Seal for service below ambient. (Use with IW probe type.)
- L9C Offset Transmitter Housing with Vapor Seal Mounted to Extended Sensing Tube with 90°, 3" Radius Bend for service below ambient
Note: LCD Indicators will be visible at 90° from horizontal

/c Transmitter Housing Type

- A Dual Compartment Aluminum Housing (Standard)
- S Dual Compartment Stainless Steel Housing

/d Probe Type

- R1 Standard 5/8" OD Probe
- H2 High Temperature Sensing Tube Option for process temperature above 450°F (232°C) (requires /L9 and KM26 chamber insulation).
- IW Insulation Well to allow the insertion and removal of the probe when mounted to a cryogenic insulated level gauge (this is the preferred configuration for cryogenic service when there is no flange on top of the KM26).

/e Electronic Module with One Analog Output

- X None
- M3 One Level, HART Protocol
- M4A One Level, LCD Indicator, Communications 1,2,3,4
- M4B Two Levels, LCD Indicator, Communications 1,2,3,4
Notes: 1. Default Communication is HART Protocol
2. Add "D" suffix to module option for Honeywell DE (class 0 support)
3. Add "F" suffix to module option for Foundation Fieldbus ITK 4.01 compliant
4. Add "S" suffix to module option for 20 Point Strapping Table (not available with "D" suffix)

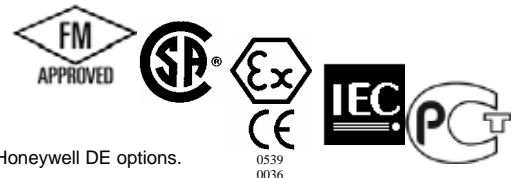


/f Second Analog Output

- X None
- RI Second Electronic Module with One Analog Output and LCD Indicator
Notes: 1. Not available with M1, M2 & M3 Module types
2. Only for use with HART Protocol equipped electronics modules
3. The RI100 is only approved as an Explosion Proof device
4. Analog output field selectable to any of the two levels
5. Housing type will be same as primary transmitter housing (/c above)

/g Approval

- FM Factory Mutual
- CSA Canadian Standard Association
- CEX ATEX Flameproof
- CEI ATEX I.S.
- IEI International Electromechanical Commission I.S.
- GR GOST Russia



Note: Intrinsically Safe Approvals exclude RI (secondary analog output) & Honeywell DE options.

/h Measuring Length

- ML Specify the measuring length in inches or mm

Available Accessories:

- VI-TRANSMITTER: Vibration Isolators for use on extreme vibration applications (compressor skids, etc.)
- M20 ISO FITTING: M20 Female Electrical Connection (Brass or Stainless Steel)
 - MM Brass
 - MMS Stainless Steel

