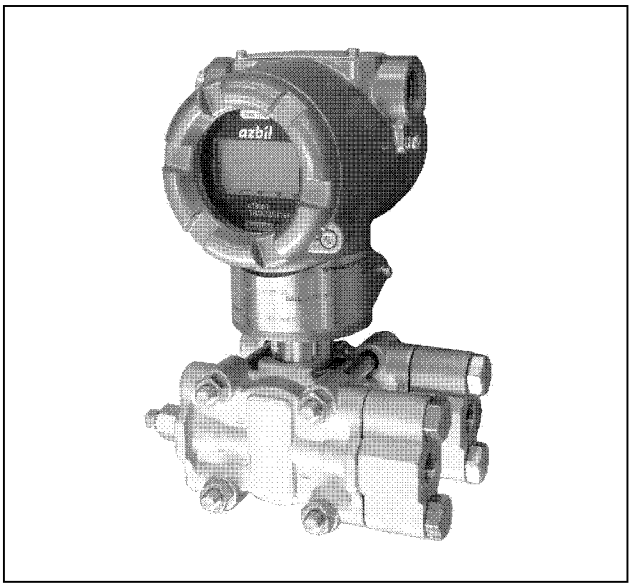
AT9000 Advanced Transmitter
Differential Pressure Transmitters

OVERVIEW

AT9000 Advanced Transmitter is a microprocessor-based smart transmitter that features high performance and excellent stability. Capable of measuring gas, liquid, vapor, and liquid levels, it transmits 4 to 20 mA DC analog and digital signals according to the measured differential pressure.
It can also execute two-way communications between the CommPad (Handy Communicator) or HART® 375 communicator, thus facilitating self-diagnosis, range resetting, and automatic zero adjustment.



FEATURES

High performance and stability

- Unique characterization and composite semiconductor sensors realize high accuracy up to 0.04% F.S.
- Our proven sensor technology enables Long-term stability up to 0.1% of URL per 10-year.

Wide measuring range (range ability)

- A wide measuring range is available from a single model. This feature is highly effective in taking measurement over a wide range and reducing the need for inventory.
- Model GTX30D/31D/32D: 0.5 to 100 kPa (range ability: 200 to 1)

A diverse lineup

- A wide range of models is available to meet user requirements. They include draft range differential pressure, standard differential pressure, high differential pressure, standard differential pressure/high static pressure, and high differential pressure/high static pressure models.
- A wide variety of corrosion-resistant materials for wetted parts is also available.

Remote communication

- Two-way communication using digital output facilitates self-diagnosis, range resetting, automatic zero adjustment, and other operations.
- HART® protocol communication is available. (Option)

China RoHS

This device is used in the Oil & Gas, Petrochemical, Chemical, Pulp & Paper, Food & Beverage, Machinery, Steel/Metal & Mining, and Automobile industries and therefore does not fall under the China RoHS Legislation.
If this device is used in semiconductor manufacturing equipment, labeling on the device and documents for the China RoHS may be required. If such documents are required, consult a Yamatake representative.

FUNCTIONAL SPECIFICATIONS

FM Explosionproof and Dust Approvals (Code F1)

Explosionproof for Class I, Division 1, Groups A, B, C and D; Class I, Zone 1, AEx d IIC
Dust-Ignitionproof for Class II, III, Division 1, Groups E, F and G
T5 -40°C ≤ Tamb ≤ +85°C
Hazardous locations
Indoor / Outdoor Type 4X, IP67
Factory sealed, conduit seal not required for Division applications
Caution - Use supply wires suitable for 5°C above surrounding ambient

FM Intrinsically safe Approval (Code F2)

IS/I,II,III/1/ABCDEFG/T4; -40 °C ≤ Tamb ≤ +60 °C; 80395278, 80395279,80395280; Entity; TYPE 4X; IP67
I/0/ AEx ia/IIC/T4; -40 °C ≤ Tamb ≤ +60 °C;80395278, 80395279, 80395280; Entity; TYPE 4X;IP67
Entity Parameters: Vmax(Ui)=30 Volts, Imax(Ii)=100mA, Pi=1W, Ci=10nF, Li=0.5mH

FM Nonincendive Approval (Code F5)

NI/I/2/ABCD/T4; -40 °C ≤ Tamb ≤ +60 °C;80395494; NIFW; TYPE 4X; IP67
NI/I/2/IIC/T4; -40 °C ≤ Tamb ≤ +60 °C; 80395494; NIFW; TYPE 4X; IP67
S/II,III/1/EFG/T4; -40 °C ≤ Tamb ≤ +60 °C; 80395494;NIFW; TYPE 4X; P67
Nonincendive Field Wiring Parameters: Vmax(Ui)=30 Volts, Ci=10nF, Li=0.5mH

Combination of F1, F2 and F5 (Code F6)

ATEX Flameproof and Dust Certifications (Code A1)

CE 0344 ⟨Ex⟩ KEMA 08ATEX0004

II 1/2 G Ex d IIC T6 Tprocess=85°C
-30°C ≤ Tamb ≤ +75°C IP66/67
II 1/2 G Ex d IIC T5 Tprocess=100°C
-30°C ≤ Tamb ≤ +80°C IP66/67
II 1/2 G Ex d IIC T4 Tprocess=110°C
-30°C ≤ Tamb ≤ +80°C IP66/67
II 2 D Ex tD A21 IP66/67 T85 Tprocess=85°C
-30°C ≤ Tamb ≤ +75°C
II 2 D Ex tD A21 IP66/67 T100 Tprocess=100°C
-30°C ≤ Tamb ≤ +75°C
II 2 D Ex tD A21 IP66/67 T110 Tprocess=110°C
-30°C ≤ Tamb ≤ +75°C
Caution - Use supply wires suitable for 5°C above surrounding ambient

ATEX Intrinsic safety and Dust Certifications (Code A2)

CE 0344 ⟨Ex⟩ KEMA 07ATEX0200 X

II 1 G Ex ia IIC T4 TPROCESS = 105 °C
-30 °C ≤ Tamb ≤ +60 °C IP66 / 67
ELECTRICAL PARAMETERS: Ui = 30 V, Ii = 93 mA, Pi = 1 W, Ci = 5 nF, Li = 0.5 mH
II 1 D Ex iaD 20 IP66 / 67 T105 TPROCESS = 105 °C
-30 °C ≤ Tamb ≤ +60 °C

ATEX Type n and Dust Certifications (Code A5)

CE 0344 ⟨Ex⟩ KEMA 07ATEX0200 X

II 3 G Ex nL IIC T4 TPROCESS = 105 °C
-30 °C ≤ Tamb ≤ +60 °C IP66 / 67
ELECTRICAL PARAMETERS: Ui = 30 V, Ci = 5 nF, Li = 0.5 mH
II 2 D Ex tD A21 IP66 / 67 T85 TPROCESS = 85 °C
-30 °C ≤ Tamb ≤ +75 °C
II 2 D Ex tD A21 IP66 / 67 T100 TPROCESS = 100 °C
-30 °C ≤ Tamb ≤ +80 °C
II 2 D Ex tD A21 IP66 / 67 T110 TPROCESS = 110 °C
-30 °C ≤ Tamb ≤ +80 °C

NEPSI Flameproof and Dust Certifications (Code N1)

Ex d IIC T6 DIP A21 T_A 85°C Tprocess=80°C -40°C ≤ Tamb ≤ +75°C
Ex d IIC T5 DIP A21 T_A 100°C Tprocess=95°C -40°C ≤ Tamb ≤ +80°C
Ex d IIC T4 DIP A21 T_A 115°C Tprocess=110°C -40°C ≤ Tamb ≤ +80°C
ENCLOSURE TYPE IP66/67

NEPSI Intrinsic Safety Certification (Code N2)

Ex ia IIC T4 Tprocess=105°C -40°C ≤ Tamb ≤ +60°C
Enclosure IP66 / 67
Electrical Parameters: Ui=30V, Ii=100mA, Pi=1W, Ci=13nF, Li=0.5mH

NEPSI Type n Certification (Code N5)

Ex nL IIC T4 Tprocess=110°C -40°C ≤ Tamb ≤ +60°C
Enclosure IP66 / 67
Electrical Parameters: Ui=30V, Ii=100mA, Pi=1W, Ci=13nF, Li=0.5mH

IECEx Flameproof and Dust Certifications (Code E1)

Certificate No. IECEx KEM 08.0001
Ga/Gb Ex d IIC T6 Tprocess=85°C -30°C ≤ Tamb ≤ +75°C IP66/67
Ga/Gb Ex d IIC T5 Tprocess=100°C -30°C ≤ Tamb ≤ +80°C IP66/67
Ga/Gb Ex d IIC T4 Tprocess=110°C -30°C ≤ Tamb ≤ +80°C IP66/67
Ex tD A21 IP66/67 T85 Tprocess=85°C -30°C ≤ Tamb ≤ +75°C
Ex tD A21 IP66/67 T100 Tprocess=100°C -30°C ≤ Tamb ≤ +75°C
Ex tD A21 IP66/67 T110 Tprocess=110°C -30°C ≤ Tamb ≤ +75°C
Caution - Use supply wires suitable for 5°C above surrounding ambient