

Universal III™ 509-75 Series

Level Transmitter



One Transmitter for All Applications

With RF Admittance technology, one transmitter handles all your applications (Liquids, granulars, slurries, interfaces; cryogenic to 500°F, full vacuum to 10,000 PSI)

Easiest Calibration Ever

Configure this transmitter from anywhere along the two wire-loop without changing the level in the vessel.

Smart Advantages

Major advantages of the Universal III:

- Ignores Coating Build-Up on Sensing Element
- Built in tank strapping
- Choice of output in level, flow, weight or volume
- Factory precalibration
- Choice of digital or 4-20 mA transmission
- Built-in self diagnostics



The Universal III smart level transmitter provides remote calibration without having to empty and fill the vessel.

Configuration Without Changing Level

Configure the Universal III quickly and easily before installation or on the vessel without moving the level. Simply key in the calibration data and walk away.

Remote Configuration

No longer is it necessary to “sniff” for hazardous gasses or to go out in inclement weather to calibrate your level transmitter. Configure the Universal III from the convenience and comfort of the control room... or anywhere along the two-wire loop.

Quick and Easy Calibration

Use your existing HART® 275 handheld communicator or Drexelbrook’s PC software to configure the transmitter.

Tamper Proof

No adjustments on the transmitter; prevents unauthorized “tweaking” or inadvertent changes in calibration.

Unsurpassed Accuracy

No other RF transmitter matches the accuracy, stability, and repeatability of the Universal III. This translates into smoother operation and less downtime.

Compatibility with the Future

The standard HART protocol is a proven instrumentation protocol. Over a half million field instruments have been supplied by over 70 instrument manufacturers to process plants all over the world. The Universal III is also compatible with Allen Bradley PLCs through their Smart Transmitter Interface products.



Continuous Level Measurement

Universal III™ 509-75 Series

Specifications

Output:

4-20 mA, HART® protocol

Supply Voltage:

12-30 Vdc

Consult factory for higher voltages

Maximum Load Resistance:

V_s (power supply) - 12
.02

(i.e. max 600 ohms@ 24 VDC)

Supply Voltage Error:

± 0.2% maximum of full scale
for 39.2 volt change

Accuracy:

± 1% of span (nominal)

Ambient Temperature Limits:

-40°F to 170°F (-40°C to 77°C)

Output Isolation:

4000 volt minimum
signal wire to sensor

Response Time:

Less than 2 seconds with no damping
time. 1-90 seconds programmable
damping time.

Allowable Static Discharge to Sensor:

10 amps maximum

100 amps with optional protection circuit

Sensing Element Connection:

(sensor-dependent)

NPT (standard)

Flange mounting (optional)

Calibration:

PC-based software,
or Model 275 calibrator

Electronic Housing:

Meets NEMA 1-5 and 12 including
NEMA 4X. Suitable for Class I, Groups
A, B, C, D; Class II, Groups E, F & G;
Class III; Div. 1 & 2. The housing is
suitable for Explosion Proof installations
in Div. 1 hazardous locations when the
electronics are powered from an
approved source. Refer to system
Control Drawings for proper and safe
installation and wiring.

Area Classifications:

Cables and Sensors are intrinsically
safe for all Groups, Division 1 & 2 when
the electronics are powered from an
approved source. The electronics are
intrinsically safe for Groups C, D, E, F &
G, Division 1 when powered from an
approved source. The system
(electronic unit, cable and sensor) is
FM approved non-incendive and
non-sparking and suitable for all Groups,
Div. 2 without intrinsic safety barriers.

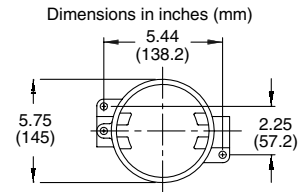
Maximum Cable Length:

100 feet (30 m) (remote mount only)

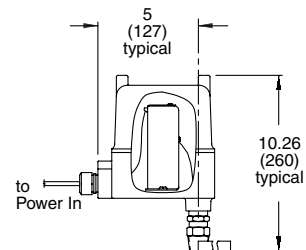
Approvals:

CE Mark, KEMA (CENELEC), FM, CSA

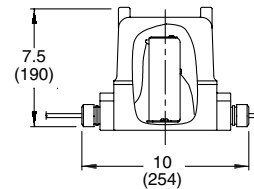
Dimensions



Top View



Integral Mount Housing



Remote Mount Housing

Model Number of Electronics

409 - 10 **3** 0 - **0** **0** **9** - 00 - Electronic Unit

Phasing

0 = 0 degree phasing
3 = 45 degree phasing
for coating rejection

Agency Approvals

C = CSA
K = KEMA
F = FM
0 = No approvals

Frequency

0 = 100 kHz
1 = 15 kHz

Housing options

4 = Remote Nema 4X Explosionproof
6 = Remote Nema 4X Explosionproof with Drexelcote
8 = Integral Nema 4X Explosionproof with Drexelcote
9 = Integral Nema 4X Explosionproof

Digital Integral Meter Option

Mounted in Dome with Viewport
Not available with Housing Options 6 and 8
If Meter is not required, these numbers are not used
M0037 = Forward/Reverse-acting for remote housings
M0038 = Forward/Reverse-acting for integral housings

Denotes default value

U.S.A. Sales: 800-553-9092 • 24-Hour Service: 800-527-6297 • International Support: 215-674-1234 • Fax: 215-674-2731



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