

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.

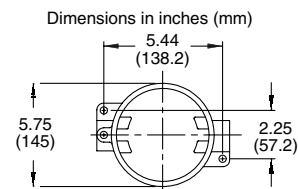
Maximum Cable Length:

100 feet (30 m) (remote mount only)

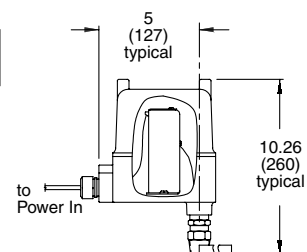
Approvals:

CE Mark, KEMA (CENELEC), FM, CSA

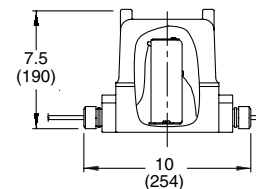
Dimensions



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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**509-75-X02 Universal III™
Smart Level Transmitter featuring
700-2-27 Sensing Element**



Typical Applications

- Caustic
- Fuel/Water Interface
- Inorganic Acids
- MEK/Water Interface

Do not use with:

- Hydrofluoric Acid
- Abrasive Slurries
- Ferric Chloride

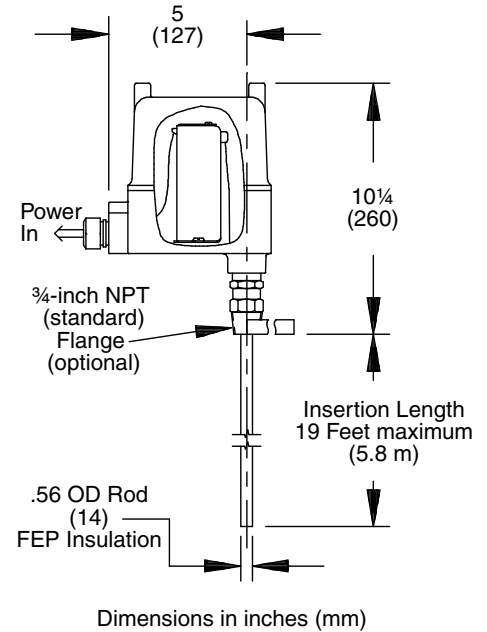
**Process Specifications
Sensing Element**

Pressure and Temperature Limits:
1000 psi (69 BAR) @ 100°F (38°C) or
500 psi (34.5 BAR) @ 300°F (149°C)

Agitation
Less than two horsepower (greater if supported)

Process Wetted Parts:
TFE, 316 SS and FEP (bonded)

Dimensions



Model Number of Structure

509 -0075 - 9 02 Universal III™ Smart Level Transmitter

7 = Remote
9 = Integral

409 - 10X0 - XXX - 00 See Datasheet 509-75-A

700 -0002-027- I [] [] BAO

Sensing Element

Denotes default value

Insertion Length
Insertion Length in inches = 000.0
(example 48 inches = 048.0)
Maximum recommended
insertion length = 228 inches
For longer lengths, consult factory.

Probe Mountings

- | | |
|--|-----------------------------------|
| BAO = 3/4" NPT (standard) | BCA = 1" 300# RF CS |
| BBA = 1" 150# Raised Face (RF)
Carbon Steel (CS) | BCB = 1" 300# RF 316SS |
| BBB = 1" 150# RF 316SS | BEA = 1 1/2" 300# RF CS |
| BDA = 1 1/2" 150# RF CS | BEB = 1 1/2" 300# RF 316SS |
| BDB = 1 1/2" 150# RF 316SS | BGA = 2" 300# RF CS |
| BFA = 2" 150# RF CS | BGB = 2" 300# RF 316SS |
| BFB = 2" 150# RF 316SS | BJA = 3" 300# RF CS |
| BIA = 3" 150# RF CS | BJB = 3" 300# RF 316SS |
| BIB = 3" 150# RF 316SS | BLA = 4" 300# RF CS |
| BKA = 4" 150# RF CS | BLB = 4" 300# RF 316SS |
| BKB = 4" 150# RF 316SS | |

For complete mounting and wiring details, request drawing 419-2-74-CD.

380- 0 0 25 -012 Cable (For Remote Package Only)

Cable Length
025 = 25 feet (standard)
010 = 10 feet
035 = 35 feet
050 = 50 feet
075 = 75 feet
100 = 100 feet

285-0001- 0 62 Sensing Element Condulet (For Remote Package Only)

Condulet Option
0 = Standard Nema 4X
1 = Nema 4X with Drexelcote

Remote packages include
242-0001-050 cable fitting installed
in Condulet prior to shipping.

**509-75-X07 Universal III™
Smart Level Transmitter featuring
700-2-24 Sensing Element**



Typical Applications

- Electrostatic Desalters
- Heater Treaters
Steam Condensate
PVC Reactor Foam

Do not use with:

- Hydrofluoric Acid
- Styrene Monomer
- Butydiene Monomer

Span

2 inches (50) to 14 feet (4 m)

**Process Specifications
Sensing Element**

Pressure and Temperature Limits

1000 psi (69 BAR) @ 100°F (38°C) or
500 psi (34.5 BAR) @ 450°F (232°C)

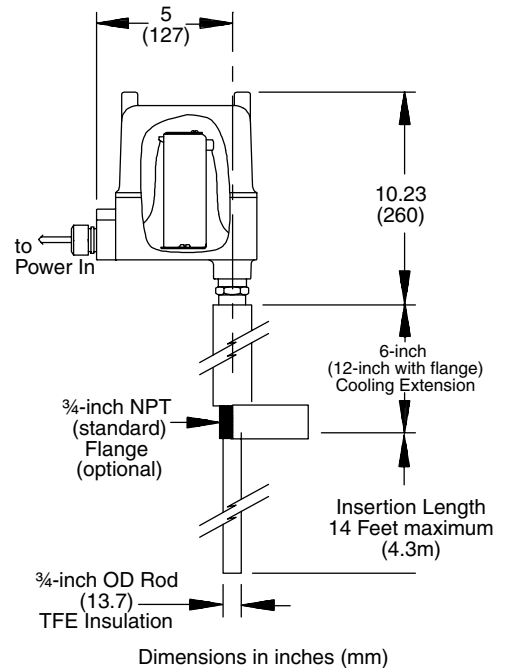
Agitation

Less than two horsepower
(greater if supported)

Process Wetted Parts

316 SS and TFE (bonded)

Dimensions



Model Number of Structure

509 -0075 - 9 07 Universal III™ Smart Level Transmitter

7 = Remote
9 = Integral

409 - 10X0 - XXX - 00 See Datasheet 509-75-A

700 -0002-024- I BA0

Insertion Length
Insertion Length in inches = 000.0
(example 48 inches = 048.0)
Maximum recommended
insertion length = 168 inches
For longer lengths, consult factory.

Probe Mountings

- | | |
|--|--------------------------------|
| BA0 = ¾" NPT (standard) | BCA = 1" 300# RF CS |
| BBA = 1" 150# Raised Face (RF)
Carbon Steel (CS) | BCB = 1" 300# RF 316SS |
| BBB = 1" 150# RF 316SS | BCA = 1½" 300# RF CS |
| BDA = 1½" 150# RF CS | BEB = 1½" 300# RF 316SS |
| BDB = 1½" 150# RF 316SS | BGA = 2" 300# RF CS |
| BFA = 2" 150# RF CS | BGB = 2" 300# RF 316SS |
| BFB = 2" 150# RF 316SS | BJA = 3" 300# RF CS |
| BIA = 3" 150# RF CS | BJB = 3" 300# RF 316SS |
| BIB = 3" 150# RF 316SS | BLA = 4" 300# RF CS |
| BKA = 4" 150# RF CS | BLB = 4" 300# RF 316SS |
| BKB = 4" 150# RF 316SS | |

Sensing Element

Denotes default value

For complete mounting and wiring
details, request drawing
419-2-43-CD.

380- 0 025 -012 Cable (For Remote Package Only)

Cable Length
025 = 25 feet (standard)
010 = 10 feet
035 = 35 feet
050 = 50 feet
075 = 75 feet
100 = 100 feet

285-0001- 0 62 Sensing Element Condulet (For Remote Package Only)

Condulet Option
0 = Standard Nema 4X
1 = Nema 4X with Drexelcote

Remote packages include
242-0001-091 cable fitting installed
in Condulet prior to shipping.

509-75-X09 Universal III™ Smart Level Transmitter featuring 700-1-22 Sensing Element



Typical Applications

- Dilute Caustics (<10%)
- Water
- Inorganic Acids (Reagents)

Do not use with:

- Hydrofluoric Acid
- Sludge
- Ferric Chloride

Span

2 inches (50mm) to 20 feet (6 m)

Process Specifications Sensing Element

Pressure and Temperature Limits

1000 psi (69 BAR) @ 100°F (38°C) or
500 psi (34.5 BAR) @ 300°F (149°C)

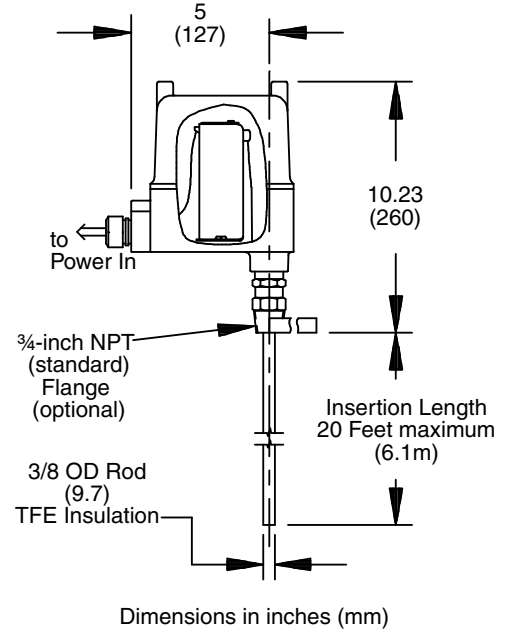
Agitation

Less than two horsepower (greater if supported)

Process Wetted Parts

316 SS and TFE (bonded)

Dimensions



Model Number of Structure

509 -0075 - 9 09 Universal III™ Smart Level Transmitter

7 = Remote
9 = Integral

409 - 10X0 - XXX - 00 See Datasheet 509-75-A

700 -0001-022- I **BAO** Sensing Element

Insertion Length

Insertion Length in inches = 000.0
(example 48 inches = 048.0)
Maximum recommended
insertion length = 240 inches
For longer lengths, consult factory.

Denotes default value

Probe Mountings

- | | |
|--|--------------------------------|
| BAO = ¾" NPT (standard) | BCA = 1" 300# RF CS |
| BBA = 1" 150# Raised Face (RF)
Carbon Steel (CS) | BCB = 1" 300# RF 316SS |
| BBB = 1" 150# RF 316SS | BEA = 1½" 300# RF CS |
| BDA = 1½" 150# RF CS | BEB = 1½" 300# RF 316SS |
| BDB = 1½" 150# RF 316SS | BGA = 2" 300# RF CS |
| BFA = 2" 150# RF CS | BGB = 2" 300# RF 316SS |
| BFB = 2" 150# RF 316SS | BJA = 3" 300# RF CS |
| BIA = 3" 150# RF CS | BJB = 3" 300# RF 316SS |
| BIB = 3" 150# RF 316SS | BLA = 4" 300# RF CS |
| BKA = 4" 150# RF CS | BLB = 4" 300# RF 316SS |
| BKB = 4" 150# RF 316SS | |

380- 0 025 -012 Cable (For Remote Package Only)

Cable Length

- 025 = 25 feet (standard)
- 010 = 10 feet
- 035 = 35 feet
- 050 = 50 feet
- 075 = 75 feet
- 100 = 100 feet

285-0001- 0 62 Sensing Element Condulet (For Remote Package Only)

Condulet Option

- 0 = Standard Nema 4X
- 1 = Nema 4X with Drexelcote

Remote packages include
242-0001-091 cable fitting installed
in Condulet prior to shipping.

For complete mounting and wiring
details, request drawing
419-2-44-CD

**509-75-X13 Universal III™
Smart Level Transmitter featuring
700-5-18 Sensing Element**



Typical Applications

- Mineral Slurries
- Paper Pulp
- Oil/Water Interface

Do not use with:

- Caustic (over 10%)
- Sulfuric Acid (Over 20%)
- Nitric Acid (over 30%)
- Acetone
- MEK and other Ketones

Span:

2 inches (50mm) to 100 feet (30 m)

**Process Specifications
Sensing Element**

Pressure and Temperature Limits

100°F @ 1000 psi 38°C @ 69 BAR
250°F @ 500 psi 121°C @ 34.5 BAR

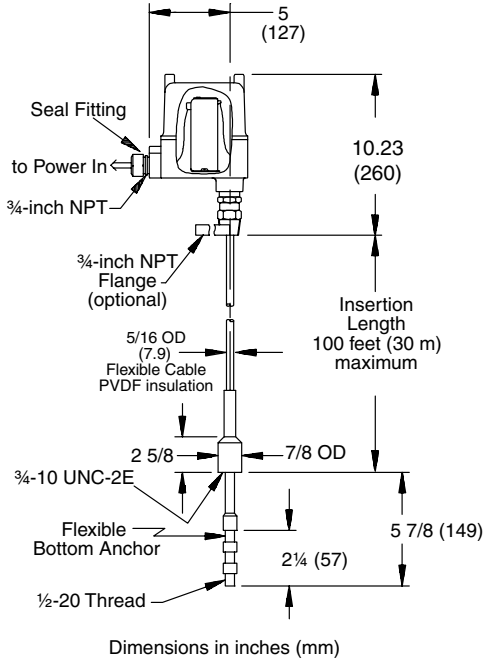
Agitation

Up to 30 horsepower (when anchored)

Process Wetted Parts

TFE, 316 SS, and Kynar (PVDF)
insulation

Dimensions



Model Number of Structure

509 -0075 - 9 13 Universal III™ Smart Level Transmitter

7 = Remote
9 = Integral

409 - 10X0 - XXX - 00 See Datasheet 509-75-A

700 -0005-018 - F **BA0**

Sensing Element

Denotes default value

For complete mounting and wiring details, request drawing 419-2-45-CD.

Insertion Length
Insertion Length in feet = 000.0
(example 48 feet = 048.0)
Maximum recommended
insertion length = 100 feet
For longer lengths, consult factory.

Probe Mountings

- | | |
|--|-----------------------------------|
| BA0 = 3/4" NPT (standard) | BCA = 1" 300# RF CS |
| BBA = 1" 150# Raised Face (RF)
Carbon Steel (CS) | BCB = 1" 300# RF 316SS |
| BBB = 1" 150# RF 316SS | BEA = 1 1/2" 300# RF CS |
| BDA = 1 1/2" 150# RF CS | BEB = 1 1/2" 300# RF 316SS |
| BDB = 1 1/2" 150# RF 316SS | BGA = 2" 300# RF CS |
| BFA = 2" 150# RF CS | BGB = 2" 300# RF 316SS |
| BFB = 2" 150# RF 316SS | BJA = 3" 300# RF CS |
| BIA = 3" 150# RF CS | BJB = 3" 300# RF 316SS |
| BIB = 3" 150# RF 316SS | BLA = 4" 300# RF CS |
| BKA = 4" 150# RF CS | BLB = 4" 300# RF 316SS |
| BKB = 4" 150# RF 316SS | |

380- 0 025 -012 Cable (For Remote Package Only)

Cable Length
025 = 25 feet (standard)
010 = 10 feet
035 = 35 feet
050 = 50 feet
075 = 75 feet
100 = 100 feet

285-0001- 0 64 Sensing Element Condulet (For Remote Package Only)

Condulet Option
0 = Standard Nema 4X
1 = Nema 4X with Drexelcote

Remote packages include
242-0001-091 cable fitting installed
in Condulet prior to shipping.

**509-75-X17 Universal III™
Smart Level Transmitter featuring
700-1-344 Sensing Element**



Typical Applications

- Hazardous Liquids
- Osmotic Liquids
- Corrosive liquids
- Feerwater Heaters

Span

2 inches (50) to 20 feet (6 m)

**Process Specifications
Sensing Element**

Pressure and Temperature Limits
1000 psi (69 BAR) @ 100°F (38°C) or
500 psi (34.5 BAR) @ 350°F (177°C)

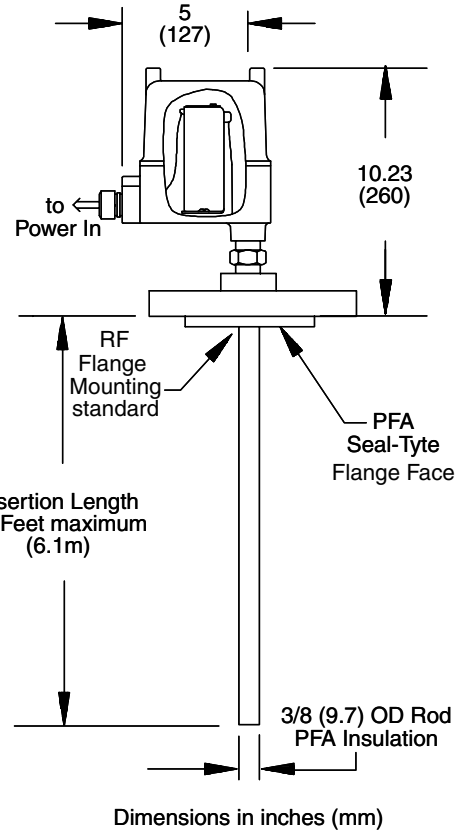
Agitation

Less than 1/3 horsepower

Process Wetted Parts

All PFA (bonded)

Dimensions



Model Number of Structure

509 -0075 - 9 17 Universal III™ Smart Level Transmitter

7 = Remote
9 = Integral

409 - 10X0 - XXX - 00 See Datasheet 509-75-A

700 -0001-344 - I Sensing Element

Insertion Length

Insertion Length in inches = 000.0
(example 48 inches = 048.0)
Maximum recommended
insertion length = 240 Inches
For longer lengths, consult factory.

Denotes default value

Probe Mountings

- | | |
|--|--------------------------------|
| BBG = 1" 150# Raised Face (RF)
Carbon Steel (CS) | BCG = 1" 300# RF CS |
| BBH = 1" 150# RF 316SS | BCH = 1" 300# RF 316SS |
| BDG = 1½" 150# RF CS | BEG = 1½" 300# RF CS |
| BDH = 1½" 150# RF 316SS | BEH = 1½" 300# RF 316SS |
| BFG = 2" 150# RF CS | BGC = 2" 300# RF CS |
| BFH = 2" 150# RF 316SS | BGH = 2" 300# RF 316SS |
| BIG = 3" 150# RF CS | BJG = 3" 300# RF CS |
| BIH = 3" 150# RF 316SS | BJH = 3" 300# RF 316SS |
| BKG = 4" 150# RF CS | BLG = 4" 300# RF CS |
| BKH = 4" 150# RF 316SS | BLH = 4" 300# RF 316SS |

For complete mounting and wiring
details, request drawing
419-2-24-CD

380- 0 025 -012 Cable (For Remote Package Only)

Cable Length

- 025 = 25 feet (standard)
- 010 = 10 feet
- 035 = 35 feet
- 050 = 50 feet
- 075 = 75 feet
- 100 = 100 feet

285-0001- 0 62 Sensing Element Condulet (For Remote Package Only)

Condulet Option

- 0 = Standard Nema 4X
- 1 = Nema 4X with Drexelcote

Remote packages include
242-0001-091 cable fitting installed
in Condulet prior to shipping.

509-75-X25 Universal III™ Smart Level Transmitter featuring 700-5-54 Sensing Element



Typical Applications

- Water
- Liquors
- Caustics

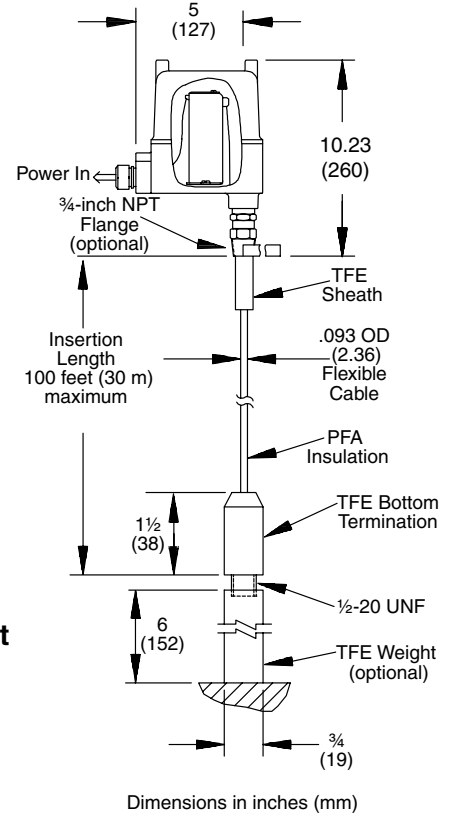
Process Specifications Sensing Element

Pressure and Temperature Limits
1000 psi (69 BAR) @ 100°F (38°C) or
500 psi (34.5 BAR) @ 350°F (177°C)

Agitation
Less than 1/3 horsepower

Process Wetted Parts
316 SS, TFE, and PFA

Dimensions



Span

2 inches (50) to 100 feet (30 m)

Model Number of Structure

509 -0075 - 9 25 Universal III™ Smart Level Transmitter

7 = Remote
9 = Integral

409 - 10X0 - XXX - 00 See Datasheet 509-75-A

700 -0005-054- F [] BA0

Insertion Length

Insertion Length in feet = 000.0
(example 48 feet = 048.0)
Maximum recommended
insertion length = 100 feet
For longer lengths, consult factory.

Probe Mountings

BAO = 3/4" NPT (standard)	BCA = 1" 300# RF CS
BBA = 1" 150# Raised Face (RF) Carbon Steel (CS)	BCB = 1" 300# RF 316SS
BBB = 1" 150# RF 316SS	BEA = 1 1/2" 300# RF CS
BDA = 1 1/2" 150# RF CS	BEB = 1 1/2" 300# RF 316SS
BDB = 1 1/2" 150# RF 316SS	BGA = 2" 300# RF CS
BFA = 2" 150# RF CS	BGB = 2" 300# RF 316SS
BFB = 2" 150# RF 316SS	BJA = 3" 300# RF CS
BIA = 3" 150# RF CS	BJB = 3" 300# RF 316SS
BIB = 3" 150# RF 316SS	BLA = 4" 300# RF CS
BKA = 4" 150# RF CS	BLB = 4" 300# RF 316SS
BKB = 4" 150# RF 316SS	

Sensing Element

Denotes default value

For complete mounting and wiring
details, request drawing
419-2-24-CD

380- 0 025 -012 Cable (For Remote Package Only)

Cable Length

025 = 25 feet (standard)
010 = 10 feet
035 = 35 feet
050 = 50 feet
075 = 75 feet
100 = 100 feet

285-0001- 0 62 Sensing Element Condulet (For Remote Package Only)

Condulet Option
0 = Standard Nema 4X
1 = Nema 4X with Drexelcote

Remote packages include
242-0001-091 cable fitting installed
in Condulet prior to shipping.

**509-75-X31 Universal III™
Smart Level Transmitter featuring
700-1-52 Sensing Element**

This instrument includes an integral ground reference rod for non-metallic tanks.



Typical Applications

- Diluted Caustics (less than 10%)
- Acids
- Clean Water for: Cooling
Drinking
Fire
Dilution

Do not use with:

- Hydrofluoric Acid
- Styrene Monomer
- Butadiene
(more than 30% concentration)

**Process Specifications
Sensing Element**

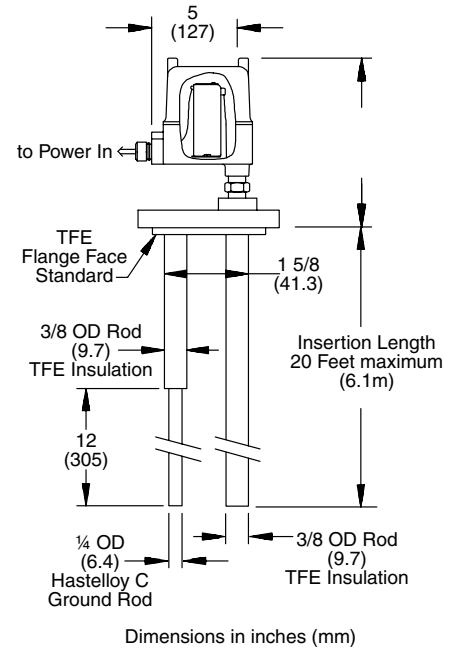
Pressure and Temperature Limits
1000 psi (69 BAR) @ 100°F (38°C) or
500 psi (34.5 BAR) @ 300°F (149°C)

Agitation
Less than 1/2 horsepower

Process Wetted Parts
TFE and Hastelloy C

Span
2 inches (50) to 20 feet (6 m)

Dimensions



Model Number of Structure

509 -0075 - 9 31 Universal III™ Smart Level Transmitter

7 = Remote
9 = Integral

409 - 10X0 - XXX - 00 See Datasheet 509-75-A

700 -0001-052 - I [] BFC Sensing Element

Insertion Length
Insertion Length in inches = 000.0
(example 48 inches = 048.0)
Maximum recommended
insertion length = 240 inches
For longer lengths, consult factory.

Denotes default value

380- 0 025 -012 Cable (For Remote Package Only)

Cable Length
025 = 25 feet (standard)
010 = 10 feet
035 = 35 feet
050 = 50 feet
075 = 75 feet
100 = 100 feet

285-0001- 0 62 Sensing Element Condulet (For Remote Package Only)

Condulet Option
0 = Standard Nema 4X
1 = Nema 4X with Drexelcote

Remote packages include
242-0001-091 cable fitting installed
in Condulet prior to shipping.

For complete mounting and wiring
details, request drawing
419-2-24-CD

509-75-X32 Universal III™ Smart Level Transmitter featuring 700-2-62 Sensing Element

This instrument includes an integral ground reference rod for non-metallic tanks.



Typical Applications

- Aqueous Slurries
- Salt Solutions
- Inorganic Acids
- Oil/Water Interface

Do not use with:

- Caustic
- Sulfuric Acid (over 20%)
- Nitric Acid (over 30%)
- Acetone
- MEK and other Ketones

Span:

2 inches (50) to 20 feet (6 m)

Process Specifications Sensing Element

Pressure and Temperature Limits

1000 psi (69 BAR) @ 100°F (38°C) or
500 psi (34.5 BAR) @ 250°F (121°C)

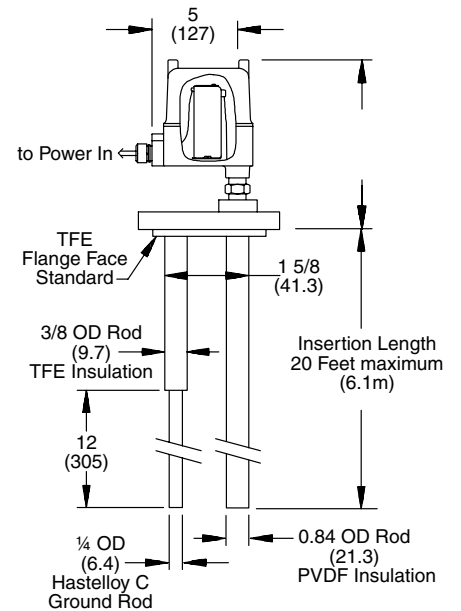
Agitation

Less than 1/2 horsepower

Process Wetted Parts

TFE, Hastelloy C, and Kynar (PVDF)
insulation

Dimensions



Dimensions in inches (mm)

For complete mounting and wiring details, request drawing 419-2-24-CD

Model Number of Structure

509 -0075 - 9 32 Universal III™ Smart Level Transmitter

7 = Remote
9 = Integral

409 - 10X0 - XXX - 00 See Datasheet 509-75-A

700 -0002-062 - I BFC Sensing Element

Insertion Length

Insertion Length in inches = 000.0
(example 48 inches = 048.0)
Maximum recommended
insertion length = 240 inches
For longer lengths, consult factory.

Denotes default value

380- 0 0 25 -012 Cable (For Remote Package Only)

Cable Length

025 = 25 feet (standard)
010 = 10 feet
035 = 35 feet
050 = 50 feet
075 = 75 feet
100 = 100 feet

285-0001- 0 62 Sensing Element Condulet (For Remote Package Only)

Condulet Option

0 = Standard Nema 4X
1 = Nema 4X with Drexelcote

Remote packages include
242-0001-091 cable fitting installed
in Condulet prior to shipping.

**509-75-938 Checkwell™
Smart Water Level Monitor featuring
700-5-35 Sensing Element**



Typical Applications

- Production Wells
- Monitoring Wells
- Observation Wells
- Remediation Wells
- Artesian Wells
- Level or Drawdown

Span

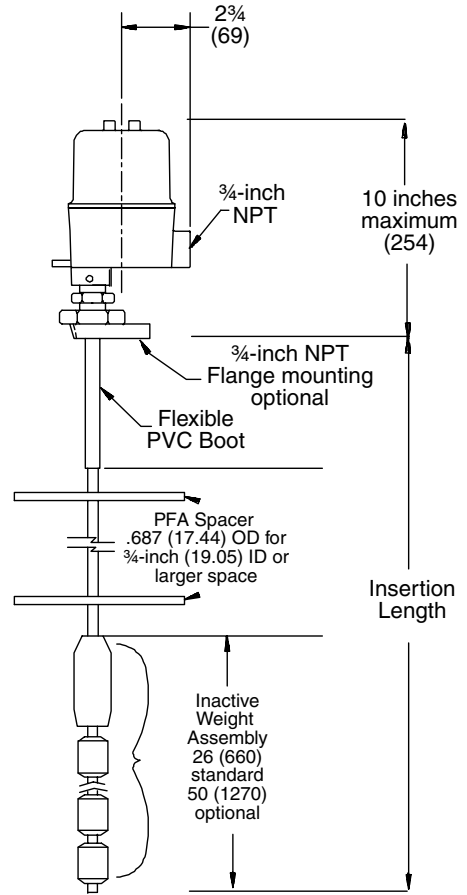
2 inches (50) to 999 feet (305 m)

**Process Specifications
Sensing Element**

Pressure and Temperature Limits
500 psi (34 BAR) @ 300°F (148°C)

Process Wetted Parts
PVC, 316 SS and PFA Insulation

Dimensions



Dimensions in inches (mm)

For complete mounting and wiring details, request drawing 700-5-35-CD

Model Number of Structure

**509 -0075 - 9 38 Universal III™ Smart Checkwell
Water Level Monitor**

7 = Remote
9 = Integral

409 - 10X0 - XXX - 00 See Datasheet 509-75-A

700 -0005-035- F BAO Sensing Element

Insertion Length
Insertion Length in feet = 000.0
(example 48 feet = 048.0)
Maximum recommended
insertion length = 800 feet.
For longer lengths, consult factory.

Denotes default value

Probe Mountings

- | | |
|--|-----------------------------------|
| BAO = 3/4" NPT (standard) | BCA = 1" 300# RF CS |
| BBA = 1" 150# Raised Face (RF)
Carbon Steel (CS) | BCB = 1" 300# RF 316SS |
| BBB = 1" 150# RF 316SS | BEA = 1 1/2" 300# RF CS |
| BDA = 1 1/2" 150# RF CS | BEB = 1 1/2" 300# RF 316SS |
| BDB = 1 1/2" 150# RF 316SS | BGA = 2" 300# RF CS |
| BFA = 2" 150# RF CS | BGB = 2" 300# RF 316SS |
| BFB = 2" 150# RF 316SS | BJA = 3" 300# RF CS |
| BIA = 3" 150# RF CS | BJB = 3" 300# RF 316SS |
| BIB = 3" 150# RF 316SS | BLA = 4" 300# RF CS |
| BKA = 4" 150# RF CS | BLB = 4" 300# RF 316SS |
| BKB = 4" 150# RF 316SS | |

380- 0 025 -012 Cable (For Remote Package Only)

Cable Length
025 = 25 feet (standard)
010 = 10 feet
035 = 35 feet
050 = 50 feet
075 = 75 feet
100 = 100 feet

285-0001- 0 62 Sensing Element Condulet (For Remote Package Only)

Condulet Option
0 = Standard Nema 4X
1 = Nema 4X with Drexelcote

Remote packages include
242-0001-091 cable fitting installed
in Condulet prior to shipping.

509-77-X16 Universal III™ Smart Level Transmitter featuring 700-1-26 Sensing Element

Transmitter can be precalibrated and its output is linear regardless of tank geometry.



Typical Applications

- Diesel / #2 Fuel
- Organic Acids
- Food Oils

Do not use with:

- Hydrofluoric Acid
- Slurries
- Styrene Monomer
- Butadiene

Span

24 inches (610m) to 20 feet (6 m)

Process Specifications Sensing Element

Pressure and Temperature Limits

1000 psi (69 BAR) @ 100°F (38°C) or
500 psi (34.5 BAR) @ 300°F (149°C)

Agitation

Less than four horsepower
(greater if supported)

Process Wetted Parts

316 SS and TFE (bonded) Insulation

Model Number of Structure

509 -0077 - **9** 16 Universal III™ Smart Level Transmitter

7 = Remote
9 = Integral

409 - 1X00 - XXX - 0X See Datasheet 509-75-A

700 -0001-026 I **BCO** Sensing Element

Insertion Length

Insertion Length in inches = 000.0
(example 48 inches = 048.0)

Maximum recommended
insertion length = 240 inches
For longer lengths, consult factory.

ANSI Probe Mountings

BCO = 1½" NPT (standard)
316SS

ACO = 1½" NPT
Carbon Steel (CS)

BFB = 2" 150# RF 316SS

AFB = 2" 150# RF CS

BGB = 2" 300# RF 316SS

AGB = 2" 300# RF CS

BIB = 3" 150# RF 316SS

AIB = 3" 150# RF CS

BJB = 3" 300# RF 316SS

AJB = 3" 300# RF CS

BKB = 4" 150# RF 316SS

AKB = 4" 150# RF CS

BLB = 4" 300# RF 316SS

ALB = 4" 300# RF CS

Denotes default value

380- 0 **025** -012 Cable (For Remote Package Only)

Cable Length

025 = 25 feet (standard)

010 = 10 feet

035 = 35 feet

050 = 50 feet

075 = 75 feet

100 = 100 feet

285-0001- **0** 62 Sensing Element Condulet (For Remote Package Only)

Condulet Option

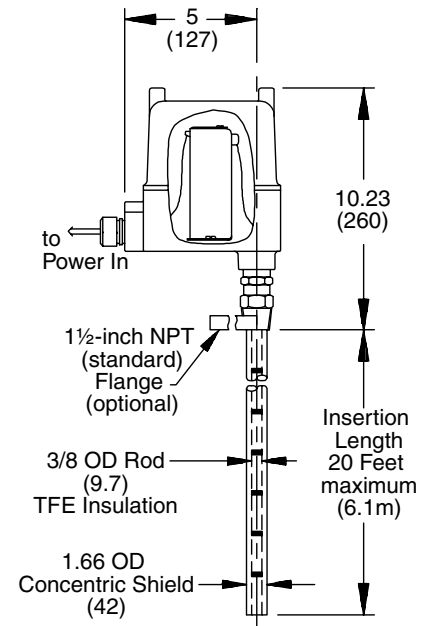
0 = Standard Nema 4X

1 = Nema 4X with Drexelcote

Remote packages include

242-0001-091 cable fitting installed
in Condulet prior to shipping.

Dimensions



Dimensions in inches (mm)

For complete mounting and wiring
details, request drawing
419-2-63-CD.

**509-77-X20 Universal III™
Smart Level Transmitter
featuring 700-205-15 Sensing Element**



Typical Applications

- Asphalt
- Molten Sulfur
- #6 Fuel Oil
- Ink

Do not use with

- Conductive materials
- Materials corrosive to 316SS

Span

24 inches (610) to 200 feet (61 m)

**Process Specifications
Sensing Element**

Pressure and Temperature Limits

0 psi (0 BAR) @ 450°F (232°C)

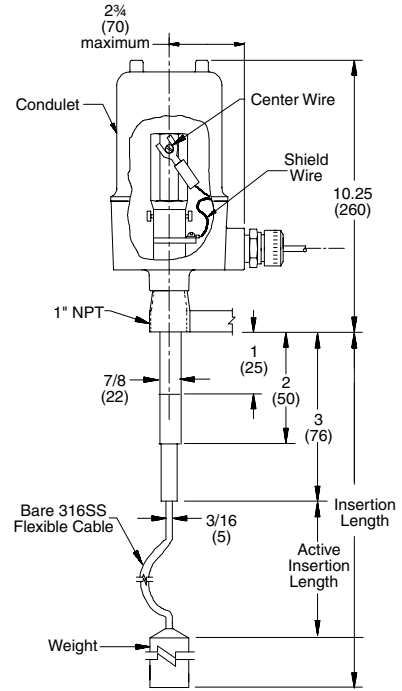
Agitation

Less than 1/3 horsepower
(greater if anchored)

Process Wetted Parts

316 SS and TFE

Dimensions



Model Number of Structure

509 -0077 - 9 20 Universal III™ Smart Level Transmitter

7 = Remote
9 = Integral

409 - 10X0 - XXX - 00 See Datasheet 509-75-A

700 -0205 - X 15 - F --- .- BB0

0 = Remote
1 = Integral

Insertion Length

Insertion Length in feet = 000.0
(example 48 feet = 048.0)
Maximum recommended
insertion length = 200 feet
For longer lengths, consult factory.

Probe Mountings

- | | |
|--|--------------------------------|
| BB0 = 1" NPT (standard) | BCA = 1" 300# RF CS |
| BBA = 1" 150# Raised Face (RF)
Carbon Steel (CS) | BCB = 1" 300# RF 316SS |
| BBB = 1" 150# RF 316SS | BEA = 1½" 300# RF CS |
| BDA = 1½" 150# RF CS | BEB = 1½" 300# RF 316SS |
| BDB = 1½" 150# RF 316SS | BGA = 2" 300# RF CS |
| BFA = 2" 150# RF CS | BGB = 2" 300# RF 316SS |
| BFB = 2" 150# RF 316SS | BJA = 3" 300# RF CS |
| BIA = 3" 150# RF CS | BJB = 3" 300# RF 316SS |
| BIB = 3" 150# RF 316SS | BLA = 4" 300# RF CS |
| BKA = 4" 150# RF CS | BLB = 4" 300# RF 316SS |
| BKB = 4" 150# RF 316SS | |

Sensing Element

Denotes default value

For complete mounting and wiring
details, request drawing
419-2-64-CD.

380- 0 025 -012 Cable (For Remote Package Only)

Cable Length

- 025 = 25 feet (standard)
- 010 = 10 feet
- 035 = 35 feet
- 050 = 50 feet
- 075 = 75 feet
- 100 = 100 feet

285-0001- 0 64 Sensing Element Condulet (For Remote Package Only)

Condulet Option

- 0 = Standard Nema 4X
- 1 = Nema 4X with Drexelcote

Remote packages include
242-0001-091 cable fitting installed
in Condulet prior to shipping.