

## Guided Wave Radar Level and Interface Transmitter

### FEATURES

- Total and Interface Level Measurement from a single process penetration (see options)
- Graphic Display with Waveform Screen
- All Digital Electronics
- Weak Signal Alarm
- Widest Selection of Wetted Materials
- Radar Signal Travels Along the Waveguide – Eliminates False Echoes and Minimizes Signal Loss
- No Moving Parts
- 2 Wire Loop Powered
- Lengths From 1 to 65 ft. / 0.3 to 19.8 meters
- Rigid, Flexible Cable, and Coaxial Probes

### OPTIONS

- Glass Viewing Window
- 316L Stainless Steel Enclosure
- MODBUS
- Foundation Fieldbus
- RI100 Repeat Indicator - required for 4-20 mA total level measurement in addition to interface level
- Analog Output

### SPECIFICATIONS

|                       |                                                                                                                                                 |                       |                                               |
|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------------------------------|
| Housing               | Dual Compartment Powder Coated Aluminum or Stainless Steel                                                                                      |                       |                                               |
| Electrical Connection | 1/2" FNPT or M20                                                                                                                                |                       |                                               |
| Power                 | 13.5 – 36 VDC, Standard; 9 - 32 VDC Foundation Fieldbus; 10 - 18 VDC MODBUS                                                                     |                       |                                               |
| Wiring                | Standard and Foundation Fieldbus - 2 wire<br>MODBUS - 4 wire plus shield (2 power, 2 data - half duplex)                                        |                       |                                               |
| Output                | Single 4-20 mA, HART, Foundation Fieldbus (ITK 5.01), MODBUS (RTU or ASCII)<br>(*Secondary Output Available Via HART or RI100 Repeat Indicator) |                       |                                               |
| Graphic Display       | Field Selectable Units in Feet, Inches, Millimeters, Centimeters, Meters or Percentage and Waveform Screens                                     |                       |                                               |
| Accuracy              | +/- 0.2 in / 5 mm Level; +/- 1.0 in / 25 mm Interface Level                                                                                     |                       |                                               |
| Resolution            | +/- 0.063 in / 1.6 mm                                                                                                                           |                       |                                               |
| Range                 | 1 to 65 ft. / 0.3 to 19.8 meters                                                                                                                |                       |                                               |
| Process Connection    | 3/4" NPT Standard                                                                                                                               | Process Pressure      | Up to 5000 psi (344 bar)                      |
|                       |                                                                                                                                                 | Process Temperature   | Up to 800°F (427°C)                           |
|                       |                                                                                                                                                 | Dielectric Constant   | Upper Fluid 1.6 - 5,<br>Lower Fluid 15 - 100+ |
| Sensor Material       | 316 SS Standard,<br>Other Materials Optional                                                                                                    | Process Max Viscosity | 1500 cp                                       |

### Approvals



### Factory Mutual Research Corporation

XP-IS / I / 1 / ABCD / T6 Ta = 77°C  
 DIP / II, III / 1 / EFG / T6 Ta = 77°C  
 IS / I / 1 / ABCD / T4 Ta = 77°C - ELE1034  
 NI / I / 2 / ABCD / T4 Ta = 77°C  
 S / II, III / 2 / FG / T4 Ta = 77°C  
 ANI / I / 2 / ABCD / T4 - ELE1034  
 Type 4X



### Canadian Standards Association

XP CL 1, DIV 1, GP ABCD; CL 2, DIV 1, GP EFG; CL 3 - T6  
 CL 1, DIV 2, GP ABCD; CL 2, DIV 2, GP EFG - T5  
 IS CL 1, DIV 1, GP CD; CL 2, DIV 1, GP EFG - T4  
 - when installed per ELE1034  
 Type 4X



### GOST Russia

1Exd[ia]IIC T6, 0ExialIIB T6, IP67



### UKRSEPRO

1ExdialIIC T6; 0ExialIIB T4



### IEC International Electromechanical Commission

**IECEX ITS 08.0036X**

II 1/2 G/D

Ex ia IIB T4 (-40°C ≤ Tamb ≤ 66°C)

Ex iaD 20/21 IP6X T80°C (-40°C ≤ 66°C)

**IECx ITS 08.0037X**

Ex ia d IIC T4

Ex iaD tD 20/A21 IP6X T80°C



### ATEX

**ITS 08ATEX25865X**

II 1/2 G/D

Ex ia IIB T4 (-40°C ≤ Tamb ≤ 66°C)

Ex iaD 20/21 IP6X T80°C (-40°C Tamb ≤ 66°C)

**ITS08 ATEX15870X**

II 1/2 G/D Ex ia d IIC T6

Ex tD 20/A21 IP6X T80°C



### ACCESSORIES

- K-COM™ Communications Software
- External Chamber
- Stilling Well
- Loop Indicator



## ORDERING INFORMATION

### MT5100 a/b/c/d/e/f/g/h/i/j/k/l

#### /a Probe Material

|             |                                         |
|-------------|-----------------------------------------|
| <b>S6</b>   | 316L Stainless Steel Standard           |
| <b>S4</b>   | 304L Stainless Steel (Rigid Probe Only) |
| <b>HC</b>   | Hastalloy C-276 (Rigid Probes Only)     |
| <b>HB</b>   | Hastalloy B3 (Rigid Probes Only)        |
| <b>MO</b>   | Monel                                   |
| <b>TI</b>   | Titanium (Rigid Probes Only)            |
| <b>IN25</b> | Inconel 625                             |

#### /b Transmitter Configuration

|           |                                              |
|-----------|----------------------------------------------|
| <b>L</b>  | Local Transmitter Standard                   |
| <b>LW</b> | Local Transmitter with Window Cover Standard |

#### /c Transmitter Housing

|          |                                               |
|----------|-----------------------------------------------|
| <b>A</b> | Dual Compartment Aluminum Housing Standard    |
| <b>S</b> | Dual Compartment 316L Stainless Steel Housing |

#### /d Process Connection / Waveguide Coupler

|                 |                                                     |
|-----------------|-----------------------------------------------------|
| <b>Cxxon xx</b> | Process Connection & Waveguide Coupler<br>(Table 1) |
| <b>o</b>        | Seal Code (no code required for C8)<br>(Table 2)    |
| <b>n</b>        | NPT for C10                                         |

#### /e Probe Type

**Pxx** Probe Code (Table 3)

#### /f Probe Attachment

|                 |                                                                                                                                          |
|-----------------|------------------------------------------------------------------------------------------------------------------------------------------|
| <b>CDyyz-ww</b> | Clamp On Centering Disk (Solid Rod Probes)<br>Note: Rigid probes installed in stilling wells or external chambers require centering disk |
| <b>CWyyz-ww</b> | Clamp On Centering Weight (Cable Probes)<br>Note: Cable probes require a centering weight or end fitting to stabilize bottom of cable    |

#### /g Process Temperature

|           |                                                                                                                                                                                                                                                                                                                         |
|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>H0</b> | 32 to 250°F / 0 to 121°C Maximum                                                                                                                                                                                                                                                                                        |
| <b>H6</b> | C1 thru C5 and C10 couplers: Above 250°F / 121°C or below 32°F / 0°C<br>Electronics enclosure is extended 6" above process connection<br>C8 couplers: Above 500°F / 260°C<br>Extends electronics enclosure an additional 6" above process connection<br>(Refer to Table 1 for maximum and minimum process temperatures) |

#### /h Electronic Module

|            |                                                                                                                                                  |
|------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>M7B</b> | Two Level, Graphic Display, 4-20 mA Output, HART<br>Add suffix "M" for MODBUS (not Intrinsically Safe)<br>Add suffix "F" for Foundation Fieldbus |
|------------|--------------------------------------------------------------------------------------------------------------------------------------------------|

#### /i Secondary Analog Output

|           |                                                                           |
|-----------|---------------------------------------------------------------------------|
| <b>X</b>  | None                                                                      |
| <b>RI</b> | RI100 Repeat Indicator (HART communications only, not Intrinsically safe) |

#### /j Approvals

|            |                                                                        |
|------------|------------------------------------------------------------------------|
| <b>X</b>   | None                                                                   |
| <b>FM</b>  | Factory Mutual Research Corporation and Canadian Standards Association |
| <b>GR</b>  | GOST Russian (M7AM option and RI100 not Intrinsically Safe)            |
| <b>CEX</b> | ATEX Flameproof                                                        |
| <b>CEI</b> | ATEX I.S.                                                              |
| <b>IEI</b> | International Electromechanical Commission I.S.                        |
| <b>IEX</b> | International Electromechanical Commission Flameproof                  |
| <b>UKR</b> | Ukraine SEPRO                                                          |

#### /k Process Connection

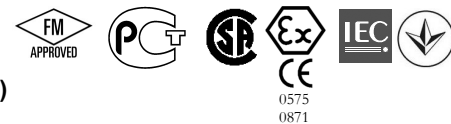
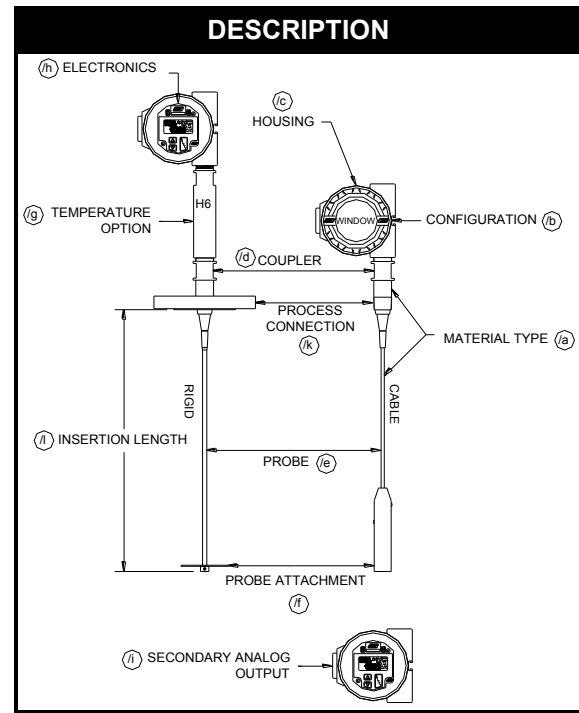
|           |                                                                                                                                                                                                                                                                                                              |
|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>P</b>  | Standard as shown on Probe Process Connection Table (Table 1)                                                                                                                                                                                                                                                |
| <b>FL</b> | Loose flange or plug for use with probe NPT threads;<br>Specify type, material and rating from Flange Designation Chart (SLG-0001-1)                                                                                                                                                                         |
| <b>WP</b> | Welded process connection<br>Specify type, material and rating from Flange Designation Chart (SLG-0001-1)<br><i>The Flange Designation Guide is available under Data Sheets on the MT5100 Product Page on www.ktekcorp.com</i><br>Welded flanges size 900# and above may require the use of an H6 extension. |

#### /l Length

|          |                                                                                                                           |
|----------|---------------------------------------------------------------------------------------------------------------------------|
| <b>L</b> | Insertion length from face of coupler in inches or millimeters.<br>-12in / 305mm minimum<br>- maximum based on probe type |
|----------|---------------------------------------------------------------------------------------------------------------------------|

#### Available Accessories:

|                                                                              |                 |
|------------------------------------------------------------------------------|-----------------|
| M20 ISO Fitting: M20 Female Electrical Connection (Brass or Stainless Steel) |                 |
| MM                                                                           | Brass           |
| MMS                                                                          | Stainless Steel |



## MT5100 INTERFACE GUIDELINES

In order to properly detect the level of interface between two liquids using the MT5100, the following rules must be adhered to:

1. One of the following probe and mounting configurations must be used:
  - a. Single rigid rod or flexible cable mounted in a stilling well, external chamber, or existing displacer.\*
  - b. Dual rigid rod, dual flexible cable or Tri-Tape
  - c. Coaxial probe mounted into tank, external chamber, or displacer

\* *This is the preferred mounting configuration to reduce the chance of fouling.*
2. Emulsion layers will affect the detection of an interface level. An emulsion layer may negate an interface level indication completely. The MT5100 will read an interface level in the presence of a 2 inch emulsion.
3. The minimum upper fluid thickness must be 4 inches when emulsion is present, and 0 inches with a clean interface.
4. The upper fluid dielectric constant must be greater than 1.6 and less than 5.
5. The interface level indication is a calculated value based partially upon the dielectric of the upper fluid. The upper fluid dielectric must remain constant for consistency / accuracy in the interface level indication.
6. The lower fluid dielectric constant must not be less than 15.
7. If the application is a flooded condition (sensor completely submerged in process), it must remain completely flooded.
8. In a non-flooded condition, the upper fluid must not be allowed to enter the upper unmeasurable zone. The upper unmeasurable zone is typically located within the mounting nozzle of the vessel.

If the required interface application does not fall within the above mentioned parameters, please consult the factory for an alternate technology, such as a Magnetostrictive, Magnetic Level Gauge or RF Capacitance.

**Table 1 - PROCESS CONNECTION / WAVEGUIDE COUPLER**

| Base Code <sup>3</sup>       | Insulator                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Process Connection | Seal Options Table 2 | Maximum Pressure                                                        | Min Temp <sup>5</sup> | Max Temp <sup>5</sup> | Compatible Probes                                                  |
|------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|----------------------|-------------------------------------------------------------------------|-----------------------|-----------------------|--------------------------------------------------------------------|
| SINGLE PROBE / COAXIAL PROBE |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                    |                      |                                                                         |                       |                       |                                                                    |
| C1o <sup>1,2</sup>           | Teflon                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 3/4" NPT           | V, K, E, A           | 1500 psi @ 100°F / 103 bar @ 38°C<br>600 psi @ 400°F / 41 bar @ 204°C   | -60°F<br>-50°C        | 400°F<br>204°C        | P01 <sup>4</sup> , P03 <sup>4</sup> , P11 <sup>4</sup><br>P51, P91 |
| C2o <sup>1,2</sup>           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1.5" NPT           |                      |                                                                         |                       |                       | P02 <sup>4</sup> , P12 <sup>4</sup>                                |
| C8                           | Borosilicate Glass                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 1.5" NPT           | Hermetic             | 5000 psi @ 100°F / 344 bar @ 38°C<br>1500 psi @ 800°F / 103 bar @ 427°C | -60°F<br>-50°C        | 800°F<br>427°C        | P11 <sup>7</sup> , P71<br>(316SS only)                             |
| DUAL PROBE                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                    |                      |                                                                         |                       |                       |                                                                    |
| C4o <sup>1,2</sup>           | Teflon                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 1.5" NPT           | V, K, E, A           | 1500 psi @ 100°F / 103 bar @ 38°C<br>600 psi @ 400°F / 41 bar @ 204°C   | -60°F<br>-50°C        | 400°F<br>204°C        | P31                                                                |
| C5o <sup>1,2</sup>           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 2" NPT             |                      |                                                                         |                       |                       | P22, P32                                                           |
| TRI-TAPE PROBE               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                    |                      |                                                                         |                       |                       |                                                                    |
| C10on <sup>1,2,6</sup>       | Teflon                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 2" or 3" NPT       | V, K, E, A           | 1500 psi @ 100°F / 103 bar @ 38°C<br>600 psi @ 400°F / 41 bar @ 204°C   | -60°F<br>-50°C        | 400°F<br>204°C        | P34<br>(316SS only)                                                |
| CUSTOM                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                    |                      |                                                                         |                       |                       |                                                                    |
| CXo                          | Custom (Consult Factory)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                    |                      |                                                                         |                       |                       |                                                                    |
| Notes:                       | <div>1. Add the suffix "H" to the Base Code (example: C1HV) to increase the maximum pressure to:<br/>3000 psi @ 100 F / 207 bar @ 38 C<br/>1200 psi @ 400 F / 83 bar @ 204 C</div> <div>2. Add the suffix "S" to the Base Code to include a hermetic seal (example: C4SV)</div> <div>3. o - Enter seal code from Table 2 (example: C2V. Not required for C8)</div> <div>4. Requires installation in a stilling well or external chamber</div> <div>5. Consult Table 2 for o-ring temperature specifications.</div> <div>6. Thread size "n" as follows: 2" NPT = 2, 3" NPT = 3 (example: C10V3)</div> <div>7. Requires installation in a stilling well or external chamber - minimum L1=12"</div> |                    |                      |                                                                         |                       |                       |                                                                    |

| Table 2 - O-RING SEALS |             |                |                |                                                                                                                                                                             |                                                                                                                                                               |
|------------------------|-------------|----------------|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Suffix                 | Description | Min. Temp      | Max. Temp      | Compatible With                                                                                                                                                             | Not Compatible With                                                                                                                                           |
| V                      | Viton       | -15°F<br>-26°C | 400°F<br>204°C | General Purpose, Ethylene                                                                                                                                                   | Ketones (MEK, Acetone), Skydrol Fluids, Amines, Anhydrous Ammonia, Low Molecular Weight Esters and Ethers, Hot Hydrofluoric or Chlorosulfuric Acids, Sour HCs |
| K                      | Kalrez      | -40°F<br>-40°C | 400°F<br>204°C | Inorganic and Organic Acids to Include HH and Nitric, Aldehydes, Ethylene, Glycols, Organic Oils, Silicone Oils, Vinegar, Sour HCs, Amines, Ethylene Oxide, Propylene Oxide | Black Liquor, Hot Water, Hot Aliphatic Amines, Molten Sodium, Molten Potassium                                                                                |
| E                      | EPDM        | -60°F<br>-50°C | 250°F<br>125°C | Acetone, MEK, Skydrol Fluids, Anhydrous Ammonia                                                                                                                             | Petroleum Oils, Di-Ester Base Lubricants, Propane                                                                                                             |
| A                      | Aegis       | -14°F<br>-10°C | 572°F<br>300°C | Most Chemicals                                                                                                                                                              | Brake Fluid                                                                                                                                                   |

| Table 3 - PROBE TYPES        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                          |                           |                    |
|------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|---------------------------|--------------------|
| Code                         | O.D.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Notes                    | Max Length                | Attachment Options |
| RIGID ROD                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                          |                           |                    |
| P01                          | 0.25in (6mm)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                          | 10ft (3.05m) <sup>1</sup> | CD                 |
| P02                          | 0.50in (13mm)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                          | 20ft (6.10m) <sup>2</sup> |                    |
| P03                          | 0.38in (9mm)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                          | 10ft (3.05m) <sup>1</sup> |                    |
| FLEXIBLE CABLE               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                          |                           |                    |
| P11                          | 0.19in (5mm)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                          | 30ft (9.1m) <sup>3</sup>  | CD, CW             |
| P12                          | 0.25in (6mm)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                          |                           |                    |
| DUAL RIGID ROD               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                          |                           |                    |
| P22                          | 0.50in (13mm)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                          | 30ft (9.1m)               | CD                 |
| DUAL FLEXIBLE CABLE          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                          |                           |                    |
| P31                          | 0.19in (5mm)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                          | 65ft (19.8m)              | CD, CW             |
| P32                          | 0.25in (6mm)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                          |                           |                    |
| TRI-TAPE                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                          |                           |                    |
| P34                          | 2.00in (51mm)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 316 Stainless Steel only | 50ft (15.24m)             | CW (included)      |
| COAXIAL (clean liquids only) |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                          |                           |                    |
| P51                          | 0.88in (22mm)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                          | 22ft (6.71m)              | CD                 |
| P71                          | 1.32in (34mm)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 316 Stainless Steel only |                           |                    |
| P91                          | 1.00in (25mm)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                          |                           |                    |
| CUSTOM                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                          |                           |                    |
| PXX                          | Custom Probe, Consult Factory                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                          |                           |                    |
| Notes:                       | <div>1. 5ft (1.52m) maximum probe length when installed in a stilling well or EC chamber (minimum 2" diameter)</div> <div>2. 10ft (3.05m) maximum probe length when installed in a stilling well or EC chamber (minimum 3" diameter)</div> <div>3. Lengths greater than 7ft (2.13m) require cable spacers at 5ft (1.52m) maximum intervals when installed in a 2" or smaller stilling well or EC chamber. Lengths greater than 10ft (3.05m) require cable spacers at 10ft (3.05m) maximum intervals when installed in 2.5" - 3" stilling well or EC chamber.</div> |                          |                           |                    |

# MT5100 Recommended Installation

| SINGLE PROBE IN STILLING WELL AND TRI-TAPE                                   |                                         | SINGLE PROBE IN EC CHAMBER                                                                                                                                                                                                                                                        |                                             |
|------------------------------------------------------------------------------|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|
| <b>UNMEASURABLE ZONES</b>                                                    |                                         | <b>UNMEASURABLE ZONES</b>                                                                                                                                                                                                                                                         |                                             |
| L1                                                                           | 4 IN.                                   | L1                                                                                                                                                                                                                                                                                | 4 IN.                                       |
| L2                                                                           | 1 IN.<br>(+ weight height for P11, P12) | L2                                                                                                                                                                                                                                                                                | 1 IN.<br>(+ weight height for P11 and P12)  |
| <b>PROBE TYPES</b>                                                           |                                         | <b>PROBE TYPES</b>                                                                                                                                                                                                                                                                |                                             |
| P01, P02, P03,<br>P11, P12, P43                                              |                                         | P01, P02, P03,<br>P11, P12                                                                                                                                                                                                                                                        |                                             |
| <ul style="list-style-type: none"><li>Preferred Configuration</li></ul>      |                                         | <ul style="list-style-type: none"><li>Preferred Configuration</li><li>Flooded or Non-Flooded</li></ul>                                                                                                                                                                            |                                             |
| <b>Note:</b><br>Stilling Well Size 2" - 4" Pipe; Customer or K-TEK Supplied. |                                         | <b>Note:</b><br>Chamber Size 2" - 4" Pipe; Customer or K-TEK Supplied. Reference EC Data Sheet (EC100-0202-1) to specify / order external chamber available online at <a href="http://www.ktekcorp.com">www.ktekcorp.com</a> on the Displacer Replacer and External Chamber page. |                                             |
| COAX (CLEAN FLUIDS ONLY)                                                     |                                         | DUAL PROBE                                                                                                                                                                                                                                                                        |                                             |
| <b>UNMEASUREABLE ZONES</b>                                                   |                                         | <b>UNMEASURABLE ZONES</b>                                                                                                                                                                                                                                                         |                                             |
| L1                                                                           | 4 IN.*                                  | L1                                                                                                                                                                                                                                                                                | 4 IN.                                       |
| L2                                                                           | 1 IN.                                   | L2                                                                                                                                                                                                                                                                                | 2 IN.<br>(+ weight, height for P31 and P32) |
| <b>PROBE TYPES</b>                                                           |                                         | <b>PROBE TYPES</b>                                                                                                                                                                                                                                                                |                                             |
| P51,P71, P91                                                                 |                                         | P22, P31, P32                                                                                                                                                                                                                                                                     |                                             |
| <ul style="list-style-type: none"><li>* 0" Available Upon Request.</li></ul> |                                         |                                                                                                                                                                                                                                                                                   |                                             |

## MT5100 Guided Wave Radar Probe Attachments

| Cable Weights |          |                     |                    |                 |                   |
|---------------|----------|---------------------|--------------------|-----------------|-------------------|
| Part No.      | Material | O.D.                | Weight Height (WH) | Weight          | Compatible Probes |
| CW09D-S6      | 316SS    | 0.875 in. / 22.2 mm | 4.0 in. / 101.6 mm | 0.7 lbs / 301 g | P11               |
| CW09D-S4      | 304SS    |                     |                    |                 |                   |
| CW09D-MO      | Monel    |                     |                    | 0.8 lbs / 324 g |                   |
| CW10D-S6      | 316SS    | 1.0 in. / 25.4 mm   | 6.0 in. / 152.4 mm | 1.3 lbs / 590 g | P11               |
| CW10D-S4      | 304SS    |                     |                    |                 |                   |
| CW10D-MO      | Monel    |                     |                    | 1.4 lbs / 635 g |                   |
| CW10E-S6      | 316SS    |                     |                    | 1.3 lbs / 590 g | P12               |
| CW10E-S4      | 304SS    |                     |                    |                 |                   |
| CW10E-MO      | Monel    |                     |                    | 1.4 lbs / 635 g |                   |
| CW16F-S6      | 316SS    | 1.625 in. / 41.3 mm | 2.0 in. / 50.8 mm  | 1.1 lbs / 499 g | P11, P31          |
| CW16F-S4      | 304SS    |                     |                    |                 |                   |
| CW16F-MO      | Monel    |                     |                    | 1.2 lbs / 544 g |                   |
| CW19G-S6      | 316SS    | 1.875 in. / 47.6 mm | 2.0 in. / 50.8 mm  | 1.5 lbs / 680 g | P12, P32          |
| CW19G-S4      | 304SS    |                     |                    |                 |                   |
| CW19G-MO      | Monel    |                     |                    | 1.6 lbs / 726 g |                   |
| CW29F-S6      | 316SS    | 2.875 in. / 73.3 mm | 1.0 in. / 25.4 mm  | 1.8 lbs / 816 g | P11, P31          |
| CW29F-S4      | 304SS    |                     |                    |                 |                   |
| CW29F-MO      | Monel    |                     |                    | 2.0 lbs / 907 g |                   |
| CW29G-S6      | 316SS    |                     |                    | 1.8 lbs / 816 g | P12, P32          |
| CW29G-S4      | 304SS    |                     |                    |                 |                   |
| CW29G-MO      | Monel    |                     |                    | 2.0 lbs / 907 g |                   |

For included weight on /P34 probes use code /CW-S6

| Centering Disks |                    |                   |                   |                            |
|-----------------|--------------------|-------------------|-------------------|----------------------------|
| Part No.        | O.D.               | Height            | Compatible Probes | Minimum Stilling Well Size |
| CD15B-%         | 1.5 in / 38.1 mm   | 0.375 in / 9.5 mm | P01               | 1.5 in sch. 40             |
| CD15C-%         |                    | 0.5 in / 12.7 mm  | P02               |                            |
| CD15I-%         |                    | 0.4375 in / 11 mm | P03               |                            |
| CD20B-%         | 2.0 in. / 50.8 mm  | 0.375 in / 9.5 mm | P01               | 2 in sch. 40               |
| CD20C-%         |                    | 0.5 in / 12.7 mm  | P02               |                            |
| CD20I-%         |                    | 0.4375 in / 11 mm | P03               |                            |
| CD23B-%         | 2.3 in. / 58.7 mm  | 0.375 in / 9.5 mm | P01               | 2.5 in sch. 40             |
| CD23C-%         |                    | 0.5 in / 12.7 mm  | P02               |                            |
| CD23I-%         |                    | 0.4375 in / 11 mm | P03               |                            |
| CD28B-%         | 2.8 in. / 71.1 mm  | 0.375 in / 9.5 mm | P01               | 3 in sch. 80               |
| CD28C-%         |                    | 0.5 in / 12.7 mm  | P02               |                            |
| CD28I-%         |                    | 0.4375 in / 11 mm | P03               |                            |
| CD38B-%         | 3.75 in. / 95.3 mm | 0.375 in / 9.5 mm | P01               | 4 in sch. 80               |
| CD38C-%         |                    | 0.5 in / 12.7 mm  | P02               |                            |
| CD38I-%         |                    | 0.4375 in / 11 mm | P03               |                            |

% - enter material code from /a

# Quotation Request - MT5000 SERIES Guided Wave Radar

Tel (1) 225-673-6100 Email:sales@ktekcorp.com Date: \_\_\_\_\_

Fax (1) 225-673-2525 Attn: \_\_\_\_\_

Customer: \_\_\_\_\_  
Phone #: \_\_\_\_\_  
Email: \_\_\_\_\_  
Rep Firm: \_\_\_\_\_  
Phone #: \_\_\_\_\_  
Email: \_\_\_\_\_

Contact: \_\_\_\_\_  
Fax #: \_\_\_\_\_  
Project: \_\_\_\_\_  
Contact: \_\_\_\_\_  
Fax #: \_\_\_\_\_

Process Conditions:

TAG: \_\_\_\_\_

Material To Be Measured: \_\_\_\_\_ Dielectric Constant: \_\_\_\_\_

Is Material: ☐ Solid ☐ Liquid ☐ Liquid/Liquid Interface (Refer to MT5100 Level and Interface Level Measurement Data Sheet (MT5100-0202-1) for more information.)

If Solid: Particle Diameter: \_\_\_\_\_ Bulk Density: \_\_\_\_\_ pcf / kg/m<sup>3</sup>

If Liquid / Liquid Interface: Upper Dielectric Constant: \_\_\_\_\_ Lower Dielectric Constant: \_\_\_\_\_

☐ Flooded Sensor

☐ Non-flooded Sensor

Temperature: Operating: \_\_\_\_\_ Maximum: \_\_\_\_\_ °F / °C / °K

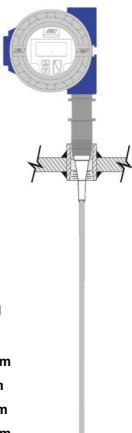
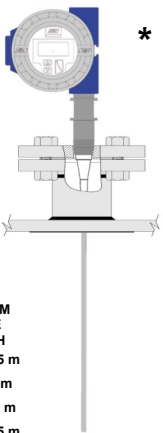
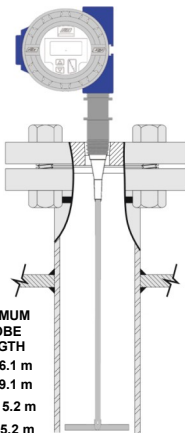
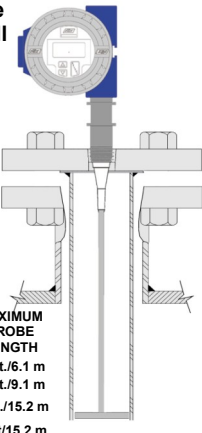
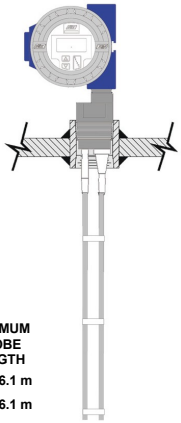
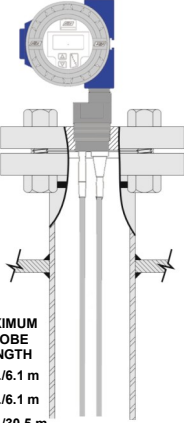
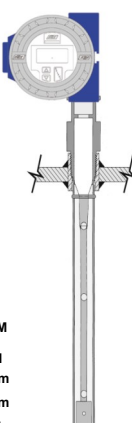
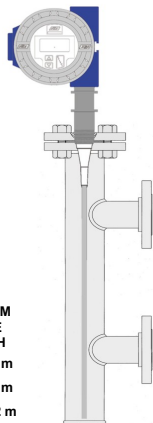
Pressure: Operating: \_\_\_\_\_ Maximum: \_\_\_\_\_ PSIG / KG / BAR

Agitation: ☐ None ☐ Minimal ☐ Heavy

Foam: ☐ No ☐ Yes: \_\_\_\_\_ Foam Density: ☐ Light ☐ Heavy

Buildup: ☐ None ☐ Light ☐ Heavy (Single Probe designs recommended with heavy buildup)

Select mounting configuration closest to your application: (\*Not for liquid / liquid interface)

| <div>Flat Plate<br/>Or<br/>Coupling</div> <div></div> <div><table><tr><th>MINIMUM<br/>DIELECTRIC<br/>CONSTANT</th><th>MAXIMUM<br/>PROBE<br/>LENGTH</th></tr><tr><td>1.3<sup>1</sup></td><td>100 ft./30.5 m</td></tr><tr><td>4</td><td>20 ft./6.1 m</td></tr><tr><td>10</td><td>40 ft./12.2 m</td></tr><tr><td>35</td><td>100 ft./30.5 m</td></tr></table></div> | MINIMUM<br>DIELECTRIC<br>CONSTANT | MAXIMUM<br>PROBE<br>LENGTH | 1.3 <sup>1</sup> | 100 ft./30.5 m | 4 | 20 ft./6.1 m | 10 | 40 ft./12.2 m  | 35                                                                                                                                                                                                                                                                                                                                                                                               | 100 ft./30.5 m                    | <div>Nozzle<br/>&amp;<br/>Flange</div> <div></div> <div><table><tr><th>MINIMUM<br/>DIELECTRIC<br/>CONSTANT</th><th>MAXIMUM<br/>PROBE<br/>LENGTH</th></tr><tr><td>1.3<sup>1</sup></td><td>100 ft./30.5 m</td></tr><tr><td>4</td><td>20 ft./6.1 m</td></tr><tr><td>10</td><td>40 ft./12.2 m</td></tr><tr><td>35</td><td>100 ft./30.5 m</td></tr></table></div> | MINIMUM<br>DIELECTRIC<br>CONSTANT | MAXIMUM<br>PROBE<br>LENGTH | 1.3 <sup>1</sup> | 100 ft./30.5 m | 4  | 20 ft./6.1 m   | 10                                                                                                                                                                                                                                                                                                                                                                             | 40 ft./12.2 m                     | 35                         | 100 ft./30.5 m | <div>Permanent<br/>Stilling Well</div> <div></div> <div><table><tr><th>MINIMUM<br/>DIELECTRIC<br/>CONSTANT</th><th>MAXIMUM<br/>PROBE<br/>LENGTH</th></tr><tr><td>1.7</td><td>20 ft./6.1 m</td></tr><tr><td>3</td><td>30 ft./9.1 m</td></tr><tr><td>10</td><td>50 ft./15.2 m</td></tr><tr><td>35</td><td>50 ft./15.2 m</td></tr></table></div> | MINIMUM<br>DIELECTRIC<br>CONSTANT | MAXIMUM<br>PROBE<br>LENGTH | 1.7 | 20 ft./6.1 m   | 3                                                                                                                                                                                                                                                                                                                                                                                                                           | 30 ft./9.1 m                      | 10                         | 50 ft./15.2 m | 35           | 50 ft./15.2 m | <div>Removable<br/>Stilling Well</div> <div></div> <div><table><tr><th>MINIMUM<br/>DIELECTRIC<br/>CONSTANT</th><th>MAXIMUM<br/>PROBE<br/>LENGTH</th></tr><tr><td>1.7</td><td>20 ft./6.1 m</td></tr><tr><td>3</td><td>30 ft./9.1 m</td></tr><tr><td>10</td><td>50 ft./15.2 m</td></tr><tr><td>35</td><td>50 ft./15.2 m</td></tr></table></div> | MINIMUM<br>DIELECTRIC<br>CONSTANT | MAXIMUM<br>PROBE<br>LENGTH | 1.7 | 20 ft./6.1 m  | 3 | 30 ft./9.1 m | 10 | 50 ft./15.2 m | 35 | 50 ft./15.2 m |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|----------------------------|------------------|----------------|---|--------------|----|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|----------------------------|------------------|----------------|----|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|----------------------------|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|----------------------------|-----|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|----------------------------|---------------|--------------|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|----------------------------|-----|---------------|---|--------------|----|---------------|----|---------------|
| MINIMUM<br>DIELECTRIC<br>CONSTANT                                                                                                                                                                                                                                                                                                                                                                                                                  | MAXIMUM<br>PROBE<br>LENGTH        |                            |                  |                |   |              |    |                |                                                                                                                                                                                                                                                                                                                                                                                                  |                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                   |                            |                  |                |    |                |                                                                                                                                                                                                                                                                                                                                                                                |                                   |                            |                |                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                   |                            |     |                |                                                                                                                                                                                                                                                                                                                                                                                                                             |                                   |                            |               |              |               |                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                   |                            |     |               |   |              |    |               |    |               |
| 1.3 <sup>1</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                   | 100 ft./30.5 m                    |                            |                  |                |   |              |    |                |                                                                                                                                                                                                                                                                                                                                                                                                  |                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                   |                            |                  |                |    |                |                                                                                                                                                                                                                                                                                                                                                                                |                                   |                            |                |                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                   |                            |     |                |                                                                                                                                                                                                                                                                                                                                                                                                                             |                                   |                            |               |              |               |                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                   |                            |     |               |   |              |    |               |    |               |
| 4                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 20 ft./6.1 m                      |                            |                  |                |   |              |    |                |                                                                                                                                                                                                                                                                                                                                                                                                  |                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                   |                            |                  |                |    |                |                                                                                                                                                                                                                                                                                                                                                                                |                                   |                            |                |                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                   |                            |     |                |                                                                                                                                                                                                                                                                                                                                                                                                                             |                                   |                            |               |              |               |                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                   |                            |     |               |   |              |    |               |    |               |
| 10                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 40 ft./12.2 m                     |                            |                  |                |   |              |    |                |                                                                                                                                                                                                                                                                                                                                                                                                  |                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                   |                            |                  |                |    |                |                                                                                                                                                                                                                                                                                                                                                                                |                                   |                            |                |                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                   |                            |     |                |                                                                                                                                                                                                                                                                                                                                                                                                                             |                                   |                            |               |              |               |                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                   |                            |     |               |   |              |    |               |    |               |
| 35                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 100 ft./30.5 m                    |                            |                  |                |   |              |    |                |                                                                                                                                                                                                                                                                                                                                                                                                  |                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                   |                            |                  |                |    |                |                                                                                                                                                                                                                                                                                                                                                                                |                                   |                            |                |                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                   |                            |     |                |                                                                                                                                                                                                                                                                                                                                                                                                                             |                                   |                            |               |              |               |                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                   |                            |     |               |   |              |    |               |    |               |
| MINIMUM<br>DIELECTRIC<br>CONSTANT                                                                                                                                                                                                                                                                                                                                                                                                                  | MAXIMUM<br>PROBE<br>LENGTH        |                            |                  |                |   |              |    |                |                                                                                                                                                                                                                                                                                                                                                                                                  |                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                   |                            |                  |                |    |                |                                                                                                                                                                                                                                                                                                                                                                                |                                   |                            |                |                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                   |                            |     |                |                                                                                                                                                                                                                                                                                                                                                                                                                             |                                   |                            |               |              |               |                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                   |                            |     |               |   |              |    |               |    |               |
| 1.3 <sup>1</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                   | 100 ft./30.5 m                    |                            |                  |                |   |              |    |                |                                                                                                                                                                                                                                                                                                                                                                                                  |                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                   |                            |                  |                |    |                |                                                                                                                                                                                                                                                                                                                                                                                |                                   |                            |                |                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                   |                            |     |                |                                                                                                                                                                                                                                                                                                                                                                                                                             |                                   |                            |               |              |               |                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                   |                            |     |               |   |              |    |               |    |               |
| 4                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 20 ft./6.1 m                      |                            |                  |                |   |              |    |                |                                                                                                                                                                                                                                                                                                                                                                                                  |                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                   |                            |                  |                |    |                |                                                                                                                                                                                                                                                                                                                                                                                |                                   |                            |                |                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                   |                            |     |                |                                                                                                                                                                                                                                                                                                                                                                                                                             |                                   |                            |               |              |               |                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                   |                            |     |               |   |              |    |               |    |               |
| 10                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 40 ft./12.2 m                     |                            |                  |                |   |              |    |                |                                                                                                                                                                                                                                                                                                                                                                                                  |                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                   |                            |                  |                |    |                |                                                                                                                                                                                                                                                                                                                                                                                |                                   |                            |                |                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                   |                            |     |                |                                                                                                                                                                                                                                                                                                                                                                                                                             |                                   |                            |               |              |               |                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                   |                            |     |               |   |              |    |               |    |               |
| 35                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 100 ft./30.5 m                    |                            |                  |                |   |              |    |                |                                                                                                                                                                                                                                                                                                                                                                                                  |                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                   |                            |                  |                |    |                |                                                                                                                                                                                                                                                                                                                                                                                |                                   |                            |                |                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                   |                            |     |                |                                                                                                                                                                                                                                                                                                                                                                                                                             |                                   |                            |               |              |               |                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                   |                            |     |               |   |              |    |               |    |               |
| MINIMUM<br>DIELECTRIC<br>CONSTANT                                                                                                                                                                                                                                                                                                                                                                                                                  | MAXIMUM<br>PROBE<br>LENGTH        |                            |                  |                |   |              |    |                |                                                                                                                                                                                                                                                                                                                                                                                                  |                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                   |                            |                  |                |    |                |                                                                                                                                                                                                                                                                                                                                                                                |                                   |                            |                |                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                   |                            |     |                |                                                                                                                                                                                                                                                                                                                                                                                                                             |                                   |                            |               |              |               |                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                   |                            |     |               |   |              |    |               |    |               |
| 1.7                                                                                                                                                                                                                                                                                                                                                                                                                                                | 20 ft./6.1 m                      |                            |                  |                |   |              |    |                |                                                                                                                                                                                                                                                                                                                                                                                                  |                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                   |                            |                  |                |    |                |                                                                                                                                                                                                                                                                                                                                                                                |                                   |                            |                |                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                   |                            |     |                |                                                                                                                                                                                                                                                                                                                                                                                                                             |                                   |                            |               |              |               |                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                   |                            |     |               |   |              |    |               |    |               |
| 3                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 30 ft./9.1 m                      |                            |                  |                |   |              |    |                |                                                                                                                                                                                                                                                                                                                                                                                                  |                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                   |                            |                  |                |    |                |                                                                                                                                                                                                                                                                                                                                                                                |                                   |                            |                |                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                   |                            |     |                |                                                                                                                                                                                                                                                                                                                                                                                                                             |                                   |                            |               |              |               |                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                   |                            |     |               |   |              |    |               |    |               |
| 10                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 50 ft./15.2 m                     |                            |                  |                |   |              |    |                |                                                                                                                                                                                                                                                                                                                                                                                                  |                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                   |                            |                  |                |    |                |                                                                                                                                                                                                                                                                                                                                                                                |                                   |                            |                |                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                   |                            |     |                |                                                                                                                                                                                                                                                                                                                                                                                                                             |                                   |                            |               |              |               |                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                   |                            |     |               |   |              |    |               |    |               |
| 35                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 50 ft./15.2 m                     |                            |                  |                |   |              |    |                |                                                                                                                                                                                                                                                                                                                                                                                                  |                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                   |                            |                  |                |    |                |                                                                                                                                                                                                                                                                                                                                                                                |                                   |                            |                |                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                   |                            |     |                |                                                                                                                                                                                                                                                                                                                                                                                                                             |                                   |                            |               |              |               |                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                   |                            |     |               |   |              |    |               |    |               |
| MINIMUM<br>DIELECTRIC<br>CONSTANT                                                                                                                                                                                                                                                                                                                                                                                                                  | MAXIMUM<br>PROBE<br>LENGTH        |                            |                  |                |   |              |    |                |                                                                                                                                                                                                                                                                                                                                                                                                  |                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                   |                            |                  |                |    |                |                                                                                                                                                                                                                                                                                                                                                                                |                                   |                            |                |                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                   |                            |     |                |                                                                                                                                                                                                                                                                                                                                                                                                                             |                                   |                            |               |              |               |                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                   |                            |     |               |   |              |    |               |    |               |
| 1.7                                                                                                                                                                                                                                                                                                                                                                                                                                                | 20 ft./6.1 m                      |                            |                  |                |   |              |    |                |                                                                                                                                                                                                                                                                                                                                                                                                  |                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                   |                            |                  |                |    |                |                                                                                                                                                                                                                                                                                                                                                                                |                                   |                            |                |                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                   |                            |     |                |                                                                                                                                                                                                                                                                                                                                                                                                                             |                                   |                            |               |              |               |                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                   |                            |     |               |   |              |    |               |    |               |
| 3                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 30 ft./9.1 m                      |                            |                  |                |   |              |    |                |                                                                                                                                                                                                                                                                                                                                                                                                  |                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                   |                            |                  |                |    |                |                                                                                                                                                                                                                                                                                                                                                                                |                                   |                            |                |                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                   |                            |     |                |                                                                                                                                                                                                                                                                                                                                                                                                                             |                                   |                            |               |              |               |                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                   |                            |     |               |   |              |    |               |    |               |
| 10                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 50 ft./15.2 m                     |                            |                  |                |   |              |    |                |                                                                                                                                                                                                                                                                                                                                                                                                  |                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                   |                            |                  |                |    |                |                                                                                                                                                                                                                                                                                                                                                                                |                                   |                            |                |                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                   |                            |     |                |                                                                                                                                                                                                                                                                                                                                                                                                                             |                                   |                            |               |              |               |                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                   |                            |     |               |   |              |    |               |    |               |
| 35                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 50 ft./15.2 m                     |                            |                  |                |   |              |    |                |                                                                                                                                                                                                                                                                                                                                                                                                  |                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                   |                            |                  |                |    |                |                                                                                                                                                                                                                                                                                                                                                                                |                                   |                            |                |                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                   |                            |     |                |                                                                                                                                                                                                                                                                                                                                                                                                                             |                                   |                            |               |              |               |                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                   |                            |     |               |   |              |    |               |    |               |
| <div>Dual Rod<br/>Flat Plate or<br/>Coupling</div> <div></div> <div><table><tr><th>MINIMUM<br/>DIELECTRIC<br/>CONSTANT</th><th>MAXIMUM<br/>PROBE<br/>LENGTH</th></tr><tr><td>3</td><td>20 ft./6.1 m</td></tr><tr><td>4</td><td>20 ft./6.1 m</td></tr><tr><td>10</td><td>100 ft./30.5 m</td></tr></table></div>                                                  | MINIMUM<br>DIELECTRIC<br>CONSTANT | MAXIMUM<br>PROBE<br>LENGTH | 3                | 20 ft./6.1 m   | 4 | 20 ft./6.1 m | 10 | 100 ft./30.5 m | <div>Dual Rod<br/>Nozzle &amp;<br/>Flange</div> <div></div> <div><table><tr><th>MINIMUM<br/>DIELECTRIC<br/>CONSTANT</th><th>MAXIMUM<br/>PROBE<br/>LENGTH</th></tr><tr><td>2.5</td><td>20 ft./6.1 m</td></tr><tr><td>4</td><td>20 ft./6.1 m</td></tr><tr><td>10</td><td>100 ft./30.5 m</td></tr></table></div> | MINIMUM<br>DIELECTRIC<br>CONSTANT | MAXIMUM<br>PROBE<br>LENGTH                                                                                                                                                                                                                                                                                                                                                                                                                      | 2.5                               | 20 ft./6.1 m               | 4                | 20 ft./6.1 m   | 10 | 100 ft./30.5 m | <div>Coaxial<br/>Probe</div> <div></div> <div><table><tr><th>MINIMUM<br/>DIELECTRIC<br/>CONSTANT</th><th>MAXIMUM<br/>PROBE<br/>LENGTH</th></tr><tr><td>1.4</td><td>20 ft./6.1 m</td></tr><tr><td>4</td><td>20 ft./6.1 m</td></tr><tr><td>10</td><td>100 ft./30.5 m</td></tr></table></div> | MINIMUM<br>DIELECTRIC<br>CONSTANT | MAXIMUM<br>PROBE<br>LENGTH | 1.4            | 20 ft./6.1 m                                                                                                                                                                                                                                                                                                                                                                                                                      | 4                                 | 20 ft./6.1 m               | 10  | 100 ft./30.5 m | <div>External<br/>Chamber</div> <div></div> <div><table><tr><th>MINIMUM<br/>DIELECTRIC<br/>CONSTANT</th><th>MAXIMUM<br/>PROBE<br/>LENGTH</th></tr><tr><td>1.7</td><td>20 ft./6.1 m</td></tr><tr><td>3</td><td>30 ft./9.1 m</td></tr><tr><td>10</td><td>50 ft./15.2 m</td></tr><tr><td>35</td><td>50 ft./15.2 m</td></tr></table></div> | MINIMUM<br>DIELECTRIC<br>CONSTANT | MAXIMUM<br>PROBE<br>LENGTH | 1.7           | 20 ft./6.1 m | 3             | 30 ft./9.1 m                                                                                                                                                                                                                                                                                                                                                                                                                       | 10                                | 50 ft./15.2 m              | 35  | 50 ft./15.2 m |   |              |    |               |    |               |
| MINIMUM<br>DIELECTRIC<br>CONSTANT                                                                                                                                                                                                                                                                                                                                                                                                                  | MAXIMUM<br>PROBE<br>LENGTH        |                            |                  |                |   |              |    |                |                                                                                                                                                                                                                                                                                                                                                                                                  |                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                   |                            |                  |                |    |                |                                                                                                                                                                                                                                                                                                                                                                                |                                   |                            |                |                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                   |                            |     |                |                                                                                                                                                                                                                                                                                                                                                                                                                             |                                   |                            |               |              |               |                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                   |                            |     |               |   |              |    |               |    |               |
| 3                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 20 ft./6.1 m                      |                            |                  |                |   |              |    |                |                                                                                                                                                                                                                                                                                                                                                                                                  |                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                   |                            |                  |                |    |                |                                                                                                                                                                                                                                                                                                                                                                                |                                   |                            |                |                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                   |                            |     |                |                                                                                                                                                                                                                                                                                                                                                                                                                             |                                   |                            |               |              |               |                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                   |                            |     |               |   |              |    |               |    |               |
| 4                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 20 ft./6.1 m                      |                            |                  |                |   |              |    |                |                                                                                                                                                                                                                                                                                                                                                                                                  |                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                   |                            |                  |                |    |                |                                                                                                                                                                                                                                                                                                                                                                                |                                   |                            |                |                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                   |                            |     |                |                                                                                                                                                                                                                                                                                                                                                                                                                             |                                   |                            |               |              |               |                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                   |                            |     |               |   |              |    |               |    |               |
| 10                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 100 ft./30.5 m                    |                            |                  |                |   |              |    |                |                                                                                                                                                                                                                                                                                                                                                                                                  |                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                   |                            |                  |                |    |                |                                                                                                                                                                                                                                                                                                                                                                                |                                   |                            |                |                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                   |                            |     |                |                                                                                                                                                                                                                                                                                                                                                                                                                             |                                   |                            |               |              |               |                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                   |                            |     |               |   |              |    |               |    |               |
| MINIMUM<br>DIELECTRIC<br>CONSTANT                                                                                                                                                                                                                                                                                                                                                                                                                  | MAXIMUM<br>PROBE<br>LENGTH        |                            |                  |                |   |              |    |                |                                                                                                                                                                                                                                                                                                                                                                                                  |                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                   |                            |                  |                |    |                |                                                                                                                                                                                                                                                                                                                                                                                |                                   |                            |                |                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                   |                            |     |                |                                                                                                                                                                                                                                                                                                                                                                                                                             |                                   |                            |               |              |               |                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                   |                            |     |               |   |              |    |               |    |               |
| 2.5                                                                                                                                                                                                                                                                                                                                                                                                                                                | 20 ft./6.1 m                      |                            |                  |                |   |              |    |                |                                                                                                                                                                                                                                                                                                                                                                                                  |                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                   |                            |                  |                |    |                |                                                                                                                                                                                                                                                                                                                                                                                |                                   |                            |                |                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                   |                            |     |                |                                                                                                                                                                                                                                                                                                                                                                                                                             |                                   |                            |               |              |               |                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                   |                            |     |               |   |              |    |               |    |               |
| 4                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 20 ft./6.1 m                      |                            |                  |                |   |              |    |                |                                                                                                                                                                                                                                                                                                                                                                                                  |                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                   |                            |                  |                |    |                |                                                                                                                                                                                                                                                                                                                                                                                |                                   |                            |                |                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                   |                            |     |                |                                                                                                                                                                                                                                                                                                                                                                                                                             |                                   |                            |               |              |               |                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                   |                            |     |               |   |              |    |               |    |               |
| 10                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 100 ft./30.5 m                    |                            |                  |                |   |              |    |                |                                                                                                                                                                                                                                                                                                                                                                                                  |                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                   |                            |                  |                |    |                |                                                                                                                                                                                                                                                                                                                                                                                |                                   |                            |                |                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                   |                            |     |                |                                                                                                                                                                                                                                                                                                                                                                                                                             |                                   |                            |               |              |               |                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                   |                            |     |               |   |              |    |               |    |               |
| MINIMUM<br>DIELECTRIC<br>CONSTANT                                                                                                                                                                                                                                                                                                                                                                                                                  | MAXIMUM<br>PROBE<br>LENGTH        |                            |                  |                |   |              |    |                |                                                                                                                                                                                                                                                                                                                                                                                                  |                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                   |                            |                  |                |    |                |                                                                                                                                                                                                                                                                                                                                                                                |                                   |                            |                |                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                   |                            |     |                |                                                                                                                                                                                                                                                                                                                                                                                                                             |                                   |                            |               |              |               |                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                   |                            |     |               |   |              |    |               |    |               |
| 1.4                                                                                                                                                                                                                                                                                                                                                                                                                                                | 20 ft./6.1 m                      |                            |                  |                |   |              |    |                |                                                                                                                                                                                                                                                                                                                                                                                                  |                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                   |                            |                  |                |    |                |                                                                                                                                                                                                                                                                                                                                                                                |                                   |                            |                |                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                   |                            |     |                |                                                                                                                                                                                                                                                                                                                                                                                                                             |                                   |                            |               |              |               |                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                   |                            |     |               |   |              |    |               |    |               |
| 4                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 20 ft./6.1 m                      |                            |                  |                |   |              |    |                |                                                                                                                                                                                                                                                                                                                                                                                                  |                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                   |                            |                  |                |    |                |                                                                                                                                                                                                                                                                                                                                                                                |                                   |                            |                |                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                   |                            |     |                |                                                                                                                                                                                                                                                                                                                                                                                                                             |                                   |                            |               |              |               |                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                   |                            |     |               |   |              |    |               |    |               |
| 10                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 100 ft./30.5 m                    |                            |                  |                |   |              |    |                |                                                                                                                                                                                                                                                                                                                                                                                                  |                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                   |                            |                  |                |    |                |                                                                                                                                                                                                                                                                                                                                                                                |                                   |                            |                |                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                   |                            |     |                |                                                                                                                                                                                                                                                                                                                                                                                                                             |                                   |                            |               |              |               |                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                   |                            |     |               |   |              |    |               |    |               |
| MINIMUM<br>DIELECTRIC<br>CONSTANT                                                                                                                                                                                                                                                                                                                                                                                                                  | MAXIMUM<br>PROBE<br>LENGTH        |                            |                  |                |   |              |    |                |                                                                                                                                                                                                                                                                                                                                                                                                  |                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                   |                            |                  |                |    |                |                                                                                                                                                                                                                                                                                                                                                                                |                                   |                            |                |                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                   |                            |     |                |                                                                                                                                                                                                                                                                                                                                                                                                                             |                                   |                            |               |              |               |                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                   |                            |     |               |   |              |    |               |    |               |
| 1.7                                                                                                                                                                                                                                                                                                                                                                                                                                                | 20 ft./6.1 m                      |                            |                  |                |   |              |    |                |                                                                                                                                                                                                                                                                                                                                                                                                  |                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                   |                            |                  |                |    |                |                                                                                                                                                                                                                                                                                                                                                                                |                                   |                            |                |                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                   |                            |     |                |                                                                                                                                                                                                                                                                                                                                                                                                                             |                                   |                            |               |              |               |                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                   |                            |     |               |   |              |    |               |    |               |
| 3                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 30 ft./9.1 m                      |                            |                  |                |   |              |    |                |                                                                                                                                                                                                                                                                                                                                                                                                  |                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                   |                            |                  |                |    |                |                                                                                                                                                                                                                                                                                                                                                                                |                                   |                            |                |                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                   |                            |     |                |                                                                                                                                                                                                                                                                                                                                                                                                                             |                                   |                            |               |              |               |                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                   |                            |     |               |   |              |    |               |    |               |
| 10                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 50 ft./15.2 m                     |                            |                  |                |   |              |    |                |                                                                                                                                                                                                                                                                                                                                                                                                  |                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                   |                            |                  |                |    |                |                                                                                                                                                                                                                                                                                                                                                                                |                                   |                            |                |                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                   |                            |     |                |                                                                                                                                                                                                                                                                                                                                                                                                                             |                                   |                            |               |              |               |                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                   |                            |     |               |   |              |    |               |    |               |
| 35                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 50 ft./15.2 m                     |                            |                  |                |   |              |    |                |                                                                                                                                                                                                                                                                                                                                                                                                  |                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                   |                            |                  |                |    |                |                                                                                                                                                                                                                                                                                                                                                                                |                                   |                            |                |                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                   |                            |     |                |                                                                                                                                                                                                                                                                                                                                                                                                                             |                                   |                            |               |              |               |                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                   |                            |     |               |   |              |    |               |    |               |

1. Accuracy subject to changes in dielectric constant. Ultra-Low Dielectric (ULD) measurement method supports dielectric constants from 1.3 to a maximum of 2.5.

# Quotation Request

## Material & Connections:

Process Connection: ☐ MNPT ☐ RF Flange ☐ Tri-Clamp ☐ Other

Process Connection Description: \_\_\_\_\_

Probe Material: ☐ 316L SS ☐ Hast C276 ☐ Hast B3 ☐ Monel ☐ Titanium ☐ Inconel 625  
Probe Type: ☐ Solid Rod ☐ Cable (316SS & Monel Only)  
☐ Sanitary Rod Specify Finish ☐ 180 Grit ☐ 240 Grit ☐ 240 Grit & EP

(Refer to chart for part numbers)

Centering Disk (Solid Rod): ☐ Yes ☐ No P/N: \_\_\_\_\_ If blank, K-TEK will choose.

Centering Weight (Cables): ☐ Yes ☐ No P/N: \_\_\_\_\_ If blank, K-TEK will choose.

## Housing & Electronics Options:

☐ Aluminum Dual Compartment Housing (standard) ☐ 316L SS Dual Compartment Housing ☐ Window Cover  
☐ HART ☐ MODBUS ☐ Foundation Fieldbus

## Vessel / Application Details:

specify by circling

Total Insertion Length (Bottom of process fitting to end of probe): \_\_\_\_\_ in / ft / cm / m Other: \_\_\_\_\_

Standard Lengths for field modification to final length: \_\_\_\_\_

Custom Lengths for final length by K-TEK \_\_\_\_\_

Mounting:

- ☐ Directly on roof of tank ☐ Mounted on Nozzle: nozzle height: \_\_\_\_\_ diameter: \_\_\_\_\_  
☐ In existing stilling well - describe: \_\_\_\_\_  
☐ In new stilling well - describe: \_\_\_\_\_  
☐ In external chamber - describe: \_\_\_\_\_  
☐ Stilling well or external chamber to be supplied with transmitter: Yes ☐ No ☐

## Approval Required:

- |                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                         |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input type="checkbox"/> <b>FM Factory Mutual</b><br>XP-IS / I / 1 / ABCD / T6 Ta = 77°C<br>DIP / II, III / 1 / EFG / T6 Ta = 77°C<br>IS / I / 1 / ABCD / T4 Ta = 77°C - ELE1034<br>NI / I / 2 / ABCD / T4 Ta = 77°C<br>S / II, III / 2 / FG / T4 Ta = 77°C<br>ANI / I / 2 / ABCD / T4 - ELE1034<br>Type 4X | <input type="checkbox"/> <b>IEC International Electromechanical Commission</b><br><b>IECEx ITS 08.0036X</b><br>II 1/2 G/D<br>Ex ia IIB T4 (-40°C ≤ Tamb ≤ 66°C)<br>Ex iaD 20/21 IP6X T80°C (-40°C ≤ 66°C)<br><b>IECEx ITS 08.0037X</b><br>Ex ia d IIC T4<br>Ex iaD tD 20/A21 IP6X T80°C |
| <input type="checkbox"/> <b>Canadian Standards Association</b><br>XP CL 1, DIV 1, GP ABCD; CL 2, DIV 1, GP EFG; CL 3 - T6<br>CL 1, DIV 2, GP ABCD; CL 2, DIV 2, GP EFG - T5<br>IS CL 1, DIV 1, GP CD; CL 2, DIV 1, GP EFG - T4<br>- when installed per ELE1034<br>Type 4X                                   | <input type="checkbox"/> <b>ATEX</b><br><b>ITS 08ATEX25865X</b><br>Ex ia IIB T4 (-40°C ≤ Tamb ≤ 66°C)<br>Ex iaD 20/21 IP6X T80°C (-40°C Tamb ≤ 66°C)<br><b>ITS08 ATEX15870X</b><br>II 1/2 G/D Ex ia d IIC T6<br>Ex tD 20/A21 IP6X T80°C                                                 |
| <input type="checkbox"/> <b>GOST Russian</b><br>1Exd[ia]IIC T6, 0ExiaIIB T6, IP67                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                         |
| <input type="checkbox"/> <b>UKRSEPRO</b><br>1ExdIIC T6, 0ExiaIIB T4                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                         |

## Completed by K-TEK:

Quotation # \_\_\_\_\_ By: \_\_\_\_\_ Date: \_\_\_\_\_

Qty: \_\_\_\_\_ Part #: \_\_\_\_\_ Price: \$ \_\_\_\_\_

Options: \_\_\_\_\_

Note: All prices USD, EX-Works packed for shipping, FOB Factory, standard shipping 5 weeks ARO.

Additional notes or comments: \_\_\_\_\_

**K-TEK**  
18321 Swamp Road  
Prairieville, Louisiana 70769 USA  
Telephone: 1.225.673.6100  
Fax: 1.225.673.2525  
Email: sales@ktekcorp.com  
Website: www.ktekcorp.com

MT5100-0202-1 Rev j (07-2010)  
DCN0494  
For latest version of this data sheet, visit  
www.ktekcorp.com.

**K-TEK**  
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