KCAP300
RF Capacitance Level Switch

With KSHIELD™ sensing probes for solids, powder & granular detection

K-TEK Level products

Features
- KSHIELD™ sensing probes and single setpoint electronics that provide immunity to buildup
- Integral and remote electronics
- Easy set up via external magnet or pushbuttons
- Housing with glass viewing cover
- Wide variety of sensing probes to (450°F / 800 psig)
- Single point detection
- Single touch initialization
- Element sensitivity down to 0.5 pF

Applications
Bulk Solids Applications
- High or low level alarm
- Plugged chute detection
- Fly ash hopper level
- Pellets, granules, powders,
- Chips & flakes

Options
- 316L SS enclosure
- External “alarm” indicating lamp
- Tip extended extensions to 60 in / 1524 mm
- Pipe extensions to 240 in / 6096 mm
- Industry standard bulk solids mounting plate
- Process connections: 3/4"NPT, 1 1/4"NPT, and custom flanges
**Environmental**

<table>
<thead>
<tr>
<th>Housing Type</th>
<th>Explosion Proof, Powder Coated Cast Aluminum Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electronics Temperature</td>
<td>-40º to 158ºF / -40º to 70ºC</td>
</tr>
<tr>
<td>Process Maximum</td>
<td>450ºF @ 800 psig (232ºC @ 55.2 bar)</td>
</tr>
<tr>
<td>Dielectric</td>
<td>1.4 or greater</td>
</tr>
<tr>
<td>Remote Mounting</td>
<td>Max. length of 200 ft. from sensing probe to the remote electronics</td>
</tr>
<tr>
<td>Approvals</td>
<td>Factory Mutual Research Corp. Explosion Proof with Intrinsically Safe Sensor XP-IS / I, II, III / 1 / ABCDEFG T6</td>
</tr>
</tbody>
</table>

**Electrical**

<table>
<thead>
<tr>
<th>Input Power</th>
<th>95-130 VAC, 50-60Hz; 2 Watts; 180-260 VAC, 50-60Hz; 24 VDC +/- 5%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relay Contact Rating</td>
<td>1x DPDT Resistive: 8 Amp, 250 VAC; 8 Amp, 30VDC. Inductive: 1/5 HP 125, 250 VAC.</td>
</tr>
<tr>
<td>Sensitivity</td>
<td>With an initial load of 30 pF, an increase of 0.5pF can be detected</td>
</tr>
<tr>
<td>Static Protection</td>
<td>Peak Surge Current: 800 Amps Clamp Voltage: 75 Volts</td>
</tr>
<tr>
<td>Cable Entry</td>
<td>2x 3/4&quot; NPT (Single Compartment Housing) 1x 3/4&quot; NPT (Dual Compartment Housing)</td>
</tr>
</tbody>
</table>

**SPECIFICATIONS**

<table>
<thead>
<tr>
<th>Powders and Granulars</th>
<th>KCAP300.a.b.c.d.e.f.g.h.i.j.k</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating Power</td>
<td>1 24 VDC 2 120 VAC 3 240 VAC</td>
</tr>
<tr>
<td>Housing</td>
<td>A1W Single Compartment Powder Coated Aluminum Housing with Glass Viewing Cover A2W Dual Compartment Powder Coated Aluminum Housing with Glass Viewing Cover S2W Dual Compartment Stainless Steel Housing with Glass Viewing Cover</td>
</tr>
<tr>
<td>Process Connection</td>
<td>0750 3/4&quot; NPT (standard) 1250 1 1/4&quot; NPT (bushing will be supplied) FL Flange Shipped Loose WP Welded Process Connection</td>
</tr>
<tr>
<td>Process Connection Material</td>
<td>S6 316L Stainless Steel CST Carbon Steel (only available with FL)</td>
</tr>
<tr>
<td>Process Connection Size / Rating / Type</td>
<td>XXXX Specify from Flange Chart SLG-0001-1</td>
</tr>
<tr>
<td>Type</td>
<td>(KSHIELD™ 3-Element Probe) Reference KCAP™ Probe Selection Guide (SLG-0006-1, Table 1A)</td>
</tr>
</tbody>
</table>

**Ordering Information**

<table>
<thead>
<tr>
<th>Type</th>
<th>Insertion Length</th>
<th>Wetted Parts</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>20.25&quot; (514.35mm)</td>
<td>[316SS + TFE: 450ºF (232ºC) @ 800 psig (55.2 bar)]</td>
</tr>
<tr>
<td>S</td>
<td>14.25&quot; (361.95mm)</td>
<td>[316SS + TFE: 450ºF (232ºC) @ 800 psig (55.2 bar)]</td>
</tr>
<tr>
<td>B</td>
<td>Bent as Specified</td>
<td>[316SS + TFE: 450ºF (232ºC) @ 800 psig (55.2 bar)]</td>
</tr>
</tbody>
</table>

**Notes:**

1. Extended insertion lengths are only available with the Standard (A) probe type.
2. Consult Factory.
Approvals

X None

N2 FM Explosion Proof with Intrinsically Safe Sensor

Remote / Mounting

X None

R Remote Mount. Specify Length in Feet or Meters (Max. 200 Feet)

Pipe / Rigid Tip Extension

X None

RT Rigid Tip Extension (Vertical Installations Only)

PE Pipe Extension (Vertical Installation Only)

Indication Lamp

X None

L2 120 VAC - External "Alarm Only" Indicating Lamp (general purpose only - NOT approved by FM)

L3 240 VAC - External "Alarm Only" Indicating Lamp (general purpose only - NOT approved by FM)

Insertion Length

SL Standard length as specified in "f" above. Bare, stainless probes can be shortened in the field. Subject to probe sensitivity.

L Custom length from face of coupler in inches or millimeters. Custom lengths (tip and pipe extensions) are only available with the Standard probe type model. Customer should specify type of extension flexible, rigid, or pipe) in section "i" above. Reference the KCAP Probe Selection Guide (SLG-0006-1) for maximum lengths. Insertion Length should be provided seperately from the model code

Available Accessories:

MP 304SS “bulk solids” mounting plate with 3/4” NPT half coupling (for paddle switch replacement)

M20 M20 Connection

M20-SS M20 316SS Female Electrical Connection

Included Accessories:

Services will follow the model code with // and will not be included on the device tag

Services

GD1 Drawings for Approval - NOTE: Lead time will start after receipt of customer approved drawings

GD2 Drawings for Record

GD3 Certified as Built Drawings - NOTE: Lead time will start after receipt of Purchase Order

CHC Positive Material Identification with Carbon Content

CHD Positive Material Identification without Carbon Content

C2 Material Monitoring with Inspection Certificate 3.1 acc. EN 10204

GS1 Certificate of Origin

GS2 Certificate of Origin Notarized by Local Chamber of Commerce

GS3 Certificate of Origin Legalized by Specific Country Chamber of Commerce - Lead Time may be Extended depending on Country

GS4 Korean Foreign Trade certificate

GS5 NAFTA Certificate

GS6 EX-IM BANK Certificate (One per Tag)

GS7 Approved Material List (Requires C2 under Material Monitoring)

CU3 Certificate of Functionality

CN1 NACE (MR 0103) Hardness Certificate (Requires C2 in Material Monitoring)

CN3 NACE (MR 00175 / ISO 15156) Hardness Certificate (Requires C2 in Material Monitoring)