

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

Options

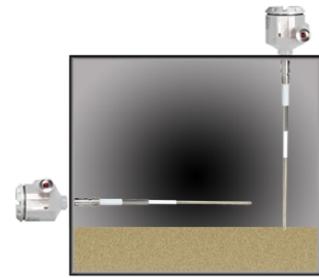
- 316L SS enclosure
- External “alarm” indicating lamp
- Tip extended extensions to 60 in / 1524 mm
- Pipe extensions to 240 in / 6096 mm
- Industry standard bulk solids mounting plate
- Process connections: 3/4”NPT, 1 1/4”NPT, and custom flanges

Applications

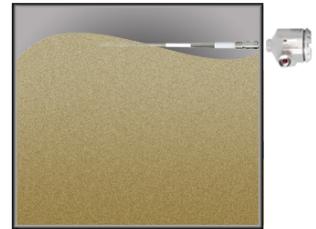
- Bulk Solids Applications
- High or low level alarm
 - Plugged chute detection
 - Fly ash hopper level
 - Pellets, granules, powders,
 - Chips & flakes

SPECIFICATIONS

Environmental	
Housing Type	Explosion Proof, Powder Coated Cast Aluminum Standard
Electronics Temperature	-40° to 158°F / -40° to 70°C
Process Maximum	450°F @ 800 psig (232°C @ 55.2 bar)
Dielectric	1.4 or greater
Remote Mounting	Max. length of 200 ft. from sensing probe to the remote electronics
Approvals	Factory Mutual Research Corp. Explosion Proof with Intrinsically Safe Sensor XP-IS / I, II, III / 1 / ABCDEFG T6
	
Electrical	
Input Power	95-130 VAC, 50-60Hz, 2 Watts; 180-260 VAC, 50-60Hz; 24 VDC +/- 5%
Relay Contact Rating	1x DPDT Resistive: 8 Amp, 250 VAC; 8 Amp, 30VDC. Inductive: 1/5 HP 125, 250 VAC.
Sensitivity	With an initial load of 30 pF, an increase of 0.5pF can be detected
Static Protection	Peak Surge Current: 800 Amps Clamp Voltage: 75 Volts
Cable Entry	2x 3/4" NPT (Single Compartment Housing) 1x 3/4" NPT (Dual Compartment Housing)



Bulk Solids

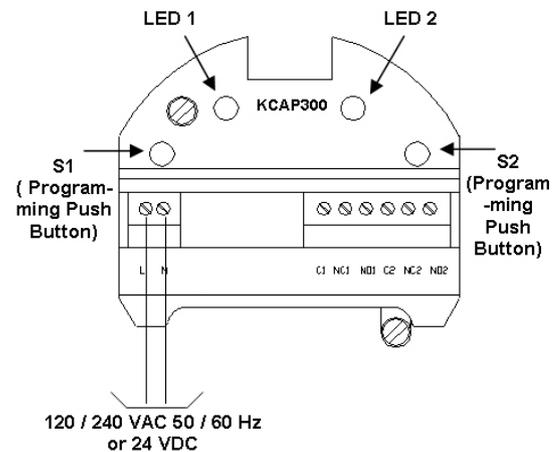


Powders and Granulars

ORDERING INFORMATION

KCAP300.a.b.c.d.e.f.g.h.i.j.k			
a	Operating Power		
1	24 VDC		
2	120 VAC		
3	240 VAC		
b	Housing		
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		
c	Process Connection		
0750	3/4" NPT (standard)		
1250	1 1/4" NPT (bushing will be supplied)		
FL	Flange Shipped Loose		
WP	Welded Process Connection		
d	Process Connection Material		
S6	316L Stainless Steel		
CST	Carbon Steel (only available with FL)		
e	Process Connection Size / Rating / Type		
X	None		
XXXX	Specify from Flange Chart SLG-0001-1		
f	Probe Type (KSHIELD™ 3-Element Probe) Reference KCAP™ Probe Selection Guide (SLG-0006-1, Table 1A)		
	Type	Insertion Length	Wetted Parts
A	Standard ¹	20.25" (514.35mm)	[316SS + TFE: 450°F (232°C) @ 800 psig (55.2 bar)]
S	Stub	14.25" (361.95mm)	[316SS + TFE: 450°F (232°C) @ 800 psig (55.2 bar)]
B	Bent ²	Bent as Specified	[316SS + TFE: 450°F (232°C) @ 800 psig (55.2 bar)]
Notes:			
1. Extended insertion lengths are only available with the Standard (A) probe type.			
2. Consult Factory.			

ELECTRICAL CONNECTION DIAGRAM



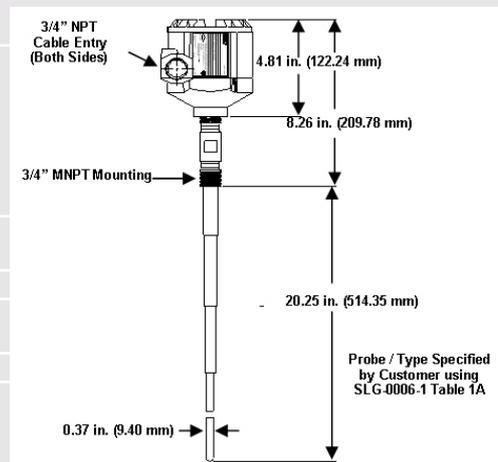
g	Approvals
X	None
N2	FM Explosion Proof with Intrinsically Safe Sensor
h	Remote / Mounting
X	None
R	Remote Mount. Specify Length in Feet or Meters (Max. 200 Feet)
i	Pipe / Rigid Tip Extension
X	None
RT	Rigid Tip Extension (Vertical Installations Only)
PE	Pipe Extension (Vertical Installation Only)
j	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)



k	Insertion Length
SL	Standard length as specified in "P" 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 separately 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

GENERAL DIMENSIONS



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)

Contact us

ABB Inc.

Industrial Automation
125 E. County Line Road
Warminster, PA 18974
USA
Tel: +1 215 674 6000
Fax: +1 215 674 7183

ABB Inc.

Industrial Automation
17100 Manchac Park Lane - Suite B
Baton Rouge, LA 70817
USA
Tel: +1 225 408 0800
Service: +1 225 408 0898
Service e-mail: ktek-service@us.abb.com

www.abb.com/level

Note

We reserve the right to make technical changes or modify the contents of this document without prior notice. With regard to purchase orders, the agreed particulars shall prevail. ABB does not accept any responsibility whatsoever for potential errors or possible lack of information in this document.

We reserve all rights in this document and in the subject matter and illustrations contained therein. Any reproduction, disclosure to third parties or utilization of its contents - in whole or in parts - is forbidden without prior written consent of ABB.

Copyright© 2017 ABB
All rights reserved