

Level switch

Model 5715

WIKA data sheet LM 70.03

Applications

- Solids – coal, limestone
- Dry powder
- Plugged chute detection
- Bulk solid storage

Special features

- Micro processor control
- One press calibration
- Robust construction
- Normal / failsafe alarm selection
- Pre-defined time delay option
- LED status indication



Level switch, model 5715

Description

Level switch model 5715 is specifically designed to suit low or high level detection of material having low dielectric constant such as flyash, fine dust, powders, etc.,

The level switch work on the principle of RF capacitance sensing method. The instrument is constructed as two parts – Probe and Remote control electronics.

The probe part acts as a sensor which has three elements which are Sensing, Shield and Guard elements. Each section of probe is isolated by an insulated barrier.

The guard always is in contact with the vessel body through the process connection. This acts as a common reference electrode to measure the capacitance between sensing probe and guard.

The electronics detects the difference in capacitance and the relay is activated when the capacitance reaches the set value.

The calibration methodology is a unique concept and is a one touch calibration process utilising a micro controller without any traditional potentiometer.

The entire circuitry is housed in a IP65 compliant weatherproof enclosure suitable for surface / wall (or) pipe mounting.

Specifications

Basic information	
Switch enclosure	Aluminium pressure die cast weatherproof
Working principle	RF capacitance
Construction	Remote type
Environmental	<ul style="list-style-type: none"> ■ Ambient: 10 ... 60°C ■ Humidity: 95% RH maximum

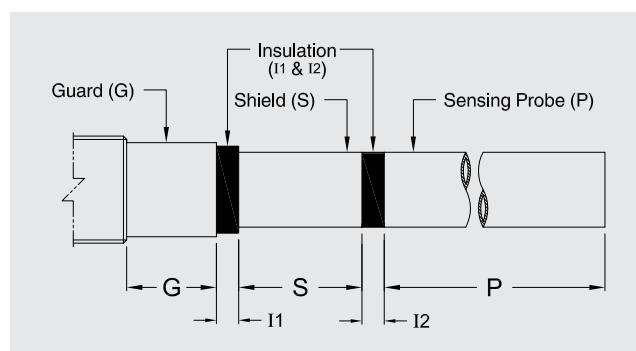
Probe unit	
Power	From control unit through 4 core shielded interconnecting cable of 25 meters maximum.
Indication	Power ON: Red LED Visible upon removal of probe head cover
Electrical entry	1/2" NPT(F) per ASME B1.20.1 - 1 No.
Probe type and construction	<ul style="list-style-type: none"> ■ Driven shield type ■ 3 element, rigid rod
Probe insulation	<ul style="list-style-type: none"> ■ PTFE: Upto 210°C ■ Ceramic: 211°C ... 500°C
Probe length (Refer probe length table)	<ul style="list-style-type: none"> ■ 220 mm minimum ■ 600 mm maximum
Probe diameter	32 mm, ±2 mm
Wetted parts	<ul style="list-style-type: none"> ■ Sensing and shield element: 316 SS ■ Insulation <ul style="list-style-type: none"> PTFE – Process temperature below 200°C Ceramic – Process temperature above 200°C upto 500°C ■ Guard with process connection: Refer ordring matrix
Process connection and material	Refer ordering matrix
Permissible process pressure	0.1 bar maximum
Temperature stand-off for probe electronics	280 mm extended height
Ingress protection	IP65
Mounting	<ul style="list-style-type: none"> ■ Top ■ Side

Output signal	
Response time	<1 second

Remote control unit	
Switch enclosure	Aluminium pressure die cast weatherproof
Power	<ul style="list-style-type: none"> ■ 100 to 240V AC ■ 18 to 36V DC (option)
Input	Pulse signal from probe unit
No. of setpoint	One
Setpoint Calibration	Through push button
Setpoint On-Off Differential	Pre-fixed 2 to 10 pF. Selectable through DIP switch
Alarm Mode	<ul style="list-style-type: none"> ■ Low or High ■ Selectable through DIP switch
Relay Mode	<ul style="list-style-type: none"> ■ Normal or failsafe ■ Selectable through DIP switch
Time delay	<ul style="list-style-type: none"> ■ Pre-fixed 0, 3, 6, 9 seconds ■ Selectable through DIP switch
Output	1 × DPDT relay
Contact Rating	5A @ 250V AC / 28V DC
Indications	<ul style="list-style-type: none"> ■ Power ON: Red LED ■ Material present: Green LED ■ Delay ON: Yellow LED Blinking ■ Relay ON: Yellow LED Stable
Electrical Connection (Probe, Power, Relay)	<ul style="list-style-type: none"> ■ 13 Position screw clamp terminals through PVC cable gland to accommodate 2.5 sq. mm wires ■ 1/2" NPT(F) per ASME B1.20.1 – 3 Nos. ■ Other electrical entry consult sales
Ingress protection	IP65
Mounting	<ul style="list-style-type: none"> ■ Surface ■ Wall

Probe length table

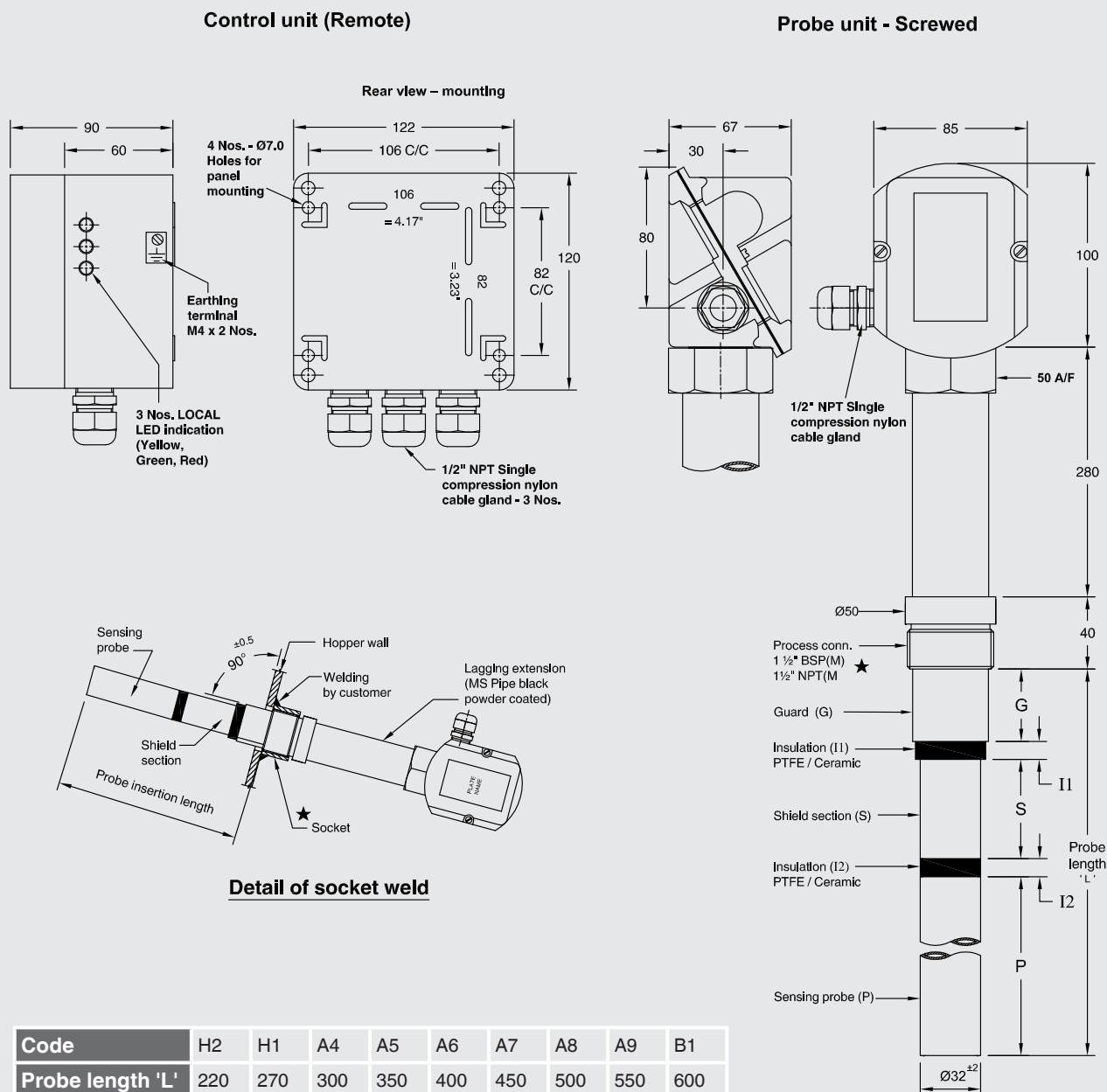
Code	Probe length (mm)	G	I1	S	I2	P
H2	220	30	10	50	10	120
H1	270	80	10	50	10	120
A4	300	80	10	50	10	150
A5	350	130	10	50	10	150
A6	400	180	10	50	10	150
A7	450	230	10	50	10	150
A8	500	250	10	80	10	150
A9	550	300	10	80	10	150
B1	600	350	10	80	10	150



Ordering matrix

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Basic model							
Level switch three element probe	5715						
Power supply							
100 to 240V AC	L						
18 to 36V DC	P						
Probe insulation							
PTFE	P						
Ceramic	C						
Probe length (for details refer specification)							
220 mm	H2						
270 mm	H1						
300 mm	A4						
350 mm	A5						
400 mm	A6						
450 mm	A7						
500 mm	A8						
550 mm	A9						
600 mm	B1						
Process connection							
Screwed, 1½" BSPM	P9						
Screwed, 1½" NPTM	P10						
Flanged, 1½" ANSI, 150 RF	F5						
Flanged, 2" ANSI, 150 RF	F7						
Flanged, 3" ANSI, 150 RF	FB						
Flanged, 4" ANSI, 150 RF	F13						
Process connection material							
Mild steel	C						
304 SS	4						
316 SS	2						
Interconnecting cable							
Not required	ZZ						
5 meter	05						
10 meter	10						
15 meter	15						
20 meter	20						
25 meter	25						

Dimensions in mm



Ordering information

Basic model / Power supply / Probe insulation / Probe length / Process connection / Process connection material / Interconnecting cable

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