

Level switch

Model 5711, 5712

WIKA data sheet LM 70.01

Applications

- Conductive liquids – water, acid, alkalis
- Non-conductive liquids – oil, lubricants
- Solids – free flowing fine powder
- Tank fill and drain functions
- Pump control

Special features

- Wide differential option
- Weatherproof or flameproof



Fig.: Left: Level switch, remote type with rail mounted enclosure

Fig.: Right: Level switch, integral type with style GK enclosure

Description

The model 5711, 5712 has been developed for monitoring and control of process level by using the principle of R.F.Capacitance.

These instruments are suitable to measure liquids, slurries and bulk solid applications. Compact size and ease of installation combined with accurate sensing of level in both hazardous and non-hazardous locations render these level switches the most versatile.

These are simple in design, rugged in construction. Different models are available for Single / Dual point

level controls. The sensing probes are available for both conductive and non-conductive processes. A variety of configuration and mounting styles are available to meet wide range of process requirements.

Model 5711 has a single setpoint with 1 DPDT relay output with fixed narrow deadband and adjustable time delay is provided.

Model 5712 has dual setpoints with 1 DPDT relay output for each setpoint, having fixed narrow deadband. Alternatively the two setpoints can be interlocked to provide 1 DPDT relay output with wide deadband.

Specifications

Basic information	
Model	<ul style="list-style-type: none"> ■ 5711 - Single set point level switch ■ 5712 - Dual set point level switch
Process connection	<ul style="list-style-type: none"> ■ Screwed ■ Flanged

Mounting	
Orientation	<ul style="list-style-type: none"> ■ Vertical ■ Horizontal (only possible in 5711)
Integral version	Online
Remote version	<ul style="list-style-type: none"> ■ Probe head - Online ■ Control unit - Wall, Pipe <p>Max. distance of separation between probe and control unit is 1500 meters</p>

Enclosure arrangement and material	
Integral version	<ul style="list-style-type: none"> ■ Weather proof - Style GW Die cast aluminium epoxy powder coated ■ Flame Proof - Style GK Die cast aluminium epoxy powder coated
Remote version	<ul style="list-style-type: none"> ■ Probe head, style GN, weatherproof to IP65 enclosure & Control electronics, weatherproof style GW IP65 enclosure ■ Probe head, GN, weatherproof to IP65 enclosure & Control electronics, DIN, Rail / Back Panel mounting ■ Probe head, style GK, flameproof to IP66 / IP65 enclosure & Control electronics, style GK, flameproof to IP66 enclosure

Probe	
Type	<ul style="list-style-type: none"> ■ Single Rigid rod ■ Dual Rigid Rod ■ Stillwell 1/4" dia rod with 19 mm OD tube ■ Stillwell 22 mm dia probe with 33 mm OD tube ■ Guarded probe for model 5711 only ■ Single Flexible rope ■ Dual Flexible rope
Counterweight (applicable only for flexible probe)	<ul style="list-style-type: none"> ■ 35 mm dia × 200 mm long (inactive length is 300 mm) ■ 55 mm dia × 100 mm long (inactive length is 200 mm)
Counterweight material	<ul style="list-style-type: none"> ■ 316 SS ■ 316 SS with Teflon lined
Probe material	<ul style="list-style-type: none"> ■ SS 304
Insulation	<p>Teflon FEP (Fluorinated ethylene propylene)</p> <p>Not applicable for Stillwell 22 mm dia probe with 33 mm OD tube</p>
Length	<ul style="list-style-type: none"> ■ 100 ... 2000 mm for rigid rod type & stillwell type ■ 2 ... 10 meters for flexible rope type ■ 350 ... 1000 mm for Guarded probe type

Input & Output signals	
Input (probe capacitance)	0 ... 5000 pF
Power supply	<ul style="list-style-type: none"> ■ 100 to 240 V AC for weatherproof enclosure only ■ 18 to 32 V DC
Contact rating	<ul style="list-style-type: none"> ■ 5A, 250 V AC / 28 V DC for weatherproof enclosure ■ 5A, 28 VDC for flameproof enclosure
Response time	<1 second
Relay mode (Jumper selectable)	<ul style="list-style-type: none"> ■ Normal ■ Failsafe
Dead band	<ul style="list-style-type: none"> ■ 5711 - Fixed narrow (3 pF) ■ 5712 - For 2 independent relay outputs fixed narrow (3 pF) or with both relays interlocked one wide adjustable dead band (50 to 4000 p F)
Alarm mode (Jumper selectable)	<ul style="list-style-type: none"> ■ Low ■ High
Status Indicating LED	<ul style="list-style-type: none"> ■ Power ON - Red ■ Relay ON - Yellow ■ Material present - Green

Electrical entry	
Integral version	1/2" NPT(F) per ASME B1.20.1 (2 nos)
Remote version	<ul style="list-style-type: none"> ■ 1/2" NPT(F) per ASME B1.20.1 (1 nos) for Probe head ■ 1/2" NPT(F) per ASME B1.20.1 (2 nos) for control unit with weather/Flame proof only Not applicable for Control unit with DIN rail mount

Operating condition	
Ambient temperature range	10°C ... +50°C
Medium temperature range	<ul style="list-style-type: none"> ■ 10°C ... +125°C ■ Heat sink applicable for media temperature from 85 to 125°C
Operating pressure	10 bar maximum
Ingress protection - Integral	IP 66/65 per IS/IEC 60529
Ingress protection - Remote	IP65 per IS/IEC 60529 for Probe head IP66 per IS/IEC 60529 for control unit
Weight	5 Kgs. approx.

Accessories

See Data sheet AC 10.82

Certificates (option)

Certificates	
Production certificates	2.2 test report 3.1 inspection certificate

Ordering matrix

Basic model

Single set point level switch	5711
Dual set point level switch	5712

Version type

Integral	L
Remote	R

Switch enclosure

Aluminium pressure die cast weatherproof to IP66 and flameproof to Gr.IIC, compact	GK
Aluminium pressure die cast weatherproof to IP65	GW
Probe head, style GN, weatherproof to IP65 enclosure & control electronics, weatherproof GW IP65	R0
Probe head, style GN, weatherproof to IP65 enclosure & control electronics, DIN, Rail / Back Panel mounting	D0
Probe head, style GK, flameproof to IP66 / IP65 enclosure & control electronics, GK, flameproof to IP66 enclosure	E0

Power supply

100 to 240V AC	L
18 to 32V DC	P

Probe type

Single rigid rod, 1/4" dia	1
Single rigid rod, 1/2" dia	2
Dual rigid rod, 2 x 1/4" dia	3
Stillwell 1/4" dia rod with 19 mm OD tube	4
Stillwell 22 mm dia probe with 33 mm OD tube	5
Guarded probe 1/2" dia length – standard	6
Guarded probe 1/2" dia length – non-standard	7
Single flexible rope with counterweight, 1/4" dia	8
Dual flexible rope with counterweight, 2 x 1/4" dia	9

Probe insulation

Required for conductive medium	R
Not required for non-conductive medium	N

Probe length (specify length)

100 ... 2000 mm (incremental of 50)	<input type="checkbox"/>
2500 ... 10000 (incremental of 500)	<input type="checkbox"/>

Process temperature

Above 85°C below 125°C with heat sink 316 SS	H
Below 85°C without heat sink	N

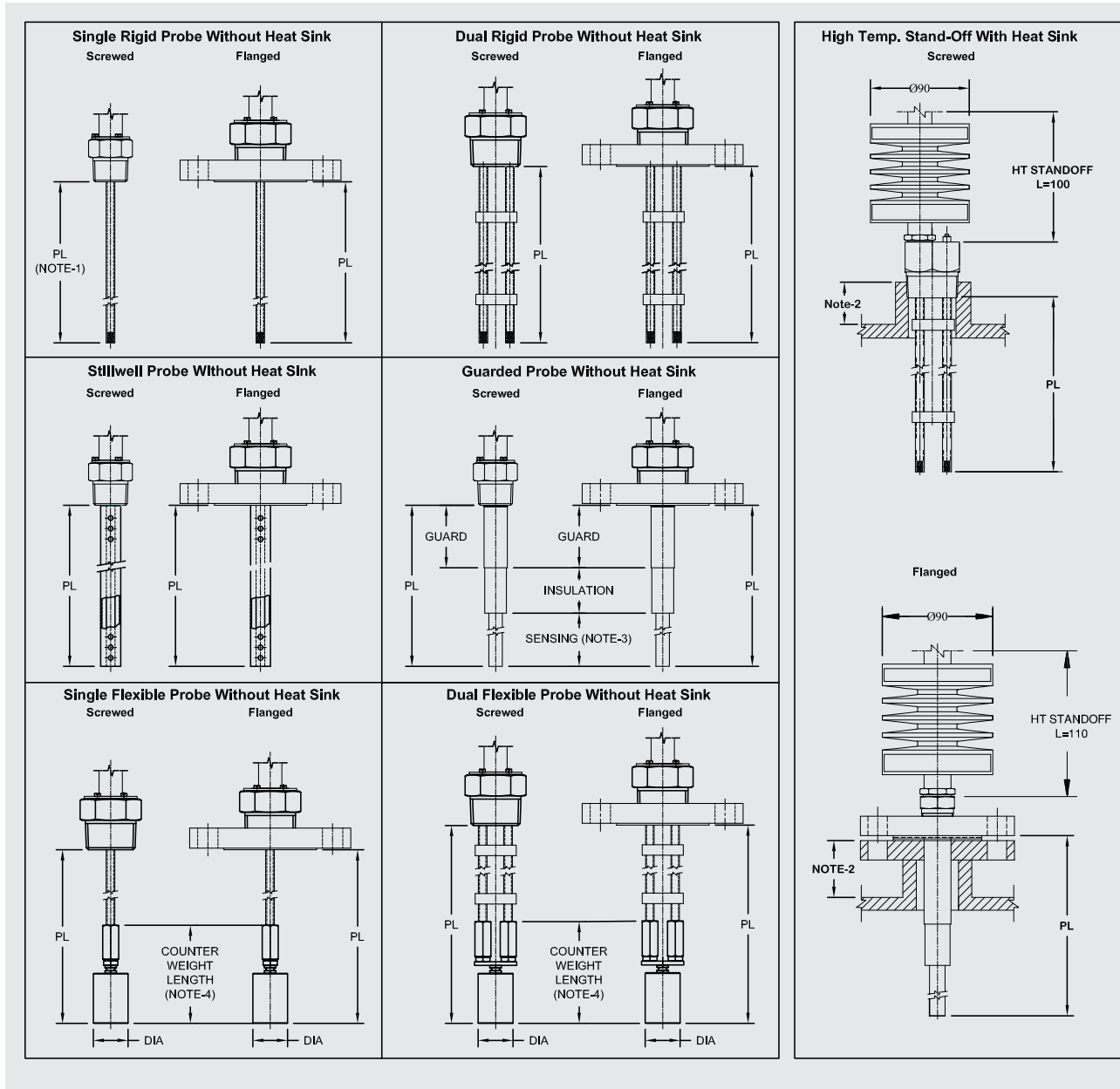
Process connection

3/4"NPTM, ASME B1.20.1	P8
3/4" BSPM, ISO 228/1	P13
1" NPTM, ASME B1.20.1	P12
1" BSPM, ISO 228/1	P11
Screwed, 1 1/2" NPTM, ASME B1.20.1	P10
Screwed, 1 1/2" BSPM, ISO 7-1	P9
Flange, 1 1/2" Ansi 150 RF	F5
Flange, 2" Ansi 150 RF	F7
Flange, 2 1/2" Ansi 150 RF	F9
Flange, 3" Ansi 150 RF	FB
Flange, 4" Ansi 150 RF	F13
Please specify	<input type="checkbox"/> <input type="checkbox"/>

Ordering matrix Contd..

Process connection material		
Mild steel		C
304 SS		4
316 SS		2
Teflon lining for counterweight		
Not applicable		Z
Counterweight with teflon lining		1
Counterweight without teflon lining		2
Teflon lining for flanges		
Flange with teflon lining		A
Flange without teflon lining		B
Screwed without teflon lining		C

Probe types

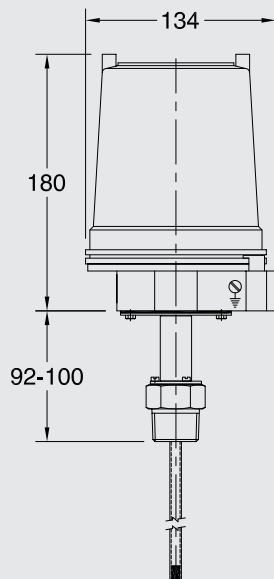


Notes:

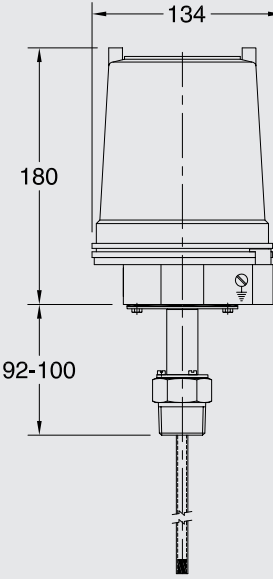
1. 'PL' represents the complete probe length, which will be considered for manufacturing.
2. Customer to consider the necessary length additions, due to the vessel spouts / spacers / flange over the vessel surface and to be included into probe length.
3. Guarded probe length = Guard + insulation + Sensing length.
4. Counterweight dimension: probe length (PL) is inclusive of counterweight length for flexible rope type probes.
 - i) 35 mm Ø × 200 mm long for screwed process connection
 - ii) 55 mm Ø × 100 mm long for flanged process connection

Dimensions in mm

Flameproof style GK integral configuration

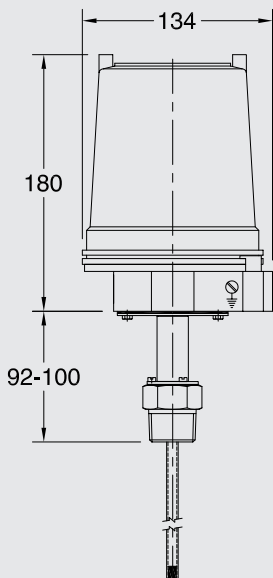


Weatherproof style GW integral configuration



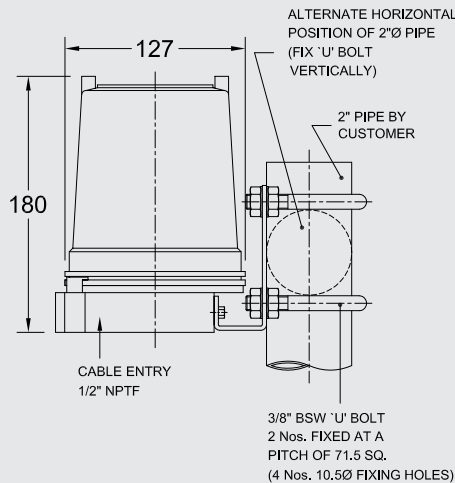
Flameproof remote configuration

a) Probe Head – GK-Online mounting

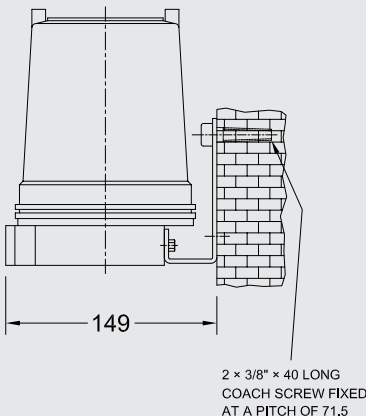


b) Remote control unit

2" Pipe mounting



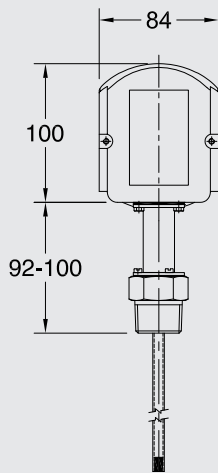
Surface mounting



Dimensions in mm

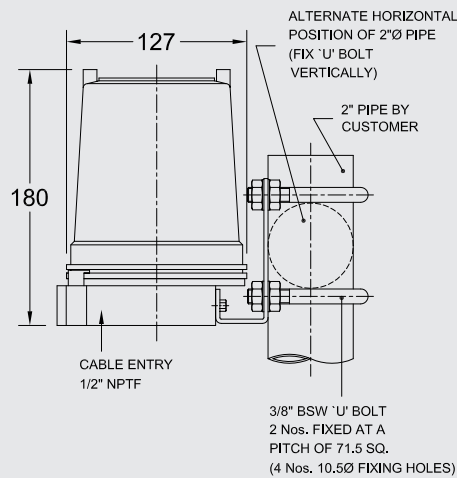
Weatherproof remote configuration – Option 1

a) Probe Head – GN-Online mounting

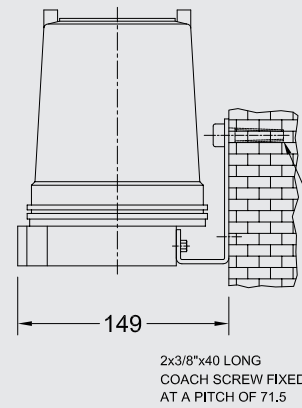


b) Remote control unit with style GW enclosure

2" Pipe mounting

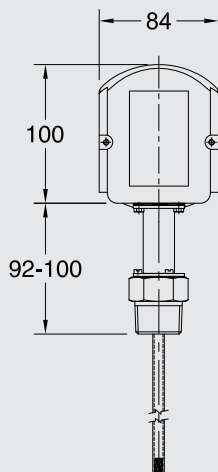


Surface mounting



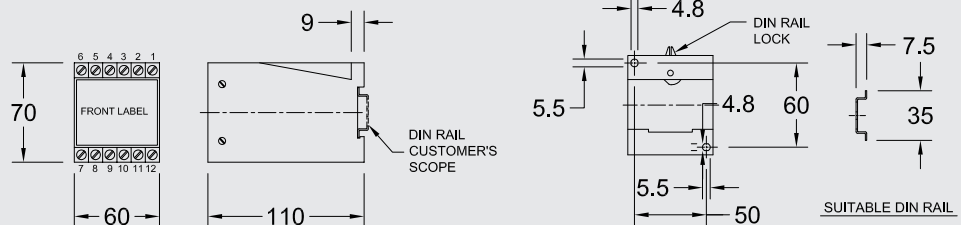
Weatherproof remote configuration – Option 2

a) Probe Head – GN-Online mounting



b) Remote control unit

DIN ABS Plastic



Ordering information

Basic model / Version type / Switch enclosure / Power supply / Probe insulation / Probe length / Process temperature / Process connection / Process connection material / Teflon lining for counterweight / Teflon lining for flanges

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