



# FCS

## Capacitive level switch

Capacitive level switch is with simple structure, using synton circuit theory, and with strong stability and sensitivity to adjust capacitance, sensitivity is adjustable, suitable for all kinds of solid level measurement. Widely applied in food, chemical products, metallurgy and electric power etc. Also could be used in high temperature, high pressure, strong acid and alkali situations.

### Product Series



## Operating principle

Regarding the measured item as medium, using sensor to measure the capacitance between sensor and barrel wall, when the sensor is covered by materials, capacitance is increasing, when reaching the matched value set in the inner circuit of switch, circuit will procude resonant high frequency, and to amplify the signal to change actions of switch.

Model sheets

Capacitive level switch

11: Standard; 12: Anti-corrosion; 13: Separated type; 14: High wire type; 15: Flat-plate type

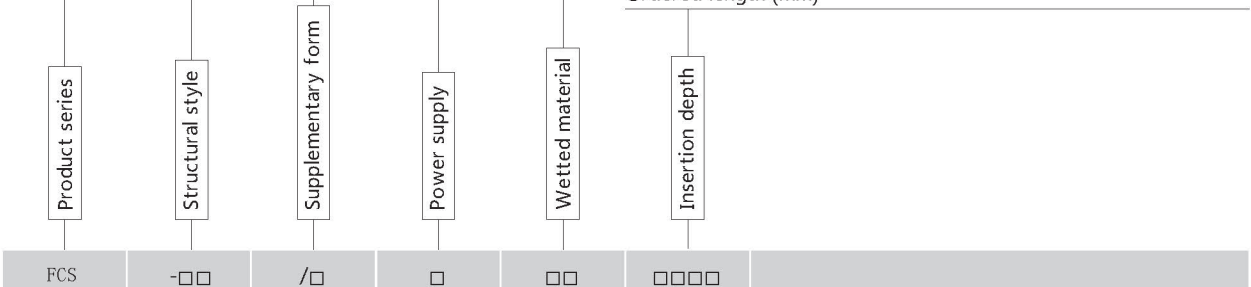
/T1: High temperature type; /T2: Ultra-temperature type; /0: Non antistatic type; /1: Antistatic type

A: 220VAC; B: 24VDC; C: 110VAC

Please choose suitable process connection way according to below table, and rack mounting process connection is available as well.

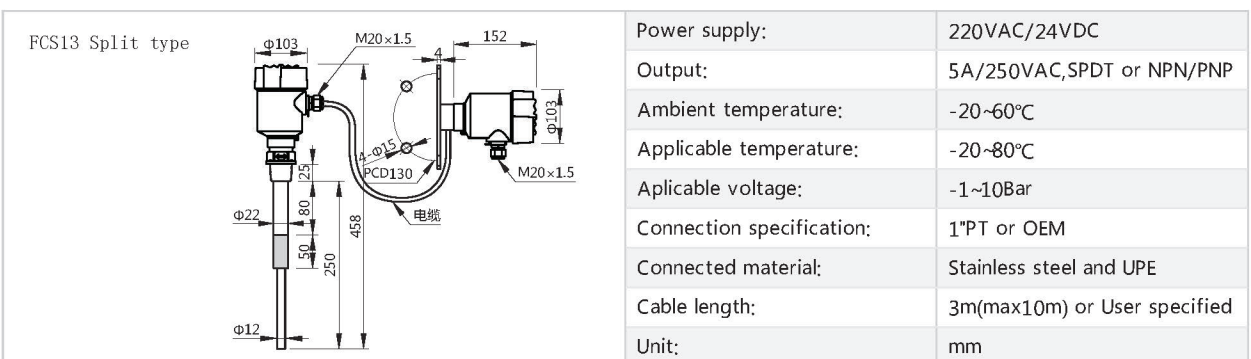
Flange/Thread Size		Flange/Thread Specifications	
A: 3/8" (10A)	I: 4" (100A)	L: 5kg/cm²	U : PN0.6 (6Bar)
B: 1/2"(15A)	J: 5" (125A)	M : 10kg/cm²	V : PN1.0 (10Bar)
C: 3/4" (20A)	K: 6" (150A)	N : 150Lbs	W :PN1.6 (16Bar)
D:1"(25A)	S: Special	O : 300Lbs	X: PN2.5 (25Bar)
E: 1-1/2" (40A)	Specifications	P: PT	Y: PN4.0 (40Bar)
F: 2" (50A)	1: 1/8"	Q: PF	Z: PN6.3 (63Bar)
G: 2-1/2"(65A)	2: 1/4"	F: NPT	S: Special
H: 3" (80A)	3: 1-1/4" (32A)	T: GAS	Specifications

					Ordered length (mm)



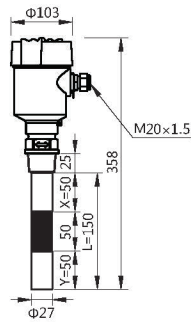
Please kindly advise if explosion-proof is necessary.

## Sizes and specifications



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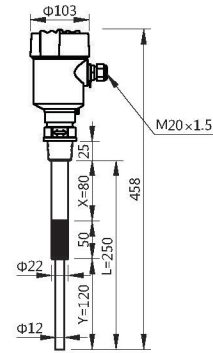
Standard type 1



Power supply:	220VAC/24VDC
Output:	5A/250VAC, SPDT
Ambient temperature:	-20~60°C
Applicable temperature:	-20~80°C
Applicable voltage:	-1~10Bar
Connection specification:	1"PT or OEM
Solid connected material:	Stainless steel and UPE

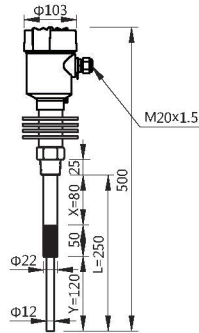
Note: Length L could be ordered by user, please advise sizes of X,Y, unit : mm.

Standard type 2



Power supply:	220VAC/24VDC
Output:	5A/250VAC, SPDT or NPN/PNP
Ambient temperature:	-20~60°C
Applicable temperature:	-20~80°C
Applicable voltage:	-1~10Bar
Connection specification:	1"PT or OEM
Solid connected material:	Stainless steel and UPE

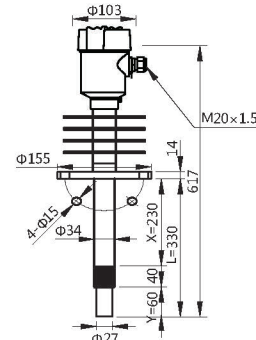
FCS11/T1 High temperature type



Power supply:	220VAC/24VDC
Output:	5A/250VAC, SPDT, or NPN/PNP
Ambient temperature:	-20~60°C
Applicable temperature:	-20~200°C
Applicable voltage:	-1~10Bar
Connection specification:	1"PT or OEM
Solid connected material:	Stainless steel and PTFE

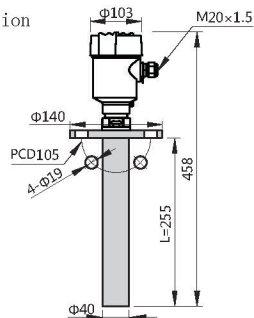
Note: Length L could be ordered by user, please advise sizes of X,Y, unit : mm.

FCS11/T2 Ultra-temperature type



Power supply:	220VAC/24VDC
Output:	5A/250VAC, SPDT or NPN/PNP
Ambient temperature:	-20~60°C
Applicable temperature:	-20~800°C
Applicable voltage:	ATM
Connection specification:	2-1/2"×5K or OEM
Solid connected material:	Stainless steel or ceramics

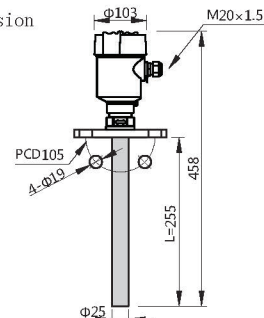
FCS12 Anti-corrosion standard type



Power supply:	220VAC/24VDC
Output:	5A/250VAC, SPDT or NPN/PNP
Ambient temperature:	-20~60°C
Applicable temperature:	-20~80°C
Applicable voltage:	-1~10Bar
Connection specification:	1-1/2"×10K or OEM
Solid connected material:	PP

Note: Length L could be ordered by user, unit : mm.

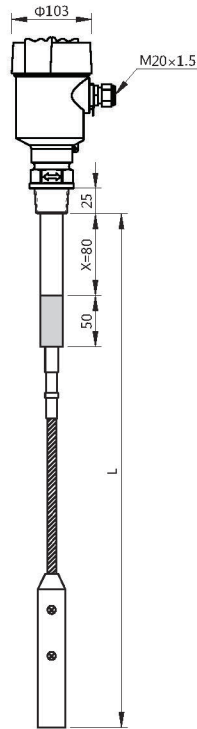
FCS12 Anti-corrosion customized type



Power supply:	220VAC/24VDC
Output:	5A/250VAC, SPDT or NPN/PNP
Ambient temperature:	-20~60°C
Applicable temperature:	-20~120°C
Applicable voltage:	-1~10Bar
Connection specification:	2-1/2"×10K or OEM
Solid connected material:	PVDF

## Sizes and specifications

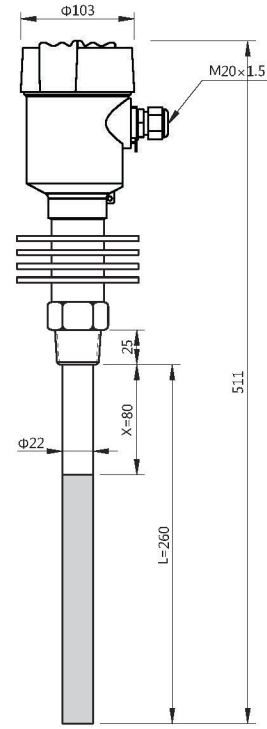
FCS14 highwire type



Power supply:	220VAC/24VDC
Output:	5A/250VAC,SPDT or NPN/PNP
Ambient temperature:	-20~60°C
Applicable temperature:	-20~80°C
Aplicable voltage:	-1~10Bar
Connection specification:	1-1"PT or OEM
Connected material:	Stainless steel and UPE

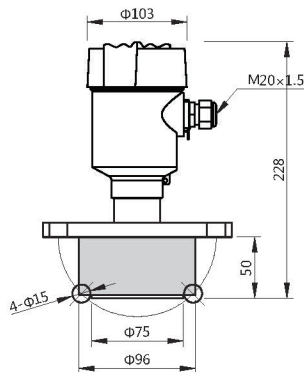
Note: Length L could be ordered by user, please advise sizes of X,Y, unit : mm

FCS11/T1/1 Antistatic high temperature type



Power supply:	220VAC/24VDC
Output:	5A/250VAC,SPDT or NPN/PNP
Ambient temperature:	-20~60°C
Applicable temperature:	-20~200°C
Aplicable voltage:	-1~10Bar
Connection specification:	1"PT or OEM
Connected material:	Stainless steel and PTFE

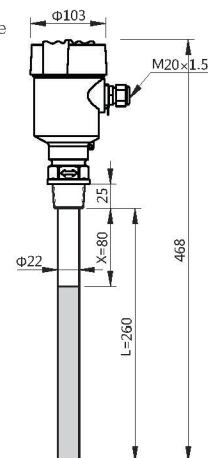
FCS15 Flat-plate type



Power supply:	220VAC/24VDC
Output:	5A/250VAC,SPDT,or NPN/PNP
Ambient temperature:	-20~60°C
Applicable temperature:	-20~80°C
Aplicable voltage:	-1~10Bar
Connection specification:	2-1/2"×5K or OEM
Connected material:	Stainless steel and UPE

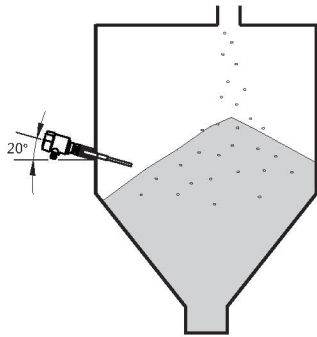
Note: Length L could be ordered by user, please advise sizes of X, unit : mm

FCS11/1 Antistatic type

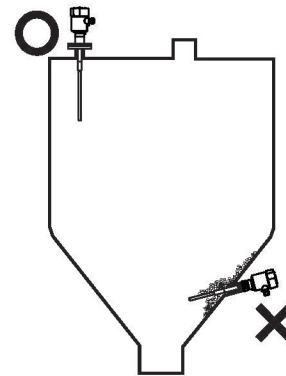


Power supply:	220VAC/24VDC
Output:	5A/250VAC,SPDT or NPN/PNP
Ambient temperature:	-20~60°C
Applicable temperature:	-20~800°C
Aplicable voltage:	ATM
Connection specification:	1" PT or OEM
Connected material:	Stainless steel and UPE

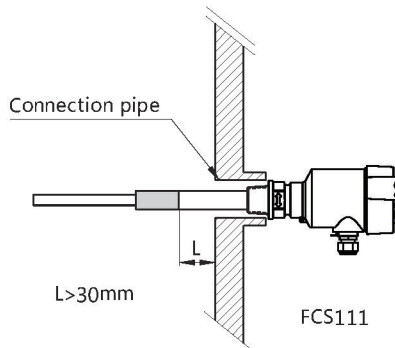
## Notes of installation and type selection



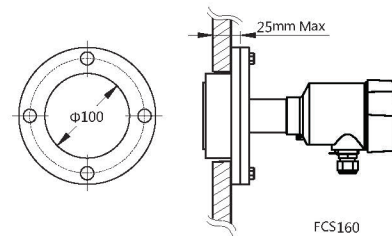
The switch should be downward and to be 20 degree with horizontal line in order to increase the flexibility of the switch, and decrease the damage of switch when baiting.



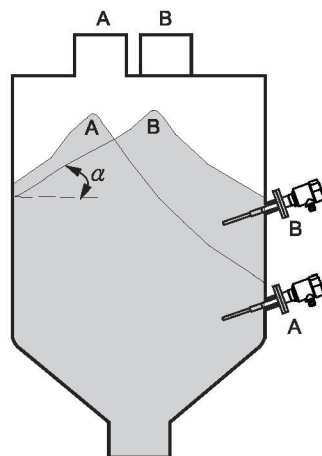
When the fluidity gets weak, top mounted way of installation could decrease the affect of wrong switch action caused by angle of response of materials.



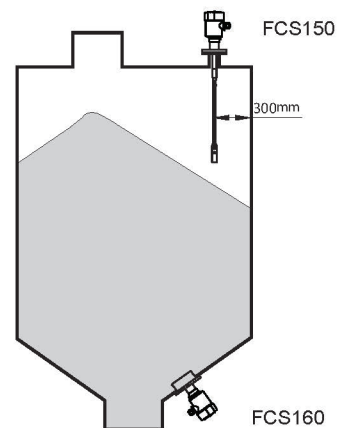
Standard installation, insulated part must insert the bucket for more than 30mm, to avoid the fake action caused by materials in connection pipe and too short distance between connection pipe and sensor bar.



Flat-plate type installation, please note the thickness between barrel wall and fixed flange can not be more than 25mm, or the switch will cause wrong action.

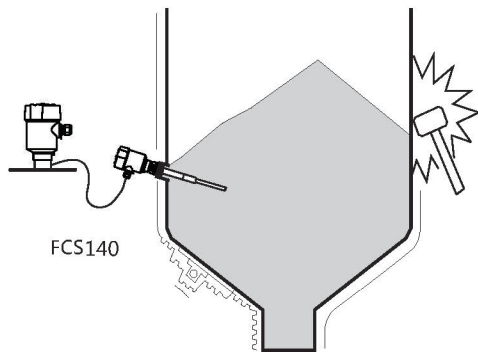


Please note the position of installation when side mounted, if the entrance is not centered, then angle of response and entrance corresponding point should be considered, or it will cause wrong switch action.

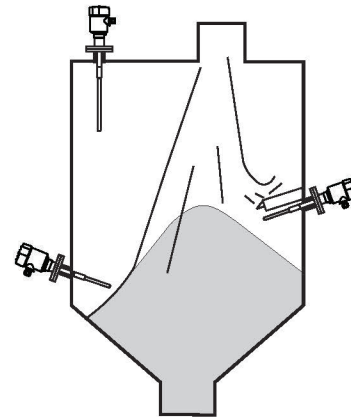


When it's top mounted, pls consider if the mounted position will enable the sensor stick to contact the position of liquid or products. When it's SP150 highwire installation, pls note the distance between barrel walls should be at least 30mm. Sp160 flat-plate type could be installed under the tank.

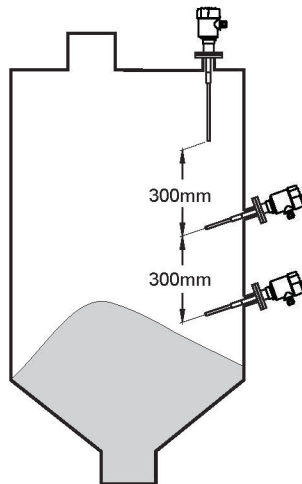
## Notes of installation and type selection



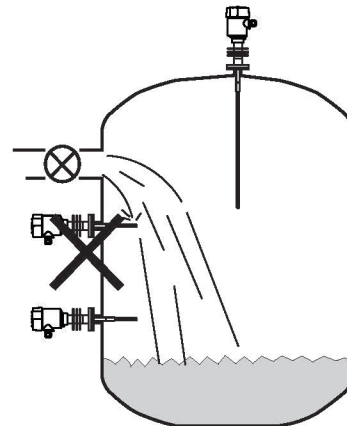
When the tank has been equipped with vibration device, to avoid the damage to the circuit component in junction box, we suggest to use SP140 solid material level switch.



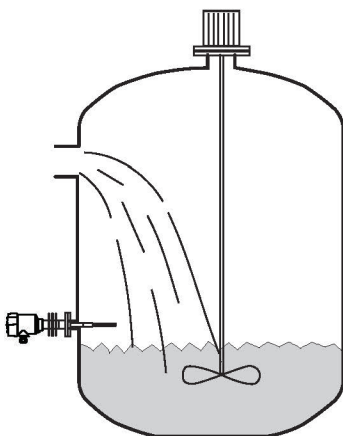
Pls dont install close to the entrance, to avoid the solid materials shock the sensor bar, and cause damage of sensor bar, we suggest to install a protective board above the sensor bar.



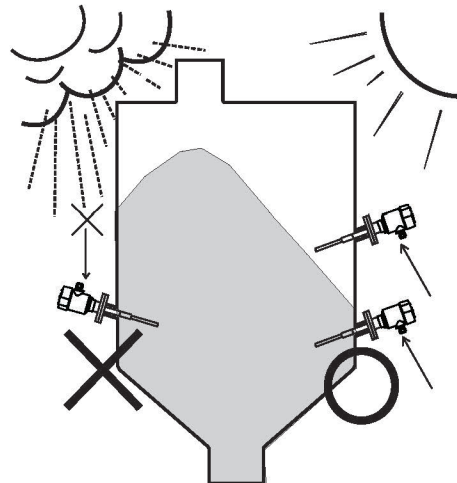
If installed multi-switches, the distance between each of them is at least 300mm.



If the switch is installed to measure the liquid, pls dont install under the entrance, to avoid the liquid washing the switch and cause wrong switch action or be damaged.



If the switch is under fluctuant condition, it should equip with our circuit board with time-delay function to avoid wrong switch action.



The cable outlet of junction box should be downward and must lock the fixed cable side, to avoid damage to inner circuit board.