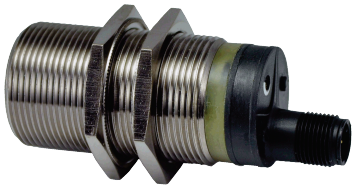
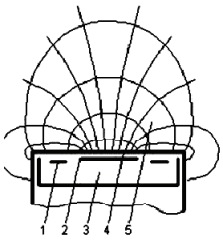
CA100- Capacitive Level Switch

- Applicable to the liquid, metal and non-metal solid
- Setting through potentiometer
- Power supply DC / AC selectable
- Measuring range configurable



The capacitive level switch CA100 is designed for level sensing of bulk-solid materials in hoppers, containers, silos, etc. Sensitivity and output mode (normally open / closed) can be simply set by attaching a magnetic pen to the sensitive spot on the sensor housing.



1. Compensation electrode
2. Active electrode
3. Housing
4. Sensing face
5. Magnetic field

Specifications

Power Supply	For details please see 'Technical Data'
Sensitivity Setting	Potentiometer
Output State	Yellow LED
Switching Frequency	For details please see 'Technical Data'
Applicable Medium	Solid or Liquid
	(Sensing distance may vary for different medium)
Repeatability	2%
Temperature Drift	≤±10%
Wiring Protection	Reverse polarity, overvoltage and short-circuit
Operating Temperature	-20...80℃
Material	Stainless steel, Nickel plated brass,
	Plastic PBT
Protection Class	IP65
Electrical Connection	Cable outlet / M12×1 plug

Applications

- Position measurement
- Liquid/bulk-solid level

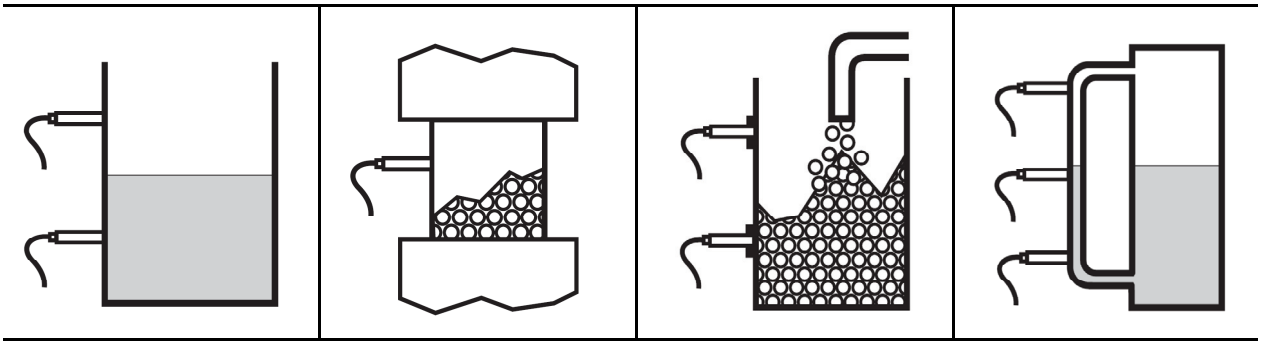
Technical Data

Thread	Power Supply	No-load Current	Switching Frequency	Voltage Drop	Sensing Range*	Adjustable Range*
Model M18	10...30Vdc(3/4-wire)	≤15mA	50Hz	≤2.5V	Flush: 5mm Non-flush: 8mm	Flush: 0...4mm Non-flush: 0...6.4mm
	20...250Vac(2-wire)	≤3mA	15Hz	≤10V		
Model M30	10...30Vdc(3/4-wire)	≤15mA	50Hz	≤2.5V	Flush: 10mm Non-flush: 15mm	Flush: 0...8mm Non-flush: 0...12mm
	20...250Vac(2-wire)	≤3mA	15Hz	≤10V		

* Attenuation coefficient for different materail.

Steel	Glass	PVC	Cloth	Paper	Wood	Water
1	0.5	0.5	0.15	0.1	0.25	1

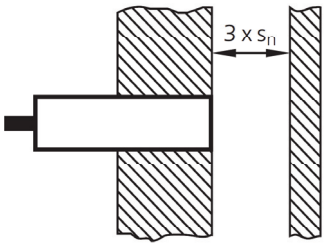
Examples



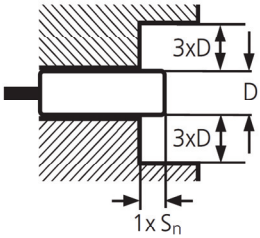
Note: For across-wall detection, the tank wall must be non-metallic. (if the sensor will touch the medium, the tank wall could be anything.)

Installation

Flush and non-flush mounting



Flush mounting

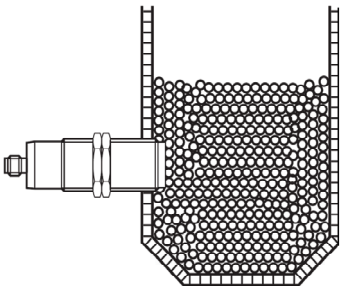


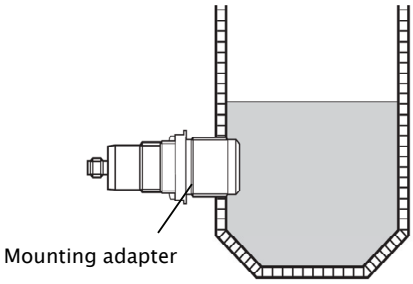
Non-flush mounting

Sn: Sensing Distance
D: Diameter

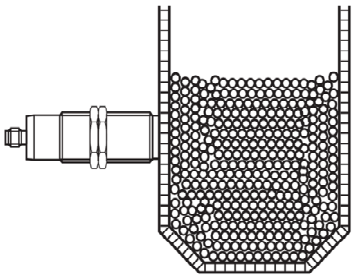
Tank-wall mounting

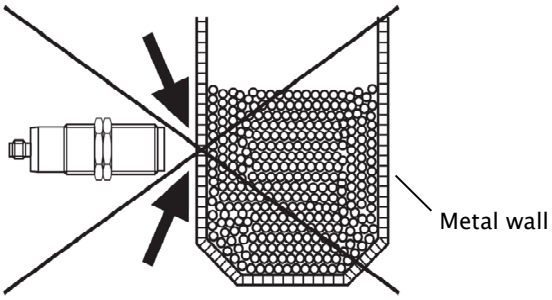
Contact with medium (a mounting adapter is needed for liquids)



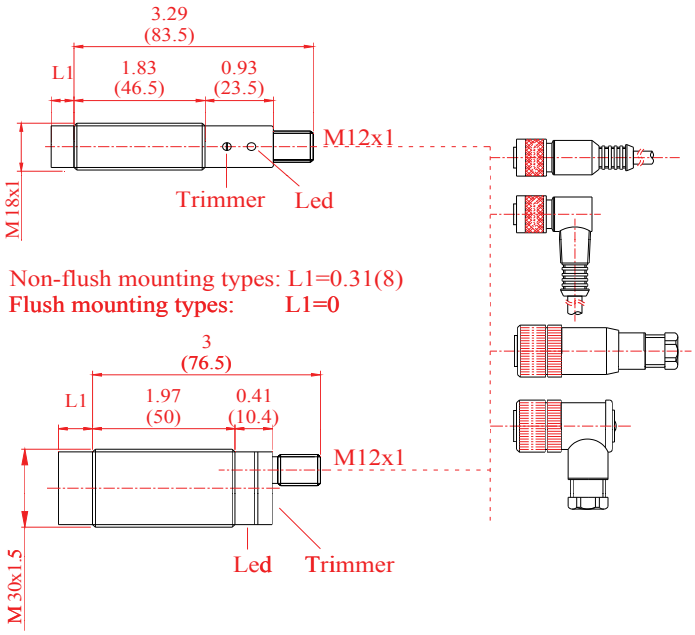


Non-contact with medium (for non-metallic tanks only)





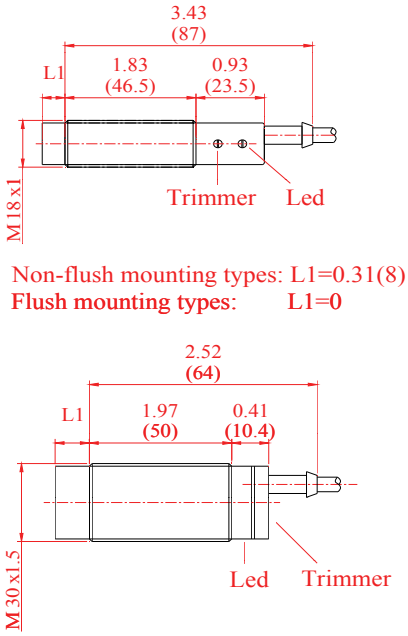
Dimensions in inches (mm)



Non-flush mounting types: L1=0.31(8)
Flush mounting types: L1=0

Non-flush mounting types: L1=0.47(12)
Flush mounting types: L1=0

M12×1 plug



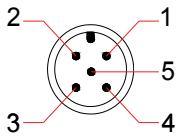
Non-flush mounting types: L1=0.31(8)
Flush mounting types: L1=0

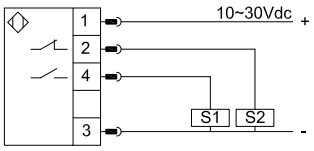
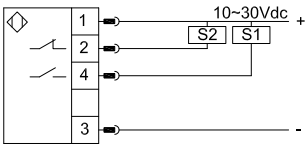
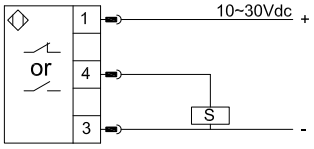
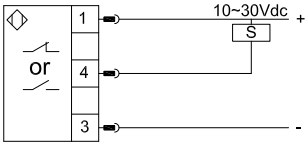
Non-flush mounting types: L1=0.47(12)
Flush mounting types: L1=0

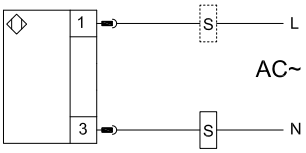
Cable outlet

Wiring

Signal	Plug	Cable
U+	1	Brown
U-	3	Blue
Switching output S1	4	Black
Switching output S2	2	White



PNP wiring		NPN wiring	
DC 4-wire NO+NC		DC 4-wire NO+NC	
DC 3-wire NO/NC		DC 3-wire NO/NC	

AC wiring	
AC 2-wire	

Order Code

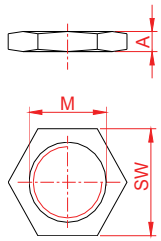
CA :	Capacitive level switch
100 :	Series#
AC2 :	AC 2-wire
DC3 :	DC 3-wire
DC4 :	DC 4-wire
P :	PNP output（only for DC 3-wire and DC 4-wire）
N :	NPN output（only for DC 3-wire and DC 4-wire）
- :	2-wire

CA	100/	DC3	P	S	S	/

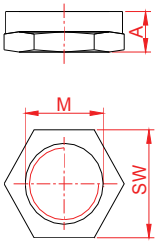
S :	M12X1 5-pin plug
C :	Cable outlet
S :	Stainless steel housing
B :	Nickel plated brass housing
P :	Plastic housing PBT
Others	

Accessories

Locknut(Locknuts are included)



Metal screw nut
(for metal housing product)



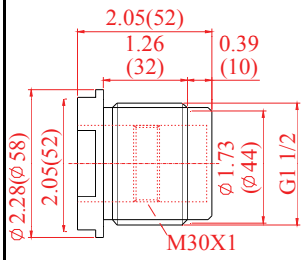
Plastic screw nut
(for plastic housing product)

Screw nut dimension in inches (mm)

Metal screw nut	M	M18X1	M30X1.5
	A	0.16 (4)	0.20 (5)
	SW	0.95 (24)	1.42 (36)
Plastic screw nut	M	M18X1	M30X1.5
	A	0.31 (8)	0.39 (10)
	SW	0.94 (24)	1.42 (36)

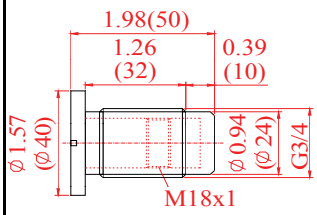
Adapters

Mounting adapter for wall mounting



ECA100-30 | Material : PBT or PTFE

For M30



ECA100-18 | Material : PBT or PTFE

For M18