SA500 - Intrinsically Safe Pickup Coils
Compatible with Turbine and PD Flow Meters

Introduction

Working with turbine or positive displacement flow meters, SA500 measures flow by detecting the rotation of internal turbines or gears and converting it into a pulse output. It is designed for process flow measurement in intrinsically safe hazardous areas. Rated as Ex ia IIC T4 Ga, the device is suitable for Zone 0, Zone 1, and Zone 2 applications containing Group IIA and IIC explosive gas mixtures within temperature classes T1 to T4.



Type K
Equips to Turbine Flow Meter



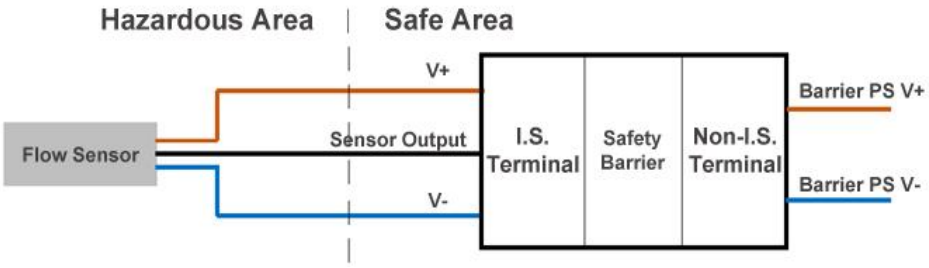
Type G
Equips to Positive Displacement Flow Meter



Type D - Dual-Sensor
Equips to Positive Displacement Flow Meter

Specifications	
Power Supply	8...25VDC
Non-load Current	<10mA
Output	NPN Open Collector with a pull-up resistor
Output Frequency	Max. 15KHz
Reverse Polarity Protection	Yes
Ambient Temperature	-40...176°F (-40...80°C)
Media Temperature	-40...176°F (-40...80°C)
Electrical Connection	M12 x 1 / Cable Outlet
Protection Class	IP67
Measured Objects	Ferromagnetic Target
Associated Apparatus	Safety Barrier
Marking	Ex ia IIC T4 Ga
Intrinsically Safe Ratings	Ui=28VDC, Ii=93mA, Pi=0.65W, Ci-15nH, Li=0mH

Wiring



Safety Barrier Parameters: Um: 250VAC/DC; Uo: 28V; Io: 93mA; Co: 0.083μF; Lo: 4.2mH; Po: 0.65W.
Sensor Intrinsically Safe Parameters: Ui: 28VDC; Ii: 93mA; Pi: 0.65W; Ci: 0.03μF; Li: 0.1mH.
The distributed parameters of the cable connecting the safety barrier and the sensor shall comply with the safety matching requirements: Cc<Co-Ci, Lc<Lo-Li, Ui<Uo, Ii>Io, Pi>Po

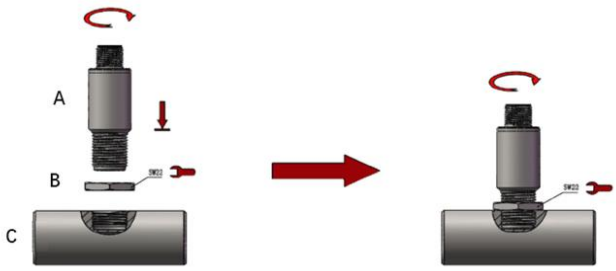
* **Safety Barrier Parameters (Associated Apparatus)**
  Uo: Maximum output voltage of the safety barrier
  Io: Maximum output current of the safety barrier
  Po: Maximum output power of the safety barrier
  Co: Maximum external capacitance of the safety barrier
  Lo: Maximum external inductance of the safety barrier

  Sensor Parameters (Intrinsically Safe Apparatus)
  Ui: Maximum input voltage of the sensor
  Ii: Maximum input current of the sensor
  Pi: Maximum input power of the sensor
  Ci: Maximum internal capacitance of the sensor
  Li: Maximum internal inductance of the sensor

  Connecting Cable Parameters
  Cc: Maximum allowable distributed capacitance of the connecting cable
  Lc: Maximum allowable distributed inductance of the connecting cable

Installation

Sensor Type: K and G

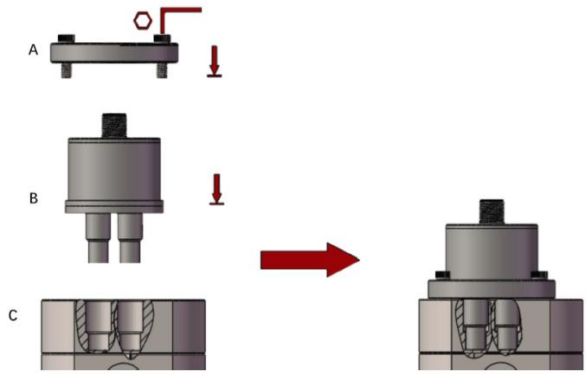


1. Thread nut B onto sensor A until it reaches the base.

2. Hand-tighten sensor A into the threaded hole on the flow meter body C, ensuring it is fully seated at the bottom.

3. Tighten and lock nut B securely using a wrench.

Sensor Type: D



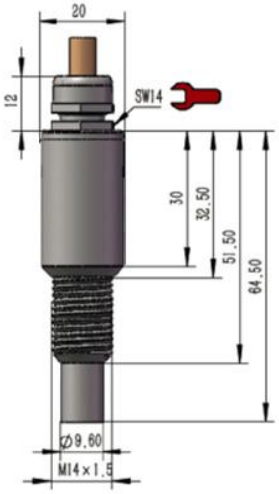
1. Insert sensor B into the mounting hole on the flow meter body C.

2. Slide the clamping ring A over the top of the sensor, aligning its mounting holes with the threaded holes on the body.

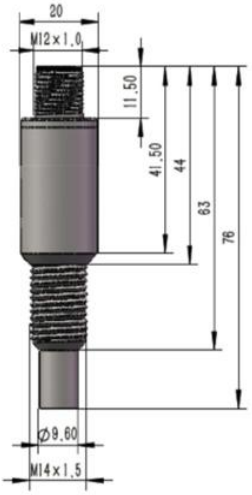
3. Secure and lock the clamping ring using hex socket bolts.

Dimensions in mm

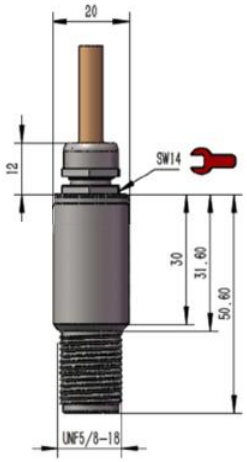
Sensor Type: G - Cable Outlet



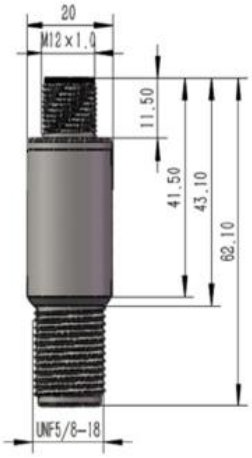
Sensor Type: G - M12 Connector



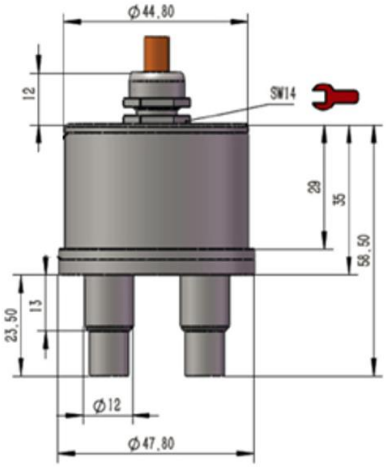
Sensor Type: K - Cable Outlet



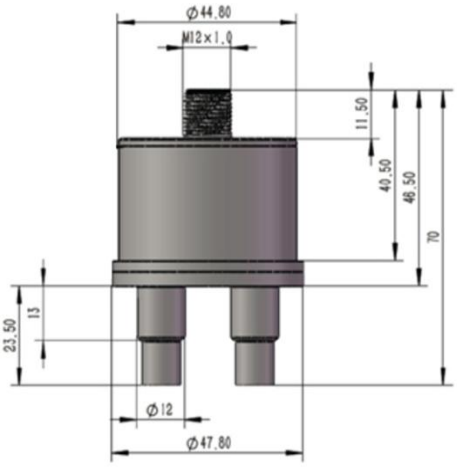
Sensor Type: K - M12 Connector



Sensor Type: D - Cable Outlet



Sensor Type: D - M12 Connector



Order Code

1. Model	
SA500-	Intrinsically Safe Sensor with Pulse Output

2. Output	
P	Pulse Output

3. Type	
K	For Turbine Flow Meters
G	For Positive Displacement Flow Meters
D	For PD Flow Meters with Dual-Pickup

4. Electrical Connection	
C	Cable Outlet
S	M12 x 1

5. Cable Length (Apply to Cable Outlet Only)	
2m	Cable Length 2m
x	User specified length