

Sensors for Turbine & Positive Displacement Flow Meter

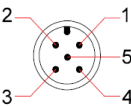
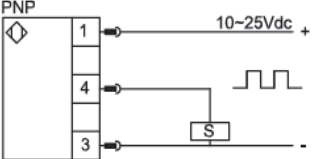
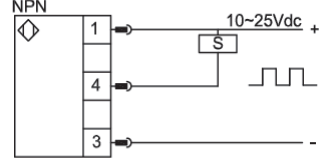
1. Pulse output (Turbine & Positive Displacement)



Specifications

Power supply	10...30VDC
No load current	<9mA
Output	PNP / NPN
Reverse polarity protection	Yes
Short circuit protection	Yes
Probe operating temperature	-40...212°F (Optional -40...302°F / -40...446°F) -40...100°C (Optional -40...150°C / -40...230°C)
Ambient temperature	-40...185°F (-40...85°C)
Electrical connection	M12 x 1 plug
Protection class	M12 x 1 plug: IP67

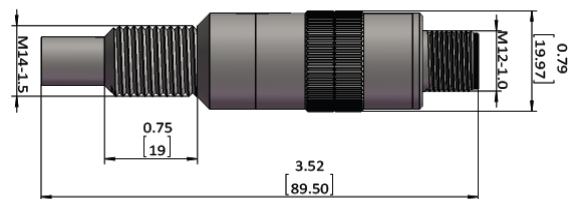
Wiring

M12 plug	PNP	NPN												
 <table border="1"> <thead> <tr> <th>Pin</th><th>Color</th><th>Signal</th></tr> </thead> <tbody> <tr> <td>1</td><td>Brown</td><td>Power +</td></tr> <tr> <td>4</td><td>Black</td><td>Pulse</td></tr> <tr> <td>3</td><td>Blue</td><td>Power -</td></tr> </tbody> </table>	Pin	Color	Signal	1	Brown	Power +	4	Black	Pulse	3	Blue	Power -		
Pin	Color	Signal												
1	Brown	Power +												
4	Black	Pulse												
3	Blue	Power -												

Dimensions in inch (mm)



For Turbine Flow Meter



For Positive Displacement Flow Meter

2. Linearized pulse output (Turbine & Positive Displacement)

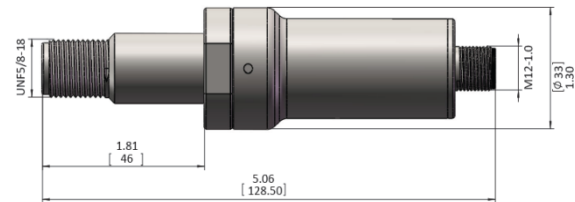


Specifications	
Power supply	12...30VDC
No load current	<20mA
Output	PNP / NPN
Reverse polarity protection	Yes
Short circuit protection	Yes
Probe operating temperature	-40...212°F (Optional -40...302°F / -40...446°F) -40...100°C (Optional -40...150°C / -40...230°C)
Ambient temperature	-40...185°F (-40...85°C)
Electrical connection	M12 x 1 plug
Protection class	M12 x 1 plug: IP67

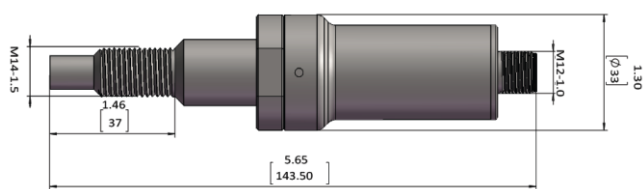
Wiring

M12 plug				PNP		NPN	
	Pin	Color	Signal				
	1	Brown	Power +				
	4	Black	Pulse				
	3	Blue	Power -				

Dimensions in inch (mm)



For Turbine Flow Meter



For Positive Displacement Flow Meter

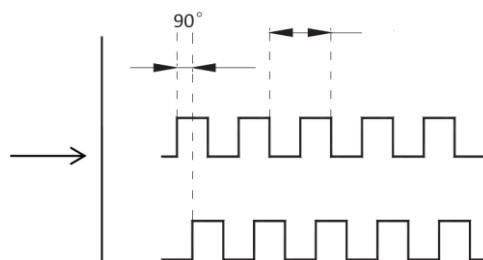
3. Dual pulse output (Positive Displacement)



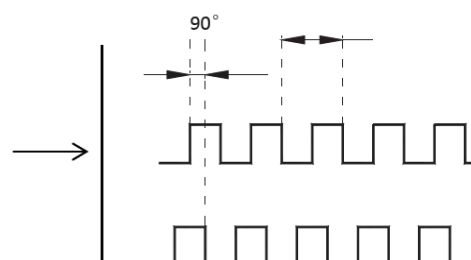
Specifications

Power supply	10...30VDC
No load current	<9mA
Output	PNP / NPN
Reverse polarity protection	Yes
Short circuit protection	Yes
Probe operating temperature	-40...212°F (Optional -40...302°F / -40...446°F) -40...100°C (Optional -40...150°C / -40...230°C)
Ambient temperature	-40...185°F (-40...85°C)
Electrical connection	M12 x 1 plug
Protection class	M12 x 1 plug: IP67

90° phase shift between dual pulse output



Direction1:
Output 1 is 90 degree ahead of the output 2



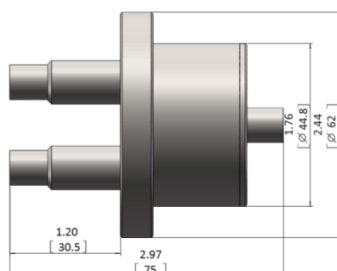
Direction2:
Output 1 is 90 degree behind of the output 2

Wiring

M12 plug	PNP	NPN															
<table border="1"> <thead> <tr> <th>Pin</th><th>Color</th><th>Signal</th></tr> </thead> <tbody> <tr> <td>1</td><td>Brown</td><td>Power +</td></tr> <tr> <td>2</td><td>White</td><td>Pulse</td></tr> <tr> <td>4</td><td>Black</td><td>Pulse</td></tr> <tr> <td>3</td><td>Blue</td><td>Power -</td></tr> </tbody> </table>	Pin	Color	Signal	1	Brown	Power +	2	White	Pulse	4	Black	Pulse	3	Blue	Power -		
Pin	Color	Signal															
1	Brown	Power +															
2	White	Pulse															
4	Black	Pulse															
3	Blue	Power -															

Note: the dotted line is for the second (B phase) signal of flow meter with forward/reversed detection feature.

Dimensions in inch (mm)



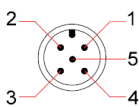
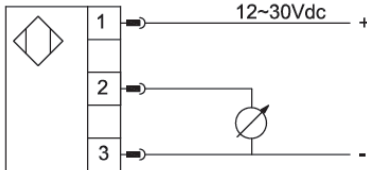
For Positive Displacement Flow Meter

4. Analog output (Turbine & Positive Displacement)

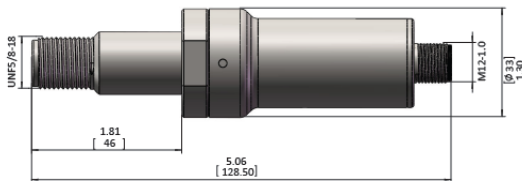


Specifications	
Power supply	10...30VDC
No load current	<12mA
Output	3-wire 4...20mA
Reverse polarity protection	Yes
Short circuit protection	Yes
Probe operating temperature	-40...212°F (Optional -40...302°F / -40...446°F) -40...100°C (Optional -40...150°C / -40...230°C)
Ambient temperature	-40...185°F (-40...85°C)
Electrical connection	M12 x 1 plug
Protection class	M12 x 1 plug: IP67

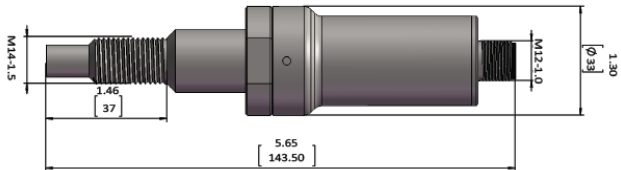
Wiring

M12 plug			4...20mA											
	<table><tr><th>Pin</th><th>Color</th><th>Signal</th></tr><tr><td>1</td><td>Brown</td><td>Power +</td></tr><tr><td>2</td><td>White</td><td>Analog output</td></tr><tr><td>3</td><td>Blue</td><td>Power -</td></tr></table>	Pin	Color	Signal	1	Brown	Power +	2	White	Analog output	3	Blue	Power -	
Pin	Color	Signal												
1	Brown	Power +												
2	White	Analog output												
3	Blue	Power -												

Dimensions in inch (mm)



For Turbine Flow Meter



For Positive Displacement Flow Meter

5. Intelligent transmitter with digital display (Turbine & Positive Displacement)



Specifications

Power supply	10...30VDC
No load current	<12mA
Switching output	Push-pull (compatible to PNP / NPN) Switching capacity: 500mA (24VDC)
Analog output	2-wire 4...20mA Load $R_A(\Omega) \leq (U_S - 10)V / 0.02A$ Linearity: $\leq 0.01\%$ of reading
Accuracy	$\leq 0.02\%$ of reading
Ambient temperature	-40...185°F (-40...85°C)
Probe operating temperature	-40...212°F (Optional -40...302°F / -40...446°F) -40...100°C (Optional -40...150°C / -40...230°C)
Display	4-digit LED
Material	Stainless steel 304
Electrical connection	M12 x 1 plug
Protection class	IP67

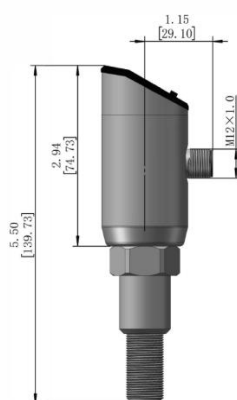
Wiring

M12 plug	Analog + 2 x PNP	Analog + 2 x NPN																		
<table border="1"> <thead> <tr> <th>Pin</th><th>Color</th><th>Signal</th></tr> </thead> <tbody> <tr> <td>1</td><td>Brown</td><td>Power +</td></tr> <tr> <td>3</td><td>Blue</td><td>Power -</td></tr> <tr> <td>4</td><td>Black</td><td>Switching S1</td></tr> <tr> <td>2</td><td>White</td><td>Switching S2</td></tr> <tr> <td>5</td><td>Gray</td><td>Analog</td></tr> </tbody> </table>	Pin	Color	Signal	1	Brown	Power +	3	Blue	Power -	4	Black	Switching S1	2	White	Switching S2	5	Gray	Analog		
Pin	Color	Signal																		
1	Brown	Power +																		
3	Blue	Power -																		
4	Black	Switching S1																		
2	White	Switching S2																		
5	Gray	Analog																		

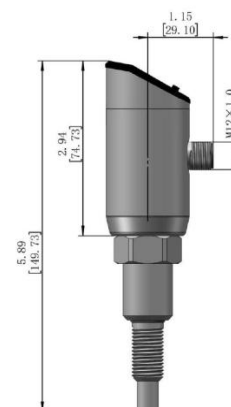
Dimensions in inch (mm)



For Turbine Flow Meter



For Positive Displacement Flow Meter



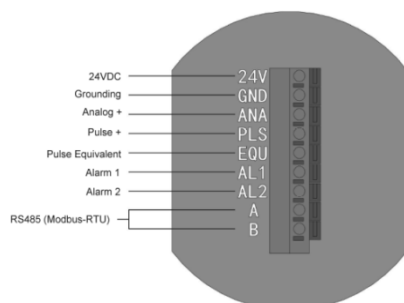
6. Ex-proof intelligent transmitter (Turbine & Positive Displacement)



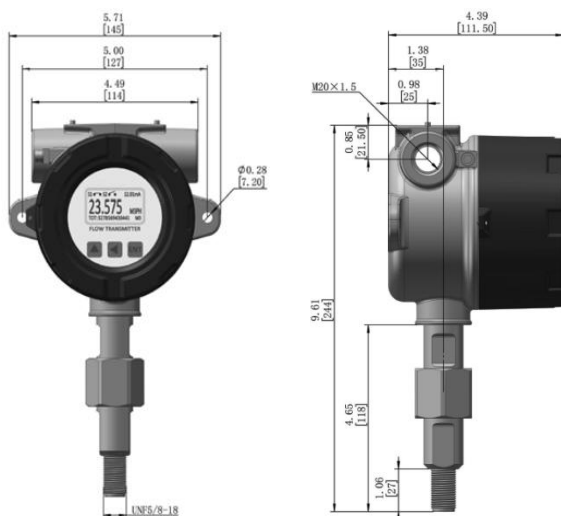
Specifications

Power supply	10...30VDC / 95...240VAC, Max. 2.2W
No load current	<12mA
Analog output	2-wire 4...20mA
Pulse output	Switching capacity: 500mA (24VDC)
Switching output	Push-pull (compatible to PNP / NPN)
Display	5-bit for instantaneous flow rate
	13-bit for total flow rate
	Volume unit: m ³ / L / gal / FT ³
	Time unit: day, hr, min, sec
	Refresh: 1s
Accuracy	0.01%
Probe operating temperature	-40...212°F (Optional -40...302°F / -40...446°F)
	-40...100°C (Optional -40...150°C / -40...230°C)
Ambient temperature	-40...140°F (-40...60°C)
Ex-proof	EX d IIC T6
Material	Stainless steel 304
Electrical connection	M20 x 1 plug
Protection class	IP65

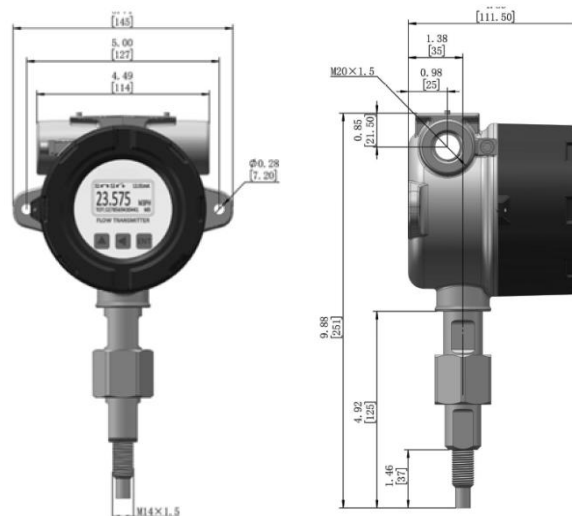
Wiring



Dimensions in inch (mm)



For Turbine Flow Meter



For Positive Displacement Flow Meter

Order code

1. Model

S1000- For turbine flow meter

2. Pickup

H Hall effect
R RF

3. Output

P1 Pulse output
P2 Linearized pulse output
A Analog output
D Digital transmitter
E Ex-proof transmitter

4. Temperature

T1 -40...212°F (-40...100°C)
T2 -40...302°F (-40...150°C)
T3 -40...446°F (-40...230°C)

1. Model

S2000- For positive displacement flow meter

2. Pickup

H Hall effect

3. Output

P1 Pulse output
P2 Linearized pulse output
P3 Dual-pulse output (90° phase shift)
A Analog output
D Digital transmitter
E Ex-proof transmitter

4. Temperature

T1 -40...212°F (-40...100°C)
T2 -40...302°F (-40...150°C)
T3 -40...446°F (-40...230°C)