

# Electronics for Positive Displacement Flow Meter S2000 Series

## 1. Pulse output



Specifications	
Power supply	10...30VDC
No load current	<9mA
Output	Push-Pull (PNP / NPN)
Reverse polarity protection	Yes
Short circuit protection	Yes
Ambient temperature	-40...185°F (-40...85°C)
Probe operating temperature	-40...210°F (-40...100°C)
	-40...300°F (-40...150°C)
	-40...450°F (-40...230°C)
Electrical connection	M12 x 1 plug
Protection class	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 mm



## 2. Linearized pulse output



### Specifications

Power supply	12...30VDC
No load current	<20mA
Output	Push-Pull (PNP / NPN)
Reverse polarity protection	Yes
Short circuit protection	Yes
Ambient temperature	-40...185°F (-40...85°C)
Probe operating temperature	-40...210°F (-40...100°C)
	-40...300°F (-40...150°C)
	-40...450°F (-40...230°C)
Electrical connection	M12 x 1 plug
Protection class	IP67

### Wiring

M12 plug	PNP	NPN												
<table border="1" style="margin: 10px auto; border-collapse: collapse;"> <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 mm



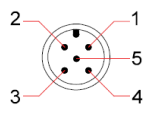
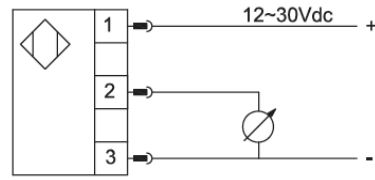
**3. Linearized Analog output (4...20mA)**



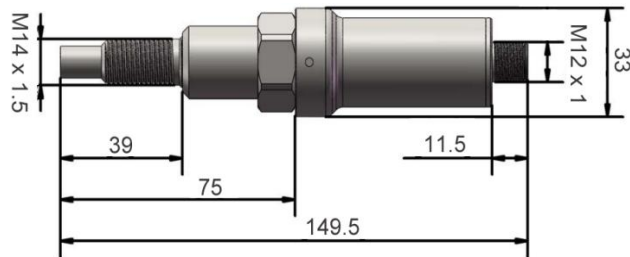
**Specifications**

Power supply	10...30VDC
No load current	<12mA
Output	3-wire 4...20mA
Reverse polarity protection	Yes
Short circuit protection	Yes
Ambient temperature	-40...185°F (-40...85°C)
Probe operating temperature	-40...210°F (-40...100°C) -40...300°F (-40...150°C) -40...450°F (-40...230°C)
Electrical connection	M12 x 1 plug
Protection class	IP67

**Wiring**

M12 plug	4...20mA												
 <table border="1" style="margin-left: 20px; border-collapse: collapse;"> <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>Analog output</td> </tr> <tr> <td>3</td> <td>Blue</td> <td>Power -</td> </tr> </tbody> </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 mm**



## 4. Intelligent transmitter with digital display

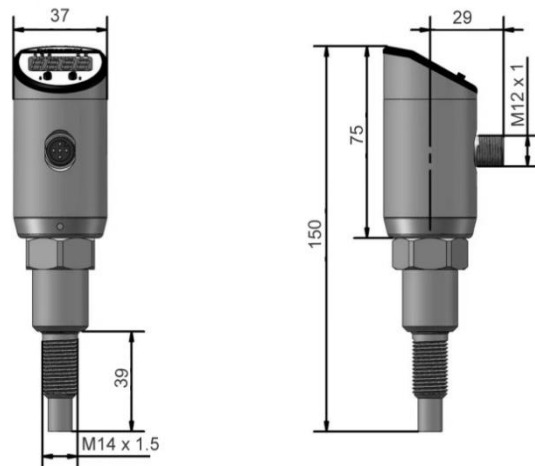


Specifications	
Power supply	10...30VDC
No load current	<12mA
Switching output	Push-pull (compatible to PNP / NPN)
	Switching capacity: 500mA (24VDC)
Analog output	2-wire 4...20mA
	Load RA(Ω) ≤ (Us-10)V/0.02A
	Linearity: ≤0.01% of reading
Accuracy	≤0.02% of reading
Ambient temperature	-40...185°F (-40...85°C)
Probe operating temperature	-40...210°F (-40...100°C)
	-40...300°F (-40...150°C)
	-40...450°F (-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 mm

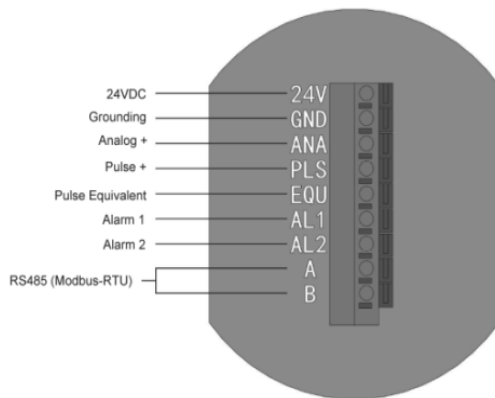


## 5. Ex-proof intelligent transmitter

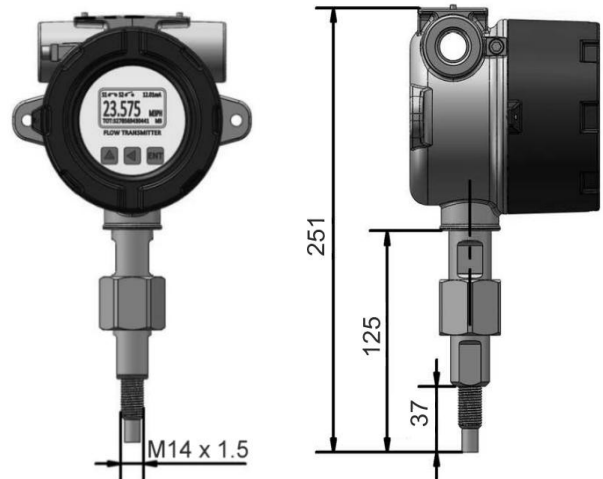


Specifications	
Power supply	10...30VDC / 95...240VAC, Max. 2.2W
No load current	<12mA
Analog output	2-wire 4...20mA
Pulse output	Switching capacity: 500mA (24VDC)
Switching output	Push-pull (compatible to PNP / NPN)
Display	5-bit for instaneous flow rate
	13-bit for total flow rate
	Volume unit: m <sup>3</sup> / L / gal / FT <sup>3</sup>
	Time unit: day, hr, min, sec
Refresh: 1s	
Accuracy	0.01%
Ambient temperature	-40...140°F (-40...60°C)
Probe operating temperature	-40...210°F (-40...100°C)
	-40...300°F (-40...150°C)
	-40...450°F (-40...230°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)



**Order****1. Model**

S2000- Sensor for or positive displacement flow meter

**2. Output**

P1 Pulse output  
P2 Linearized pulse output  
A 4...20mA  
D Digital transmitter  
E Ex-proof transmitter

**3. Temperature**

T1 -40...210°F (-40...100°C)  
T2 -40...300°F (-40...150°C)  
T3 -40...450°F (-40...230°C)