

Ref: FAQ-0010

Version: 1.0

Title – 4-20mA setting for flow

Made By: AB_161013 (Issue 1)

Question – How do you set up 4-20mA channels for flow output

There are two ways of doing this depending on what your zero flow output corresponds to – this can either correspond to zero (0) mA or more usually 4mA

1. Configuration for Zero flow = Zero mA

The loggers 4-20mA channel is set up with the meters advised output (for example) of : -

20mA = 69.4 Litres per second and 0 mA = 0 litres per second.

In this case we calculate the 4mA value as being 13.88 litres per second (i.e 69.4/20 *4 = 13.88) and apply this to the logger Channel configuration as follows -

4-20mA Transducer						
Select the units Sensor type. This defines the type of units that can be applied to the data. Select a stored transducer from the list, or select user \checkmark						
Sensor Type:	Flow					
Transducer						
Select:	User Defined Transducer 💌 🗾 Remove					
Enter/Edit Transducer						
Name:						
Full Scale Deflection (20mA) Value:						
	69.400002					
Zero Scale Deflection (4mA) Value:						
	13.880000 Litres/Sec					
Data Type:	All Data Values					
Add to Select Transducer List Bands						
Export	OK Cance	1				

If a current source was applied to the logger in steps from 0mA to 4mA to 8mA to 10mA to 15mA to 20mA you would expect to see the results below :-

0mA= Olitres per sec 4mA = 13.9 litres/sec 8mA = 27.7 litres/sec 10mA=34.7 litres/sec 15mA =52.0 litres/sec 20mA= 69.4 litres/sec



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2. <u>Configuration for Zero flow = 4mA</u>

The loggers 4-20mA channel is set up with the meters advised output (for example) of : -

20mA = 69.4 Litres per second and 4mA = 0 litres per second.

In this case each mA step equates to 4.34 litres/second (i.e 69.4/16 = 4.34) and apply this to the logger. Note in this case zero mA would now equate to negative flow of -17.36 litres/second

Channel configuration as follows -

4-20mA Transducer ×						
Select the units Sensor type. This defines the type of units that can be applied to the data. Select a stored transducer from the list, or select user						
Sensor Type:	Flow					
Transducer						
Select: User Defined Transducer Remove						
Enter/Edit Transducer						
Name:						
Full Scale Deflection (20mA) Value:						
	69.4 Litres/Sec 💌					
Zero Scale Deflection (4mA) Value:						
	0.0 Litres/Sec					
Data Type:	All Data Values 💌					
Add to Select Transducer List Bands						
Export	OK Cancel					

If a current source was applied to the logger in steps from 0mA to 4mA to 8mA to 10mA to 15mA to 20mA you would expect to see the results below :-

0mA= - 17.4litres per sec 4mA = 0.0 litres/sec 8mA = 34.7 litres/sec 10mA= 43.4 litres/sec 15mA =65.1 litres/sec 20mA= 69.4 litres/sec

Document History:

Edition	Date of Issue	Modification	Notes
1st	16/10/13	Ist Release	