DE500 - Flow Transmitter with Local Display
Compatible with Turbine & PD Flow Meters

Introduction

Working with turbine or positive displacement flow meters, DE500 measures flow by detecting the rotation of internal turbines or gears and converting it into 4...20mA output. Flow range, output and units can be configured through the operating panel. Compact design, easy to use and high reliability make DE500 widely used in all industries.



Characteristics

Easy to Use

Compatible to turbine and gear flow meters

4…20mA + 2 Alarms

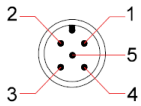
High Accuracy

Instantaneous flow and total flow display

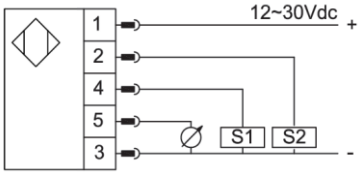
Specifications	
Power supply	12…30VDC
No load current	<12mA
Alarm	Push-Pull (compatible to PNP / NPN)
	Switching capacity: 500mA (24VDC)
Analog output	4…20mA
	Load RA(Ω) ≤ (Us-10)V/0.02A
	Linearity: <=0.01% of reading
Accuracy	<=0.02% of reading
Ambient temperature	-40…185°F (-40…85°C)
Medium temperature	-40…212°F (-40…100°C)
	-40…302°F (-40…150°C)
	-40…446°F (-40…230°C)
Display	4-digit LED
Material	Stainless steel 304
Electrical connection	M12 x 1 plug
Protection class	IP67
Certification	ISO 9001; CE

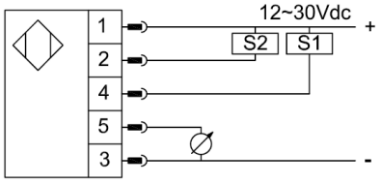
Wiring

M12 plug	Analog + 2 x PNP	Analog + 2 x NPN



Pin	Color	Signal
1	Brown	Power +
3	Blue	Power -
4	Black	Switching S1
2	White	Switching S2
5	Gray	Analog





Display and Keys



Keys	Description
S + E	Press and hold for 3 seconds: Enter Setting Mode / Confirm and Save
S	Shift Menu Down / Change a Value
E	Shift Menu Up / Move Cursor



Light	Description
Lit	Unit: L/min
Gal	Unit: gal/min
M3	Unit: m³/h
T3	High 4-bit digits of total flow *
T2	Middle 4-bit digits of total flow *
T1	Low 4-bit digits of total flow *
S1	Switch 1 state
S2	Switch 2 state

* For total flow, we will have 3 displays combined. Example:
T3 = "0", T2="20", T1="2000", then total flow will be "202000".

Menu Overview

Menus	Description	Options
unit	Flow unit	L/min; Gal/min; m³/h
SP1	Switch 1 set point	2%...100% of measuring range
rP1	Switch 1 reset point	0…98% of measuring range
ou1	Switch 1 output mode	Hno / Hnc / Fno / Fnc*
dS1	Switch 1 set delay	Unit: second
dr1	Switch 1 reset delay	Unit: second
SP2	Switch 2 set point	2%...100% of measuring range
rP2	Switch 2 reset point	0…98% of measuring range
ou2	Switch 2 output mode	Hno / Hnc / Fno / Fnc*
dS2	Switch 2 set delay	Unit: second
dr2	Switch 2 reset delay	Unit: second
Sout	Output logic for switch 1 and 2	PnP / nPn
Aout	Analog output type	0…20mA / 4…20mA
ASt	Analog output lower limit	0…75% of measuring range
AEd	Analog output upper limit	25%...100% of measuring range
dAP	Damping of switching output	0…8s
Sto	Save	YES / NO

* **Hno** - Hysteresis normally open
Hnc - Hysteresis normally close
Fno - Window normally open
Fnc - Window normally close

Note:

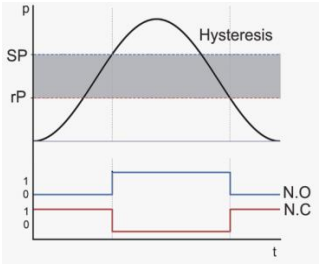
1) The difference between set point and reset point must be at least 2% of measuring range, or one of them will be adjusted automatically.

2) The difference between analog output upper limit and lower limit must be at least 25% of measuring range, or it will be adjusted automatically.

3.3 Output Mode - Window / Hysteresis

Hysteresis Mode

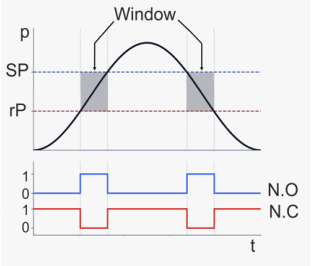
Hysteresis is used to prevent output instability when the flow fluctuates around the set point.



Example using NC (Normally Closed) logic:
The hysteresis zone (SP - rP) is represented by the gray area in the diagram on the right.
Increasing Flow: The switch opens when the flow is above the set point (SP).
Decreasing Flow: The switch closes only when the flow is below the reset point (rP).

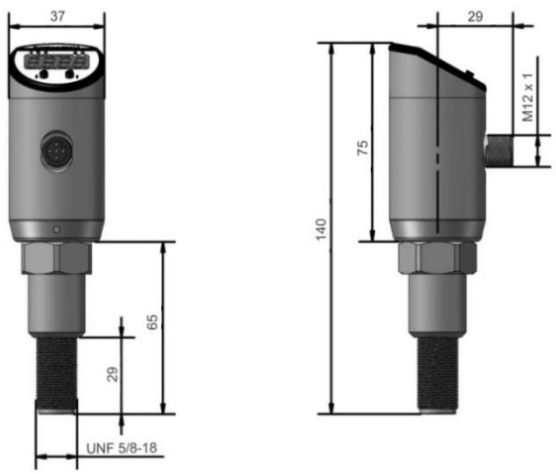
Window Mode

Window mode is used to monitor whether the flow remains within a specific range. An alert will trigger if the flow moves outside of this range.

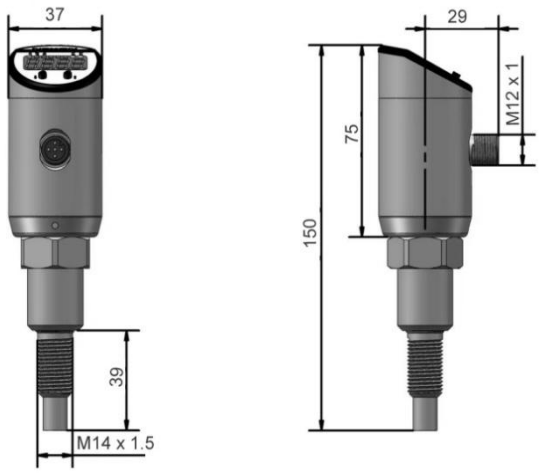


Example using NC (Normally Closed) logic:
The window range is represented by the gray area in the diagram on the right.
Inside the range: The switch closes when the flow is between the set point (SP) and the reset point (rP).
Outside the range: The switch opens if the flow is above the set point (SP) or drops below the reset point (rP).

Dimensions in mm



For Turbine Flow Meters



For Positive Displacement Flow Meters

Order code

1. Model	
DE500-	Flow Transmitter with Local Display

2. Type	
K	For Turbine Flow Meters
G	For Positive Displacement Flow Meters

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

4. Pickup (Apply to Turbine Flow Meters Only)	
M	Magnetic (standard)
R	RF