

## Industrial Smart Differential Pressure Transmitter Model: MDDP

### Applications

- For level, volume or mass measurement in liquids, differential pressure monitoring as well as flow measurement (volume or mass flow) in conjunction with primary elements in gases, vapors and liquids.
- Process industry: Chemical/petro chemical, power stations, food and beverage, offshore oil rigs, pulp and paper, environmental technology, machine building and general plant construction.

### Special features

- Accuracy 0.075 and 0.04,0.02
- Best accuracy, reproducibility and long-term stability
- Local zero and span adjustments
- Automatic temperature compensation
- Intrinsically safe and explosion proof
- Easy menu-guided commissioning via local display, 4 to 20mA
- with HART, PROFIBUS PA, FOUNDATION Fieldbus
- Overload-resistant up to 420bar / 42MPa / 6300psi, function-monitored
- Cost savings with modular concept for easy replacement of sensor, display or electronics
- Intrinsically safe and explosion proof



### Description

- |                           |  |
|---------------------------|--|
| ■ Accuracy class          | 0.075 standard and 0.04,0.02 (option)                                |
| ■ Accuracy stability      | Accuracy will be held for the nominal range for a minimum of 3 years |
| ■ Over pressure limit     | 250 bar standard, 350bar, 420bar (option)                            |
| ■ Transfer function       | Linear, squar or squar root  |
| ■ Response time           | 0.1 second   |
| ■ Diaphragm material      | Stainless steel 316,<br>Hastelloy, Monel, Tantalum(option)           |
| ■ Process connection      | Stainless steel 316,<br>Hastelloy, Monel, Tantalum(option)           |
| ■ Vent material           | Stainless steel 316,<br>Hastelloy, Monel, Tantalum(option)           |
| ■ Operating temperature   | -20 ... +90°C  |
| ■ Storage temperature     | -40 ... +120°C   |
| ■ temperature coefficient | within range -20 to +90 °C   |

■ zero & span	(compensated temperature range) zero: $\leq 0.005$ % per °C typical, $\leq 0.01$ % per °C max. span: $\leq 0.005$ % per °C typical, $\leq 0.01$ % per °C max.
■ Damping	0...60 sec adjustable
■ Long stability	$\pm 0.1\%$ F.S/year
■ Pressure type	Differential, Gauge, absolute
■ Protection	IP67
■ Power supply	10 - 36VDC
■ Output signal	4 ... 20mA, 0.5 ... 4.5VDC, 1 ... 5VDC, 1 ... 10VDC
■ Intrinsically safe	II 1/2 Ex ia IIC T4/T5
■ Explosion-proof	II 1/2 Exia/d IIC T5/T6
■ Pressure port	1/2NPTF, 1/4NPTF or customize
■ Housing material	Aluminum, Stainless steel
■ Fill liquid	Silicon or inert fill
■ Message	Self diagnosis message
■ Conduit entry size	1/2NPTF or M20*1.5
■ shock	50g /11ms

These transmitters can be configured utilizing any of the three following methods: **(1)** locally configuring the instrument (zero, range, shift, characteristics and damping ratio) by means of pushbuttons on the transmitter, **(2)** by a PC with a dedicated interface and the MADECO smart configuration software **(3)** with having the capability of digital communication, they may be configured using MADECO hand-held terminal with HART protocol or other hand-held communicators\*. The data interchange with the transmitter enables the user to identify the transmitter, calibrate the sensor, read the immediate measured value of the input and the current output of the transmitter. User may alter the measurement unit and the range, introduce zero elevation, apply measurement inversion, take a square root or squar the value of the measurement and set the damping time. Additionally the operator may force an output current with a set value.

MDDP Differential pressure transmitter measures in both corrosive and non-corrosive gases, vapors and liquids. The pressure transmitter makes use of the piezo-resistive effect to make the measurement. The output signal is a DC current which is linearly proportional to the input pressure.

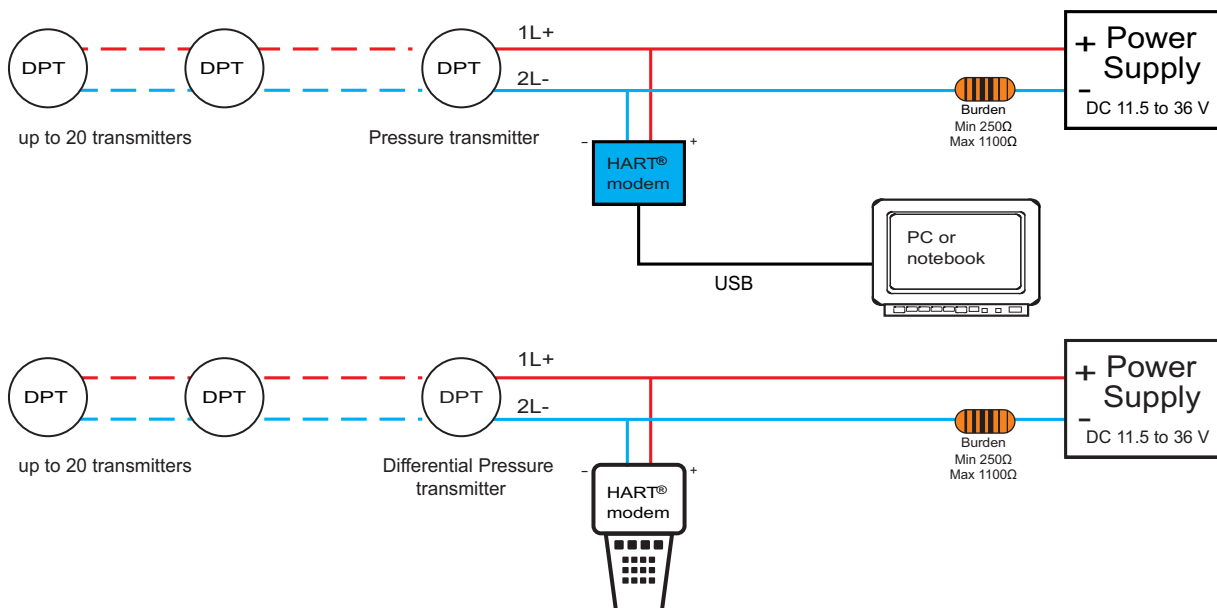
In the version "with Ex protection Ex II 1/2 G Ex ia IIC T6 Ga/Gb", the transmitter can be mounted within the hazardous area Zone 1, for connection to Zone 0.

## MDDP Industrial Differential Pressure Transmitter

ORDERING CODE	Example:	MDDP	D	4	4	A	2	M	S	I	AT	H
<b>Measurement Type</b>												
D - Differential			D									
A - Absolute												
G - Gauge												
<b>Process Connection</b>												
4 - 1/2 NPTF				4								
6 - 1/4 NPTF												
8 - 1/2 BSPM												
C - Customer												
<b>Pressure Range</b>												
2 - (-10...10 mbar)												
4 - (-60...60 mbar)					4							
6 - (-600...600 mbar)												
8 - (-2.5...2.5 bar)												
10 - (-20...20 bar)												
12 - (-120...120 bar)												
C - Customer												
<b>Housing material</b>												
A - Aluminum						A						
S - Stainless Steel												
C - Customer												
<b>Conduit Entry Size</b>												
2 - 1/2NPT							2					
4 - M20*1.5												
C - Customer												
<b>Isolating Diaphragm</b>												
S - 316L Stainless steel												
M - Monel® 400								M				
H - Hastelloy												
T - Tantalum												
G - Gold plated												
C - Customer												
<b>Process Connection</b>												
S - 316L Stainless steel									S			
M - Monel® 400												
H - Hastelloy												
T - Tantalum												
G - Gold plated												
C - Customer												
<b>Sensor Fill Fluid</b>												
S - Silicone fill &FPM viton gasket												
I - Inert Oxygen services- Fluorolube &NBR v										I		
<b>Accuracy</b>												
AT - 0.075% (std.)											AT	
AC - 0.04%												
AS - 0.02%												

## MDDP Industrial Differential Pressure Transmitter

ORDERING CODE	Example:	MDDP	H	N	2	N	WC	Note
<b>Transmitter Output</b>								
H - 4...20mA signal based on HART® protocol			H					
F - Foundation™ fieldbus protocol								
P - PROFIBUS®PA Protocol								
L - Low power 1...5 VDC								
W - Wireless								
C - Customer								
<b>Certificate</b>								
N - None				N				
I - Intrinsically safe (II 1/2 Ex ia IIC T4/T5)								
E - Explosion proof (II 1/2 Exia/d IIC T5/T6)								
M - Marine certificate-DNV								
<b>Remote Seals</b>								
2 - Not required					2			
4 - One side Assemble to MADECO MDD1 capillary and Diaphragm seals								
6 - Two side Assemble to MADECO MDD1 capillary and Diaphragm seals						N		
<b>Display</b>								
N - None								
D - LCD display								
<b>Options</b>								
AS - Assemble 3way manifold								
AM - Assemble 3way manifold								
BR - Bracket for 2-in.pipe or panel mounting. sst								
CC - Calibration certificate								
CM - Material Traceability certification								
CP - Hydrostatic testing with certificate								
CL - Cleaning for special service								
CR - special calibrated range (please specify the range)								
AN - Analog zero and span trim								
NH - Stainless steel tag wired to case							W3	
AT - ATEX								
W3 - 3 year warranty								
W5 - 5 year warranty								
Other								





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