



# **DMP 457**

## Pressure Transmitter for Shipbuilding and Offshore

**Stainless Steel Sensor** 

accuracy according to EN IEC 62828-2: standard: 0.35 % span option: 0.25 % span

#### Nominal pressure

from 0 ... 100 mbar up to 0 ... 600 bar

#### **Output signals**

2-wire: 4 ... 20 mA others on request

#### **Special characteristics**

- LR-certificate (Lloyd's Register)
- DNV-approval (Det Norske Veritas)
- ABS-certificate (American Bureau of Shipping)
- CCS-certificate (China Classification Society)
- flush pressure port
   G 1/2" from 100 mbar
- excellent thermal behaviour

#### **Optional versions**

- IS-version
   Ex ia = intrinsically safe for gases and dusts
- ► welded pressure port

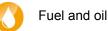
The pressure transmitter DMP 457 has been especially designed for rough conditions occurring especially in shipbuilding and offshore applications. All gaseous and liquid media, which are compatible with stainless steel 1.4404 (316L) respectively can be used.

Sensor element is a piezoresistive stainless steel sensor with high accuracy and excellent long-term stability. In order to meet the special requirements for shipbuilding and offshore applications extensive tests had to be passed to get the Lloyd's Register (LR), Det Norske Veritas (DNV) and China Classification Society (CCS) approvals.

#### Preferred areas of use are



Diesel engines, drives Compressors, pumps Boiler Hydraulic and pneumatic control systems







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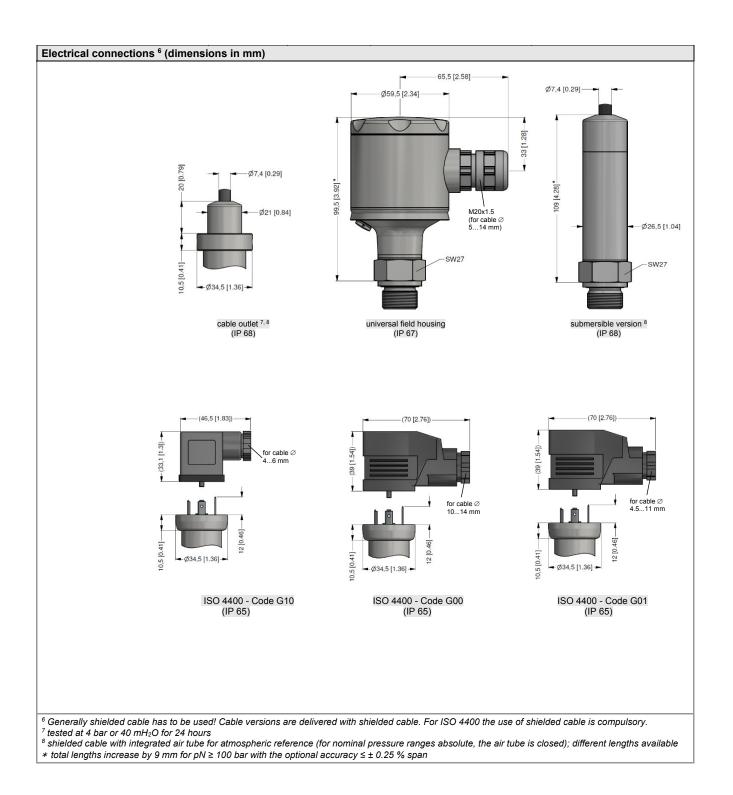
The company BD SENSORS s.r.o. is certified by TÜV SÜD Czech according to the standard ISO 9001.

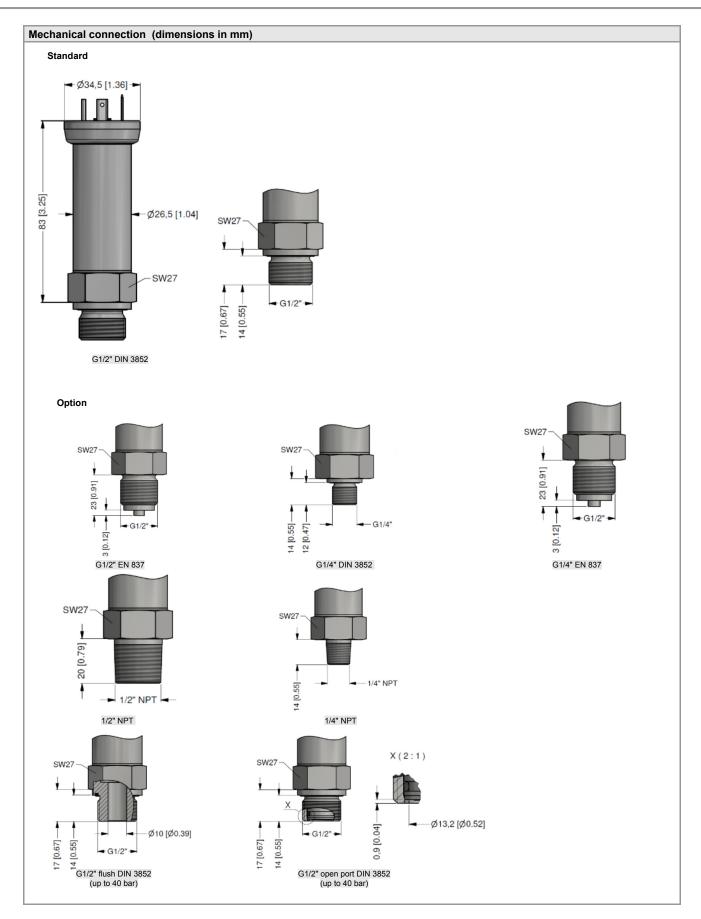
### DMP 457 Shipbuilding and Offshore

Input pressure range <sup>1</sup>														
Nominal pressure gauge [ba	r] -1 0	0.10	0.16	0.25	0.40	0.60	) 1	1.6	6 2.5	5 4	6			
Nominal pressure abs. [ba		-	-	-	- 0.40			1.0			6			
Level gauge / abs. [mH <sub>2</sub> 0		1	1.6	2.5	4	0.60	10				60			
Overpressure [ba	-	0.5	1.0	1	2	5	5	10			40			
Burst pressure ≥ [ba	4	1.5	1.5	1.5	3	7.5					50			
	1													
Nominal pressure gauge [ba	r] 10	16	25	4	) (	60	100	160	250	400	600			
Nominal pressure abs. [ba	r] 10	16	25	4	) (	60	100	160	250	400	600			
Level gauge / abs. [mH <sub>2</sub> 0	D] 100	160	250	40	0	-	-	-	-	-	-			
Overpressure [ba	r] 40	80	80	10	5 2	10	600	600	1000	1000	1000			
Burst pressure > [ba	r] 50	120	120	21	0 4	20	1000	1000	1250	-	-			
Vacuum resistance	-	ar: unlimit	ed vacuu	m resist	ance	P <sub>N</sub> <	: 1 bar <sup>.</sup> o	n request						
<sup>1</sup> from 60 bar: measurement starts with							i bail o	nioquool	•					
	· · ·													
Output signal / Supply														
Standard	2-wire:													
Option IS-protection	2-wire:	2-wire: 4 20 mA / V <sub>s</sub> = 10 28 V <sub>DC</sub>												
Performance														
Accuracy <sup>2</sup>	standar	d: n	ominal pr	essure <	< 0.4 bar:	≤±0.5	% spar	1						
,					: 0.4 bar:									
	option:				0.4 bar:									
Permissible load		(Vs — Vs mir												
Influence effects	1					In	ad: 0.05	% snan /	kΩ					
Long term stability	supply: 0.05 % span / 10 Vload: 0.05 % span / kΩ≤ ± 0.1 % span / year by reference conditions													
Response time	< 10 ms		cui by ic		oonanion	,								
<sup>2</sup> accuracy according to EN IEC 6282			nt (non-lin	earity hve	teresis re	neatahili	tv)							
Thermal effects (Offset and Sp						Jealabili	y/							
· · ·			•	63		< 0.	4			≥ 0.40				
Nominal pressure P <sub>N</sub> [ba		1 ≤±0.												
Tolerance band [% spar						≤ ±				≤ ± 0.75				
in compensated range [°C		-20			tura di la calca	0		05%0		-20 85	100%0			
Permissible temperatures	meaium	: -40 12	5-0	elec	tronics / e	environr	nent: -40	85°C	stor	age: -40	100°C			
Electrical protection														
Short-circuit protection	perman	ent												
		no damage, but also no function												
Reverse polarity protection		•												
Reverse polarity protection Electromagnetic compatibility		age, but al n and imm			): - EN 61	326		- DN	V (Det No	orske Verita	is)			
		•			o: - EN 61	326		- DN	V (Det No	orske Verita	is)			
Electromagnetic compatibility	emissio	•	unity acc	ording to			60068-2-		V (Det No	orske Verita	as)			
Electromagnetic compatibility Mechanical stability	emissio	n and imm	unity acc	ording to			60068-2-		V (Det No	orske Verita	as)			
Electromagnetic compatibility Mechanical stability Vibration Materials	emissio 4 g (acc	n and imm	unity acc DNV: clas	ording to			60068-2-		IV (Det No	orske Verita	as)			
Electromagnetic compatibility Mechanical stability Vibration Materials Pressure port	emissio 4 g (acc	n and imm ording to I s steel 1.4	unity acc DNV: clas 404 (316	cording to ss B, cur L)	ve 2 / bas	is: IEC			V (Det No	orske Verita	as)			
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Miscellaneous											
Current consumption max. 25 mA											
Weight	approx. 140 g (with ISO 4400)										
Installation position	any <sup>4</sup>										
Operational life	100 million load cycles										
CE-conformity	EMC Directive: 2014/30/EU Pressure Equipment Directive: 2014/68/EU (module A) <sup>5</sup>										
ATEX Directive	2014/34/EU										
<ul> <li><sup>4</sup> Pressure transmitters are calibrated in there can be slight deviations in the zet</li> <li><sup>5</sup> This directive is only valid for devices</li> </ul>	For point for pressure ranges $P_N \leq 1$ bar.		nged on installation								
Wiring diagram											
2-wire-system (current)											
p supply + I supply – E	+										
Pin configuration											
Electrical connection	1 ISO 4400	field housing (clamp section: 2.5 mm <sup>2</sup> )	cable colours (IEC 60757)								
Supply +	1	Vs +	WH (white)								
Supply –	2	Vs –	BN (brown)								
Shield	ground pin 🕀		GNYE (green-yellow)								

DMP 457 Shipbuilding and Offshore





## DMP 457 Shipbuilding and Offshore

The manufacturer provides the EU declaration of conformity.

Calibration - All production undergoes output control, which is performed by comparison with standards. The traceability of standards and working gauges is ensured in accordance with Act No. 505/1990, as amended, on metrology.

The manufacturer offers the possibility to supply sensors calibrated in the calibration laboratory of BD SENSORS, accredited according to ČSN EN ISO / IEC 17025: 2018.



		Orde	ring	CO	de D	DN	1P	457	,									
9.12.2020	DMP 457		Щ		- []			]-[	]-[	]-[		П	-	]-[	] - [	0 - 0	0-	]
Pressure																		
Gauge <sup>1</sup>			6 (	0 0														
Absolute ( $P_N > 0,4$	bar)		6 0															
Measured value in				2														
Measured value in		(P <sub>N</sub> > 0,4 bar)	6 0	) 3														
	nH₂O]	[bar]																
	1	0 0,1 (P <sub>N</sub> > 0,4 bar)			1													
	1,6	$0 \dots 0,16 (P_N > 0,4 bar)$					0											
	2,5	0 0,25 (P <sub>N</sub> > 0,4 bar)			2													
	4	00,4			4													
	6	00,6			6													
	10 16	01				6 C	) 1 ) 1											
	16 25	0 1,6 0 2,5				5 C												
	25	02,5					) 1											
	40 60	06																
	100	0 10					) 2											
	160	0 16					) 2											
	250	025			2													
	400	0 40					) 2											
		0 60					) 2											
		0 100					) 3											
		0 160					) 3											
		0 250					) 3											
		0 400			4	0 0	) 3											
		0 600					) 3											
		- 1 0			X	1 0	) 2											
Customer					9	9 9	9 9											
Customer - underpr	ressure				X	x >	< X											
Output																		
4 20 mA / 2-wire	9							1										
Intrinsic safety 4	20 mA / 2-wire							E										
Customer								9										
Accuracy																		
0,5 % (P <sub>N</sub> < 0,4 bar	,								5									
0,35 % (P <sub>N</sub> ≥ 0,4 ba									3									
0,25 % (P <sub>N</sub> ≥ 0,4 ba	ar)								2									
Customer Electrical connect	tion								9									
											G 1	0						
ISO 4400 (for cable		nm, GL approbated)										0						
		nm, GL approbated)										0						
Cable outlet, cable											TR							
+ TPE-U cable / 1 r																		
		gland M 20 x 1,5 (IP 67)									8 8	0						
Customer		J																
Justomer												9						







Mechanical connection		
G 1/2" DIN 3852	1 0 0	
G 1/2" EN 837	2 0 0	
G 1/4" DIN 3852	3 0 0	
G 1/4" EN 837	4 0 0	
G 1/2" DIN 3852 with flush sensor; pressure port only ( $P_N \le 40$ bar)	F 0 0	
G 1/2" DIN 3852 open pressure port ( $P_N \le 40$ bar)	ноо	
1/2" NPT	N 0 0	
1/4" NPT	N 4 0	
Customer	9 9 9	
Seals		
Viton (FKM)	1	
Without seals - welded (only with EN 837) <sup>3</sup>	2	
Customer	9	
Special version		
Standard		0 0 0
Customer		999

0,-...without additional charge

On request...in accordance with the producer

Surcharges for calibration are not subject to any discounts. Subject to change.

This document contains the specification for ordering the product; detailed technical parameters of the product and its possible variants are given in the data sheet.

BD SENSORS reserves the right to change sensor specifications without further notice.

1 from 60 bar: measurement starts with ambient pressure

2 shielded TPE-U-cable with ventilation tube available in different lengths

3 welded version only with pressure ports according to EN 837; possible with pressure ranges  $P_N \le 40$  bar



