



DMP 457

Pressure Transmitter for Shipbuilding and Offshore

Stainless Steel Sensor

accuracy according to IEC 60770: standard: 0.35 % FSO option: 0.25 % FSO

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)
- GL-certificate (Germanischer Lloyd)
- DNV-certificate (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 behavior

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), Germanischer Lloyd (GL), 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



Fuel and Oil





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Input pressure range ¹ Nominal pressure gauge														
Nominal pressure dauge												-		
			0.10	0.16	0.25	0.40	0.60	1	1.6	2.5	4	6		
Nominal pressure abs.	[bar]		-	-	-	0.40	0.60	1	1.6	2.5	4	6		
Level gauge / abs.	[mH ₂ O]		1	1.6	2.5	4	6	10	16	25	40	60		
Overpressure	[bar]		0.5	1	1	2	5	5	10	10	20	40		
Burst pressure ≥	[bar]	7.5	1.5	1.5	1.5	3	7.5	7.5	15	15	25	50		
Nominal procesure dougo	[bar]	10	16	25	40	60	100	160	250	400	6(00		
Nominal pressure gauge					40		100							
Nominal pressure abs.	[bar]									00				
Level gauge / abs.	[mH ₂ O]									-				
Overpressure	[bar]							1000						
Burst pressure >	[bar]		120	120	210	420	1000	1000	1250	-		-		
Vacuum resistance		P _N ≥ 1 b	ar: unlimi	ted vacuu	um resista	ance	P _N < 1	bar: on re	equest					
¹ from 60 bar: measurement s	starts with a	ambient pro	essure											
Output signal / Supply														
Standard		2-wire:		mA /	-									
Option IS-protection		2-wire:	4 20	mA /	$V_{\rm S} = 10$.	28 V _{DC}								
Performance														
Accuracy ²		Standar	d: N	Nominal p	oressure ·	< 0.4 bar:	≤±0.5%	6 FSO						
		Standard: Nominal pressure < 0.4 bar: $\leq \pm 0.5$ % FSO Nominal pressure ≥ 0.4 bar: $\leq \pm 0.35$ % FSO												
		Option:	Ν	vominal p	oressure	≥ 0.4 bar:	≤±0.25	% FSO						
Permissible load		$R_{max} = I($	Vs — Vs mi											
Influence effects			0.05 % FS				load	0.05 % F	SO / kO					
Long term stability						conditions	1000.	0.00 /01	007122					
Response time		< 10 ms				Somulions								
² accuracy according to IEC 6	60770 lim			on linearit	, hustores	ia ranaatak	<i>:::::</i>)							
						is, repeatal	omity)							
Thermal effects (Offset					res									
Nominal pressure P _N	[bar]		-1				< 0.4				0.40			
Tolerance band	[% FSO]		≤±0				≤±1				: 0.75			
in compensated range	[°C]		-20	. 85			0 70			-20	85			
Permissible temperatures	S	medium	: -40 12	25°C	elec	tronics / e	nvironmei	nt: -40	85°C	storage	: -40 10	00°C		
Electrical protection														
Short-circuit protection		permane	ent											
Reverse polarity protection	on	•												
	no dama	amage, but also no function sion and immunity according to												
						<u> </u>								
Electromagnetic		emissior	n and imm	nunity acc	cording to		- Det	Norske \	/eritas (D	NV)				
Electromagnetic compatibility		emissior		nunity acc	cording to		- Det	Norske V	'eritas (D	NV)				
Electromagnetic compatibility Mechanical stability		emissior - EN 6	n and imm 31326 -	nunity acc Germanis	cording to scher Llo	yd (GL)								
Electromagnetic compatibility Mechanical stability Vibration		emissior - EN 6	n and imm 31326 -	nunity acc Germanis	cording to scher Llo									
Electromagnetic compatibility Mechanical stability		emissior - EN 6	n and imm 31326 -	nunity acc Germanis	cording to scher Llo	yd (GL)								
Electromagnetic compatibility Mechanical stability Vibration		emissior - EN 6 4 g (acc	n and imm 31326 -	nunity acc Germanis GL: curve	cording to scher Llo e 2 / acco	yd (GL)								
Electromagnetic compatibility Mechanical stability Vibration Materials		emissior - EN 6 4 g (acc	ording to	nunity acc Germanis GL: curve 1404 (316 sta	cording to scher Llo e 2 / acco SL) ainless st	yd (GL) ording to D eel 1.4404	NV: Class	s B / basis	s: IEC 600					
Electromagnetic compatibility Mechanical stability Vibration Materials Pressure port		emissior - EN 6 4 g (acc stainless standard	ording to	nunity acc Germanis GL: curve 1404 (316 sta	cording to scher Llo e 2 / acco SL) ainless st	yd (GL) ording to D	NV: Class	s B / basis	s: IEC 600					
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Miscellaneous											
Current consumption	max. 25 mA										
Weight	approx. 140 g (with ISO 440))									
Installation position	any ⁴	any ⁴									
Operational life	> 100 x 10 ⁶ pressure cycles										
CE-confomity		EMC Directive: 2004/108/EC									
-	Pressure Equipment Directive: 97/23/EC (module A) ⁵										
ATEX Directive	94/9/EC										
⁴ Pressure transmitters are calibrated there can be slight deviations in the ⁵ This directive is only valid for device	e zero point for pressure ranges $P_N \leq$	re connection down. If this position is change 1 bar. ssure > 200 bar	ed on installation								
Wiring diagram											
P I Supply -	A)										
Pin configuration	ISO 4400	field housing	cable colours (DIN 47100)								
Electrical connection Supply		field housing	wh (white) bn (brown) ye/gn (yellow / green)								
Supply		IN -									
Shie											
Electrical connections 6 (dime	nsions in mm)										
	П	65,5 Ø59,5	07,4								



⁶ Generally shielded cable has to be used! Cable versions are delivered with shielded cable. For ISO 4400 the use of shielded cable is compulsory.
 ⁷ tested at 4 bar or 40 mH₂O for 24 hours
 ⁸ shielded cable with integrated air tube for atmospheric reference (for nominal pressure ranges absolute, the air tube is closed); different lengths available

DMP 457 Shipbuilding and Offshore



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		Orderin	g code	DN	IP 4	457	7					
DMP 457	Ш]-[]]]]-∏		- 🗌]-[]	- 🗌			
Pressure in bar, gau	ge ¹ 6 0											
in bar, absolu in mH₂O, gau	ite ² 6 0	1										
in mH ₂ O, absolu Input [mH ₂ O] [ba	ite ² 6 0	3	_						_			
1 0. ⁻ 1.6 0.1	2	$\begin{array}{cccc} 1 & 0 & 0 & 0 \\ 1 & 6 & 0 & 0 \\ 2 & 5 & 0 & 0 \end{array}$										
2.5 0.2 4 0.4	5 ²	2 5 0 0 4 0 0 0										
6 0.0 10 1	6	6 0 0 0 1 0 0 1										
16 1.0 25 2.0	6	1 6 0 1										
40 4 60 6		2 5 0 1 4 0 0 1 6 0 0 1										
100 10		1 0 0 2										
160 16 250 25	;	1 6 0 2 2 5 0 2 4 0 0 2										
400 40)	6002										
10 16	0	1 0 0 3 1 6 0 3										
25 40	0	$\begin{array}{cccccccccccccccccccccccccccccccccccc$										
60 -1	. 0	X 1 0 2										
Output		9999										consult
4 20 mA / 2-w Intrinsic safety 4 20 mA / 2-w custor	ire		1 E 9									consult consult consult consult consult consult consult consult consult
Accuracy standard for $P_N \ge 0.4$ bar 0.35	%		3									
standard for $P_N < 0.4$ bar 0.50 option for $P_N \ge 0.4$ bar 0.25			5 2									
Electrical connection			9									consult
Male and female plug ISO 44 (for cable Ø 46 m	m)			G	1 0							
Male and female plug ISO 4400 ((for cable Ø 1014 m	m)			G	0 0							
Male and female plug ISO 4400 ((for cable Ø 4,511 m	m)			G	0 1							
Cable outlet (TPE-U-cab Field housing stainless ste	el				R 3 3 0							
Submersible version (1.4404 / 316 with TPE-U-cat	iL) ble ⁵				гз							
custom Mechanical connection				9	9 9							consult
G1/2" DIN 38 G1/2" EN 8						1 2	0 0 0 0					
G1/4" DIN 38 G1/4" EN 8						2 3 4	0 0 0 0					
G 1/2" DIN 3852 w flush sens	ith ⁶					F	0 0					
G1/2" DIN 3852 open pressure p 1/2" NI	ort ⁶					H N	0 0 0 0					
1/4" Ni custom	ъТ					N 9	4 0 9 9					consult
Seals						0	0 0	1				
without (welded versio custom	n) ⁷							2				consult
Special version standa									0	0	0	
custom	er								0 9	9	9	consult
from 60 bar: measurement starts with ambient pres absolute pressure possible from 0.4 bar												
Shielded cable has to be used! Cable versions are female plug is GL-approbated												
cable with integrated air tube for atmospheric pres possible up to 40 bar		-										
welded version only with pressure ports according	to EN 837; poss	ble with pressure rar	iges P _N ≤40	bar								
												20.07.20



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