



DMP 331i DMP 333i

Precision Pressure Transmitter

Stainless Steel Sensor

accuracy according to IEC 60770: 0.1 % FSO

Nominal pressure

from 0 ... 400 mbar up to 0 ... 600 bar

Output signal

2-wire: 4 ... 20 mA 3-wire: 0 ... 10 V others on request

Product characteristics

- thermal error in compensated range -20 ... 80 °C: 0.2 % FSO TC 0.02 % FSO / 10K
- Turn-Down 1:10
- communication interface for adjusting of offset, span and damping

Optional versions

- **IS-versions** Ex ia = intrinsically safe for gases and dusts
- adjustment of nominal pressure ranges (factory-provided)

The precision pressure transmitter DMP 331i and DMP 333i demonstrate the further development of our industrial pressure transmitters.

The signal processing of sensor signal is done by digital electronics with 16-bit analogue digital converter. Consequently, it is possible to conduct an active compensation and the transmitters with excellent measurements and exceptionally attractive price to offer on the market.

Preferred areas of use are



Laboratory techniques



Energy production (gas consumption and thermal energy measurement)



+49 (0) 92 35 / 98 11- 0

+49 (0) 92 35 / 98 11- 11

Fax:











Pressure ranges DMP 331i	1									
Nominal pressure		0.4	1	2	4	10	20	40	60	
gauge / absolute	[bar]									
Overpressure	[bar]	2	5	10	20	40	80	105	105	
Burst pressure	[bar]	3	7.5	15	25	50	120	210	210	
Vacuum ranges										
Nominal pressure gauge	[bar]	-0.4 .	0.4	-1 1		-1 2	-1 4		-1 10	
Overpressure	[bar]	2	2	5		10	20		40	
Burst pressure	[bar]	(3	7.5		15	25	25 50		
Pressure ranges DMP 333i	1									
Nominal pressure			100		200		400	600		
gauge / absolute	[bar]		100		200		400	600		
Overpressure	[bar]		210		600		1000	1000		
Burst pressure	[bar]		420		1000		1250	1250		
¹ On customer request we adjust	the devi	ce within th	e turn-down-	possibility by s	oftware on	the required pres	sure range.			
Output signal / Supply										
Standard		2-wire:	4 20 mA			-				
Option IS-version		2-wire:	4 20 mA		4 28 V _D	C				
Options analogue signal		2-wire:	4 20 mA			tion interface 2				
		3-wire:	0 10 V	$/ V_{S} = 14$	_	-				
			0 10 V	with co	mmunica	tion interface ²				
² only possible with el. connection	n Binder	series 723	(7-pin)							
Performance										
Accuracy		IEC 6077	70^{3} : $\leq \pm 0.1$	% FSO						
performance after turn-down										
	-	no chang	- TD ≤ 1:5 no change of accuracy ⁴							
- TD > 1:5 for calculation use the following formula (for nominal pressure ranges ≤ 0.40 bar see note 4										
- 10	> 1:5			ne following for		r nominal press	sure ranges ≤ 0	.40 bar see n	ote 4):	
- 10	> 1:5	≤ ± [0.1 +	0.015 x tu	ne following for rn-down] % F	so `	·	J	.40 bar see n	ote 4):	
- 10	> 1:5	\leq ± [0.1 + with turn-	+ 0.015 x tu -down = noi	ne following for rn-down] % F minal pressu	SO re range /	adjusted range	:	.40 bar see n	ote 4):	
- 10	> 1:5	\leq ± [0.1 + with turn-e.g. with	+ 0.015 x tu -down = noi a turn-dowi	ne following forn-down] % Formula pressure of 1:10 follows	SO re range / wing accu	adjusted range	ted:	.40 bar see n	ote 4):	
	> 1:5	\leq ± [0.1 + with turn- e.g. with \leq ± (0.1 +	- 0.015 x tu -down = noi a turn-dowi - 0.015 x 10	ne following forn-down] % Forminal pressure of 1:10 follows) % FSO i.e	SO re range / owing accuracy . accuracy	adjusted range lracy is calcula / is ≤ ± 0.25 %	ted:		ote 4):	
Permissible load	> 1:5	\leq ± [0.1 + with turn- e.g. with \leq ± (0.1 + current 2-	+ 0.015 x tu -down = noi a turn-dowi + 0.015 x 10 -wire: R _{max} :	ne following forn-down] % F minal pressur n of 1:10 follo 0) % FSO i.e = $[(V_S - V_{S min})]$	SO re range / owing accuracy . accuracy	adjusted range lracy is calcula / is ≤ ± 0.25 % Ω	ted: FSO voltage 3-wire:	R_{min} = 10 k Ω	ote 4):	
Permissible load Influence effects	> 1:5	\leq ± [0.1 + with turn- e.g. with \leq ± (0.1 + current 2- supply: 0	+ 0.015 x tull -down = noi a turn-down + 0.015 x 10 -wire: R _{max} = .05 % FSO	ne following forn-down] % Forn-down] % Forn-down pressure of 1:10 following FSO i.e = $[(V_S - V_{S min})]$ / 10 V	re range / owing accu accuracy n) / 0.02 A	adjusted range iracy is calcula ⁄ is ≤ ± 0.25 % Ω	ted: FSO voltage 3-wire: load: 0.05 % FS	R_{min} = 10 k Ω	ote 4):	
Permissible load Influence effects	> 1:5	\leq ± [0.1 + with turn- e.g. with \leq ± (0.1 + current 2- supply: 0	+ 0.015 x tull -down = noi a turn-down + 0.015 x 10 -wire: R _{max} = .05 % FSO	ne following forn-down] % Forn-down] % Forn-down pressure of 1:10 following FSO i.e = $[(V_S - V_{S min})]$ / 10 V	re range / owing accu accuracy n) / 0.02 A	adjusted range lracy is calcula / is ≤ ± 0.25 % Ω	ted: FSO voltage 3-wire: load: 0.05 % FS	R_{min} = 10 k Ω	ote 4):	
Permissible load Influence effects Long term stability	> 1:5	\leq ± [0.1 + with turn- e.g. with \leq ± (0.1 + current 2- supply: 0 \leq ± (0.1 x approx. 5	- 0.015 x turdown = normal turn-down = normal turn-down = 0.015 x 10 - wire: R _{max} = 0.05 % FSO x turn-down = 0.05 % FSO x turn-down = 0.015 x tu	ne following firn-down] % F minal pressum of 1:10 following FSO i.e = $[(V_S - V_{S min})]$ / 10 V) % FSO / ye	re range / owing accu- accuracy a) / 0.02 A ar at refer	adjusted range tracy is calcula γ is $\leq \pm 0.25$ % Ω	ted: FSO voltage 3-wire: load: 0.05 % FS	R_{min} = 10 kΩ SO / kΩ	ote 4):	
Permissible load Influence effects Long term stability Response time Adjustability (with option		\leq \pm [0.1 + with turn- e.g. with \leq \pm (0.1 + current 2 supply: 0 \leq \pm (0.1 x approx. 5 configura	- 0.015 x turdown = nor a turn-down - 0.015 x 10 - wire: R _{max} x .05 % FSO turn-down o msec tion of follo	ne following firn-down] % Fminal pressum of 1:10 following FSO i.e = [(V _S - V _{S min} / 10 V)) % FSO / ye wing parame	re range / owing accu accuracy n) / 0.02 A ar at refer ters possi	adjusted range aracy is calcula γ is $\leq \pm 0.25$ % Ω ence conditions ble (interface /	ted: FSO voltage 3-wire: load: 0.05 % FS	R_{min} = 10 kΩ SO / kΩ sary ⁵):		
Permissible load Influence effects Long term stability Response time Adjustability (with option communication interface RS2	232)	\leq \pm [0.1 + with turn- e.g. with \leq \pm (0.1 + current 2 supply: 0 \leq \pm (0.1 x approx. 5 configura electronic	- 0.015 x turdown = normal turn-down + 0.015 x 10 -wire: R _{max} + 0.05 % FSO turn-down is msec tion of folloc damping:	ne following firn-down] % Fminal pressum of 1:10 following FSO i.e = [(V _S - V _S min / 10 V)) % FSO / ye wing parame 0 100 sec	re range / owing accu accuracy) / 0.02 A ar at refer ters possi	adjusted range aracy is calcular is $\leq \pm 0.25 \%$ Ω ence conditionable (interface / set: 0 90 % F	ted: FSO voltage 3-wire: load: 0.05 % FS	R_{min} = 10 kΩ SO / kΩ		
Permissible load Influence effects Long term stability Response time Adjustability (with option communication interface RS2 3 accuracy according to IEC 6077	232) 70 – limit	$\leq \pm$ [0.1 + with turne.g. with $\leq \pm$ (0.1 + current 2 supply: 0 $\leq \pm$ (0.1 x approx. 5 configura electronic point adjus	- 0.015 x turdown = normal turn-down + 0.015 x 10 - wire: R _{max} + 0.05 % FSO turn-down is msec tition of follocations turn-down turn-down is turn-down turn	ne following firn-down] % Fminal pressum of 1:10 following FSO i.e = [(V _S - V _{S min} / 10 V) % FSO / ye wing parame 0 100 sectinearity, hysterian of the formal first fi	re range / pwing accu- accuracy a) / 0.02 A ar at refer ters possi offi esis, repeal	adjusted range aracy is calcular is $\leq \pm 0.25 \%$ Ω ence conditions ble (interface / set: 0 90 % Finallity)	ted: FSO voltage 3-wire: load: 0.05 % FS	R_{min} = 10 kΩ SO / kΩ sary ⁵):		
Permissible load Influence effects Long term stability Response time Adjustability (with option communication interface RS2 3 accuracy according to IEC 6077 4 except nominal pressure ranges	232) 70 – limit s ≤ 0.40	$\leq \pm [0.1 + with turn-e.g. with \leq \pm (0.1 + current 2 + current$	- 0.015 x turdown = normal turn-down + 0.015 x 10 -wire: R _{max} = .05 % FSO turn-down is msec tition of folloc damping: street (non-less calculations)	ne following firn-down] % F minal pressum of 1:10 following FSO i.e = [(V _S - V _{S min} / 10 V) % FSO / ye wing parame 0 100 sectinearity, hyster on of accuracy	re range / pwing accuracy accuracy ar at refer ters possi offi esis, repea	adjusted range aracy is calcular is $\leq \pm 0.25 \%$ Ω ence conditions ble (interface / set: 0 90 % Fability)	ted: FSO voltage 3-wire: load: 0.05 % FSS s software neces: FSO turn	R_{min} = 10 kΩ SO / kΩ sary ⁵):		
Permissible load Influence effects Long term stability Response time Adjustability (with option communication interface RS2 ³ accuracy according to IEC 6077 ⁴ except nominal pressure ranges ≤ ± (0.1 + 0.02 x turn-down) % 8	232) 70 – limiti s ≤ 0.40 FSO e.g.	\leq \pm [0.1 + with turne.g. with \leq \pm (0.1 + current 2 supply: 0 \leq \pm (0.1 x approx. 5 configura electronic point adjust 0 bar; for the turn-down	+ 0.015 x turdown = normal turn-down + 0.015 x 10 - wire: R _{max} + 0.05 % FSO turn-down or follow damping: strent (non-liese calculation of 1:3: ≤ ± (titor)	ne following firn-down] % Frind pressure of 1:10 following firm following for fo	re range / pwing accuracy accuracy n) / 0.02 A ar at refer ters possi off esis, repeat is as follow % FSO i.e	adjusted range aracy is calcular is $\leq \pm 0.25 \%$ Ω ence conditions ble (interface / set: 0 90 % Fability) s: accuracy is $\leq \pm$	ted: FSO voltage 3-wire: load: 0.05 % FS s software neces: FSO turn	R_{min} = 10 kΩ SO / kΩ sary ⁵): n down of spa	n: max. 1:10	
Permissible load Influence effects Long term stability Response time Adjustability (with option communication interface RS2 ³ accuracy according to IEC 6077 ⁴ except nominal pressure ranges ≤ ± (0.1 + 0.02 x turn-down) % Is ⁵ software, interface, and cable here	232) 70 – limit s ≤ 0 .4(FSO e.g. ave to be	≤±[0.1 + with turn- e.g. with ≤±(0.1 + current 2- supply: 0 ≤±(0.1 x approx. 5 configura electronic point adjus b bar; for the turn-down e ordered s	+ 0.015 x turdown = normal turn-down + 0.015 x 10 - wire: R _{max} + 0.05 % FSO turn-down of msec tion of follows damping: terment (non-lesse calculation of 1:3: ≤ ± (teparately (so	ne following firn-down] % Frind pressure of 1:10 following firm following for following firm fol	re range / pwing accuracy accuracy n) / 0.02 A ar at refer ters possi off esis, repeat is as follow % FSO i.e	adjusted range aracy is calcular is $\leq \pm 0.25 \%$ Ω ence conditions ble (interface / set: 0 90 % Fability) s: accuracy is $\leq \pm$	ted: FSO voltage 3-wire: load: 0.05 % FS s software neces: FSO turn	R_{min} = 10 kΩ SO / kΩ sary ⁵): n down of spa	n: max. 1:10	
Permissible load Influence effects Long term stability Response time Adjustability (with option communication interface RS2 3 accuracy according to IEC 6077 4 except nominal pressure ranges \$\leq \pmu(0.1 + 0.02 \times turn-down) \times 1 5 software, interface, and cable he Thermal effects (Offset and Tolerance band [%	232) 70 – limits s ≤ 0 .44 FSO e.g. ave to be d Span) s FSO]	≤±[0.1 + with turne.g. with ≤±(0.1 + current 2 · supply: 0 ≤±(0.1 x approx. 5 · configura electronic point adjus b bar; for the turn-down e ordered s / Permiss	+ 0.015 x turdown = normal turn-down + 0.015 x 10 - wire: R _{max} + 0.05 % FSO turn-down of msec tion of following terment (non-lesse calculation of 1:3: ≤ ± (teparately (so	ne following firn-down] % Frind pressure of 1:10 following firm following firm following firm following firm following firm following firm following parame of accuracy for faccuracy firm for faccuracy firm following	re range / pwing accuracy accuracy ar at refer ters possi offi esis, repea is as follow % FSO i.e iate for Wir	adjusted range aracy is calcular is $\leq \pm 0.25 \%$ Ω ence conditions ble (interface / set: 0 90 % Fability) s: accuracy is $\leq \pm dows^{\circ}$ 95, 98, 20 ed range -20	ted: FSO voltage 3-wire: load: 0.05 % FSS software neces: FSO turi	R_{min} = 10 kΩ SO / kΩ sary ⁵): n down of spa	n: max. 1:10	
Permissible load Influence effects Long term stability Response time Adjustability (with option communication interface RS2 ³ accuracy according to IEC 6077 ⁴ except nominal pressure rangested to 1 + 0.02 x turn-down) % Is ⁵ software, interface, and cable had the software interface of the software interface in the software in the software interface in the software interface in the software interface i	232) 70 – limits s ≤ 0 .44 FSO e.g. ave to be d Span) s FSO]	\leq \pm [0.1 + with turne.g. with \leq \pm (0.1 + current 2 supply: 0 \leq \pm (0.1 x approx. 5 configura electronic point adjust turn-down a ordered s \neq	+ 0.015 x turdown = normal turn-down + 0.015 x 10 - wire: R _{max} + 0.05 % FSO turn-down of msec tition of follow damping: tetment (non-lesse calculation of 1:3: ≤ ± (reparately (so sible temporare)	ne following firn-down] % Frind pressure of 1:10 following firm following firm following firm following firm following firm following firm following parame of accuracy for faccuracy firm for faccuracy firm following	re range / pwing accuracy accuracy ar at refer ters possi offi esis, repea is as follow % FSO i.e iate for Wir	adjusted range aracy is calcular is $\leq \pm 0.25 \%$ Ω ence conditions ble (interface / set: 0 90 % Fability) s: accuracy is $\leq \pm dows^{\circ}$ 95, 98, 20	ted: FSO voltage 3-wire: load: 0.05 % FSS software neces: FSO turi	R_{min} = 10 kΩ SO / kΩ sary ⁵): n down of spa	n: max. 1:10	
Permissible load Influence effects Long term stability Response time Adjustability (with option communication interface RS2 ³ accuracy according to IEC 6077 ⁴ except nominal pressure rangesting to 1 to	232) 70 – limits s ≤ 0 .44 FSO e.g. ave to be d Span) s FSO]	\leq \pm [0.1 + with turne.g. with \leq \pm (0.1 + current 2 supply: 0 \leq \pm (0.1 x approx. 5 configura electronic point adjust turn-down a ordered s \neq	+ 0.015 x turdown = normal turn-down + 0.015 x 10 - wire: R _{max} + 0.05 % FSO turn-down is msec tition of followese calculation of 1:3: ≤ ± (reparately (so sible temper turn-down) turn-down turn-down)	ne following firn-down] % Frind pressure of 1:10 following firm of accuracy firm of accuracy firm of accuracy of 1:10 for of accuracy of accur	re range / pwing accuracy accuracy ar at refer ters possi offi esis, repea is as follow % FSO i.e iate for Wir	adjusted range aracy is calcular is $\leq \pm 0.25 \%$ Ω ence conditions ble (interface / set: 0 90 % Fability) s: accuracy is $\leq \pm dows^{\circ}$ 95, 98, 20 ed range -20	ted: FSO voltage 3-wire: load: 0.05 % FSS software neces: FSO turi	R_{min} = 10 kΩ SO / kΩ sary ⁵): n down of spa	n: max. 1:10	
Permissible load Influence effects Long term stability Response time Adjustability (with option communication interface RS2 ³ accuracy according to IEC 6077 ⁴ except nominal pressure rangesting to 1 to	232) 70 – limits s ≤ 0 .44 FSO e.g. ave to be d Span) s FSO]	\leq \pm [0.1 + with turne.g. with \leq \pm (0.1 + current 2 supply: 0 \leq \pm (0.1 x approx. 5 configura electronic point adjust turn-down electronic ported string) bar; for the turn-down electronic electronic turn-down electronic turn-down electronic turn-down electronic electronic turn-down electronic electronic materials.	+ 0.015 x turdown = normal turn-down + 0.015 x 10 - wire: R _{max} + 0.05 % FSO turn-down is msec tition of followese calculation of 1:3: ≤ ± (reparately (so sible temper turn-down) turn-down turn-down)	ne following firn-down] % Frindown] % Fminal pressur nof 1:10 following firm-down] % FSO i.e = [(V _S - V _S min of 10 V) % FSO / ye wing parame 0 100 sec incearity, hyster on of accuracy 0.1 + 0.02 x 3) iffware appropriematures) in c in c -25 ment: -25	re range / pwing accu- accuracy ar at refer ters possi officesis, repeal is as follow % FSO i.e iate for Wir ompensat ompensat 125 °C 85 °C	adjusted range aracy is calcular is $\leq \pm 0.25 \%$ Ω ence conditions ble (interface / set: 0 90 % Fability) s: accuracy is $\leq \pm dows^{\circ}$ 95, 98, 20 ed range -20	ted: FSO voltage 3-wire: load: 0.05 % FSS software neces: FSO turn 0.16 % FSO 000, NT Version 4.	R_{min} = 10 kΩ SO / kΩ sary ⁵): n down of spa	n: max. 1:10	
Permissible load Influence effects Long term stability Response time Adjustability (with option communication interface RS2 ³ accuracy according to IEC 6077 ⁴ except nominal pressure rangesting to 1 to	232) 70 – limits s ≤ 0 .44 FSO e.g. ave to be d Span) s FSO]	\leq \pm [0.1 + with turne.g. with \leq \pm (0.1 + current 2 supply: 0 \leq \pm (0.1 x approx. 5 configura electronic point adjust turn-down electronic ported string) bar; for the turn-down electronic electronic turn-down electronic turn-down electronic turn-down electronic electronic turn-down electronic electronic materials.	+ 0.015 x turdown = nor a turn-down + 0.015 x 10 -wire: R _{max} + 0.05 % FSO turn-down is msec tition of follote damping: strent (non-less calculation of 1:3: ≤ ± (reparately (so sible tempor x turn-down)	ne following firn-down] % Frindown] % Fminal pressur nof 1:10 following firm-down] % FSO i.e = [(V _S - V _S min of 10 V) % FSO / ye wing parame 0 100 sec incearity, hyster on of accuracy 0.1 + 0.02 x 3) iffware appropriematures) in c in c -25 ment: -25	re range / pwing accuracy accuracy ar at refer ters possi officesis, repear is as follow % FSO i.e iate for Wir ompensat ompensat 125 °C	adjusted range aracy is calcular is $\leq \pm 0.25 \%$ Ω ence conditions ble (interface / set: 0 90 % Fability) s: accuracy is $\leq \pm dows^{\circ}$ 95, 98, 20 ed range -20	ted: FSO voltage 3-wire: load: 0.05 % FSS software neces: FSO turn 0.16 % FSO 000, NT Version 4.	R_{min} = 10 kΩ SO / kΩ sary ⁵): n down of spa	n: max. 1:10	
Permissible load Influence effects Long term stability Response time Adjustability (with option communication interface RS2 ³ accuracy according to IEC 6077 ⁴ except nominal pressure ranges ≤ ± (0.1 + 0.02 × turn-down) % Is ⁵ software, interface, and cable had the software for the software	232) 70 – limits s ≤ 0 .44 FSO e.g. ave to be d Span) s FSO]	\leq \pm [0.1 + with turne.g. with \leq \pm (0.1 + current 2 supply: 0 \leq \pm (0.1 x approx. 5 configura electronic point adjust bar; for the turn-down electronic electronic \pm (0.02 x medium: electronic electronic	+ 0.015 x turdown = nor a turn-down + 0.015 x 10 -wire: R _{max} + 0.05 % FSO turn-down is msec tition of follote damping: strent (non-less calculation of 1:3: ≤ ± (reparately (so sible tempor x turn-down)	ne following firn-down] % Frindown] % Fminal pressur nof 1:10 following firm-down] % FSO i.e = [(V _S - V _S min of 10 V) % FSO / ye wing parame 0 100 sec incearity, hyster on of accuracy 0.1 + 0.02 x 3) iffware appropriematures) in c in c -25 ment: -25	re range / pwing accu- accuracy ar at refer ters possi officesis, repeal is as follow % FSO i.e iate for Wir ompensat ompensat 125 °C 85 °C	adjusted range aracy is calcular is $\leq \pm 0.25 \%$ Ω ence conditions ble (interface / set: 0 90 % Fability) s: accuracy is $\leq \pm dows^{\circ}$ 95, 98, 20 ed range -20	ted: FSO voltage 3-wire: load: 0.05 % FSS software neces: FSO turn 0.16 % FSO 000, NT Version 4.	R_{min} = 10 kΩ SO / kΩ sary ⁵): n down of spa	n: max. 1:10	
Permissible load Influence effects Long term stability Response time Adjustability (with option communication interface RS2 ³ accuracy according to IEC 6077 ⁴ except nominal pressure rangesting to 1 to	232) 70 – limits s ≤ 0 .44 FSO e.g. ave to be d Span) s FSO]	\leq \pm [0.1 + with turne.g. with \leq \pm (0.1 + current 2 supply: 0 \leq \pm (0.1 x approx. 5 configura electronic point adjust turn-down electronic point electronic electronic electronic electronic electronic electronic storage:	+ 0.015 x turdown = nor a turn-down + 0.015 x 10 -wire: R _{max} + 0.05 % FSO turn-down is msec tition of follote damping: tement (non-less calculation of 1:3: ≤ ± (reparately (so sible tempor turn-down) turn-down) cs / environ	ne following firn-down] % Frindown] % Fminal pressur of 1:10 following firm-down] % FSO i.e = [(V _S - V _S min of 1:0 V) % FSO / ye wing parame 0 100 second of accuracy 0.1 + 0.02 x 3) ifftware appropreratures) in comparison of accuracy on the control of accuracy 0.1 + 0.02 x 3) ifftware appropreratures) in comparison of accuracy on the control of accuracy 0.1 + 0.02 x 3) ifftware appropreratures) in comparison of accuracy 0.1 + 0.02 x 3 and 0.1 in control of accuracy 0.1 + 0.02 x 3 and 0.1 in control of accuracy 0.1 + 0.02 x 3 and 0.1 in control of accuracy 0.1 + 0.02 x 3 and 0.1 in control of accuracy 0.1 + 0.02 x 3 and 0.1 in control of accuracy 0	re range / pwing accu- accuracy ar at refer ters possi officesis, repeal is as follow % FSO i.e iate for Wir ompensat ompensat 125 °C 85 °C	adjusted range aracy is calcular is $\leq \pm 0.25 \%$ Ω ence conditions ble (interface / set: 0 90 % Fability) s: accuracy is $\leq \pm dows^{\circ}$ 95, 98, 20 ed range -20	ted: FSO voltage 3-wire: load: 0.05 % FSS software neces: FSO turn 0.16 % FSO 000, NT Version 4.	R_{min} = 10 kΩ SO / kΩ sary ⁵): n down of spa	n: max. 1:10	
Permissible load Influence effects Long term stability Response time Adjustability (with option communication interface RS2 ³ accuracy according to IEC 6077 ⁴ except nominal pressure rangesting to 1 to	232) 70 – limits s ≤ 0 .44 FSO e.g. ave to be d Span) s FSO]	\leq \pm [0.1 + with turne.g. with \leq \pm (0.1 + current 2 supply: 0 \leq \pm (0.1 x approx. 5 configura electronic point adjust turn-down electronic point electronic electronic electronic electronic electronic electronic storage:	+ 0.015 x turdown = nor a turn-down + 0.015 x 10 -wire: R _{max} + 0.05 % FSO turn-down is msec tition of follote damping: tement (non-less calculation of 1:3: ≤ ± (reparately (so sible tempor turn-down) turn-down) cs / environ	ne following firn-down] % Frindown] % Fminal pressur nof 1:10 following firm-down] % FSO i.e = [(V _S - V _S min of 10 V) % FSO / ye wing parame 0 100 sec incearity, hyster on of accuracy 0.1 + 0.02 x 3) iffware appropriematures) in c in c -25 ment: -25	re range / pwing accu- accuracy ar at refer ters possi officesis, repeal is as follow % FSO i.e iate for Wir ompensat ompensat 125 °C 85 °C	adjusted range aracy is calcular is $\leq \pm 0.25 \%$ Ω ence conditions ble (interface / set: 0 90 % Fability) s: accuracy is $\leq \pm dows^{\circ}$ 95, 98, 20 ed range -20	ted: FSO voltage 3-wire: load: 0.05 % FSS software neces: FSO turn 0.16 % FSO 000, NT Version 4.	R_{min} = 10 kΩ SO / kΩ sary ⁵): n down of spa	n: max. 1:10	
Permissible load Influence effects Long term stability Response time Adjustability (with option communication interface RS2 ³ accuracy according to IEC 6077 ⁴ except nominal pressure rangesting to 1 to	232) 70 – limiti s ≤ 0.40 FSO e.g. ave to be d Span) b FSO] / 10 K]	$\leq \pm [0.1 + with turne.g. with \\ \leq \pm (0.1 + current 2 + current 3 + current 3$	+ 0.015 x turdown = nor a turn-down + 0.015 x 10 - wire: R _{max} + 0.05 % FSO turn-down is msec tition of following to damping: atment (non-liese calculation of 1:3: ≤ ± (reparately (so is ible temperately (so ibl	ne following firn-down] % Frindown] % Fminal pressur of 1:10 following firm-down] % FSO i.e = [(V _S - V _S min of 1:0 V) % FSO / ye wing parame 0 100 second of accuracy 0.1 + 0.02 x 3) ifftware appropreratures) in comparison of accuracy on the control of accuracy 0.1 + 0.02 x 3) ifftware appropreratures) in comparison of accuracy on the control of accuracy 0.1 + 0.02 x 3) ifftware appropreratures) in comparison of accuracy 0.1 + 0.02 x 3 and 0.1 in control of accuracy 0.1 + 0.02 x 3 and 0.1 in control of accuracy 0.1 + 0.02 x 3 and 0.1 in control of accuracy 0.1 + 0.02 x 3 and 0.1 in control of accuracy 0.1 + 0.02 x 3 and 0.1 in control of accuracy 0	re range / pwing accu- accuracy a accuracy ar at refer ters possi officesis, repear is as follow % FSO i.e citate for Wir compensat compensat 125 °C 100 °C	adjusted range aracy is calcular is $\leq \pm 0.25 \%$. Ω ence conditions ble (interface / set: 0 90 % For ability) is: accuracy is $\leq \pm 100 \%$ accuracy is $\leq \pm 100 \%$ accuracy is $\leq 100 \%$ accurac	ted: FSO voltage 3-wire: load: 0.05 % FSS software neces: FSO turn 0.16 % FSO 000, NT Version 4.	R_{min} = 10 kΩ SO / kΩ sary ⁵): n down of spa	n: max. 1:10	
Permissible load Influence effects Long term stability Response time Adjustability (with option communication interface RS2 ³ accuracy according to IEC 6077 ⁴ except nominal pressure ranges ≤ ± (0.1 + 0.02 x turn-down) % I ⁵ software, interface, and cable h Thermal effects (Offset and Tolerance band [% TC, average [% FSO / Permissible temperatures Electrical protection Short-circuit protection Reverse polarity protection Electromagnetic compatibility	232) 70 – limiti s ≤ 0.40 FSO e.g. ave to be d Span) b FSO] / 10 K]	$\leq \pm [0.1 + with turne.g. with \\ \leq \pm (0.1 + current 2 + current 3 + current 3$	+ 0.015 x turdown = nor a turn-down + 0.015 x 10 - wire: R _{max} + 0.05 % FSO turn-down is msec tition of following to damping: atment (non-liese calculation of 1:3: ≤ ± (reparately (so is ible temperately (so ibl	ne following firn-down] % Frin-down] % Fminal pressure of 1:10 following firm-down] % FSO i.e = [(V _S - V _S min / 10 V) % FSO / ye wing parame 0 100 sectinearity, hyster on of accuracy 0.1 + 0.02 x 3) iffware approprietatures) in c -25 ment: -25 -40	re range / pwing accu- accuracy a accuracy ar at refer ters possi officesis, repear is as follow % FSO i.e citate for Wir compensat compensat 125 °C 100 °C	adjusted range aracy is calcular is $\leq \pm 0.25 \%$. Ω ence conditions ble (interface / set: 0 90 % For ability) is: accuracy is $\leq \pm 100 \%$ accuracy is $\leq \pm 100 \%$ accuracy is $\leq 100 \%$ accurac	ted: FSO voltage 3-wire: load: 0.05 % FSS software neces: FSO turn 0.16 % FSO 000, NT Version 4.	R_{min} = 10 kΩ SO / kΩ sary ⁵): n down of spa	n: max. 1:10	
Permissible load Influence effects Long term stability Response time Adjustability (with option communication interface RS2 ³ accuracy according to IEC 6077 ⁴ except nominal pressure ranges ≤ ± (0.1 + 0.02 x turn-down) % 1 ⁵ software, interface, and cable had the stable for the stable f	232) 70 – limiti s ≤ 0.40 FSO e.g. ave to be d Span) b FSO] / 10 K]	≤± [0.1 + with turne.g. with ≤± (0.1 + current 2 supply: 0 ≤± (0.1 x approx. 5 configura electronic point adjust bar; for the turn-down electronic electronic electronic storage: permane no dama emission	+ 0.015 x turdown = nor a turn-down + 0.015 x 10 -wire: R _{max} + 0.05 % FSO turn-down is msec tition of following to the control of the cont	ne following firn-down] % Frin-down] % Fminal pressure of 1:10 following firm-down] % FSO i.e = [(V _S - V _S min / 10 V) % FSO / ye wing parame 0 100 sectinearity, hysterion of accuracy 0.1 + 0.02 x 3) iffware approprietatures in c -25 ment: -25 ment: -25 o no function of inty according	re range / pwing accu- accuracy a accuracy ar at refer ters possi officesis, repear is as follow % FSO i.e citate for Wir compensat compensat 125 °C 100 °C	adjusted range aracy is calcular is $\leq \pm 0.25 \%$. Ω ence conditions ble (interface / set: 0 90 % For ability) is: accuracy is $\leq \pm 100 \%$ accuracy is $\leq \pm 100 \%$ accuracy is $\leq 100 \%$ accurac	ted: FSO voltage 3-wire: load: 0.05 % FSS software neces: FSO turn 0.16 % FSO 000, NT Version 4.	R_{min} = 10 kΩ SO / kΩ sary ⁵): n down of spa	n: max. 1:10	
Permissible load Influence effects Long term stability Response time Adjustability (with option communication interface RS2 ³ accuracy according to IEC 6077 ⁴ except nominal pressure ranges ≤ ± (0.1 + 0.02 x turn-down) % 1 ⁵ software, interface, and cable had the stable for the stable f	232) 70 – limiti s ≤ 0.40 FSO e.g. ave to be d Span) b FSO] / 10 K]	≤ ± [0.1 + with turne.g. with ≤ ± (0.1 + current 2 supply: 0 ≤ ± (0.1 x approx. 5 configura electronic point adjust bar; for the turn-down e ordered s / Permiss ≤ ± (0.02 x medium: electronic storage: permane no dama emission stainless	+ 0.015 x turdown = nor a turn-down + 0.015 x 10 - wire: R _{max} + 0.05 % FSO turn-down is msec tition of follo c damping: strent (non-less calculation of 1:3: ≤ ± (leparately (so sible tempor turn-down) cs / environ turn-down and immur steel 1.440	ne following firn-down] % Frin-down] % Fminal pressure of 1:10 following firm-down] % FSO i.e = [(V _S - V _S min / 10 V) % FSO / ye wing parame 0 100 section of accuracy 0.1 + 0.02 x 3) fitware appropriematures in c in c -25 ment: -25 -40 o no function nity according 04 (316 L)	re range / pwing accu- accuracy a accuracy ar at refer ters possi officesis, repear is as follow % FSO i.e citate for Wir compensat compensat 125 °C 100 °C	adjusted range aracy is calcular is $\leq \pm 0.25 \%$. Ω ence conditions ble (interface / set: 0 90 % For ability) is: accuracy is $\leq \pm 100 \%$ accuracy is $\leq \pm 100 \%$ accuracy is $\leq 100 \%$ accurac	ted: FSO voltage 3-wire: load: 0.05 % FSS software neces: FSO turn 0.16 % FSO 000, NT Version 4.	R_{min} = 10 kΩ SO / kΩ sary ⁵): n down of spa	n: max. 1:10	
Permissible load Influence effects Long term stability Response time Adjustability (with option communication interface RS2 ³ accuracy according to IEC 6077 ⁴ except nominal pressure ranges ≤ ± (0.1 + 0.02 x turn-down) % 1 ⁵ software, interface, and cable in the	232) 70 – limit s ≤ 0.40 FSO e.g. eave to be d Span) FSO] / 10 K]	≤± [0.1 + with turne.g. with ≤± (0.1 + current 2 supply: 0 ≤± (0.1 x approx. 5 configura electronic point adjust bar; for the turn-down electronic electronic electronic storage: permane no dama emission stainless stainless	+ 0.015 x turdown = nor a turn-down + 0.015 x 10 - wire: R _{max} + 0.05 % FSO turn-down is msec tition of follo c damping: atment (non-less calculation of 1:3: ≤ ± (reparately (so sible tempor turn-down) cs / environ turn-down turn-down steel 1.440 steel 1.440 steel 1.440	ne following firn-down] % Frin-down] % Fminal pressure of 1:10 following firm-down] % FSO i.e = [(V _S - V _S min / 10 V) % FSO / ye wing parame 0 100 section of accuracy 0.1 + 0.02 x 3) iffware approprietatures in c -25 ment: -25 -40 o no function hity according 14 (316 L) 14 (316 L)	re range / pwing accu- accuracy a accuracy ar at refer ters possi officesis, repeal is as follow % FSO i.e friate for Wir compensat com	adjusted range aracy is calcular is $\leq \pm 0.25 \%$ Ω ence conditions ble (interface / set: 0 90 % For ability) is: accuracy is $\leq \pm 20 \%$ accuracy is $\leq \pm 20 \%$ ed range -20 ed range -20	ted: FSO voltage 3-wire: load: 0.05 % FSS software neces: FSO turn 0.16 % FSO 000, NT Version 4.	R_{min} = 10 kΩ SO / kΩ sary ⁵): In down of spa	an: max. 1:10	
Permissible load Influence effects Long term stability Response time Adjustability (with option communication interface RS2 ³ accuracy according to IEC 6077 ⁴ except nominal pressure ranget ≤ ± (0.1 + 0.02 x turn-down) % I ⁵ software, interface, and cable h Thermal effects (Offset and Tolerance band [%	232) 70 – limit s ≤ 0.40 FSO e.g. eave to be d Span) FSO] / 10 K]	≤± [0.1 + with turne.g. with ≤± (0.1 + current 2 supply: 0 ≤± (0.1 x approx. 5 configura electronic point adjust bar; for the turn-down electronic electronic electronic storage: permane no dama emission stainless stainless	+ 0.015 x turdown = nor a turn-down + 0.015 x 10 - wire: R _{max} + 0.05 % FSO turn-down is msec tition of follo c damping: atment (non-less calculation of 1:3: ≤ ± (reparately (so sible tempor turn-down) cs / environ turn-down turn-down steel 1.440 steel 1.440 steel 1.440	ne following firn-down] % Frin-down] % Fminal pressure of 1:10 following firm-down] % FSO i.e = [(V _S - V _S min / 10 V) % FSO / ye wing parame 0 100 section of accuracy 0.1 + 0.02 x 3) iffware approprietatures in c -25 ment: -25 -40 o no function hity according 14 (316 L) 14 (316 L)	re range / pwing accu- accuracy a accuracy ar at refer ters possi officesis, repeal is as follow % FSO i.e friate for Wir compensat com	adjusted range aracy is calcular is $\leq \pm 0.25 \%$ Ω ence conditions ble (interface / set: 0 90 % For ability) is: accuracy is $\leq \pm 20 \%$ accuracy is $\leq \pm 20 \%$ ed range -20 ed range -20	ted: FSO voltage 3-wire: load: 0.05 % FSS software neces: FSO turn 0.16 % FSO 000, NT Version 4.	R_{min} = 10 kΩ SO / kΩ sary ⁵): In down of spa	an: max. 1:10	

others on request

according to DIN EN 60068-2-6

according to DIN EN 60068-2-27

welded version ⁶

100 g / 11 msec.

stainless steel 1.4435 (316L)

10 g RMS (20 ... 2000 Hz)

pressure port, seal, diaphragm ⁶ welded version only with pressure ports according to EN 837; welded version not available with pressure ranges > 60 bar

Diaphragm Media wetted parts

Vibration

Shock

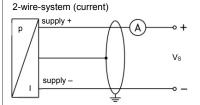
Mechanical stability

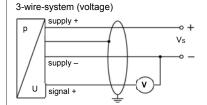
Explosion protection (only for 4.	20 mA / 2-wire)						
Approvals DX19-DMP 331i	IBExU 10 ATEX 1068 X / IECEx IBE 12.0027X						
DX19-DMP 333i	zone 0: II 1G Ex ia IIC T4 Ga	zone 20: II 1D Ex ia IIIC T 85°C Da					
Safety technical max. values	$U_i = 28 \text{ V}, I_i = 93 \text{ mA}, P_i = 660 \text{ mW}, C_i \approx 0 \text{ nF}, L_i \approx 0 \mu\text{H},$						
-	the supply connections have an inner capacity of max. 27 nF to the housing						
Permissible temperatures for	in zone 0: -20 60 °C with p _{atm} 0.8 bar up	to 1.1 bar					
environment	in zone 1 or higher: -20 65 °C						
Connecting cables	cable capacitance: signal line/shield also signal line/	le capacitance: signal line/shield also signal line/signal line: 160 pF/m					
(by factory)	cable inductance: signal line/shield also signal line/	ance: signal line/shield also signal line/signal line: 1μH/m					
Miscellaneous							
Current consumption	signal output current: max. 25 mA	signal output voltage: max. 7 mA					
Weight	approx. 200 g						
Installation position	any ⁷						
Operational life	100 million load cycles						
CE-conformity	EMC Directive: 2014/30/EU Pressure Equi	Pressure Equipment Directive: 2014/68/EU (module A) 8					
ATEX Directive	2014/34/EU						

Pressure transmitters are calibrated in a vertical position with the pressure connection down. If this position is changed on installation there can be slight deviations in the zero point for pressure ranges $P_N \le 1$ bar.

8 This directive is only valid for devices with maximum permissible overpressure > 200 bar.

Wiring diagrams



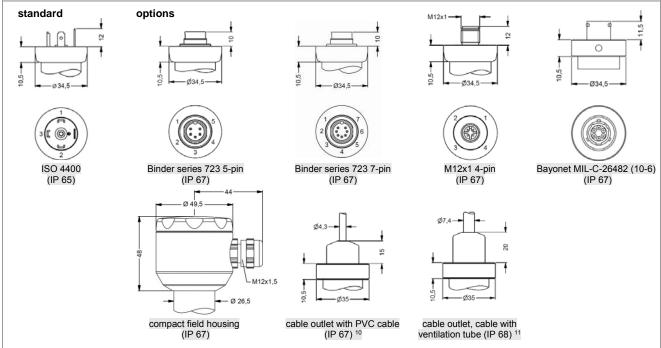


Pin configurat	ion
----------------	-----

Electrical connections		ISO 4400	Binder 723	Binder 723	M12x1/metal	Bayonet MIL-C-26482 (10-6)		compact field	cable colours
		130 4400	(5-pin)	(7-pin)	(4-pin)	2-wire	3-wire	housing	(IEC 60757)
supply +		1	3	3	1	Α	Α	IN +	WH (white)
supply –		2	4	1	2	В	D	IN –	BN (brown)
signal + (only for 3-wire)		3	1	6	3	-	В	OUT +	GN (green)
shield		ground 🖶	5	2	4	pressure port		⊕	GNYE (green-yellow)
Communication	RxD	-	-	4	-	-		-	-
interface RS232 9	TxD	-	-	5	-	_ '		-	-
	GND	-	-	7	-		-	_	_

⁹ may not be transmitted directly with the PC (the suitable adapter is available as accessory)

Electrical connections (dimensions in mm)



[⇒] universal-field housing stainless steel 316L with cable gland M20x1.5 (ordering code 880) and other versions on request

 $^{^{10}}$ standard: 2 m PVC cable without ventilation tube (permissible temperature: -5 ... 70 °C)

¹¹ different cable types and lengths available, permissible temperature depends on kind of cable

Mechanical connections (dimensions in mm) DMP 333i 12, 13 DMP331i 12 **DMP 331i** with communication interface RS232 © 2019 BDISENSORS GmbH - The specifications given in this document represent the state of engineering at the time of publishing. We reserve the right to make modifications to the specifications and materials. -Ø26,5 -ø26.5 -Ø26.5 57,5 SW27 SW27 4 G1/2" DIN 3852 G1/2" DIN 3852 G1/2" DIN 3852 Optional G1/2" G1/2" EN 837 G1/2" DIN 3852 1/2" NPT open port, P_N ≤ 40 bar 4 2 1/4" NPT G 1/4 G1/4" DIN 3852 1/4" NPT G1/4" EN 837 ⇒ metric threads and others on request

Windows® is a registered trade mark of Microsoft Corporation

pressure measurement

 $^{^{12}}$ with electrical connection Bayonet MIL-C-26482 (10-6) increases the length of devices by 5 mm

 $^{^{13}}$ for nominal pressure PN > 400 bar increases the length without IS-version by 19 mm and with IS-version by 39 mm



Ordering code DMP 331i / DMP 333i DMP 331i / DMP 333i Pressure For DMP 331i 1 0 gauge absolute For DMP 333i 1 3 1 3 gauge 0 absolute 1 [bar] Input For DMP 331i² 0.40 4 0 0 0 10 1.0 0 0 2 0 0 1 20 20 4 0 0 1 1 0 0 2 2 0 0 2 40 4.0 100 10 200 20 4 0 0 2 6 0 0 2 400 40 For DMP 333i² 1 0 0 3 100 2 0 0 3 4 0 0 3 6 0 0 3 200 400 600 For DMP 331i S 4 0 0 S 1 0 2 V 2 0 2 V 4 0 2 V 1 0 3 -0.40 ... 0.40 -1 ... 1 -1 ... 2 -1 ... 4 -1 ... 10 9 9 9 9 customer consult 4 ... 20 mA / 2-wire intrinsic safety 4 ... 20 mA / 2-wire 0 ... 10 V / 3-wire 3 9 customer consult Accuracy (at nominal pressure) 0.1 % FSO customer consult Electrical connection 1 0 0 male and female plug ISO 4400 0 0 0 male plug Binder series 723 (5-pin) male and female plug Binder series 723 (7-pin) M 1 0 M 1 3 B G 0 B G 4 male plug M12x1 (4-pin) / metal for analog output male plug M12x1 (4-pin) / metal for digital output Bayonet MIL-C-26482 (10-6); 2 wire Bayonet MIL-C-26482 (10-6); 3 wire cable outlet with PVC cable (IP67) ning at the time of publishing. A 0 R 0 cable outlet, cable with ventilation tube (IP68) 4 8 5 0 9 9 9 compact field housing stainless steel 1.4301 (304) customer consult Mechanical connection 0 0 0 0 G1/2" DIN 3852 G1/2" EN 837 0 0 0 0 0 0 0 0 0 0 4 0 9 9 G1/4" DIN 3852 3 G1/4" EN 837 4 F H G1/2" DIN 3852 with flush sensor 5 G1/2" DIN 3852 open pressure port 1/2" NPT 1/4" NPT customer consult For DMP 331i FKM without (welded version) 5,6 2 For DMP 333i FKM NBR 5 The specifications given in this customer consult Special version 1 1 1 1 2 1 9 9 9 standard communication interface RS232 7 customer consult 1 measurement starts with ambient pressure ² pressure ranges ≤ 60 bar as DMP 331i; pressure ranges > 60 bar as DMP 333i standard: 2 m PVC cable without ventilation tube (permissible temperature: -5 ... 70 °C); others on request 4 code TR0 = PVC cable, cable with ventilation tube available in different types and lengths BDISENSORS GmbH - 5 only possible for DMP 331i and $P_{N} \le 40$ bar

Software, Interface and cable for DMP 331i and DMP 333i with option RS-232 have to be order separately (Ordering code: CIS-G; Software appropriate for Windows® 95, 98, 2000, NT Version 4.0 or newer and XP

Windows® is a registrated trademark of Microsoft Corporation

01.04.2020 @

welded version only with pressure ports according to EN 837

⁷ Communication interface RS232 only possible with el. connection Binder serie 723 (7pin)