

Hydra-Sensor Pressure Transmitter

Construction

The GEMÜ C31 **Hydra-Sensor** pressure measurement device is equipped with a pressure transmitter. The body is made from PFA/PTFE and can be directly integrated into the pipe system by common flare unions. A PFA double diaphragm prevents contamination of the working medium. Only the PFA/PTFE body and the PFA diaphragm are wetted parts. The pressure is transmitted by a monitor liquid (IPA (isopropyl alcohol) / DI water, further liquids on request).

Features

- C31 is especially suitable for pressure measurement of ultra high purity chemicals
- All wetted parts are made from High Purity (PFA/PTFE)
- Pressure transmission by double diaphragm technology
- Pressure transmitter can be rotated through 360°
- Protection class IP 65 or IP 67 (depending on version)
- REACH / RoHS compliant
- Other certificates on request (e.g. FDA compliance)

Advantages

- Minimal deadleg
- The proven GEMÜ **CleanStar®** technology is the basis of the transmitter
- Working medium isolated from the transmitter by a patented PFA double diaphragm
- Pressure transmitter can be positioned through 360° enabling individual user options
- Production, assembly, calibration and packaging in cleanroom ISO 6

Dimensions - GEMÜ C31

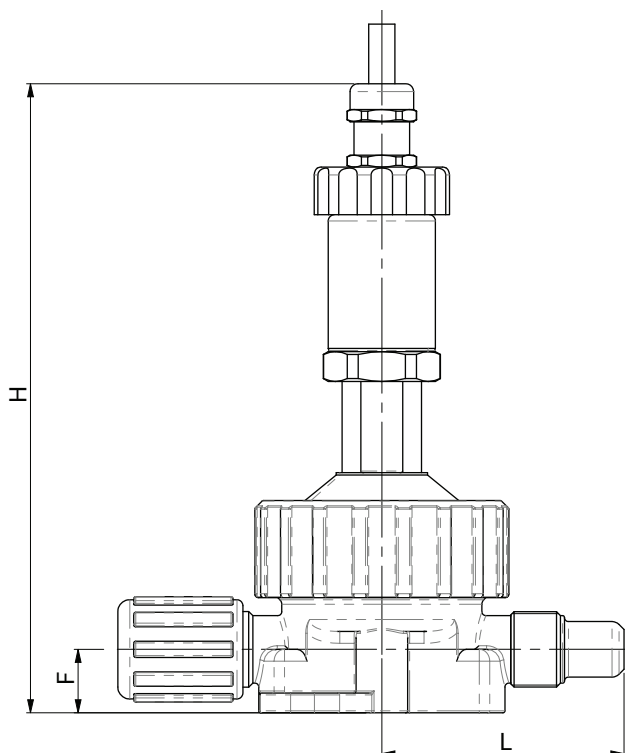
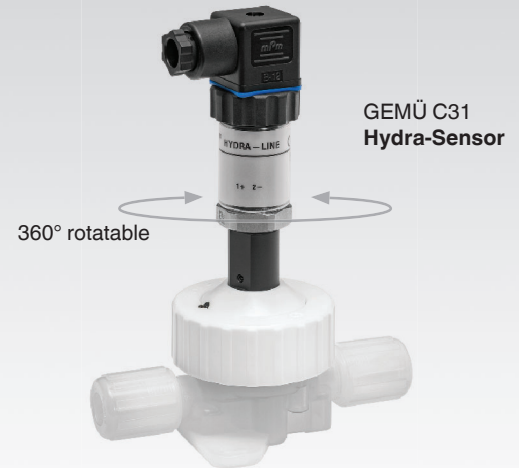


Table of dimensions see last page.



Technical data - Transmitter

Flow medium

Suitable for any inert or corrosive gases or liquids,
- particularly high purity media - which do not corrode the
body and diaphragm materials.

For corrosive media like HCL type C32 is recommended
(see data sheet C32)

Temperature

Ambient 41 ... 140 °F

Medium 41 ... 140 °F

Storage/transport -4 ... 140 °F

Depending on operating pressure

Version of transmitter diaphragm

- Double diaphragm system for working-/ measuring range
≥ 0 psi relative (Code BF, BG, BH)
- Single diaphragm for working-/ measuring range
≤ 0 psi relative (Code CF, CG, CH)

Material of wetted parts

Diaphragm	PFA
Body	PFA (In-Line), PTFE (Dead-End)

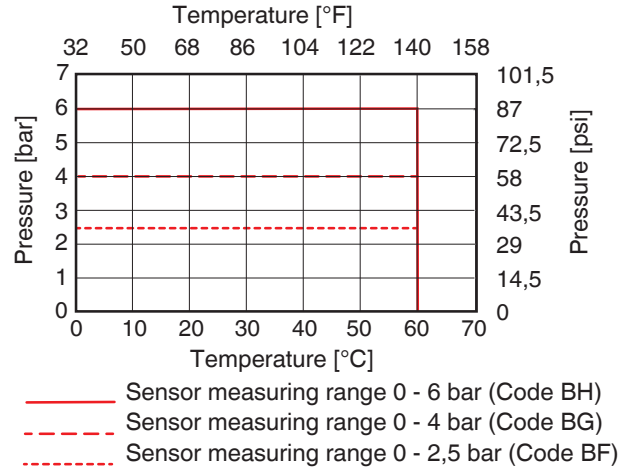
Flow direction

Optional

Installation position

Standard calibration: C30 should be installed such that the
transmission fluid transfers the pressure from the diaphragm
vertically (vertical installation). Other installation positions
may affect the accuracy.

Pressure/temperature correlation



Technical data - Pressure transmitter

Auxiliary power

DC 10...30 V

Pressure measurement device

Sensor 4...20 mA, 2-wire system
(with optional pluggable LCD)

Output signal

4...20 mA, two wire

Maximum admissible current

40 mA

Cable length

196.85 inch with cable outlet IP 67

Temperature

Ambient 41 ... 140 °F

Medium 41 ... 140 °F

Storage/transport -4 ... 140 °F

Depending on operating pressure

Characteristic deviation

0.5 % of span

Voltage drop

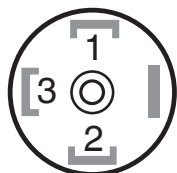
3 V

Temperature compensation

Additional measurement error up to 0.5 % per 50 °F
temperature deviation from the reference temperature of 68 °F

Elektrical connection

L-plug DIN EN 175301-803 A



PIN

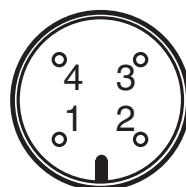
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U+

2

U-

Plug M12x1



PIN

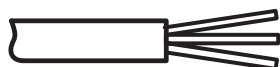
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U+

3

U-

Cable outlet with flying lead



Brown (BN)

U+

Green (GN)

U-

Grey (GY)

GND

Order data

Nominal size	Code
1/4" (only Dead-End) DN 4	4
3/8" (Dead-End + In-Line) DN 6	6
1/2" (Dead-End + In-Line) DN 10	8
3/4" (only In-Line) DN 15	12
1" (only In-Line) DN 20	16
1 1/4" (only In-Line) DN 25	20

Mounting variant	Code
Dead-End	E
In-Line	L

Connection	Code
NPT male thread (only 1/4" Dead-End)	13
Flare connection with CPFA union nut	73
Flare connection with PVDF union nut	75
Flare connection with PFA union nut	77

Body material	Code
PTFE (Dead-End)	26
PFA (In-Line)	30

Diaphragm material	Code
PFA	H3

Unit	Code
Bar	B
psi	P
kPa	A

Measuring range*	Code
0...30 psi 0...250 kPa 0...2,5 bar	BF
0...60 psi 0...400 kPa 0...4,0 bar	BG
0...100 psi 0...600 kPa 0...6,0 bar	BH
-30 inHg...15 psi -100...150 kPa -1...1,5 bar	CF
-30 inHg...30 psi -100...300 kPa -1...3,0 bar	CG
-30 inHg...60 psi -100...500 kPa -1...5,0 bar	CH

* Pressure reference: Relative pressure

Connection form	Code
L-plug DIN EN 175301-803 A, IP 65	A
Plug M12x1 (4 pin)	M
Cable outlet with 5 m flying lead, IP 67	D

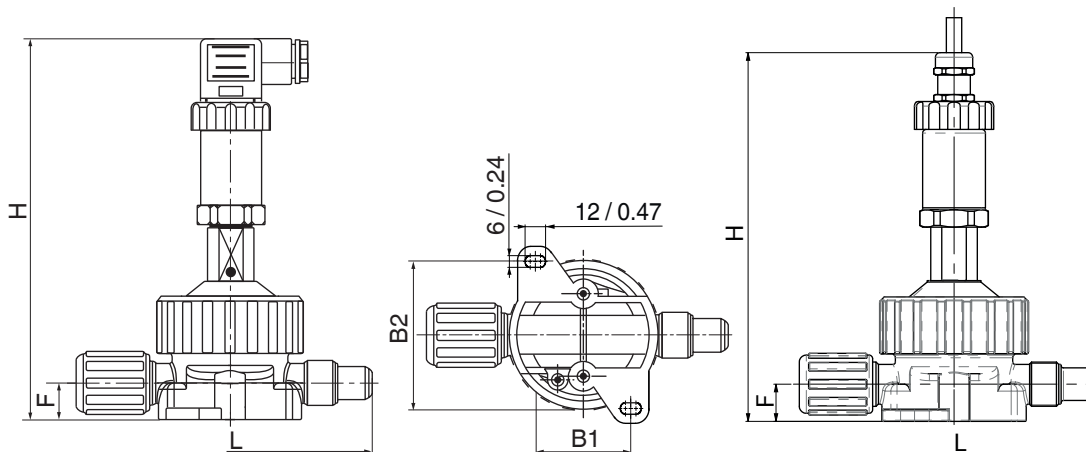
Display	Code
LCD, 4-digit (only possible with L-plug version)	L
Without	Z

Fill fluid of transmitter	Code
Isopropyl-alcohol (IPA) / DI-water 50:50	2
further fill fluids on request	

Version High Purity	Code
High Purity white	HPW

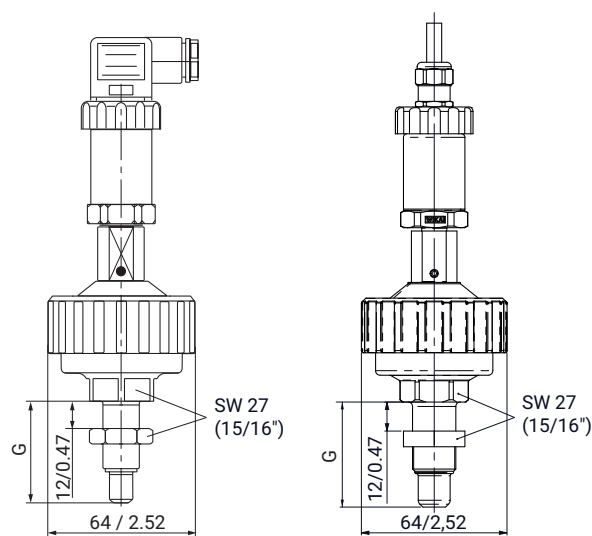
Order example	C31	8	L	75	30	H3	B	BF	A	Z	1	HPW
Type	C31											
Nominal size (code)		8										
Mounting variant (code)			L									
Connection (code)				75								
Body material (code)					30							
Diaphragm material (code)						H3						
Unit (code)							B					
Measuring range (code)								BF				
Connection form (code)									A			
Display (code)										Z		
Fill fluid (code)											1	
Version High Purity (code)												HPW

Dimensions - GEMÜ C31 In-Line [mm / inch]



In-Line	H		L	F	B1	B2
	Connection code A	Connection code D				
3/8" Flare*	167 / 6.57	158 / 6.22	118 / 4.65	16 / 0.63	40 / 1.57	62 / 2.44
1/2" Flare*	167 / 6.57	158 / 6.22	122 / 4.80	16 / 0.63	40 / 1.57	62 / 2.44
3/4" Flare*	172 / 6.77	164 / 6.46	122 / 4.80	19 / 0.75	40 / 1.57	62 / 2.44
1" Flare	197 / 7.76	186 / 7.32	165 / 6.50	25 / 0.98	56 / 2.20	78 / 3.07
1 1/4" Flare	197 / 7.76	201 / 7.91	225 / 8.86	25 / 0.98	56 / 2.20	78 / 3.07

Dimensions - GEMÜ C31 Dead-End [mm / inch]



Dead-End	H*		L
	Connection code A	Connection code D	
1/4" Flare	201 / 7.93	196 / 7.72	44 / 1.73
3/8" Flare	201 / 7.93	196 / 7.72	44 / 1.73
1/2" Flare	204 / 6.10	199 / 7.83	47 / 1.85

*Tolerances: $\pm 2 \text{ mm} / \pm 0.08 \text{ inch}$

For further High purity products, accessories and other products, please see our Product Range catalogue and Price List. Contact GEMÜ.

GEMÜ VALVES, MEASUREMENT
AND CONTROL SYSTEMS

