

GEMÜ 3140

Pressure transducer and pressure switch



Features

- Suitable for highly viscous, contaminated and corrosive media
- Featuring a rotatable LED display and IO-Link interface, depending on version
- SIL2 design optionally available
- Accuracy 0.5% FSO (in accordance with IEC 60770)
- Appropriate in-line housing optionally available
- Optional installation position
- Ceramic sensor

Description

The GEMÜ 3140 pressure transducer/switch is ideal for precise measurements in a wide pressure range. The sensor is suitable for use with both highly viscous and contaminated media and is also suitable for corrosive media due to its high-quality material selection. A variety of electrical and mechanical connections are available, depending on the version. The LED display version boasts a rotatable 4-digit display.

Technical specifications

- **Measuring range:** 0 Up to 40 bar
- **Media temperature:** -40 to 125 °C
- **Operating pressure :** 0 to 40 bar
- **Housing material:** 1.4404
- **Connection type:** Threaded connection
- **Output signals:** 0–10 V | 0–20 mA | 4–20 mA | NPN | PNP
- **Conformities:** EAC | FMEDA | UL Recognized

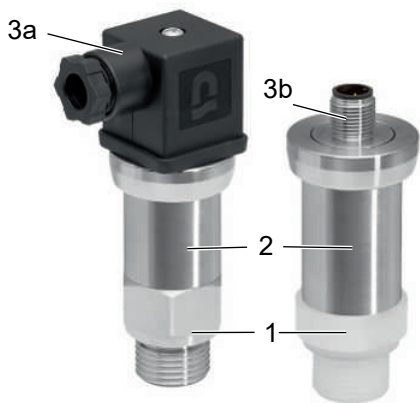
* depending on version and/or operating parameters

Technical data depends on the respective configuration



Product description

Pressure transducer



Item	Name	Materials
1*	Pressure connection	1.4404 stainless steel or PVDF
2	Housing	1.4404 Stainless steel
3a	Type A connector	PA
3b	M12x1 plug	1.4404 Stainless steel
	Seals*	FPM or EPDM
	Isolating diaphragm*	Ceramic Al ₂ O ₃ (96%)

* Media wetted

Pressure switch



Item	Name	Materials
1*	Pressure connection	1.4404 stainless steel or PVDF
2	Housing	1.4404 stainless steel
3	Display housing	PA 6.6
	Seals*	FPM or EPDM
	Isolating diaphragm*	Ceramic Al ₂ O ₃ (96%)

* Media wetted

Display



- 4-digit, red 7-segment LED display, digit height 7 mm, display range -1999 to +9999, visible area 22.5 x 10.5 mm, 4 LEDs for switching units (bar, mbar, PSI, MPa)
- Switching output status indication: Switching output 1: LED, green; switching output 2: LED, yellow

Availability

Material

Connection size	Material	Measuring range		
		0–6 bar	0–10 bar	0–40 bar
G 1/4	PVDF	X	X	-
	Stainless steel	X	X	X
G 1/2	PVDF	X	X	X
	Stainless steel	X	X	X

Output

Output			Display		Electrical connection	
			Without Code 0	With Code D	Code A	Code M
3-wire	0 to 20 mA/3-wire	Code 0A	X	-	X	-
	0 to 10 V/3-wire	Code 0V	X	-	X	-
	PNP, NPN, 4–20 mA, 0–10 V, IO link switchable	Code PNAV	-	X	-	X
2-wire	4 to 20 mA/2-wire	Code 4A	X	-	X	-
	4 to 20 mA/ 2-wire SIL2 design	Code 4AS	X	-	X	-

Order data

The order data provide an overview of standard configurations.

Please check the availability before ordering. Other configurations available on request.

Order codes

1 Type	Code
Pressure transducer, pressure switch	3140

2 Connection size	Code
G 1/2	G12
G 1/4	G14

3 Type of measurement	Code
Absolute pressure	A
Relative pressure	R

4 Measuring range	Code
Measuring range 0 - 6 bar	6
Measuring range 0 - 10 bar	10
Measuring range 0 - 40 bar	40

5 Material	Code
1.4404	7
PVDF	20

6 Seal material	Code
FKM	4
EPDM	14

7 Electrical connection	Code
Type A connector	A
M12 x 1 plug, 4-pin	M

8 Voltage/frequency	Code
24 V DC	C1

9 Display	Code
Without	0
With display	D

10 Output	Code
0 to 20 mA/3-wire	0A
0 to 10 V/3-wire	0V
4 to 20 mA/2-wire	4A
4 to 20 mA/2-wire SIL2 design	4AS
PNP, NPN, 4-20mA, 0-10V, IO-Link switchable	PNAV

11 Special version	Code
Standard	

Order example

Ordering option	Code	Description
1 Type	3140	Pressure transducer, pressure switch
2 Connection size	G12	G 1/2
3 Type of measurement	A	Absolute pressure
4 Measuring range	10	Measuring range 0 - 10 bar
5 Material	7	1.4404
6 Seal material	4	FKM
7 Electrical connection	A	Type A connector
8 Voltage/frequency	C1	24 V DC
9 Display	0	Without
10 Output	4A	4 to 20 mA/2-wire
11 Special version		Standard

Technical data

Temperature

Media temperature:	Stainless steel (code 7):	-40 to 125 °C
	PVDF (code 20):	-30 to 125 °C
Ambient temperature:	Stainless steel (code 7):	-40 to 85 °C
	PVDF (code 20):	-30 to 85 °C
Storage temperature:	Stainless steel (code 7):	-40 to 100 °C
	PVDF (code 20):	-30 to 100 °C

Pressure

Operating pressure: The operating pressure depends on the selected measuring range.

Measuring range	0-6 bar	0-10 bar	0-40 bar
Overload pressure	10 bar	20 bar	100 bar
Bursting pressure	18 bar	30 bar	120 bar

Product compliance

EMC Directive:	2014/30/EU
FMEDA:	SIL 2 (IEC 61508 / IEC 61511) only for ordering option Display – without display (code 0) and Output (code 4AS or 4AXS)
UL approval:	Yes only for ordering option Anzeige – without display (code 0)

Mechanical data

Installation position:	Optional
Protection class:	IP 67 acc. to EN 60529
Weight:	Pressure switch with display: 220 g Pressure switch without display: 140 g
Service life:	> 100 x 10 ⁶ load cycles
Switch-on time:	110 ms

Electrical data

Power supply

Supply voltage:	24 V DC (-5/+10%)
Current consumption:	≤ 40 mA
Reverse battery protection:	Yes
Duty cycle:	Continuous duty
Electrical connection type:	M12 connector, 4-pin Plug design A, DIN EN 175301-803

Switching output

Supply voltage:	18 - 30 V DC
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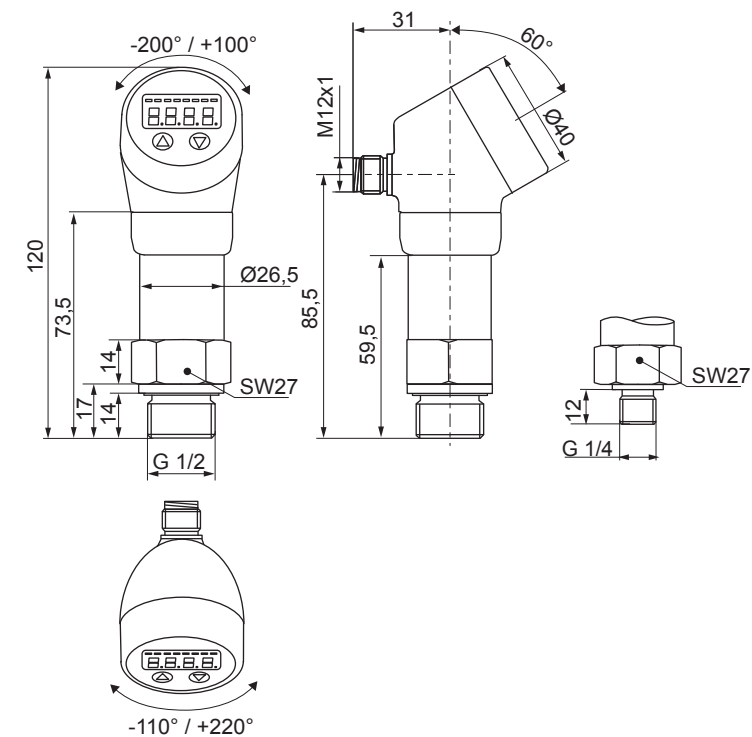
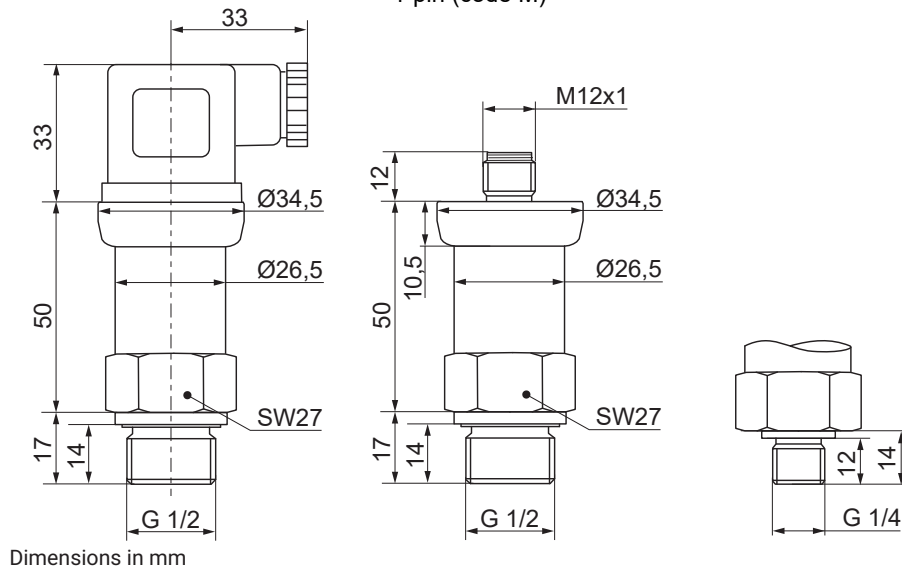
Output signal:		
Output code	Output signal 1	Output signal 2
Code 0A	0 to 20 mA	-
Code 0V	0 to 10 V	-
Code PNAV	Switching output/Communication	Switching output / Signal
Code 4A	4 to 20 mA	-
Code 4AS	4 to 20 mA	-
Code 4AX	4 to 20 mA	-
Code 4AXS	4 to 20 mA	-

Load resistor:	$R_{\min} = 10 \text{ k}\Omega$ $R_{\max} = 330 \text{ }\Omega$
Max. switching current:	200 mA
Accuracy:	Switch point: $\leq \pm 0.5\% \text{ FSO}$ Characteristic deviation in accordance with IEC 60770 – limiting value adjustment (non-linearity, hysteresis, reproducibility) Repeat: $\leq \pm 0.2\% \text{ FSO}$
Switching frequency:	Max. 170 Hz
Switching cycles:	$> 100 \times 10^6$

Dimensions

Type A connector (code A)

M12 x 1 plug
4-pin (code M)

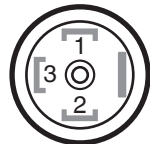


Electrical connection

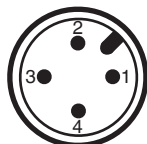
2-wire system (output code 4A, 4AS, 4AX, 4AXS)

Pin assignment

ISO 4400

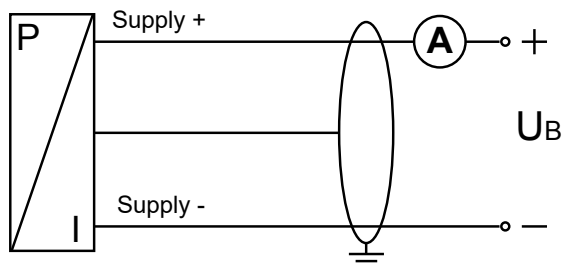


M12x1



Pin	Description
1	L+, supply voltage
2	L-, supply voltage
3	n.c.
4	PE, protective earth conductor

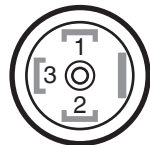
Circuit diagram



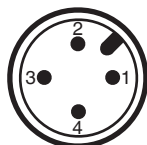
3-wire system (output code 0A, 0V)

Pin assignment

ISO 4400

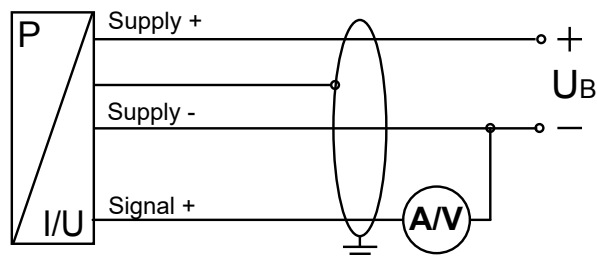


M12x1

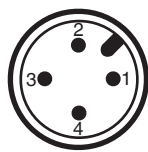


Pin	Description
1	L+, supply voltage
2	L-, supply voltage
3	Signal +
4	PE, protective earth conductor

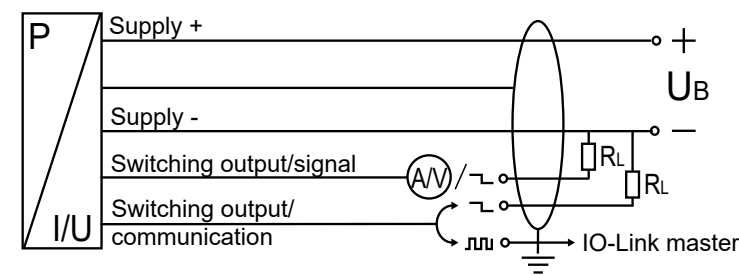
Circuit diagram



3-wire system (output code PNAV)



Pin	Description
1	Supply +
2	Switching output / Signal
3	Supply -
4	Switching output / Communication



Accessories



GEMÜ 1219
Cable socket / cable plug M12

The GEMÜ 1219 is a connector (cable socket / cable plug) M12, 5-pin. Straight and/or 90° angled plug type. Defined cable length or with threaded connection without cable. Various materials available for the threaded ring.

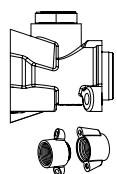
Suitable for electrical connection of the connector X1

Description	Length	Order number
5-pin, straight	without cable	88205544
	2 m cable	88205542
	5 m cable	88205543
	10 m cable	88270972
	15 m cable	88346791
5-pin, angle	without cable	88205545
	2 m cable	88205534
	5 m cable	88205540
	10 m cable	88210911
	15 m cable	88244667

**GEMÜ 2026****Plug**

GEMÜ 2026 are plugs with lights, with or without interference suppression. Various versions available. The DC voltage version with a bridge rectifier has a plug with reverse battery protection. The scope of supply comprises a gasket made from NBR and a M3x35 central screw

Description	Order description	Order number
Design A plug 230 V 50/60	2026000Z AM160003 2L4	88668466

**GEMÜ 553 20SAA****Sensor mounting bracket with unions**

Sensor mounting bracket with G 1/4 adaption thread, with threaded plug (sealed with an FPM sealing ring) and connection kit for double-sided feed (G 3/4 threaded sockets)

Description	Order description	Order number
Sensor mounting bracket with unions and G1/4 threaded plugs.	553 20SAA 1437 F 20	88566606

**GEMÜ 1560****IO-Link master**

The GEMÜ 1560 IO-Link master is used for parametrization, actuation, commissioning and for evaluating process and diagnostics data on products with IO-Link interface with communication standard in accordance with IEC 61131-9. The IO-Link master is available with USB port for use on a computer or with a Bluetooth or WLAN interface for use on mobile devices (iOS and Android). GEMÜ 1560 can be ordered separately or as a set for GEMÜ products including the required adapter.

Description	Order designation	Order number
IO-Link master kit (adapter plus cable)	1560USBS 1 A40A12AU A	99072365
IO-Link master kit (adapter plus cable)	1560 BTS 1 A20A12AA A	99130458



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