3140 ... X

EN **Operating instructions**

further information
webcode: GW-3140

GEMÜ 3140

Pressure transducer for potentially explosive areas

Features

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

Description

The GEMÜ 3140 ... X 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.

Contents

1 General information

1.1 Information

- The descriptions and instructions apply to the standard versions. For special versions not described in this document the basic information contained herein applies in combination with any additional special documentation.
- Correct installation, operation, maintenance and repair work ensure faultless operation of the product.
- Should there be any doubts or misunderstandings, the German version is the authoritative document.
- Contact us at the address on the last page for staff training information.

1.2 Symbols used

The following symbols are used in this document:

Symbol	Meaning
●	Tasks to be performed
▶	Response(s) to tasks
–	Lists

1.3 Warning notes

Wherever possible, warning notes are organised according to the following scheme:

SIGNAL WORD	
Possible symbol for the specific danger	Type and source of the danger ▶ Possible consequences of non-observance. ● Measures for avoiding danger.

Warning notes are always marked with a signal word and sometimes also with a symbol for the specific danger.

The following signal words and danger levels are used:

⚠ DANGER

Imminent danger!

▶ Non-observance can cause death or severe injury.

⚠ WARNING

Potentially dangerous situation!

▶ Non-observance can cause death or severe injury.

⚠ CAUTION

Potentially dangerous situation!

▶ Non-observance can cause moderate to light injury.

NOTICE

Potentially dangerous situation!

▶ Non-observance can cause damage to property.

The following symbols for the specific dangers can be used within a warning note:

Symbol	Meaning
	Danger – high voltage
	Danger from potentially explosive atmosphere

2 Safety information

The safety information in this document refers only to an individual product. Potentially dangerous conditions can arise in combination with other plant components, which need to be considered on the basis of a risk analysis. The operator is responsible for the production of the risk analysis and for compliance with the resulting precautionary measures and regional safety regulations.

The document contains fundamental safety information that must be observed during commissioning, operation and maintenance. Non-compliance with these instructions may cause:

- Personal hazard due to electrical, mechanical and chemical effects.
- Hazard to nearby equipment.
- Failure of important functions.
- Hazard to the environment due to the leakage of dangerous substances.

The safety information does not take into account:

- Unexpected incidents and events, which may occur during installation, operation and maintenance.
- Local safety regulations which must be adhered to by the operator and by any additional installation personnel.

Prior to commissioning:

1. Transport and store the product correctly.
2. Do not paint the screws and plastic parts of the product.
3. Carry out installation and commissioning using trained personnel.
4. Provide adequate training for installation and operating personnel.
5. Ensure that the contents of the document have been fully understood by the responsible personnel.
6. Define the areas of responsibility.
7. Observe the safety data sheets.
8. Observe the safety regulations for the media used.

During operation:

9. Keep this document available at the place of use.
10. Observe the safety information.
11. Operate the product in accordance with this document.
12. Operate the product in accordance with the specifications.
13. Maintain the product correctly.
14. Do not carry out any maintenance work and repairs not described in this document without consulting the manufacturer first.

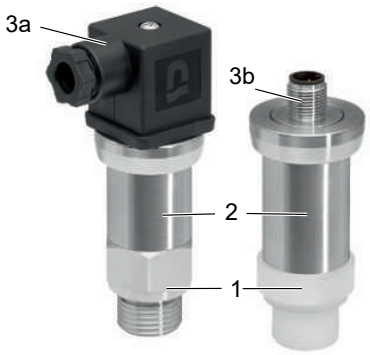
In cases of uncertainty:

15. Consult the nearest GEMÜ sales office.

3 Product description

3.1 Construction

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_2O_3 (96%)

* Media wetted

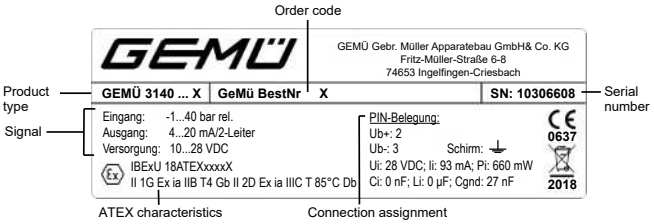
3.2 Description

The GEMÜ 3140 ... X 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.

3.3 Function

The GEMÜ 3140 ... X pressure transducer converts the physical variable of pressure into an electrical signal.

3.4 Product label



4 Correct use

⚠ DANGER

Danger of explosion

► Danger of death or severe injury.

● Only use the product in potentially explosive zones confirmed in the declaration of conformity.

⚠ WARNING

Improper use of the product

► Risk of severe injury or death.

► Manufacturer liability and guarantee will be void.

● Only use the product in accordance with the operating conditions specified in the contract documentation and in this document.

The product is designed for converting the physical variable pressure into an electrical signal.

The pressure transducers are designed exclusively for measuring gauge pressures, vacuums and absolute pressures.

The screw-in probes are designed exclusively for measuring levels and processes.

Suitable measurement media are gases or liquids that are compatible with the media wetted materials described in the technical data. It is also important to ensure that the medium to be used for the application is compatible with the media wetted parts.

With the order option special version X, the product is intended for use in potentially explosive areas of zones 0, 1 and 2 with gases, mists or vapours and zones 20, 21 and 22 with combustible dusts in accordance with EU directive 2014/34/EU (ATEX).

The product has the following explosion protection marking in relation to the housing material:

Housing material stainless steel (code 7):
Gas: Ⓔx II 1G Ex ia IIC T4 Ga
Dust: Ⓔx II 1D Ex ia IIIC T 85 °C Da

Housing material PVDF (code 20):
Gas: Ⓔx II 2G Ex ia IIC T4 Gb
Dust: Ⓔx II 2D Ex ia IIIC T 85 °C Db

EC type examination certificate: IBExU18ATEX1104 X
Notified body: IBExu, No. 0637

The product has been developed in compliance with the following harmonised standards:

- DIN EN 60079-0
- DIN EN 60079-11
- DIN EN 60079-26

For use in potentially explosive areas, the following conditions or operation limits must be observed:

1. The devices with a plug version are to be set up so that they remain in the IP degree of protection IP 20 at all times.
2. The safety and assembly information contained in the operating instructions and the ambient temperature ranges of -20 °C ≤ T_a ≤ +70 °C or for the types 3140 … X from -20 °C ≤ T_a ≤ +65 °C must be followed.
3. The device may only be operated in potentially explosive atmospheres which require operating media of category 1 if atmospheric conditions are present (temperature from -20 °C to +60 °C, pressure of 0.8 bar to 1.1 bar).

Use of the product is permissible in the following ambient temperature ranges:

ATEX version:	-20 to 60 °C (zone 0: p_{atm} 0.8 to 1.1 bar) -20 to 70 °C (from zone 1 onwards)

GEMÜ shall accept no liability in the event that the wrong choice is made, nor shall it accept liability for the consequences thereof.

5 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

10 Output	Code
4 to 20 mA/2-wire Ex design	4AX
4 to 20 mA/2-wire Ex + SIL2 design	4AXS
PNP, NPN, 4-20mA, 0-10V, IO-Link switchable	PNAV

11 Special version	Code
Standard	
ATEX version	X

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	4AX	4 to 20 mA/2-wire Ex design
11 Special version	X	ATEX version

6 Technical data

6.1 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
	ATEX version:	-20 to 60 °C (zone 0: p_{atm} 0.8 to 1.1 bar)
		-20 to 70 °C (from zone 1 onwards)
Storage temperature:	Stainless steel (code 7):	-40 to 100 °C
	PVDF (code 20):	-30 to 100 °C

6.2 Pressure

Operating pressure:	Stainless steel (code 7):	max. 60 bar
	PVDF (code 20):	max. 60 bar (G 1/2)
		max. 25 bar (G 1/4)

6.3 Product compliance

EMC Directive:	2014/30/EU
Explosion protection:	Special version X order code
ATEX marking:	Housing material stainless steel (code 7): Gas: Ⓔx II 1G Ex ia IIC T4 Ga Dust: Ⓔx II 1D Ex ia IIIC T 85 °C Da Housing material PVDF (code 20): Gas: Ⓔx II 2G Ex ia IIC T4 Gb Dust: Ⓔx II 2D Ex ia IIIC T 85 °C Db EC type examination certificate: IBExU18ATEX1104 X Notified body: IBEXu, No. 0637
SIL:	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)

6.4 Mechanical data

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

6.5 Electrical data

6.5.1 Power supply standard

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

6.5.2 Power supply ATEX

U_i: 28 V DC

I_i: 93 mA

P_i: 660 mW

C_i: Negligible

L_i: Negligible

Information: Plus line inductances 1 µH/m and line capacities 160 pF/m (for factory cable)
The supply connections have an inner capacity of max. 27 nF against the housing.

6.5.3 Switching output

Supply voltage: 18 - 30 V DC

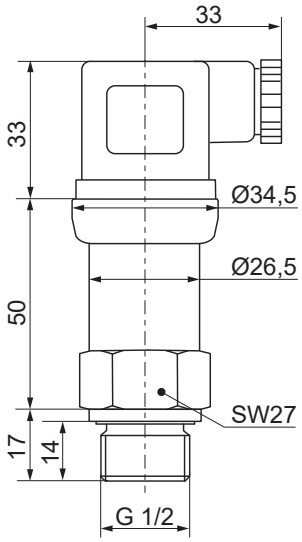
Output signal:

Output code	Output signal 1	Output signal 2
Code 4AX	4 to 20 mA	-
Code 4AXS	4 to 20 mA	-

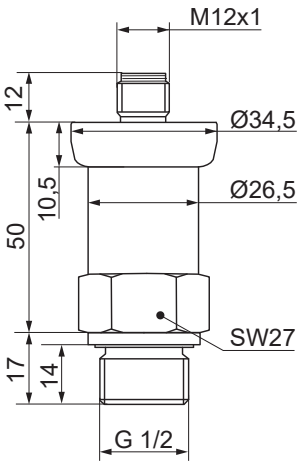
Load resistor: R_{min} = 10 kΩ
R_{max} = 330 Ω

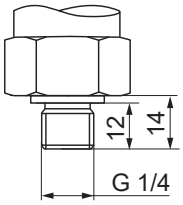
7 Dimensions

Type A connector (code A)



M12 x 1 plug
4-pin (code M)





Dimensions in mm

8 Manufacturer's information

8.1 Delivery

- Check that all parts are present and check for any damage immediately upon receipt.

The product's performance is tested at the factory. The scope of delivery is apparent from the dispatch documents and the design from the order number.

8.2 Transport

1. Only transport the product by suitable means. Do not drop. Handle carefully.
2. After the installation dispose of transport packaging material according to relevant local or national disposal regulations / environmental protection laws.

8.3 Storage

1. Store the product free from dust and moisture in its original packaging.
2. Avoid UV rays and direct sunlight.
3. Do not exceed the maximum storage temperature (see chapter "Technical data").
4. Do not store solvents, chemicals, acids, fuels or similar fluids in the same room as GEMÜ products and their spare parts.

9 Installation in piping

9.1 Installation and safety information

⚠ DANGER

Danger of explosion!

- ► Risk of death or severe injury.
- ● Only install the product when it is depressurized and de-energized.
- ● Do not install the product if there is a danger of explosion.
- ● Due to supercharging processes in conjunction with freely suspended submersible measuring transducers with FEP cable.
- ● FEP cable fixed in place.

⚠ DANGER

Risk of lightning strike!

- ► If there is an elevated risk of the device being damaged by lightning or overvoltage, an effective lightning protection system must additionally be put in place.

⚠ DANGER

Use of the product as a stepladder

- ► The housings are not designed to be used as a stepladder for climbing in the plant. They can be damaged if used in this way and their function impaired. If the housing is damaged, water, dirt and combustible material can accumulate in the housing interior. This can cause a short-circuit. Furthermore, the deposits can cause the device to overheat and may result in an explosion.

NOTICE

- ► All interconnected components must be intrinsically safe. The operator is responsible for ensuring that the entire system (the entire circuit) is intrinsically safe.

NOTICE

- ► Handle the unprotected diaphragm with extreme care, as it is very easily damaged.

NOTICE

- ► For use in steam pipes, provide a cooling zone.

NOTICE

- ► During installation, avoid high mechanical stresses on the pressure connection. This can result in the characteristic shifting or in damage, particularly for very narrow pressure ranges and for devices with a plastic pressure connection.

NOTICE

► With hydraulic systems, orientate the device such that the pressure connection is facing upwards. (Vent hole)

NOTICE

► If the device is to be installed with the pressure connection at the top, make sure that no liquid flows away along the housing as this could result in moisture and dirt blocking the gauge reference in the housing and, in turn, to the equipment malfunctioning. Where necessary, remove dust and dirt from the edge of the electrical connection's union.

NOTICE

► Make sure that you do not remove the packaging and protection caps from the device until you are just about to install it, so that you do not damage the diaphragm or the threads.

► Keep the protection caps. Dispose of packaging properly.

9.2 Installing outdoors and in damp conditions

1. Electrically connect the device as soon as it is installed, or take measures to prevent the ingress of moisture, e.g. using a suitable protection cap. (The stated protection class applies to the device once it is connected.)
2. When installing the device, position it such that splashed water and condensation can drain away. Liquid must not be allowed to accumulate on sealing surfaces.
3. For devices with a cable outlet, the outgoing cable must be routed downwards. If the cable has to be routed upwards, this must be implemented in an elbow that is directed downwards.
4. Install the device such that it is protected from direct sunlight. In the worst case scenario, exposure to direct sunlight can result in the permissible operating temperature being exceeded. This must be completely avoided when using the device in Ex areas.
5. Install devices with a gauge reference in the housing (small hole next to the electrical connection) such that the gauge reference needed for the measurement is protected from dirt and moisture. If the measuring transducer is exposed to liquid, the gauge reference will become blocked, preventing the air pressure from equalizing. It is not possible to measure accurately in this situation, and the measuring transducer may be damaged as a result.

9.3 Installation steps for connections in accordance with DIN 3852

NOTICE

► Do not use any additional sealing material such as oakum, hemp or Teflon tape.

The O-ring must sit in the groove provided.

The O-ring is not damaged.

The sealing surface of the part that accommodates it must be free of defects. (R_Z 3.2)

1. Screw the device onto the mounting thread by hand.
2. Devices with a knurled collar must be screwed on tightly by hand
3. Devices with a wrench surface must be tightened with a suitable open-end wrench.
   Steel wrench surface:
   G1/4": Approx. 5 Nm
   G1/2": Approx. 10 Nm
   Plastic wrench surface:
   Max. 3 Nm

9.4 Installation steps for connections in accordance with EN 837

A suitable seal that is compatible with the measurement medium and the pressure that is to be measured must be provided (e.g. a copper gasket).

The sealing surface of the part that accommodates it must be free of defects (R_Z 6.3).

1. Screw the device onto the mounting thread by hand.
2. Then tighten it with the open-end wrench:
   G1/4": Approx. 20 Nm
   G1/2": Approx. 50 Nm

NOTICE

► Observe the permissible pressures in accordance with EN 837

G1/4" EN 837	$P_N \leq 600$ bar	The counterpart must be made from steel in accordance with DIN 17440 with a strength of $R_{p0.2} \geq 190$ N/mm^2.
G1/2" EN 837	$P_N \leq 1000$ bar	
G1/4" EN 837	$P_N > 600$ bar, $P_N \leq 1000$ bar	The counterpart must be made from steel in accordance with DIN 17440 with a strength of $R_{p0.2} \geq 260$ N/mm^2.
G1/2" EN 837	$P_N > 1000$ bar, $P_N \leq 1600$ bar	

10 Electrical connection

10.1 Connection and safety information

Devices with cable glands and cable sockets

1. Ensure that the outside diameter of the cable used is within the permissible clamping range (cable gland M12 x 1.5 cable dia. 3–6.5 mm, cable socket ISO 4400 cable dia. 4.5–10 mm). In addition, make sure that the cable is seated securely in the cable gland, without any gaps.
2. Use a shielded, twisted multicore cable for the electrical connection.

Devices with a cable outlet

Comply with the following minimum bend radii when laying the cable:

- Cable without air hose:
  Fixed in place: 5 x cable diameter
  Flexible use: 10 x cable diameter
- Cable with air hose:
  Fixed in place: 10 x cable diameter
  Flexible use: 20 x cable diameter

On devices with a cable outlet and integrated vent tube, the PTFE filter on the cable end on the gauge tube must not be damaged or removed.

NOTICE

► Cables used for gauge devices have a vent tube for equalizing the pressure. Route the cable end into an area or suitable terminal box that is as free from moisture and corrosive gases as possible in order to prevent damage.

10.2 Conditions for hazardous locations

Hazard due to electro-static build-up

⚠ DANGER

Danger of explosion!

► Risk of death or severe injury.

- Danger of explosion due to sparking as a result of electro-static build-up in plastic parts.
- On devices with a cable outlet, the connection cable must be fixed in place.
- Do not use a dry cleaning method to clean the device and, if applicable, the connection cable; use a damp cloth, for example.
- Danger of explosion if operating voltage is too high (max. 28 V_{DC}) and if the field housing is opened during operation.
- Only install the device when it is depressurized and de-energized.
- Do not install the device if there is a danger of explosion.
- Always operate the device within its specifications. (Technical data)
- The field housing must not be opened if there is a danger of explosion.

The following warning sign is affixed to devices with plastic parts.

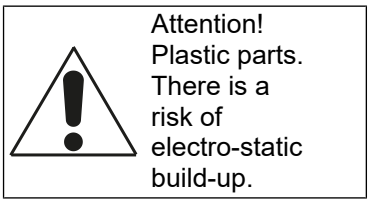


Fig. 1: Warning sign

NOTICE

► The warning sign must not be removed from the device.

Overvoltage protection

If the pressure transducer is used as a category 1 G device, a suitable overvoltage arrester must be installed upstream (see BetrSichV [German Health and Safety in the Workplace Regulation] and EN 60079-14).

Circuit diagram

When choosing the requisite Zener barrier or power disconnectors for operating an intrinsically safe device in a potentially explosive environment, particular care must be taken to ensure that this/these will not impair the device's functionality in any way. The diagram below illustrates a typical layout comprising a power supply unit, Zener barrier and screw-in probe or measuring transducer.

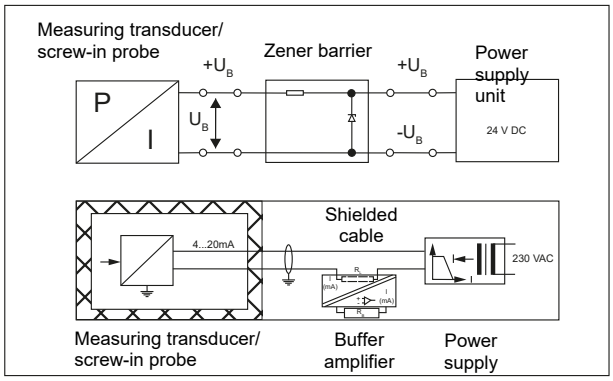


Fig. 2: Diagrams: Procurement

Description of an example circuit

The supply voltage provided by the power supply unit, which might be 24 V DC for example, is conducted via the Zener barrier. The Zener barrier contains protective components in the form of series resistors and Zener diodes. The operating voltage is conducted from the Zener barrier to the device; a particular signal current flows, depending on the pressure.

⚠ DANGER

Danger of explosion!

- ► Risk of death or severe injury.
- ► Use of intrinsically safe devices as Zone-0 equipment powered only using an earth-free, galvanically isolated power disconnector

Selection criteria for Zener barriers and power disconnectors

The supply voltage must not fall below the device's minimum supply voltage $U_{O\ min}$, otherwise the device may not function correctly. The minimum supply voltage is stipulated in the product-specific datasheet under "Output signal/auxiliary power". When using a galvanically isolated power disconnector with linear limitation, note that the linear limitation reduces the device's terminal voltage as with a Zener barrier. Also note that, should you choose to use a signal buffer amplifier, a certain voltage drop will occur, as a result of which the measuring transducer's operating voltage will also fall.

Test criteria for choosing the Zener barrier

In order to ensure that the supply voltage does not fall below $U_{O\ min}$, it is important to check the minimum supply voltage that will be available when the device is set to its maximum output level. Its maximum output level, i.e. its maximum/nominal output signal (20 mA), can be achieved by applying the maximum physical input signal (pressure).

Information for choosing the Zener barrier can be found in the technical data for the Zener barrier. It is also possible to calculate the value, however. If a maximum signal current of 0.02 A is assumed, a certain voltage drop across the Zener barrier's series resistor can be determined in accordance with Ohm's law. This voltage drop must be subtracted from the power supply unit's voltage in order to obtain the terminal voltage across the device when it is set to its maximum output level. If this voltage is less than the minimum supply voltage, either a different barrier or a higher supply voltage must be chosen.

NOTICE

- ► When choosing the ballasts, consider the maximum operating conditions in accordance with the type examination certificate. To evaluate the ballasts, the most recent version of their technical documentation must be used in order to ensure that all the intrinsically safe components remain intrinsically safe when they are interconnected.

Calculation example for choosing a Zener barrier

The nominal voltage of the power supply unit (supply) upstream of the Zener barrier is 24 V_{DC} ± 5%. This gives:

- Maximum supply voltage:

$U_{Sup\ max}$ = 24 V * 1.05 = 25.2 V

- Minimum supply voltage:

$U_{Sup\ min}$ = 24 V * 0.95 = 22.8 V

The Zener barrier's series resistance is given as 295 Ohm. The following values must now be calculated:

- Voltage drop across the barrier (at maximum output level):

$U_{dr\ barrier}$ = 295 Ω * 0.02 A = 5.9 V

- Terminal voltage of the device with Zener barrier:

$U_{te} = U_{Sup\ min} - U_{dr\ barrier}$ = 22.8 V – 5.9 V = 16.9 V

- Minimum supply voltage for the device (specified in datasheet):

$U_{te\ min}$ = 12 V_{DC} (corresponds to $U_{O\ min}$)

Condition:

$U_{te} \geq U_{te\ min}$

Result:

The terminal voltage of the device with Zener barrier is 16.9 V, which is higher than the device's minimum supply voltage of 12 V_{DC}. This means that, with regard to the supply voltage, the correct Zener barrier has been chosen.

NOTICE

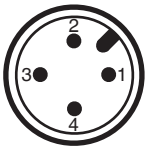
- ► No line resistances have been listed for this calculation. However, these additionally result in a voltage drop, which must be taken into account.

10.3 2-wire system (output code 4A, 4AS, 4AX, 4AXS)

Pin assignment

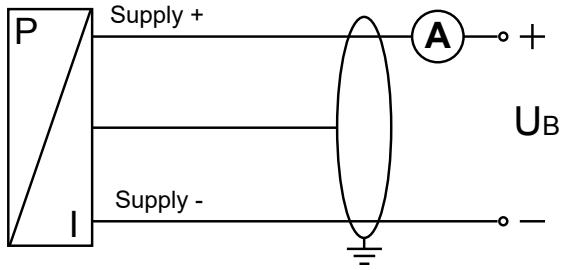
ISO 4400

M12x1



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

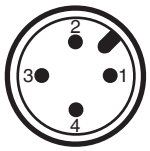
Circuit diagram



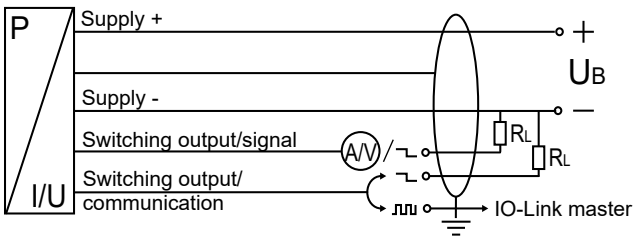
10.3.1 Electrical connection

- Connect the product in accordance with the pin assignment.

10.4 3-wire system (output code PNAV)



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



11 Commissioning

1. The device must be properly installed
2. The device must not exhibit any visible defects
3. The device must be operated within the specifications (see datasheet and EC type examination certificate).

12 Troubleshooting

Error	Error cause	Troubleshooting
No output signal	Wrongly connected	Check connections
	Cable break	Check all cable connections
	Faulty measurement device (signal input)	Check the ammeter (miniature fuse) or the analogue input of the signal processing unit
Analogue output signal too low	Load resistance too high	Check the load resistance
	Supply voltage too low	Check the output voltage of the power supply unit
	Faulty energy supply	Check the power supply unit and the supply voltage across the device
Output signal slightly shifted	The sensor diaphragm is heavily contaminated	Clean it with a non-abrasive cleaning solution and soft brush or sponge
	The sensor diaphragm is encrusted or covered in limescale	Recommendation: Have it descaled or cleaned by GEMÜ
Output signal significantly shifted	The sensor diaphragm is damaged (due to gauge pressure or having a mechanical cause)	Check the diaphragm. If it is damaged, send the device to GEMÜ for repair.
Incorrect output signal or no output signal	Cable damage having a mechanical, thermal or chemical cause	Check the cable. Check the housing for pitting. If it is damaged, send the device to GEMÜ for repair.

13 Inspection and maintenance

⚠ DANGER

Danger of explosion

► Risk of death or severe injury.

● Danger from sparking. Only clean the product with an anti-static or damp cloth.

- The product is designed to be low maintenance.
- Make sure that the product is switched off and clean it with a damp cloth and a non-abrasive cleaning solution.
- If deposits or contaminants build up on the diaphragm, we recommend that you set appropriate maintenance intervals.
- Make sure that the product has been properly shut down and clean the diaphragm with a non-abrasive cleaning solution and soft brush or sponge.
- If limescale has built up on the diaphragm, descale the product.

● Carry out inspection and maintenance for products in the potentially explosive area to DIN EN 60079-17.

14 Disposal

1. Pay attention to adhered residual material and gas diffusion from penetrated media.
2. Dispose of all parts in accordance with the disposal regulations/environmental protection laws.

15 Returns

Legal regulations for the protection of the environment and personnel require that the completed and signed return delivery note is included with the dispatch documents. Returned goods can be processed only when this note is completed. If no return delivery note is included with the product, GEMÜ cannot process credits or repair work but will dispose of the goods at the operator's expense.

1. Clean the product.
2. Request a return delivery note from GEMÜ.
3. Complete the return delivery note.
4. Send the product with a completed return delivery note to GEMÜ.

16 Declaration of conformity according to 2014/30/EU (EMC Directive)

EU Declaration of Conformity

in accordance with 2014/30/EU (EMC Directive)

We, the company

GEMÜ Gebr. Müller Apparatebau GmbH & Co. KG
Fritz-Müller-Strasse 6–8
74653 Ingelfingen-Criesbach, Germany

declare that the product listed below complies with the safety requirements of the EMC Directive 2014/30/EU.

Description of the product: GEMÜ 3140

Technical standards used:

- DIN EN 61326-1 (industrial processes)

2019-11-20

Joachim Brien
Head of Technical Department

17 Declaration of conformity in accordance with 2014/34/EU (ATEX)

EU Declaration of Conformity

in accordance with 2014/34/EU (ATEX)

We, the company	GEMÜ Gebr. Müller Apparatebau GmbH & Co. KG Fritz-Müller-Strasse 6–8 74653 Ingelfingen-Criesbach, Germany

declare that the product listed below complies with the requirements of directive 2014/34/EU for intended use in potentially explosive areas.

Description of the product :	GEMÜ pressure transducer 3140
Marking :	3140 … X X = Order option special version
Explosion protection designation:	Housing material stainless steel (code 7): Gas: Ⓔx II 1G Ex ia IIC T4 Ga Dust: Ⓔx II 1D Ex ia IIIC T 85 °C Da Housing material PVDF (code 20): Gas: Ⓔx II 2G Ex ia IIC T4 Gb Dust: Ⓔx II 2D Ex ia IIIC T 85 °C Db EC type examination certificate: IBExU18ATEX1104 X Notified body: IBEXu, No. 0637 The notified body IBExU, No. 0637 has certified the above mentioned product and issued the following certificate: IBExU18ATEX1104 X.

The Essential Safety and Health Requirements are met by compliance with the standards listed below that are applicable for the above mentioned product:

- DIN EN 60079-0
- DIN EN 60079-11
- DIN EN 60079-26

2019-11-20

Joachim Brien
Head of Technical Department

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