

GEMÜ 1215

Electrical position indicator

EN

Operating instructions



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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 |

The following LED symbols are used in the documentation:

| Symbol | LED conditions |
|--------|----------------|
| ○ | Off |
| ● | Lit (on) |
| ☼ | Flashing |

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 of explosion |

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 materials

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:

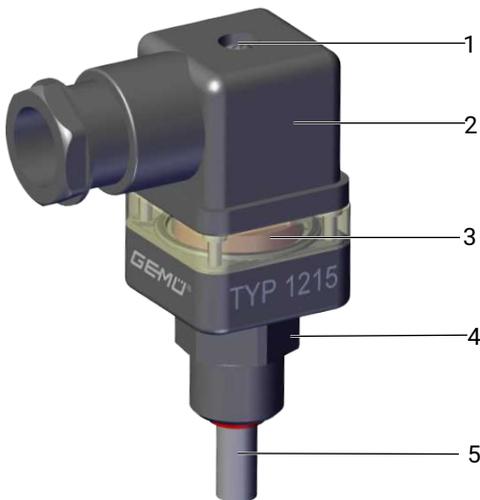
1. Transport and store the product correctly.
2. Do not paint the bolts and plastic parts of the product.
3. Carry out installation and commissioning using trained personnel.
4. Provide adequate training for installation and operating personnel.
5. Ensure that the contents of the document have been fully 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**

| Item | Name | Materials |
|------|---|------------------|
| 1 | Self-tapping screw | galvanized white |
| 2 | Plug housing | PA |
| 3 | Standard housing visual display (K number: without (standard), 0101, 6537, 6647) | PA 12 TR 90 UV |

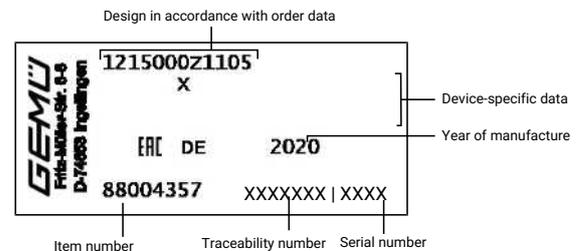
| Item | Name | Materials |
|------|---|------------------------|
| | Optional housing visual display (K number: 6968, 7072) | PP natural transparent |
| 4 | Base | PP |
| 5 | Operating bush | valve-specific |

3.2 Description

The GEMÜ 1215 electrical position indicator is suitable for mounting to pneumatically operated linear actuators. The position (end position open) of the valve spindle is reliably detected and fed back electronically by the operating bush with a microswitch.

3.3 Function

When used in conjunction with GEMÜ valves, the product is actuated in the "OPEN" valve position. In addition to the electrical signalling of the end positions, an optical indication is also provided by a red trip cam.

3.4 Product label

The manufacturing month is coded under the traceability number and can be requested from GEMÜ. The product was manufactured in Germany.

4 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 |
|---|------|
| Electrical position indicator | 1215 |
| 2 Fieldbus | Code |
| Without | 000 |
| 3 Accessory | Code |
| Accessory | Z |
| 4 Index | Code |
| For valve-specific design, contact GEMÜ | |
| 5 Index 2 | Code |
| For valve-specific design, contact GEMÜ | |

| 6 Design | Code |
|--|------|
| Standard housing visual display, PG11 cable gland | |
| Media wetted area cleaned to ensure suitability for paint applications, parts sealed in plastic bag, standard housing visual display, PG11 cable gland | 0101 |
| Standard housing visual display, M12 plug, 4-pin | 6537 |
| Standard housing visual display, PG11 Skintop cable gland | 6647 |
| Optional housing visual display, PG11 Skintop cable gland | 6968 |
| Optional housing visual display, PG11 cable gland | 7072 |

| 7 High Purity version | Code |
|-----------------------|------|
| Without | |
| High Purity | HP |

| 8 Special version | Code |
|-------------------|------|
| Without | |
| ATEX version | X |

Order example

| Ordering option | Code | Description |
|-----------------------|------|---|
| 1 Type | 1215 | Electrical position indicator |
| 2 Fieldbus | 000 | Without |
| 3 Accessory | Z | Accessory |
| 4 Index | | For valve-specific design, contact GEMÜ |
| 5 Index 2 | | For valve-specific design, contact GEMÜ |
| 6 Design | | Standard housing visual display, PG11 cable gland |
| 7 High Purity version | | Without |
| 8 Special version | | Without |

5 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 GEMÜ 1215 product is designed to be fitted on a GEMÜ valve for electrical detection of the position of the linear actuators. The product is non-positively connected to the actuator spindle.

The product GEMÜ 1215 is intended for use in potentially explosive areas of zones 1 and 2 with gases, mists or with combustible dusts in accordance with EU directive 2014/34/EU (ATEX).

The product has the following explosion protection marking:

Gas:  II 2G IIB T4 X

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

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

- EN IEC 60079-0:2018/AC:2020
- EN 60079-11:2012

Use of the product is permissible in the following ambient temperature ranges: -15 °C...+60 °C

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

5.1 Note on index X

The product may only be operated in potentially explosive areas in conjunction with an ATEX-compliant isolator amplifier that is designed for operating electro-mechanical switching contacts. Refer to the operating instructions of the ATEX-compliant isolator amplifier.

6 Technical data

6.1 Temperature

Ambient temperature: -15 – 60 °C

Storage temperature: 0 – 40 °C

6.2 Product compliance

Explosion protection: 2014/34/EU (ATEX)

Machinery Directive: 2006/42/EC

RoHS Directive: 2011/65/EU

Low Voltage Directive: 2014/35/EU

6.3 Mechanical data

Installation position: Optional

Weight: 45 g

Protection class: IP 65

6.4 Electrical data

Electrical connection type: M12 plug, 4-pin (code 6537)
PG11 cable gland for cable dia. 6 to 8 mm, recommended wire cross section 0.75 mm² (code without, 0101, 7072)
PG11 Skintop cable gland for cable dia. 4 to 10 mm, recommended wire cross section 0.75 mm² (code 6647, 6968)

6.4.1 Microswitch

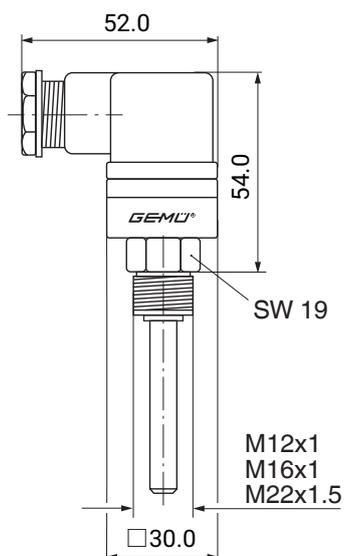
Max. switching voltage: 230 V AC, 50/60 Hz | 24 V DC

Max. switching current: 2.5 A AC, 1 A DC
Information applies to 40 °C ambient temperature

Application category: AC-15, DC-12 (standard function)

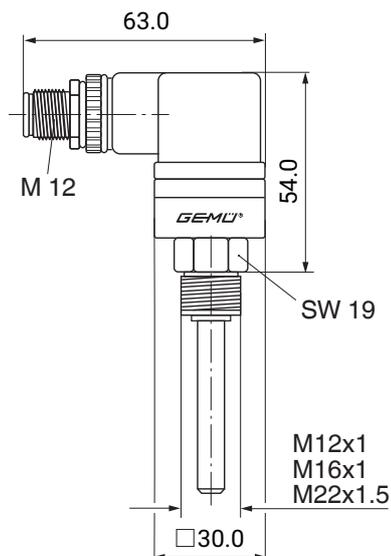
7 Dimensions

PG11 cable gland



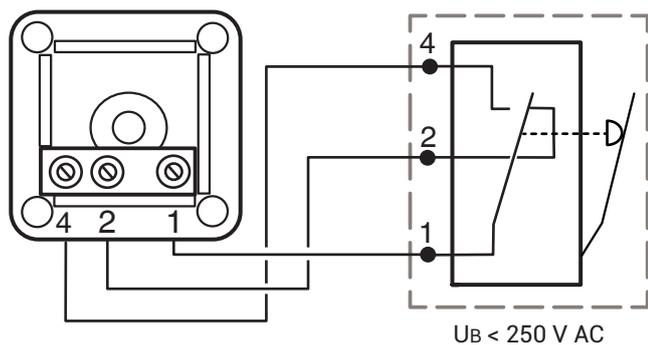
Dimensions in mm

M12 plug, 4-pin



8 Electrical connection

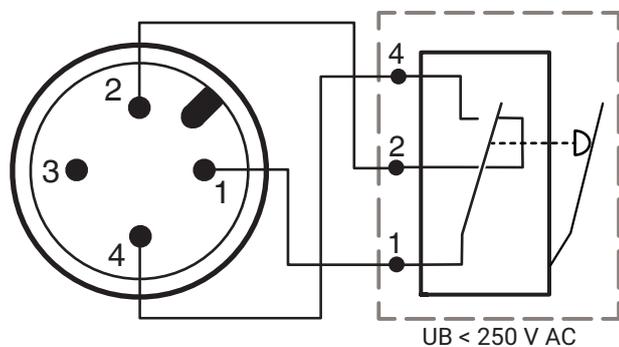
8.1 Cable gland connection diagram or Skintop cable gland (code without, 0101, 6647, 6968, 7072)



Connection of the switch screw terminals

- Maximum cross section of wire 0.75 mm²
- Maximum length of wire end ferrule 6 mm
- Wire end ferrules according to DIN 46228

8.2 Connection diagram - M12 plug, 4-pin (code 6537)



Not available as ATEX version (code X).

9 Manufacturer's information

9.1 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.

9.2 Packaging

The product is packaged in a cardboard box which can be recycled as paper.

9.3 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.

9.4 Storage

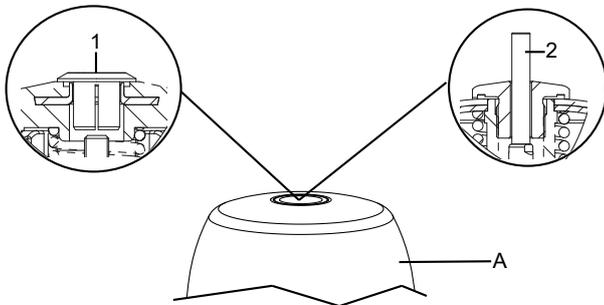
1. Store the product free from dust and moisture in its original packaging.
2. Avoid UV rays and direct sunlight.
3. Do not exceed the maximum storage temperature (see chapter "Technical data").
4. Do not store solvents, chemicals, acids, fuels or similar fluids in the same room as GEMÜ products and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

10 Assembly and installation

The GEMÜ 1215 electrical position indicator has been designed so that it can be fitted on GEMÜ linear valves via the thread in the actuator.

10.1 Preparations for assembly to the valve

1. Move the actuator **A** into zero position (actuator vented).
2. Remove optical position indicator **2** and / or protective cap **1** from the actuator top.

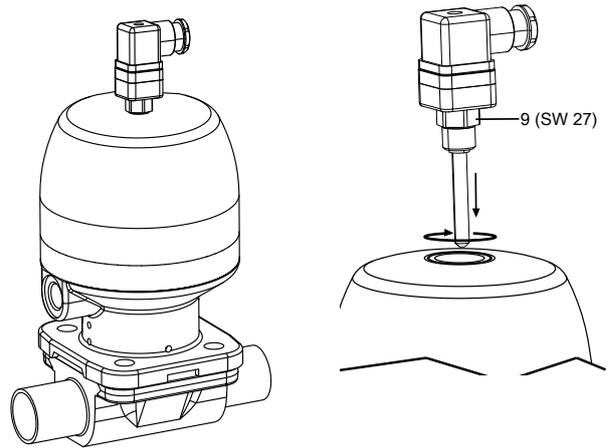


10.2 Installing the electrical position indicator (linear actuator)

NOTICE

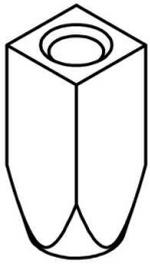
Caution!

- ▶ Only the screw supplied with the product or a screw with the same dimensions may be used to fix the housing cover on the product. Using a screw that is too large may damage the product and have an effect on the electrical safety.
- Dimensions of the screw supplied with the product:
 - ⇒ Length 10 mm
 - ⇒ Diameter 3.5 mm

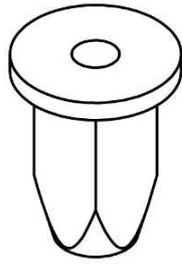


1. Screw the product into the actuator top.
2. Remove the connector cover of the product and guide the cable through the PG cable gland.
3. Make the electrical connection.
4. Install the connector cover and ensure that the PG cable gland and all of the seals are mechanically secured.
 - ⇒ The cable head can be rotated continuously through 360°.

10.3 Assembly of electrical position indicators on C50, AG3 and AG4 (linear actuator)

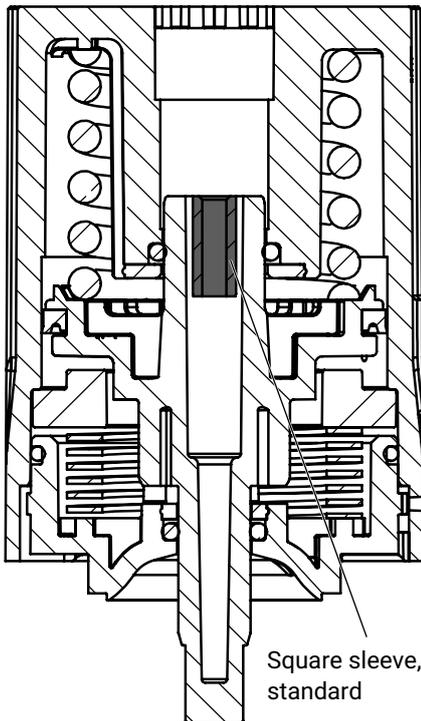


Square sleeve, standard



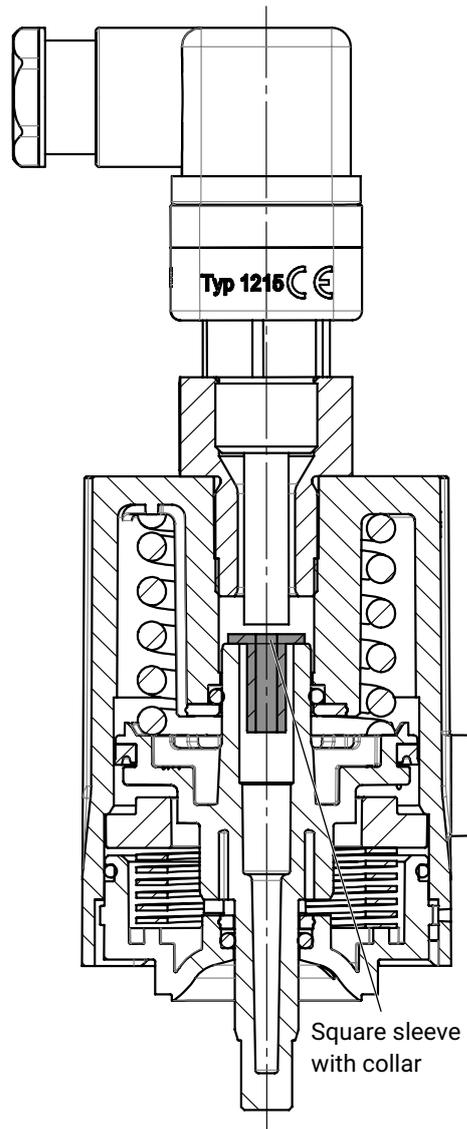
Square sleeve with collar

For the assembly of the product on the C50 drive in AG3 and AG4 (actuator sizes 3 and 4), the square sleeve without collar must be replaced with a square sleeve with collar.



1. Remove the existing square sleeve (without collar) using a suitable tool.

⇒ To do this, an M4 screw can be screwed into the hole in the square sleeve and then pulled out to remove the square sleeve:



2. Press the new square sleeve (with collar) into the hole in the drive piston using a suitable tool.
 - ⇒ The square sleeve connection must lie flush.
3. Screw the product into the actuator top.
4. Remove the connector cover of the product and guide the cable through the PG cable gland.
5. Make the electrical connection.
6. Install the connector cover and ensure that the PG cable gland and all of the seals are mechanically secured.
 - ⇒ The cable head can be rotated continuously through 360°.

11 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.

12 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.

13 Disassembly

1. Disassemble in reverse order to assembly.
2. Unscrew the electrical wiring.
3. Disassemble the product. Observe warning notes and safety information.

14 EU Declaration of Incorporation according to the EC Machinery Directive 2006/42/EC, Annex II B



EU Declaration of Incorporation

according to the EC Machinery Directive 2006/42/EC, Annex II B

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

hereby declare under our sole responsibility that the below-mentioned product complies with the relevant essential health and safety requirements in accordance with Annex I of the above-mentioned Directive.

Product: GEMÜ 1215
Product name: Electrical position indicator
The following essential health and safety requirements of the EC Machinery Directive 2006/42/EC, Annex I have been applied or adhered to: 1.1.2.; 1.1.3.; 1.1.5.; 1.5.1.; 1.5.2.; 1.6.1.; 1.7.1.; 1.7.1.1.; 1.7.1.2.; 1.7.3.; 1.7.4.; 1.7.4.1.; 1.7.4.2.; 1.7.4.3.
The following harmonized standards (or parts thereof) have been applied: EN ISO 12100:2010

We also declare that the specific technical documents have been created in accordance with part B of Annex VII.

The manufacturer undertakes to transmit relevant technical documents on the partly completed machinery to the national authorities in response to a reasoned request. This communication takes place electronically.

This does not affect the industrial property rights.

The partly completed machinery may be commissioned only if it has been determined, if necessary, that the machinery into which the partly completed machinery is to be installed meets the provisions of the Machinery Directive 2006/42/EC.

M. Barghoorn
Head of Global Technics
Ingelfingen, 13/05/2024

15 EU Declaration of Conformity in accordance with 2014/34/EU (ATEX Directive)



EU Declaration of Conformity

in accordance with 2014/34/EU (ATEX Directive)

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

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

Product: GEMÜ 1215
Explosion protection marking: Gas:  II 2G IIB T4 X
Identifier: Simple electrical equipment
Explanations: For special conditions or operation limits, see the "Correct use" chapter in the operating instructions.

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

- EN IEC 60079-0:2018/AC:2020
- EN 60079-11:2012

The sole responsibility for issuing this declaration of conformity lies with the company GEMÜ Gebr. Müller Apparatebau GmbH & Co. KG.

M. Barghoorn
Head of Global Technics
Ingelfingen, 13/05/2024

16 EU Declaration of Conformity in accordance with 2014/35/EU (Low Voltage Directive)



EU Declaration of Conformity
in accordance with 2014/35/EU (Low Voltage Directive)

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

hereby declare under our sole responsibility that the below-mentioned product complies with the regulations of the above-mentioned Directive.

Product: GEMÜ 1215
Product name: Electrical position indicator

The following harmonized standards (or parts thereof) have been applied: EN IEC 61010-2-201:2018; EN 61010-1:2010/A1:2019/AC:2019-04

A handwritten signature in blue ink, appearing to read 'M. Barghoorn', written over a horizontal line.

M. Barghoorn
Head of Global Technics
Ingelfingen, 11/08/2022



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Subject to alteration

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