

Electrical position indicator

Construction

The electrical position indicator GEMÜ 1235 has a microprocessor controlled intelligent detection of position as well as an analogue integrated travel measurement system (stroke). The optical position indication is made by LED, the electrical position indication by relay. The switching outputs are separated galvanically. The housing is made of corrosion-resistant plastic. The housing protection class is IP 67.

Features

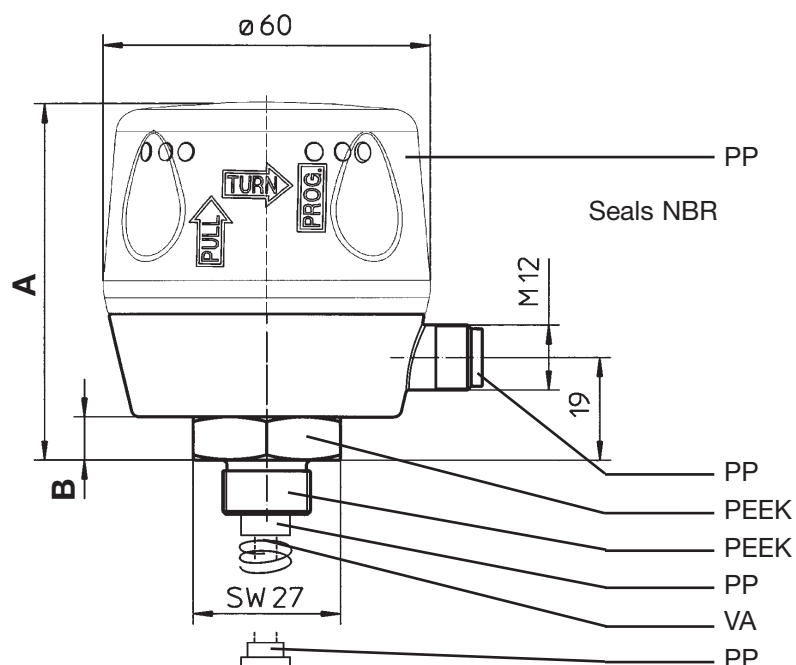
- Easy mounting to GEMÜ valves
- Fully automated programming of switch points
- Universal application
- Suitable for use in High Purity installations

Advantages

- No cabling time
- Easy fit
- Adjustable without tools
- Easy handling
- Position of plug and socket connection can be rotated through 370°
- OPEN and CLOSED indication as standard
- Can be retrofitted to all GEMÜ valves
- Universal supply voltage range
- Accuracy of position indicator +/- 0.1 mm
- Field bus connection (AS-i)
- Instructions for use moulded into cover
- Small number of mounting kits (reducing inventory needs)

Dimensions GEMÜ 1235 (mm)

Stroke	A	B
30	65.5	8.5
50	87.5	30.5
75	112.5	55.5



Technical specifications

Power supply

24 VDC	(16-32 VDC)
Admissible ripple	± 2 V (<150 Hz)

Resolution (stroke)

8 bit

Current consumption

70 mA at nominal voltage

Optical indication

LED green	position OPEN
LED yellow	ready for operation POWER
LED orange	position CLOSED
Green / orange LEDs flash alternately = programming mode	

Power consumption

1.7 W

Housing protection class

IP 67

Rating

100 % rating

Electrical protection class

III

Output signals

Type of contact:	2 x make contact, mechanical relay
Switching voltage / contact	≤ 36 VDC / 30 VAC
Switching current / contact	≤ 1 A
Switch rating / contact	≤ 15 W
Number of operations	typ. $7 \cdot 10^6$ at 12 VDC, 100 mA typ. $2 \cdot 10^7$ at 36 VDC, 10 mA

Ambient temperature

Operation:	-10° C to +70° C
Storage:	-20° C to +70° C

Signal processing (see diagram page 5)

Signal delay td1	≤ 100 ms
Signal delay td2	< 125 ms
Signal interval ta	3 ms

Directives

EC EMC directive	89/336/EEC
Emission of interference	EN 50081-1
Immunity to interference	EN 50082-2
EC low voltage directive	73/23/EEC

Electrical connection

4/5 pole M12 concentric plug and socket connection	
Max. contact voltage	36 VDC, 30 VAC

Approvals

German registered utility model	298 09 667.6
US patent no.	US 6,257,276B1

Order specifications


Field bus	Ref. no.
Without	000
AS interface	A 1

Switch	Ref. no.
Make contact	2S

Electrical connection	Ref. no.
M12 concentric plug 4 pole	M124
M12 concentric plug 5 pole	M125

Travel length	Ref. no.
Length 30 mm	030
Length 50 mm	050
Length 75 mm (in preparation)	075

Option for field bus connection with AS-i

Certificate	
Certified to AS-i Spec. 2.1	
Cert. no.	29201
Supply voltage	
Operating voltage	26.5 to 31.6 VDC
acc. to AS-i specification	
Operation with yellow AS-i wire	
Signal inputs end positions	
"CLOSED" position	Port D1; 1 = active
"OPEN" position	Port D0; 1 = active
Signal output operating mode	
Operating mode	Port D 3; 0 = normal operation 1 = programming mode
Signal input monitoring	
Travel sensor error	Port D 2; 1 = error
AS-i interface	
Reverse battery protection	standard
AS-i profile	1.F
I/O Code	1
ID Code	F
Connection	
(Operation with yellow AS-i wire)	
Connector	AS-i plug M12
Accessories	
Recomm. mating connector	GEMÜ 4180 AZ 01 01 01
Recomm. AS-i cable	GEMÜ 4170 AZ 01 01 01 00

Note

Please order suitable cable connector separately. For versions see below.

Suitable cable connector for GEMÜ 1235

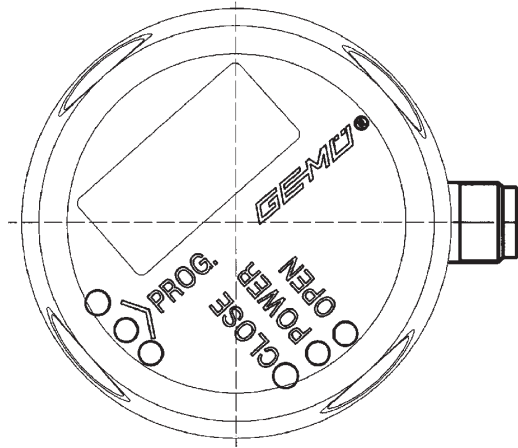
1219000Z03DG0000	M12 cable socket straight	Connector without cable, PG7	Plastic
1219000Z03DW0000	M12 cable socket angled	Connector without cable, PG7	Plastic
1219000Z00DG0000	M12 cable socket straight	Connector without cable, PG7	Brass, nickel-plated
1219000Z00DW0000	M12 cable socket angled	Connector without cable, PG7	Brass, nickel-plated
1219000Z02DG0000	M12 cable socket straight	Connector without cable, PG7	Stainless steel
1219000Z02DW0000	M12 cable socket angled	Connector without cable, PG7	Stainless steel
1219000Z00DG2000	M12 cable socket straight	Pre-fitted 2 m PUR cable	5 x 0.34, Brass, nickel-plated
1219000Z00DG5000	M12 cable socket straight	Pre-fitted 5 m PUR cable	5 x 0.34, Brass, nickel-plated
1219000Z00DW2000	M12 cable socket angled	Pre-fitted 2 m PUR cable	5 x 0.34, Brass, nickel-plated
1219000Z00DW5000	M12 cable socket angled	Pre-fitted 5 m PUR cable	5 x 0.34, Brass, nickel-plated

Note

Mounting kit 4222S01Z... depends on valve type. Please order separately and state valve type, size and control function.

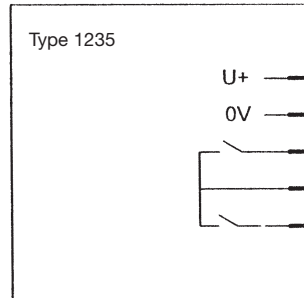
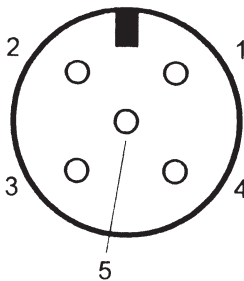
Order example	1235	000	Z	2S	M125	030
Type	1235					
Field bus (reference number)		000				
			Z			
Switch (reference number)				2S		
Electrical connection (reference number)					M125	
Travel length (reference number)						030

Dimensions (mm)



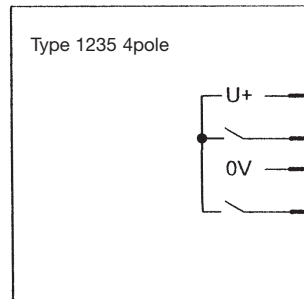
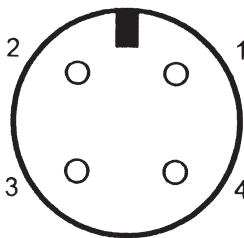
Connection diagrams

GEMÜ 1235 standard
Type 12350002SM125
M12 connection
Connection assignment



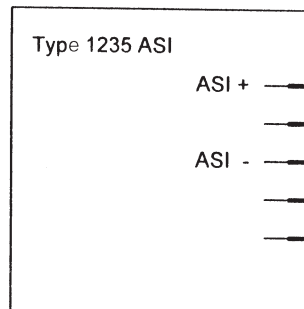
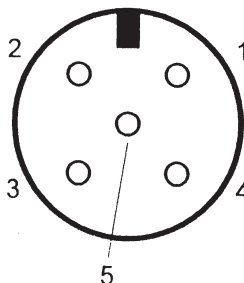
- 1 Uv, 24VDC
- 2 Uv, 0V
- 3 Signal OPEN
- 4 U-Relay
- 5 Signal CLOSED

GEMÜ 1235 standard
Type 1235000SM124
M12 connection
Connection assignment



- 1 Uv, 24VDC
- 2 Signal OPEN
- 3 Uv, 0V
- 4 Signal CLOSED

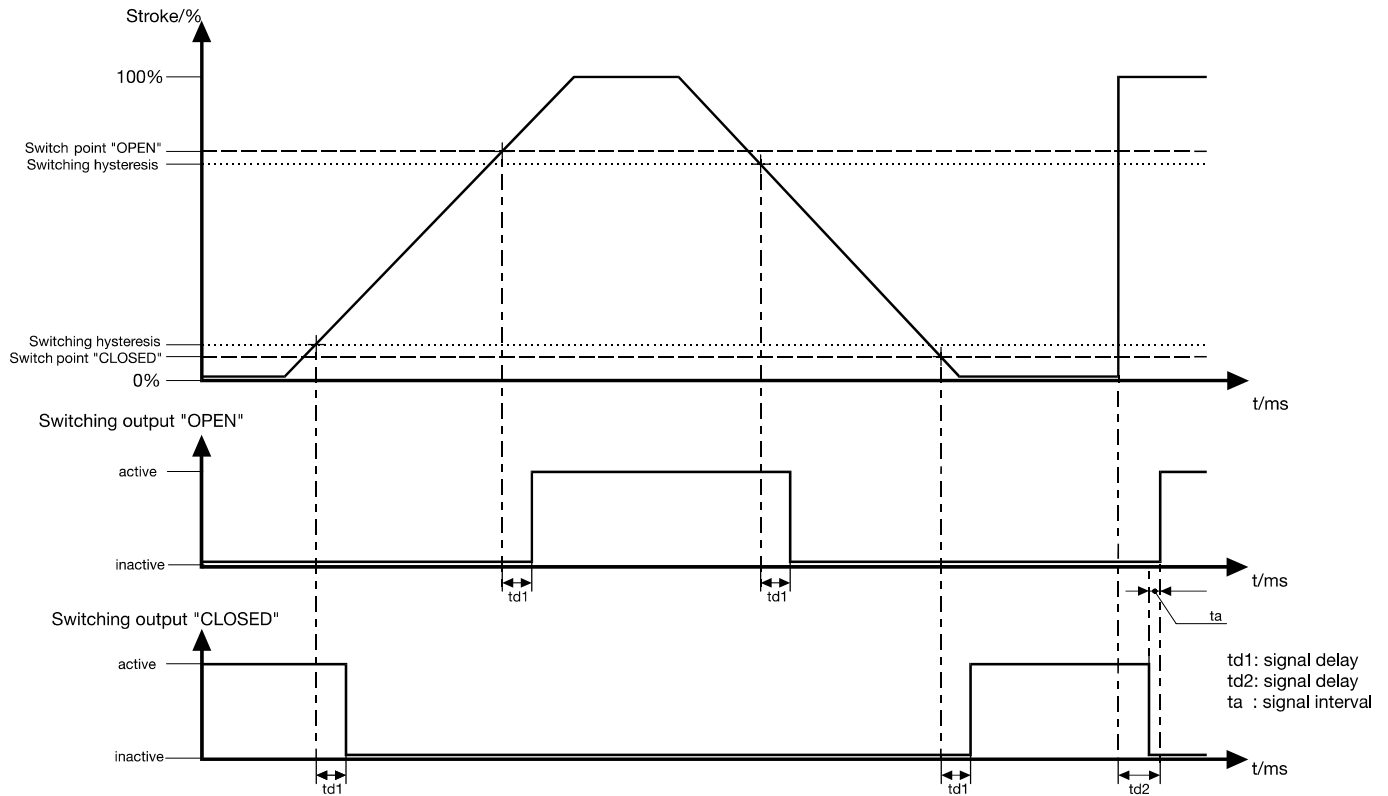
GEMÜ 1235 AS-i
Type 1235A12SM125
M12 connection
Connection assignment



- 1 ASI +
- 3 ASI -

Port	Function	Meaning
D0	Input	1 = OPEN
D1	Input	1 = CLOSED
D2	Input	1 = Error (travel sensor)
D3	Output	1 = Programming mode; 0 = Normal operation

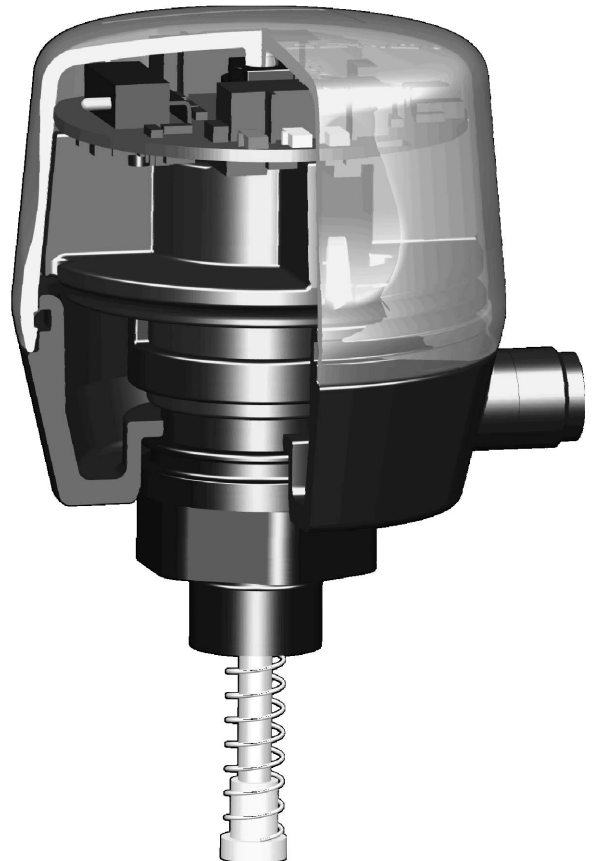
Switching characteristic of output signals



Switch points (before the respective end position)

Travel length	Ref. no. 030	Ref. no. 050
Switch point CLOSED	12 % of stroke, min. 1.2 mm	12 % of stroke, min. 1.2 mm
Switch point OPEN	25 % of stroke, min. 1.2 mm	25 % of stroke, min. 1.2 mm
Hysteresis	0.25 mm	0.25 mm
Minimum stroke	3 mm	6 mm

Sectional view



Mounting examples



GEMÜ 554 with position indicator GEMÜ 1235



GEMÜ 690 with position indicator GEMÜ 1235



GEMÜ® VALVES, ACTUATORS
AND CONTROL SYSTEMS