

Construction

The GEMÜ 1436 cPos® is a digital electro-pneumatic positioner with an optional integrated process controller for the control of liquids, gases and steam in conjunction with pneumatically operated process valves.

The positioner exactly adjusts the stroke of the process valve. When using the optional process controller the signals from a process sensor (e.g. flow, level, pressure, temperature) are detected and the media adjusted according to the specified set value.

The membrane keypad and backlit display are arranged at the front of the housing. Pneumatic and electrical connections are at the rear. Integrated pneumatic throttles allow regulation of the control air to adapt the controller to different valve actuators and actuating speeds.

Features

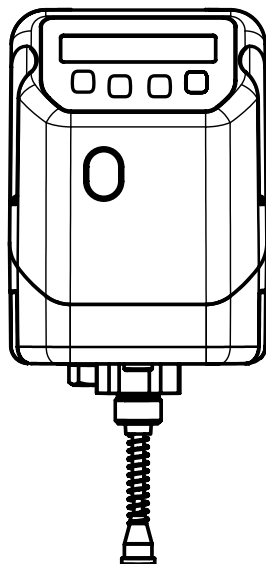
- Can be used for single or double acting linear or quarter turn actuators
- Multiple point calibration for optimum valve adaption
- Positioner and process controller are precisely synchronised with each other
- Parameterisation during operation
- Optimised initialisation and valve control (speed^{AP} function)
- Direct or remote positioner mounting to the process valve

Advantages

- Digital inputs (option) for variable function control for automation
- Fieldbus interfaces e.g. Profibus DP, DeviceNet (option)
- No air consumption when idle
- Simple mounting to various valve actuators
- Access rights via different user levels
- Integrated Web browser capability
- Simple commissioning and versatile operating facilities
 - Fascia keys
 - PC connection with Internet Browser MS® Internet Explorer
- e.sv-com interface for connecting an industrial modem
- Optional Bluetooth module



Front view



Technical data

General information

Protection class to EN 60529	IP 65
Weight	approx. 600 g
Dimensions L x W x H	See dimensional drawing
Installation position	Optional

Directives

Low Voltage Directive	2006/95/CE
EMC Directive	2004/108/CE

Standards

Interference emission	DIN EN 61000-6-4 (09/2011) DIN EN 61326-1(industry) (10/2006)
Interference resistance	DIN EN 61000-6-2 (03/2006) DIN EN 61326-1(industry) (10/2006)

Particulars

Fail safe function in case of compressed air or power supply failure (see table on page 19)

Operating conditions

Ambient temperature	0 ... +60 °C
Storage temperature	0 ... +60 °C
Control medium	Quality classes to DIN ISO 8573-1: 2010
Dust content	≤ 10 mg/m ³ /particle size ≤ 40 µm (class 7)
Pressure dew point	≤ +3 °C (class 4)
Oil concentration	≤ 5 mg/m ³ (class 4)
Air supply	1.5 ... 7 bar
Air consumption	0 l/min (when idle)
Air output	150 / 200 / 300 l/min depending on version

Materials

Housing cover	PSU
Housing base	PP 30

Travel sensor integrated in directly mounted version

Linear design

Stroke	0-30 / 0-50 / 0-75 mm
Resistance R	3 / 5 / 5 kΩ
Minimum stroke	≤ 8 % of the travel length ≥ 1 % of the travel length

Quarter turn design

Angle of rotation	0-93°
Resistance R	3 kΩ

Electrical data

Power supply

Power supply	U _v = 24 V DC +10 % / -5 %
Duty cycle	continuous duty
Reverse battery protection	yes
Current consumption	for flow rate code 01, 02 I _{typ} = 140 mA (@ 24 V DC) for flow rate code 03 I _{typ} = 175 mA (@ 24 V DC)

Input signals

Analogue inputs

Set value / actual value	0/4 - 20 mA (selectable)
Input resistance	120 Ω (for device version code PA01)
Accuracy / Linearity	± 0.3 % of full flow
Temperature drift	± 0.3 % of full flow
Resolution	12 bit
Reverse battery protection	yes
Overload proof	yes (up to ± 24 V DC)

Travel sensor input*

External travel sensor input	0...10 V DC (for travel length code S01)
Supply voltage output	UP+ typ. 10 V DC
Short-circuit proof:	yes
Resistance range ext. potentiometer	1...10 kΩ
Input voltage range	0... UP+
Accuracy / Linearity	± 0.3 % of full flow
Temperature drift	± 0.3 % of full flow
Resolution	12 bit
Overload proof	yes (up to ± 24 V DC)

* Travel sensor input galvanically isolated from supply voltage, not galvanically isolated from the set value/actual value inputs and actual value output.

Digital inputs

Function	selectable via software (DigIn 1; DigIn2; DigInW; DigInX) (Reference: GND X1:3)
Voltage	24 V DC
Logic level "1"	>14 V DC
Logic level "0"	< 8 V DC
Input current	typ. 2.5 mA DC (at 24 V DC)

Output signals

Analogue outputs

Actual value	4...20 mA
Output type	active
Accuracy	± 1 % of full flow
Temperature drift	±0.5 % of full flow
Load resistor	600 Ω
Resolution	12 bit
Overload proof	yes (up to ± 24 V DC)
Short-circuit proof	yes

Digital outputs

Switching output K1/K2	selectable via software
Type of contact	PNP
Switching voltage	Power supply
Switching current	0.5 A
Drop voltage	max. 2.5 V DC at 0.5 A
Overload proof	yes (up to ± 24 V DC)
Short-circuit proof	yes
Pull down resistance	120 kΩ

Technical data

Controller data

Positioner

System deviation	≥ 0.1% (adjustable)
PD parameters	adjustable
Initialisation	automatic or manual

Process controller

can be connected (version PA 01)	
Controller type	continuous controller
PID parameters	adjustable

Parameterisation

at the device: Menu selection
context sensitive or help texts
at the PC: Internet MS[®] Internet Explorer

Operating and display elements

Text display	Alphanumeric, 2-line display with 16 digits each with background light
LED front, top	Status, for Profibus-DP and DeviceNet option
LED front, bottom	Status, for Bluetooth option
Keys	4 membrane protected fascia keys

Interfaces

RS232	Parameterisation via web browser
Profibus DP	Parameterisation / process data
Transmission rates	9.6k / 19.2k / 45.45k / 93.75k / 500k 1.5M / 3M / 6 M / 12 M Baud
DeviceNet	Parameterisation / process data
Transmission rates	125k / 250k / 500k Baud
Bluetooth	Parameterisation via web browser

Functions

- Positioner + process controller combined and synchronized with each other
- Automatic or manual optimizing initialisation
- Multiple point calibration for optimized valve control
- Diagnostics, alarm messages
- Operation possible when controller is active
- 3 parameter sets can be saved and reloaded
- 3 user levels (access authorization)
- Operating hours counter, event list (for details see operating instructions)
- Digital inputs (option) for variable function control for automation

Order data

Note

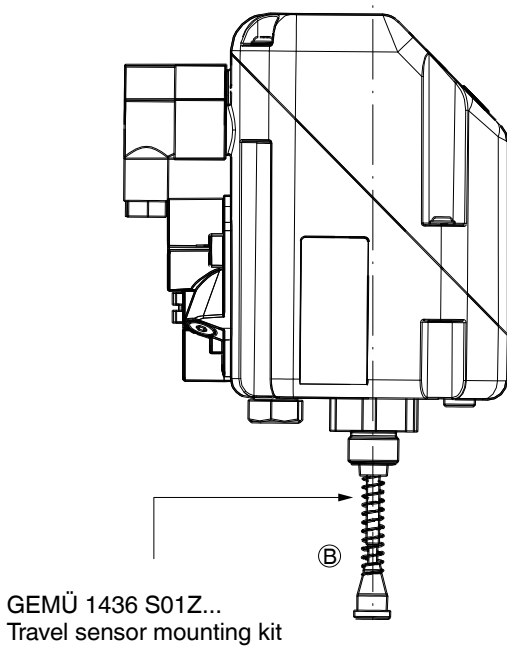
The GEMÜ 1436 cPos® positioner can be directly or remotely mounted to linear or quarter turn actuators

Direct mounting

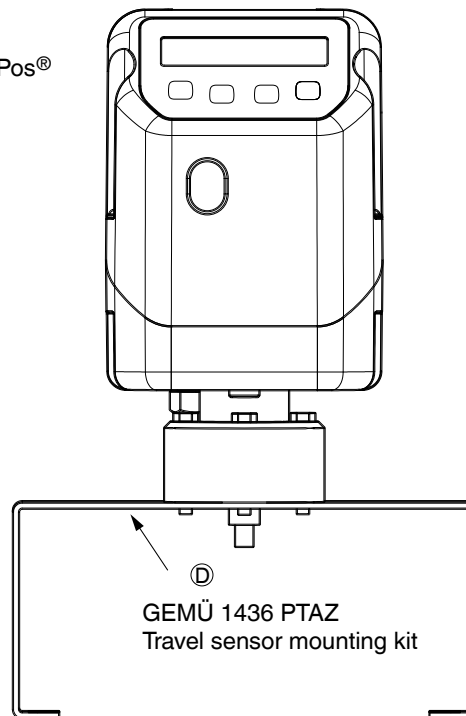
For direct mounting the following components are required which must be ordered separately:

Linear actuators		Quarter turn actuators	
Positioner GEMÜ 1436...030/050/075 See order data - Positioner (direct mounting)	(A)	Positioner GEMÜ 1436...090 See order data - Positioner (direct mounting)	(A)
Mounting kit GEMÜ 1436 S01 Z... See order data - Mounting kit for linear actuators	(B)	Mounting kit GEMÜ 1436 PTAZ... See order data - Mounting kit for quarter turn actuators	(D)
Connection kit GEMÜ 1436 S02 Z... See order data - Connection kit	(C)	Connection kit GEMÜ 1436 S02 Z... See order data - Connection kit	(C)

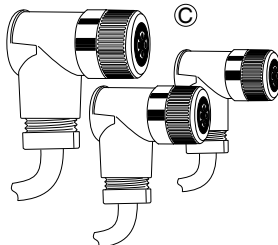
**Direct mounting to
linear actuator**



**Direct mounting to
quarter turn actuator**



GEMÜ 1436 S02Z
Connection kit



(A) Order data - Positioner for direct mounting

Fieldbus	Code
Without	000
DeviceNet	DN
Profibus-DP	DP

Action	Code
Single acting	1
Double acting	3

Device version	Code
Positioner	SA01
Positioner and process controller	PA01

Options	Code
Without	00
2 additional digital inputs 24 V DC not possible with Profibus DP and DeviceNet version	01
Bluetooth interface integrated	02
2 additional digital inputs 24 V DC integrated Bluetooth interface not possible with Profibus DP and DeviceNet version	03

Flow rate	Code
Q = 150 l/min	01
Q = 200 l/min	02
Q = 300 l/min (only single acting)	03

Travel length	Code
Potentiometer, 30 mm length (for linear actuators)	030
Potentiometer, 50 mm length (for linear actuators)	050
Potentiometer, 75 mm length (for linear actuators)	075
Rotary potentiometer, 90° (for quarter turn actuators)	090

Note: The required travel length depends on the max. stroke of the process valve and must be selected according to the mounting kits listed.

Order example	1436	000	Z	1	SA01	00	01	030
Type	1436							
Fieldbus (code)		000						
Accessory			Z					
Action (code)				1				
Device version (code)					SA01			
Options (code)						00		
Flow rate (code)							01	
Travel length (code)								030

(B) Order data - Mounting kit for linear actuators

Type	DN	Control function	Actuator size	Travel length	Footnote	Order number
312		1	1	030		1436S01Z201503000
312		1	2	050		1436S01Z551705000
312		3	1	030	1)	1436S01Z253603000
312	65-100	3	2	050	1)	1436S01Z568905000
314		1	1	030		1436S01Z201503000
314		1	2	030		1436S01Z551803000
410		1,2	0	030		1436S01Z251503000
410		1,2	1	050		1436S01Z252505000
410		1,2	2	050		1436S01Z252505000
410		1,2	3	075		1436S01Z251407500
410		3	0	030	1)	1436S01Z251503000
410		3	1	050	1)	1436S01Z252505000
410		3	2	050	1)	1436S01Z252505000
410		3	3	075	1)	1436S01Z251407500
415		1,2	0	030		1436S01Z251503000
415		1,2	1	050		1436S01Z252505000
415		1,2	2	050		1436S01Z252505000
415		3	0	030	1)	1436S01Z251503000
415		3	1	050	1)	1436S01Z252505000
415		3	2	050	1)	1436S01Z252505000
512		1	1	030		1436S01Z200303000
512		1	2	050		1436S01Z551705000
512		3	1	030	1)	1436S01Z251003000
512		3	2	050	1)	1436S01Z568905000
514		1	0	030		1436S01Z211503000
514		1	1	030		1436S01Z200303000
514		1	2	050		1436S01Z551705000
514		1	5	050		1436S01Z556005000
514		3	1	030	1)	1436S01Z251003000
514		3	2	050	1)	1436S01Z568905000
520		1	3/1-3/3	050		1436S01Z552505000
520		1	4/1-4/3	075		1436S01Z752607500
520		2	5	050		1436S01Z572505000
520		2	6	075		1436S01Z593707500
520		3	7	050	1)	1436S01Z572505000
520		3	8	075	1)	1436S01Z593707500
530		1	1	030	4)	1436S01Z200103000
530		1	2	030		1436S01Z201503000
530		1	4	050		1436S01Z556005000
530		1	5	050		1436S01Z554805000
530		2	2	030		1436S01Z255303000
530		3	1	030	1),4)	1436S01Z250303000
530		3	2	030	1)	1436S01Z255303000
530		3	4	050	1)	1436S01Z571705000
530		3	5	050	1)	1436S01Z574305000
530	15-25	1	3	030		1436S01Z203603000
530	15-25	3	3	030	1)	1436S01Z251803000
530	32-50	1	3	050		1436S01Z205905000
530	32-50	3	3	050	1)	1436S01Z251705000
532		1	0	030		1436S01Z211503000
532		1	1	030		1436S01Z200303000
532		1	2	050		1436S01Z551705000
532		3	1	030	1)	1436S01Z251003000
532		3	2	050	1)	1436S01Z568905000
534		1	0	030		1436S01Z211003000
534		1	1	030		1436S01Z201503000
534		1	2	050		1436S01Z554605000
534		3	0	030	1)	1436S01Z253603000
534		3	1	030	1)	1436S01Z256803000
534		3	2	050	1)	1436S01Z576205000
536		1	3A1-3A3	050		1436S01Z552505000
536		1	4A1-4A3	050		1436S01Z758605000
536		2	3AN	050		1436S01Z572505000
536		2	4AN	050		1436S01Z597105000
536		3	3AN	050	1)	1436S01Z572505000
536		3	4AN	050	1)	1436S01Z597105000
550		1	1	030	4)	1436S01Z200103000
550		1	2	030		1436S01Z201503000
550		1	4	050		1436S01Z556005000
550		1	5	050		1436S01Z554805000
550		2	2	030		1436S01Z255303000
550		3	1	030	1),4)	1436S01Z250303000

Type	DN	Control function	Actuator size	Travel length	Footnote	Order number
550		3	1	030	1),4)	1436S01Z250303000
550		3	2	030	1)	1436S01Z255303000
550		3	4	050	1)	1436S01Z571705000
550		3	5	050	1)	1436S01Z574305000
550	15-25	1	3	030		1436S01Z203603000
550	15-25	3	3	030	1)	1436S01Z251803000
550	32-50	1	3	050		1436S01Z205905000
550	32-50	3	3	050	1)	1436S01Z251705000
554		1	0	030		1436S01Z211003000
554		1	1	030		1436S01Z201503000
554		1	2	050		1436S01Z554605000
554		3	0	030	1)	1436S01Z253603000
554		3	1	030	1)	1436S01Z256803000
554		3	2	050	1)	1436S01Z576205000
555	25-32	1	3	030		1436S01Z203603000
565		1	1	030		1436S01Z292403000
566		1	1	030		1436S01Z292403000
580		1	1	030	4)	1436S01Z200103000
580		1	2	030		1436S01Z201503000
580		1	4	050		1436S01Z556005000
580		1	5	050		1436S01Z554805000
580	15-25	1	3	030		1436S01Z203603000
580	15-25	3	3	030	1)	1436S01Z251803000
580	32-50	1	3	050		1436S01Z205905000
582		1	0	030		1436S01Z211503000
582		1	1	030		1436S01Z200303000
582		1	2	050		1436S01Z551705000
584		1	0	030		1436S01Z211003000
584		1	1	030		1436S01Z201503000
584		1	2	050		1436S01Z554605000
584		3	1	030	1)	1436S01Z256803000
600	15-25	1	2	030		1436S01Z201503000
600	32-40	1	3	030		1436S01Z201103000
600	50	1	4	030		1436S01Z203003000
620		1	3/1-3/3	050		1436S01Z551305000
620		1	4A1-4A3	075		1436S01Z752607500
620		2	3/F	050		1436S01Z562505000
620		2	4AF	075		1436S01Z593707500
620		3	3/D	050	1)	1436S01Z562505000
620		3	4AD	075	1)	1436S01Z593707500
620	15-25	1	0	030		1436S01Z201503000
620	15-40	2	0,1	030		1436S01Z210903000
620	15-40	3	0,1	030	1)	1436S01Z210903000
620	32-40	1	1	030		1436S01Z201103000
620	50	1	2	030		1436S01Z201803000
620	50	2	2	030		1436S01Z211503000
620	50	3	2	030	1)	1436S01Z211503000
630		1	1	030		1436S01Z211503000
650		1	1,2,3,4	030		1436S01Z292403000
650		1	5,6	050		1436S01Z782505000
650		2	1,2,3,4	030		1436S01Z294403000
650		2	5,6	050		1436S01Z792505000
650		3	1,2,3,4	030	1)	1436S01Z294403000
656	25-40	1		050		1436S01Z551705000
656	50-65	1		050		1436S01Z552505000
656	50-65	2		050		1436S01Z592305000
656	50-65	3		050	1)	1436S01Z592305000
656	80-100	1		075		1436S01Z752607500
656	80-100	2		075		1436S01Z593707500
656	80-100	3		075	1)	1436S01Z593707500
687		1	B	030		1436S01Z211503000
687	15-25	1	1	030		1436S01Z201503000
687	15-40	2	1,2	030		1436S01Z210903000
687	15-40	3	1,2	030	1)	1436S01Z210903000
687	32-40	1	2	030		1436S01Z201103000
687	50	1	3	030		1436S01Z201803000
687	50	2	3	030		1436S01Z211503000
687	50	3	3	030	1)	1436S01Z211503000
687	65-100	1	4,5	050		1436S01Z551305000
687	65-100	2	4,5	050		1436S01Z562505000
687	65-100	3	4,5	050	1)	1436S01Z562505000

B Order data - Mounting kit for linear actuators

Type	DN	Control function	Actuator size	Travel length	Footnote	Order number
695	15-25	1	1	030		1436S01Z201503000
695	15-40	2	1,2	030		1436S01Z210903000
695	15-40	3	1,2	030	1)	1436S01Z210903000
695	32-40	1	2	030		1436S01Z201103000
695	50	1	3	030		1436S01Z201803000
695	50	2	3	030		1436S01Z211503000
695	50	3	3	030	1)	1436S01Z211503000
710		1,2	0	030		1436S01Z251503000
710		1,2	1	050		1436S01Z252505000
710		1,2	2	050		1436S01Z252505000
710		1,2	3	075		1436S01Z251407500
710		3	0	030	1)	1436S01Z251503000
710		3	1	050	1)	1436S01Z252505000
710		3	2	050	1)	1436S01Z252505000
710		3	3	075	1)	1436S01Z251407500
9415		1	0	030		1436S01Z251503000
9415		1	1	050		1436S01Z252505000
9415		1	2	050		1436S01Z252505000
9415		1	3	075		1436S01Z251407500
9415		3	0	030	1)	1436S01Z251503000
9415		3	1	050	1)	1436S01Z252505000
9415		3	2	050	1)	1436S01Z252505000
9415		3	3	075	1)	1436S01Z251407500
R690	15-25	1	E	030		1436S01Z200903000
R690	15-50	2	E,F,H	030		1436S01Z210903000
R690	15-50	3	E,F,H	030	1)	1436S01Z210903000
R690	32	1	F	030		1436S01Z201503000
R690	40-50	1	H	030		1436S01Z201103000
R690	65	1	K	030		1436S01Z201803000
R690	65	2	K	030		1436S01Z211503000
R690	65	3	K	030	1)	1436S01Z211503000
R690	80-100	1	M,N	050		1436S01Z551305000
R690	80-100	2	M,N	050		1436S01Z562505000
R690	80-100	3	M,N	050	1)	1436S01Z562505000
SUPM		1	1T1	030		1436S01Z292403000

Footnote

1) For control function DA use double acting positioner (action code 3).

4) For control applications use positioner with K number 2442

© Order data - Connection kit

Fieldbus	Code
Connection kit	S02

Accessory	Code
Accessory	Z

Connections X1* and X3*, A-coded	Code
Without connector socket, with M12 protection cap	0000
M12 socket, A-coded, angle, without cable, screw terminal	00M0
M12 socket, A-coded, angle, with 5 m PUR cable, 0.34 mm ²	05M0
M12 socket, A-coded, angle, with 10 m PUR cable, 0.34 mm ²	10M0
M12 socket, B-coded, angle, can be shielded, M12 plug, B-coded, angle, can be shielded, for Profibus DP (only connection X2, B-coded DPM0 available)	DPM0

Connection X2**, B-coded	Code
Without connector socket, with M12 protection cap	0000
M12 socket, B-coded, angle, without cable, screw terminal	00M0
Y cable + 1 x M12 socket, B-coded, angle without cable, screw terminal	00Y0
Y cable + M12 socket, B-coded, angle, with 5 m PUR cable, 0.34 mm ² 5 m Sub-D connecting cable	05Y0
Y cable + M12 socket, B-coded, angle, with 10 m PUR cable, 0.34 mm ² 10 m Sub-D connecting cable	10Y0
M12 socket, A-coded, angle, can be shielded, without cable for Profibus DP (only connection X1/X3, A-coded DPM0 available)	DPM0

* X1 and X3 with Profibus DP version: B-coded

** X2 with Profibus DP version: A-coded

Order example	1436	S02	Z	00M0	00M0
Type	1436				
Fieldbus (code)		S02			
Accessory (code)			Z		
Connections X1* and X3*, A-coded (code)				00M0	
Connection X2**, B-coded (code)					00M0

© Order data - Mounting kit for quarter turn actuators

Mounting kit	Code
Mounting kit - Quarter turn actuators	PTAZ

Measuring range	Code
Angle of rotation 90°	090

NAMUR size	Code
Hole spacing 80x30, shaft height 20	01
Hole spacing 80x30, shaft height 30	02
Hole spacing 130x30, shaft height 30	03
Hole spacing 130x30, shaft height 50	04

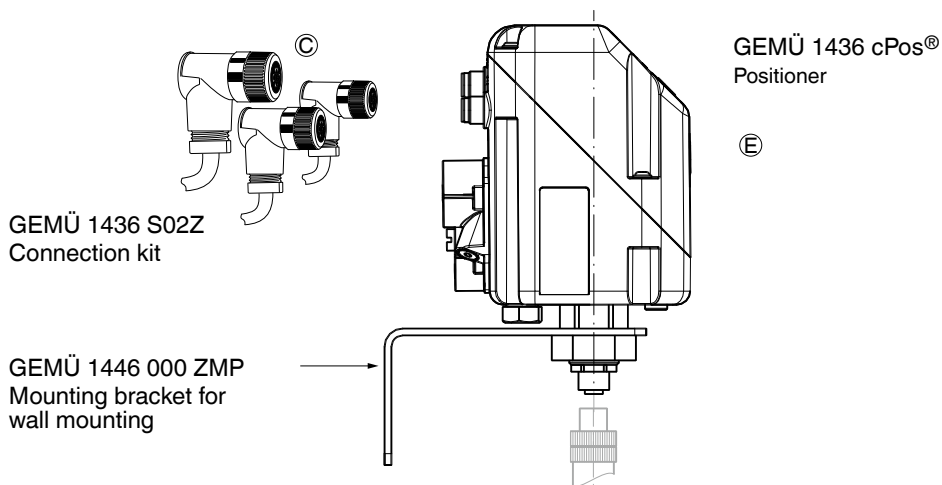
Control air connector	Code
Without	000

Order example	1436	PTAZ	01	090	000
Type	1436				
Mounting kit (code)		PTAZ			
NAMUR size (code)			01		
Measuring range (code)				090	
Control air connector (code)					000

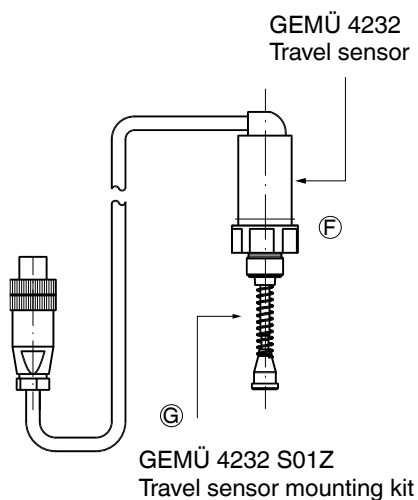
Order data for remote mounting

For remote mounting the following components are required which must be ordered separately:

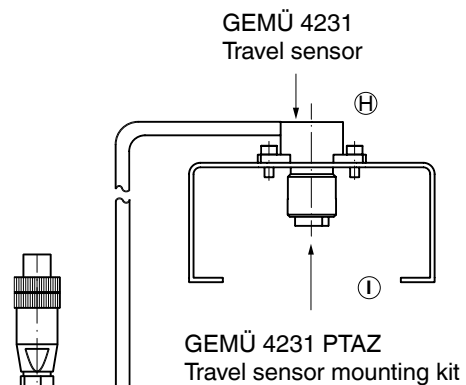
Linear actuators		Quarter turn actuators	
Positioner GEMÜ 1436...S01 See order data - Positioner (remote mounting)	(E)	Positioner GEMÜ 1436...S01 See order data - Positioner (remote mounting)	(E)
Travel sensor GEMÜ 4232...4001 See order data - Travel sensor for linear actuators	(F)	Travel sensor GEMÜ 4231...4001 See order data - Travel sensor for quarter turn actuators	(H)
Travel sensor mounting kit GEMÜ 4232 S01 Z... See order data - Mounting kit for linear actuators	(G)	Travel sensor mounting kit GEMÜ 4231 PTAZ... See order data - Mounting kit for quarter turn actuators	(I)
Mounting bracket for wall mounting GEMÜ 1446 000 ZMP Order code - 1446 000 ZMP	-	Mounting bracket for wall mounting GEMÜ 1446 000 ZMP Order code - 1446 000 ZMP	-
Connection kit GEMÜ 1436 S02 Z... See order data - Connection kit	(C)	Connection kit GEMÜ 1436 S02 Z... See order data - Connection kit	(C)



Remote mounting to linear actuator



Remote mounting to quarter turn actuator



Ⓔ Order data - Positioner for quarter turn actuators for remote mounting

Fieldbus	Code
Without	000
DeviceNet	DN
Profibus-DP	DP

Action	Code
Single acting	1
Double acting	3

Device version	Code
Positioner	SA01
Positioner and process controller	PA01

Options	Code
Without	00
2 additional digital inputs 24 V DC not possible with Profibus DP and DeviceNet version	01
Bluetooth interface integrated	02
2 additional digital inputs 24 V DC integrated Bluetooth interface not possible with Profibus DP and DeviceNet version	03

Flow rate	Code
Q = 150 l/min	01
Q = 200 l/min	02
Q = 300 l/min (only single acting)	03

Travel length	Code
For external potentiometer, M 12 connector, 5-pin	S01

Order example	1436	000	Z	1	SA01	00	01	S01
Type	1436							
Fieldbus (code)		000						
Accessory			Z					
Action (code)				1				
Device version (code)					SA01			
Options (code)						00		
Flow rate (code)							01	
Travel length (code)								S01

Ⓕ Order data - Travel sensor for linear actuators

Housing material	Code
PP coated	05
Aluminium, black anodized	14
PVDF coated (suitable for High Purity)	20

Cable length	Code
Length 2.0 m	02M0
Length 5.0 m	05M0
Others on request	

Travel length	Code
Potentiometer, 30 mm length	030
Potentiometer, 50 mm length	050
Potentiometer, 75 mm length	075

Cable connection	Code
M12 cable plug, straight, 5-pin, plastic	4001

Note: The required travel length depends on the max. stroke of the process valve and must be selected according to the mounting kits listed.

Order example	4232	000	Z	14	030	05M0	4001
Type	4232						
Fieldbus		000					
Accessory			Z				
Housing material (code)				14			
Travel length (code)					030		
Cable length (code)						05M0	
Cable connection (code)							4001

ⓐ Order data - Mounting kit for linear actuators

Type	DN	Control function	Actuator size	Travel length	Footnote	Order number
312		1	1	030		4232S01Z201503000
312		1	2	050		4232S01Z551705000
312		2	2	050	2)	4232S01Z575905000
312	65-100	3	2	050	1)	4232S01Z568905000
314		1	1	030		4232S01Z201503000
314		1	2	030		4232S01Z551803000
410		1,2	0	030		4232S01Z251503000
410		1,2	1	050		4232S01Z252505000
410		3	0	030	1)	4232S01Z251503000
410		3	1	050	1)	4232S01Z252505000
415		1,2	0	030		4232S01Z251503000
415		1,2	1	050		4232S01Z252505000
415		3	0	030	1)	4232S01Z251503000
415		3	1	050	1)	4232S01Z252505000
512		1	1,4	030		4232S01Z200303000
512		1	2	050		4232S01Z551705000
512		2	1	030	2)	4232S01Z251503000
512		2	2	050	2)	4232S01Z575905000
512		3	2	050	1)	4232S01Z568905000
514		1	0,3	030		4232S01Z211503000
514		1	1,4	030		4232S01Z200303000
514		1	2	050		4232S01Z551705000
514		1	5	050		4232S01Z556005000
514		2	1	030	2)	4232S01Z251503000
514		2	2	050	2)	4232S01Z575905000
514		3	1	030	1)	4232S01Z211003000
514		3	2	050	1)	4232S01Z568905000
514		8	1	030	1)	4232S01Z251503000
520		1	3/1-3/3	050		4232S01Z552505000
520		1	4/1-4-3	075		4232S01Z752607500
520		2	5	050	2)	4232S01Z572505000
520		2	6	075	2)	4232S01Z593707500
520		3	5	050	1)	4232S01Z572505000
520		3	8	075	1)	4232S01Z593707500
530		1	1	030	4)	4232S01Z200103000
530		1	2	030		4232S01Z201503000
530		1	4	050		4232S01Z556005000
530		1	5	050		4232S01Z554805000
530		2	1	030	2)	4232S01Z250303000
530		2	4	050	2)	4232S01Z571705000
530		3	4	050	1)	4232S01Z571705000
530		8	1	030	1)	4232S01Z250303000
530		8	2	030	1)	4232S01Z255303000
530		8	4	050	1)	4232S01Z571705000
530	15-25	1	3	030		4232S01Z203603000
530	32-50	1	3	050		4232S01Z205905000
530	32-50	2	3	050	2)	4232S01Z251705000
530	32-50	3	3	050	1)	4232S01Z251705000
530	32-50	8	3	050	1)	4232S01Z251705000
532		1	0,3	030		4232S01Z211503000
532		1	1,4	030		4232S01Z200303000
532		1	2	050		4232S01Z551705000
532		2	1	030	2)	4232S01Z251503000
532		2	2	050	2)	4232S01Z575905000
532		3	1	030	1)	4232S01Z211003000
532		3	2	050	1)	4232S01Z568905000
534		1	0,3	030		4232S01Z211003000
534		1	1,4	030		4232S01Z201503000
534		1	2	050		4232S01Z554605000
534		2	0	030	2)	4232S01Z253603000
534		2	1	030	2)	4232S01Z253803000
534		2	2	050	2)	4232S01Z576205000
534		3	0	030	1)	4232S01Z253603000
534		3	1	030	1)	4232S01Z256803000
534		8	0	030	1)	4232S01Z253603000
534		8	1	030	1)	4232S01Z253803000
534		8	2	050	1)	4232S01Z576205000

Type	DN	Control function	Actuator size	Travel length	Footnote	Order number
536		1	3A1-3A3	050		4232S01Z552505000
536		1	4A1-4A3	050		4232S01Z575805000
536		2	3AN	050	2)	4232S01Z572505000
536		2	4AN	050	2)	4232S01Z597105000
536		3	3AN	050	1)	4232S01Z572505000
536		3	4AN	050	1)	4232S01Z597105000
550		1	0	030	3)	4232S01Z093903000
550		1	1	030	4)	4232S01Z200103000
550		1	2	030		4232S01Z201503000
550		1	4	050		4232S01Z556005000
550		1	5	050		4232S01Z554805000
550		2	1	030	2)	4232S01Z250303000
550		2	4	050	2)	4232S01Z251705000
550		3	4	050	1)	4232S01Z571705000
550		8	1	030	1)	4232S01Z250303000
550		8	2	030	1)	4232S01Z255303000
550		8	4	050	1)	4232S01Z571705000
550	15-25	1	3	030		4232S01Z203603000
550	32-50	1	3	050		4232S01Z205905000
550	32-50	2	3	050	2)	4232S01Z251705000
550	32-50	3	3	050	1)	4232S01Z251705000
550	32-50	8	3	050	1)	4232S01Z251705000
554		1	0,3	030		4232S01Z211003000
554		1	1,4	030		4232S01Z201503000
554		1	2	050		4232S01Z554605000
554		2	0	030	2)	4232S01Z253603000
554		2	1	030	2)	4232S01Z253803000
554		2	2	050	2)	4232S01Z576205000
554		3	0	030	1)	4232S01Z203603000
554		3	1	030	1)	4232S01Z256803000
554		8	0	030	1)	4232S01Z253603000
554		8	1	030	1)	4232S01Z253803000
554		8	2	050	1)	4232S01Z576205000
555	25-32	1	3	030		4232S01Z203603000
555	40	1	4	030		4232S01Z555303000
555	50-80	1	5	030		4232S01Z558303000
555	8-20	1	2	030		4232S01Z200903000
565		1	1	030		4232S01Z292403000
566		1	1	030		4232S01Z292403000
566		2	1	030	2)	4232S01Z294403000
580		1	1	030	4)	4232S01Z200103000
580		1	2	030		4232S01Z201503000
580		1	4	050		4232S01Z556005000
580		1	5	050		4232S01Z554805000
580		2	1	030	2)	4232S01Z250303000
580		8	1	030	1)	4232S01Z250303000
580		8	2	030	1)	4232S01Z255303000
580	15-25	1	3	030		4232S01Z203603000
580	32-50	1	3	050		4232S01Z205905000
580	32-50	2	3	050	2)	4232S01Z251705000
580	32-50	3	3	050	1)	4232S01Z251705000
580	32-50	8	3	050	1)	4232S01Z251705000
582		1	0	030		4232S01Z211503000
582		1	1	030		4232S01Z200303000
582		1	2	050		4232S01Z551705000
582		2	1	030	2)	4232S01Z251503000
582		2	2	050	2)	4232S01Z575905000
582		3	1	030	1)	4232S01Z211003000
582		3	2	050	1)	4232S01Z568905000
584		1	0	030		4232S01Z211003000
584		1	1	030		4232S01Z201503000
584		1	2	050		4232S01Z554605000
584		2	0	030	2)	4232S01Z253603000
584		2	1	030	2)	4232S01Z253803000
584		2	2	050	2)	4232S01Z576205000
584		3	0	030	1)	4232S01Z253603000
584		8	0	030	1)	4232S01Z253603000
584		8	1	030	1)	4232S01Z253803000
584		8	2	050	1)	4232S01Z576205000

G Order data - Mounting kit for linear actuators

Type	DN	Control function	Actuator size	Travel length	Footnote	Order number
600	15-25	1	2	030		4232S01Z201503000
600	32-40	1	3	030		4232S01Z201103000
600	50	1	4	030		4232S01Z203003000
605		1	0	030		4232S01Z050103000
605		2	0	030	2)	4232S01Z050103000
605		3	0	030	1)	4232S01Z050103000
610		1	1	030		4232S01Z050103000
610		2	1	030	2)	4232S01Z050103000
610		3	1	030	1)	4232S01Z050103000
615		1	1	030		4232S01Z050103000
615		2	1	030	2)	4232S01Z050103000
615		3	1	030	1)	4232S01Z050103000
620		1	3/1-3/3	050		4232S01Z551305000
620		1	4A1-4A3	075		4232S01Z752607500
620		2	3/F	050	2)	4232S01Z562505000
620		2	4AF	075	2)	4232S01Z593707500
620		3	3/D	050	1)	4232S01Z562505000
620		3	4AD	075	1)	4232S01Z593707500
620	15-25	1	0	030		4232S01Z201503000
620	15-40	2	0,1	030	2)	4232S01Z210903000
620	15-40	3	0,1	030	1)	4232S01Z210903000
620	32-40	1	1	030		4232S01Z201103000
620	50	1	2	030		4232S01Z201803000
620	50	2	2	030	2)	4232S01Z211503000
620	50	3	2	030	1)	4232S01Z211503000
625		1	1	030		4232S01Z050103000
625		2	1	030	2)	4232S01Z050103000
625		3	1	030	1)	4232S01Z050103000
630		1	1	030		4232S01Z211503000
650		1	0	030		4232S01Z093903000
650		1	1,2,3,4	030		4232S01Z292403000
650		1	5,6	050		4232S01Z782505000
650		2	0TA	030	2)	4232S01Z093903000
650		2	1,2,3,4	030	2)	4232S01Z294403000
650		3	0	030	1)	4232S01Z093903000
650		3	1,2,3,4	030	1)	4232S01Z294403000
656	25-40	1		050		4232S01Z551705000
656	50-65	1		050		4232S01Z552505000
656	80-100	1		075		4232S01Z752607500
656	80-100	2		075	2)	4232S01Z593707500
658		1	1	030		4232S01Z213803000
687		1	B	030		4232S01Z211503000
687		2	B	030	2)	4232S01Z050103000
687		3	B	030	1)	4232S01Z050103000
687	15-25	1	1	030		4232S01Z201503000
687	15-40	2	1,2	030	2)	4232S01Z210903000
687	15-40	3	1,2	030	1)	4232S01Z210903000
687	32-40	1	2	030		4232S01Z201103000
687	50	1	3	030		4232S01Z201803000
687	50	2	3	030	2)	4232S01Z211503000
687	50	3	3	030	1)	4232S01Z211503000
687	65-100	1	4,5	050		4232S01Z551305000
687	65-100	2	4,5	050	2)	4232S01Z562505000
687	65-100	3	4,5	050	1)	4232S01Z562505000
688		1	1V1	030		4232S01Z200103000
688		1	2V1	050		4232S01Z575905000
695	15-25	1	1	030		4232S01Z201503000
695	15-40	2	1,2	030	2)	4232S01Z210903000
695	15-40	3	1,2	030	1)	4232S01Z210903000
695	32-40	1	2	030		4232S01Z201103000
695	50	1	3	030		4232S01Z201803000
695	50	2	3	030	2)	4232S01Z211503000
695	50	3	3	030	1)	4232S01Z211503000
710		1,2	0	030		4232S01Z251503000
710		1,2	1	050		4232S01Z252505000
710		3	0	030	1)	4232S01Z251503000
710		3	1	050	1)	4232S01Z252505000

Type	DN	Control function	Actuator size	Travel length	Footnote	Order number
710		1,2	0	030		4232S01Z251503000
710		1,2	1	050		4232S01Z252505000
710		3	0	030	1)	4232S01Z251503000
710		3	1	050	1)	4232S01Z252505000
9415		1	0	030		4232S01Z251503000
9415		1	1	050		4232S01Z252505000
9415		3	0	030	1)	4232S01Z251503000
9415		3	1	050	1)	4232S01Z252505000
C50		1,2	1,2	030		4232S01Z028003000
C50		1,2	1,2	030		4232S01Z028003000
C50		1,2	3,4	030		4232S01Z440203000
C50		1,2	3,4	030		4232S01Z440203000
C60		1	1	030		4232S01Z072703000
C60		1	1	030		4232S01Z072703000
C60		1	2,3	030		4232S01Z270203000
C60		1	2,3	030		4232S01Z270203000
C60		2	1	030	2)	4232S01Z072703000
C60		2	1	030	2)	4232S01Z072703000
C60		2	2	030	2)	4232S01Z270203000
C60		2	2	030	2)	4232S01Z270203000
C60		3	1	030	1)	4232S01Z072703000
C60		3	1	030	1)	4232S01Z072703000
C60		3	2,3	030	1)	4232S01Z270203000
C60		3	2,3	030	1)	4232S01Z270203000
R690	15-25	1	E	030		4232S01Z200903000
R690	15-50	2	E,F,H	030	2)	4232S01Z210903000
R690	15-50	3	E,F,H	030	1)	4232S01Z210903000
R690	32	1	F	030		4232S01Z201503000
R690	40-50	1	H	030		4232S01Z201103000
R690	65	1	K	030		4232S01Z201803000
R690	65	2	K	030	2)	4232S01Z211503000
R690	65	3	K	030	1)	4232S01Z211503000
R690	80-100	1	M,N	050		4232S01Z551305000
R690	80-100	2	M,N	050	2)	4232S01Z562505000
SUPM		1	1T1	030		4232S01Z292403000

Footnote

- 1) Use double acting positioner for control functions DA or DA-NO in combination with a positioner
- 2) For control applications use positioner with K number 2443
- 4) For control applications use positioner with K number 2442

(H) Order data - Travel sensor for quarter turn actuator

Housing material	Code
PAI	XF

Travel length	Code
Potentiometer, 90°	090

Cable length	Code
Length 2.0 m	02M0
Length 5.0 m	05M0
Others on request	

Cable connection	Code
M12 cable plug, straight, 5-pin, plastic	4001

Order example	4231	000	Z	XF	090	05M0	4001
Type	4231						
Fieldbus		000					
Accessory			Z				
Housing material (code)				XF			
Travel length (code)					090		
Cable length (code)						05M0	
Cable connection (code)							4001

(I) Order data - Travel sensor mounting kit

Mounting kit	Code
Mounting kit - Quarter turn actuators	PTAZ

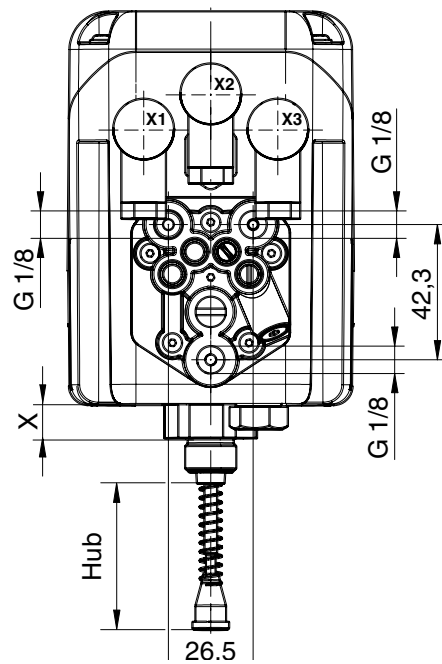
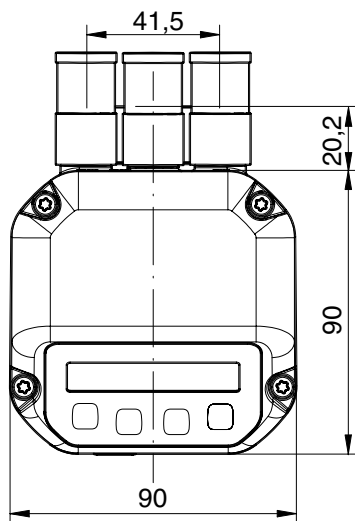
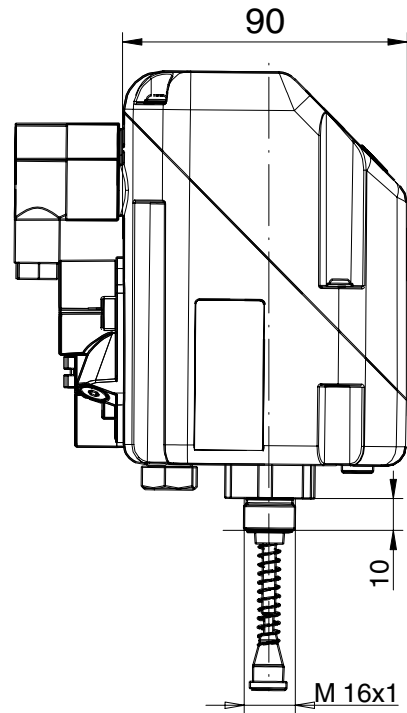
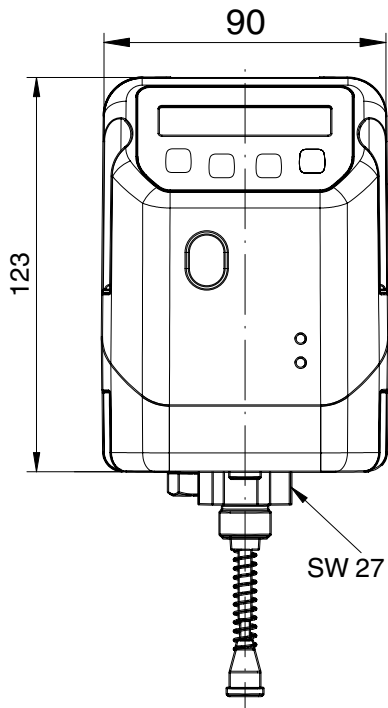
NAMUR size	Code
Hole spacing 80x30, shaft height 15	00
Hole spacing 80x30, shaft height 20	01
Hole spacing 80x30, shaft height 30	02
Hole spacing 130x30, shaft height 30	03
Hole spacing 130x30, shaft height 50	04

Measuring range	Code
Angle of rotation 90°	090

Control air connector	Code
Without	000

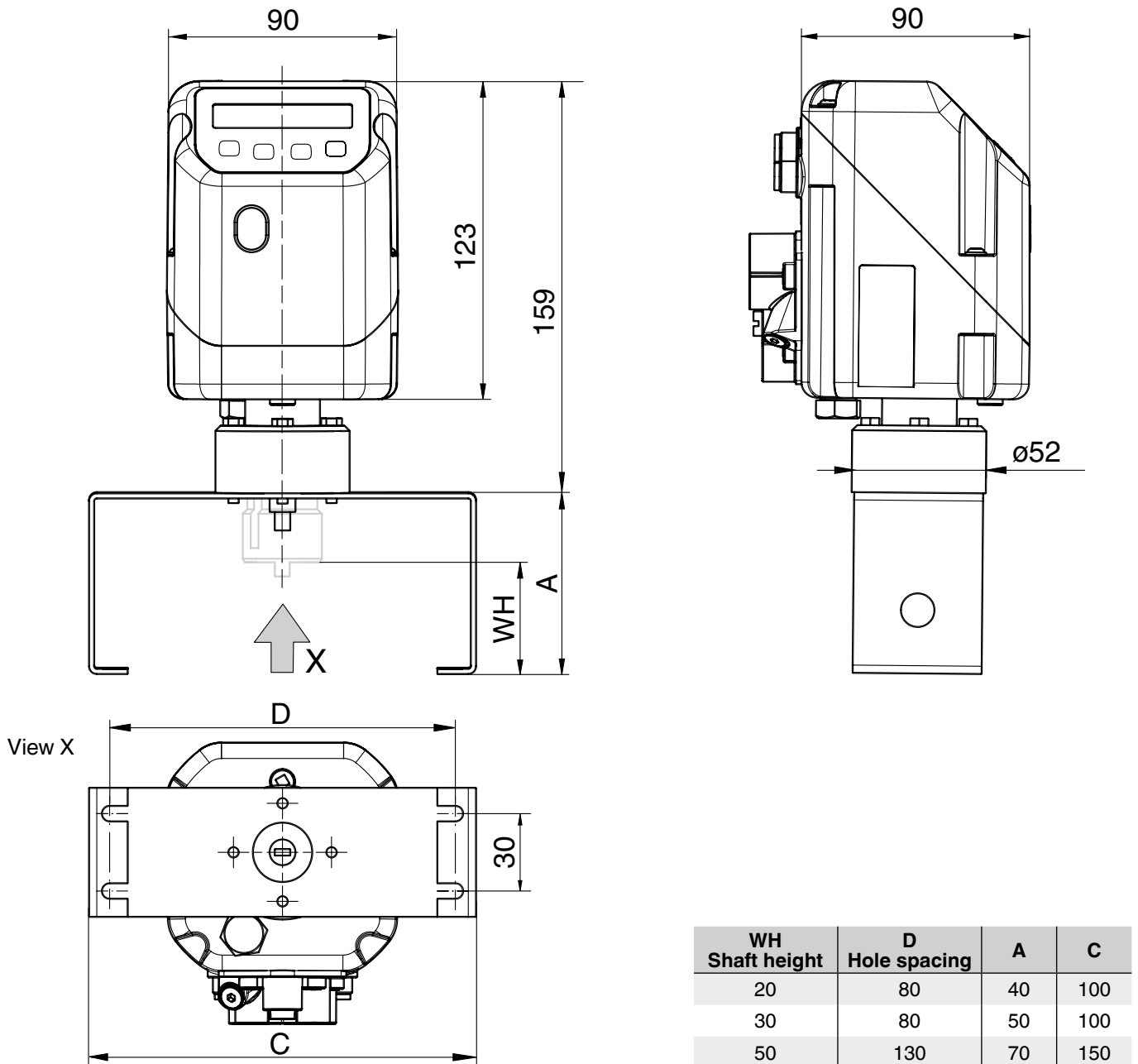
Order example	4231	PTAZ	00	090	000
Type	4231				
Mounting kit (code)		PTAZ			
NAMUR size (code)			00		
Measuring range (code)				090	
Control air connector (code)					000

Dimensions - Positioner for linear actuators [mm]

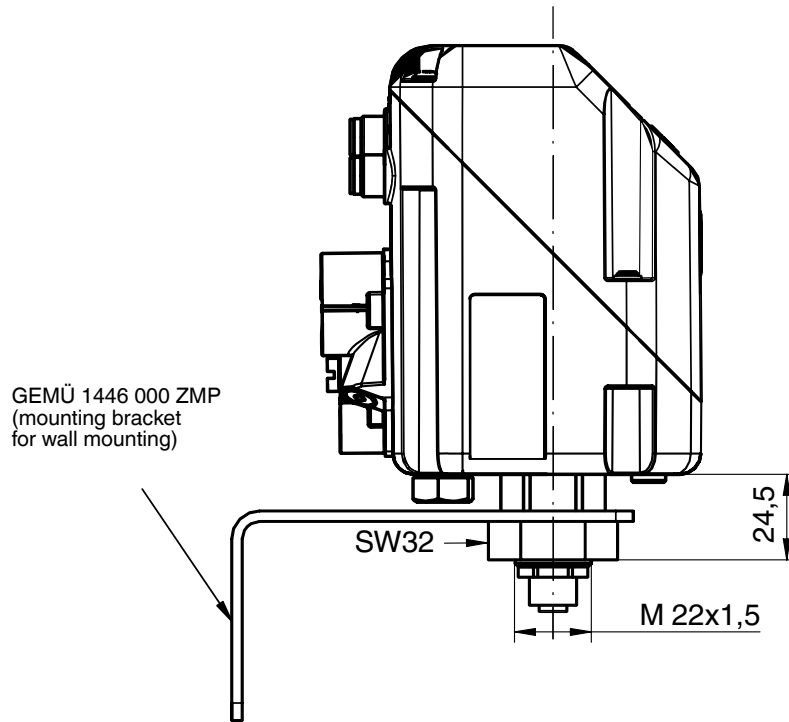


Travel sensor [mm]	
Stroke	X
030	10.3
050	32.5
075	57.3

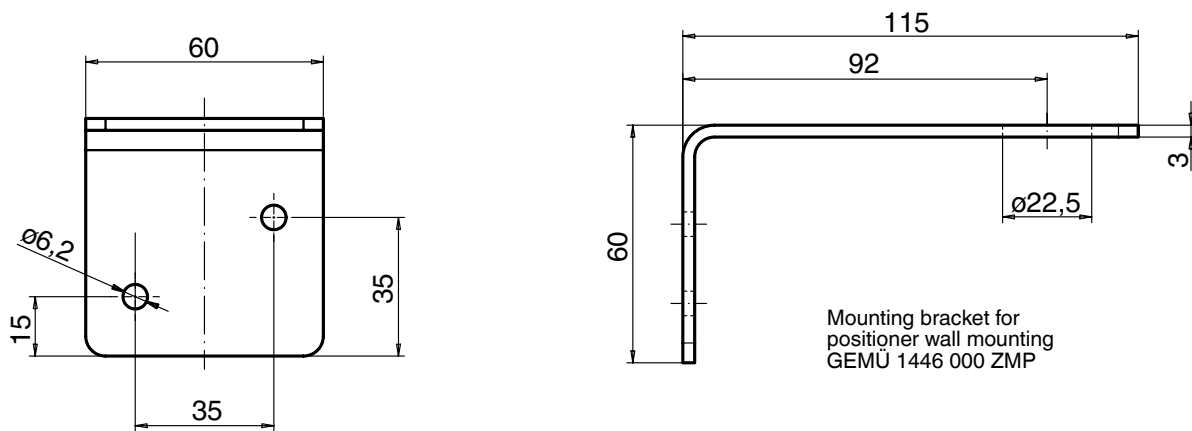
Dimensions - Positioner for quarter turn actuators [mm]



Dimensions - Positioner for remote mounting [mm]

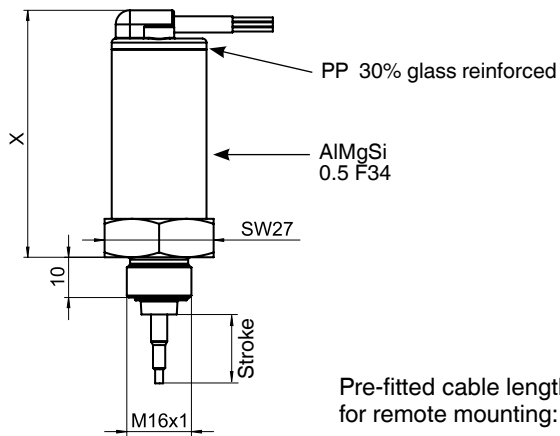


Accessories for remote mounting, mounting bracket [mm]



Materials and dimensions - Travel sensor GEMÜ 4232 for linear actuators, remote mounting [mm]

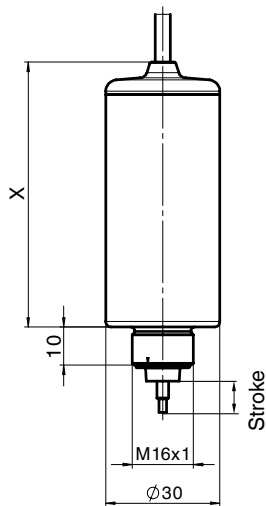
Material version - Aluminium



Pre-fitted cable lengths
for remote mounting: 2m, 5m up to max. 20m

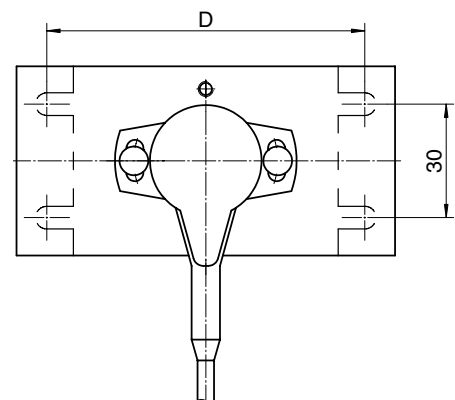
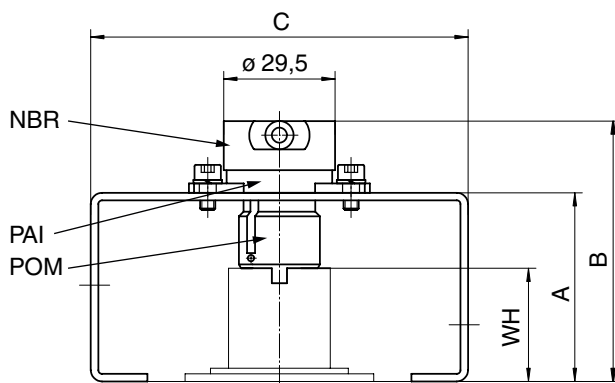
Travel sensor	
Stroke	X
30	62.2
50	84.2
75	109.2

Material version - PVDF or PP



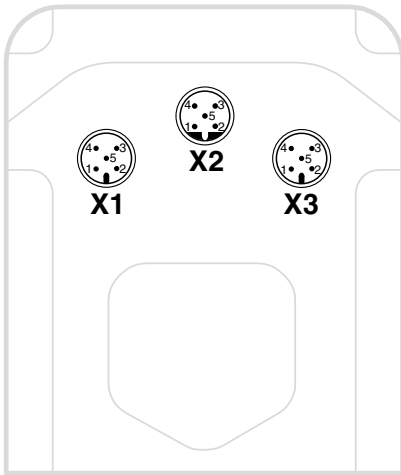
Travel sensor	
Stroke	X
30	69.6
50	91.6
75	116.6

Materials and dimensions - Rotary travel sensor GEMÜ 4231 incl. bracket, remote mounting [mm]



Shaft height WH	Hole spacing D	A	B	C
20	80	40	59	100
30	80	50	69	100
50	130	70	89	150

Electrical connection - Standard version (Code 000)



Connection	Pin	Signal name
X1 A-coded M12 plug	1	Uv, 24 V DC supply voltage
	2	Switching output K1, 24 V DC (switches Uv*)
	3	GND, (supply voltage, DigIn1+2+W +X; K1+2)
	4	Switching output K2, 24 V DC (switches Uv*)
	5	Digital input 1 (optional**)

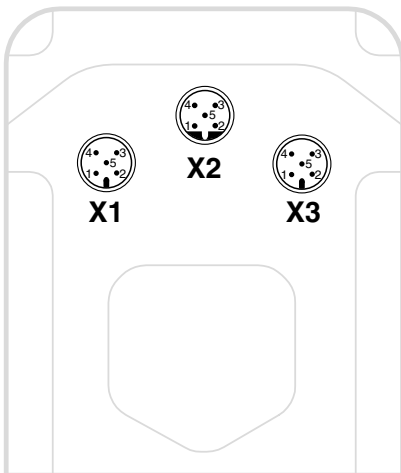
Connection	Pin	Signal name
X2 B-coded M12 plug	1	I+, actual value output
	2	I-, actual value output
	3	RxD, Receive Data, RS 232
	4	TxD, Transmit Data, RS232
	5	GND, RS232

Connection	Pin	Signal name
X3 A-coded M12 plug	1	W+, set value input
	2	W-, set value input / Digital In W**
	3	X+, process actual value input
	4	X-, process actual value input
	5	Digital input 2 (optional**)

* Switching output switches device supply voltage Uv - drop voltage

** For options code 01 and 03

DeviceNet (Code DN)

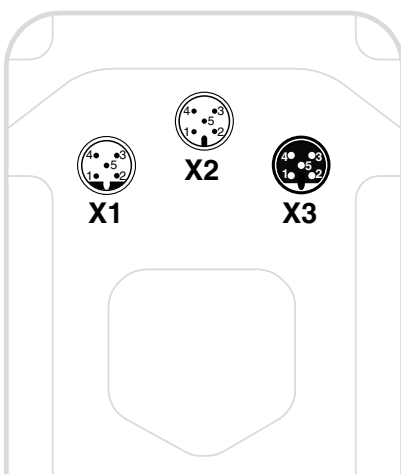


Connection	Pin	Signal name
X1 A-coded M12 plug	1	Uv, 24 V DC supply voltage
	2	n.c.
	3	GND, (supply voltage)
	4	n.c.
	5	n.c.

Connection	Pin	Signal name
X2 B-coded M12 plug	1	n.c.
	2	n.c.
	3	n.c.
	4	n.c.
	5	n.c.

Connection	Pin	Signal name
X3 A-coded M12 plug	1	Shield
	2	V+
	3	V-
	4	Can H
	5	Can L

Fieldbus Profibus DP (Code DP)

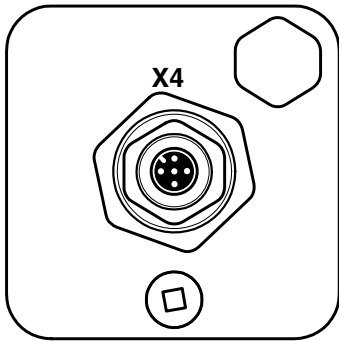


Connection	Pin	Signal name
X1 B-coded M12 plug	1	n.c.
	2	RxD / TxD-N (PB-)
	3	n.c.
	4	RxD / TxD-P (PB+)
	5	n.c.

Connection	Pin	Signal name
X2 A-coded M12 plug	1	Uv, 24 V DC supply voltage
	2	n.c.
	3	GND, (supply voltage)
	4	n.c.
	5	n.c.

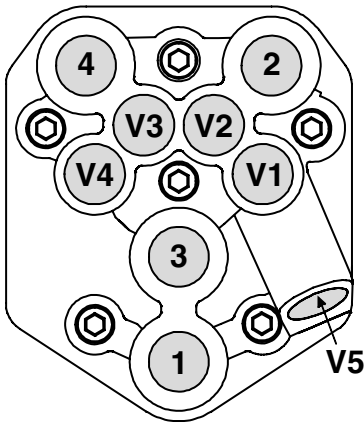
Connection	Pin	Signal name
X3 B-coded M12 socket	1	BUS-V DC + 5 V DC (PB_5V)
	2	RxD / TxD-N (PB-)
	3	D GND (PB_GND)
	4	RxD / TxD-P (PB+)
	5	n.c.

Version with external actual value potentiometer (code S01)



Connection	Pin	Signal name
X4 A-coded M12 socket	1	UP+, output potentiometer supply voltage (+)
	2	UP, input potentiometer wiper voltage
	3	UP-, output potentiometer supply voltage (-)
	4	n. c.
	5	n. c.

Pneumatic connection



Connection	DIN ISO 1219-1	Designation	Size
P	1	Air supply connection	G1/8
R	3	Venting connection with silencer	G1/8
V1	V1	Supply air throttle for A1 (connector 2)	-
V2	V2	Exhaust air throttle for A1 (connector 2)	-
V3	V3	Exhaust air throttle for A2* (connector 4)	-
V4	V4	Supply air throttle for A2* (connector 4)	-
V5	V5	Check valve	-
A1	2	Working connection for process valve (Control function 1 and 2)	G1/8
A2	4	Working connection for process valve (Control function 3)	G1/8

* only double acting type (code 3)

Fail safe function

No.	Error	Outlet A1	Outlet A2
1	Power supply failure	Single acting: vented Double acting: vented	Single acting: non existent Double acting: pressurized
2	Compressed air supply failure	Single acting: vented Double acting: not defined	Single acting: non existent Double acting: closed

This fail safe function is not a substitute for specific plant safety requirements.

Adjustable safety reactions

No.	Error	Outlet A1	Outlet A2
1	Set value < 4.0 mA (Range adjustable from 0...22 mA under I Min W)	Single acting: adjustable function	Single acting: -
2	Set value > 20.0 mA (Range adjustable from 0...22 mA under I Max W)		
3	Actual value < 4.0 mA (Range adjustable from 0...22 mA under I Min X)	Double acting: adjustable function (open, close, hold)	Double acting: adjustable function (open, close, hold)
4	Actual value > 20.0 mA (Range adjustable from 0...22 mA under I Max X)		

No. 3 and 4 only available for device version code PA01