GEMÜ 4240

Combi switchbox

Features

- Position feedback via microswitches, optionally via 2-wire NAMUR proximity switches or 3-wire proximity switches
- Adjustable switch point tolerances using locking levers
- Can be fitted to GEMÜ valves or third-party actuators
- Integrated manual override

Description

The GEMÜ 4240 combi switchbox is suitable for mounting to pneumatically operated linear actuators. The position of the valve spindle is reliably detected electronically and fed back via microswitches or proximity switches, using play-free and non-positive mounting. Integrated pilot valves enable direct activation of the process valve connected to them. The product has been designed specially for valves with a stroke of 5 to 75 mm.

Technical specifications

- **Ambient temperature:** 0 to 60 °C
- **Linear measuring range:** 5 to 75 mm
- **Radial measuring range:** 0to 90°
- **Flow rate:** 250 Nl/min
- **Supply voltages:** 24 V DC l 250 V AC l 8 V DC
- **Protection class:** IP 65. IP 67
- **Electrical connection types:** Cable glands
- **Switch types:** Microswitch l 2-wire proximity switch (NAMUR) l 3-wire proximity switch

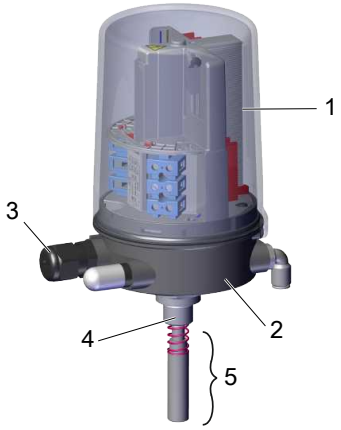
Technical data depends on the respective configuration

further information
webcode: GW-4240

Product line

	GEMÜ 4240	GEMÜ 4241	GEMÜ 4242
Linear measuring range	5 to 75 mm	5 to 75 mm	2 to 75 mm
Radial measuring range	0 - 90°	0 - 90°	0 - 90°
Ambient temperature	0 to 60 °C	0 to 50 °C	0 to 60 °C
Flow rate			
14 Nl/min	-	-	●
145 Nl/min	-	-	●
23 Nl/min	-	-	●
250 Nl/min	●	●	●
Electrical connection types			
Cable glands	●	●	-
Connectors	-	-	●
Switch types			
Microswitch	●	-	-
2-wire proximity switch (NAMUR)	●	●	-
3-wire proximity switch	●	-	-
Communication modes			
ASi-5	-	-	●
AS-Interface	-	-	●
DeviceNet	-	-	●
IO-Link	-	-	●
Supply voltage			
24 V DC	●	-	●
250 V AC	●	-	-
8 V DC	●	●	-
or as per fieldbus specification	-	-	●
Conformities			
ATEX	-	●	●
EAC	-	●	●
ETL Listed C US	-	-	●
Functional safety	-	-	●
IECEx	-	●	●

Product description



Item	Name	Materials
1	Housing cover	PC
2	Housing base	PPS
3	Electrical connection	SS, PP
4	Adapter piece	SS
5	Mounting kit, valve specific	SS, PP
	Seals	NBR

GEMÜ CONEXO

The interaction of valve components that are equipped with RFID chips and an associated IT infrastructure actively increase process reliability.

Thanks to serialization, every valve and every relevant valve component such as the body, actuator or diaphragm, and even automation components, can be clearly traced and read using the CONEXO pen RFID reader. The CONEXO app, which can be installed on mobile devices, not only facilitates and improves the "installation qualification" process, but also makes the maintenance process much more transparent and easier to document. The app actively guides the maintenance technician through the maintenance schedule and directly provides him with all the information assigned to the valve, such as test reports, testing documentation and maintenance histories. The CONEXO portal acts as a central element, helping to collect, manage and process all data.

For further information on GEMÜ CONEXO please visit:
www.gemu-group.com/conexo

Ordering

GEMÜ Conexo must be ordered separately with the ordering option "CONEXO".

Installing the RFID chip (1)

Order data

The order data provide an overview of standard configurations.

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

Note: A valve specific mounting kit is required for assembly. For designing the mounting kit, the valve type, nominal size, control function and actuator size must be stated.

Order codes

1 Type	Code
Combi switchbox	4240

2 Fieldbus	Code
Without	000

3 Accessory	Code
Accessory	Z

4 Housing material	Code
PPS base, PC cover	01

5 Action	Code
Single acting, with manual override	01
Double acting, with manual override	02
Single acting, without manual override	E1

6 Electrical connection	Code
M16 Skintop cable gland	03

7 Pneumatic connection	Code
G1/8 connection thread	01
Air supply 6 mm angled connection, exhaust air 6 mm angled connection	04

7 Pneumatic connection	Code
Air supply 6 mm T-connection, exhaust air 6 mm angled connection	05
G1/8 connection thread (for IP67 or piped air outlet)	E1

8 Switch	Code
Change-over contact, microswitch, 24 V DC, 250 V AC Crouzet, V4S, SPDT	M1
Proximity switch, 2-wire, NAMUR P+F, HJ1.5-6.5-15-N-Y180094	N1
Proximity switch, 3-wire, make contact, PNP, 10–30 V DC Balluff, BES 516-371-SA 16	P1

9 Connection diagram	Code
Microswitch	M1
Terminals, NAMUR	N1
3-wire	P1

10 Travel length	Code
Potentiometer, 75 mm length	075

Order example

Ordering option	Code	Description
1 Type	4240	Combi switchbox
2 Fieldbus	000	Without
3 Accessory	Z	Accessory
4 Housing material	01	PPS base, PC cover
5 Action	01	Single acting, with manual override
6 Electrical connection	03	M16 Skintop cable gland
7 Pneumatic connection	04	Air supply 6 mm angled connection, exhaust air 6 mm angled connection
8 Switch	M1	Change-over contact, microswitch, 24 V DC, 250 V AC Crouzet, V4S, SPDT
9 Connection diagram	M1	Microswitch
10 Travel length	075	Potentiometer, 75 mm length

Technical data

Medium

Working medium:
Compressed air and inert gases
Quality classes to DIN ISO 8573-1

Dust content:
Class 3, max. particle size 5 µm, max. particle density 5 mg/m³

Pressure dew point:
Size 1
Class 3, max. pressure dew point -20 °C
Size 2
Class 4, max. pressure dew point +3 °C

Oil content:
Size 1
Class 3, max. oil concentration 1 mg/m³
Size 2
Class 5, max. oil concentration 25 mg/m³

Temperature

Ambient temperature:
0 to 60 °C

Media temperature:
0 — 50 °C

Storage temperature:
-10 — 70 °C

Pressure

Operating pressure:
2 — 7 bar
Observe the maximum control pressure of the valve actuator.

Flow rate:
250 Nl/min

Product compliance

Machinery Directive:
2006/42/EC

EMC Directive:
2014/30/EU
(only code N1 and P1)

Low Voltage Directive:
2014/35/EU
(only code M1)

RoHS Directive:
2011/65/EU

Mechanical data

Installation position:
Optional

Weight:
420 g

Protection class:
IP 65 acc. to EN 60529
IP 67 is achieved by piping away the exhausting air

Travel sensor:
5 — 75 mm

Electrical data

Switch type:

Code M1	Code N1	Code P1
Microswitch, change-over contact, SPDT	2-wire NAMUR	3-wire, normally open contact, PNP

Supply voltage:

Switch			Pilot valve
Code M1	Code N1	Code P1	
24 V DC, 250 V AC	8 V DC	10 to 30 V DC	24 V DC (± 10%)

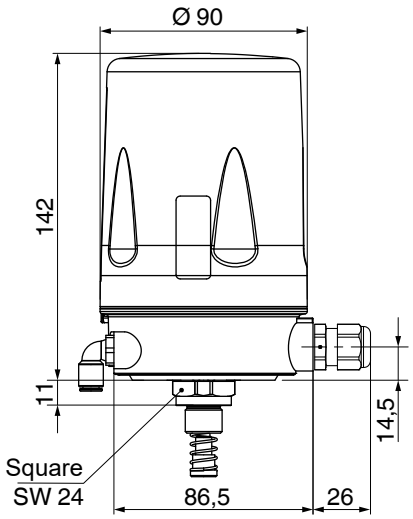
Current consumption:

Switch		
Code M1	Code N1	Code P1
for DC: 5 mA to 5 A for AC: 100 mA to 6 A	≥ 3 mA (undamped) ≤ 1 mA (damped)	0–200 mA

Power consumption: Pilot valve 1.3 W

Electrical connection type:
Connection thread: M16 x 1.5, WAF 19
Cable diameter: 4.5 to 10 mm
Recommended wire cross section: 0.75 mm² x 8 cables

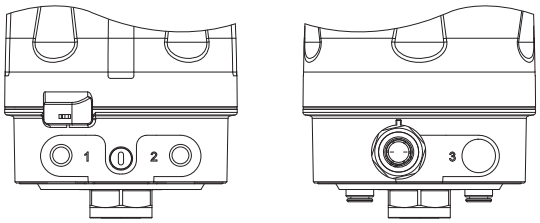
Dimensions



Dimensions in mm

Pneumatic connection

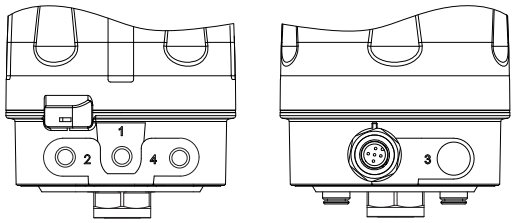
Standard, single acting



Connection	Designation	Connection size
1	Air supply connection P	G 1/8
2	Working connection for process valve A1	G 1/8
3	Venting connection R with silencer (integrated housing ventilation)	G 1/8 [1)]

1) only relevant for exhaust air duct and/or increase of protection class

Standard, double acting



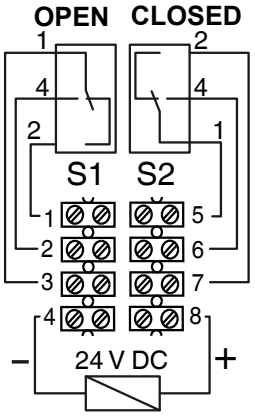
Connection	Designation	Connection size
1	Air supply connection P	G 1/8
2	Working connection for process valve A1	G 1/8
3	Venting connection R with silencer (integrated housing ventilation)	G 1/8 [1)]
4	Working connection for process valve A2	G 1/8

1) only relevant for exhaust air duct and/or increase of protection class

Electrical connection

Microswitch, ordering option Connection diagram code M1

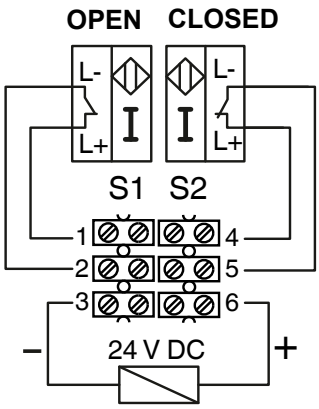
Connection diagram



Pin	Signal name
1	Break contact limit switch OPEN
2	Make contact limit switch OPEN
3	Change-over contact limit switch OPEN
4	GND, solenoid valve actuation
5	Change-over contact limit switch CLOSED
6	Make contact limit switch CLOSED
7	Break contact limit switch CLOSED
8	24 V DC, solenoid valve actuation

2-wire NAMUR proximity switch, ordering option Connection diagram code N1

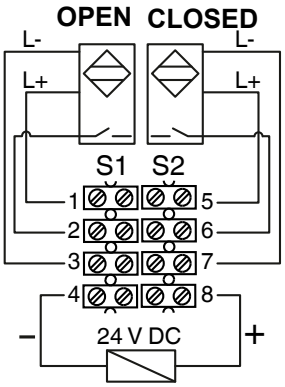
Connection diagram



Pin	Signal name
1	L+, OPEN switch
2	L-, OPEN switch
3	GND, solenoid valve actuation
4	L+, CLOSED switch
5	L-, CLOSED switch
6	24 V DC, solenoid valve actuation

3-wire proximity switch, ordering option Connection diagram code P1

Connection diagram



Pin	Signal name
1	L+, supply voltage
2	Signal output OPEN
3	L-, GND
4	GND, solenoid valve actuation
5	L+, supply voltage
6	Signal output CLOSED
7	L-, GND
8	24 V DC, solenoid valve actuation

GEMÜ Gebr. Müller Apparatebau GmbH & Co. KG
Fritz-Müller-Straße 6-8, 74653 Ingelfingen-Criesbach, Germany
Phone +49 (0) 7940 1230 · info@gemue.de
www.gemu-group.com

Subject to alteration | 04.2024 | 88689654