

## Type 3280, 3285

2-way motor valve

2-Wege-Motorventil

Vanne motorisée 2 voies



Quickstart

We reserve the right to make technical changes without notice.  
Technische Änderungen vorbehalten.  
Sous réserve de modifications techniques.

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Operating Instructions 1902/08\_EU-ML\_00810388 / Original DE

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## 1 QUICKSTART


The quickstart contains the most important information and notes regarding the use of the device. A detailed description of the device can be found in the operating instructions for Type 3280, 3285.

Keep the quickstart in a location which is easily accessible to every user and make it available to every new owner of the device.

### Important Safety Information.

Read Quickstart carefully and thoroughly. Study in particular the chapters entitled “[Basic safety instructions](#)” and “[Authorized use](#)”.

- ▶ Quickstart must be read and understood.

 The operating instructions can be found on the Internet at: [www.burkert.com](http://www.burkert.com)

## 1.1 Definition of terms

In these instructions the term “device” always refers to the motor valve Type 3280 and 3285.

## 1.2 Symbols



### DANGER!

Warns of an immediate danger.

- ▶ Failure to observe the warning may result in a fatal or serious injury.



### WARNING!

Warns of a potentially dangerous situation.

- ▶ Failure to observe the warning may result in serious injuries or death.



### CAUTION!

Warns of a possible danger.

- ▶ Failure to observe this warning may result in a moderate or minor injury.

### NOTE!

Warns of damage to property.



Important tips and recommendations.



Refers to information in these operating instructions or in other documentation.

- ▶ designates an instruction to prevent risks.

→ designates a procedure which you must carry out.

## 2 AUTHORIZED USE

Non-conforming use of the device may be a hazard to people, nearby equipment and the environment.

The motor valve Type 3280 and 3285 is designed for controlling the flow rate of liquid and gaseous media.

- ▶ Do not use the device outdoors.
- ▶ Do not expose the valve to direct sunlight.
- ▶ Use Type 3280 and 3285 only in conjunction with third-party devices and components recommended and authorized by Bürkert.
- ▶ The device must be used in compliance with the characteristics and commissioning and use conditions specified in the contractual documents and in the user manual.
- ▶ Use the motor valve only when in perfect condition and always ensure proper storage, transportation, installation and operation.
- ▶ Only use the device as intended.

## 3 BASIC SAFETY INSTRUCTIONS

These safety instructions do not make allowance for any

- contingencies and events which may arise during the assembly, operation, and maintenance.
- local safety regulations – the operator is responsible for observing these regulations, also in relation to the installation personnel.



### **Risk of injury from high pressure.**

- ▶ Before loosening lines and valves, cut off the pressure and deaerate or drain lines.

### **Risk of injury due to electrical shock.**

- ▶ Before working on the system or device, switch off and isolate the power supply to prevent reactivation of the device.
- ▶ Observe applicable accident prevention and safety regulations for electrical equipment.

### **Risk of burns and risk of fire if used for a prolonged duty cycle through hot device surface.**

- ▶ Keep the device away from highly flammable substances and medium and do not touch with bare hands.

### **General hazardous situations.**

To prevent injuries:

- ▶ Do not use Type 3280 and 3285 in potentially explosive areas.
- ▶ Do not subject the actuator housing and actuator cover to mechanical loading.

- ▶ Do not make any internal or external modifications on the device. Do not paint housing parts or screws.
- ▶ Avoid using the control valve in the vicinity of strong magnetic fields.
- ▶ Secure the device from unintentional actuation.
- ▶ Only trained technicians may perform installation and maintenance work.
- ▶ After an interruption in the power supply, ensure that the process is restarted in a defined or controlled manner.
- ▶ Observe the general rules of technology.

#### **NOTE!**

##### **Electrostatic sensitive components and modules.**

The device contains electronic components which react sensitively to electrostatic discharge (ESD). Contact with electrostatically charged persons or objects are hazardous to these components. In the worst case scenario, they will be destroyed immediately or will fail when energized.

- Observe the requirements in accordance with EN 61340-5-1 to minimize or avoid the possibility of damage caused by sudden electrostatic discharge.
- Do not touch electronic components while the supply voltage is switched on.

## **4 GENERAL INFORMATION**

### **4.1 Contact address**

#### **Germany**

Bürkert Fluid Control Systems  
Sales Center  
Christian-Bürkert-Str. 13-17  
D-74653 Ingelfingen  
Tel. + 49 (0) 7940 - 10 91 111  
Fax + 49 (0) 7940 - 10 91 448  
E-mail: [info@burkert.com](mailto:info@burkert.com)

#### **International**

Contact addresses are found on the final pages of the printed operating manual. You can also find information on the Internet under: [www.burkert.com](http://www.burkert.com)

### **4.2 Warranty**

The warranty is only valid if the device is used correctly in accordance with the specified operating conditions.

### **4.3 Information on the Internet**

The operating instructions and data sheets for Types 3280 and 3285 can be found on the Internet at: [www.burkert.com](http://www.burkert.com)

## 5 PRODUCT DESCRIPTION

### 5.1 Intended use

The motor valve Type 3280 and 3285 is designed for controlling the flow rate of liquid and gaseous media. Only clean, liquid or gaseous medium, which does not react with the bodies and sealing materials, may be controlled.

#### NOTE!

Unsuitable medium will damage the body and the seals.

- Use suitable medium only.
- Check chemical compatibility in individual cases.

### 5.2 Structure of the device

#### 5.2.1 Seat valve Type 3280

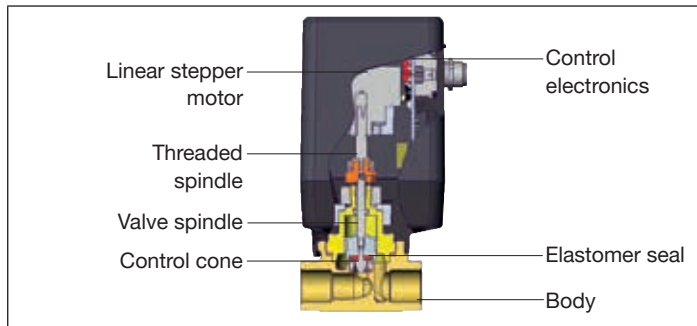


Fig. 1: Electromotive seat valve, Type 3280

#### 5.2.2 Disk valve Type 3285

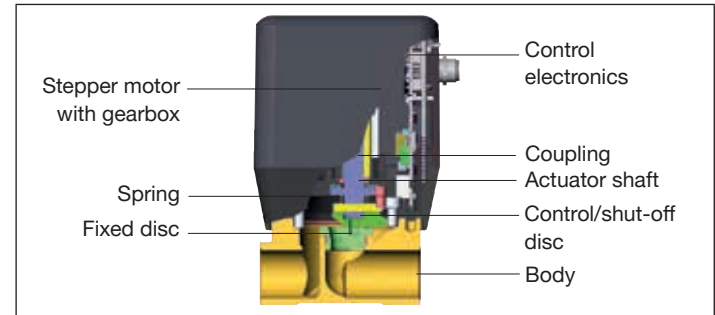


Fig. 2: Electromotive disc valve, Type 3285

### 5.3 Designs

Type	Description	Seat diameter	Version
3280	Electromotive 2-way seat valve	1, 1.5, 2, 3, 4, 5, 6, 8, 10	Standard: · On-Off and Control valve
3285	Electromotive 2-way disc valve	8, 10, 12, 15, 20, 25	Positioner: · Analog and Digital Process controller: · Analog and Digital



There are 2 versions of the positioner and the process controller:

- Analog: Set-point values are transmitted in analog mode via the standard signals,
- Digital: Set-point values are transmitted in digital mode via CANopen/büS.

### 5.3.1 Electric control

The motor valves 3280 and 3285 feature an electromotive actuator with an electric control.



The device version is stated on the type label: G means on-off, 0 resp. H means control valve, C means positioner and D stands for process controller.



The detailed information can be found in the operating instructions at [www.burkert.com](http://www.burkert.com)

## 6 TECHNICAL DATA

### 6.1 Conformity

The motor valve Type 3280 and 3285 is compliant with EU directives as stated in the EU Declaration of Conformity (if applicable).

### 6.2 Standards

The applied standards, which are used to demonstrate compliance with the EU Directives, are listed in the EU type test certificate and/or the EU Declaration of Conformity (if applicable).

### 6.3 Operating conditions



#### WARNING!

**Risk of injury due to malfunction if device used outdoors.**

- ▶ Do not use the device outdoors and avoid heat sources which may cause the permitted temperature range to be exceeded.
- ▶ Protect the device from direct sunlight and humidity.

Ambient temperature	-10...+60 °C (observe derating curve, see chapter "6.5.1") -10...+50 °C Type 3280, Seat diameter 8...10, positioner and process controller restricted
Medium temperature	0...+70 °C
Medium temperature for oxygen	0...+60 °C
Permitted air humidity	< 95 %, non-condensing



## Type 3280, 3285

Technical data

Permitted medium non-aggressive, clean and non-corrosive liquid and gaseous medium which do not attack the bodies and sealing materials. Check resistance in individual cases (see chemical resistance chart at [www.burkert.com](http://www.burkert.com)).  
If medium is contaminated or contain particals, connect a suitable dirt filter upstream.

### 6.4 Mechanical data

Connections

Type 3280 G 1/4, G 3/8, G 1/2, NPT 1/4, NPT 3/8, NPT 1/2 and Cartridge

Type 3285 G 1/2, G 3/4, G 1, NPT 1/2, NPT 3/4 or NPT 1

Weight

Type 3280 ~0.7 kg (with VA body)

Type 3285  
Seat diameter  
8/10 ~0.8 kg (with VA body)  
12/15 ~1.2 kg (with VA body)  
20/25 ~1.5 kg (with VA body)

Dimensions

see data sheet

### 6.5 Fluidic data

Type	Seat diameter	KV <sub>s-value</sub> [m <sup>3</sup> /h] <sup>1)</sup>	Max. pressure for flammable gases [bar]	Max. pressure [bar]
3280	1	0.03	3	See general information on the type label
	1.5	0.065	3	
	2	0.15	3	
	3	0.3	3	
	4	0.5	3	
	5	0.7	3	
	6	0.9	3	
	8	1.5	3	
3285	10	1.9	3	
	8	1.8	3	
	10	2.5	3	
	12	3.9	3	
	15	5.4	3	
	20	8.1	3	
	25	9.6	3	

<sup>1)</sup> The KV<sub>s-value</sub> is a flow rate value for water, measurement at +20 °C and 1 bar pressure difference above the fully opened valve

## 6.6 Electrical data

Electrical data	Standard		Positioner		Process controller	
	On-Off	Control valve	Analog	Digital (Fieldbus)	Analog	Digital (Fieldbus)
Connections	circular plug-in connector (M12 x 1, 8-pole)		circular plug-in connector (M12 x 1, 8-pole)	circular plug-in connector (M12 x 1, 5-pole)	circular plug-in connector (M12 x 1, 8-pole and M12 x 1, 5-pole)	circular plug-in connector (M12 x 1, 5-pole and M12 x 1, 5-pole)
Operating voltage	24 V DC $\pm 10\%$ - residual ripple < 10 %		24 V DC $\pm 10\%$ - residual ripple < 10 %		24 V DC $\pm 10\%$ - residual ripple < 10 %	
Power consumption	Type 3280: max. 8 W, for seat diameter 8...10 and higher pressures max. 12 W		Type 3280: max. 8 W, for seat diameter 8...10 and higher pressures max. 12 W		Type 3280: max. 8 W, for seat diameter 8...10 and higher pressures max. 12 W	
	Type 3285: max. 12 W		Type 3285: max. 12 W		Type 3285: max. 12 W	
Standby power consumption	approx. 1 W		approx. 2 W		approx. 2 W	
Actuating time (0...100 %)	Type 3280: approx. 2.5 s, for setting "Valve actuating speed normal"		Type 3280: approx. 2.5 s, for setting "Valve actuating speed normal"		Type 3280: approx. 2.5 s, for setting "Valve actuating speed normal"	
	Type 3285: approx. 4 s, for setting "Valve actuating speed normal"		Type 3285: approx. 4 s, for setting "Valve actuating speed normal"		Type 3285: approx. 4 s, for setting "Valve actuating speed normal"	
Analog input (Set-point value input)	-	4...20 mA or 0...10 V (adjustable or PWM-signal (800 Hz))	0...20 mA, 4...20 mA, 0...5 V or 0...10 V	-	0...20 mA, 4...20 mA, 0...5 V or 0...10 V	-
Digital input (set-point value input)	0...5 V = log "0", 10...30 V = log "1"	-	-	-	-	-

# Type 3280, 3285

Technical data

Electrical data	Standard		Positioner		Process controller	
	On-Off	Control valve	Analog	Digital (Fieldbus)	Analog	Digital (Fieldbus)
Analog input (actual value input)	-	-	-	-	0...20 mA, 4...20 mA, 0...5 V or 0...10 V	0...20 mA, 4...20 mA, 0...5 V, 0...10 V or Frequency: Measuring range 5...2000 Hz Input resistance > 22 kΩ Input signal > 10 V <sub>ss</sub> Square waveform
Input impedance for analog input	-	60 Ω at 4...20 mA / resolution 40 μA 22 kΩ at 0...10 V / resolution 20 mV	60 Ω at 0...20 mA and 4...20 mA / resolution 40 μA 22 kΩ at 0...5 V and 0...10 V / resolution 20 mV	-	60 Ω at 0...20 mA and 4...20 mA / resolution 40 μA 22 kΩ at 0...5 V and 0...10 V / resolution 20 mV	-
Analog output (actual value output)	-	-	0...20 mA, 4...20 mA, 0...5 V, 0...10 V (adjustable)	-	0...20 mA, 4...20 mA, 0...5 V, 0...10 V (adjustable)	-
Analog output	-	-	max. current for voltage output 10 mA max. load for current output 560 Ω	-	max. current for voltage output 10 mA max. load for current output 560 Ω	-

Electrical data	Standard		Positioner		Process controller	
	On-Off	Control valve	Analog	Digital (Fieldbus)	Analog	Digital (Fieldbus)
Digital output	active, max. 100 mA current limitation, PNP, switching voltage = $U_{\text{supply}} - 1 \text{ V}$ short-circuit proof		-	-	-	-
Limit switch	contactless end position detection		-	-	-	-
Position measuring system	-		non-contact, high resolution, and thus wear-free position measuring system		non-contact, high resolution, and thus wear-free position measuring system	
Parameterization interface	-		büS or CANopen <sup>2)</sup>	-	büS or CANopen <sup>2)</sup>	-
Communications interface	-		-	CANopen/büS	-	CANopen/büS
Duty cycle	as per EN 60034-1: S3 50 %, depending on the operating conditions. Observe derating curve		as per EN 60034-1: S3 50 %, depending on the operating conditions. Observe derating curve		as per EN 60034-1: S3 50 %, depending on the operating conditions. Observe derating curve	

<sup>2)</sup> Analog version: 3.3 V signal voltage, reliable communication is reduced as the line length and transmission rate increase.

### 6.6.1 Derating

The maximum duty cycle of the valve depends on the maximum ambient temperatures and the current required by the stepper motor.



The duty cycle does not refer to the duty cycle of the device but to the duty cycle of the motor. This is not switched on unless the valve is to move. Frequent set-point value changes will drastically increase the duty cycle of the motor.

The derating curve can be used to indicate the maximum duty cycle permissible at the corresponding ambient temperature. A lower duty cycle must be selected for high medium temperatures. By switching on the low power function a higher duty cycle can be achieved (Warning: during low power function, max medium pressure is reduced; if violated Valve will not move or malfunction).

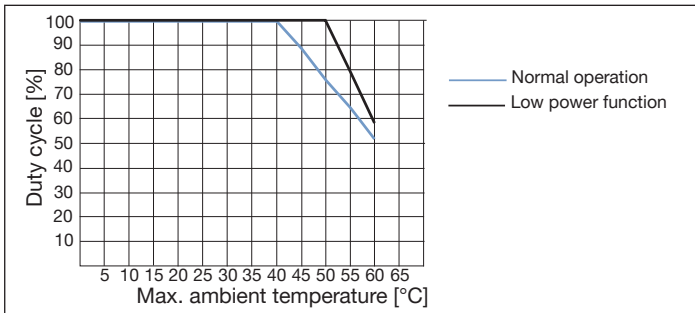


Fig. 3: Derating curve for control standard, Type 3280, seat diameter 1...6 < 6 bar

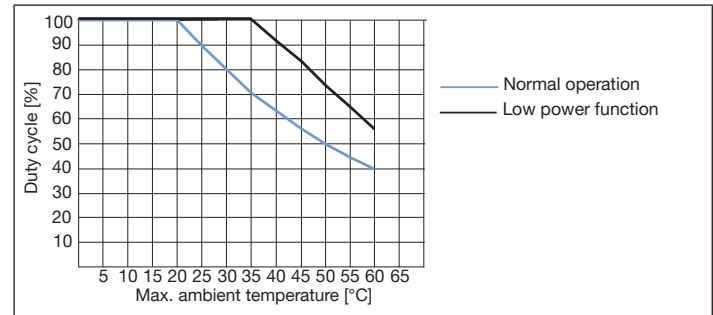


Fig. 4: Derating curve for control standard, Type 3285, seat diameter 8...25

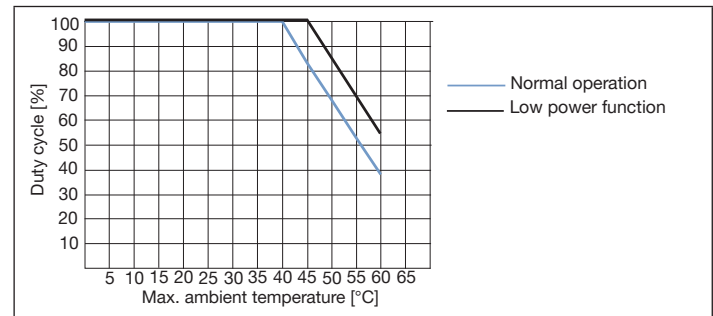


Fig. 5: Derating curve for Type 3280 seat diameter 1...6 Positioner and process controller and seat diameter 8, 10 Standard and seat diameter 1...6 > 6 bar, Standard

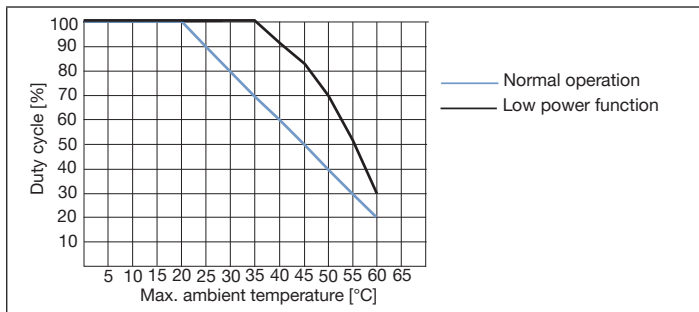


Fig. 6: Derating curve for Type 3285 Seat diameter 8...25 Positioner and process controller and Type 3280 Seat diameter 8...10 Positioner and process controller (only up to 50 °C)



Setting options are described in the operating instruction under: [www.burkert.com](http://www.burkert.com)

## 6.7 Type label

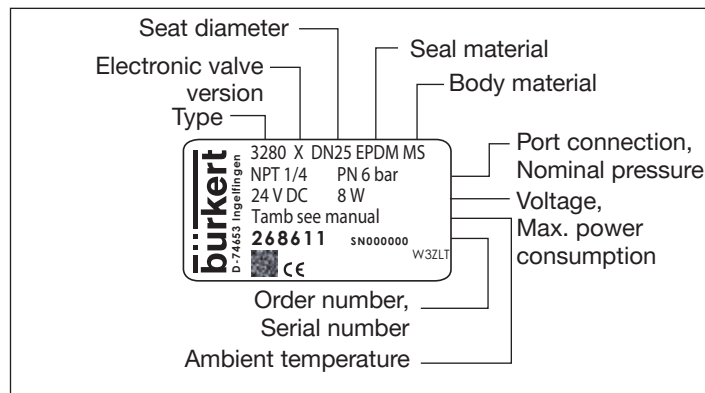


Fig. 7: Description of the type label (example)

## 7 INSTALLATION



### WARNING!

Risk of injury from improper installation.

- ▶ Installation may be carried out only by trained technicians and with the appropriate tools!
- ▶ Secure system against unintentional activation.
- ▶ Following installation, ensure a controlled or defined restart.

### 7.1 Fluidic installation



### DANGER!

Risk of injury from high pressure in the system or device.

- ▶ Before working on the system or device, cut off the pressure and deaerate lines.

**Installation position:** any position, preferably with actuator above and installed vertically with the actuator cover upwards

- Clean pipelines and port connections.
- Install a dirt filter before the valve inlet ( $\leq 0.3$  mm).

### NOTE!

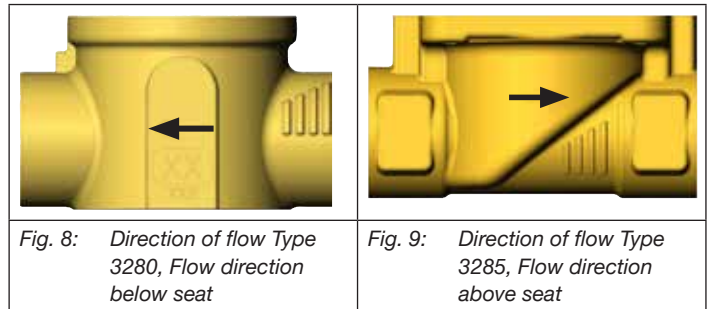
Caution risk of breakage.

- Do not use plastic actuator housing as a lever arm.
- Hold the device with a suitable tool (open-end wrench) on the body and screw into the pipeline.

→ Observe flow direction. The arrow on the body indicates the direction of flow.

Type 3280: Flow direction below seat, is always closed against the medium flow;

Type 3285: Flow direction above seat, is always closed with the medium flow.



## 7.2 Electrical installation



### DANGER!

Risk of injury due to electrical shock.

- ▶ Before working on the system or device, switch off and isolate the power supply to prevent reactivation of the device.
- ▶ Observe applicable accident prevention and safety regulations for electrical equipment.



None of the electrical inputs and outputs of the device are galvanically isolated from the supply voltage.

### NOTE!

Damage to the motor valve due to incorrect supply voltage.

- The supply voltage must correspond with the voltage indicated on the type label.
- If the ground connection is not connected, the conditions of the EMC Law will not be met.

→ Connect the motor valve according to the table.  
When the supply voltage is applied, the motor valve is ready for operation.

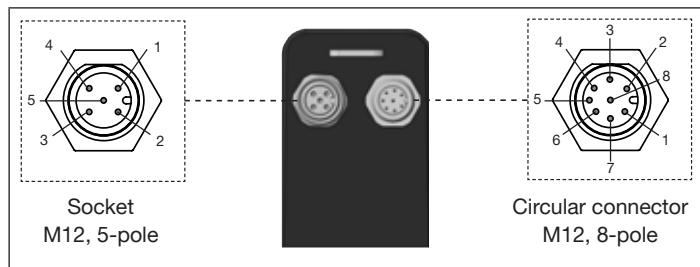


Fig. 10: Designation of the circular connector, analog version

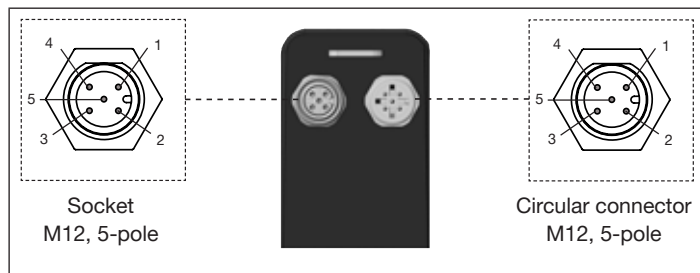


Fig. 11: Designation of the circular connector, digital version



The threaded sleeve of the M12 circular connector is connected to the valve body. Connect the body to a suitable ground connection. To ensure electromagnetic compatibility (EMC), ensure that the cable is as short as possible and the cross-section is as large as possible.



**7.2.1 Pin assignment for on-off valve, circular connector M12, 8-pole**

Pin	Configuration	External circuit
1	Supply +	24 V DC $\pm$ 10 %, max. residual ripple 10 %
2	Supply GND	24 V DC GND
3	do not connect!	Electrically insulate wire on connection line
4	do not connect!	Electrically insulate wire on connection line
5	do not connect!	Electrically insulate wire on connection line
6	Digital input +	0...5 V (log. 0), 10...30 V (log. 1), not galvanically isolated
7	Digital output	0...5 V (log. 0), 10...30 V (log. 1), not galvanically isolated
8	Signal GND	Signal GND
Body	Shielding	-

**7.2.2 Pin assignment for control valve, circular connector M12, 8-pole**

Pin	Configuration	External circuit
1	Supply +	24 V DC $\pm$ 10 %, max. residual ripple 10 %
2	Supply GND	24 V DC GND
3	do not connect!	Electrically insulate wire on connection line
4	do not connect!	Electrically insulate wire on connection line
5	do not connect!	Electrically insulate wire on connection line
6	Set-point value input +	4...20 mA / 0...10 V, not galvanically isolated, PWM-signal (800 Hz)
7	Digital output	0...5 V (log. 0), 10...30 V (log. 1), not galvanically isolated
8	Signal GND	Signal GND
Body	Shielding	-

## 7.2.3 Pin assignment for the positioner

### 7.2.3.1 Analog version, circular connector M12, 8-pole

Pin	Configuration	External circuit
1	Supply +	24 V DC $\pm 10\%$ , max. residual ripple 10 %
2	Supply GND	24 V DC GND
3	CAN low	CAN low*
4	CAN high	CAN high*
5	CAN GND	CAN GND*
6	Set-point value input +	0...20 mA / 4...20 mA / 0...5 V / 0...10 V, not galvanically isolated
7	Actual value output	0...20 mA / 4...20 mA / 0...5 V / 0...10 V, not galvanically isolated
8	Signal GND	Signal GND
Body	Shielding	-

\* 3.3 V signal voltage, reliable communication decreases as the line length and transfer rate increases.

### 7.2.3.2 Digital version, circular connector M12, 5-pole

Pin	Configuration	External circuit
1	Shielding	
2	Supply +	24 V DC $\pm 10\%$ , max. residual ripple 10 %
3	GND	GND
4	CAN high	CAN high
5	CAN low	CAN low

## 7.2.4 Pin assignment for process controller

### 7.2.4.1 Analog version, circular connector M12, 8-pole

Pin	Configuration	External circuit
1	Supply +	24 V DC $\pm 10\%$ , max. residual ripple 10 %
2	Supply GND	24 V DC GND
3	CAN low	CAN low*
4	CAN high	CAN high*
5	CAN GND	CAN GND*
6	Set-point value input +	0...20 mA / 4...20 mA / 0...5 V / 0...10 V, not galvanically isolated
7	Actual value output	0...20 mA / 4...20 mA / 0...5 V / 0...10 V, not galvanically isolated
8	Signal GND	Signal GND
Body	Shielding	-

\* 3.3 V signal voltage, reliable communication decreases as the line length and transfer rate increases.

### 7.2.4.2 Analog version, socket M12, 5-pole

Pin	Configuration	External circuit
1	Sensor supply +	24 V DC $\pm 10\%$ , max. residual ripple 10 %
2	Actual value input sensor+	0...20 mA / 4...20 mA / 0...5 V / 0...10 V
3	GND	GND
4	GND	GND (Bridge to GND Pin 3)

5	Not assigned	Not assigned
Body	Shielding	-

7.2.4.3 Digital version, circular connector M12, 5-pole

Pin	Configuration	External circuit
1	Shielding	
2	Supply +	24 V DC $\pm$ 10 %, max. residual ripple 10 %
3	GND	GND
4	CAN high	CAN high
5	CAN low	CAN low

7.2.4.4 Digital version, socket M12, 5-pole

Pin	Configuration	External circuit
1	Sensor supply +	24 V DC $\pm$ 10 %, max. residual ripple 10 %
2	Actual value input sensor +*	0...20 mA / 4...20 mA / 0...5 V / 0...10 V / Frequency (Pulse +)
3	GND	GND
4	GND	GND (Bridge to GND Pin 3)
5	Not assigned	Not assigned
Body	Shielding	-

\* A PNP sensor must be used

7.3 Settings of DIP switches (analog version only)



**DANGER!**

Risk of injury due to electrical shock.

- ▶ Before opening the actuator cover, switch off and isolate the power supply to prevent reactivation of the device.
- ▶ Observe applicable accident prevention and safety regulations for electrical equipment.

The DIP switches are accessible on the electronic PCB by opening the actuator cover.

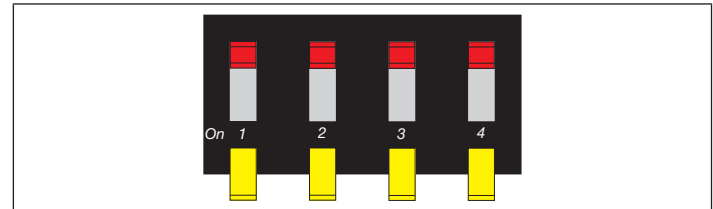


Fig. 12: Settings of DIP switches for Type 3280 and 3285



Further adjustments can be made. Setting options are described in the operating instruction.

### 7.3.1 Description of the function

DIP switch	Position	On-Off	Control valve	Positioner and process controller version (applies to analog version only)
1	OFF	Normal operating direction of the set-point value 10...30 V = valve opens	Normal operating direction of the set-point value (e.g. set-point value 4...20 mA corresponds to position 0...100 % or PWM duty cycle 0...100 % corresponds to position 0...100 %), increasing	no function
	ON	Reversal of the operating direction of the set-point value 10...30 V = valve closes	Reversal of the operating direction of the set-point value (e.g. set-point value 20...4 mA corresponds to position 0...100 % or PWM duty cycle 100...0 % corresponds to position 0...100 %), decreasing	no function

2	OFF	no function	Set-point value input 4...20 mA	no function
	ON	no function	Set-point value input 0...10 V	no function
3	OFF	Valve actuating speed: normal mode		büS
	ON	Valve actuating speed: slow mode		CANopen
4	OFF	Low power function: off		no function
	ON	Low power function: on, lower force, less heat generation in the valve		no function



The change in function does not become effective until the supply voltage is applied again. A more precise description of the functions can be found in operating instructions.

### 7.4 Accepting and saving SIM card data (digital version only)

The optionally available SIM card can be used to save and transfer device-specific values and user settings to a different device.

#### NOTE!

**Do not use any commercially available SIM cards for the device.**

The inserted SIM card is a special industrial version which is particularly durable and temperature-resistant. Order the SIM card via your Bürkert sales department only.



The detailed description and procedure for inserting the SIM card can be found in operating instruction.

## 7.5 LED display

With the aid of the positioner and process controller version, it is possible to use the Bürkert Communicator Software to toggle the LED colors between standard and NAMUR NE 107.

### 7.5.1 Display elements standard

LED color	Status	Display
white	continuously on	Normal operation
yellow	continuously on	Valve completely open
	flashing, color alternates with the colors of the valve position	Out of specification: Ambient conditions or process conditions for the device are outside the specified area. Internal device diagnostics point to problems in the device or the process properties
green	continuously on	Valve closed
red	flashing, color alternates with the colors of the valve position	Error, see chapter <a href="#">“9.3 Troubleshooting”</a>

white, green or red	flashing	Is used to identify a device in the büS network. The „flashing“ status is started in the Bürkert Communicator Software when selecting the device
orange	flashing, color alternates with the colors of the valve position	Function check: Work is being carried out on the device; controlled operation is therefore temporarily not possible
no color or LED off	-	Valve without power supply

### 7.5.2 Display elements NAMUR NE 107

LED color	Color code	Status	Display
green	1	continuously on	Diagnostics active: Device is operating faultlessly
red	5	continuously on	Failure, error or fault
green or red	1 or 5	flashing	Is used to identify a device in the bÜS network. The „flashing“ status is started in the Bürkert Communicator Software when selecting the device
orange	4	continuously on	Function check: The device is being worked on; controlled operation is therefore temporarily not possible
yellow	3	continuously on	Outside the specification: The ambient conditions or process conditions for the device are outside the specified area. Device internal diagnostics point to problems in the device or with the process properties

no color or LED off	-	-	Valve without power supply
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## 8 START-UP



### WARNING!

Danger due to improper operation.

Improper operation may result in injuries as well as damage to the device and the area around it.

- ▶ The operating personnel must know and have understood the contents of the operating instructions.
- ▶ Observe the safety instructions and intended use.
- ▶ Only adequately trained personnel may operate the device.



Before start-up, carry out fluid and electrical installation of the valve.

### 8.1 Functions

Motor valve Type 3280 and 3285 has different functions which can be configured and parametrized via the DIP switches and communications software.



A more precise description of the functions can be found in operating instructions under: [www.burkert.com](http://www.burkert.com)

## 9 MAINTENANCE, TROUBLESHOOTING



### WARNING!

Risk of injury from improper maintenance work.

- ▶ Maintenance may be carried out only by trained technicians and with the appropriate tools.
- ▶ Secure system against unintentional activation.
- ▶ Following maintenance, ensure a controlled restart.

### 9.1 Maintenance

The motor valve Type 3280 and 3285 is maintenance-free under normal conditions.

### 9.2 Cleaning

Use the normal cleaning agents to clean the Type 3280 and 3285. Use no alkaline cleansing agents, as these have a damaging effect on the materials used.

### 9.3 Troubleshooting

In malfunctions occur, check:

- the port connectors,
- whether the operating pressure is within the permitted range,
- the power supply and the standard signals.

Problem	Possible cause	Remedial action
LED is not lit	No power supply	Check the electrical connections
LED flashes sporadically white	The power supply collapses periodically - device software reboots each time	Select power supply with adequate power Check cable for possible loose connections
LED flashes red or LED illuminates red	The residual ripple of the supply voltage is too high	Use power supply with a smooth output voltage at the required power After eliminating the fault, restart the device for normal operating (isolate from power supply)
	Temperature too high	Observe max. ambient temperature / medium temperature; if required reduce duty cycle (see Derating curve) When activating standard: After eliminating the fault to cancel the red flashing LED, restart the device (isolate from power supply) When activating position controller and process controller: If the device temperature drops below the set limit after cooling, the fault is automatically deleted by the device
	Standard signal is < 4 mA; cable break	Check cable for possible loose connections
	Fault with position measuring system	Check cables in the device for possible loose connections
	Communications failure bÜS/CANopen	Check cables for possible loose connections
No flow rate available	The set-point value is below the limit for the zero point shut-off	Increase set-point value
Valve opens even though it should close	Operating direction of the set-point value has been set incorrectly	Change direction of the set-point
Motor is making an unusual droning noise	Gearbox or motor blocked	Return device to the manufacturer to have the fault repaired



## Type 3280, 3285

Maintenance, troubleshooting

Valve is not opening or closing correctly	Low power function activated; motor torque for medium pressure too low	Deactivate low power function
Valve is not sealed	Dirt between seal and valve seat	Install dirt filter and return device to the manufacturer for cleaning

## 10 TRANSPORT, STORAGE, DISPOSAL

### NOTE!

#### Transport damage.

Inadequately protected devices may be damaged during transportation.

- Protect the device against moisture and dirt in shock-resistant packaging during transportation.
- Prevent the temperature from exceeding or dropping below the permitted storage temperature.
- Using protective caps, protect the electrical interfaces from damage.

#### Incorrect storage may damage the device.

- Store the device in a dry and dust-free location!
- Storage temperature: -20...+70 °C.

#### Damage to the environment caused by parts contaminated with medium.

- Dispose of the device and packaging in an environmentally friendly manner.
- Observe applicable disposal and environmental regulations.



Observe the national waste disposal regulations.



[www.burkert.com](http://www.burkert.com)