Type 3320, 3321, 3323, 3324, 3325, 3360, 3361, 3363, 3364, 3365, AE33-AG2, AE33-AG3
Electromotive process valve

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Important information for devices with UL approval

1 Definition of terms

- Device: The term “Device” used in these instructions applies to the types described in these instructions:
  Type 3320, electromotive 2/2-way angle seat valve
  Type 3321, electromotive 2/2-way globe valve
  Type 3323, electromotive diaphragm valve
  Type 3324, electromotive T-diaphragm valve
  Type 3325, electromotive 2/2-way tank bottom diaphragm valve
  Type 3360, electromotive angle seat control valve
  Type 3361, electromotive globe control valve
  Type 3363, electromotive diaphragm valve
  Type 3364, electromotive T-diaphragm valve
  Type 3365, electromotive 2/2-way tank bottom diaphragm valve
- The terms “Ex”, “hazardous locations” and “HazLoc” refer to potentially explosive atmospheres and hazardous (classified) locations.
- The term “büS” (Bürkert system buS) used in this manual stands for the communication buS developed by Bürkert, based on the CANopen protocol.
- AG2: Actuator size 2 with a nominal force of 1.300 or 2.500 N for seat size 3...50
  AG3: Actuator size 3 with a nominal force of 7.700, 10.000 or 11.500 N for seat size 40...100
- In these instructions, the unit bar stands for relative pressure. The absolute pressure is stated separately in bar(abs).

2 Intended use

Improper use of the electromotive process valves may be dangerous for people, nearby equipment and the environment.

The electromotive process valve is designed to control the flow of liquid and gaseous media.

- Standard devices must not be used in the potentially explosive area or hazardous classified locations.
- Only devices marked with Class I, Division 2, Groups A, B, C and D; Class II, Div.2, Group F and G; Class III, Division 1 may be used in hazardous or non hazardous locations (Code PU23). For details see chapter 9
- The use of alkaline cleaning agents is not permitted for cleaning the surface of the device.
- If the position of the valve has a bearing on safety concerns in the event of a power failure: Only use devices that have a SAFEPOS energy-pack (optional energy-pack).
- When using the device, observe the authorised data, operating conditions and deployment conditions specified in the contract documents and in the operating instructions.
- Protect device from harmful environmental influences! (e.g. radiation, air humidity, fumes). For any matters requiring clarification, contact the relevant sales department.

Use the device

- Use only in conjunction with third-party devices and components recommended or approved by Bürkert.
- only when in perfect condition and always ensure proper storage, transportation, installation and operation.
- only as intended.

3 Basic safety instructions

These safety instructions do not take into account any unforeseen circumstances or events that occur during installation, operation and maintenance. The operator is responsible for observing the location-specific safety regulations, also with reference to personnel.

Risk of injury from high pressure.

- Before working on the system or device, switch off the pressure and vent or empty the lines.

Danger of burns and risk of fire.

Following an extended duty cycle or as a result of a hot medium, the surface of the device may become hot.

- Only touch the device when wearing protective gloves.
- Keep the device away from highly flammable substances and media.

Risk of crushing by mechanically powered parts.

- Installation work on the control cone, diaphragm and valve body must only be performed while electrically isolated.
- For devices with SAFEPOS energy-packs: Ensure that the SAFEPOS energy-pack is fully discharged. Wait until the LED ring is no longer lit and ensure that the LED status is not in “LED off” mode.
- Do not reach into the openings of the valve body.

Risk of uncontrolled process in the event of a power failure.

- For devices without the optional SAFEPOS energy-pack, the valve will not stop in a defined position in the event of a power failure.
- If the position of the valve has a bearing on safety concerns in the event of a power failure: Only use devices that have a SAFEPOS energy-pack (optional energy-pack).
- Select a valve position that is safe in respect of the process in the SAFEPOS menu.

Danger due to loud noises.

- Depending on the operating conditions, the device may generate loud noises. More detailed information on the likelihood of loud noises is available from the relevant sales office.
- Wear hearing protection when in the vicinity of the device.

Discharge of medium if packing gland worn.

- Relief bore must be regularly inspected for any medium leakages.
- If medium is leaking from the relief bore, the packing gland must be replaced (see chapter “Maintenance”).
- If the medium is hazardous, secure the area around the leakage to prevent risks.

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General hazardous situations.
To prevent injuries, observe the following:

- In potentially explosive environments the device must only be used in accordance with the specifications on the separate “Hazardous Locations” type label.
- In potentially explosive atmospheres, only use devices with a separate “Hazardous Locations” type label for use in such atmospheres.
- Do not make any internal or external changes to the device and do not subject it to mechanical stress.
- Transport, install and dismantle a heavy device only with the aid of a second person and using suitable equipment.
- Secure the device against unintentional activation.
- Only trained technicians perform installation and maintenance work.
- Note the system-specific safety regulations.
- Following an interruption in the power supply, ensure that the process is restarted in a controlled manner. Observe the sequence.
  1. Connect supply voltage.
  2. Charge the device with medium.
- Observe general engineering standards & rules.
- The valves must be installed according to the regulations applicable in the country of use.

4 Operating conditions

Degree of protection:	(verified by Bürkert/not evaluated by UL) IP65 and 67 according to IEC 529, EN 60529, NEMA 250 4x (not guaranteed if installation position: actuator at bottom)
Altitude:	Up to 2.000 m above sea level
Min. ambient temperature:	AG2: –25 °C AG3: –10 °C
Max. ambient temperature:	up to +65 °C (depending on device variant, see temperature derating)
Max. medium temperature	up to +230°C (depending on the specific device variant, particularly in the case of diaphragm valves. Please refer to the corresponding operating instructions and datasheet on the Bürkert website)
Max. medium temperature (in hazardous locations):	+150 °C (seat valve) +130 °C (diaphragm valve)

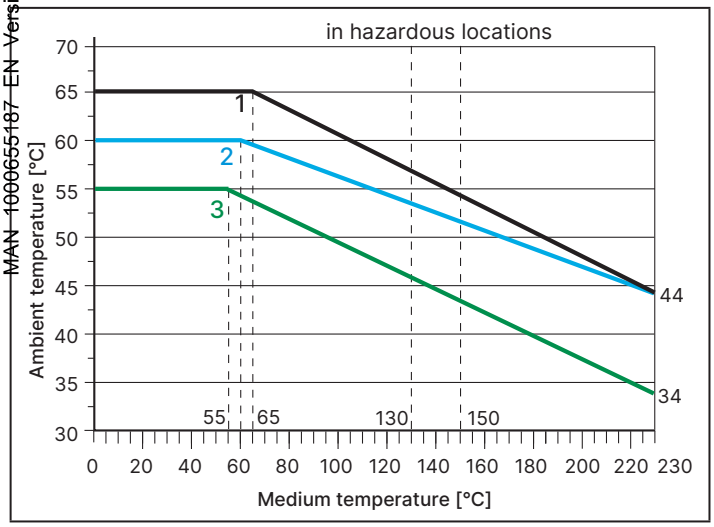

Fig. 1: Temperature diagram AG2

No.	Description
1	Device without module
2	Devices with display module
3	Devices with SAFEPOS energy-pack* or fieldbus gateway, with or without display module
* The service life of the SAFEPOS energy-pack is dependent on the medium temperature and ambient temperature (see chapter “Electrical data”).	

Tab. 1: Description of temperature diagram AG2

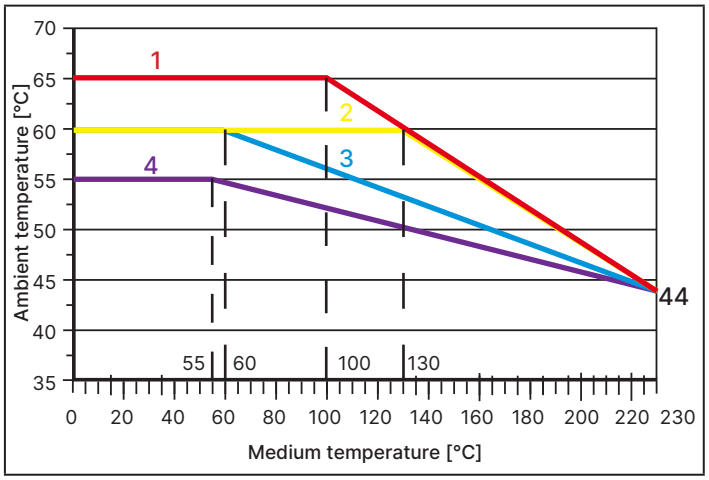

Fig. 2: Temperature diagram AG3

No.	Description
1	Device without module
2	Devices with SAFEPOS energy-pack*
3	Devices with display module with/without SAFEPOS energy-pack*
4	Devices with fieldbus gateway with/without display module with/without SAFEPOS energy-pack*
* The service life of the SAFEPOS energy-pack is dependent on the medium temperature and ambient temperature (see chapter “Electrical data”).	

Tab. 2: Description of temperature diagram AG3

5 Electrical data

DANGER!

Electrical shock.
Protection class III is only guaranteed when using an SELV or PELV power supply unit.

Protection class:	3 according to DIN EN 61140 (VDE 0140)
Electrical connections	
Devices with Position controller or On/Off function:	Terminal strip with cable gland, 2 x M20 (only AG2) or 2 circular plug-in connectors M12, 5-pin and 8-pin
Devices with process control function:	Terminal strip with cable gland, 3 x M20 (only AG2) or circular plug-in connectors 2 x, 5-pin and 1 x M12, 8-pin

WARNING!

Consider voltage drop on power supply cable.
Example: with an operating current of 3 A and a cable cross-section of 0.34 mm², a copper cable can be a maximum of 8 metres long.

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Operating voltage:		24 V ⎓ ± 10% max. Residual ripple 10%
Operating current [A]*:		
	Typical (without charging current SAFEPOS energy-pack)	Maximum (to design the power supply)
AG2	2 A	3 A
AG3	3.5 A	5 A

The operating current can be reduced if necessary:
1. Reduce the control speed X.TIME.
2. Devices with SAFEPOS energy-pack: Set “Control if ready” function. Also refer to operating instructions.

Standby consumption (electronics assembly without actuator) [W]*:
1...5 (depending on the level of disassembly)

* All values relate to a supply voltage of 24 V ⎓ at an ambient and medium temperature of 25 °C.

6 Electrical installation

The electromotive process valve is available with two connector options:

- With a circular plug-in connector (multi-pin variant)
- Cable gland with connection terminals (only AG2)

Signal values	
Operating voltage	24 V ⎓
Set-point value	0...20 mA; 4...20 mA, 0...5 V; 0...10 V

Electrical installation with circular plug-in connector

WARNING!

Risk of injury due to improper installation.

- Installation may be carried out by authorised technicians only and with the appropriate tools.
- Observe general engineering standards & rules during installation.

Risk of injury due to unintentional activation of the system and uncontrolled restart.

- Secure the system against unintentional activation.
- Following installation, ensure a controlled restart.

Use of set-point input 4...20 mA

If several devices are connected in series and the electrical power supply for a device in this connected series fails, the input of the failed device becomes highly resistive. As a result, the 4...20 mA standard signal fails.

Choice of connection line:
When choosing the length and cross-section of the individual wires, take into account the voltage drop in relation to the maximum supply current.

For devices with a circular plug-in connector used in hazardous locations, use only the mating connector specified for the relevant device type in chapter „9 Additional information for use in hazardous locations“

Description of circular plug-in connectors

AG2 variant

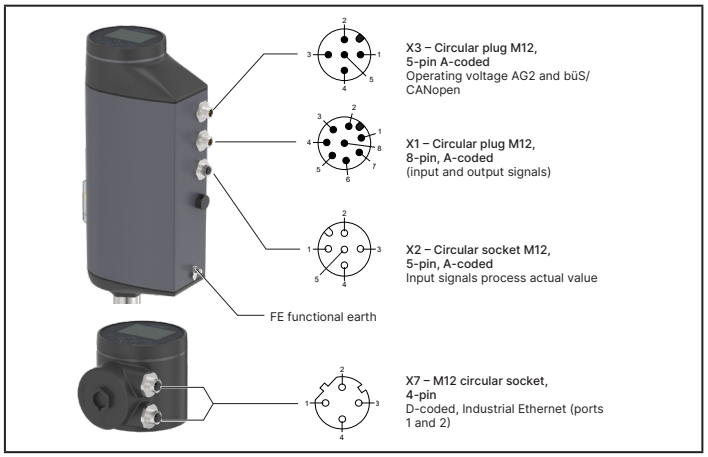

Fig. 3: Description of circular plug-in connector AG2

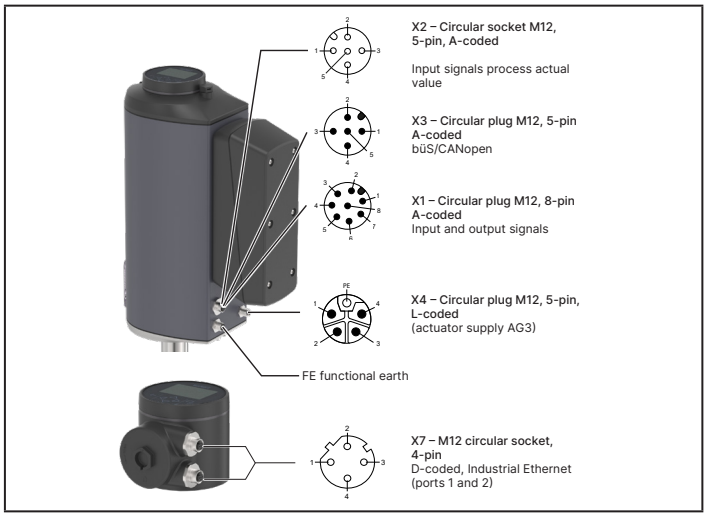

Fig. 4: Description of circular plug-in connector AG3

Circular plug-in connector	AG2			AG3		
	Electric variant			Electric variant		
	Analogue (Service -büS)	with fieldbus gateway	büS/ CANopen	Analogue (Service- büS)	with fieldbus gateway	büS/ CANopen
X1	X	-	-	X	-	-
X2	optional for devices with process control function					
X3	X	X	X	-	X	X
X4	-	-	-	X	X	X
X7	-	X	-	-	X	-

Tab. 3: Use of circular plug-in connector AG2/AG3

→ Connect the device in accordance with the tables.

→ Perform the necessary basic configuration and adjustments for the electromotive valve after the operating voltage has been established.

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X1 – Circular plug M12, 8-pin, A-coded, input and output signals

For control valves type 336x:

Pin	Wire colour*	Layout (from device perspective)
Input signals from control centre (e.g. PLC)		
8	red	Set-point value + (0/4...20 mA or 0...5/10 V) for operating voltage electrically isolated
7	blue	Set-point value –
1	white	Digital input + < 0...5 V (log. 0) / 10...30 V (log. 1)
Output signals to control centre (e.g. PLC) only required with analogue output and/or digital output option		
6	pink	Analogue output + (0/4...20 mA or 0...5/10 V)
5	grey	Analogue output –
4	yellow	Digital output 1 (24 V/0 V)
3	green	Digital output 2 (24 V/0 V)
2	brown	Digital inputs and digital outputs GND
* The specified wire colours refer to the connection cable, which is available as an accessory with ID No. 919061.		

Tab. 4: X1 – Circular plug M12, 8-pin, A-coded, input and output signals

For On/Off valves type 332x:

Pin	Wire colour*	Layout (from device perspective)
Input signals from control centre (e.g. PLC)		
1	white	Digital input + < 0...5 V (log. 0) / 10...30 V (log. 1)
Output signals to control centre (e.g. PLC) only required with analogue output and/or digital output option		
4	yellow	Digital output 1 (24 V/0 V)
3	green	Digital output 2 (24 V/0 V)
2	brown	Digital inputs and digital outputs GND
* The specified wire colours refer to the connection cable, which is available as an accessory with ID No. 919061.		

Tab. 5: X1 – Circular plug M12, 8-pin, A-coded, input and output signals

X2 – M12 circular socket, 5-pin, A-coded input signals process actual value (only with process control function)

Signal type*	Pin	Wire colour	Assignment	Device end	External circuit
4...20 mA - internally supplied	1	brown	+24 V supply transmitter	1	Transmitter
	2	white	PV1: not used	2	
	3	blue	GND** (identical to GND operating voltage)	3	GND
	4	black	PV2: Output from transmitter	4	I
	5	grey	PV3:** Bridge to GND (GND from 3-wire transmitter)	5	
4...20 mA - externally supplied	1	brown	not used		
	2	white	not used		
	3	blue	not used		
	4	black	PV2: Process actual +	4	4...20 mA
	5	grey	PV3: Process actual –	5	GND 4...20 mA
Frequency - internally supplied	1	brown	+24 V supply sensor	1	+24 V
	2	white	PV1: Cycle input +	2	Cycle +
Frequency - internally supplied	3	blue	GND	3	GND (identical to GND operating voltage)
	4	black	PV2: not used		
	5	grey	PV3: Bridge to GND (GND from 3-wire transmitter)	5	Cycle –
Frequency - externally supplied	1	brown	not used	5	
	2	white	PV1: Cycle input +	2	Cycle +
	3	blue	not used		
	4	black	PV2: not used		
	5	grey	PV3: Cycle input –	5	Cycle –
Pt 100 (see note below)	1	brown	not used		
	2	white	PV1: Process actual 1 (power supply)	2	Pt 100
	3	blue	not used	4	
	4	black	PV2: Process actual 2 (compensation)	5	
	5	grey	PV3: Process actual 3 GND		
*Configurable via software: Inputs/outputs → PV → ANALOG.type (signal source: PV.source → Analogue).					
** for AG2 in case of 2-wire transmitter: Pin 3 and 5 have to be bridged at the device end.					

Tab. 6: X2 – M12 socket, 5-pin, A-coded input signals process actual value (only on devices with process control function)

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X3 – Circular plug M12, 5-pin, büS/CANopen network and operating voltage AG2

Electrical installation with or without büS network:
In order to be able to use the büS network (CAN interface), a 5-pin circular plug and a shielded 5-wire cable must be used.
If the büS network is not used, a 4-pin circular plug can be used as a counterpart.

Pin	Wire colour		Layout (from device perspective)
	without büS network 4-pin connection*	with büS network**	
1	-	CAN shield/shielding	
2	white	red	24 V ⎓ ± 10% max. Residual ripple 10%
3	blue	black	GND/CAN_GND
4	-	white	CAN_H
5	-	blue	CAN_L

* The specified wire colours relate to the 4-pin M12 connection cable, which is available as an accessory with ID No. 918038.

**The specified wire colours relate to the büS cable, which is available as an accessory. See the „cabling guideline“ on our website country.burkert.com.

Tab. 7: X3 – Circular plug M12, 5-pin, büS/CANopen network and operating voltage AG2

X3 - Circular plug M12, 5-pin, büS/CANopen network AG3

In the version with a fieldbus gateway, this connection can optionally be used for a service büS or a büS-capable, externally supplied sensor.

Pin	Wire colour with büS network*	Layout (from device perspective)
1	CAN shield / shielding	
2**	red	+24 V ⎓ ± 10 % max. Residual ripple 10 %
3**	black	GND / CAN_GND
4	white	CAN_H
5	blue	CAN_L

*The specified wire colours relate to the büS cable, which is available as an accessory. See the „cabling guideline“ on our website country.burkert.com.

** This system supply must be galvanically isolated from the actuator supply.

Tab. 8: X3 – Circular plug M12, 5-pin, büS/CANopen network AG3

X4 – Circular plug M12, L-coded, 5-pin, actuator supply AG3

Pin	Wire colour*	Assignment
1	brown	+24 V ⎓ ± 10%, max. Residual ripple 10%
2	white	Do not connect
3	blue	GND
4	black	Do not connect
5	grey	FE connected to housing

* The specified wire colours relate to the 5-pin M12 connection cable, which is available as an accessory with ID No. 20010840.

Tab. 9: X4 – Circular plug M12, L-coded, actuator supply AG3

7 Electrical connection fieldbus gateway

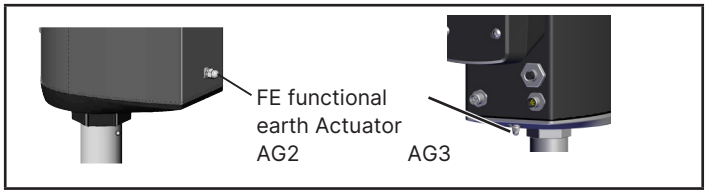
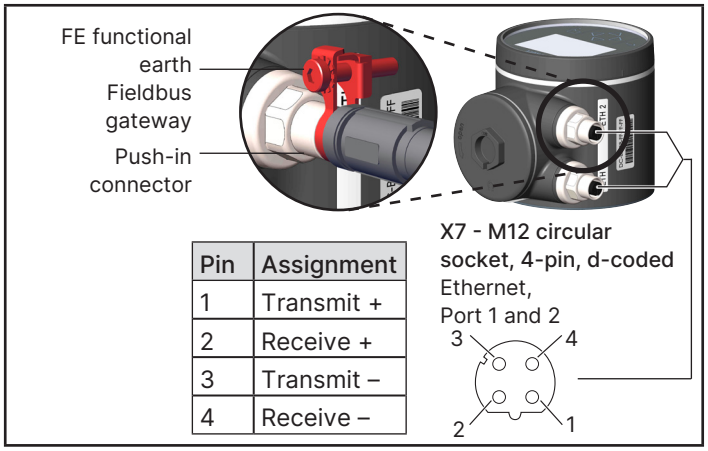


Fig. 5: FE functional earth at actuator

The fieldbus gateway for Industrial Ethernet is connected using 4-pin M12 circular plug-in connectors.



Pin	Assignment
1	Transmit +
2	Receive +
3	Transmit –
4	Receive –

Fig. 6: Electrical connection, assignment and FE functional earth at fieldbus gateway

8 Electrical installation with cable gland (only AG2)

Access to connection terminals

To access the terminals, open the device as described below.

1. Remove display module or blind cover:

WARNING!

Carefully remove the display module so that the connection cable and HMI interface are not damaged.

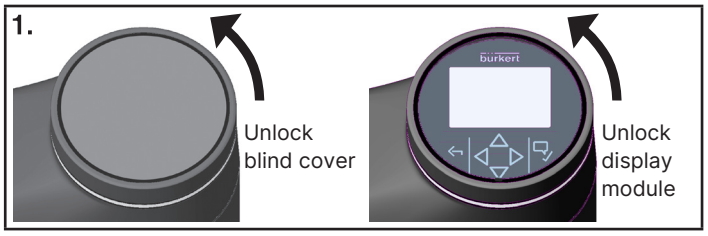


Fig. 7: Remove blind cover or display module

→ To unlock, turn the display module or the blind cover counterclockwise and remove.
WARNING! For devices with display module, take note of the connection cable to the HMI interface.

→ For devices with display module disconnect the connection cable from the HMI interface.

Access to connection terminals (HazLoc variant)

To access the terminals, open the device as described below.

DANGER!

Risk of explosion when opening the device.
- **Do not open** the device in a potentially explosive atmosphere.
- Work that requires opening the device is carried out outside the potentially explosive atmosphere.

WARNING!

Carefully remove the display module so that the connection cable and HMI interface are not damaged.

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1. Remove display module or blind cover:

Unlock:

The included magnetic key is required to unlock.

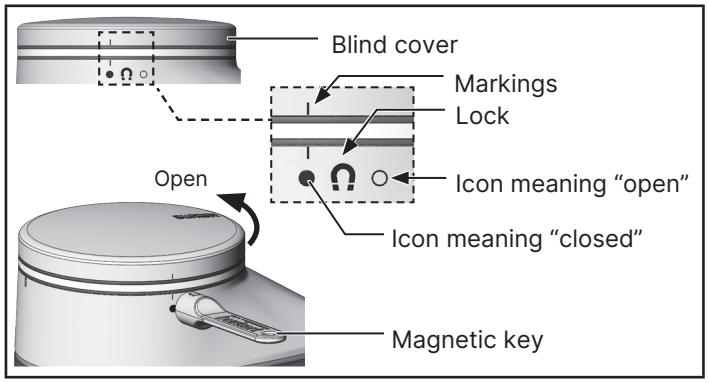

Fig. 8: Unlock blind cover or display module

→ Hold the magnetic key against the lock.
The lock unlocks with a soft click.

⚠ Risk of explosion in the potentially explosive atmosphere!

Do not remove the blind cover or display module in a potentially explosive atmosphere.

→ Keep holding the magnetic key against the lock and turning the blind cover or display module by hand until the mark above the icon is open.

2. Remove the LED and storage module:

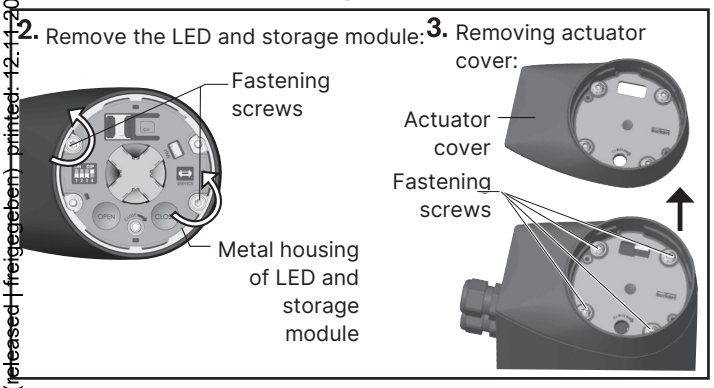

Fig. 9: Remove the LED and storage module and remove the actuator cover

→ Remove 2 fastening screws (hexalobular-internal screws T20).

→ Grab the LED and storage module by both sides of the metal housing and lift it out.

3. Removing actuator cover:

→ Loosen the 4 fastening screws (hexalobular-internal screws T25).
The screws are integrated securely in the actuator cover.

→ Remove the actuator cover.

The connection terminals are now accessible.

Connecting the cable

→ Push the cable through the cable gland.

WARNING!

Take note for connection to spring-loaded terminals.

- Minimum length of wire ferrules: 8 mm
- Maximum cross-section of wire ferrules: 1.5 mm² (uncollared), 0.75 mm² (collared)

→ Strip at least 8 mm of insulation from the wires and crimp ferrules on.

→ Attach the wires to the terminals. The terminal layout is provided in the tables below.

→ Tighten union nut of cable gland (tightening torque approx. 1.5 Nm).

WARNING!

The ingress of dirt or moisture may cause damage or malfunction.

To preserve IP65 and IP67 protection, ensure the following:

- Unused cable glands must be sealed using dummy plugs.
- The union nuts of cable glands must be tightened. Tightening torque, dependent on the cable size or dummy plugs, approx. 1.5 Nm.

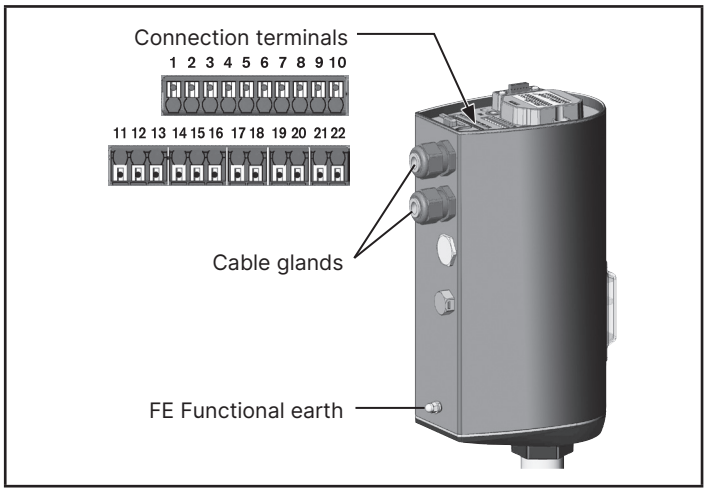

Fig. 10: Connecting the cable

→ Connect the device in accordance with the tables.

Terminal layout – operating voltage and büS network

Clip	Layout (from device perspective)
	CAN shield/shielding
10	24 V ⎓ ± 10% max. Residual ripple 10%
9	GND
1*	CAN_GND ⚠ Only connect when a separate line is used for CAN.
2*	CAN_H
3*	CAN_L

Tab. 10: Terminal layout – operating voltage and büS network

***Electrical installation of büS network:**
Terminals 1, 2 and 3 (CAN interface) are for the büS network connection.
Terminal 1 is bridged internally with terminal 9, however it is not designed for the operating voltage.

Terminal layout – input signal from control centre (e.g. PLC)

For On/Off valves type 332x:

Clip	Layout (from device perspective)
5	Digital input + < 0...5 V (log. 0) 10...30 V (log. 1)
4	Digital input GND relates to GND operating voltage (GND Clip)
8	Digital output 1 24 V / 0 V
6	Digital output 2 24 V / 0 V
7	Digital output GND

Tab. 11: Terminal layout – input signal from control centre (e.g. PLC)

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For control valves type 336x:

Clip	Layout (from device perspective)
8	Set-point value + (0/4...20 mA or 0...5/10 V) for operating voltage electrically isolated
7	Set-point value –
5	Digital input + < 0...5 V (log. 0) 10...30 V (log. 1)
4	Digital input GND relates to GND operating voltage (GND Clip)

Tab. 12: Terminal layout – input signal from control centre (e.g. PLC)

Terminal layout – output signals to control centre (e.g. PLC) only required with analogue output and/or digital output option

Clip	Layout (from device perspective)
19	Analogue output + (0/4...20 mA or 0...5/10 V)
20	Analogue output –
18	Digital output 1 (24 V/0 V)
17	Digital output 2 (24 V/0 V)
16	Digital output GND

Tab. 13: Terminal layout – output signal to control centre (e.g. PLC)

Terminal layout – process actual value input (only with process control function)

Signal type*	Clip	Assignment	Device end	External circuit
4...20 mA – internally supplied	22	+24 V supply transmitter	22	Transmitter
	15	PV1: not used	15	
	21	GND** (identical to GND operating voltage)	21	GND
	14	PV2: Output from transmitter	14	I
	13	PV3:** Bridge to GND (GND from 3-wire transmitter)	13	
4...20 mA – externally supplied	22	not used		
	15	not used		
	21	not used		
	14	PV2: Process actual +	14	4...20 mA
	13	PV3: Process actual –	13	GND 4...20 mA
Frequency - internally supplied	22	+24 V supply sensor	22	+24 V
	15	PV1: Cycle input +	15	Cycle +
Frequency - internally supplied	21	GND	21	GND (identical to GND operating voltage)
	14	PV2: not used		
	13	PV3: Bridge to GND (GND from 3-wire transmitter)	13	Cycle –
Frequency - externally supplied	22	not used		
	15	PV1: Cycle input +	15	Cycle +
	21	not used		
	14	PV2: not used		
	13	PV3: Cycle input –	13	Cycle –

Signal type*	Clip	Assignment	Device end	External circuit
Pt 100 (see note below)	22	not used	15	Pt 100
	15	PV1: Process actual 1 (power supply)	14	
	21	not used	13	
	14	PV2: Process actual 2 (compensation)		
	13	PV3: Process actual 3 GND		

*Configurable via software:
Inputs/outputs → PV → ANALOG.type
(signal source: PV.source → Analogue).
** for AG2 in case of 2-wire transmitter: Clip 13 and 21 have to be bridged at the device end.

Tab. 14: Terminal layout – process actual value input (only on devices with process control function)

Close device

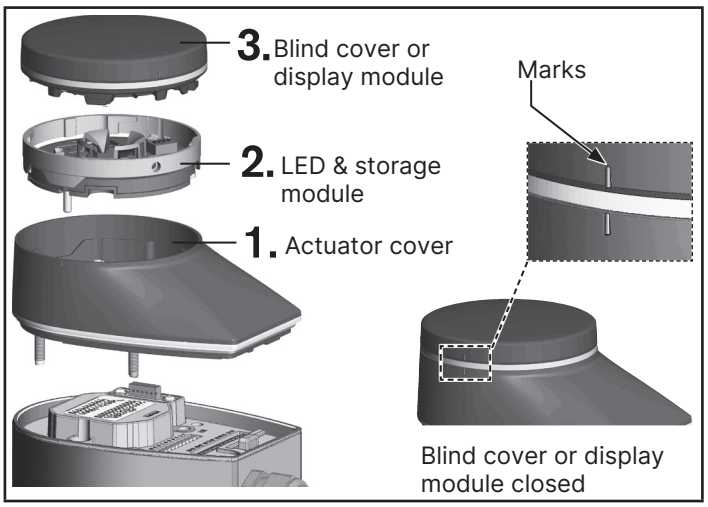

Fig. 11: Close device

WARNING!
The Pt 100 sensor must be connected via three lines to compensate for line resistance.
Clip 14 and clip 13 must be bridged at the sensor.
Connection cables must not exceed 20 m in length.

NOTE!

The ingress of dirt or moisture may cause damage or malfunction.
To preserve IP65 and IP67 protection, ensure the following before closing the device:
- ▸ that the seal in the actuator housing/actuator cover is inserted and undamaged.
- ▸ The seal surfaces must be clean and dry.

Close device (HazLoc variant)

→ Align the mark so that it stands above the open icon and fit the blind cover or display module.

→ Turn the blind cover or display module clockwise by hand until the marking is directly over the symbol for closed. To make sure that the device is correctly closed, ensure that the interlocking engages with a gentle click.

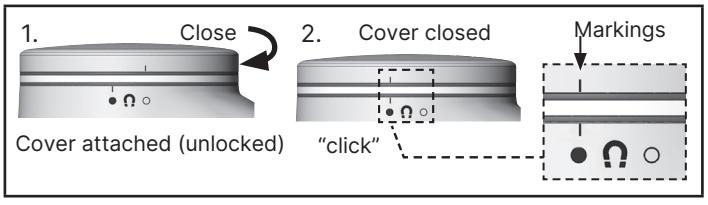

Fig. 12: Close the blind cover or display module

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1. Install actuator cover

→ Place actuator cover on the actuator housing.

→ First screw in the four fastening screws (hexalobular-internal screws T25) by hand lightly, then tighten them (tightening torque: 5.0 Nm).

2. Mount LED and storage module

→ Place the LED and storage module onto the actuator cover. Align the recess for the manual override in the centre, paying attention to the correct alignment of the electrical plug connection.

→ Carefully press down the LED and storage module by hand. The end position is reached if the upper edge of the module is fully and evenly recessed in the actuator cover.

WARNING!

The plug connection will be damaged if the LED and storage module is not correctly inserted.

- Before the fastening screws are tightened, the LED and storage module must be fully recessed in the actuator cover.

→ Tighten 2 fastening screws (hexalobular-internal screws T20).
Observe the tightening torque of 1.1 Nm!

3. Close device with blind cover or display module

For devices with display module:

→ Connect the connection cable to the HMI interface.

→ Fit the display module and turn clockwise until the marking at the edge is directly over the marking for the actuator cover.

For devices with blind covers:

Fit the blind cover and turn clockwise until the marking at the edge is directly over the marking for the actuator cover.

Perform the necessary basic configuration and adjustments for the electromotive process valve after the operating voltage has been established.

9 Additional information for use in hazardous locations

Only devices with code PU23 may be used in hazardous as well as in non-hazardous locations.

Only equipment marked as follows is suitable for use in Class I, Div. 2, Groups A, B, C and D; Class II, Div.2, Groups F and G; Class III, Div. 1 and 2 OR non-hazardous locations only.

9.1 Label and description for hazardous location

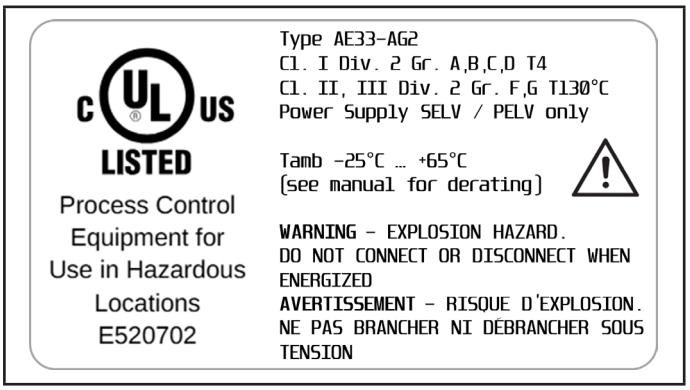

Fig. 13: Type label

UL marking

Cl. I	Div. 2	Gr. A, B, C, D	T4
Cl. II, III	Div. 2	Gr. F, G	T130 °C
Class	Division	Group	Temperature marking

Class

I	Gases or vapors
II	Combustible dusts
III	Fibers or flyings

Division

2	Flammable substances are not likely to exist under normal operating conditions.

Group

A	Acetylene
B	Hydrogen
C	Ethylene
D	Propane
F	Carbonaceous dusts, such as carbon black, coal dust or coke dust
G	Agricultural dusts, such as grain, flour, sugars, spices and certain polymers

Temperature marking

T4	Temperature class for Class I
T130 °C	Maximum surface temperature for Class II

Tab. 15: UL marking

9.2 Installation in hazardous locations

WARNING!

EXPLOSION HAZARD. DO NOT DISCONNECT WHILE THE CIRCUIT IS LIVE OR UNLESS THE AREA IS FREE OF IGNITABLE CONCENTRATIONS.

AVERTISSEMENT !

RISQUE D'EXPLOSION. NE PAS DÉBRANCHER PENDANT QUE LE CIRCUIT EST SOUS TENSION OU À MOINS QUE L'EMPLACEMENT NE SOIT EXEMPT DE CONCENTRATIONS INFLAMMABLES.

The installation must be in accordance with the National Electrical Code (NEC) and Canadian Electrical Code (CEC).

For installation in accordance with National Electrical Code (NEC): The mating connector of male connector P-FSV 5.64-*/M20 or P-FSV 8-*/M20 and female connector P-FKV 5.62 -*/M20 shall be in accordance with FM certificate no. FM17US0047X and related control drawing no. QCF-00147.
https://www.turck.us/attachment/555A00059.pdf

For installation in accordance with Canadian Electrical Code (CEC): The mating connector of male connector P-FSV 5.64-*/M20 or P-FSV 8-*/M20 and female connector P-FKV 5.62 -*/M20 shall be in accordance with CSA certificate no. 1690200 and related control drawing no. NI-2.404.
https://www.turck.us/attachment/555A00050.pdf
The connector shall not be disconnected while electromotive actuator is energized. And when the connector is unmatched, a protective cap shall be installed.

10 Cleaning

The use of alkaline cleaning agents is not permitted for cleaning the surface of the device.

11 Disassembly

WARNING!

Installing in the AUTOMATIC operating state will damage the device.

- If devices are to be re-used, set the MANUAL operating state before they are removed.

→ If the device is to be re-used, set the MANUAL operating state.

→ Disconnect the electrical connection.

→ Dismantle the device.

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