

Type 8605

Digital control electronics for solenoid valves

Digitale Ansteuerelektronik für Magnetventile

Régulateur électronique numérique pour électrovanne



Quickstart

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1 THE QUICKSTART

The Quickstart contains the most important information and notes regarding the use of the device. Keep the Quickstart ready to hand at the operation site.

Important safety information.

- ▶ Carefully read the Quickstart. Observe in particular the safety instructions, intended use and conditions of use.
- ▶ Persons, who work on the device, must read and understand these instructions.

1.1 Symbols

- ▶ Designates a procedure to avoid a danger.
- Designates a procedure which you must carry out.



DANGER

Immediate danger! Serious or fatal injuries.



WARNING

Potential danger! Serious or fatal injuries.



CAUTION

Danger! Moderate or minor injuries.

NOTE

Warns of damage to property.



Important tips and recommendations.



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

1.2 Definitions of terms

Term	is used in these instructions to represent
Device	digital control electronics for solenoid valves Type 8605

1.3 Warranty

The warranty is only valid if the device is used as intended in accordance with the specified conditions of use.

2 INTENDED USE

The digital control electronics for solenoid valves Type 8605 are designed to control Bürkert valves.

- ▶ Use the device only as intended. Non-authorised use of the device may be dangerous to people, nearby equipment and the environment.
- ▶ Do not use the device outdoors.
- ▶ Do not expose the device to direct sunlight.
- ▶ Correct transportation, correct storage as well as correct assembly, installation, start-up, operation and maintenance are essential for reliable and problem-free operation.
- ▶ Use according to the authorised data, operating conditions and conditions of use specified in the contract documents and operating instructions.
- ▶ Use device only in conjunction with third-party devices and components recommended or authorised by Bürkert.
- ▶ To use the device as control electronics for solenoid valves, configuration with the Bürkert Communicator is required.

3 BASIC SAFETY INSTRUCTIONS

These safety instructions do not make allowance for any contingencies and events which may arise during assembly, operation and maintenance.

The operator is responsible for observing the location-specific safety regulations, also with reference to the personnel.

DANGER

Risk of injury due to high pressure.

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

DANGER

Risk of injury due to electric shock.

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

WARNING

Risk of injury due to pressure drop.

- ▶ Prevent a pressure drop.
- ▶ Make the volume of the pressure supply as large as possible, even for upstream devices, e.g. pressure controls, maintenance units, shut-off valves.

CAUTION

General hazardous situations.

To prevent injuries:

- ▶ Operate the device only when in perfect working order and in consideration of the operating instructions.
- ▶ Secure the device or system to prevent unintentional reactivation.
- ▶ Only trained technicians may perform installation and maintenance work.
- ▶ After an interruption in the power supply, ensure that the process is restarted in a controlled manner.
- ▶ Observe the general rules of technology.

NOTE

Electrostatic sensitive components / modules.

The device contains electronic components which are sensitive to electrostatic discharge (ESD). Components which come into contact with electrostatically charged people or objects are at risk. In the worst case scenario, they will be destroyed immediately or will fail after start-up.

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

4 PRODUCT DESCRIPTION

4.1 Intended application area

Type 8605 is designed for permanent use in industrial environments, in particular in the areas of control and regulating technology.

4.2 General description

The digital control electronics Type 8605 for solenoid valves control all Bürkert valves up to a maximum current of 1000 mA.

The solenoid valve is initially fully controlled (100 % power). After a specified time, the solenoid valve is moved to its holding power (reduced power).



Fig. 1: Type 8605, control electronics with connector diagram A

During operation of the control electronics Type 8605 in the cable plug variant, the operating state is indicated by 2 LEDs.

The following options are available to the user:

- individual adjustment of the colour for the switching state of the valve,
- standardized Namur display or
- a combination of switching state and Namur display.

5 TECHNICAL DATA

5.1 Conformity

The device conforms to the EU directives according to the EU Declaration of Conformity (if applicable).

5.2 Standards

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

5.3 Operating conditions

Operating voltage	12...24 V DC \pm 10 %
Residual ripple	5 %
Power consumption	approx. 1 W
Output current (to the valve)	max. 1 A
Ambient temperature	-10...+60 °C / +14...+140 °F
Interference resistance	according to EN 50082-2
Interference radiation	according to EN 50081-2
Current range for solenoid valves	up to 1000 mA

Technical data of the cable plug

Degree of protection	IP65 (DIN EN 60529)
Materials	Polyamide / PC
Dimensions (LxWxH)	70 x 32 x 42.5 mm

6 ASSEMBLY



DANGER

Risk of injury due to high pressure and discharge of medium.

- ▶ Before working on the device or system, switch off the pressure. Vent or drain the lines.

Risk of injury due to electric shock.

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



WARNING

Risk of injury due to improper assembly.

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

6.1 Electrical connection

Type 8605 with cable plug is connected to the power via a 4-pole terminal strip in the device.

Cable diameter	6...8 mm
Cable cross-section	max. 0.75 mm
Cable connection	Plug-in connector M12, 5-pole

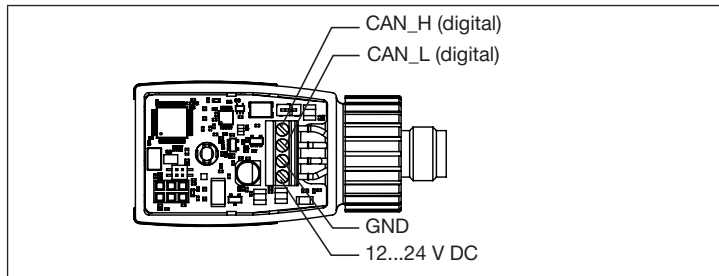


Fig. 2: Terminal strip connection

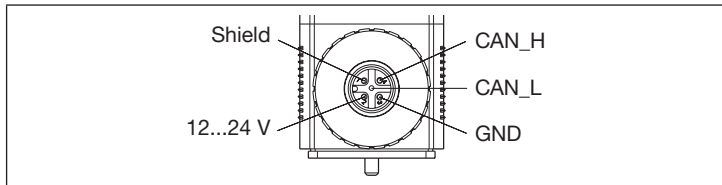


Fig. 3: Plug-in connector connection, digital

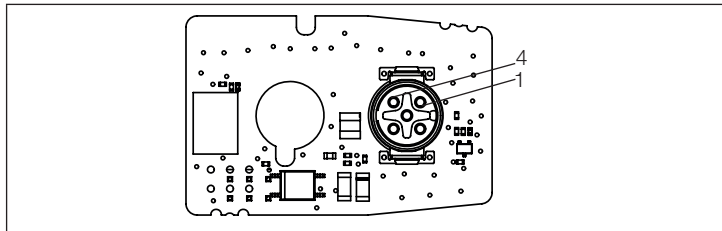


Fig. 4: Connection input PCB

Pin	Assignment	Pin	Assignment
1	24 V DC	3	GND
2	DI2 (digital input, frequency input)	4	AI1/DI1 (analog input, digital input)

Tab. 1: Pin assignment of the input PCB

6.2 Mounting the control electronics

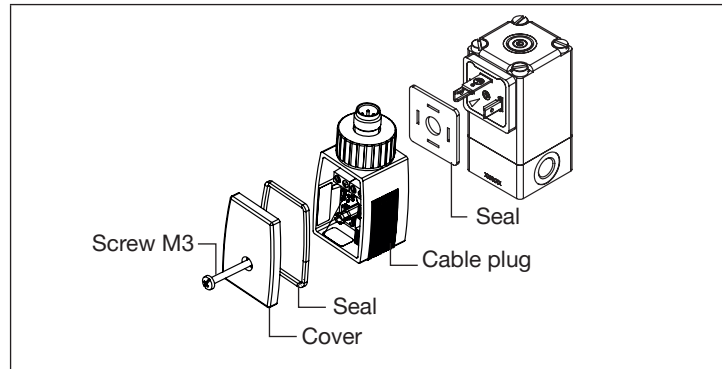


Fig. 5: Mounting the control electronics on the valve

! When screwing the cable plug to the valve, ensure that the seal is seated correctly.

NOTE

Damage to the device.

Excessive tightening torque will deform the cable plug.

► Screw on screw M3 to a tightening torque of 0.3 Nm.

6.3 LED display

During operation of the control electronics in cable plug variant without an operating unit, the operating state is indicated by 2 LEDs.

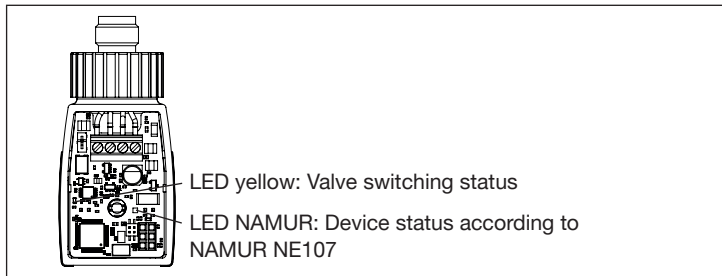


Fig. 6: LED display of the control electronics without an operating unit

7 CONFIGURATION

The control electronics are configured with the Bürkert Communicator software.



The Bürkert Communicator software and the related general description can be found on the Bürkert homepage.



The exact description of the configuration can be found in the separate software operating instructions on the Bürkert homepage www.burkert.com → Type 8605.

8 CLEANING

Clean the control electronics Type 8605 with standard cleaning agents. Do not use any alkaline cleaners, as these will have damaging effects on the materials used.

9 DISASSEMBLY



DANGER

Risk of injury due to high pressure and discharge of medium.

- ▶ Before working on the device or system, switch off the pressure. Vent or drain the lines.

Risk of injury due to electric shock.

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



WARNING

Risk of injury due to improper disassembly.

- ▶ Disassembly may be carried out only by trained technicians and with the appropriate tools.

9.1 Disassembling the control electronics

- Vent system.
- Switch off power supply.
- Disassemble control electronics.
- Place control electronics in the package.

10 TRANSPORTATION, STORAGE, DISPOSAL

NOTE!

Damage in transit due to inadequately protected devices.

- ▶ During transportation protect the device against moisture and dirt in shock-resistant packaging.
- ▶ Observe permitted storage temperature.

Incorrect storage may damage the device.

- ▶ Store the device in a dry and dust-free location.
- ▶ Storage temperature: -40...+55 °C.

Damage to the environment caused by device components contaminated with media.

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

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