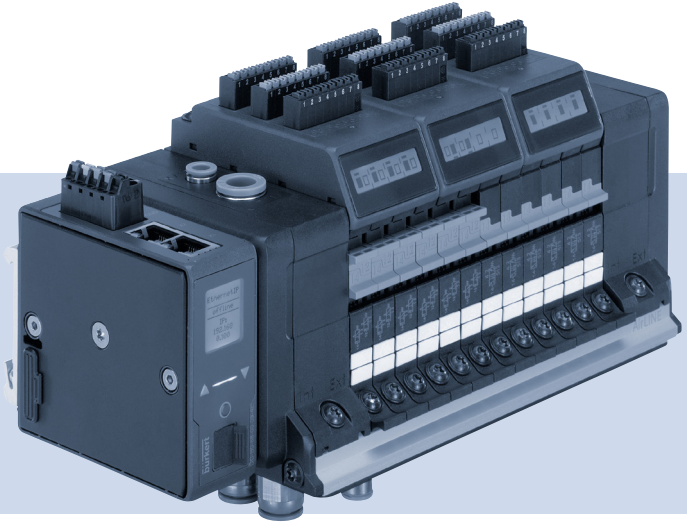
bürkert
FLUID CONTROL SYSTEMS

BVS 20 ATEX E 031 U / IECEx BVS 20.0024 U

AirLINE Type 8652

Modular valve island for pneumatics
Modulare Ventilinsel für Pneumatik
L'îlot de vannes modulaire pour système pneumatique



Additional Instructions

Zusatzanleitung
Instruction supplémentaire

MAN 1000438092 EN Version: -Status: RL (released | freigegeben) printed: 30.06.2020

Operating Instructions 2006/00_EU-ML_00815347 / Original DE

MAN 1000438092 EN Version: -Status: RL (released | freigegeben) printed: 30.06.2020

1 ADDITIONAL INSTRUCTIONS FOR USE IN THE POTENTIALLY EXPLOSIVE ATMOSPHERE

(ATEX Directive 2014/34/EU)

If Bürkert devices with the code PX68 are used in the potentially explosive atmosphere, follow not only the respective operating instructions, but also the information in these additional instructions.

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

Important safety information!

Carefully read through these additional instructions. Note in particular the chapters “Intended use” and “Special safety instructions”.

- These additional instructions must be read, understood and followed.
- The operating instructions for the valve island AirLINE Type 8652 must be read, understood and followed.

The operating instructions for the valve island AirLINE Type 8652 can be found on the Internet at: www.burkert.com

1.1 Definition of terms

Term	In these instructions stands for
Actuator, process valve	Pneumatic consumer controlled by the valve island
büS	Bürkert system bus; a communication bus developed by Bürkert, based on the CANopen protocol
EVS	External valve voltage shutdown Valves can be de-energised irrespective of the control signals from the bus master. This safety shutdown can be applied to individual valves, valve units or the entire valve block.
Ex area	Potentially explosive atmosphere
Device, valve island	Valve island AirLINE Type 8652
SIA variant	Variant for safety-related shutdown (see “EVS”)
Pneumatic valve, pilot valve	Pneumatic slide valve that can be integrated into the valve block

1.2 Symbols

DANGER

Warns of an immediate danger.

- Failure to observe will result in death or serious injuries.

WARNING

Warns of a potentially hazardous situation.

- Failure to observe these instructions may result in serious injuries or death.

CAUTION

Warns of a potential danger.

- Failure to observe may result in moderate or minor injuries.

NOTE

Warns of damage.

Important tips and recommendations.

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

- Designates instructions to avoid danger.

→ Designates a procedure which you must carry out.

2 INTENDED USE

The valve island AirLINE Type 8652 has been designed to control pneumatic consumers in automation systems. The valve island must only be used for controlling suitable pneumatic consumers.

The valve island was designed for use in
Explosion group II, Category 3G Ex ec IIC Gc and Category 3D Ex tc IIIC Dc
(see specifications on the adhesive label for approval).

- Install the device in a suitable control cabinet or housing.
- In the event of interference, ensure that the rated voltage is not exceeded by more than 10% permanently or by more than 40% temporarily (transients).
- Do not use the device outdoors.
- Prerequisites for safe and trouble-free operation are correct transportation, correct storage, installation, start-up, operation and maintenance.
- To use the device, observe the permitted data, operating conditions and application conditions. These specifications can be found in the contract documents, the operating instructions and on the type label.
- Use the device only in conjunction with third-party devices and components recommended or approved by Bürkert.
- Use the device only when it is in perfect condition.
- Use the device only as intended. Non-intended use of the device may be dangerous to people, nearby equipment and the environment.

For systems in the potentially explosive atmosphere, which are installed in a housing (degree of protection at least IP54 for Category 3G or IP6X for Category 3D), ensure the following:

- The control cabinet must be approved for use in the potentially explosive atmosphere.
- The control cabinet must be dimensioned in such a way that the resulting heat loss can be discharged to the outside using suitable means.
- The internal temperature of the control cabinet must not exceed the maximum permitted ambient temperature for the device.

3 SAFETY INSTRUCTIONS IN THE POTENTIALLY EXPLOSIVE ATMOSPHERE

To prevent a risk of explosion, follow not only the safety instructions in the operating instructions, but also the safety instructions in these additional instructions.

Danger due to electric voltage.

- Before working on the device or system, switch off the power supply. Secure against reactivation.
- In the potentially explosive atmosphere, only plug or unplug the connection terminals in a de-energised state for the functions
  – 24 V power supply
  – SIA
  – EVS
  – Digital inputs
  (for exception see chapter “4”).
- In the potentially explosive atmosphere, only plug or unplug fixed cable connections that can be inserted into the connection terminals in a de-energised state. De-energise all circuits connected to the connection terminals.
- Usage of the hot swap function is prohibited in the potentially explosive atmosphere (for exception see chapter “4.1”).
- Observe the applicable accident prevention and safety regulations for electrical devices.

Risk of explosion due to electrostatic charge.

If there is a sudden discharge of electrostatically charged devices or persons, there is a risk of explosion in the potentially explosive atmosphere.

- Use suitable measures to ensure that electrostatic charges cannot occur in the potentially explosive atmosphere.
- Clean the device surface by gently wiping it with a damp or anti-static cloth only.

Risk of injury due to improper installation, operation or maintenance.

- Only qualified technicians may perform installation work, operating procedures or maintenance work.
- Perform installation work and maintenance work using suitable tools only.

General hazardous situations.

To prevent injuries, observe the following:

- Operate the device only when it is in perfect condition and in accordance with the operating instructions.
- Observe applicable safety regulations (also national safety regulations) as well as the general rules of technology during setup and operation.
- Do not repair the device, but replace it with an equivalent device. Repairs may be carried out by the manufacturer only.
- Do not place the device under mechanical stress (e.g. by placing objects on it or standing on it).
- Do not subject the device to mechanical and/or thermal stresses/influences which exceed the limits described in the operating instructions.

4 SPECIAL CONDITIONS FOR GENERAL USE

- For type of protection “ec”:
  Install the device in a housing which meets the applicable requirements of the type of protection “ec” according to EN/IEC 60079-0 and EN/IEC 60079-7 and has a degree of protection of at least IP54.
- For type of protection “tc”:
  Install the device in a housing which meets the applicable requirements of the type of protection “tc” according to EN/IEC 60079-0 and EN/IEC 60079-31 and has a degree of protection of at least IP6X.
- Use the device only in an area which has minimum pollution degree 2, as defined in IEC 60991-1.
- Ensure that the transient protection has been set to a value which does not exceed 140% of the rated peak voltage value on the supply connections of the device.
- In the potentially explosive atmosphere, only plug or unplug the connection terminals in a de-energised state for the functions
  – 24 V power supply
  – SIA
  – EVS
  – Digital inputs

  If it can be verified and ensured with suitable testing materials that there will not be a potentially explosive atmosphere over a certain period of time, the plugging/unplugging of connection terminals is always functionally possible during this time.
- In the potentially explosive atmosphere, only plug or unplug fixed cable connections that can be inserted into the connection terminals in a de-energised state. De-energise all circuits connected to the connection terminals.

4.1 Special conditions for using the hot swap function

Usage of the hot swap function is prohibited in the potentially explosive atmosphere.

If it can be verified and ensured with suitable testing materials that there will not be a potentially explosive atmosphere over a certain period of time, the removal or addition of a valve is permitted during this time.

Only specially trained personnel may perform the hot swap function.

5 EXPLOSION PROTECTION APPROVAL

The explosion protection approval is only valid if you use the modules and components approved by Bürkert as described in these operating instructions.

The devices may be used only in combination with the valve types approved by Bürkert, otherwise the explosion protection approval will expire.

In the event of unauthorised changes to the system, modules or components, the explosion protection approval will also expire.

The type examination certificates
BVS 20 ATEX E 031 U
IECEx BVS 20.0024 U

were issued by DEKRA Testing and Certification GmbH
Fachstelle für Sicherheit elektrischer
Betriebsmittel – BVS
44809 Bochum, Germany

Production is audited by the PTB (CE0102).

6 TECHNICAL DATA

To prevent a risk of explosion, observe not only the technical data in the operating instructions, but also the technical data in these additional instructions.

6.1 Adhesive labels for the potentially explosive atmosphere

Valve islands for the potentially explosive atmosphere always have 2 adhesive labels:

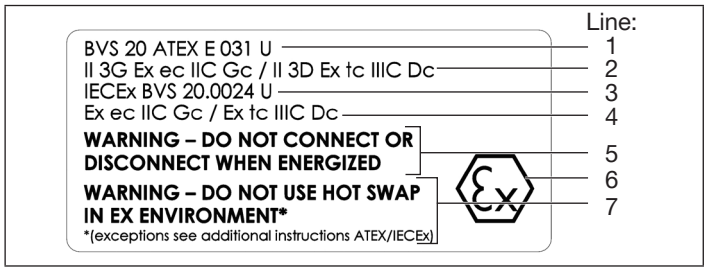


Fig. 1: Adhesive label for the potentially explosive atmosphere (example)

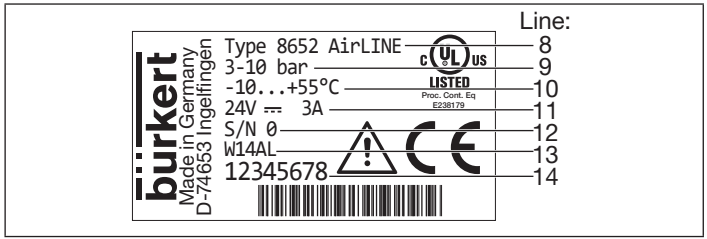


Fig. 2: General adhesive label (example)

Line	Description	Specification
1	ATEX approval number	BVS 20 ATEX E 031 U
2	Identification of the Ex protection ATEX gas/dust	II 3G Ex ec IIC Gc/ II 3D Ex tc IIIC Dc
3	Certificate number IECEx	IECEx BVS 20.0024 U
4	Identification of the Ex protection IECEx gas/dust	Ex ec IIC Gc/ Ex tc IIIC Dc
5	⚠ Safety note	Electrical connection
6	Ex logo	
7	⚠ Safety note	Hot swap
8	Device type	AirLINE Type 8652
9	Pressure range	3–10 bar
10	Ambient temperature range	–10 to+55 °C
11	Rated voltage	24 V ⎓
	Current consumption	3 A
12	Serial no.	S/N 0 (example)
13	Manufacture code, coded	W14AL (example)
14	Device order number	12345678 (example)

Tab. 1: Description of the specifications on both adhesive labels

6.2 Operating conditions

Rated voltage	24 V ⎓
Nominal power	Depending on the structure
Ambient temperature range	–10 to +55 °C
Solenoid valve types used	Type 6164 (pilot control of the pneumatic valves Type 6534)
Maximum number of valve functions	48

If device structures have fewer than 48 valve functions, less power is converted, so that the considered and measured maximum temperatures are the same or lower.

6.3 Service temperature

At a maximum ambient temperature of +55 °C inside the control cabinet, the limits of temperature class T4 are not exceeded.

If variant AirLine Quick is used in a control cabinet (refer to operating instructions Type 8652), the maximum service temperature on the outside does not exceed +80 °C at any point.

6.4 Permitted device variants

Device variants with the following properties are permitted in the potentially explosive atmosphere:

- Maximum 48 valve functions
- Combination of pneumatic valve functions
  Type 6534
  Type 6534, SIA variant

  The maximum number of 48 valve functions must not be exceeded.
- EVS (external valve voltage shut-off)
- Electronic module with digital inputs
- Connection module with pressure sensor

6.5 Conformity

The device conforms to the EU directives as per the EU Declaration of Conformity.

6.6 Standards

The applied standards, which are used to verify compliance with the directives, can be found in the type examination certificate and/or the EU Declaration of Conformity.

bürkert
FLUID CONTROL SYSTEMS

www.burkert.com

MAN 1000438092 EN Version: -Status: RL (released | freigegeben) printed: 30.06.2020