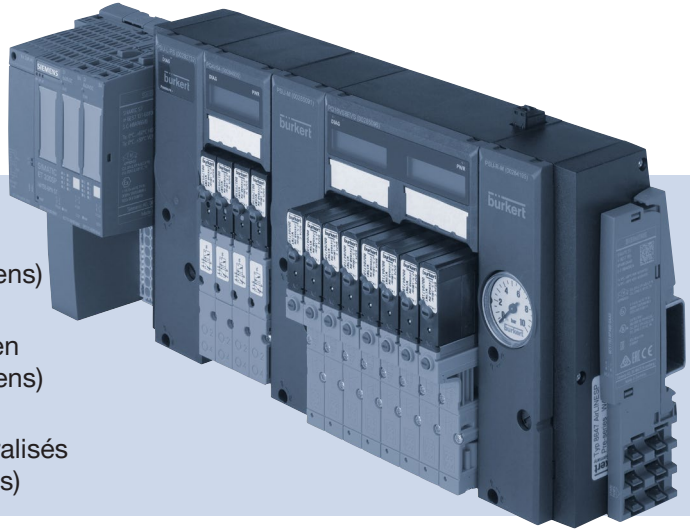
bürkert
FLUID CONTROL SYSTEMS

BVS 18 ATEX E 078 X / IECEx BVS 18.0068X

AirLINE SP

Type 8647 REV.2



Valve block AirLINE SP
with interface to the distributed I/O systems
SIMATIC ET 200SP and SIMATIC ET 200SP HA (Siemens)

Ventilblock AirLINE SP
mit Schnittstelle zu den dezentralen Peripheriesystemen
SIMATIC ET 200SP und SIMATIC ET 200SP HA (Siemens)

Bloc de vannes AirLINE SP
avec interface vers les systèmes de périphérie décentralisés
SIMATIC ET 200SP et SIMATIC ET 200SP HA (Siemens)

Additional Instructions

Zusatzanleitung
Instruction supplémentaire

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Operating Instructions 2201/00_EU-ML_00815414 / Original DE

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1 ADDITIONAL INSTRUCTIONS FOR USE IN POTENTIALLY EXPLOSIVE ATMOSPHERES

(ATEX Directive 2014/34/EU)

If Bürkert devices with the code PX67 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 block AirLINE SP Type 8647 REV.2 must be read, understood and followed.

The operating instructions for the valve block AirLINE SP Type 8647 REV.2 can be found on the Internet at: country.burkert.com

1.1 Definition of terms

Term	in these instructions stands for
Device, valve block	Valve block AirLINE SP Type 8647 REV.2
Valve island	Valve block AirLINE SP Type 8647 REV.2 in combination with modules from the distributed I/O systems SIMATIC ET 200SP or SIMATIC ET 200SP HA (Siemens)
Ex area	Potentially explosive atmosphere

1.2 Symbols

DANGER

Warning of an immediate danger.

- Failure to comply will result in death or serious injury.

WARNING

Warning of a potentially dangerous situation.

- Failure to comply with these instructions may result in serious injury or death.

CAUTION

Warning of a potential danger.

- Failure to comply with these instructions may result in moderate or minor injury.

ATTENTION

Warning of material damage.

Important tips and recommendations.

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

- Highlights instructions to avoid a danger.

→ Indicates a procedure you must carry out.

2 INTENDED USE

The valve block AirLINE SP Type 8647 REV.2 has been designed to control pneumatic consumers in automation systems. The valve block may be used for controlling suitable pneumatic consumers only.

The valve block was designed for use in
Explosion group II, Category 3G Ex ec IIC T4 Gc
(see specifications on the type label for potentially explosive atmospheres).

- 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 IP 54), 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 it against reactivation.
- Observe any 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 avoid injury, observe the following:

- Only operate the device when it is in perfect condition and in accordance with the operating instructions.
- Observe the applicable safety regulations (including the national safety regulations) as well as the generally recognised rules of technology during setup and operation.
- Do not attempt to repair the device yourself, but replace it with an equivalent device. Repairs may only be carried out by the manufacturer.
- 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 OF USE

- Use the device only in an area which has minimum pollution degree 2, as defined in IEC 60664-1.
- 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.

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.

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.

- Have the Hot Swap function performed only by appropriately trained personnel.

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 18 ATEX E 078 X and
IECEx BVS 18.0068X

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

Production is audited by 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 Conformity

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

6.2 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.

6.3 Device labels

6.3.1 Adhesive labels for the potentially explosive atmosphere

Type label

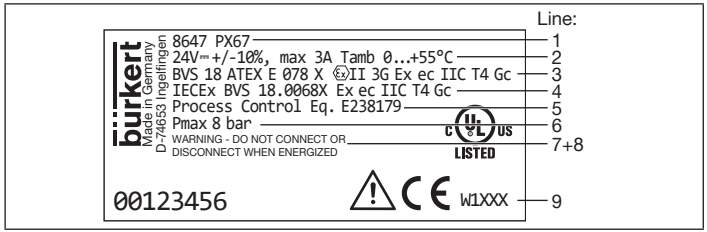

Fig. 1: Example of a type label for the potentially explosive atmosphere

Line	Description	Specification
1	Type number of the valve block AirLINE SP	8647
	Variable code	PX67
2	Rated voltage	24V⎓+/–10 %
	Current consumption	max. 3 A
	Permitted ambient temperature range	Tamb 0...+55 °C
3	ATEX approval number	BVS 18 ATEX E 078 X
	Ex-logo, identification of the Ex protection ATEX	Ⓔx II 3G Ex ec IIC T4 Gc
4	Certificate number IECEx	IECEx BVS 18.0068X
	Identification of the Ex protection IECEx	Ex ec IIC T4 Gc
5 + 6	Further optional specifications	
7+8	⚠ Safety note	
9	Device order number	00123456 (example)
	Date of manufacture, coded	W1XXX

Tab. 1: Description of the specifications in the example "Type label for the potentially explosive atmosphere"

Hot-Swap warning sign

Fig. 2: Hot-Swap warning sign

Usage of the Hot Swap function is prohibited in the potentially explosive atmosphere.

Exception see chapter "4 Special conditions of use" Page 7.

6.3.2 Type label for unit-specific data

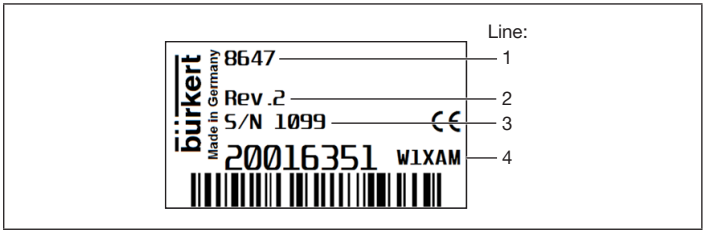

Fig. 3: Example of a type label for the potentially explosive atmosphere

Line	Description	Specification
1	Type number of the valve block AirLINE SP	8647
2	Device version	Rev.2
3	Device serial number	S/N 1099
4	Device order number	20016351
	Manufacture code	W1XAM

Tab. 2: Description of the details of the example "Type label for example-specific data"

6.4 Operating conditions

Rated voltage:	24 V ⎓
Nominal power:	Depending on the structure
Ambient temperature range:	0...+55 °C 0...+50 °C for variants with valves of type 0460
Solenoid valve types used:	Types 6524 and 6525 (with pilot control type 6144), Type 0460
Maximum number of valve functions:	64

If device structures have fewer than 64 valve functions, less power is converted, so that the considered and measured maximum temperatures are the same or lower.

6.5 Permitted device variants

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

- Maximum 64 valve functions
- Combination of pneumatic valves
  Type 6524 (double coil 2 x 0.8 W) with
  Type 6525 (single coil 1 x 0.8 W)

The maximum number of 64 valve functions must not be exceeded.

- Structures with additional pneumatic connection units “Middle”
- Superstructures with pneumatic valves type 0460

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