Instruction Manual

1. Marking

Ethernet-APL Rail Field Switch ARS*-B2-IC*
ATEX certificate: TÜV 20 ATEX 8571 X ATEX marking: Ⓔx II 3 G Ex ic ec nC [ic] IIC T4 Gc Ⓔx II (3) D [Ex ic Dc] IIIC
IECEx certificate: IECEx TUR 20.0105 X IECEx marking: Ex ic ec nC [ic] IIC T4 Gc [Ex ic Dc] IIIC

The *-marked letters of the type code are placeholders for versions of the device.
You will find the exact device designation on the nameplate.

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2. Target Group, Personnel

Responsibility for planning, assembly, commissioning, operation, maintenance, and dismounting lies with the plant operator.
The personnel must be appropriately trained and qualified in order to carry out mounting, installation, commissioning, operation, maintenance, and dismounting of the device. The trained and qualified personnel must have read and understood the instruction manual.

3. Reference to Further Documentation

Observe directives, standards, and national laws applicable to the intended use and the operating location.
The corresponding datasheets, manuals, declarations of conformity, EU-type examination certificates, certificates, and control drawings if applicable supplement this document. You can find this information under www.pepperl-fuchs.com.

Due to constant revisions, documentation is subject to permanent change. Please refer only to the most up-to-date version, which can be found under www.pepperl-fuchs.com.
In order to access this documentation, enter the product name, i. e. the type code, or the item number of the product in the search field of the website.
For specific device information such as the year of construction, scan the QR code on the device. As an alternative, enter the serial number in the serial number search at www.pepperl-fuchs.com.

4. Intended Use

The device is an Ethernet-APL Field Switch which provides intrinsically safe outputs for connecting 2-WISE and FISCO devices.
The device interfaces have the following types of protection:

Interface	Type of protection
Spur ports S1 to Sn	Ex ic acc. to 2-WISE or FISCO
Ethernet ports	Ex ec
Auxiliary energy connection	Ex ec
Fault signal connection	Ex ec
Reset button	Ex ic

5. Improper Use

Protection of the personnel and the plant is not ensured if the device is not used according to its intended use.

6. Mounting and Installation

Prior to mounting, installation, and commissioning of the device you should make yourself familiar with the device and carefully read the instruction manual.

Do not mount a damaged or polluted device.
Observe the ambient and operating conditions when mounting and installing the device.
The device must only be operated in the specified ambient temperature range and at the specified relative humidity without condensation.
Observe the mounting position of the device.
The device can get very hot during operation. To protect the device from excessive heating, observe the required clearances and sufficient ventilation when installing the device.
The device may be installed in Zone 2.
The device may be installed in gas groups IIC, IIB, and IIA.
The device is an associated apparatus according to IEC/EN 60079-11.
The intrinsically safe output circuits may lead into Zone 2.
The intrinsically safe output circuits may lead into Zone 22.

6.1.

Requirements for Connectors and Cable Glands

Observe the tightening torque of the terminal screws.
Observe the permissible core cross section of the conductor.
Observe the insulation stripping length.
When installing the conductors the insulation must reach up to the terminal.
When using stranded conductors, crimp wire end ferrules on the conductor ends.
Only manipulate the connections within the specified ambient temperature range.

Temperature range	-5 °C to +70 °C

Observe the permissible cable type and cable length given in the respective hazardous area certificate.
Only use the terminals which are supplied with the device.

Tightening torque	Screw terminals: 0.5 Nm
Permissible cross section for solid or stranded conductors	General: 0.2 mm² to 2.5 mm²
	Power supply: in accordance with the maximum fuse protection of the external circuit
Insulation stripping length	For screw terminals: 9 mm to 10 mm
	For spring terminals: 10 mm to 11 mm

7. Hazardous Area

Observe the specific conditions of use.
Observe the warning markings.
Use separation walls or protective covers to preserve the required separation distances.
Ensure that the separation walls are correctly fitted and are in the correct mounting position.
Avoid electrostatic charges which could result in electrostatic discharges while installing, operating, or maintaining the device.
The device provides a grounding terminal to which an equipotential bonding conductor with a minimum cross section of 4 mm² must be connected.
The device must be installed and operated only in an environment of overvoltage category II (or better) according to IEC/EN 60664-1.
The device must be installed and operated only in a controlled environment that ensures a pollution degree 2 (or better) according to IEC/EN 60664-1.
If used in areas with higher pollution degree, the device needs to be protected accordingly.
Supply the device with a power supply that meets the requirements for safety extra-low voltage (SELV) or protective extra-low voltage (PELV).
The device must be installed and operated only in surrounding enclosures that

- comply with the requirements for surrounding enclosures according to IEC/EN 60079-0,
- are rated with the degree of protection IP54 according to IEC/EN 60529.

Observe the installation instructions according to IEC/EN 60079-14.
Observe the installation instructions according to IEC/EN 60079-25.
Observe the installation instructions according to IEC/EN TS 60079-47.
Only use SFP plug-in modules listed in the SFP modules certificate which is referenced in the certificate of this device.
Ensure that the used plug-in modules are in good condition and are not damaged or corroded.
Close the unused plug-in module slots with the corresponding covers.
Only use plugs that are in accordance with the IEC/EN 60603-7 series.
Ensure that the used plugs are in good condition and are not damaged or corroded.
Use plugs that are rated for the ambient temperature.

Internal Protection through Degree of Protection (IP)

An internal protection by degree of protection IP30 is available.
Place warning marking "Warning – Non-intrinsically safe circuits protected by degree of protection IP30!" visibly on the surrounding enclosure.
If intrinsically safe and non-intrinsically safe circuits are being operated together, the connections of the non-intrinsically safe circuits must be covered. The cover must comply with degree of protection IP30 according to IEC/EN 60529.
Close unused Ethernet ports with the corresponding covers.
For more information refer to manual.

No Internal Protection through Degree of Protection (IP)

An internal protection by degree of protection IP30 is not available.
Place warning marking "Warning – Do not open when non-intrinsically safe circuits are energized!" visibly on the surrounding enclosure.
The surrounding enclosure must not be opened when the device is energized.
When energized, only open the housing in the absence of a potentially explosive atmosphere.

8. Operation, Maintenance, Repair

Do not repair, modify, or manipulate the device.
Do not use a damaged or polluted device.
If there is a defect, always replace the device with an original device.

9. Return

Take the following precautions before you return the device to Pepperl+Fuchs.
Remove all adhering residues from the device. These residues can be hazardous to health.
Fill in the form **Declaration of Contamination**. You can find this form on the product detail page at www.pepperl-fuchs.com.
Enclose the filled in **Declaration of Contamination** form with the device.
Pepperl+Fuchs can examine and repair a returned device, only if a completed form is included in the return.
If needed, include special handling instructions with the device.
Specify the following information:

- Chemical and physical characteristics of the product
- Description of the application
- Description of the error that occurred (specify error code if possible)
- Operating time of the device

10. Delivery, Transport, Disposal

Check the packaging and contents for damage.
Check if you have received every item and if the items received are the ones you ordered.
Store the device in a clean and dry environment. The permitted ambient conditions must be considered, see datasheet.
The device, built-in components, packaging, and any batteries contained within must be disposed in compliance with the applicable laws and guidelines of the respective country.