FL RED 2001E PRP 2LC - Redundancy module

2701864

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Ethernet redundancy module for redundant networks with the redundancy protocol PRP.

Product description

The compact redundancy modules (RED) enable flexible and economical design of high-availability Ethernet networks in the field of energy and automation. With robustness according to IEC 61850-3 and IEEE 1613, their wide temperature range from -40°C to +70°C, and extensive power supply range from 18 to 58 V DC, they cover all the requirements of industrial and energy technology applications. Parallel redundancy according to IEC 62439 enables high availability networks without switch-over time to be established.

Your advantages

- Ambient temperature -40 °C ... 70 °C
- Easy startup without configuration
- Meets the requirements of IEC 61850-3 and IEEE 1613
- Low power consumption during operation
- No loss of packets in the event of a network failure
- Parallel redundancy without switch-over times for maximum availability

Commercial data

Item number	2701864
Packing unit	1 pc
Minimum order quantity	1 pc
Note	Made to order (non-returnable)
Sales key	DN17
Product key	DNN143
GTIN	4046356867450
Weight per piece (including packing)	541 g
Weight per piece (excluding packing)	420 g
Customs tariff number	85176200
Country of origin	DE

Technical data

Dimensions

Width	40 mm
Height	100 mm
Depth	109 mm

Mounting

Mounting type	DIN rail mounting

Interfaces

Ethernet (RJ45)

Connection method	RJ45
Note on the connection method	Auto negotiation and autocrossing
Transmission speed	10/100 Mbps
Transmission physics	Copper
Transmission length	100 m (per segment)
No. of channels	1 (RJ45 port)
Data flow control/protocols	IEC 61850-3, IEEE 1613

Ethernet FO

Connection method	LC
Transmission speed	100 Mbps (full duplex)
Transmission physics	multi-mode fiberglass
Transmission length	2 km (per segment)
No. of channels	2 (LC multi-mode)

Product properties

Product type	Switch
Product family	Redundancy module
Type	Block design
Basic functions	Ethernet redundancy module for the Parallel Redundancy Protocol

Switch functions

Basic functions	Ethernet redundancy module for the Parallel Redundancy Protocol
Redundancy	PRP (Parallel Redundancy Protocol)
Status and diagnostic indicators	LEDs: U_{S1}, U_{S2} (redundant voltage supply), link and activity per port

Security functions

Basic functions	Ethernet redundancy module for the Parallel Redundancy Protocol

Electrical properties

Local diagnostics	US1, US2 Supply voltage Green LED
	LNK/ACT Link status/data transmission Green LED
Maximum power dissipation for nominal condition	6 W
Transmission medium	Multi-mode fiberglass
	FO

Supply

Supply voltage (DC)	24 V DC (redundant)
Supply voltage	48 V DC (redundant)
Supply voltage range	18 V DC ... 58 V DC
Residual ripple	3.6 V_{PP} (within the permitted voltage range)
Typical current consumption	250 mA (at U_S = 24 V DC)

Supply: Module electronics

Connection method	Via COMBICON
Supply voltage	48 V DC
Supply voltage range	18 V DC ... 58 V DC

Connection data

Conductor cross-section, rigid	0.2 mm² ... 1.5 mm²
Conductor cross-section, flexible	0.2 mm² ... 1.5 mm²
Conductor cross-section AWG	24 ... 16

Environmental and real-life conditions

Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	-40 °C ... 70 °C
Ambient temperature (storage/transport)	-45 °C ... 85 °C
Permissible humidity (operation)	10 % ... 95 % (non-condensing)
Permissible humidity (storage/transport)	10 % ... 95 % (non-condensing)
Air pressure (operation)	70 kPa ... 106 kPa (3000 m above sea level)
Air pressure (storage/transport)	70 kPa ... 106 kPa (3000 m above sea level)

EMC data

Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Conformance with EMC directives	IEC 61000-6-2 IEC 61000-4-2 (ESD) Criterion A
	IEC 61000-6-2 IEC 61000-4-3 (immunity to radiated interference) Criterion A
	IEC 61000-6-2 IEC 61000-4-4 (burst) Criterion A
	IEC 61000-6-2 IEC 61000-4-5 (surge) Criterion A
	IEC 61000-6-2 IEC 61000-4-6 (immunity to conducted interference) Criterion A
	IEC 61000-6-2 IEC 61000-4-8 (immunity to magnetic fields) Criterion A
	EN 55022 (emitted interference) Criterion B
Noise immunity	IEC 61850-3, IEEE 1613, EN 61000-6-2: 2005

Noise emission

Standards/regulations	EN 61000-6-4

System properties

Functionality

Basic functions	Ethernet redundancy module for the Parallel Redundancy Protocol

Signaling

Status display	LEDs: U_{S1}, U_{S2} (redundant voltage supply), link and activity per port

Classifications

ETIM

ETIM 8.0	EC000734

UNSPSC

UNSPSC 21.0	43201400

Environmental product compliance

EU RoHS

Fulfills EU RoHS substance requirements	Yes
Exemption	6(a)-I, 7(a), 7(c)-I

China RoHS

Environment friendly use period (EFUP)	EFUP-50
	An article-related China RoHS declaration table can be found in the download area for the respective article under "Manufacturer declaration". For all articles with EFUP-E, no China RoHS declaration table issued and required.

EU REACH SVHC

REACH candidate substance (CAS No.)	Lead(CAS: 7439-92-1)

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