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Ethernet Switch, with four push-pull 10/100 Mbps RJ45 ports for PROFINET RT/IRT, in degree of protection IP67

## **Product Description**

The FL SWITCH IRT are four-port switches for PROFINET applications. The ERTEC 400 switch architecture ensures optimum integration and diagnostics of infrastructure components in PROFINET networks. This enables the switches and all their functions to be configured by a higher-level PROFINET controller. Using the available GSDML or FDCML files, easy and reliable integration into the higher-level engineering system is ensured. The devices offer the following features:

- Diagnostics and parameterization are carried out via the PROFINET protocol from the controller.
- The switches can be parameterized by any controller using the PROFINET functionality and integrated into the engineering system.
- LLDP support for topology detection in the PROFINET environment.
- DCP protocol for IP address assignment directly from the controller.
- MEM PLUG parameterization memory for storing the device configuration.
- POF-SCRJ ports for polymer or PCF fibers for field assembly including monitoring of the path quality via PROFINET and diagnostics LEDS directly on the switch.
- Thanks to the use of ERTEC 400, the switches from the FL SWITCH IRT range support PROFINET IRT including the cut-through method.
- Web-based management for easy monitoring and configuration in a web browser.
- SNMP support for monitoring and configuration with standard IT tools.

### Your advantages

- · IP65 housing
- · Cut-through switching
- · PN IO device
- MRP (client and manager)
- SNMP



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# **Commercial Data**

Order Key	2700694
Packing unit	1 pc
Minimum order quantity	1 pc
Sales Key	DNN
GTIN	4055626740171
Weight per Piece (including packing)	2,111.0 GRM
Weight per Piece (excluding packing)	2,100.0 GRM
Customs tariff number	85176200
Country of origin	DE



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# **Technical Data**

### **Dimensions**

Width	176 mm
Height	112 mm
Depth	99 mm
Drill hole spacing	155 mm

#### Notes

#### Utilization restriction

EMC note	EMC: class A product, see manufacturer's declaration in the
	download area

### Material specifications

Housing material Zinc die-cast, surface bronzed and nickel-plated
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## Mounting

Mounting type	Wall mounting

### Interfaces

#### Ethernet

Connection method	RJ45
Transmission speed	10/100 Mbps
Transmission physics	Copper
Transmission length	100 m (per segment)
Signal LEDs	Supply voltage, data transmission, error, link, activity
No. of channels	4 (RJ45 ports)

# Product properties

Туре	Stand-alone	
Switch functions		

Switch functions	
Basic functions	Cut-through/store-and-forward switch complies with IEEE 802.3 2 priority classes in accordance with IEEE802.1 P, TCP/IP protocol, DCP capable, integrated web server function, PROFINET device.
Signal contact control voltage	24 V
PROFINET conformance class	Conformance-Class C
PROFINET device function	PROFINET device
PROFINET specification	PROFINET-IO RT/IRT, Spec. 2.x
Redundancy	MRP (Media Redundancy Protocol)
Status and diagnostic indicators	LEDs: US1, US2 (power supply), Fail (alarm contact), 3 LEDs per Ethernet port (Link, Activity, and FO status), and BF (Bus Fail)
Supported browsers	Internet Explorer 5.5 or higher

## Electrical properties



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Local diagnostics	US1/2 Supply voltage US1, US2 Green LED
	FAIL Div. LED red
	LINK Link status Green LED
	ACT Receiving/sending telegrams Green LED
	BF Bus errors LED red
Maximum power dissipation for nominal condition	3.96 W
Test section	Between the Ethernet ports 1500 V AC 1 min.
	24 V supply (US) / FE 500 V DC 1 min.
Transmission medium	Copper
upply	
Supply voltage	24 V DC (redundant)
Supply voltage range	18.5 V DC 30.2 V DC
Power supply connection	Via COMBICON, max. conductor cross section 2.5 mm²
Residual ripple	3.6 V <sub>PP</sub> (within the permitted voltage range)
Max. current consumption	165 mA
Typical current consumption	165 mA (at U <sub>S</sub> = 24 V DC)
Current consumption	165 mA (at 24 V DC)
unction	
Signal contact control voltage	24 V
Signal contact contact voltage	2.10
upply: Module electronics	
Supply voltage	24 V DC
Supply voltage range	18 V DC 32 V DC (including ripple)
nection data	
nnection data  Connection method	Screw connection
Connection method	Screw connection  0.2 mm² 2.5 mm²
Connection method Conductor cross section, rigid	0.2 mm² 2.5 mm²
Connection method	
Connection method Conductor cross section, rigid Conductor cross section, flexible Conductor cross section AWG	0.2 mm <sup>2</sup> 2.5 mm <sup>2</sup> 0.2 mm <sup>2</sup> 2.5 mm <sup>2</sup>
Connection method  Conductor cross section, rigid  Conductor cross section, flexible  Conductor cross section AWG  Stripping length	0.2 mm <sup>2</sup> 2.5 mm <sup>2</sup> 0.2 mm <sup>2</sup> 2.5 mm <sup>2</sup> 24 12
Connection method Conductor cross section, rigid Conductor cross section, flexible Conductor cross section AWG Stripping length bient conditions	0.2 mm <sup>2</sup> 2.5 mm <sup>2</sup> 0.2 mm <sup>2</sup> 2.5 mm <sup>2</sup> 24 12 7 mm
Connection method Conductor cross section, rigid Conductor cross section, flexible Conductor cross section AWG Stripping length Dient conditions Degree of protection	0.2 mm <sup>2</sup> 2.5 mm <sup>2</sup> 0.2 mm <sup>2</sup> 2.5 mm <sup>2</sup> 24 12 7 mm
Connection method Conductor cross section, rigid Conductor cross section, flexible Conductor cross section AWG Stripping length bient conditions Degree of protection Ambient temperature (operation)	0.2 mm² 2.5 mm²  0.2 mm² 2.5 mm²  24 12  7 mm  IP67  -25 °C 60 °C
Connection method Conductor cross section, rigid Conductor cross section, flexible Conductor cross section AWG Stripping length Dient conditions Degree of protection Ambient temperature (operation) Ambient temperature (storage/transport)	0.2 mm² 2.5 mm²  0.2 mm² 2.5 mm²  24 12  7 mm  IP67  -25 °C 60 °C  -40 °C 85 °C
Connection method Conductor cross section, rigid Conductor cross section, flexible Conductor cross section AWG Stripping length bient conditions Degree of protection Ambient temperature (operation) Ambient temperature (storage/transport) Permissible humidity (operation)	0.2 mm² 2.5 mm²  0.2 mm² 2.5 mm²  24 12  7 mm  IP67  -25 °C 60 °C  -40 °C 85 °C  5 % 95 % (non-condensing)
Connection method Conductor cross section, rigid Conductor cross section, flexible Conductor cross section AWG Stripping length Dient conditions Degree of protection Ambient temperature (operation) Ambient temperature (storage/transport) Permissible humidity (operation)	0.2 mm² 2.5 mm²  0.2 mm² 2.5 mm²  24 12  7 mm  IP67  -25 °C 60 °C  -40 °C 85 °C  5 % 95 % (non-condensing)  5 % 95 % (non-condensing)
Connection method Conductor cross section, rigid Conductor cross section, flexible Conductor cross section AWG Stripping length Dient conditions Degree of protection Ambient temperature (operation) Ambient temperature (storage/transport) Permissible humidity (operation) Vibration (operation)	0.2 mm² 2.5 mm²  0.2 mm² 2.5 mm²  24 12  7 mm  IP67  -25 °C 60 °C  -40 °C 85 °C  5 % 95 % (non-condensing)  5 % 95 % (non-condensing)  in accordance with IEC 60068-2-6: 5g, 10 Hz 150 Hz
Connection method Conductor cross section, rigid Conductor cross section, flexible Conductor cross section AWG Stripping length Dient conditions Degree of protection Ambient temperature (operation) Ambient temperature (storage/transport) Permissible humidity (operation) Permissible humidity (storage/transport) Vibration (operation) Air pressure (operation)	0.2 mm² 2.5 mm²  0.2 mm² 2.5 mm²  24 12  7 mm  IP67  -25 °C 60 °C  -40 °C 85 °C  5 % 95 % (non-condensing)  5 % 95 % (non-condensing)  in accordance with IEC 60068-2-6: 5g, 10 Hz 150 Hz  86 kPa 108 kPa (2000 m above sea level)
Connection method Conductor cross section, rigid Conductor cross section, flexible Conductor cross section AWG Stripping length Dient conditions Degree of protection Ambient temperature (operation) Ambient temperature (storage/transport) Permissible humidity (operation) Vibration (operation)	0.2 mm² 2.5 mm²  0.2 mm² 2.5 mm²  24 12  7 mm  IP67  -25 °C 60 °C  -40 °C 85 °C  5 % 95 % (non-condensing)  5 % 95 % (non-condensing)  in accordance with IEC 60068-2-6: 5g, 10 Hz 150 Hz
Connection method Conductor cross section, rigid Conductor cross section, flexible Conductor cross section AWG Stripping length Dient conditions Degree of protection Ambient temperature (operation) Ambient temperature (storage/transport) Permissible humidity (operation) Permissible humidity (storage/transport) Vibration (operation) Air pressure (operation)	0.2 mm² 2.5 mm²  0.2 mm² 2.5 mm²  24 12  7 mm  IP67  -25 °C 60 °C  -40 °C 85 °C  5 % 95 % (non-condensing)  5 % 95 % (non-condensing)  in accordance with IEC 60068-2-6: 5g, 10 Hz 150 Hz  86 kPa 108 kPa (2000 m above sea level)
Connection method Conductor cross section, rigid Conductor cross section, flexible Conductor cross section AWG Stripping length Dient conditions Degree of protection Ambient temperature (operation) Ambient temperature (storage/transport) Permissible humidity (operation) Permissible humidity (storage/transport) Vibration (operation) Air pressure (storage/transport)	0.2 mm² 2.5 mm²  0.2 mm² 2.5 mm²  24 12  7 mm  IP67  -25 °C 60 °C  -40 °C 85 °C  5 % 95 % (non-condensing)  5 % 95 % (non-condensing)  in accordance with IEC 60068-2-6: 5g, 10 Hz 150 Hz  86 kPa 108 kPa (2000 m above sea level)
Connection method Conductor cross section, rigid Conductor cross section, flexible Conductor cross section AWG Stripping length Dient conditions Degree of protection Ambient temperature (operation) Ambient temperature (storage/transport) Permissible humidity (operation) Permissible humidity (storage/transport) Vibration (operation) Air pressure (operation) Air pressure (storage/transport) C data	0.2 mm² 2.5 mm²  0.2 mm² 2.5 mm²  24 12  7 mm  IP67  -25 °C 60 °C  -40 °C 85 °C  5 % 95 % (non-condensing)  5 % 95 % (non-condensing)  in accordance with IEC 60068-2-6: 5g, 10 Hz 150 Hz  86 kPa 108 kPa (2000 m above sea level)  66 kPa 108 kPa (3500 m above sea level)



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	EN 61000-4-5 (surge) Criterion B
	EN 61000-4-3 (electromagnetic fields) EN 61000-4-4 (EFT burst) Criterion A, 2.2 kV
	EN 61000-4-6 EN 61000-4-6 (line noise immunity) Criterion A, Field intensity: 10 V/m
	EN 61000-4-3 (electromagnetic fields) EN 61000-4-3 (electromagnetic fields) Criterion A, 10 V/m
	60950-1
Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
LED signaling	
Status display	LEDs: US1, US2 (power supply), Fail (alarm contact), 3 LEDs per Ethernet port (Link, Activity, and FO status), and BF (Bus Fail)



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# **Environmental Product Compliance**

REACh SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50 years
China RoHS	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"



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### Accessories

### Configuration memory

Configuration memory - FL MEM PLUG - 2891259



Exchangeable configuration memory of the device settings for simple device exchange and set-up

## Configuration memory

Configuration memory - FL MEM PLUG/MRM - 2891275



Exchangeable configuration memory of the device settings for simple device exchange and set-up In addition, the Media Redundancy Manager (MRM) license for use is stored within the Media Redundancy protocol (MRP).



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### Data plug

Data plug - VS-PPC-C1-RJ45-MNNA-PG9-4Q5 - 1608100



RJ45 connector, degree of protection: IP65/IP67, number of positions: 4, 100 Mbps, CAT5 (IEC 11801:2002), material: Zinc die-cast, connection method: IDC fast connection, connection cross section: AWG 26- 22, cable outlet: straight, color: silver, PROFINET

### Data plug

Data plug - VS-PPC-C2-MSTB-MNNA-P13-A5-SP - 1608074



Power connector, degree of protection: IP65, number of positions: 5, material: Zinc die-cast, connection method: Spring-cage connection, connection cross section: AWG 18- 13, cable outlet: straight, color: silver

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