5-Port Industrial Ethernet Switches | IDS-104FE

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IDS-104FE Industrial Ethernet Switches

5-port Compact DIN Rail Switches

- 4 x RJ45 ports with 10/100 Mbps on all ports
- 1 x SC or ST port for 100Base-FX
- Redundant dual power input 12/24/48 VDC
- Reverse polarity protection
- Fan-less design with no moving parts
- -10 to 60C industrial operating temperature support
- QoS (Quality of Service) prioritized messages

With a combination of four Fast Ethernet copper ports, and one Fast Ethernet fiber port for long distance connectivity, Perle IDS-104FE Industrial Ethernet Switches are designed for easy deployment in industrial environments with harsh operating conditions and limited space. Designed to stand up to extreme temperatures, surges, vibrations, and shocks found in industrial automation, infrastructure, transportation, security, oil and gas, and mining the IDS-104FE Switches are economical easy-to-use devices, that provide essential industrial Ethernet networking functionality.

These unmanaged switches support 9 to 55VDC redundant power input and provide a relay alarm for power failure. The full/half-duplex auto-negotiation and auto MDI/MDIX operation simplifies installation and setup for convenient connection of a variety of network devices. And, QoS support allows for traffic prioritization and effective management of resources.

For automation and industrial control systems using EtherNet/IP, these rugged, DIN rail mountable switches with metal housing provides security and easy installation (mounting kit is included).

Hardware & Technical Specifications: IDS-104FE Industrial Ethernet Switches

Interfaces

RJ45	4 x RJ45 ports for 10/100Base-TX up to 100 meters (328 ft)
	Auto-negotiation
	Auto-MDI/MDIX-crossover for use with either crossover over straight-through cable types
	Ethernet isolation 1500 V
100FX Fiber	IDS-104FE-M2SC2: 1 x Multi Mode (SC) - 2Km
	IDS-104FE-M2ST2: 1 x Multi Mode (ST) - 2Km
	IDS-104FE-S2SC20: 1 x Single Mode (SC) - 20Km
	IDS-104FE-S2ST20: 1 x Single Mode (ST) - 20Km

Power

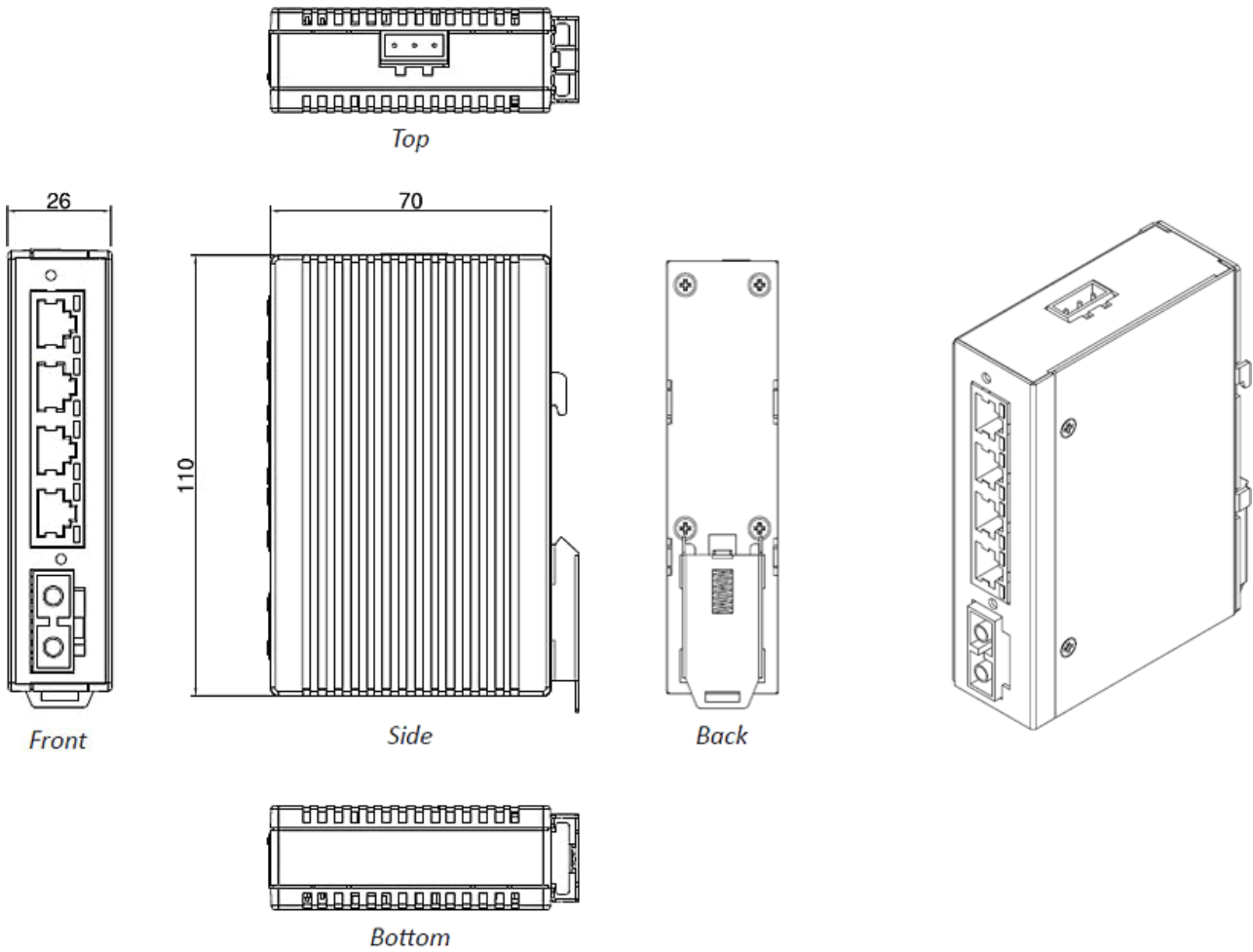|	
Power Input	12/24/48VDC (9-55VDC)
Power Consumption	1.82W Max. 0.14A@12VDC / 0.07A@24VDC, 0.038A@48VDC
Maximum Current Consumption @ 24VDC	0.14A@12VDC / 0.07A@24VDC, 0.038A@48VDC
Power Connector	3-Pin Removable Terminal Block

Overload Current Protection	Reset-able fuse provides overload current protection
Reverse Polarity Protection	The positive and negative inputs can be reversed providing safe and simple power connectivity.

Switch Properties

Standards	IEEE 802.3u 100BASE-TX/FX
	IEEE802.3x full-duplex flow control
	IEEE 802.3az Energy Efficient Ethernet
	IEEE 802.1p Quality of Service (QoS)
Processing Type	Store-and-Forward
	Auto Negotiation
	Half-duplex back-pressure
	802.3x full-duplex flow control
	Auto MDI/MDIX
MAC Address Table Size	1K
Packet Buffer Memory	448 Kbps
Jumbo Frame Size	No
Forward/Filtering Rate	14,880pps for 10Mbps
	148,810pps for 100Mbps

Indicators

Power LED	This LED is green when power is applied
RJ45 / SFP Ethernet LED	Link/Activity (Green), Speed (Yellow)

Environmental Specifications

Operating Temperature Ranges	-10 to 60°C (14 to 140°F)
Storage Temperature Range	-40 to 85°C (-40 to 185°F)
Operating Humidity Range	5% to 90% non-condensing
Storage Humidity Range	5% to 95% non-condensing
Operating Altitude	Up to 3,048 meters (10,000 feet)
Chassis	Plastic with an IP30 ingress protection rating
Din Rail Mountable	DIN Rail attachment included. Mounts to standard 35 mm DIN rail in accordance with DIN EN 60175.
Maximum Heat Output	6.22 BTU/Hr (max.)

MTBF	710611 hours
	MTBF Calculation model based on MIL-HDBK-217-FN2 @ 25°C

Product Weight and Dimensions

Weight	0.2Kg / 0.44lbs
Dimensions	26 x 70 x 110mm / 1.02" x 2.76" x 4.33" (W x D x H)

Packaging

Shipping Weight	0.34Kg (0.75lb.)
Shipping Dimensions	30 x 76.3 x 110mm, 1.18" x 3.05" x 4.4" (W x D x H)
Contents Shipped	Industrial Ethernet Switch with DIN Rail attachment
	Terminal block
	Installation guide

Standards and Certifications

Safety	UL 62368
EMC Emissions	FCC Part 15 Class A
	VCCI Class A
	EN 61000-3-2
	EN 61000-3-3
	EN 61000-6-4
EMC Immunity	EN 61000-6-2
	EN 61000-4-2 (ESD)
	EEN 61000-4-3 (Radiated RFI)
	EN 61000-4-4 (Burst)
	EN 61000-4-5 (Surge: ±4kV line-to-ground)
	EN 61000-4-6 (Induced RFI)
	EN 61000-4-8 (Magnetic field)
Industrial	IEC 60068-2-6 Fc (Vibration)
	IEC 60068-2-27 Ea (Shock)
Laser Safety	EN 60825-1
	Fiber optic transmitters on this device meet Class 1 Laser safety requirements per IEC-60825 FDA/CDRH standards and comply with 21CFR1040.10 and 21CFR1040.11.
Environmental	Reach, RoHS and WEEE Compliant
Other	ECCN: 5A991
	HTSUS Number: 8517.62.0020
	5 year warranty

Fiber Specifications

	Fiber1 Type	Transmit (dBm)		Receive (dBm)		Power Budget (dB)	Wavelength (nm)	IEEE	Core Size (um)	Modal Bandwidth (MHz Km)	Max Operating Distance (Km / mi)
		Min	Max	Min	Max						
IDS-104FE-M2SC2	MMF (Duplex SC)	-23.5	-14	-31	0	7.5	1310	100Base-FX	50	200	2km
		-20	-14			11			62.5		
IDS-104FE-M2ST2	MMF (Duplex ST)	-23.5	-14	-32	-8	8.5	1310	100Base-FX	50	200	2km
		-20	-14			12			62.5		
IDS-104FE-S2SC20	SMF (Duplex SC)	-20	0	-32	0	12	1310	100Base-FX	9/125/um	200	20km
IDS-104FE-S2ST20	SMF (Duplex ST)	-15	-8	-32	-3	17	1310	100Base-FX	9/125/um	200	20km

IDS-104FE Industrial Ethernet Switches

Top

Front

Side

Back

Bottom

Product Image	Description	Power Cord	Product Number
	IDS-104FE-M2SC2 Industrial Switch with 5-ports: 4 x 10/100Mbps RJ45 ports and 1 x 100Base-FX, 1310nm multimode port with duplex SC connector [2 km/ 1.2 miles]. -10 to 60C operating temperature.	None	07017410
	IDS-104FE-M2ST2 Industrial Switch with 5-ports: 4 x 10/100Mbps RJ45 ports and 1 x 100Base-FX, 1310nm multimode port with duplex ST connector [2 km/ 1.2 miles]. -10 to 60C operating temperature.	None	07017420
	IDS-104FE-S2SC20 Industrial Switch with 5-ports: 4 x 10/100Mbps RJ45 ports and 1 x 100Base-FX, 1310nm multimode port with duplex SC connector [20 km/ 12.4 miles]. -10 to 60C operating temperature.	None	07017430
	IDS-104FE-S2ST20 Industrial Switch with 5-ports: 4 x 10/100Mbps RJ45 ports and 1 x 100Base-FX, 1310nm multimode port with duplex ST connector [20 km/ 12.4 miles]. -10 to 60C operating temperature.	None	07017440