

SF1 - 3U Unmanaged 8-Port Ethernet Switch with RJ45



- **3U, 18 HP, 19" rack mountable**
- **8 Fast Ethernet ports (front)**
- **RJ45 connectors**
- **Status LEDs for all ports and board state**
- **Wide input range PSU (14 to 154V), EN50155 qualified**
- **-40 to +70(+85)°C according to EN50155 Class Tx with qualified components**

The SF1 is a stand-alone, unmanaged Fast Ethernet switch that comes in a compact 3U, 18HP, 19" cassette. It provides eight channels at the front panel accessible through RJ45 connectors.

The SF1 is supplied by its integrated, rugged power supply unit (PSU), with a power connector at the front panel. The entire switch consumes less than 7 W and needs no cooling.

The SF1 supports full-duplex and half-duplex operation, auto-negotiation and Layer-2 switching. The switch is fault tolerant and restores itself on its own: if a link is temporarily unavailable, it will work again after the disturbance without any restart or reset. Its built-in test mechanisms make the SF1 an even more reliable component in the communication system.

Although the switch is unmanaged, MEN also provides fixed managed versions with a configuration EEPROM tailored to the application's requirements. This may include features such as 802.1p priority and port based priority, port based VLAN or IEEE 802.1q VLAN IDs.

The SF1 was specifically designed for rugged mobile communication systems. It is thus for example fully compliant with the EN 50155 railway standard. All components inside the cassette are specified for a -40 to +70°C operation temperature (+85°C for ten minutes according to EN 50155 Class Tx). There are no socketed components, hardening the box against shock and vibration. Its PCBs are ready for coating and the switch has a guaranteed minimum standard availability of 5 years.

Technical Data

Ethernet Switch Functions

- Eight 10/100Base-T ports at front panel
 - Electrical isolation: 1500Vrms
- Auto-negotiation
- High-speed non-blocking, store-and-forward switching
- 8K MAC address lookup table with automatic learning and aging
- Layer 2 switching
- Back pressure or IEEE802.3x flow control
- Automatic MDI/MDI-X crossover
- Fixed managed operation via strapping or EEPROM at system reset time (option)
 - Duplex mode selection
 - Port speed
 - VLAN (Port-based)
 - QoS (Quality of service)
 - Port mirroring and port monitoring
 - Port trunking

Front I/O

- 8 Ethernet ports via RJ45 connectors
- 1 power input via mixed 7-pin D-Sub plug connector
- 16 link and activity Ethernet status LEDs (2 per channel)
- Status LEDs for power and reset

Electrical Specifications

- Power supply unit
 - 14V..154V DC wide range according to EN50155
- Isolation (according to EN50155)
 - Input/output: 1500Vrms
 - Input/shield: 1500Vrms
 - Output/shield: 1500Vrms
 - Ground/shield: 1500Vrms
- Power consumption: tbd. W
- MTBF: tbd. @ 40°C according to IEC/TR 62380 (RDF 2000)

Mechanical Specifications

- 19" rack-mount standard
- Dimensions: 3U, 18HP, 168mm depth
- Weight: tbd.

Environmental Specifications

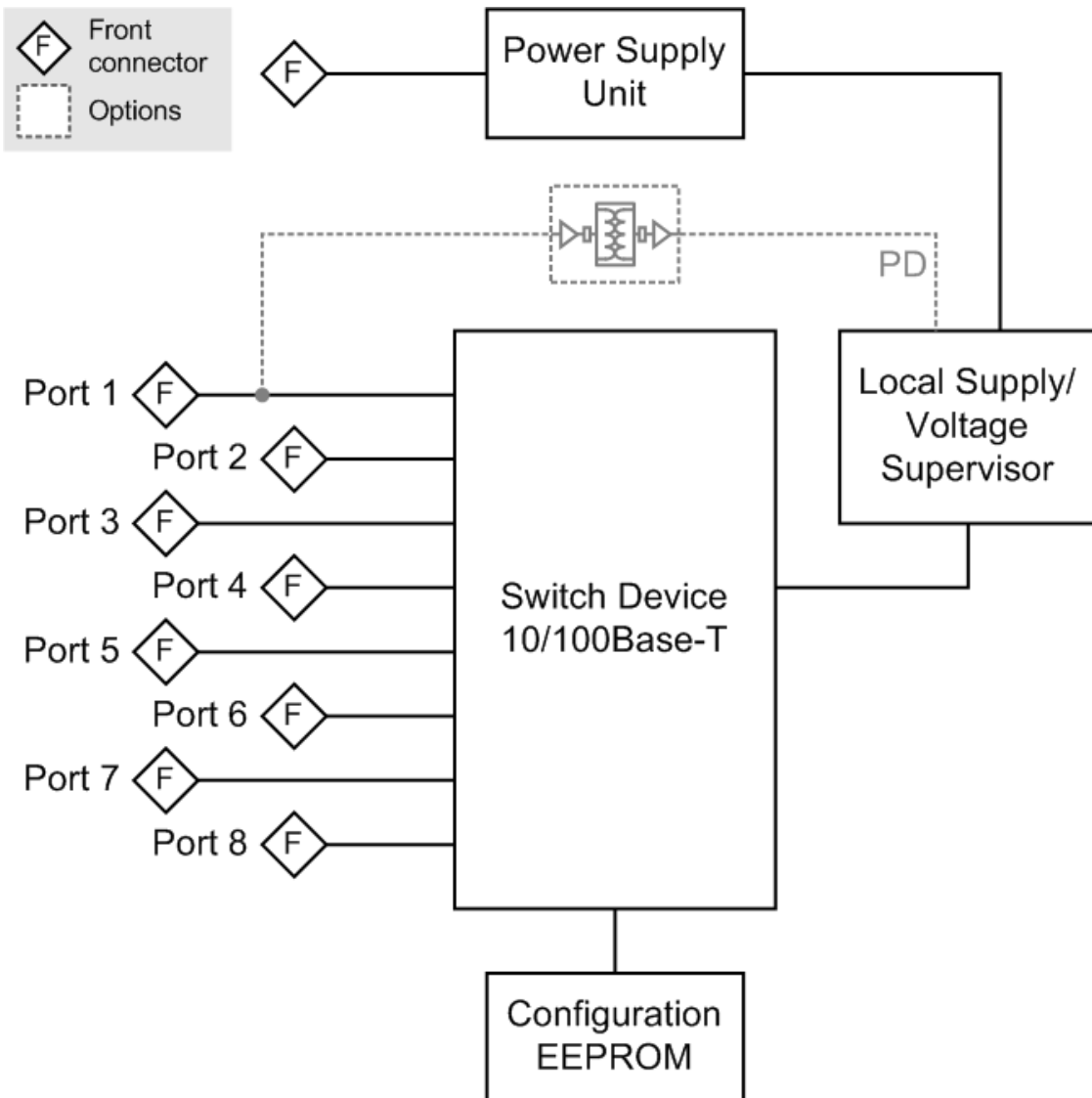
- Temperature range (operation):
 - -40..+70°C (qualified components, +85°C for ten minutes according to EN50155 Class Tx)
 - Airflow: min. 10m³/h
- Temperature range (storage): -40..+85°C
- Relative humidity (operation): max. 95% non-condensing
- Relative humidity (storage): max. 95% non-condensing
- Altitude: -300m to + 3,000m
- Shock: according to EN60068-2-27
- Bump: according to EN60068-2-29
- Vibration (sinusoidal): according to EN60068-2-6

Safety

- PCBs manufactured with a flammability rating of 94V-0 by UL recognized manufacturers

EMC

- Tested according to EN55022 (radio disturbance), EN61000-4-2 (ESD), EN61000-4-4 (burst) and EN61000-4-5 (surge)

Diagram

Configuration & Options

Standard Configurations

Article No.	Connectors	Front Panel	Management	Power over Ethernet
19SF01-00	RJ45	18 HP	Unmanaged	No (Class 2 PD optional)
19SF02-00	RJ45	18 HP	Managed	Yes (PSE, PD)
19SF03-00	M12	22 HP	Managed	Yes (PSE, PD)
19SF04-00	M12	22 HP	Unmanaged	No (Class 2 PD optional)

Options

Ethernet Switch

- Fixed managed version
 - With fixed configuration according to customer requirements

Ethernet-powered version without PSU (on request)

- Class 2 Powered Device supplied via Ethernet Port 1
 - No internal power supply unit

Environmental specifications

- Conformal coating on request

Please note that some of these options may only be available for large volumes. Please ask our sales staff for more information.

Ordering Information

Standard Hardware

19SF01-00 Unmanaged Switch with 8 Fast Ethernet ports on RJ45, PSU, 18HP, -40..+85°C with qualified components

Related Hardware

19SF02-00 Managed Switch with 8 Fast Ethernet ports on RJ45, PoE, PSU, 18HP, -40..+85°C with qualified components

19SF03-00 Managed Switch with 8 Fast Ethernet ports on M12, PoE, PSU, 22HP, -40..+85°C with qualified components, conformal coating

19SF04-00 Unmanaged Switch with 8 Fast Ethernet ports on M12, PSU, 22HP, -40..+85°C with qualified components, conformal coating

Documentation

20SF01-00 SF1/SF4 User Manual

For the most up-to-date ordering information and direct links to other data sheets and downloads, see the SF1 online data sheet under » www.men.de.

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