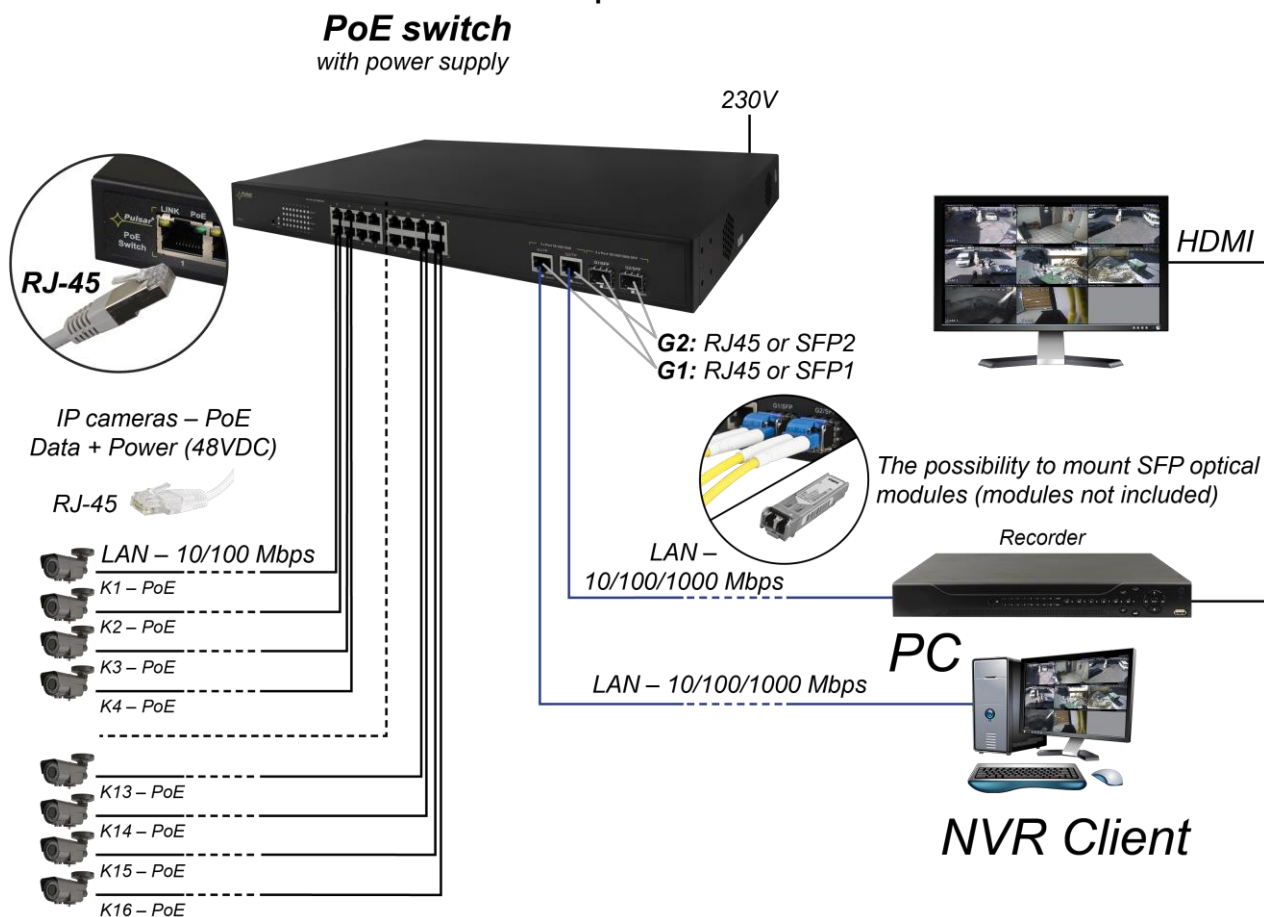


Features:

- Switch 16 ports
- 16 PoE ports 10/100Mb/s, (1÷16 ports) (data and power supply)
- 2 ports 10/100/1000 Mb/s (G1/TP, G2/TP2 port)
- 2 ports 10/100/1000Mb/s SFP (port G1/SFP, G2/SFP)
- 15,4W for each PoE port, supports devices complaint with the IEEE802.3af standard
- Supports auto-learning and auto-aging of MAC addresses (1K size)
- LED indication
- Enclosure in Rack 19" 1U cabinets
- Additional assembly elements
- warranty – 2 year from the production date

Example of use.



1. Technical description.

1.1. General description.

SF116 is a 16- port PoE switch designed to supply IP cameras operating in IEEE 802.3af standard. Automatic detection of any devices powered in the PoE standard is enabled at the 1 – 16 ports of the switch. The G1/TP, G2/TP ports is used for connection of another network device via RJ45 connector. The switch is fitted with SFP slots; the use of fiber optic module (GBIC) allows fiber optic transmission. The operating status of the device (described in the table below) is displayed on the LED display on the front panel. The PoE technology ensures a network connection and reduces installation costs by eliminating the need to supply a separate power cable for each device. This method allows supplying other network devices, such as IP phone, wireless access point or router.

1.2. Block diagram.

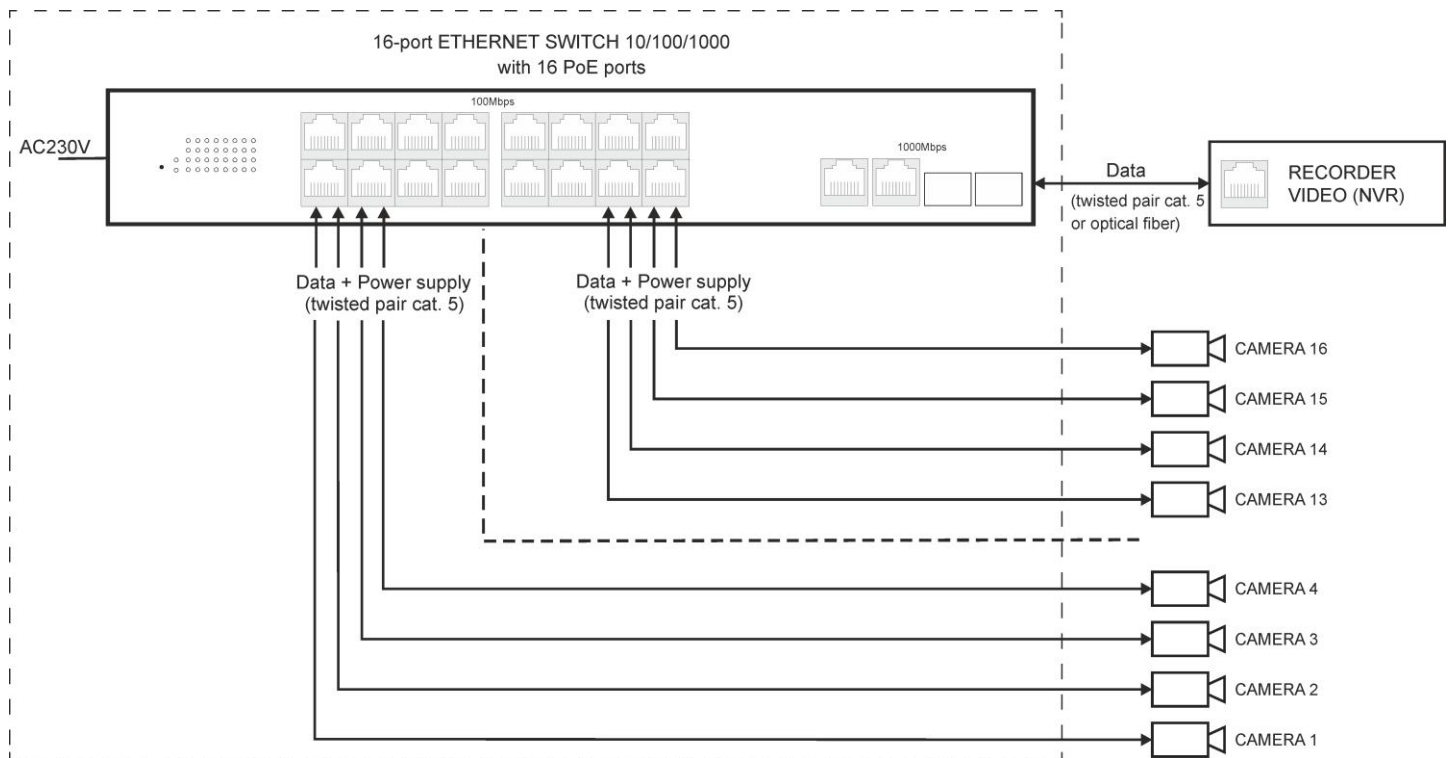


Fig. 1. Block diagram.

1.3. Description of components and connectors.

Table 1. (see Fig. 2)

Element no. (Fig. 2)	Description
[1]	16 x PoE port (1÷16)
[2]	2 x UPLINK port (G1/TP, G2/TP)
[3]	2 x UPLINK port (G1/SFP, G2/SFP)
[4]	LED lights: power supply and LAN connection status
[5]	230V AC power outlet with a switch

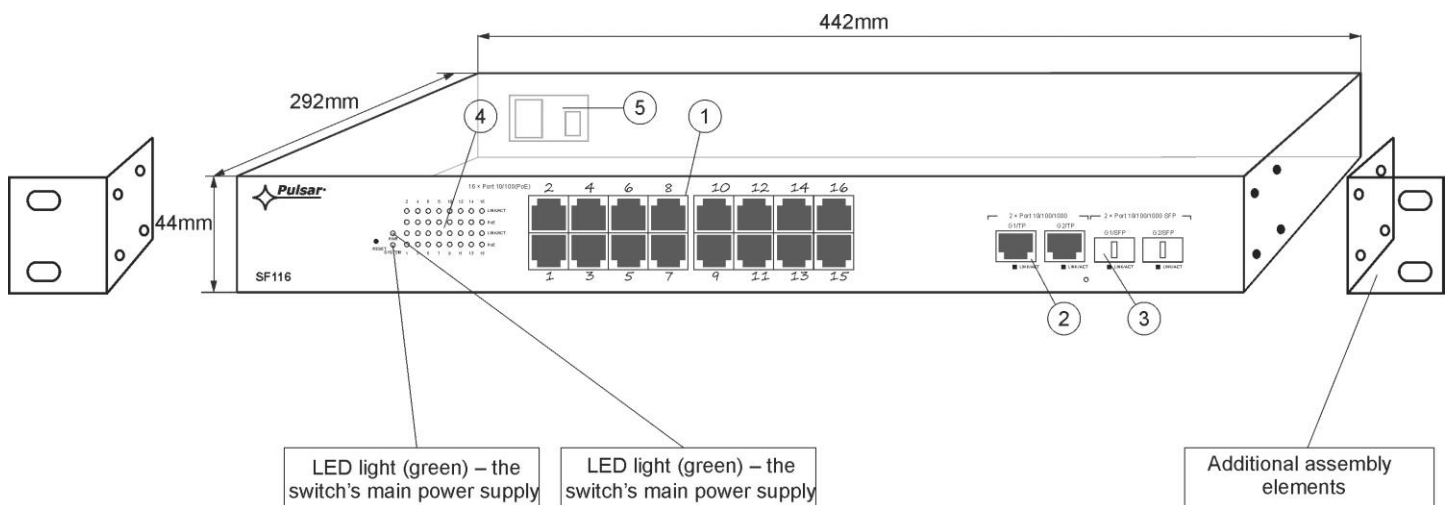


Fig. 2 The view switch'a.

1.4. Technical parameters (table 2.)

Table 2.

Ports	16 x PoE (10/100Mb/s) (RJ-45) 2 x UPLINK (10/100/1000Mb/s) (RJ-45) 2 x UPLINK (10/100/1000Mb/s) (SFP) with connection speed auto-negotiation and MDI/MDIX Auto Cross)
PoE power supply	IEEE 802.3af (1÷16 ports), 48VDC / 15,4W at each port * Used pairs 4/5 (+), 7/8 (-)
Protocols, Standards	IEEE802.3, 802.3u, 802.3x CSMA/CD, TCP/IP
Forwarding rate	10BASE-T: 14880pps/port 100BASE-TX: 148800pps/port
Bandwidth	1,6Gbps
Transmission method	Store-and-Forward
Optical indication of operation	Switch power supply Link PoE Status
Power supply	90 ÷ 264VAC 50÷60Hz / 2A @ 230VAC max.
Operating conditions	temperature -10°C ÷ 40°C, relative humidity 20% - 90%, no condensation
Dimensions (W x H x D)	442 x 44 x 292 [mm]
Additional equipment	plate to be fixed surface, bracket for Rack 19"
Net/gross weight	4,17/4,74kg
Protection class EN 60950-1:2007	I (first)
Storage temperatur	-20°C ÷ 60°C
Declarations	CE

* The given value of 15,4W per port is the maximum value. The total power consumption should not exceed 192W when all PoE ports are being used.

2. Installation.

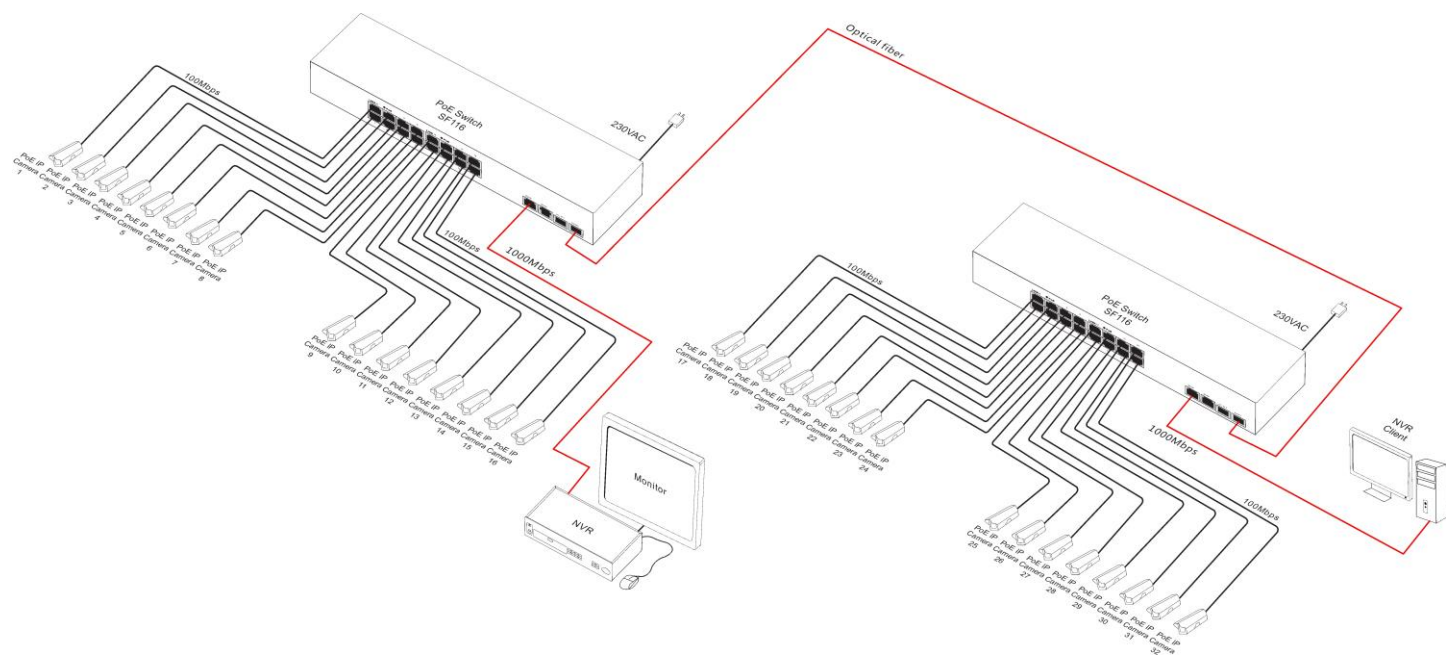
2.1. Requirements.

The unit should be mounted in confined spaces, in accordance with the 2nd environmental class, with normal relative humidity (RH=90% maximum, without condensation) and temperature from -10°C to +40°C. Ensure the free flow of air around the unit. The PSU shall work in a vertical position that guarantees sufficient convectional air-flow through ventilating holes of the enclosure.

The switch load balance should be done before installation. The given value of 15,4W per port is the maximum value referring to a single output. The total power consumption should not exceed 192W when all PoE ports are being used. The increased demand for power is particularly evident in the case of cameras with heaters or infrared illuminators - when launching these features, the power consumption increases rapidly, which may adversely affect the operation of the switch. The device is designed for a continuous operation. Therefore, an appropriate overload protection in the power supply circuit should be provided. The electrical system shall be made in accordance with applicable standards and regulations.




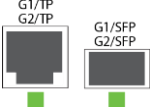
2.2. Installation procedure.

1. Connect the 230V AC power supply and turn on the device (the power switch next to the power socket).
2. Connect the camera wires to the RJ45 connectors (PoE connectors (sockets RJ45 from 1 to 16).
3. Connect the remaining LAN devices to RJ45 connectors (G1/TP or G1/G2 and SFP/SFP)
CAUTION! G1/TP and G1/SFP connectors can not operate simultaneously
CAUTION! G2/TP and G2/SFP connectors can not operate simultaneously
4. Check the optical indication of switch operation (see Table 3).



3. Operation indication (see table 3)

Table 3. Operation indication

OPTICAL INDICATION OF THE SWITCH's POWER SUPPLY		
YELLOW LED LIGHT (Power) Indication of the switch's power supply	PWR 	OFF – no power supply of the switch ON – power supply on, normal operation
OPTICAL INDICATION AT THE PoE PORTS (1÷8)		
YELLOW LED LIGHT (LINK/ACT) The connection status of LAN devices, 10MB/s or 100Mb/s and data transmission	 ● ● ● ● ● ● LINK/ACT ○ ○ ○ ○ ○ ○ LINK/ACT ● ● ● ● ● ● LINK/ACT ○ ○ ○ ○ ○ ○	OFF - no connection ON - the device is connected; 10Mb/s or 100Mb/s Blinking – data transmission
GREEN LED LIGHT (PoE) Indication of the PoE power supply at the RJ45 ports	 ○ ○ ○ ○ ○ ○ PoE ● ● ● ● ● ● PoE ○ ○ ○ ○ ○ ○ PoE ● ● ● ● ● ● PoE	OFF - no power supply at the RJ45 port (the device is not connected or not compliant with the IEEE802.3af standard) ON – supply Blinking – short-circuit or output overload
OPTICAL INDICATION AT THE UPLINK PORT (G1/TP, G2/TP, G1/SFP, G2/SFP)		
GREEN LED LIGHT		No light (OFF) - no connection or LAN device is not connected ON - LAN device connected (port busy, do not connect the device) Blinking – data transmission (do not connect the device, even if the slot is empty) CAUTION! G1/TP and G1/SFP sockets can not operate simultaneously CAUTION! G2/TP and G2/SFP sockets can not operate simultaneously



WEEE LABEL

Waste electrical and electronic equipment must not be disposed of with normal household waste. According to the European Union WEEE Directive, waste electrical and electronic equipment should be disposed of separately from normal household waste.

Pulsar

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