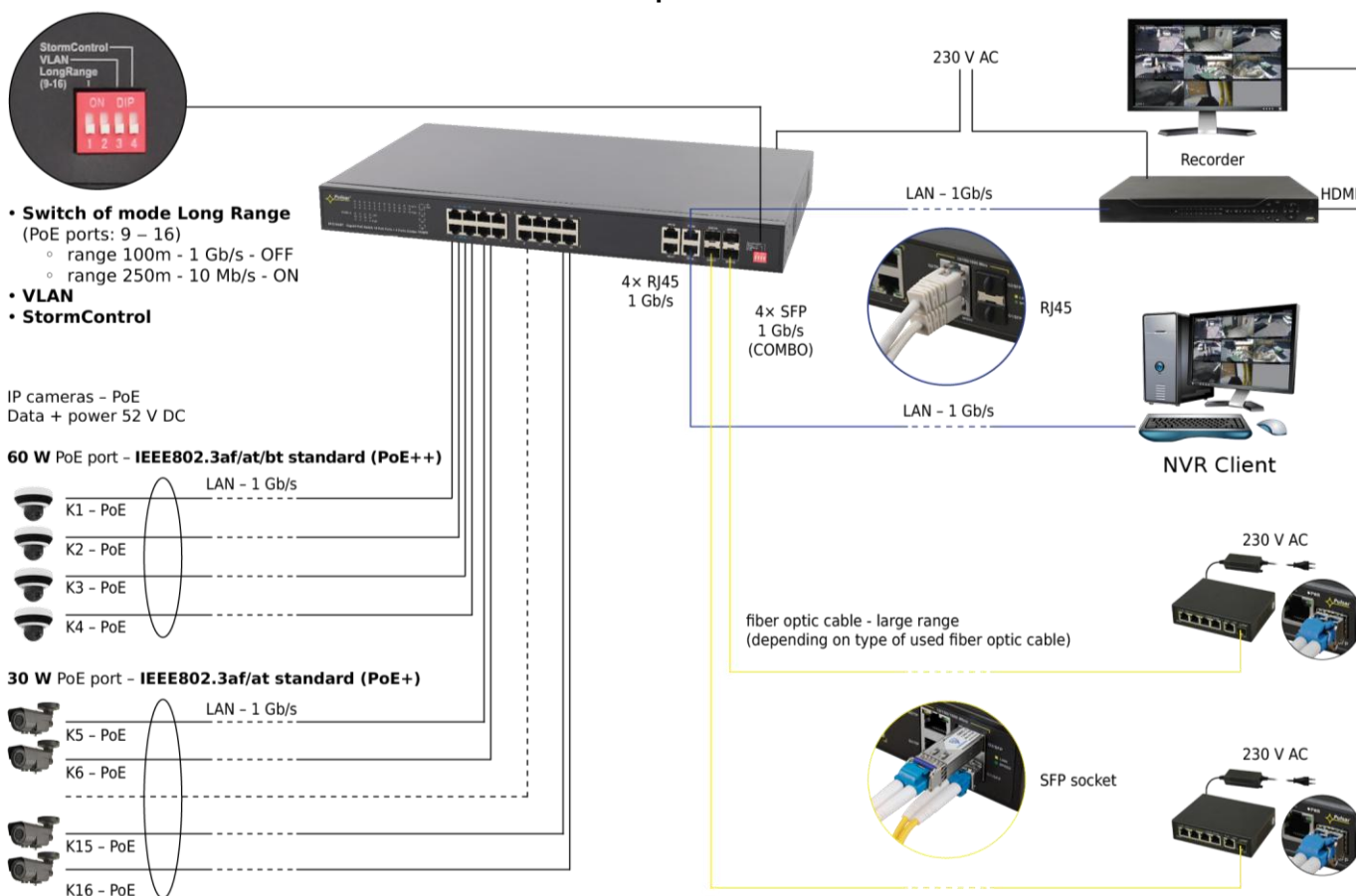




## Features:

- Switch 20 ports
  - 16 ports PoE 10/100/1000 Mb/s (data transfer and power supply)
  - 4 ports 10/100/1000 Mb/s (porty TP/17-20) (UpLink)
  - 4 ports 1000 Mb/s (porty SFP/17-20) (UpLink)
- 60 W for ports 1 – 4, supports devices compliant with IEEE802.3af/at/bt standard (**HiPoE**)
- 30 W for ports 5 – 16, supports devices compliant with IEEE802.3af/at standard (**PoE+**)
- Supports auto-learning and auto-aging of MAC addresses (8K size)
- Optical indication
- Function switch:
  - LongRange
  - VLAN
  - StormControl
- Additional mounting elements
- Warranty – 2 years

## Example of use.



## 1. Technical description.

### 1.1. General description.

SFG120-BT is a 20-port PoE switch designed to supply IP cameras operating in the IEEE 802.3af/at/bt standard. Automatic detection of any devices powered in the PoE/PoE+ standard is enabled at the 1 – 16 ports of the switch, and HiPoE for ports 1 – 4. The ports marked TP/17-20 are used to connect additional network devices via an RJ45 connector. Switch also has four SFP sockets (marked SFP/17-20), which after using SFP modules (GBICs) enable fiber optic transmission. On front panel there is LEDs signaling of the device's status (description in table 3).

The PoE technology provides a network connection and reduces installation costs by eliminating the need to supply a separate power cable to each device. In addition to cameras, other network devices using this technology can be supplied in this way, e.g. IP phone, wireless access point, router.

## 1.2 Block diagram.

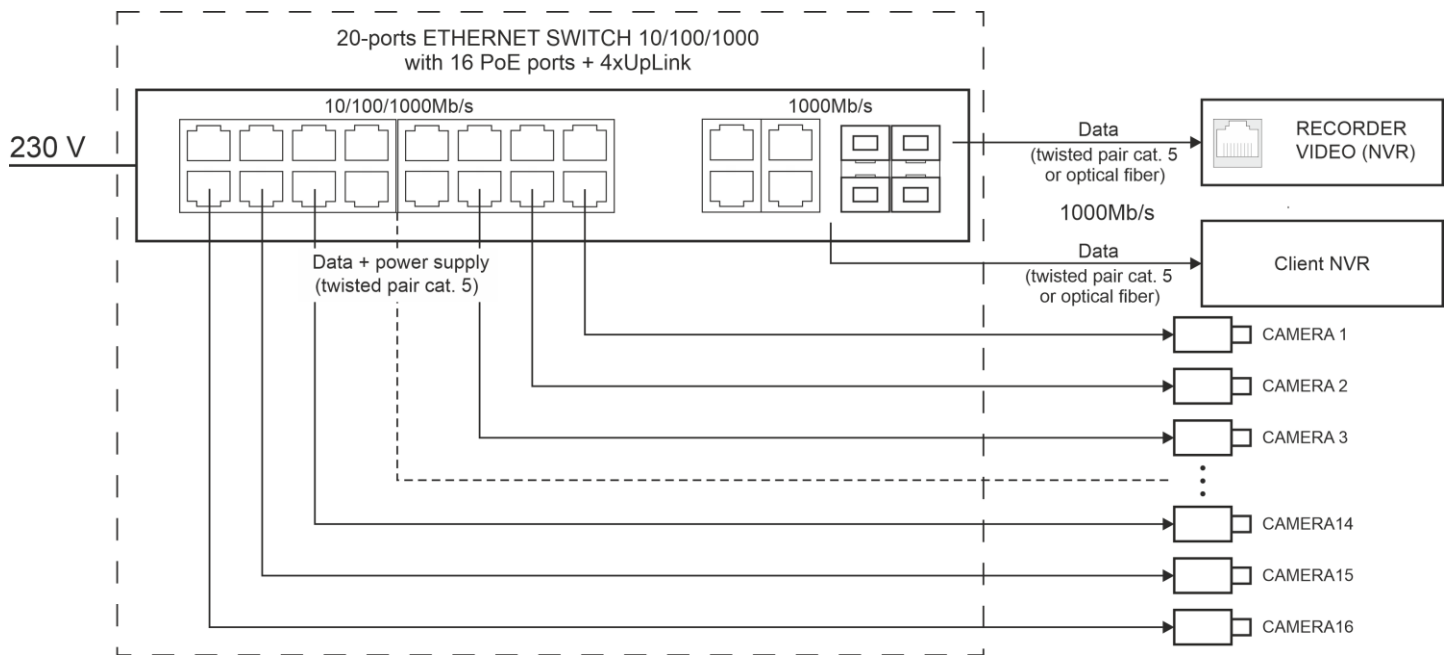


Fig. 1. Block diagram.

## 1.3. Description of components and connectors.

Table 1. (see Fig. 2, 3 and 4)

Element no. (Fig. 2)	Description
[1]	Optical indication
[2]	16 x PoE port (1 – 16)
[3]	4 x UpLink port (TP/17-20)
[4]	4 x UpLink port (SFP/17-20)
[5]	Function switch (see Section 4)
[6]	Protective earth connection
[7]	230 V power socket

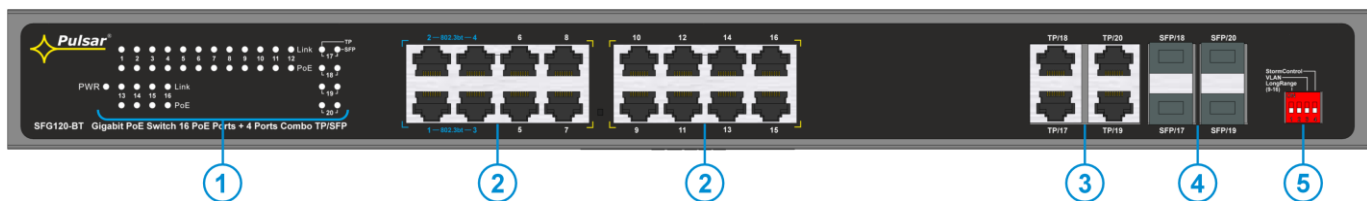


Fig. 2. Front panel.



Fig. 3. Rear panel.

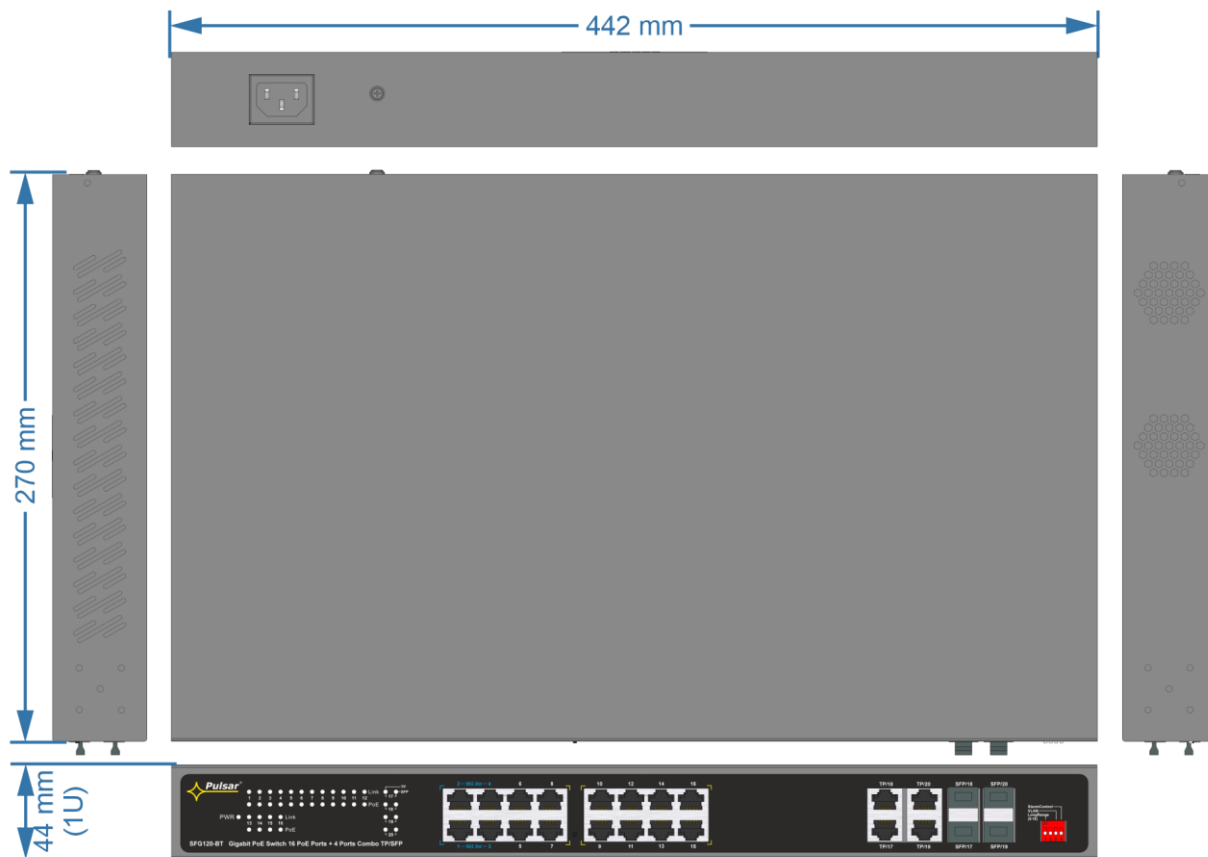


Fig. 4. View of the switch.

#### 1.4. Specifications.

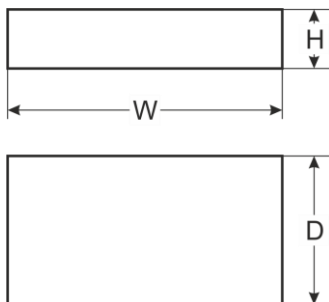


Table 2.

<b>Ports</b>	16 x PoE (10/100/1000 Mb/s) (RJ-45) 4 x UpLink (10/100/1000 Mb/s) (RJ-45) 4 x UpLink (1000 Mb/s) (SFP) with auto negotiation of connection speed, auto MDI/MDIX crossover
<b>PoE supply *</b>	<b>1 – 4 ports:</b> IEEE 802.3af/at/bt; 52 V DC; 1/2/4/5 (+), 3/6/7/8 (-); up to <b>60 W</b> port * <b>5 – 16 ports:</b> IEEE 802.3af/at; 52 V DC; 1/2 (+), 3/6 (-); up to <b>30 W</b> port *
<b>Protocols, Standards</b>	IEEE802.3, 802.3u, 802.3x, 802.3ab, 802.3z, TCP/IP
<b>Operating modes</b>	LongRange; VLAN; StormControl
<b>Bandwidth</b>	56 Gb/s
<b>Transmission method</b>	Store-and-Forward
<b>LED operation indication</b>	Switch power supply; Link/Act; PoE Status
<b>Power supply</b>	~100 – 240 V; 50/60 Hz; 3 A
<b>Operating conditions</b>	Temperature: -10°C – +40°C relative humidity 20%...90%, without condensation
<b>Dimensions</b>	W=442, H=44, D=270 [+/- 2mm]
<b>Additional equipment</b>	Mounting for RACK 19"
<b>Cable length AC</b>	1,2m
<b>Net/gross weight</b>	3.068 / 3.514 [kg]
<b>Protection class</b>	I (first)
<b>EN 62368-1</b>	
<b>Storage temperature</b>	-20°C – +60°C
<b>Declaration</b>	CE

\* The total power consumption should not exceed 160 W.

## 2. Installation

### 2.1. Requirements

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

The load balance should be done before installation Switcha. The given value of (60)30 W per port is the value referring to a single output. The total power consumption should not exceed 160 W. The increased power demand is particularly noticeable when using cameras equipped with heaters or infrared illuminators – when these components are activated, power consumption increases rapidly, which may cause the switch to malfunction in the event of device overload. Because the device is designed for continuous operation and is not equipped with ON/OFF switch, power supply circuit should have appropriate overload protection. The electrical system shall follow valid standards and regulations.

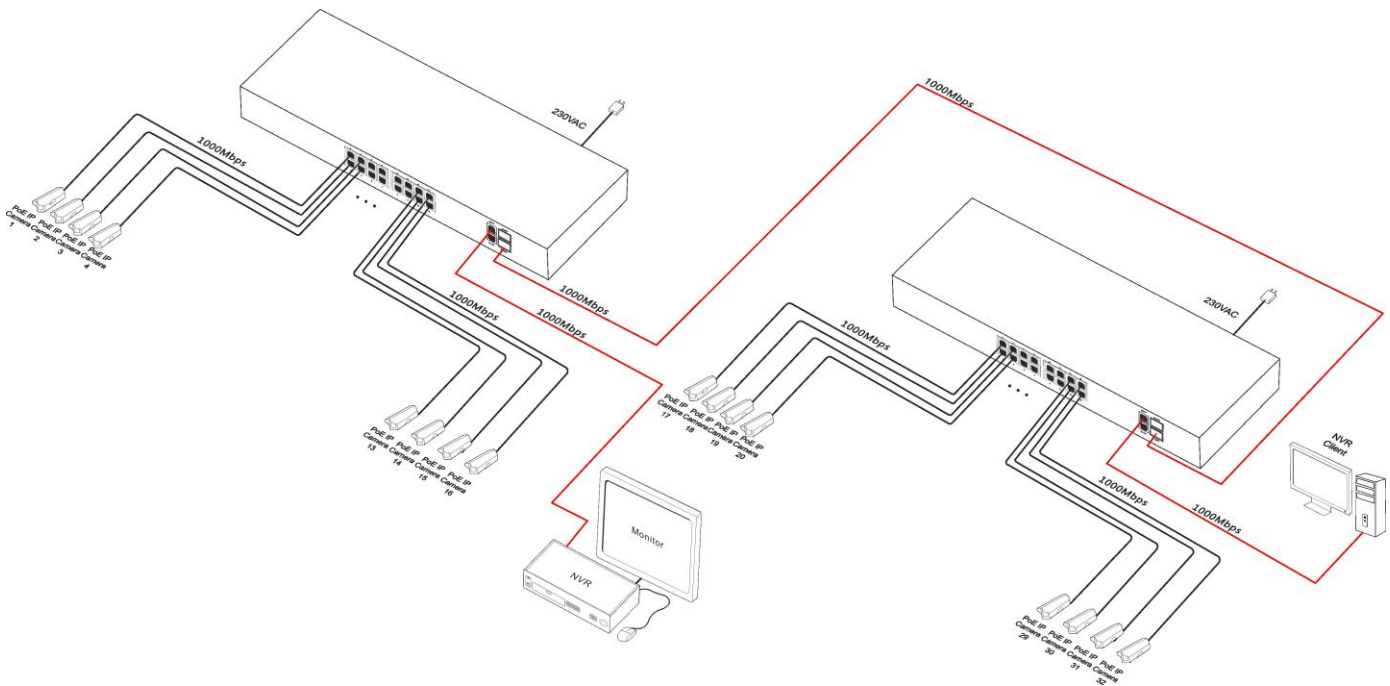
### 2.2. Installation procedure

1. Connect the 230 V power supply and switch on the device. The connection should be made using the supplied three-wire cable with plug. The switch should be installed in such a way and in such a place that air can flow freely around it.
2. Connect the camera cables to the RJ45 (RJ45 sockets 1 to 16).
3. Connect the remaining LAN devices to the RJ45 port (TP/17-20) or SFP sockets (SFP/17-20).

**CAUTION!** Sockets marked with the symbols TP and SFP are COMBO type. Connectors with matching numbers cannot operate simultaneously!

4. If necessary, you can select the desired operating mode of the device using the switch.
5. Check the switch operation indicator (see Table 3).

### Examples of connections:



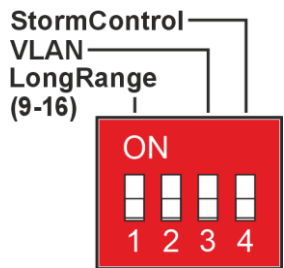
3. Operation indication.

Table 3. Operation indication.

OPTICAL INDICATION OF THE SWITCH's POWER SUPPLY		
<b>GREEN LED LIGHT (Power)</b> Indication of the switch's power supply	<b>PWR</b> ●	<b>OFF</b> – no power supply of the switch <b>ON</b> – power supply on, normal operation
OPTICAL INDICATION AT THE PoE PORTS (1÷16)		
<b>GREEN LED LIGHT (Link)</b> The connection status of LAN 10/100/1000 Mb/s and data transmission	<div><div>● ● ● Link</div><div>1 ... 16</div><div>● ● ● PoE</div></div>	<b>OFF</b> – no connection <b>ON</b> – the device is connected 10/100/1000 Mb/s <b>Blinking</b> – data transmission
<b>RED LED LIGHT (PoE)</b> Indication of the PoE power supply at the RJ45 ports	<div><div>● ● ● Link</div><div>1 ... 16</div><div>● ● ● PoE</div></div>	<b>OFF</b> – no power supply at the RJ45 port (the device is not connected or not compliant with the IEEE802.3af/at/bt standard) <b>ON</b> – power supply <b>Blinking</b> – short-circuit or output overload
OPTICAL INDICATION AT THE UPLINK PORT		
<b>GREEN LED LIGHT (LINK)</b>	<div><div>TP</div><div>● ● SFP</div><div>L 17 J</div><div>● ●</div><div>L 18 J</div><div>● ●</div><div>L 19 J</div><div>● ●</div><div>L 20 J</div></div>	<b>OFF</b> – no connection <b>ON</b> – the device is connected <b>Blinking</b> – data transmission

4. Operating modes.

The switch is equipped with a switch that allows you to change operating modes.



Moving the switch up activates the following functions:

- **Long Range**

Enables extended range mode operation. When the Long Range switch is turned off, the PoE ports operate at 1000 Mb/s and offer Ethernet coverage up to 100 meters. When the switch is set to ON, the range on ports 9-16 is increased to 250 meters and the speed is reduced to 10 Mb/s.

- **VLAN:**

Enables the VLAN function, which isolates PoE ports from each other (communication takes place between UpLink ports and individual PoE ports).

- **Storm Control**

This is a feature that prevents network disruptions caused by excessive broadcast traffic. The switch monitors incoming traffic on individual ports and blocks packets whose volume could cause network problems. This can counteract attempts to sabotage the network and accidental loops.

5. Maintenance.

Any and all maintenance operations may be performed following the disconnection of device from power supply network. The switch does not require any special maintenance, but in case of significant dust accumulation, it is recommended to clean its interior with compressed air. In the case of a fuse replacement, use a replacement of the same parameters.



#### WEEE LABEL

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

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