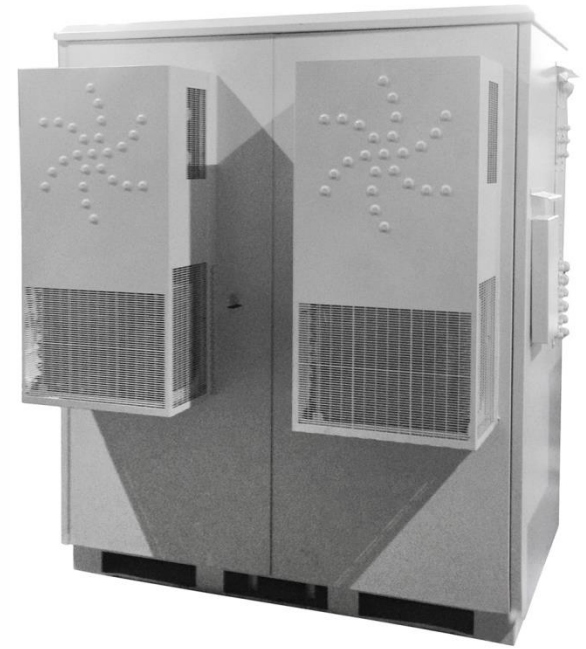




ipcom
group of companies



ABOUT COMPANY



IPCOM was established in 2003 in Kharkiv (Ukraine). We provide IT and Telecom companies with wide range of solutions: complete data centers, indoor/outdoor cabinets, fiber optic transmission. We manufacture practical and high-tech products (**standard** and **customized** ones) at reasonable price. Being flexible we quickly respond to market needs. In our factories we have modern equipment and machinery, qualified and experienced staff to manufacture high-quality products for any requirement our client may have.

IPCOM is a fast growing company on the global telecom market. In order to make our partners maximally focused on their task execution we offer them integrated customized solutions from the scratch.



18 years experience in manufacturing telecom cabinets with optional climate control, boxes and accessories; wide range of **standard solutions** and capability to make different **customized solutions**



Own production base and design bureau: **from the project development to the final solution**



Well-orchestrated team of professionals can accomplish **the most difficult tasks**



Our aim is **long term cooperation** with our clients.

IPCOM clients & markets



Our company is the leading telecommunication manufacturer in Ukraine with modern production facilities. Our solutions are realized in all regions of Ukraine and CIS countries



CIS countries



Russia



Rostelecom

Russia



Beeline™

Russia
Kazakhstan,
Uzbekistan



Russia



Farlep-Invest



Kyivstar



Vodafone



«Volya» company



Ukrtelecom



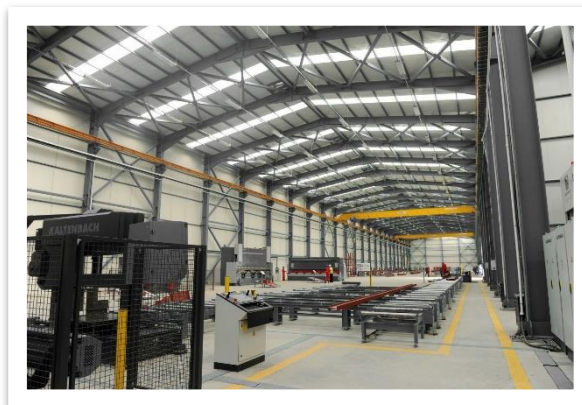
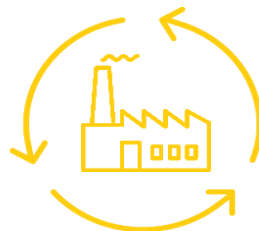
Data
group

Main product categories

1. Outdoor cabinets with optional climate control



2. Telecom cabinets



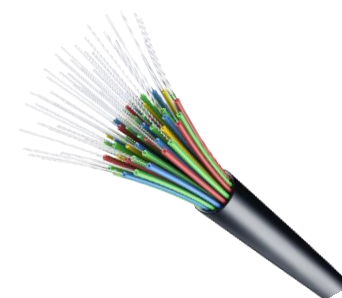
3. Vandal-proof cabinets & boxes



5. Optical cords and wires



4. Optical cables



1. Outdoor cabinets with optional climate control



Guardian M

Product Lines

- ① – Guardian M OD *MINI*
- ② – Guardian M OD *STANDART*
- ③ – Guardian M OD *OPTIM*
- ④ – Guardian M OD *PLUS*
- ⑤ – Guardian M OD *MEGA*

Guardian M: Technical Description

protected modular solution



| | |
|-----------------------------|--|
| Height | 24U - 42U |
| Width | 800 mm |
| Depth | 825 mm |
| Construction | Side panels and doors can be easily disassembled |
| Inner plate | Galvanized steel 0.8 mm |
| Insulation | Basalt mineral wool 50 mm |
| Outer plate | Steel / Galvanized steel 1.5-2.0 mm |
| Door opening angle | 120 degrees |
| Cable glands | PG/MG |
| Degree of protection | IP54/IP55 |
| Climate system | Air conditioner / Free cooling |

Guardian M series are the optimal solution for building networks when it is necessary to install equipment outside.

The Guardian M series was designed for mounting 19" equipment, with a static load up to 1000 kg.

The climatic cabinet can be operated at temperatures from -50° C to +50° C and relative air humidity up to 80% (at temperature of +25° C dew free).

Guardian M: Climate system

protected modular solution

Climate control based on air conditioner



| | |
|---------------------|---------------------------|
| Heat recovery | 1,5 – 2,5 kW |
| Compressor, V | 220VAC |
| Free cooling, V | 220VAC / 48VDC (optional) |
| Heater, V | 220VAC |
| Control | digital, speed control |
| Temperature sensors | 8 pcs. |
| Heating power | 1,000 W |

Free cooling system, closed type (optional)



| | |
|-----------------------|---------------------------|
| Heat removal capacity | 80 W / K |
| Free cooling, V | 48VDC (optional – 220VAC) |
| Heater, V | 220VAC |
| Control | digital, speed control |
| Temperature sensors | 4 pcs. |
| Heating power | 1,000 W (220V) |

Guardian M: Climate system

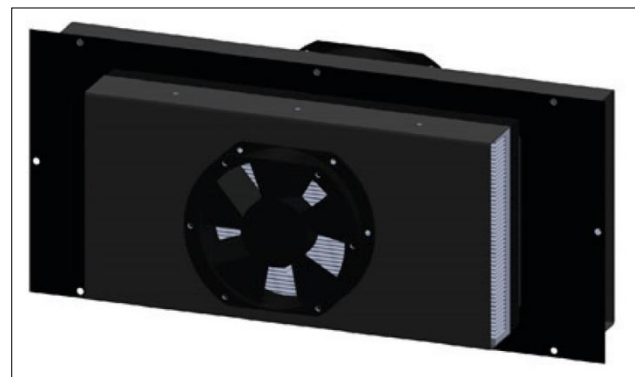
protected modular solution

Ventilation system (optional)



| | |
|---|------------------------|
| Max heat removal when $dT = 5^{\circ} \text{C}$ | 750- 2,250 W |
| Voltage | 48VDC |
| Heater, V | 220VAC |
| Control | digital, speed control |
| Number of control channels | 1-3 |
| Temperature sensors | 4 pcs |
| Heating power | 1,000 W (220V) |

Peltier thermoelectric air conditioner (optional)



| | |
|------------------------------------|------------------------|
| Power | 300 W |
| Voltage | 48VDC |
| Control | digital, speed control |
| Temperature sensors | 2 pcs. |
| Heating in the reverse mode | option |

Guardian M: Size table

protected modular solution

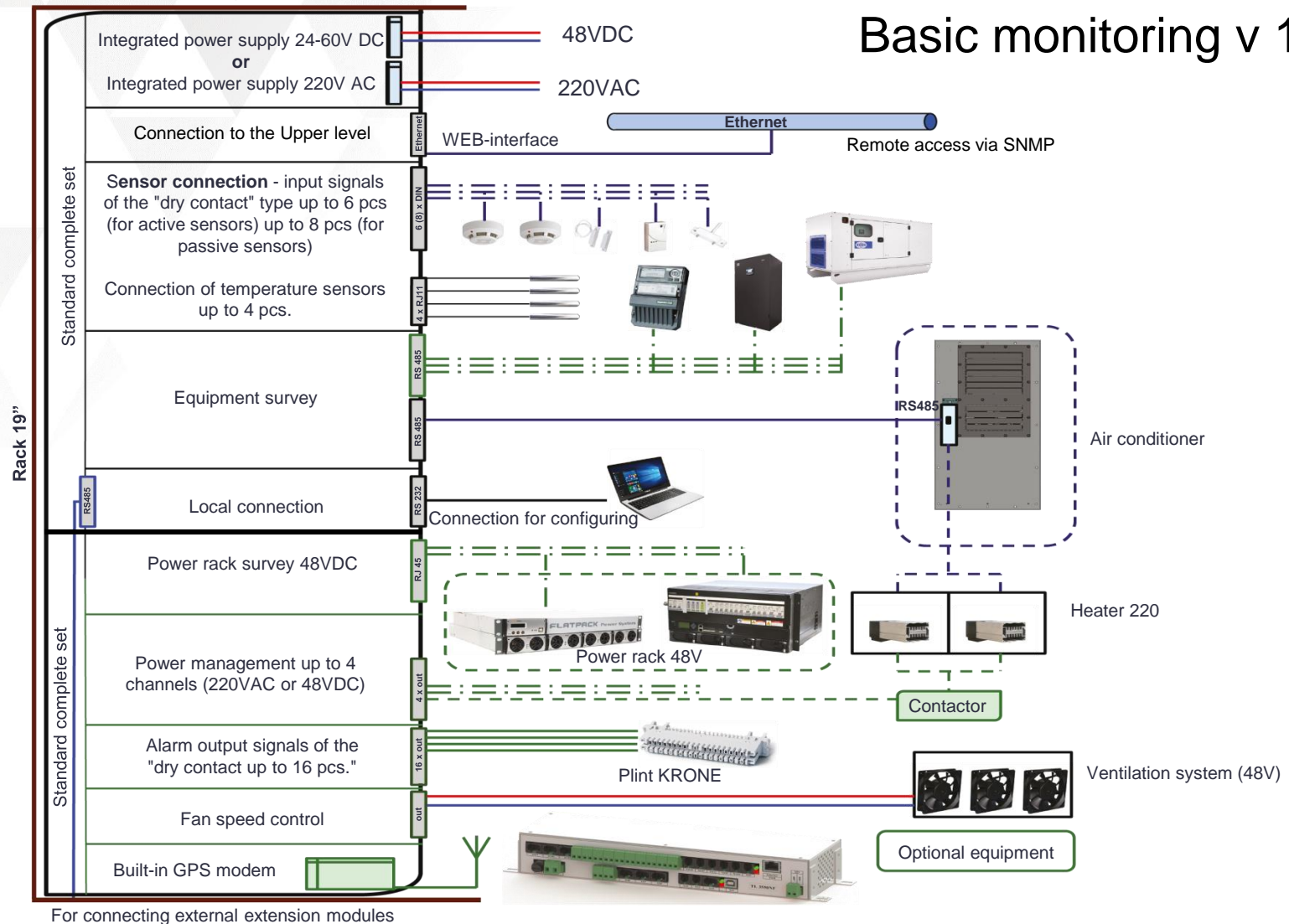
| | |
|-------------|-------------------------------|
| 20 U | |
| 21 U | |
| 22 U | |
| 23 U | |
| 24 U | Guardian M OD <i>MINI</i> |
| 25 U | |
| 26 U | |
| 27 U | |
| 28 U | Guardian M OD <i>STANDART</i> |
| 29 U | |
| 30 U | |
| 31 U | |

| | |
|-------------|----------------------------|
| 32 U | Guardian M OD <i>OPTIM</i> |
| 33 U | |
| 34 U | |
| 35 U | |
| 36 U | |
| 37 U | |
| 38 U | |
| 39 U | Guardian M OD <i>PLUS</i> |
| 40 U | |
| 41 U | |
| 42 U | Guardian M OD <i>MEGA</i> |
| 43 U | |

protected modular solution

Monitoring unit A

Basic monitoring v 1.1



Guardian M: Monitoring system battery

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Delta battery 8 pcs, group №1



Delta battery 8 pcs, group №2



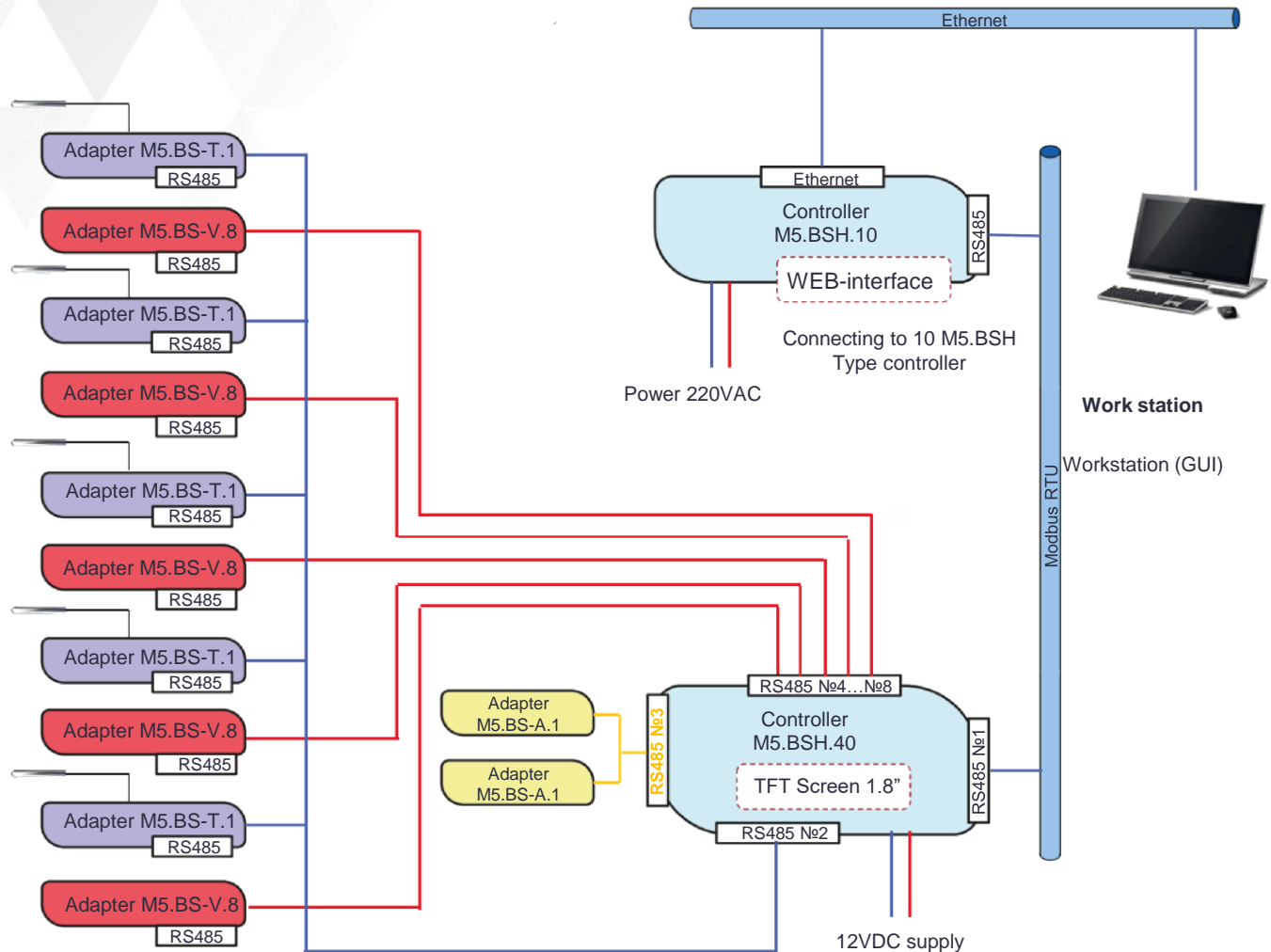
Delta battery 8 pcs, group №3



Delta battery 8 pcs, group №4



Delta battery 8 pcs, group №5



Outdoor cabinets series SHKK and SHKK 2.0

Technical description:



| | |
|-----------------------------------|--|
| Height | 24U, 33U, 42U |
| Width | 715 mm |
| Depth | 860 mm |
| Construction | Side panels and doors can be easily disassembled |
| Inner plate | Galvanized Steel S=0,65-0,8 mm |
| Mounting rack | Steel S=1,2 mm |
| Adjustment step of mounting racks | 25 mm |
| Door opening angle | 120 degrees |
| Cable glands | PG 13,5*2 pc, PG 21*7 pc PG 29*3 pc |
| Degree of protection | IP54 |
| Climate system | Exhaust fans |

Weatherproof climatic cabinets of SHKK and SHKK 2.0 series are the optimal solution for building networks when it is necessary to install equipment outside. The SHKK series was designed for mounting 19" equipment with a static load up to 1000 kg.

The climatic cabinet can be operated at temperatures from -40° C to + 45° C and relative air humidity up to 90% (at temperature of + 25° C, dew free).

Outdoor cabinet SHKK: Monitoring

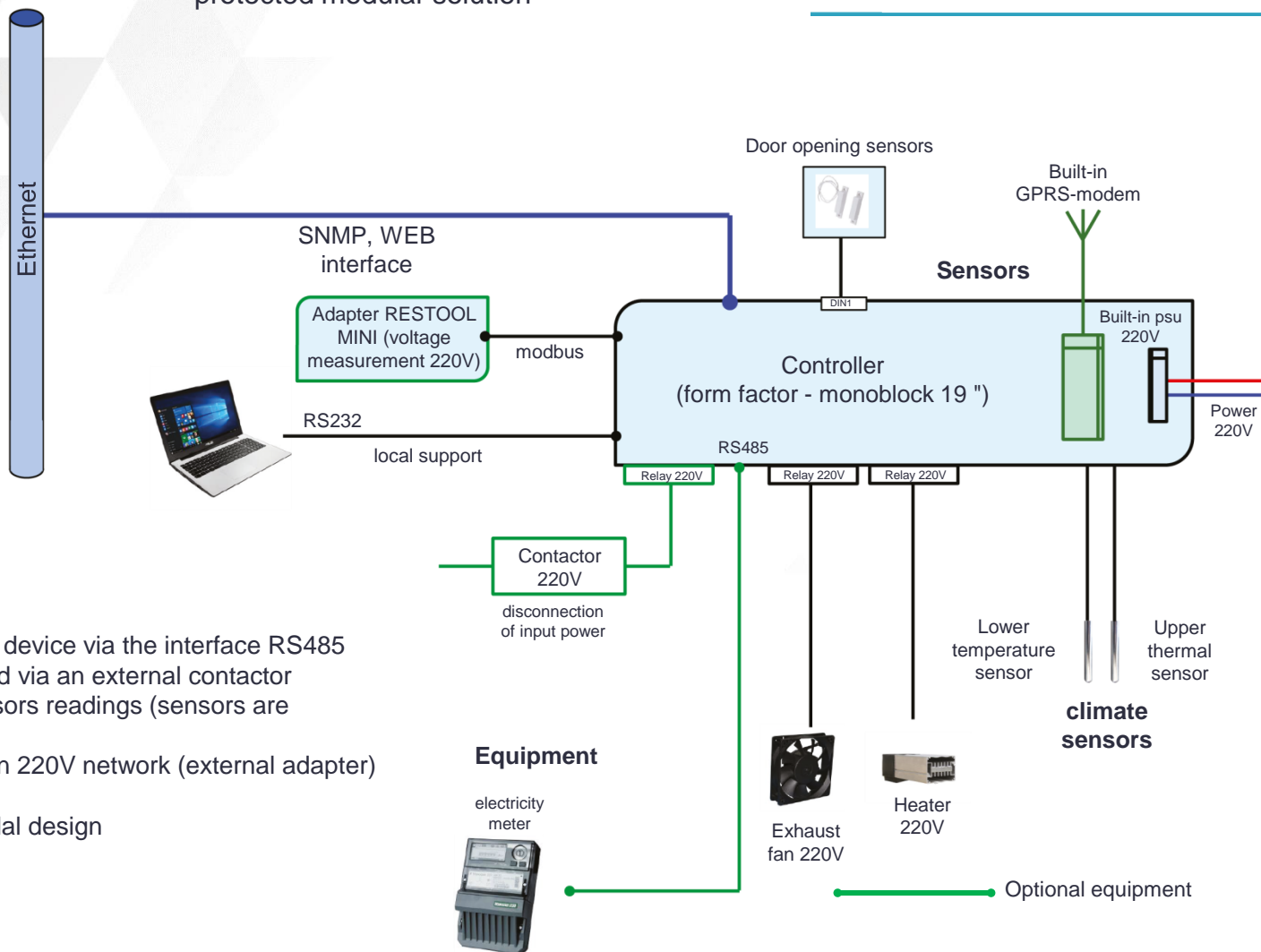
protected modular solution

1.) Standard configuration

- Ethernet module - data transmission in format SNMP v2c
- Built-in web interface
- Built-in power supply 220V
- RS232 port for local configuration
- Connection of up to 6 dry contact sensors
- Survey of 2 temperature sensors readings (sensors are included in the delivery set)
- Heater control
- Remote configuration capability
- Remote firmware update

2.) Optional features

- Survey of electricity metering device via the interface RS485
- Disconnection of the total load via an external contactor
- Survey of 2 temperature sensors readings (sensors are included in the delivery set)
- Measuring the input voltage in 220V network (external adapter)
- Built-in GPRS-modem
- External antenna in anti-vandal design



2. Telecom cabinets: Technical description



| | |
|-----------------------------------|--|
| Height | 18U, 24U, 33U, 42U |
| Width | 600 mm |
| Depth | 600 mm, 800 mm, 1000 mm |
| Construction | Steel S=1,5 mm. Side panels and doors can be easily disassembled |
| Side plate | Steel S=1 mm |
| Mounting rack | Galvanized steel S=1,5 mm |
| Adjustment step of mounting racks | 25 mm |
| Door opening angle | 180 degrees |
| Cable glands | two 58x390 mm rectangular holes on bottom and top |
| Protection degree | IP30 |

Telecommunication cabinets are a universal solution for placing server, telecommunication and other equipment made in 19" standard.

The maximum static load of the P series reaches 700 kg (cabinets with a height of 42U and 33U) and 500 kg (cabinets with a height of 18U and 24U), which makes it possible to increase the volume of equipment and provides an opportunity to apply non-standard solutions.

3. Vandal-proof cabinets & boxes

Technical description:



| | |
|-----------------------------------|--|
| Height | 7U, 9U, 12U, 24U, 42U |
| Width | 600 mm |
| Depth | 450, 600 mm |
| Construction | Steel S=1,2-2 mm, side panels and doors can be easily disassembled |
| Inner panels | Steel S=0,65-0,8 mm |
| Adjustment step of mounting racks | 25 mm |
| Door opening angle | 110 degrees |
| Cable glands | d=22*10 pcs. |
| Degree of protection | IP30 |
| Type of the lock | Bolt lock, cross-bar lock. Class4, 3(or 5) locking points, 3 locking directions |

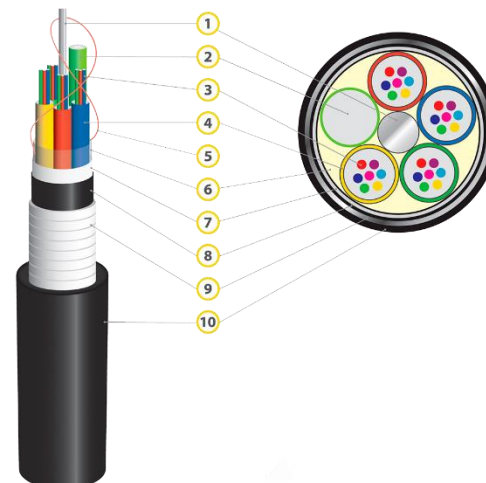
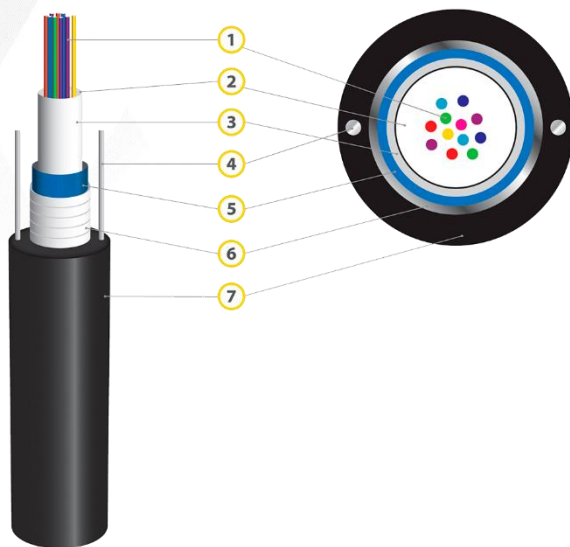
Anti-vandal cabinets and boxes are designed to protect telecommunications equipment in public access areas: corridors, attics, landings, etc. The boxes of this series allow you to solve the problem of placing small equipment and its installation in hard to reach places.

The maximum statistical load of the boxes is from 20 up to 60 kg (depending on size).

The maximum statistical load of cabinets is up to 400 kg.

4. Optical fiber cables

Underground cables

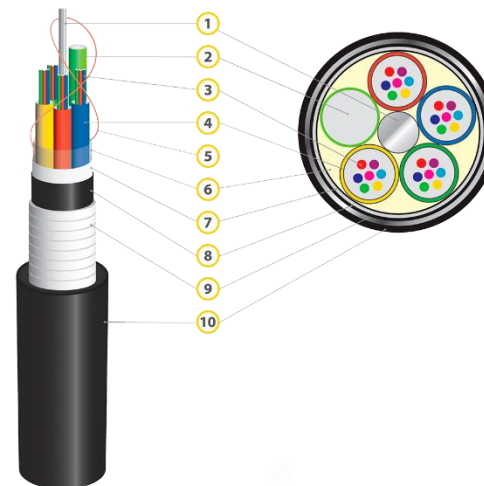
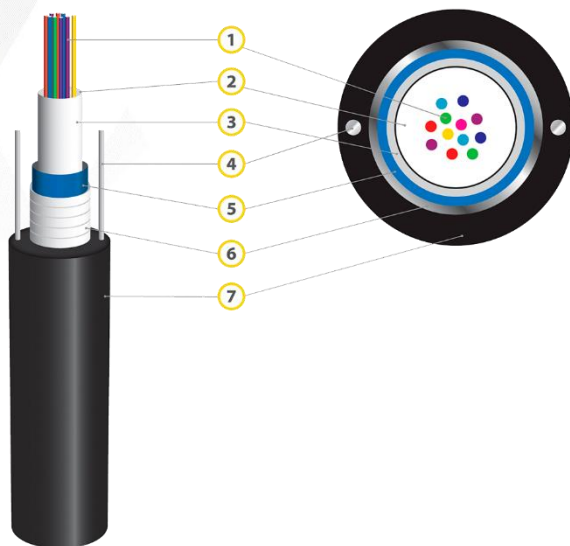


| | |
|-------------------------------|-----------------------|
| Optical fiber quantity | 2 - 196 |
| Permissible tensile force, kN | 1,5 - 7 |
| Application area | underground |
| Warranty | 12 months |
| Cable type | OTsBgP, OArBgP, OBGPo |

Optical cable of type OTsBgP, OArBgP, OBGPo is intended for laying in soils of all types, including areas with high corrosive aggressiveness and areas populated by rodents.

Optical fiber cables

Duct cables

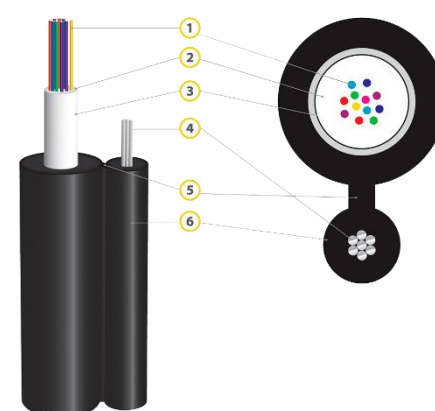
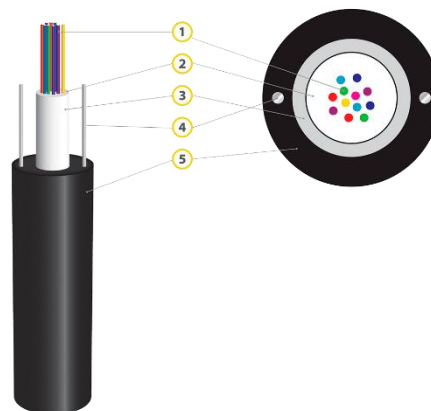
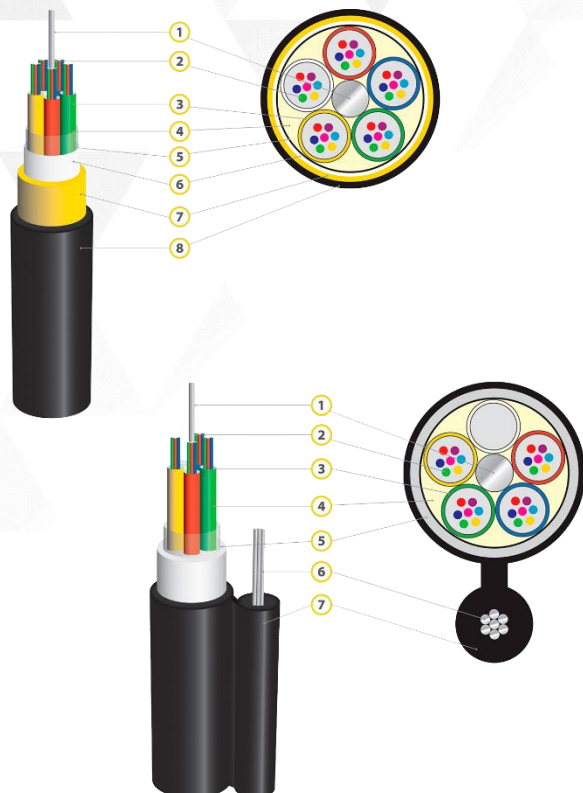


| | |
|-------------------------------|----------------------------|
| Optical fiber quantity | 2 - 196 |
| Permissible tensile force, kN | 1,5 – 3,5 |
| Application area | for use in pipes and ducts |
| Warranty | 12 months |
| Cable type | OTsBgP, OBgPo |

Optical cable of type OTsBgP, OBgPo is intended for laying in pipes and ducts (including the method of pneumatic installation), blocks, collectors with availability of rodents, as well as to the ground in a mechanized way.

Optical fiber cables

Overhead cables



Optical fiber quantity

2 - 196

Permissible tensile force, kN

1,5 – 40,0

Application area

Overhead (in the air)

Warranty

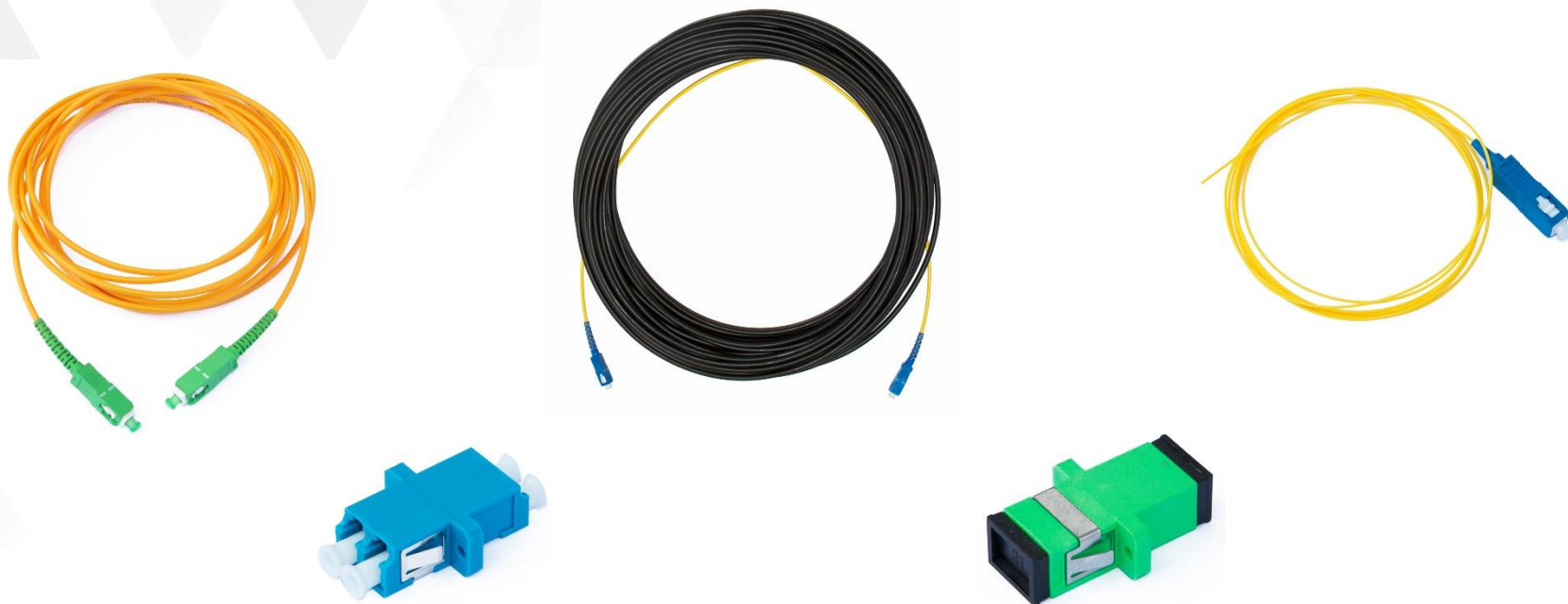
12 months

Cable type

OTsPs, OTsPt, OPT, OArP

Optical cable type OCP, OCPT, Opt, OArP is designed for suspension between buildings and structures, at substations, on supports of contact networks, communication lines and lighting, on power lines at points with a maximum electric field potential of up to 12 kV.

5. Optical cords and wires



The connecting patch cord is a simplex or duplex optical cable (in a buffer coating $d = 2.0 - 3.0$ mm), terminated by connectors from 2 sides, used to connect equipment. We offer optical patch cords of various lengths and with any combination of optical connectors.

Pigtail is a segment of optical fiber (in a buffer coating $d = 0.9$ mm) or a distribution cable terminated by an optical connector on one side. Designed for termination of the fibers of a linear cable by welding.

Contact us



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