



ipcom
group of companies



TELECOMMUNICATION EQUIPMENT

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About the company.....	3
Server cabinets.....	7
Weatherproof cabinets.....	9
series Guardian M.....	10
series ШKK (ShKK).....	13
Vandal-proof cabinets and drawers.....	19
Telecommunication racks.....	21
Optical patch panels.....	25
Accessories for the cabinets.....	26
Optical cords.....	31
Optical cables.....	35

TELECOMMUNICATION EQUIPMENT

About the company



UKRAINIAN MANUFACTURER

IPCOM has been part of the global telecommunications market for over 15 years. Our company presents new developments and integrated solutions for the telecommunications market: high-tech server cabinets and accessories, anti-vandal boxes, all-weather, climate and data center solutions. We offer the best standard and customized solutions, a new concept of affordable, practical and at the same time high-tech products.

Our directions:

Telecommunication cabinets and racks



Weatherproof cabinets



Vandal-proof cabinets and drawers



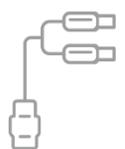
Cross equipment



Optical cable



Optical cords and adapters



FROM IDEA TO IMPLEMENTATION

IPCOM is a leading manufacturer of metal enclosures with modern production facilities spread over an area of more than 10,000 m², more than 300 employees and its own design office. IPCOM is a young and ambitious team, a reliable and responsible partner, ready to solve any problem and achieve results. We encourage innovation and move quickly, improving technologies and solutions in accordance with the tasks of partners. Thanks to the flexibility of our production, we quickly respond to changing market needs and growing demands. Constant modernization of production and improvement of processes allowed to increase output by 2 times within just one year. We made sure that we are developing in the right direction, relying on continuous development and attention to customers.



2005

YEAR OF FOUNDATION



>300 PEOPLE

NUMBER OF EMPLOYEES

ISO
Quality System
Compliance



>10 000 m²

PLANT AREA



>2000 TONS

YEARLY PROCESSED METAL QUANTITY

About the company

PRODUCTION CAPABILITIES

State-of-the-art laser cutting complex

Automated coating line

Sheet bending presses

Coordinate-punching presses

Modern assembly shop



About the company



Manufacturing unit, equipped with modern equipment, allowing to produce quality products



Qualified specialists with many years of experience in the production of metal structures



Developed logistics service that allows you to deliver products on time



Regular development and modernization of production, staff training and improvement of all company processes



Server cabinet **series SN**



The telecommunication wall cabinet of the **SN** series has ready-made solutions to accommodate a 19" telecommunication equipment, where it is possible to install a cabinet for underlay or the surrounding area factor.

The maximum static load for the **SN** series is 60 kg per frame up to 15U, and 100 kg up to 22U.

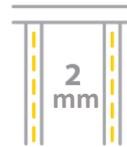
The cupboard is ventilated with natural air through perforated gutters at the top and bottom of the body.

Height	4U, 6U, 9U, 12U, 15U, 18U, 22U
Width	600 mm
Depth	320, 450, 600 mm
Build time	less than 10 minutes
Mounting rack	Galvanized sheet steel
Rack adjustment step	25 mm
Door opening angle	180 degrees
Cable glands	rectangular inputs 58x200mm at the base and roof
Protection degree	IP21

Server cabinet series C



MAX
навантаження
до 800 kg



Направляючі
2 mm



Telecommunications floor cabinet **C series** is a universal solution for placing server, telecommunications and other equipment, made in 19" standard.

The maximum static load of the **C series** reaches 800kg, which allows you to place a sufficient amount of equipment and provides an opportunity to accommodate non-standard solutions.

Height	18U, 24U, 33U, 42U
Width	600mm
Depth	600mm, 800mm, 1000mm
Construction	demountable, sheet steel S=1,0-1,5mm
Side panels	Sheet steel S=0,5-0,8mm
Mounting rack	Galvanized sheet steel S=1,5mm
Rack adjustment step	25mm
Door opening angle	180 degrees
Cable glands	two rectangular inputs 58 x 400mm at the base and roof
Protection degree	IP21

Weatherproof cabinet **Guardian M** protected modular solution



Product line:

- Guardian M **MINI**
- Guardian M OD **STANDART**
- Guardian M OD **OPTIM**
- Guardian M OD **PLUS**
- Guardian M OD **MEGA**

Weatherproof cabinet **Guardian M** protected modular solution

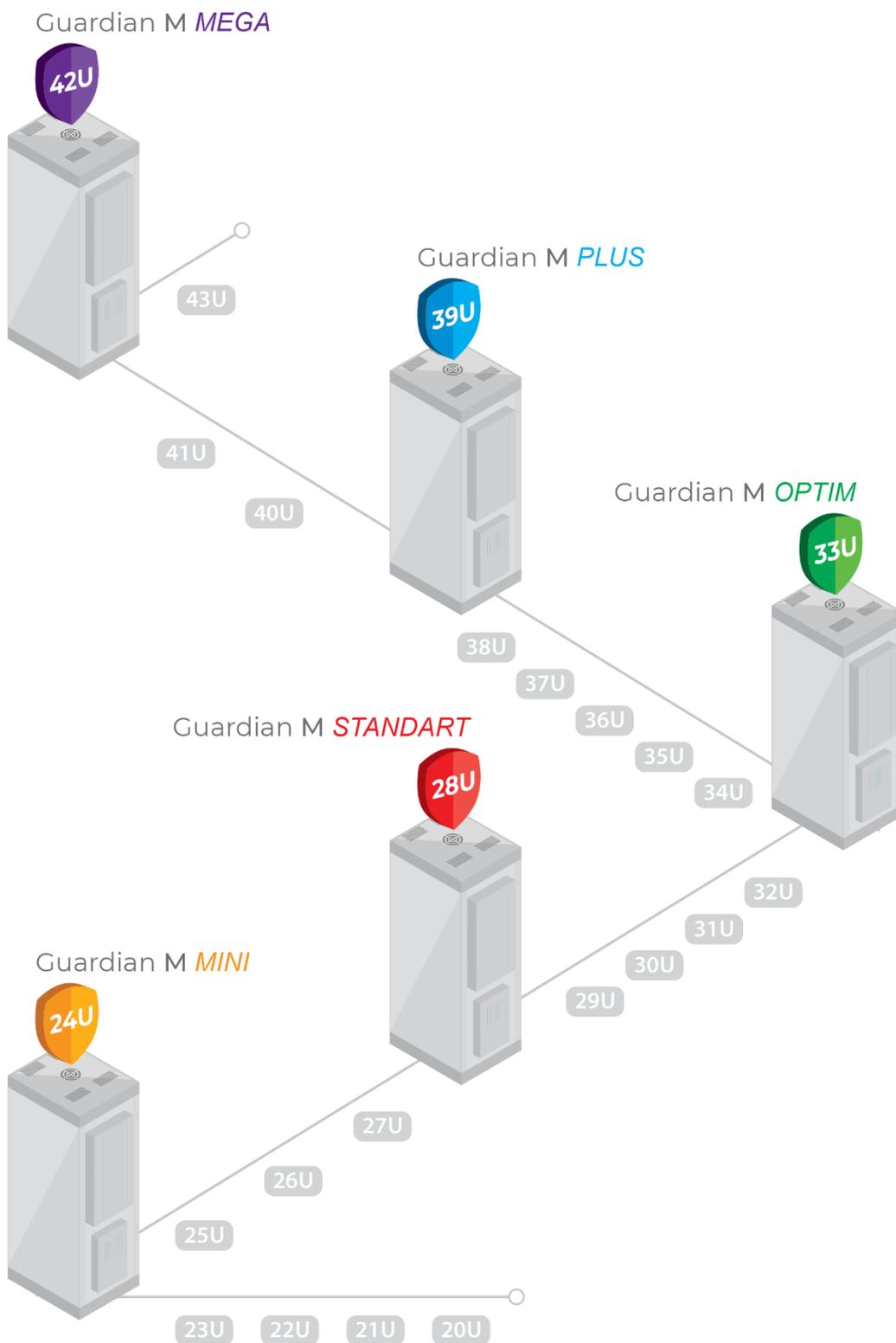


- Mounting rack 19-23"
- climate control system:
 - «free-cooling»
 - air-conditioner
 - Supply and exhaust ventilation
- cabinet monitoring and control system
- climate zone separation system
- Climatic installation for the second climatic zone

Width	800mm
Depth	825mm or 1025mm
Plinth	universal 100-300mm
Door quantity	2 doors
Outer shell	steel 1,5mm or 2,0mm
Inner shell	Galvanized steel 0,65mm
Insulation type	basaltic, 50mm
Zones quantity	two

Weatherproof cabinet **Guardian M**

Table of sizes



Weatherproof cabinet **Guardian M** protected modular solution

Air-conditioner-based climatic installation

Heat usage	1,5 – 2,5kW
Voltage, compressor	220V
Voltage, free cooling	48V (option – 220V)
Voltage, heater	220V
Control	digital, speed adjustment
Number of temperature sensors	8 pcs.
Heat output	1,000W

Closed type free cooling system

Heat removal capacity	80 W/K
Voltage	48V (option – 220V)
Voltage, heater	220V
Control	digital, speed adjustment
Number of temperature sensors	4 pcs.
Heat output	1,000W (220V)

Supply and exhaust ventilation system

MAX heat removal capacity at dT = 5°C	750 – 2,250W
Voltage	48V (option – 220V)
Voltage, heater	220V
Control	digital, speed adjustment
Quantity of channels	up to 3
Number of temperature sensors	4 pcs.
Heat output	1,000W (220V)

Peltier thermoelectric air-conditioner

Output	300W
Voltage	48V
Control	digital, speed adjustment
Number of temperature sensors	2 pcs.
Heating in reverse mode	option



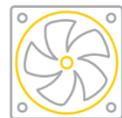
GUARDIAN M



Smart monitoring



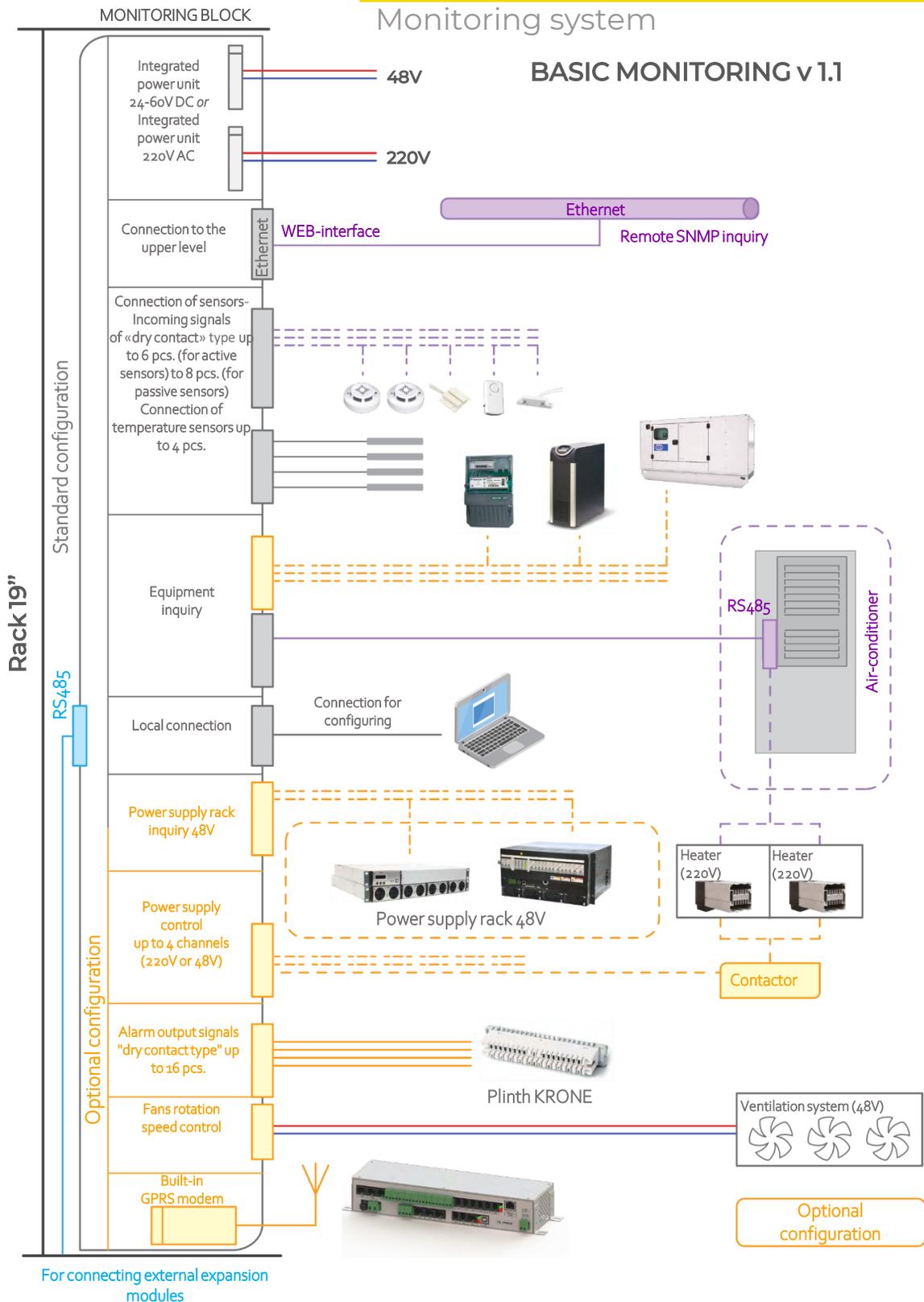
Range of
temperatures
from -50°C to +55°C



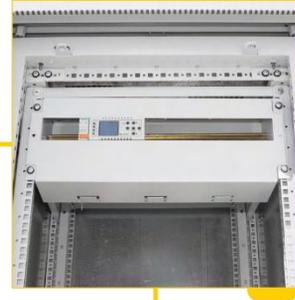
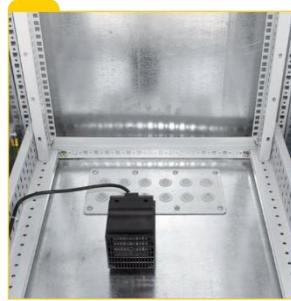
Optional choice of climatic
installation type

Weatherproof cabinet Guardian M

Monitoring system



Weatherproof cabinet series ShKK 2.0



«smart monitoring»
option available



Range of
temperatures
from -50°C to +55°C

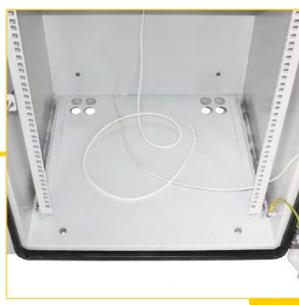


All-weather outdoor climatic cabinet of the ShKK 2.0 series is the optimal solution for building networks when it is necessary to place equipment on the street. The SHKK series is designed for mounting 19" equipment, and the static load is 1000kg.

The climate cabinet is operated at temperatures from -50°C to +55°C and relative air humidity of up to 90% without dew formation (at a temperature of +25°C).

Total height	24U, 33U, 42U
Effective height	21U, 30U, 39U
Width	715mm
Depth	860mm
Construction	demountable; Sheet steel S=1,5-2,0mm
Inner lining	galvanized sheet steel S=0,65mm
Mounting rack	Sheet steel S=1,5-2,0mm
Rack adjustment step	25mm
Door opening angle	120 degrees
Cable glands	PG 13,5*2 pcs., PG 21*7 pcs., PG 29*3 pcs.
Protection degree	IP54

Weatherproof cabinet series ShKK



Temperature range
from -50°C to +55°C



The all-weather climatic wall cabinet of the ShKK series is designed for installation of equipment in 19" standard. The climate cabinet is installed outdoors and can be operated at temperatures from -50°C to +55°C and relative humidity of up to 90% without dew formation (at a temperature of +25°C).

The maximum static load of the wall-mounted ShKK is 100kg.

Total height	9U, 12U, 15U
Effective height	6U, 9U, 12U
Width	667mm
Depth	600mm
Construction	demountable; Sheet steel S=1,2-2,0mm
Inner lining	Galvanized steel S=1,2mm
Mounting rack	Sheet steel S=2,0mm
Rack adjustment step	25mm
Door opening angle	120 degrees
Cable glands	d=32*8pcs.
Protection degree	IP54

Remote monitoring system M2_AIR_IP2

Optional delivery set

Purpose and description

The monitoring system is designed for remote monitoring and control of climatic and telecommunication equipment of the base station. The monitoring system performs the following functions:

1. Polling readings from digital temperature sensors inside the cabinet, comparing them with preset settings, generating and sending warning and emergency messages (SNMP traps) in case of emergency situations;
2. Control and monitoring of the main parameters of the 48V power system;
3. Monitoring the status of all units of the air-conditioning unit (air conditioner):
 - polling readings of all sensors in the air conditioning system (air temperature sensors, crankcase, pipeline with freon, etc.);
 - control of the condition of the actuators of the air-conditioner;
 - speed of rotation of evaporator and condenser fans, relays for heaters, heaters and compressor;
 - the possibility of remote control and change of parameters (if necessary);
 - the possibility of remote software updates for the air-conditioning system, if necessary by optimization or refinement of the algorithm;
4. Analysis of the state of the discrete input from the fire alarm system, shutdown of the air conditioning system in case of activation of the POS;

Status of the fire alarm input, parameters of temperature sensors, the state of the climatic equipment is formed in the form of an array of tabular data and can be obtained by the user via an Ethernet channel in the form of access to the WEB interface using a browser. Access to the WEB interface is protected by an authorization system (login + password). To interrogate all parameters of the monitored equipment and set all the necessary configurable thresholds and values during installation or maintenance, it is possible to connect via the RS232 service (configuration) interface using an application under Windows OS.

The monitoring system, in addition to the current presentation of the status of sensors and monitored equipment on the Internet browser page, implements support for the SNMPv2c protocol, which makes it possible to poll all the parameters necessary for the user using standard telemetry systems, as well as the formation and immediate sending of SNMP traps in the event of warning or emergency events. The collection of information is implemented using a receiving server, which is located on the same network as the air conditioner controller. Dispatchers' workstations can be connected to the receiving server for reporting and displaying statistical information.

Depending on the cabinet configuration, the cabinet monitoring system includes:

- Block of control and data transmission;
- Block for collecting signals from sensors;
- Block for output of emergency signals to dry contacts;
- Data collection unit with EPU;
- Temperature sensor;
- Smoke detector;
- Shock sensor;
- Door opening sensor.

The monitoring system is completely autonomous, automatic system that does not require periodic maintenance. The system is configured at the factory according to requirements provided by the customer. Once a year, it is necessary to check the sensors for operability by artificial creation of conditions leading to their triggering (accident emulation). Sensor performance is checked on a computer connected to the main controller using specialized software.

Electric power supply system **48 B**

TG.PS.2.9-A5D18 5U B.KT21

General description

Integrated 5U high power system with compact design, designed for mobile and cable operator networks, transmission and more. The maximum power of the system is 18 kW, it includes an introductory circuit breaker, battery circuit breakers and loads. Front access for service.



Key peculiarities

- 19" standard width with wide application
- Compact 5U high design saves on used space and installation costs
- Front operating access and cable access, modern design and safe maintenance
- Efficient battery management that increases battery life, many communication ports: RS232/RS485/Ethernet port, dry contacts, etc., allowing flexible configuration of remote monitoring
- Rectifier modules and controller are hot swappable online
- Wide input voltage range (85-300V AC)



Application areas

- Mobile operator base station
- Transmission network
- Communication network corporation

Vandal-proof cabinet **series BK**



Anti-vandal boxes of the BK series are designed to protect telecommunications equipment in public places: corridors, attics, stairwells, etc. Owing to their size, boxes of this series allow solving the problem of placing small equipment and its installation in hard-to-reach places.

The maximum static load of the boxes is between 20 and 60kg (depending on dimensions).

Construction	all-welded, Sheet steel S=1,2-2,0mm
Door type	hinged, penal
Protection degree	IP21
Coating	powder-polymer
Execution type	wall
Maximum allowable distributed static load	from 20 до 60kg
Lock	screw, transom

Vandal-proof cabinet series FORPOST

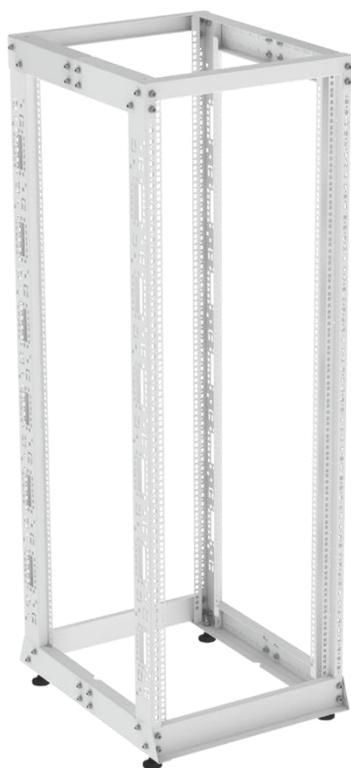


The anti-vandal box of the **Forpost series** consists of an all-welded construction, which makes the box more resistant to burglaries and more stable. The box has internal hinges with shear protection, and the edges of the door bent inward do not allow you to pick up the door and bend it, thereby opening the box.

The box has 2 racks for 19" equipment with a 25mm adjustment step.
The maximum static load of this box is 450kg.

Height	7U, 9U, 12U, 24U, 42U
Width	600mm
Depth	450, 600mm
Construction	All-welded, sheet steel S=2,0mm
Mounting rack	Sheet steel S=1,2mm
Rack adjustment step	25mm
Door opening angle	110 degrees
Cable glands	d=22*10pcs.
Protection degree	IP21
Lock	transom

Telecommunication racks **series SUBLICA M-2**

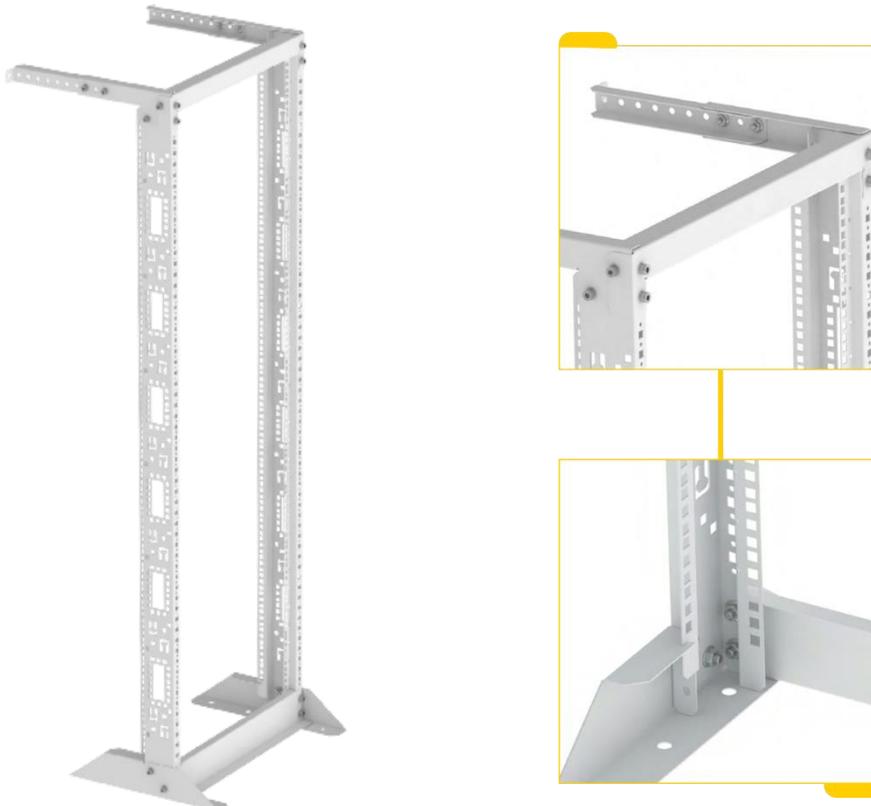


Racks of the **SUBLICA series** are designed to accommodate telecommunications, electrical, cross-connect and other equipment made in the 19" standard (the system of load-bearing structures of the 482.6mm series GOST 28601-90 and DSTU 3040-95).

The racks of the SUBLICA M-2 model are two-frame.

Working height	33U, 42U
Width	560mm
Depth	adjustable from 700 to 1100mm
Working depth	adjustable from 640 to 1040mm
Construction	demountable, sheet steel S=1,5mm
Mounting rack	sheet steel S=1,5mm
Maximum allowable distributed static load	550kg

Telecommunication racks **series SUBLICA M-1**



Racks of the **SUBLICA series** are designed to accommodate telecommunications, electrical, cross-connect and other equipment made in the 19" standard (the system of load-bearing structures of the 482.6mm series GOST 28601-90 and DSTU 3040-95).

The racks of the SUBLICA M-2 model are two-frame.

Working height	33U, 42U
Width	560mm (on the ears of the brackets 610mm)
Maximum wall bracket protrusion (from the front edge of the rack to the wall)	430mm
Construction	demountable, sheet steel S=1,5mm
Mounting rack	Sheet steel S=1,5mm
Maximum allowable distributed static load	250kg

Telecommunication racks **series SUBLICA S-2**



Racks of the **SUBLICA series** are designed to accommodate telecommunications, electrical, cross-connect and other equipment made in the 19" standard (the system of load-bearing structures of the 482.6mm series GOST 28601-90 and DSTU 3040-95).

The pillars of the SUBLICA S-2 model are a lighter version of the SUBLICA M-2 and are two-frame.

Working height	33U, 42U
Width	555mm
Depth	750mm
Working depth	adjustable from 460 to 750mm
Construction	demountable, sheet steel S=1,2mm
Mounting rack	Sheet steel S=1,2mm
Maximum allowable distributed static load	320kg

Telecommunication racks **series SUBLICA S-1**



Racks of the **SUBLICA series** are designed to accommodate telecommunications, electrical, cross-connect and other equipment made in the 19" standard (the system of load-bearing structures of the 482.6mm series GOST 28601-90 and DSTU 3040-95).

The racks of the **SUBLICA S-1** model are a light version of the SUBLICA M-1 and are single-frame.

Working height	33U, 42U
Width	555mm (on the ears of the brackets 607mm)
Max. wall bracket protrusion (from the front edge of the rack to the wall)	405mm
Construction	demountable, sheet steel S=1,2mm
Mounting rack	Sheet steel S=1,2mm
Maximum allowable distributed static load	150kg

Optical patch panels



Delivery set:



Patch panel ORP P (rotary optical distribution panel) is designed for fiber optic splicing and installation in 19" telecommunication cabinets, racks and brackets. The design features of patch panels produced by our company are: perforation for fixing pigtails with plastic clamps, fastening of a power element, improved cable glands and plastic cable organizers.

The panels are manufactured according to the specifications of TUU 32.32338465-001:2008 and comply with the Euromechanics IEC-297 standard.

Height	1U, 2U, 3U, 4U
Width	19"
Depth	210, 215, 235mm
Construction	demountable, sheet steel S=1,2mm
Front panels	changeable
Number of splices	from 24 to 144pcs.
Number of cable glands	3-4pcs.

Fan Module



Fan module 400-800 1U BV6 CSU is designed for placement in wall-mounted and floor-standing server and climatic cabinets for ventilation of installed equipment.

The module is designed for installation in a telecommunications cabinet or 19" rack.

The fan shelf is designed to be placed in the climatic cabinet of a mobile operator, wireless communication systems, cable television, digital cable lines and wireless networks.

The product is made in climatic version UHL 4.2 according to GOST 15150–69.

The fan module consists of a housing, built-in fans, a controller, a top cover and mounting brackets.

The module is universal, therefore it is used in all series of telecommunication cabinets. Mounted on vertical rails of cabinets and racks.

The module is adjustable in depth.

Dimensions (WxHxD)	430x44x350mm
Controller mass, not heavier than	4kg
Protection class based on DSTU 14254-96	IP 42
Power supply voltage	220V AC

MAIN MODULE

Connectors placement	frontal
Lead-in clamp	1 pc.
Controller with fan control TFT screen	1 pc.
Fans	6 pcs.

Fan unit **BV 2T/4T**



The **BV 2T/4T fan unit** is designed for placement in telecommunication floor cabinets.

Fan quantity	2, 4pcs.
Capacity	4x160 (2x95) m ³ /h (CFM)
Temperature range	0-60°C
Voltage	220V/50Hz
Usage area	Floor cabinets

Fan unit **RN/RNT**



The **RN/RNT fan unit** is designed to be placed in telecommunication wall cabinets.

Fan quantity	1 pc.
Capacity	160 (95) m ³ /h (CFM)
Temperature range	0-60°C
Voltage	220V/50Hz
Usage area	Wall cabinets

Reinforced shelf 4TKU



Shelf 4TKU is designed to accommodate telecommunications, power supply and other equipment.

Height	1U
Width (between brackets)	440mm (482mm)
Depth	400, 600, 800, 1000mm
Shelf	Sheet steel S=1,0mm
Brackets	Sheet steel S=1,0mm
Maximum admissible distributed static load	320kg

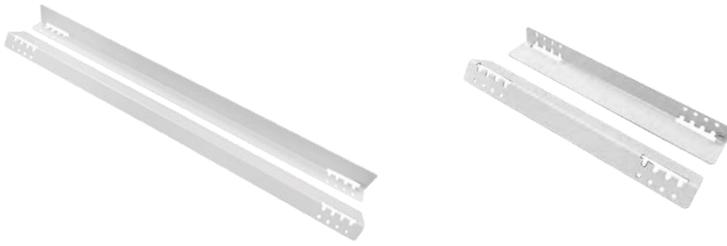
Lightweight shelf 4TKL



Shelf 4TKL is designed to accommodate telecommunications, power supply and other equipment.

Height	1U
Width (between brackets)	445mm (483mm)
Depth	400, 600, 800, 1000mm
Shelf	sheet steel S=1,0 mm
Brackets	sheet steel S=1,0 mm
Maximum admissible distributed static load	50kg

Server guides NS



Depth	400, 600, 800, 1000mm
Material	sheet steel

Stub



Height	1U
Material	sheet steel

Network filter



Height	1,5 U
Number of outlets	6pcs.
Power supply voltage	220V/50Hz 10A
Power cord length	1,9m (with electric plug CEE 7/7)

Electrical distribution panel



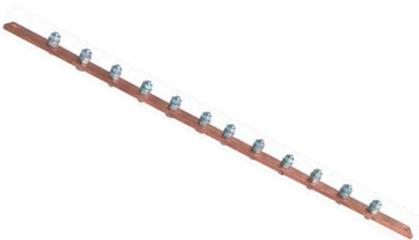
Depth	400, 600, 800, 1000mm
Material	sheet steel

Mounting kit REC-FPFP



Mounting kit	screw, nut, rubber gasket
Material	sheet steel

Ground bus



Width	482mm
Housing material	copper brand M1 with a section of 25*5
Places to connect	14pcs.

Optical patch cords



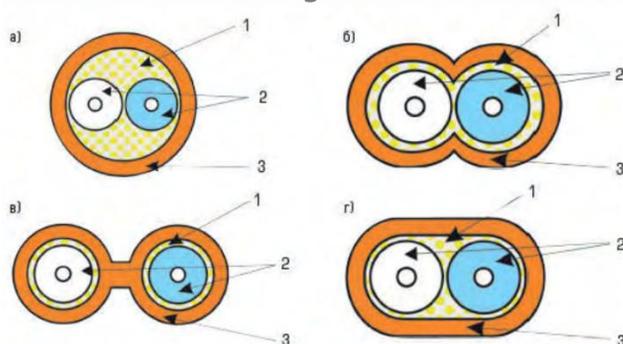
simplex

Connecting patch cord is a simplex or duplex piece of optical cable (in buffer coating $d = 2.0\text{--}3.0\text{ mm}$), terminated with connectors on 2 sides, used to connect equipment. The optical patch cord can be of various lengths and with any combination of optical connectors.



duplex

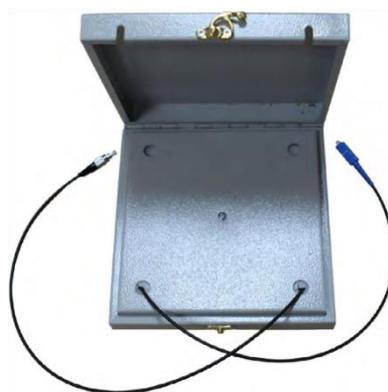
Cable design:



1. Reinforcing aramid fibers
2. Optical fibers in a dense buffer (0.9mm)
3. LSZH outer cover

Fiber type	Single mode 9/125 (OS2), Multi mode 50/125, 62,5/125 (OM1, OM2, OM3, OM4)
Cable type	Simplex, Duplex
Jacket type	PVC, LSZN
Connector type	SC, LC, FC, E2000, MTRU, ST
Polishing type	APC, UPC
Gasket type	Inner and outer

Dead zone compensator



Optical pigtail



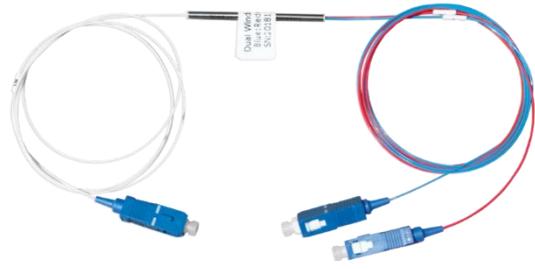
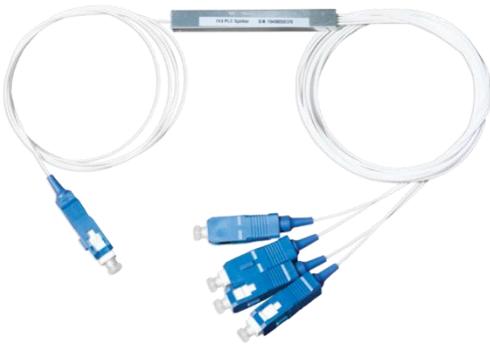
Pigtail - a piece of optical fiber (in a buffer coating $d = 0.9 \text{ mm}$) or distribution cable, terminated with an optical connector on one side. Designed for terminating the fibers of a linear cable by welding.

Fiber type	Single mode 9/125 (OS2), Multi mode 50/125, 62,5/125 (OM1, OM2, OM3, OM4)
Cable type	Simplex, Duplex
Jacket type	PVC, LSZN
Connector type	SC, LC, FC, E2000, MTRJ, ST
Polishing type	APC, UPC
Gasket type	inner

Types of connectors



Optical splitters

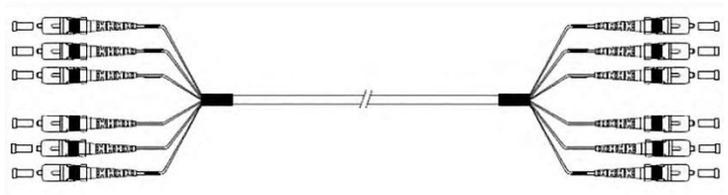
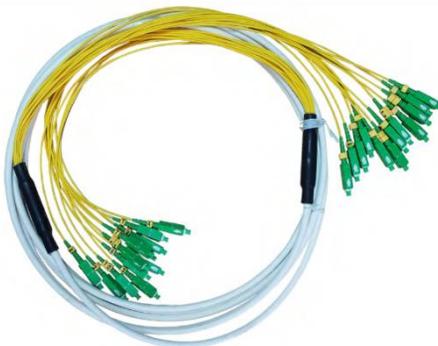


An **optical splitter** is a high performance, reliable and compact optical power divider specially designed for FTTH, PON and CATV networks.

Production technology	PLC, FBT
Casing type	case, mini-case, sleeve
Product type	terminated and non-terminated
Signal distribution method	Equal (from 1x2 to 1x64) and % (FBT)



Cable assembly



Optical cables for external laying



Patch cord FTTH



Corrugated cable assembly



Cable assembly FTTA



Cable assembly with central strength element



Connector types

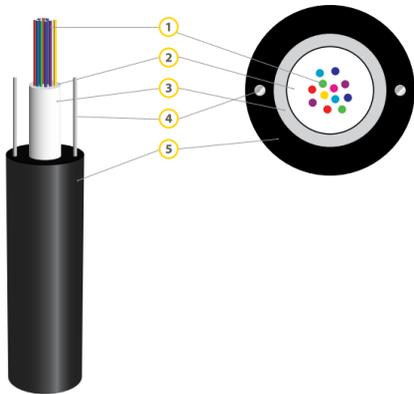
Optical adapter



An **optical adapter** is used for switching optical connectors and pigtails. Adapters are used in patch panels, active network equipment and measuring devices. Their main advantages are high performance, temperature stability and low wear.

Adapter type	Simplex, Duplex
Connection type	SC, LC, FC, ST
Polishing type	APC, UPC, PC, SPC
Fiber type	Single mode, Multi mode
Mount type	Latch, screw thread

Cable brand OTsPS

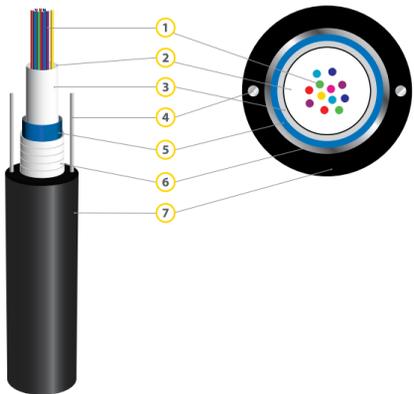


1. Optical fibers
2. Hydrophobic compound
3. Central tube
4. Fiberglass rods
5. Outer jacket

Optical cable of type OTsPS with a central tube is designed for laying in cable ducts (in plastic pipes) and for suspension on poles of communication lines, contact network of steel roads, power lines.

Fiber optics	1 - 48
Access. stretch force kN	0,5 - 3.5
Outer diameter, mm	4,0 – 9,2
Application area	to the sewer, suspended
Warranty period	12 months
Cable brand	OTsPS

Cable brand OTsBhP

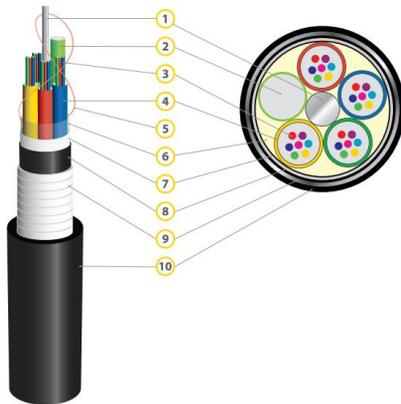


1. Optical fibers
2. Hydrophobic compound
3. Central tube
4. Steel galvanized wire
5. Water blocking tape
6. Corrugated steel tape
7. Outer jacket

Optical cable of type OTsBhP with a central tube is designed for laying telecommunication networks in cable ducts, pipes, soil and where there is a risk of flooding for a long period or a threat of damage by rodents.

Fiber optics	2 - 48
Access. stretch force kN	1,5 - 3.5
Outer diameter, mm	7,5 – 10,0
Application area	to the soil, to the sewer
Warranty period	12 months
Cable brand	OTsBhP

Cable brand **OBhPo**

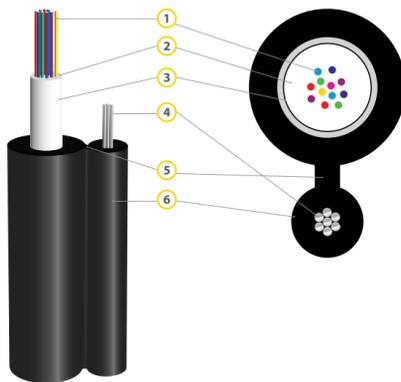


1. Central strength element
2. Copper conductors (on request)
3. Optical fibers
4. Optical module
5. fastening thread
6. Hydrophobic compound
7. Polyethylene terephthalate film
8. Inner jacket (may be missing)
9. Corrugated steel tape
10. Outer jacket

Optical cable of type OBhPO with armor made of corrugated steel tape is designed for laying in pipes (including the method of pneumatic laying), blocks, collectors in case of danger of damage by rodents, as well as in the ground by mechanized method.

Fiber optics	2 - 196
Access. stretch force kN	1,5 - 3.5
Outer diameter, mm	8,5 – 18,0
Application area	to the soil, to the sewer
Warranty period	12 months
Cable brand	OBhPO

Cable brand **OTsPt**

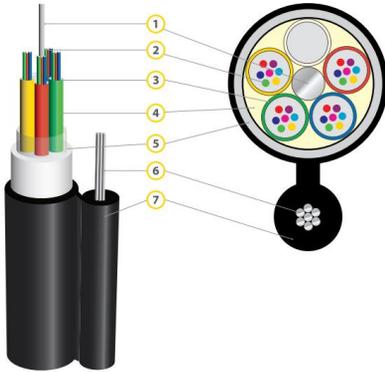


1. Optical fibers
2. Hydrophobic compound
3. Central tube
4. Steel galvanized wire
5. Water blocking tape
6. Corrugated steel tape
7. Outer jacket

Optical cable type OTsPt with a remote bearing element is designed for suspension between buildings located at considerable distances from each other, on lighting masts and poles of telecommunication lines as a distribution cable.

Fiber optics	2 - 48
Access. stretch force kN	1,5 - 8.0
Outer dimensions, mm (w*h)	5,5*12,7 – 6,7*15,7
Application area	suspension
Warranty period	12 months
Cable brand	OTsPt

Cable brand **OPt**

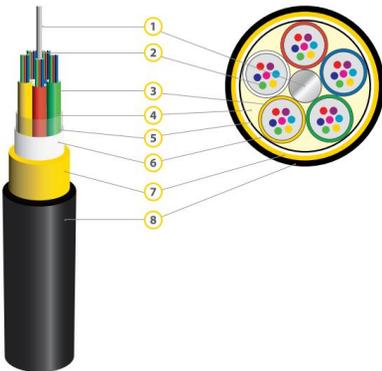


1. Central strength element
2. Optical fibers
3. Optical module filled with hydrophobic compound
4. Film filled with hydrophobic compound
5. Spacer jumper
6. Steel cable (fiberglass rod)
7. Outer jacket

Optical cable of type OPt with a modular design is designed for suspension and operation on the supports of overhead communication lines, urban electric transport and overhead power lines under the influence of loads from wind, ice, or a combination of them.

Fiber optics	2 - 196
Access. stretch force kN	2,0 - 8.0
Outer dimensions, mm (w*h)	9,05*17,05 – 16,65*26,95
Application area	suspension
Warranty period	12 months
Cable brand	OPt

Cable brand **OArP**



1. Central strength element
2. Optical fiber
3. Optical module filled with hydrophobic compound
4. Hydrophobic compound
5. Polyethylene terephthalate film
6. Inner jacket (may be missing)
7. A layer of aramid yarns (glass yarns)
8. Outer jacket

Optical cable of the OArP type with reinforced aramid glass fibers is designed for suspension between buildings and structures, along power substations, on poles of a contact network, communication lines and lighting networks, on poles of power lines at points with a maximum electric field potential of up to 12kV.

Fiber optics	2 - 196
Access. stretch force kN	3,5 - 3.0
Outer diameter, mm	8,3 – 25,0
Application area	suspension
Warranty period	12 months
Cable brand	OArP

For notes

A series of horizontal dashed lines for writing notes.



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