PELENG

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WEATHER INSTRUMENTS AND SYSTEMS

2025

PELENG COMPANY

JSC PELENG is a leading design enterprise in optoelectronic industry of the Republic of Belarus.

Main competence of the company is research and development, that include complete manufacturing cycle of science-based optoelectronic products for wide use.

Over 3,600 employees work in the company and more than half of them are highly qualified engineering and technical personnel.

The company has a long-term leader's reputation and proven experience of participation in such large-scale projects as creation of special-purpose equipment for space crafts and satellites, modernization of meteorological services, implementation of large foreign orders, including space instrumentation area.

The main customers of the meteorological equipment produced by JSC PELENG are: Republic of Belarus, Russian Federation and other CIS countries.

Our mission:

TO PRODUCE THE BEST OPTOELECTRONIC SYSTEMS, ANTICIPATING THE CUSTOMER'S DESIRES

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AVIATION METEOROLOGICAL SYSTEMS AMIS-PELENG SF-09

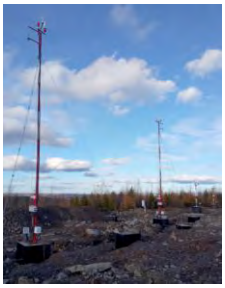
Automatic continuous measurement of basic meteorological parameters (wind speed and direction, air temperature, relative humidity, atmospheric pressure, meteorological optical range, height of the lower cloud boundary, background luminance, precipitation amount and intensity) - to ensure aircraft takeoffs and landings at airfields of I, II, III categories of weather minima according to ICAO classification, non-categorized airfields, equipped and unequipped helipads

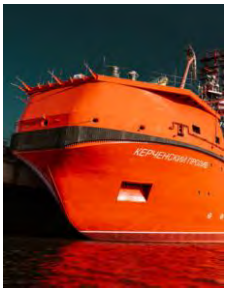
MAIN ADVANTAGES OF AMIS-PELENG SF-09 SYSTEMS

1. SCALABILITY
2. MODULAR DESIGN
3. ADAPTATION OF SOLUTIONS TO THE REQUIREMENTS OF THE AIRPORT AND LOCAL PRACTICES IN THE REGION
4. ABILITY TO CUSTOMIZE THE DATA TRANSMISSION FORMAT TO FIT ANY DATA COLLECTION AND PROCESSING SYSTEM
5. OWN SENSOR PRODUCTION







CERTIFICATION

- № 15149 issued by the State Committee for Standardization of the Republic of Belarus
- № 86211-22 issued by Federal Agency on Technical Regulation and Metrology (Russian Federation)
- № 384 issued by Interstate Aviation Committee (IAC) Airport and Equipment Certification Committee
- № 2720 Section of Federal Information Fund for Uniformity of Measurements in the Sphere of National Defense and Security
- Certificate of Type Approval of the Russian Maritime Register of Shipping for AMIS-PELENG SF-09 system in marine version STO RMRS 24.44.01.01978.130 dated 05.03.2024
- Compliance with STB EN 55022-2012, STB IEC 61000-4-6-2011, STB IEC 61000-4-3-2009
- Compliance with STB IEC 61000-4-2-2011, STB IEC 61000-4-4-2016, GOST IEC 61000-4-5-2017, STB IEC 61000-4-11-2006

AMIS-PELENG SF-09

AUTOMATED WEATHER OBSERVING SYSTEM FOR AIRFIELDS

PURPOSE

- Automatic continuous measurement of the meteorological parameters required to ensure takeoffs and landings of aircraft

APPLICATION

- Airfields with precision approach runways according to ICAO Category I, II, III minimums and uncategorized airfields

TASKS

- Measurement of the main meteorological parameters
- Calculation and manual entry of the meteorological parameters that are not measured or not determined automatically
- Automatic generation of weather reports in METAR (SPECI), ATIS, WAREP and KN-01 SYNOP codes and their transmission of reports in communication lines
- Keeping the AV-6 weather log and the system operation events log
- Registration, archiving and displaying of meteorological information

ADVANTAGES

- Each system is formed according to the modular principle and has an individual configuration, taking into account the Customer's requirements
- Flexible integration with external systems
- Possibility of on-site verification

MEASURED PARAMETERS

- Wind speed and direction
- Air temperature
- Relative humidity
- Atmospheric pressure
- Meteorological optical range (MOR)
- Cloud-base hight
- Background luminance
- Precipitation amount

INTERFACING WITH INFORMATION DATA TRANSMISSION SYSTEMS

- UniMAS Software and Hardware Complex
- MITRA Software and Hardware Complex
- Alpha ATC System
- AMetISt ATIS/VOLMET
- MSC MeteoTelex
- AIS MeteoServer
- Topaz ATM Automated System
- Popugai 2 AVCG
- ATIS Eleron
- Galactica ATC System

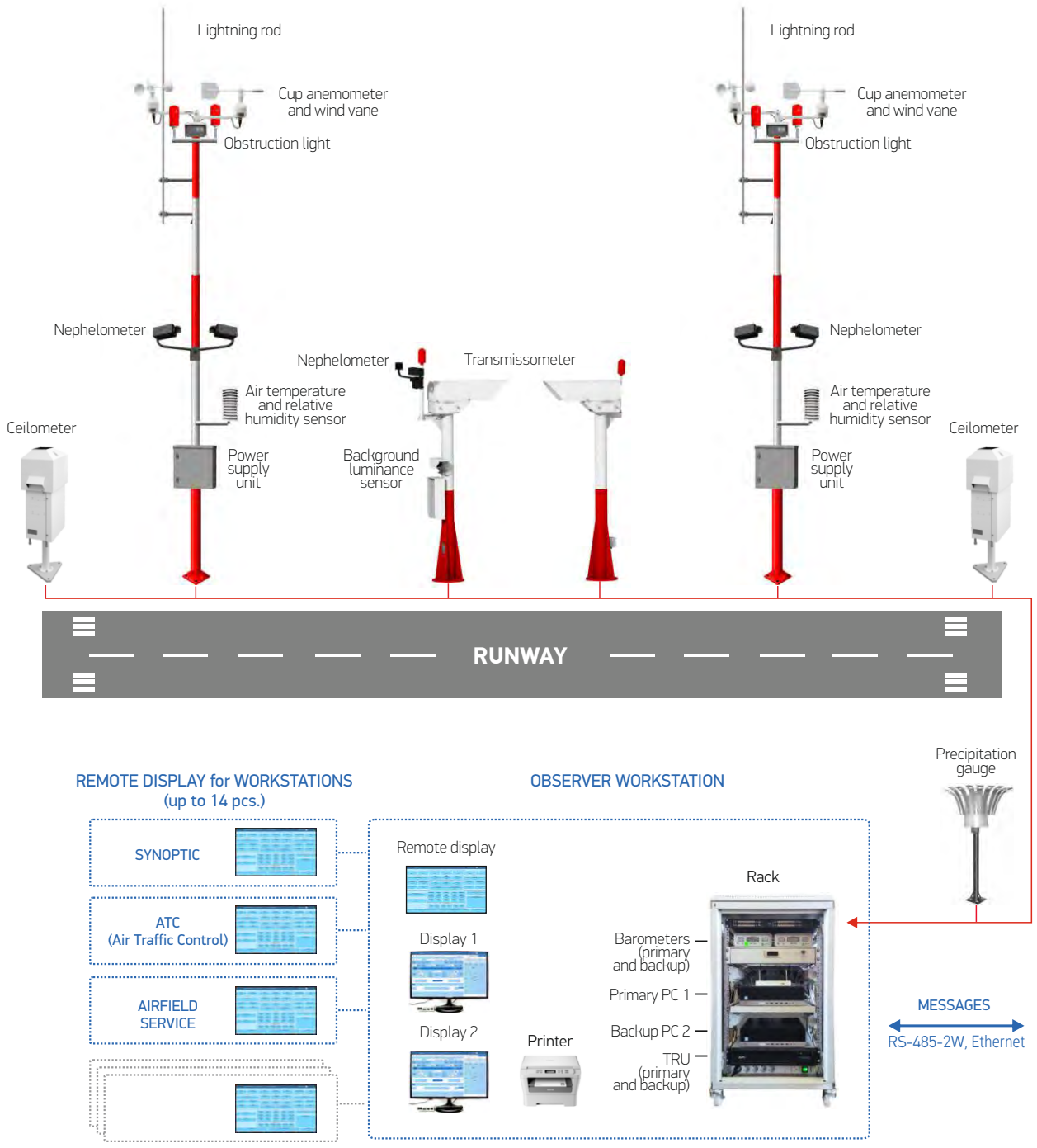
EQUIPMENT CONFIGURATION

Meteorological sensors:

- PELENG SF-01 transmissometer
- PELENG SF-03 cup anemometer and wind vane
- PELENG SL-03 nephelometer
- SD-02-2006 ceilometer
- PELENG SL-02 background luminance sensor
- Air temperature and relative humidity sensor
- BRS-1M/BA-1 barometer
- DO-22 precipitation gauge

Equipment and sets:

- Rack
- Remote display
- MM-1 Meteorological tower
- with the lightning rod and winch
- Obstruction light
- Installation kit
- Set of spare parts



MAIN SPECIFICATIONS

- **Power supply voltage:**
  - AC mains : 230 V 50 Hz
- **Rack power consumption** : ≤ 2.5 kW
- **Uninterruptible power supply operating time** : min 30 minutes
- **Output interface** : RS-485-2W, Ethernet
- **Life time** : 10 years

- **Outdoor device's operating conditions:**
  - air temperature : -60°C to +65°C
  - relative air humidity : 0 - 100%
  - atmospheric pressure : 60 - 110 kPa
  - wind speed : 0 - 55 m/s
- **Indoor device's operating conditions:**
  - air temperature : +5°C to +40°C
  - relative air humidity : 0 - 80%

AMIS-PELENG SF-09

AUTOMATED WEATHER OBSERVING SYSTEM FOR HELIPADS

PURPOSE

- Automatic continuous measurement of the main meteorological values required to ensure takeoffs and landings of aircraft

APPLICATION

- Landing sites specially prepared for helicopter takeoff and landing

TASKS

- Measurement of the main meteorological parameters
- Calculation and manual entry of the meteorological parameters that are not measured or not determined automatically
- Automatic generation of weather reports in METAR (SPECI), ATIS, WAREP and KN-01 SYNOP codes and their transmission of reports in communication lines
- Keeping the AV-6 weather log and the system operation events log
- Registration, archiving and displaying of meteorological information

ADVANTAGES

- Each system is formed according to the modular principle and has an individual configuration, taking into account the Customer's requirements
- Flexible integration with external systems
- Possibility of on-site verification

MEASURED PARAMETERS

- Wind speed and direction
- Air temperature
- Relative humidity
- Atmospheric pressure
- Meteorological optical range (MOR)
- Cloud-base hight

INTERFACING WITH INFORMATION DATA TRANSMISSION SYSTEMS

- UniMAS Software and Hardware Complex
- MITRA Software and Hardware Complex
- Alpha ATC System
- AMetISt ATIS/VOLMET
- MSC MeteoTelex
- AIS MeteoServer
- Topaz ATM Automated System
- Popugai 2 AVCG
- ATIS Eleron
- Galactica ATC System

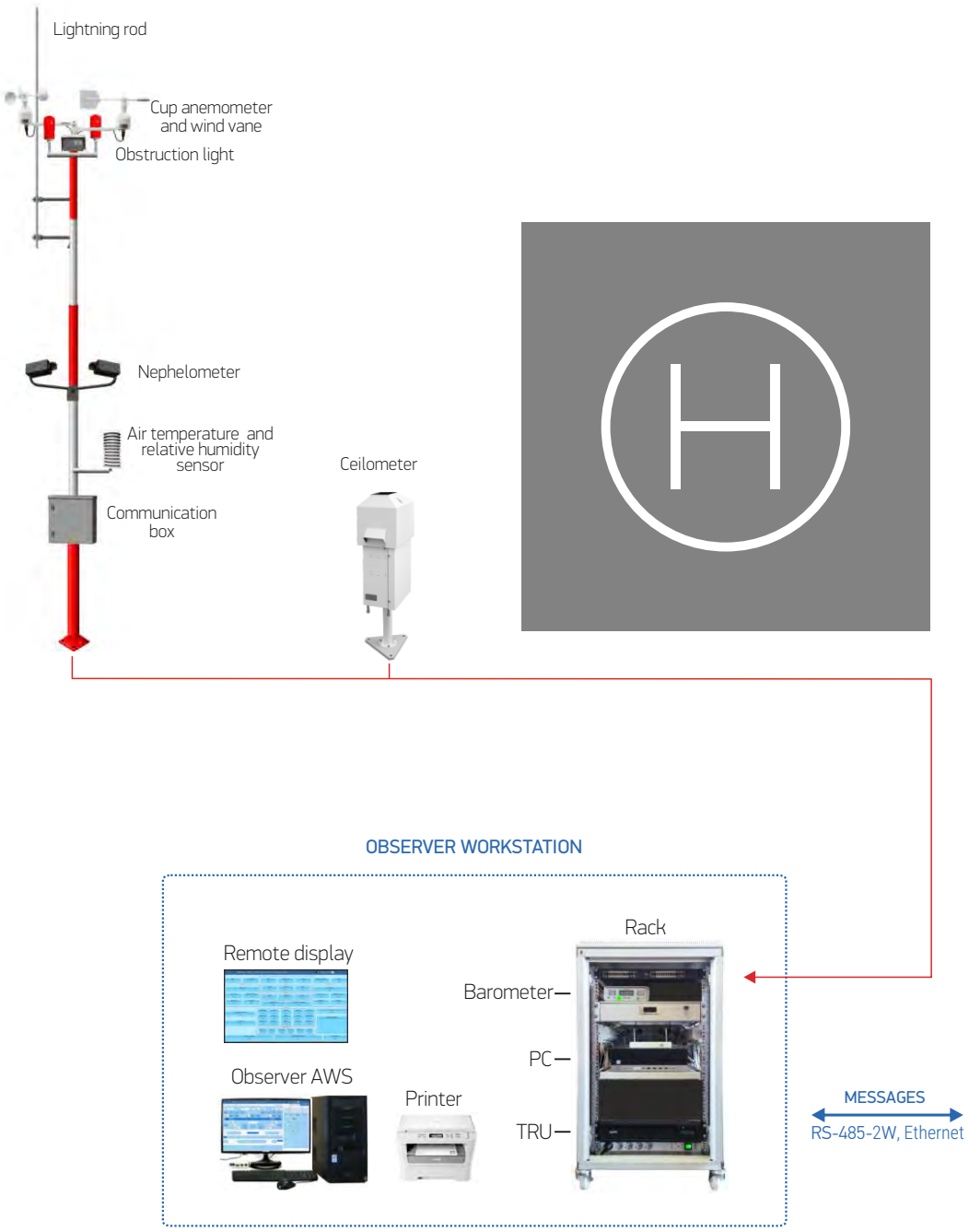
EQUIPMENT CONFIGURATION

Meteorological sensors:

- PELENG SF-03 cup anemometer and wind vane
- PELENG SL-03 nephelometer
- SD-02-2006 ceilometer
- Air temperature and relative humidity sensor
- BRS-1M/BA-1 barometer

Equipment and sets:

- Rack
- Communication box
- Remote display
- MM-1 Meteorological tower
- with the lightning rod and winch
- Obstruction light
- Observer AWS
- Installation kit
- Set of spare parts



MAIN SPECIFICATIONS

- **Power supply voltage:**
  - AC mains : 230 V 50 Hz
- **Rack power consumption** : ≤ 2.5 kW
- **Uninterruptible power supply operating time** : min 30 minutes
- **Output interface** : RS-485-2W, Ethernet
- **Life time** : 10 years

- **Outdoor device's operating conditions:**
  - air temperature : -60°C to +65°C
  - relative air humidity : 0 - 100%
  - atmospheric pressure : 60 - 110 kPa
  - wind speed : 0 - 55 m/s
- **Indoor device's operating conditions:**
  - air temperature : +5°C to +40°C
  - relative air humidity : 0 - 80%

AMIS-PELENG SF-09

AUTOMATED WEATHER OBSERVING SYSTEM FOR HELIPADS (MARINE VERSION)

PURPOSE

- Automatic continuous measurement of the main meteorological values required to ensure takeoffs and landings of aircraft

APPLICATION

- Aircraft takeoffs and landings support on marine stationary platforms, floating drilling rigs or marine vessels

TASKS

- Measurement of the main meteorological parameters
- Calculation and manual entry of the meteorological parameters that are not measured or not determined automatically
- Automatic generation of weather reports in METAR (SPECI), MET REPORT (SPECIAL), ATIS, WAREP and KN-01 SYNOP codes and their transmission of reports in communication lines
- Keeping the AV-6 weather log and the system operation events log
- Registration, archiving and displaying of meteorological information

ADVANTAGES

- Each system is formed according to the modular principle and has an individual configuration, taking into account the Customer's requirements
- Flexible integration with external systems
- Possibility of on-site verification

MEASURED PARAMETERS

- Wind speed and direction
- Air temperature
- Relative humidity
- Atmospheric pressure
- Meteorological optical range (MOR)
- Cloud-base hight
- Water temperature
- Wave parameters

INTERFACING WITH INFORMATION DATA TRANSMISSION SYSTEMS

- Interfacing with vessel information data transmission systems via NMEA 0183 protocol
- UniMAS Software and Hardware Complex
- MITRA Software and Hardware Complex
- Alpha ATC System
- AMetISt ATIS/VOLMET
- MSC MeteoTelex
- AIS MeteoServer
- Topaz ATM Automated System
- Popugai 2 AVCG
- ATIS Eleron
- Galactica ATC System

EQUIPMENT CONFIGURATION

Meteorological sensors:

- PELENG SF-03/SF-17 cup anemometer and wind vane
- PELENG SL-03 nephelometer
- SD-02-2006 ceilometer
- Air temperature and relative humidity sensor
- Barometer

Equipment and sets:

- Communication box
- System unit
- Trackball keyboard
- Marine display
- Marine computer (all-in-one)
- Multipurpose marine repeater
- Message adder
- Message amplifier-distributor
- Installation kit
- Set of spare parts
- Power supply unit

MAIN SPECIFICATIONS

- **Power supply voltage:**
  - AC mains : 230 V 50 Hz
- **Power consumption** : ≤ 1 kW
- **Uninterruptible power supply operating time** : min 30 minutes
- **Output interface** : RS-485-2W, Ethernet
- **Life time** : 10 years

- **Outdoor device's operating conditions:**
  - air temperature : -60°C to +65°C
  - relative air humidity : 0 - 100%
  - atmospheric pressure : 60 - 110 kPa
  - wind speed : 0 - 55 m/s
- **Indoor device's operating conditions:**
  - air temperature : +5°C to +40°C
  - relative air humidity : 0 - 80%

AMIS-PELENG SF-09

AUTOMATED WEATHER OBSERVING SYSTEM FOR AIRFIELDS AND HELIPADS (PORTABLE VERSION)

PURPOSE

- Automatic continuous measurement of the main meteorological values required to ensure takeoffs and landings of aircraft

APPLICATION

- Equipped and unequipped aircraft takeoff and landing sites

TASKS

- Measurement of the main meteorological parameters
- Calculation and manual entry of the meteorological parameters that are not measured or not determined automatically
- Automatic generation of weather reports in METAR (SPECI), ATIS, WAREP and KN-01 SYNOP codes and their transmission of reports in communication lines
- Registration, archiving and displaying of meteorological information

ADVANTAGES

- Mobility
- High autonomy
- Flexible scalable solution
- System deployment and adjustment: 2 persons - 30 min.
- Continuous collection and processing of meteorological information
- Formation of regular and "storm" messages
- Compliance with ICAO wind meter installation height requirements: 10 ±1 m above the ground
- Operation in automated or automatic modes

MEASURED PARAMETERS

- Wind speed and direction
- Air temperature
- Relative humidity
- Atmospheric pressure
- Meteorological optical range (MOR)
- Cloud-base hight

EQUIPMENT CONFIGURATION

Meteorological sensors:

- PELENG SF-03/SF-17 cup anemometer and wind vane
- PELENG SL-03 nephelometer
- SD-02-2006 ceilometer
- Air temperature and relative humidity sensor
- Barometer

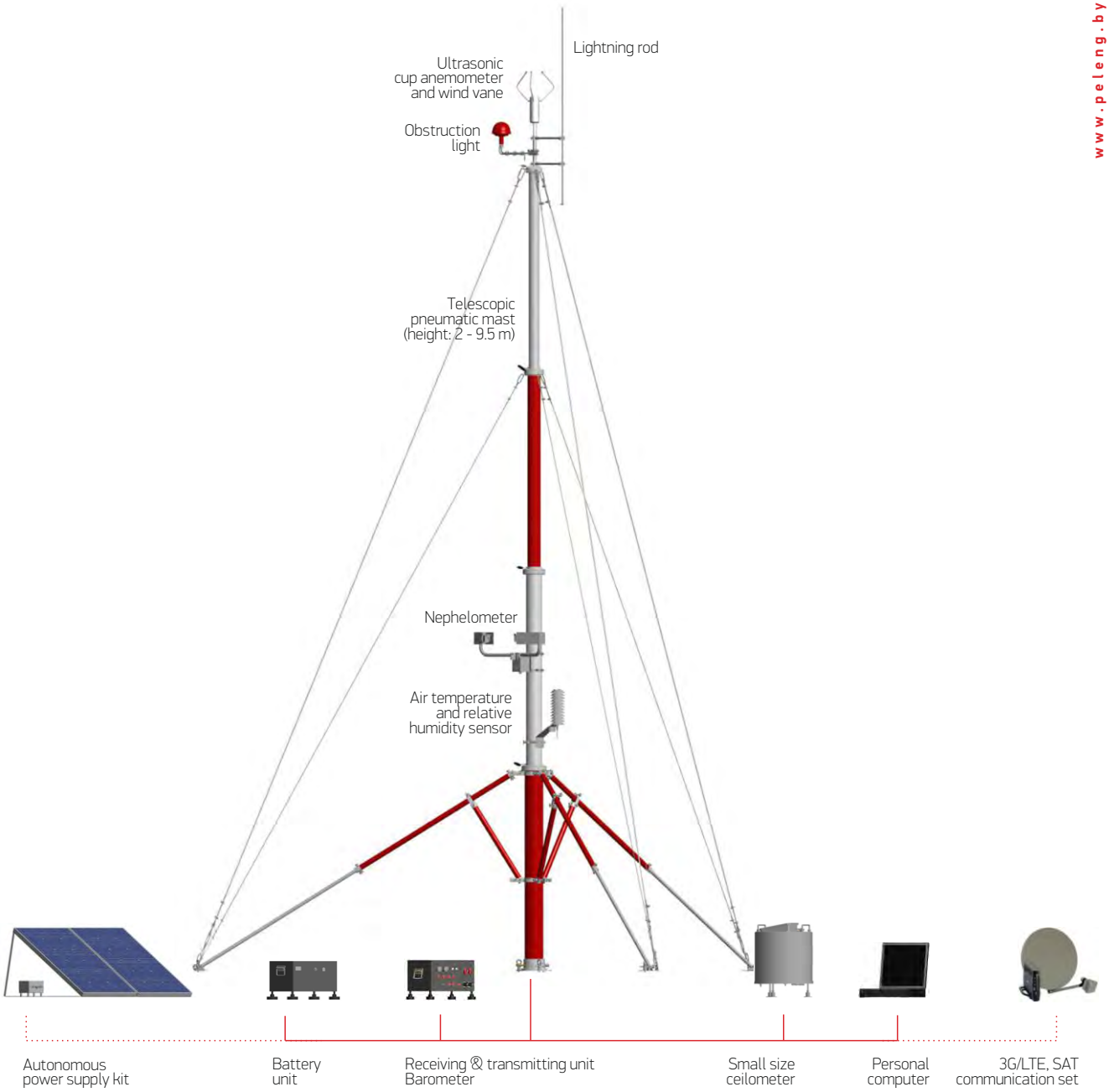
Equipment and sets:

- Receiving & transmitting unit
- Battery unit
- Telescopic pneumatic mast
- Obstruction light
- Personal computer
- Installation kit
- Cable set
- Set of spare parts
- Shipping cases

Optional equipment:

- Communication set
- Autonomous power supply kit
- Lightning rod set

AMIS SF-09 meteosystem in shipping cases



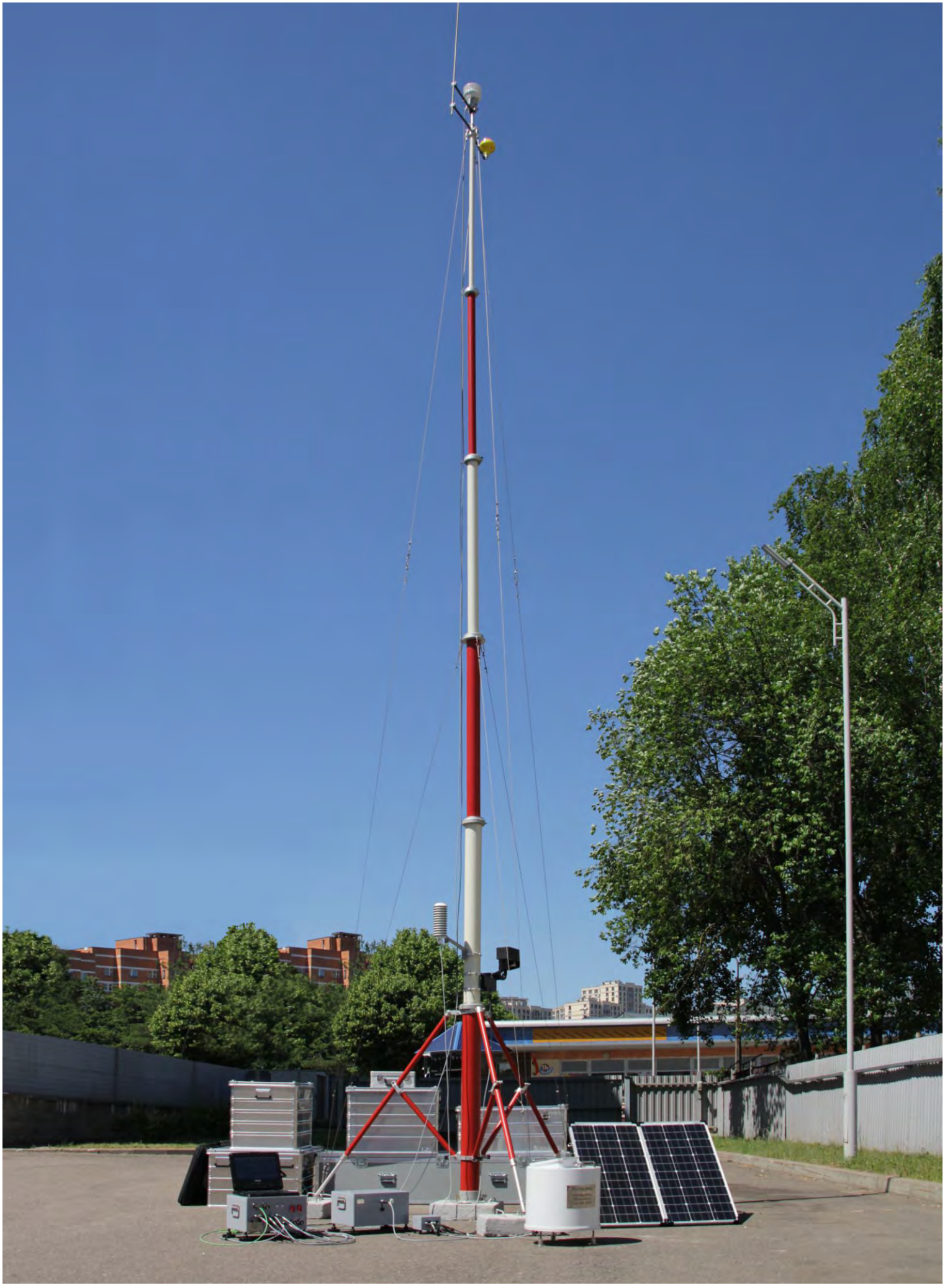
MAIN SPECIFICATIONS

- **Power supply voltage:**
  - DC mains : 12 - 24 V
  - AC mains : 230 V 50 Hz
- **Power consumption** : ≤ 0.5 kW
- **Off-line operation time*** : not less 8 hours
- **Output interface** : RS-485-2W, Ethernet
- **Operating conditions:**
  - operating from batteries : -25°C to +50°C
  - operating from mains sources : -55°C to +60°C

** When using an autonomous power supply kit, the battery unit will be continuously recharged throughout the day*

- **Telescopic mast height** : 2 - 9.5 m
- **Weight:**
  - telescopic mast : 50 kg
  - battery unit : 30 kg
  - receiving & transmitting unit : 15 kg
  - ceilometer : 26 kg
- **System weight (gross / net) **** : 237 / 176 kg
- **System overall dimensions in shipping cases **** : 1.95 m3
- **Total shipping cases number**** : 8 pcs.

*** In full configuration*



AMIS-PELENG SF-09

MOBILE AUTOMATED WEATHER OBSERVING SYSTEM FOR AIRFIELDS AND HELIPADS

PURPOSE

- Meteorological information support for mobile control points and aviation flight situation response centers

APPLICATION

- Temporary aerodromes, helipads, unequipped landing pads

TASKS

- Measurement of the main meteorological parameters
- Calculation and manual entry of the meteorological parameters that are not measured or not determined automatically
- Automatic generation of weather reports in METAR (SPECI), ATIS, WAREP and KN-01 SYNOP codes and their transmission of reports in communication lines
- Registration, archiving and displaying of meteorological information

ADVANTAGES

- Mobility The equipment is located in a single module mounted on a mobile chassis
- The time of deployment of the system's measurement module is max 30 min (for two persons)
- An autonomous uninterruptible electrical power supply system ensures continuous operation of equipment, lighting and main utility systems
- Comfortable space for work and leisure: autonomous heating, ventilation, air conditioning and purification systems; two beds; a refrigerator; a microwave; a sink with heated water supply; storage spaces for personal items
- Flexibility of system construction The customer can choose the delivery set and types of equipment

MEASURED PARAMETERS

- Wind speed and direction
- Air temperature
- Relative humidity
- Atmospheric pressure
- Meteorological optical range (MOR)
- Cloud-base hight

EQUIPMENT CONFIGURATION

Meteorological sensors:

- PELENG SF-03/SF-17 cup anemometer and wind vane
- PELENG SL-03 nephelometer
- SD-02-2006 ceilometer
- Air temperature and relative humidity sensor
- Barometer

Equipment and sets:

- Receiving & transmitting unit
- Battery unit
- Telescopic pneumatic mast
- Obstruction light
- Personal computer
- Installation kit
- Cable set
- Set of spare parts
- Shipping cases

Optional equipment:

- Communication set
- Autonomous power supply kit
- Lightning rod set
- Forecaster's workstation

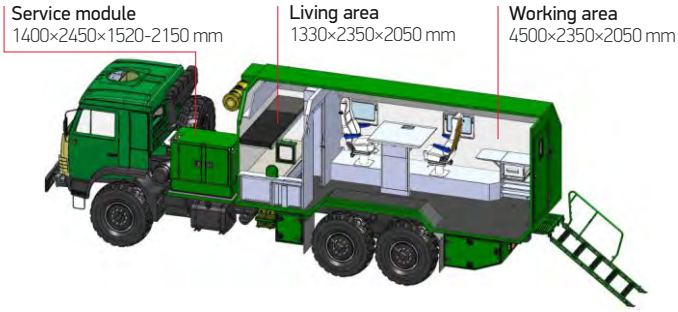
CHASSIS

- KAMAZ-43118
- URAL 4320-4971-82
- MAZ-631708
- MZKT-62273

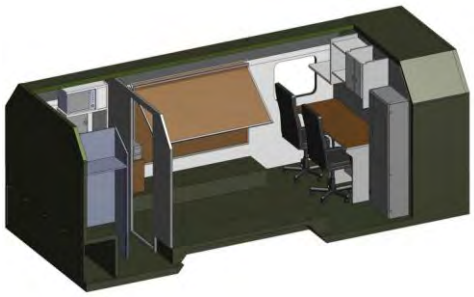
AMIS-PELENG SF-09 MOBILE SYSTEM MODULE CONFIGURATIONS

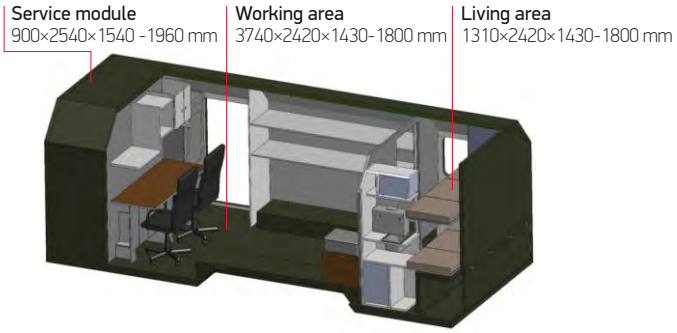
- BOX BODY 1
- BOX BODY 2
- CONTAINER BODY

BOX BODY 1
7400×2450×2150 mm

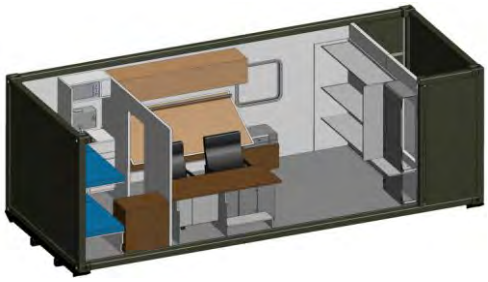


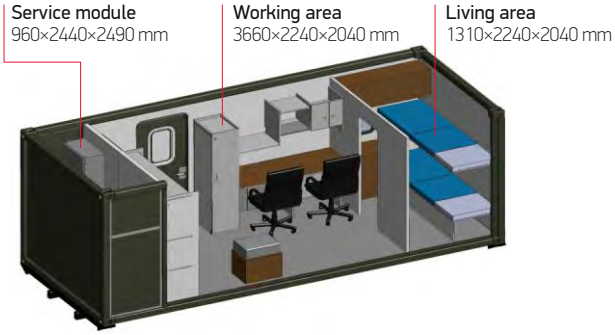
BOX BODY 2
6050×2540×1960 mm





CONTAINER BODY
6070×2440×2490 mm





MAIN SPECIFICATIONS

- **Power supply voltage:**
  - DC mains : 12 - 24 V
  - AC mains : 230 V 50 Hz
- **Power consumption** : ≤ 1 kW
- **Off-line operation time** : not less 8 hours
- **Output interface** : RS-485-2W, Ethernet
- **Operating conditions:**
  - operating from batteries : -25°C to +50°C
  - operating from mains sources : -55°C to +60°C
- **Telescopic mast height** : 2 - 9.5 m

METEOROLOGICAL MEASURING AND INFORMATION SYSTEMS

S-01 · METEOROLOGICAL MEASURING AND INFORMATION SYSTEM

S-01 · METEOROLOGICAL MEASURING AND INFORMATION SYSTEM (HYDROMETEOROLOGICAL VERSION)

S-01 · METEOROLOGICAL MEASURING AND INFORMATION SYSTEM (AGROMETEOROLOGICAL VERSION)

S-01 · METEOROLOGICAL MEASURING AND INFORMATION SYSTEM (SMALL SIZE PORTABLE VERSION)

S-01

METEOROLOGICAL MEASURING AND INFORMATION SYSTEM

PURPOSE

- Measurement, collection and processing of meteorological parameters from sensors, issue of routine and "storm" reports in WMO formats, sending transmission of reports to information collection centers

APPLICATION

- Meteorological monitoring
- Hydrometeorological monitoring
- Agrometeorological monitoring
- Radiation monitoring
- Urban meteorology
- Road monitoring
- Ecological monitoring
- Monitoring of atmospheric air pollution
- Forestry

TASKS

- Continuous collection and automatic registration of meteorological information from connected sensors' set
- Manual input of meteorological parameters that are not automatically measured
- Automatic generation of weather reports in FM-12 SYNOP, WAREP in xml file format
- Primary statistical processing of average meteorological parameters and selection of maximum and minimum values of meteorological parameters for a specified period
- Maintaining an archive of meteorological information, technical state of sensors and a log of system operation events for a period of at least 30 days
- Primary control of reliability of meteorological information received from sensors

ADVANTAGES

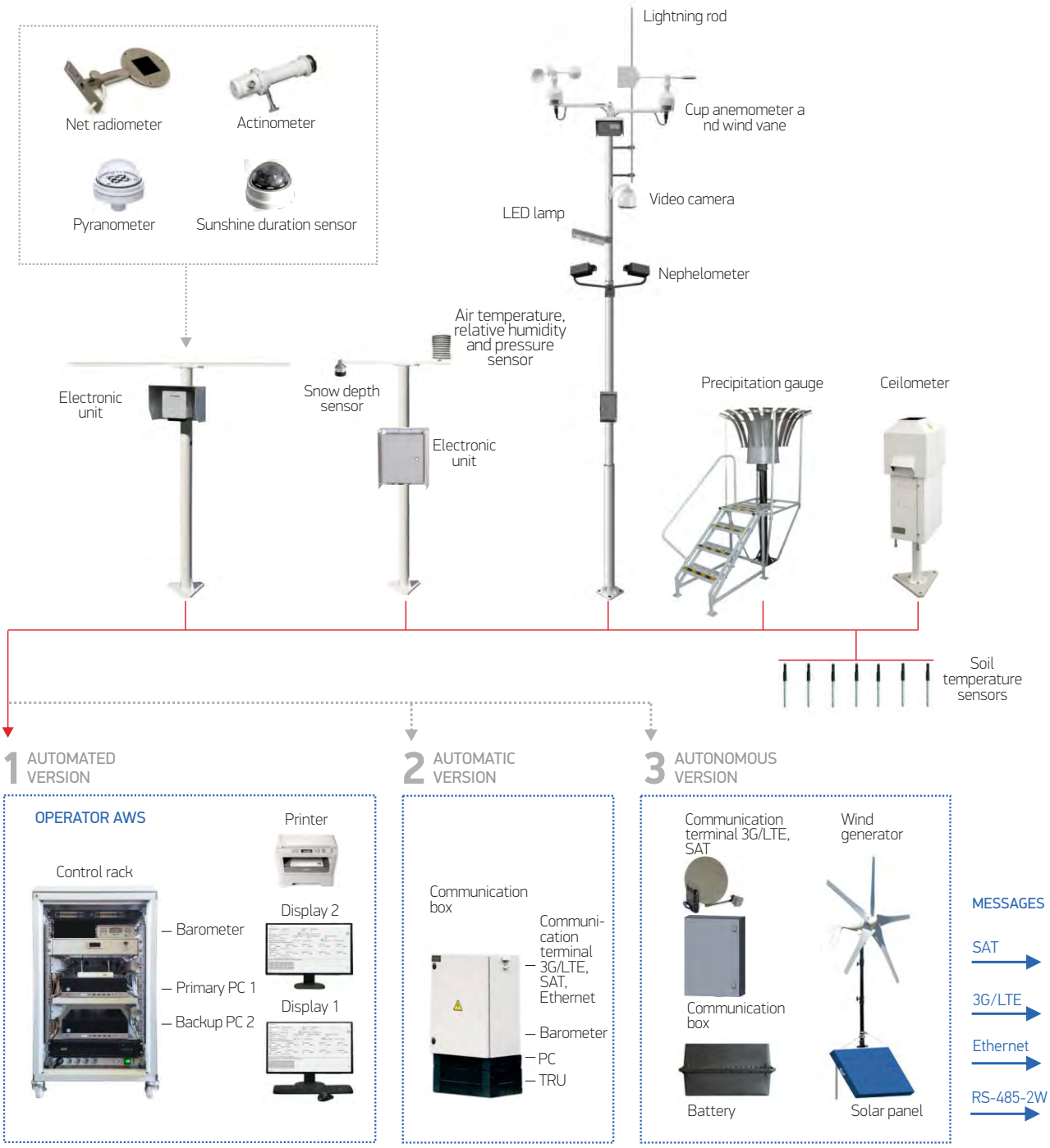
- Operation in automated or automatic modes
- Use of web-based information transfer technologies
- Each system is formed according to the modular principle and has an individual configuration, taking into account the Customer's requirements
- Flexible integration with external systems
- Possibility of on-site verification
- Data visualization in tabular, graphical and cartographic forms
- Monitoring the concentration of gases and solid particles in the air
- Notification of exceeding critical values of measured parameters

MEASURED PARAMETERS

- Wind speed and direction
- Air temperature
- Relative humidity
- Atmospheric pressure
- Meteorological optical range (MOR)
- Cloud-base hight
- Background luminance
- Precipitation amount
- Snow cover height
- Soil temperature at various depths
- Solar radiation
- Duration of sunshine
- Dose equivalent of X-ray and gamma radiation
- Determination of weather phenomena
- Determination of concentration of solid particles and gases

CERTIFICATION

- № 16226 issued by the State Committee for Standardization of the Republic of Belarus
- № 90045-23 issued by Federal Agency on Technical Regulation and Metrology (Russian Federation)
- Compliance with STB EN 55022-2012, STB IEC 61000-4-6-2011, STB IEC 61000-4-3-2009
- Compliance with STB IEC 61000-4-2-2011, STB IEC 61000-4-4-2016, GOST IEC 61000-4-5-2017, STB IEC 61000-4-11-2006



MAIN SPECIFICATIONS

- **Power supply voltage:**
  - AC mains : 230 V 50 Hz
- **Output interface** : RS-485-2W, Ethernet
- **Protection** : IP 66
- **Life time** : 10 years

- **Outdoor device's operating conditions:**
  - air temperature : -60°C to +65°C
  - relative air humidity : 0 - 100%
  - atmospheric pressure : 60 - 110 kPa
  - wind speed : 0 - 55 m/s
- **Indoor device's operating conditions:**
  - air temperature : +5°C to +40°C
  - relative air humidity : 0 - 80%

S-01

METEOROLOGICAL MEASURING AND INFORMATION SYSTEM (HYDROMETEOROLOGICAL VERSION)

PURPOSE

- Collection, processing and transmission of information of water body state, monitoring of hydrometeorological parameters

APPLICATION

- Hydrology
- Monitoring of hydrometeorological state
- Water transport
- Management of hydraulic structures

TASKS

- Continuous collection and automatic registration of hydrometeorological information from connected sensors' set
- Maintaining an archive of hydrometeorological information for a period of at least 30 days
- Maintaining an archive of technical state of sensors and a log of system operation events for a period of at least 30 days
- Transfer of reports to hydrometeorological information collection centers
- Primary statistical processing of meteorological information received from sensors: calculation of average meteorological parameters and selection of maximum and minimum values of meteorological parameters for a specified period
- Primary control of reliability of meteorological information received from sensors

ADVANTAGES

- Wide range of applications
- Use of autonomous power sources
- Possibility to work in automatic mode
- Possibility to use the station to be operated in hard-to-reach places and without operator participation
- System formation according to modular principle taking into account the Customer's requirements
- Reporting the current status via WEB-technologies
- Flexible integration with external systems

MEASURED PARAMETERS

- Wind speed and direction
- Air temperature
- Relative humidity
- Atmospheric pressure
- Precipitation amount
- Water temperature
- Water level
- Water flow rate
- Water muddiness

EQUIPMENT CONFIGURATION

Meteorological sensors:

- PELENG SF-03 cup anemometer and wind vane
- Air temperature and relative humidity sensor
- DO-22 precipitation gauge
- Barometer

Hydrological sensors:

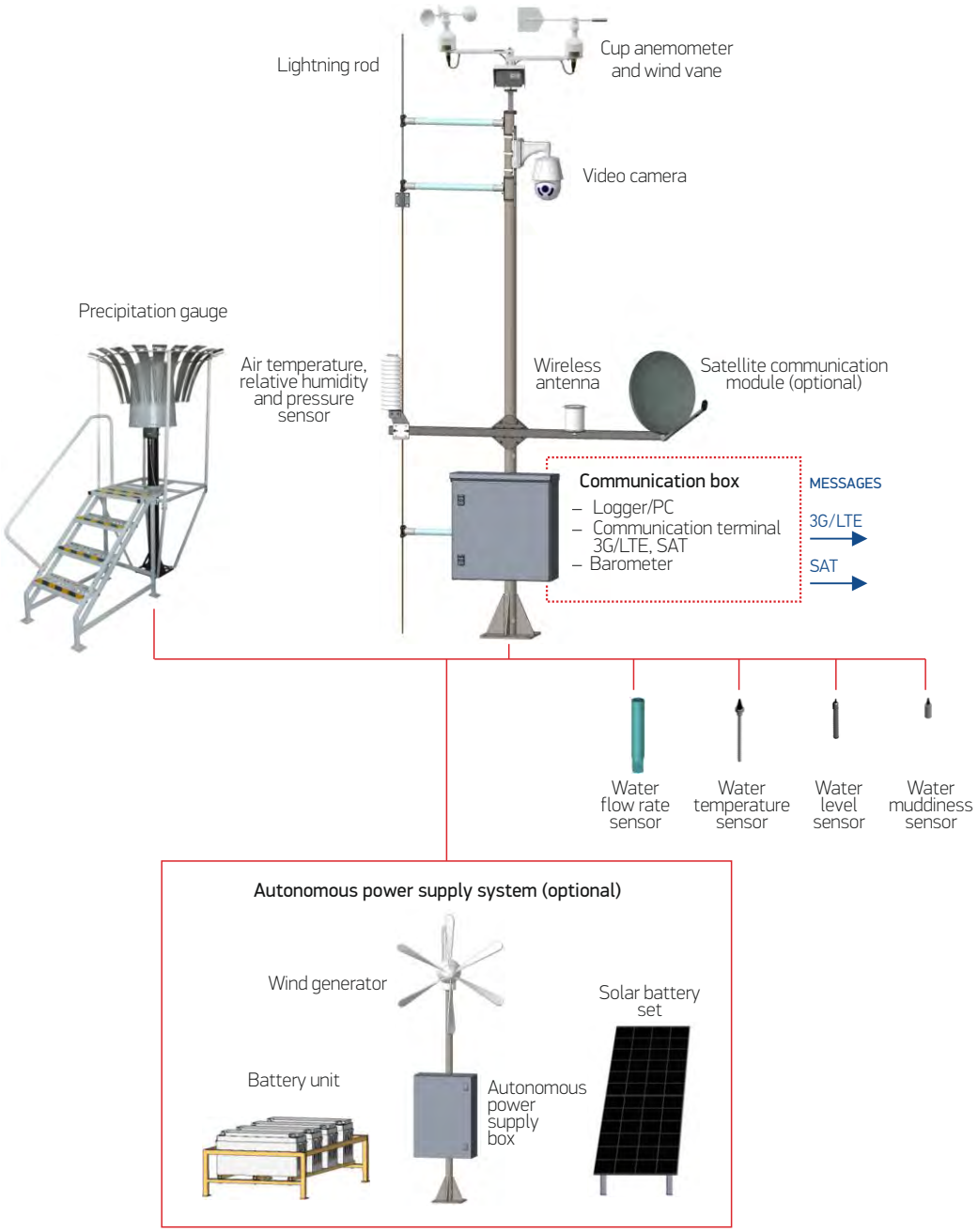
- Water temperature sensor
- Water level sensor
- Water flow rate sensor
- Water muddiness sensor

Equipment and sets:

- Meteorological tower with lightning rod
- Racks and lifting beams for equipment installation
- Video camera
- Communication box
- Battery unit
- Cable set
- Set of spare parts
- Diagnostic kit

Optional equipment:

- Satellite communication set
- Autonomous power supply kit



MAIN SPECIFICATIONS

- **Power supply voltage:**
  - AC mains : 230 V 50 Hz
  - DC mains : 24 V
- **Output interface** : RS-485-2W, Ethernet
- **Protection** : IP 66
- **Life time** : 10 years

- **Outdoor device's operating conditions:**
  - air temperature : -60°C to +65°C
  - relative air humidity : 0 - 100%
  - atmospheric pressure : 60 - 110 kPa
  - wind speed : 0 - 55 m/s
- **Indoor device's operating conditions:**
  - air temperature : +5°C to +40°C
  - relative air humidity : 0 - 80%

S-01

METEOROLOGICAL MEASURING AND INFORMATION SYSTEM (AGROMETEOROLOGICAL VERSION)

PURPOSE

- Continuous measurement of meteorological parameters and crop state observation

APPLICATION

- Agriculture

TASKS

- Transfer of measured and analytical information to a remote server via mobile communication
- Meteoinformation filing, compilation of «Cropping history»

ADVANTAGES

- The use of autonomous power sources and the ability to work in automatic mode allows the station to be operated without operator participation
- The traverse form and special adapters for sensors allow install on it a large number of equipment
- Concealed cable route is provided
- Mast consists from two sections that allow fast and easy system installation
- Reporting the current status via WEB-technologies

MEASURED PARAMETERS

- Wind speed and direction
- Air temperature
- Relative humidity
- Atmospheric pressure
- Type and amount of precipitation
- Total solar radiation
- Photosynthetic active radiation (PAR)
- Soil temperature and moisture
- Soil acidity
- Leaf moisture

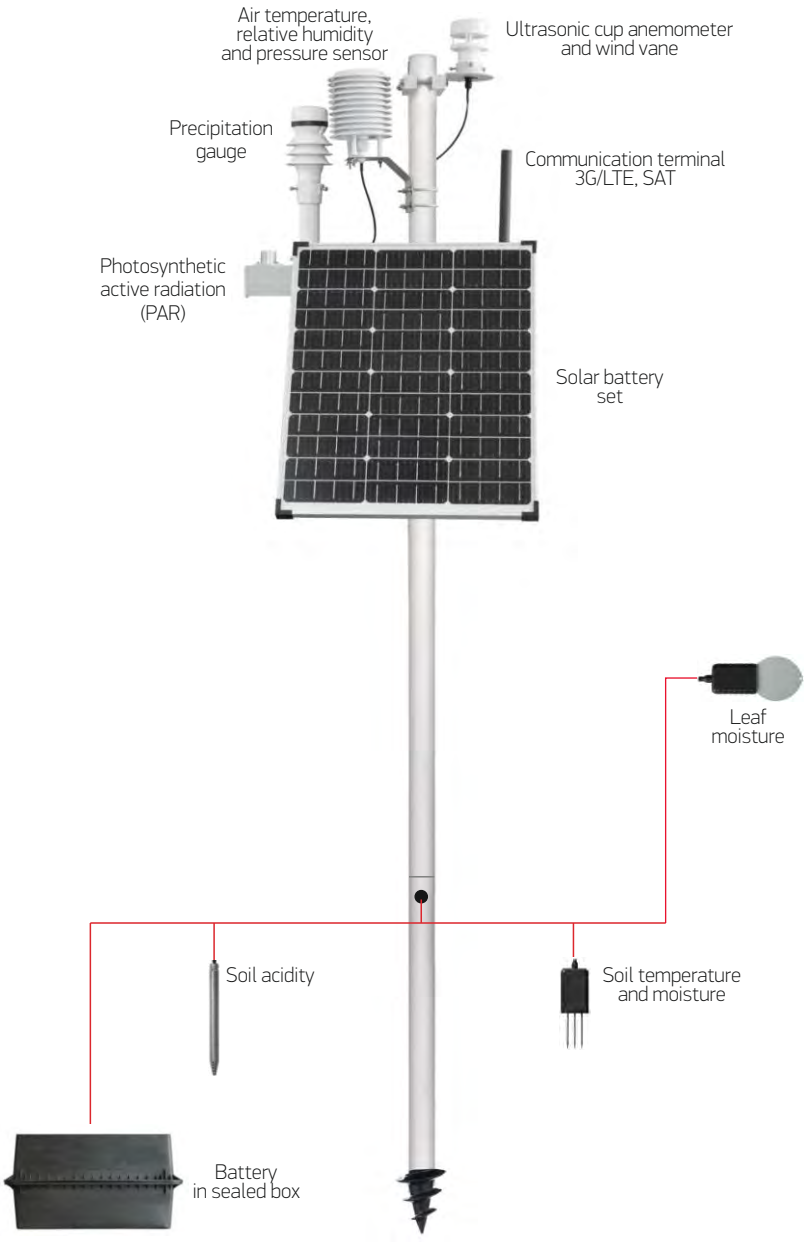
EQUIPMENT CONFIGURATION

Meteorological sensors:

- Ultrasonic cup anemometer and wind vane
- Air temperature, relative humidity and pressure sensor
- Photosynthetic active radiation (PAR)
- Precipitation gauge
- Soil temperature and moisture
- Soil acidity
- Leaf moisture

Equipment and sets:

- Electronic unit
- External battery in sealed box
- Solar battery set
- Communication terminal 3G/LTE, SAT
- Mast with traverse
- Cable set
- Set of spare parts



MAIN SPECIFICATIONS

- **Power supply voltage:**
  - DC mains : 24 V
- **Output interface** : RS-485-2W, Ethernet
- **Mast height:**
  - ground section : 2.2 m
  - high of section screwed into the ground : 0.8 m
- **Protection** : IP 66
- **Life time** : 10 years

- **Outdoor device's operating conditions:**
  - air temperature : -30°C to +65°C
  - relative air humidity : 0 - 100%
  - atmospheric pressure : 60 - 110 kPa
  - wind speed : 0 - 55 m/s
- **Indoor device's operating conditions:**
  - air temperature : +5°C to +40°C
  - relative air humidity : 0 - 80%

S-01

METEOROLOGICAL MEASURING AND INFORMATION SYSTEM (SMALL SIZE PORTABLE VERSION)

PURPOSE

- Measurement, collection and processing of meteorological

APPLICATION

- Meteorology
- Road and railway monitoring
- Industrial enterprises
- Energy and renewable energy sources
- Construction

TASKS

- Issue of regime summaries
- Formation of regular and "storm" reports
- Sending reports to information centers
- Operation in automated or automatic modes
- Maintaining an archive of meteorological information (optional)

ADVANTAGES

- Mobility
- High autonomy
- Flexible scalable solution
- System deployment and adjustment: 15 minutes (1 person)
- Reporting the current status via WEB-technologies

MEASURED PARAMETERS

- Wind speed and direction
- Air temperature
- Relative humidity
- Atmospheric pressure

EQUIPMENT CONFIGURATION

Meteorological sensors:

- Multifunctional weather sensor

Equipment and sets:

- Controller
- Mast
- Battery unit
- Cable set
- Shipping case

Optional equipment:

- Laptop

Small size mobile meteorological system S-01 in a shipping case

MAIN SPECIFICATIONS

- **Off-line operation time** : ≥ 8 hours (≥ 3.5 hours @ - 25°C)
- **Power supply voltage:**
  - DC mains : 9 - 36 V
- **Data transmission interface** : RS-485-2W, Ethernet
- **Operating conditions:**
  - air temperature:
    - operating from batteries : -25°C to +50°C
    - operating from mains sources : -60°C to +65°C
- **Protection** : IP 66
- **Dismountable mast height** : 3.2 m
- **Dismountable mast weight** : 8 kg
- **Battery unit weight** : 4.5 kg
- **Shipping case dimensions (L×W×H)** : 990×620×220 mm
- **System overall weight in shipping case** : 30 kg
- **Life time** : 10 years

INSTRUMENTS AND SYSTEMS FOR ACTINOMETRIC MEASUREMENTS

SF-14-21 · ACTINOMETRIC STATION

PELENG SF-06-21 · PYRANOMETER

PELENG SF-12-21 · ACTINOMETER

PELENG SF-08-21 · NET RADIOMETER

PELENG VK-05 · SUNSHINE DURATION SENSOR

PSS-1 · SUN TRACKER

SF-14-21

ACTINOMETRIC STATION

PURPOSE

- Measurement of radiation parameters of the earth's surface, collection and processing of the information received

APPLICATION

- Meteorology
- Energy and renewable energy sources

TASKS

- Measurement of sun, earth and atmospheric radiation in automatic mode
- Calculation of total solar radiation, radiation balance of the earth, duration of sunshine.
- Measured and calculated data are available for export and reporting in the included software

ADVANTAGES

- Possibility of operation in automated mode
- Actinometric sensors of our own production
- Inter-verification interval of sensors – 2 years

MEASURED PARAMETERS

- Direct solar radiation
- Total solar radiation
- Reflected solar radiation
- Diffused solar radiation
- Radiation balance
- Duration of sunshine

EQUIPMENT CONFIGURATION

Meteorological sensors:

- PELENG SF-12-21 actinometer
- PELENG SF-06-21 pyranometer (3 pcs.)
- PELENG SF-08-21 net radiometer
- PELENG VK-05 sunshine duration sensor
- PSS-1 sun tracker

Equipment and sets:

- Rack
- Electronic unit
- Connecting box
- Installation kit
- Power supply unit

Optional equipment: :

- PC

CERTIFICATION

- №83298-21 Federal Agency on Technical Regulation and Metrology (Russian Federation)

Software interface

MAIN SPECIFICATIONS

- **Power supply voltage:**
  - AC mains : 230 V 50 Hz
- **Power consumption** : ≤ 0.3 kW
- **Output interface** : RS-485-2W
- **Life time** : 10 years

- **Operating conditions:**
  - air temperature : -60°C to +80°C
  - relative air humidity : 0 -100%
  - atmospheric pressure : 60 -110 kPa
  - wind speed : 0 - 55 m/s
- **Protection*** : IP 65

PELENG SF-06-21

PYRANOMETER

PURPOSE

- Solar irradiance measurement created by solar radiation in the spectral range of wavelengths from 0.3 μm to 2.8 μm (glass protection cap) and from 0.28 μm to 4 μm (quartz protection cap)

APPLICATION

- Hydrometeorological stations
- Power engineering
- Agriculture
- Construction
- Scientific research

ADVANTAGES

- Stable readings
- Offline software
- Possibility of on-site verification
- Verification interval in the Russian Federation - 2 years

AVAILABLE PRODUCT VERSIONS

- **AST** - pyranometer with analog output signal and glass protection cap
- **AKT** - pyranometer with analog output signal and quartz protection
- **CST** - electronic pyranometer (digital and analog output signals) with glass protection cap
- **CKT** - electronic pyranometer (digital and analog output signals) with quartz protection cap

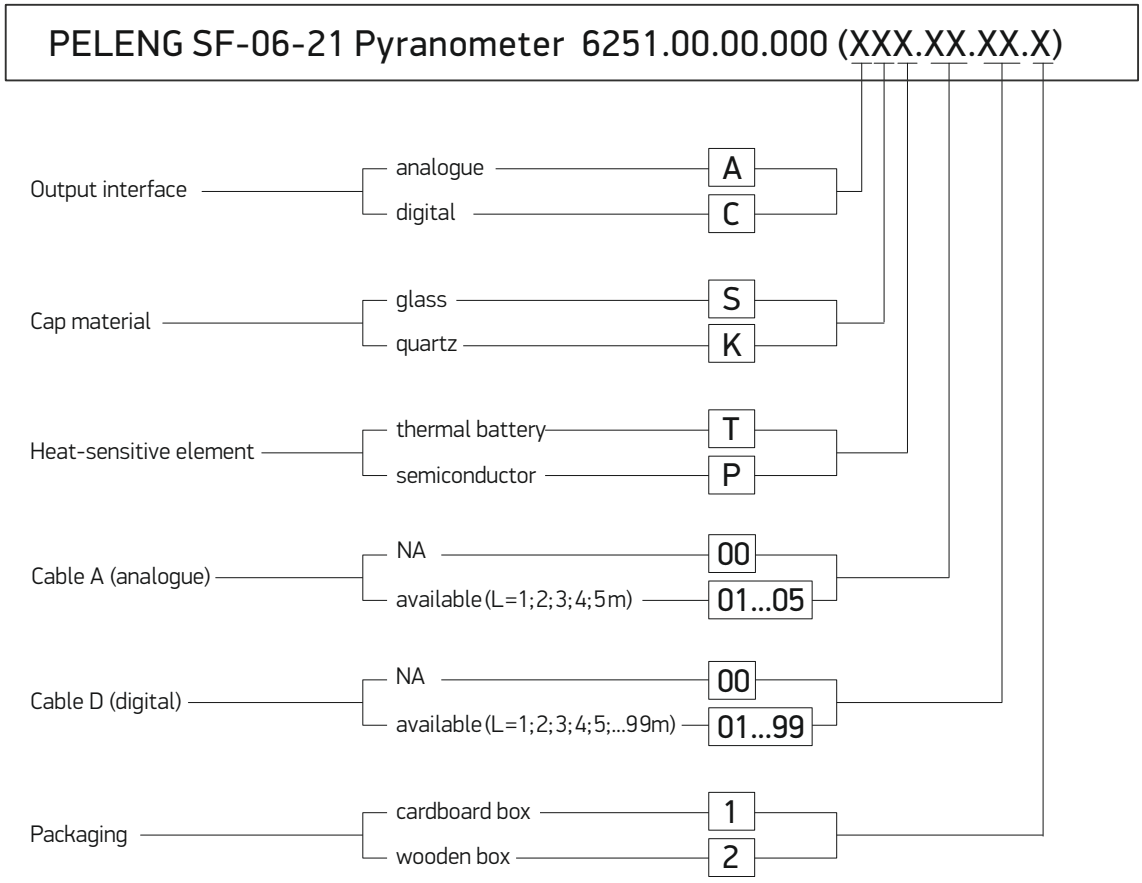
MAIN SPECIFICATIONS

- **Spectral range:**
  - pyranometer with glass protection cap (AST, CST) : 0.3 - 2.8 μm
  - pyranometer with quartz protection cap (AKT, CKT) : 0.28 - 4 μm
- **Irradiance range** : 0 - 2 kW/m^2
- **Permissible main relative measurement error** : ± 10%
- **Ambient temperature induced permissible additional measurement error, per 10°C temperature change** : ± 1.5%
- **Conversion factor for normal irradiance** : ≥ 8 mV m^2 / kW
- **Response time** : 20 s
- **Operation mode** : automatic message or upon request
- **Power supply voltage:**
  - DC mains : 6 - 24 V
- **Power consumption** : ≤ 1 W
- **Output interface** : RS-485-2W
- **Communication protocol** : ASCII
- **Operating conditions:**
  - air temperature : -60°C to +80°C
  - relative humidity : 0 - 100%
  - atmospheric pressure : 60 - 110 kPa
- **Protection** : IP 65
- **Dimensions:**
  - pyranometer (AST, AKT) : Ø105×95 mm
  - electronic pyranometer (CST, CKT) : Ø105×105 mm
- **Weight:**
  - pyranometer (AST, AKT) : 1 kg
  - electronic pyranometer (CST, CKT) : 1.1 kg
- **Life time** : 10 years

CERTIFICATION

- № 16040 issued by the State Committee for Standardization of the Republic of Belarus
- № 82816-21 Federal Agency on Technical Regulation and Metrology (Russian Federation)

PRODUCT DESIGNATION STRUCTURE (ORDER CODE)



ORDER EXAMPLE

PELENG SF-06-21 Pyranometer 6251.00.00.000 (AST.04.00.1)

PELENG SF-06-21 Pyranometer with analogue output, glass cap, thermal battery and cable A with length of 4 m, without cable D, in cardboard transporting box

PELENG SF-12-21

ACTINOMETER

www.peleng.by

PURPOSE

- Direct solar irradiance measurement created by solar radiation in the spectral range of wavelengths from 0.3 μm to 10 μm

APPLICATION

- Hydrometeorological stations
- Power engineering
- Agriculture
- Construction
- Scientific research

ADVANTAGES

- Stable readings
- Offline software
- Possibility of on-site verification
- Verification interval in the Russian Federation - 2 years

AVAILABLE PRODUCT VERSIONS

- **AT** - actinometer with analog output signal
- **CT** - electronic actinometer with digital and analog output signals

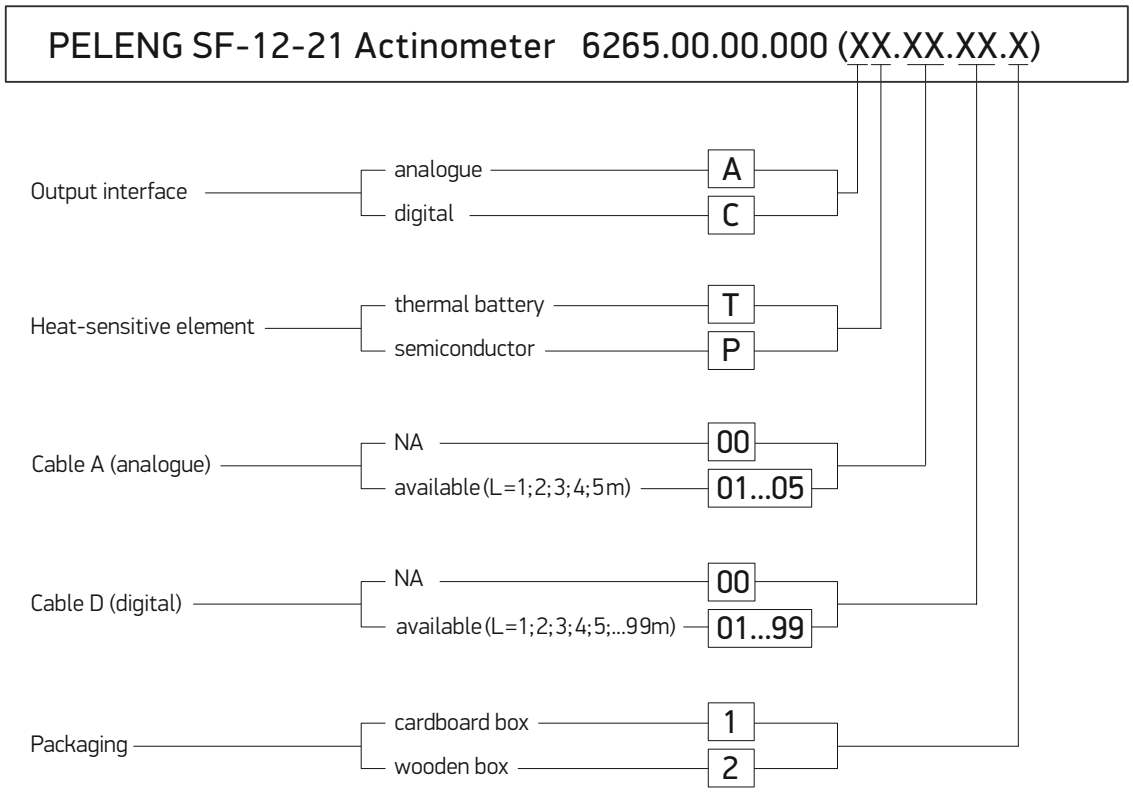
MAIN SPECIFICATIONS

- **Spectral range** : 0.3 - 10 μm
- **Irradiance range** : 0-2 kW/m²
- **Permissible main relative measurement error** : ± 3%
- **Ambient temperature induced permissible additional measurement error, per 10°C temperature change** : ± 1%
- **Permissible nonlinearity** : ± 1%
- **Conversion factor for normal irradiance** : ≥ 6 mV m² / kW
- **Response time** : ≤ 20 s
- **Operation mode** : automatic message or upon request
- **Power supply voltage:**
  - DC mains : 6 - 24 V
- **Power consumption** : ≤ 1 W
- **Output interface** : RS-485-2W
- **Communication protocol** : ASCII
- **Operating conditions:**
  - air temperature : -60°C to +80°C
  - relative humidity : 0 -100%
  - atmospheric pressure : 600 -1 10 kPa
- **Protection** : IP 65
- **Dimensions (L×W×H):**
  - actinometer (AT) : 180×90×70 mm
  - electronic actinometer (CT) : 222×90×54 mm
- **Weight:**
  - actinometer (AT) : 1 kg
  - electronic actinometer (CT) : 1 kg
- **Life time** : 10 years

CERTIFICATION

- № 16335 issued by the State Committee for Standardization of the Republic of Belarus
- № 82669-21 Federal Agency on Technical Regulation and Metrology (Russian Federation)

PRODUCT DESIGNATION STRUCTURE (ORDER CODE)



ORDER EXAMPLE

PELENG SF-12-21 Actinometer 6265.00.00.000 (AT.04.00.1)

PELENG SF-12-21 Actinometer with analogue output, thermal battery and cable A with length of 4 m, without cable D, in cardboard transporting box

PELENG SF-08-21

NET RADIOMETER

www.peleng.by

PURPOSE

- Measurement of the radiation balance of the surface under study in natural conditions, that is, the difference in the values of irradiance (radiation) created by the fluxes of solar and thermal radiation entering on its receiving surfaces

APPLICATION

- Hydrometeorological stations
- Power engineering
- Agriculture
- Construction
- Scientific research

ADVANTAGES

- Stable readings
- Offline software
- Possibility of on-site verification
- Verification interval in the Russian Federation - 2 years

AVAILABLE PRODUCT VERSIONS

- **A** - radiation balance converter with analog output signal
- **C** - electronic radiation balance converter with digital and analog output signals

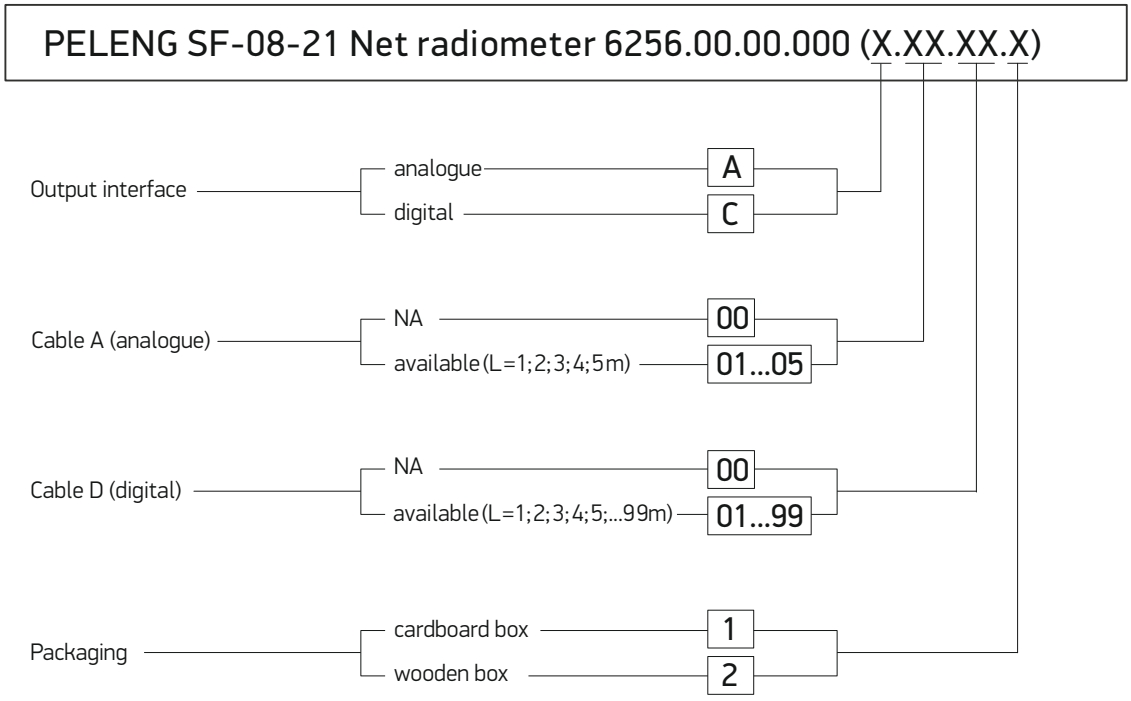
MAIN SPECIFICATIONS

- **Spectral range** : 0.28 - 40 μm
- **Irradiance range** : 0 - 2 kW/m^2
- **Permissible main relative measurement error** : ± 10%
- **Wind correction factor for each 1 m/s of wind speed change (wind speed range 0 to 15 m/s)** : < 0.04
- **Conversion factor** : ≥ 8 mV m^2 / kW
- **Difference of conversion factor between upper and lower sensor (sensor asymmetry)** : ± 5%
- **Response time** : ≤ 20 s
- **Operation mode** : automatic message or upon request
- **Power supply voltage:**
  - DC mains : 6 - 24 V
- **Power consumption** : ≤ 1 W
- **Output interface** : RS-485-2W
- **Communication protocol** : ASCII
- **DC supply voltage range electronic net radiometer** : 6 - 24 V
- **Operating conditions:**
  - air temperature : -60°C to +80°C
  - relative humidity : 0 -100%
  - atmospheric pressure : 60 -110 kPa
- **Protection** : IP 65
- **Dimensions (L×W×H):**
  - net radiometer (A) : 210×110×40 mm
  - electronic net radiometer (C) : 210×115×25 mm
- **Weight:**
  - net radiometer (A) : 1.05 kg
  - electronic net radiometer (C) : 1.2 kg
- **Life time** : 10 years

CERTIFICATION

- № 15284 issued by the State Committee for Standardization of the Republic of Belarus
- № 82652-21 Federal Agency on Technical Regulation and Metrology (Russian Federation)

PRODUCT DESIGNATION STRUCTURE (ORDER CODE)



ORDER EXAMPLE

PELENG SF-08-21 Net radiometer 6256.00.00.000 (A.04.00.1)

PELENG SF-06-21 Net radiometer with analogue output, cable A with length of 4 m, without cable D, in cardboard transporting box

PELENG VK-05

SUNSHINE DURATION SENSOR

PURPOSE

- Sunshine duration measurement with 120 W/m² threshold level for direct solar radiation

APPLICATION

- Hydrometeorological stations
- Power engineering
- Agriculture
- Construction
- Scientific research

ADVANTAGES

- Used autonomously or as a part of meteorological measurement and information systems
- Offline software

MAIN SPECIFICATIONS

• Irradiance threshold level	: 120 W/m²
• Permissible main relative measurement error	: ± 10%
• Ambient temperature induced permissible additional measurement error, per 20 ±10°C	: ± 20%
• Operation mode	: automatic message or upon request
• Message interval	: 1 - 3 s
• Power supply voltage: - DC mains	 : 6 - 24 V
• Power consumption including heating	: ≤ 15 W
• Output interface	: RS-485-2W
• Communication protocol	: ASCII
• Operating conditions: - air temperature - relative humidity - atmospheric pressure	 : -60°C to +80°C : 0 -100% : 60 -110 kPa
• Protection	: IP 65
• Dimensions	: Ø100×107 mm
• Weight	: 1 kg
• Life time	: 10 years

PSS-1

SUN TRACKER

PURPOSE

- Sun tracking for actinometric devices pointing

ПРИМЕНЕНИЕ

- Actinometric meteostations

ADVANTAGES

- Autonomous operation
- High-precision azimuth and zenith rotation angles adjustment
- Resolution: 2'
- Reference accuracy to real time per day: ± 2 s
- Offline software

EQUIPMENT CONFIGURATION

- Attitude control unit
- Base
- Shading ball assembly
- Software
- Installation kit

OPTIONAL EQUIPMENT

- Power supply unit BP-220-24

MAIN SPECIFICATIONS

• **Rotation:**	
- in azimuth	: 345°
- in zenith	: 90°
• **Pointing error:**	
- in azimuth	: ± 0.5°
- in zenith	: ± 0.5°
• **Daily time error**	: ± 2 s
• **Reproducibility of pointing:**	
- in azimuth	: ± 0.05°
- in zenith	: ± 0.05°
• **Resolution**	: 2'
• **Power supply voltage:**	
- AC mains	: 230 V 50 Hz
- DC mains	: 24 V
• **Power consumption**	: ≤ 150 W
• **Operating conditions:**	
- air temperature	: -60°C to +65°C
- Relative humidity	: 0 -98%
- atmospheric pressure	: 60 - 110 kPa
• **Protection**	: IP 53
• **Dimensions (L×W×H)**	: 1250×1400×2100 mm
• **Weight**	: 80 kg
• **Life time**	: 10 years

INSTRUMENTS FOR MEASURING MAIN METEOROLOGICAL VALUES

PELENG SF-01 · TRANSMISSOMETER

AT-21 · TRANSMISSOMETER

PELENG SL-03 · NEPHELOMETER

WS-75 · NEPHELOMETER

SD-02-2006 · CEILOMETER

SD-02-2006 · PORTABLE CEILOMETER

PELENG SL-02 · BACKGROUND LUMINANCE SENSOR

PELENG SF-03 · CUP ANEMOMETER AND WIND VANE

PELENG SF-17 · ULTRASONIC CUP ANEMOMETER AND WIND VANE

S-15 · SOIL THERMOMETER

PTV · AIR TEMPERATURE AND RELATIVE HUMIDITY MEASUREMENT DEVICE

DO-22 · PRECIPITATION GAUGE

PELENG SF-01
TRANSMISSOMETER

www.peleng.by

PURPOSE

- Meteorological optical range measurement The principle of operation is to measure the transmittance of the atmospheric layer between the transmitter and the receiver

APPLICATION

- Meteorology
- Airfields

ADVANTAGES

- The measurements are performed during daytime and at night independently and as a part of weather station, including automatic airport weather stations
- Possibility to simulate sensor messages from other manufacturers with console customization
- Contamination of the protective glass of the instrument's optical units is taken into account
- Automatic adjustment
- On-site self-test
- Offline software

EQUIPMENT CONFIGURATION

- Emitter
- Receiver
- Rack (2 pcs.)
- Electronic unit
- Distribution box
- Installation kit
- Set of spare parts, tools and accessories

OPTIONAL EQUIPMENT

- Translator

MAIN SPECIFICATIONS

- **Baseline distances** : 30 / 50 /75 / 100 m
- **Atmospheric transmission factor measurement:**
  - measurement range : 0 - 1
  - measurement error : ± 0.003
- **MOR measurement:**
  - measurement range : 15 - 10000 m
  - measurement error : ± 20 m (from 15 to 600 m)
    : ± 5% (more than 600 to 1500 m)
    : ± 15% (more than 1500 to 10000 m)
- **Operation mode** : automatic message or upon request
- **Message interval** : 5 s
- **Power supply voltage:**
  - AC mains : 230 V 50 Hz
- **Power consumption** : ≤ 75 W
- **Output interface** : RS-485-2W, V.23
- **Communication protocol** : ASCII
- **Operating conditions:**
  - air temperature : -60°C to +65°C
  - relative humidity : 0 - 100%
  - atmospheric pressure : 60 - 110 kPa
- **Protection** : IP 66
- **Dimensions (L×W×H):**
  - emitter* : 1020×420×2620 mm
  - receiver* : 1020×420×2620 mm
- **Weight:**
  - emitter* : 131 kg
  - receiver* : 131 kg
  - electronic unit : 15 kg
- **Life time** : 10 years

* *mounted on pole with cover*

CERTIFICATION

- № 16386 issued by the State Committee for Standardization of the Republic of Belarus
- № 25194-20 issued by Federal Agency on Technical Regulation and Metrology (Russian Federation)
- № 209 issued by Interstate Aviation Committee. Airport and Equipment Certification Committee

AT-21
TRANSMISSOMETER

PURPOSE

- Meteorological optical range measurement The principle of operation is to measure the transmittance of the atmospheric layer between the transmitter and the receiver
- Measurement of radiation intensity scattered in the atmosphere

APPLICATION

- Meteorology
- Airfields

ADVANTAGES

- eThe measurements are performed during daytime and at night independently and as a part of weather station, including automatic airport weather stations
- Possibility to simulate sensor messages from other manufacturers with console customization
- Contamination of the protective glass of the instrument's optical units is taken into account
- Automatic adjustment
- On-site self-test
- Offline software

EQUIPMENT CONFIGURATION

- PELENG SF-01 transmissometer
- PELENG SL-03 nephelometer
- Obstruction light
- Electronic unit
- Installation kit
- Set of spare parts, tools and accessories

OPTIONAL EQUIPMENT

- PELENG SL-02 background luminance sensor
- Translator

MAIN SPECIFICATIONS

- **Baseline distances** : 30 / 50 /75 / 100 m
- **Transmission coefficient measurement using SF-01 PELENG:**
  - measurement range : 0 - 1
  - measurement error : ± 0.003
- **MOR measurement using SF-01 PELENG:**
  - measurement range : 15 - 10000 m
  - measurement error : ± 20 m (from 15 to 600 m)
    ± 5% (more than 600 to 1500 m)
    ± 15% (more than 1500 to 10000 m)
- **MOR measurement using SL-03 PELENG nephelometer:**
  - measurement range : 5 - 50000 m
  - measurement error : ± 10% (from 5 to 10000 m)
    ± 20% (more than 10000 to 50000 m)
- **Background luminance measurement using SL-02 PELENG:**
  - measurement range : 1 - 50000 cd/m^2
  - measurement error : ± 15 cd/m2 (from 1 up to 40 cd/m^2)
    ± 10% (more than 40 to 20000 cd/m^2)
    ± 20% (more than 20000 to 50000 cd/m^2)
- **Operation mode** : automatic message or upon request
- **Message interval** : 5 s
- **Determination of weather phenomena** : 9 types
- **Power supply voltage:**
  - AC mains : 230 V 50 Hz
- **Power consumption** : ≤ 200 W
- **Interfaces** : RS-485-2W, V.23
- **Communication protocol** : ASCII
- **Operating conditions:**
  - air temperature : -60°C to +65°C
  - relative humidity : 0 -100%
  - atmospheric pressure : 60 -110 kPa
- **Protection** : IP 66
- **Dimensions (L×W×H):**
  - emitter* : 1020×420×2620 mm
  - receiver* : 1020×420×2620 mm
  - nephelometer : 770×455×620 mm
- **Weight:**
  - emitter* : 131 kg
  - receiver* : 131 kg
  - nephelometer : 5 kg
  - electronic unit : 15 kg
- **Life time** : 10 years

* *mounted on pole with cover*

PELENG SL-03

NEPHELOMETER

www.peleng.by

PURPOSE

- Meteorological optical range measurement and determination of the current weather phenomenon The principle of operation is to measure radiation intensity scattered in the atmosphere

APPLICATION

- Meteorology
- Airfields and helipads
- Road and railway monitoring
- Maritime segment

ADVANTAGES

- Heated protective glasses and housings
- Compensation of protective glasses' contamination
- Determination of 9 weather phenomena:
  - rain
  - drizzle
  - rain with snow
  - snow
  - hail
  - fog
  - haze
  - fair
  - precipitation of an indeterminate type
- Possibility to simulate sensor messages from other manufacturers with console customization
- On-demand and variable speed transmission operation
- Options of intermediate poles for height adjustment of the installation
- Possibility to choose the product's set (order code)
- Certified by the Russian Maritime Register of Shipping as part of the AMIS-PELENG SF-09 system
- Offline software

EQUIPMENT CONFIGURATION

- Nephelometer

OPTIONAL EQUIPMENT

- Translator
- Power supply unit BP-220-24

MAIN SPECIFICATIONS

- **Displayed MOR range** : 0 - 75000 m
- **Measurement range** : 10 - 50000 m
- **Measurement error** : ± 8% (from 10 up to 600 m)
  : ± 10% (more than 600 to 10000 m)
  : ± 20% (more than 10000 to 50000 m)
- **Operation mode** : automatic message or upon request
- **Message interval** : 15 - 60 s (adjustable)
- **Determination of current weather phenomena** : 9 types
- **Power supply voltage:**
  - DC mains : 24 V
- **Power consumption including heating** : ≤ 50 W
- **Output interface** : RS-485-2W, V.23
- **Communication protocol** : ASCII
- **Operating conditions:**
  - air temperature : -60°C to +65°C
  - relative humidity : 0 - 100%
  - atmospheric pressure : 60 - 110 kPa
- **Protection** : IP 66
- **Dimensions (L×W×H):**
  - bridge assembly : 774×285×320 mm
  - pole with mounting plate : 270×270×2500 mm
  - intermediate pole (h = 0.5 / 1/2 m) : Ø...×500/1000/2000 mm
  - obstruction light : 130×125×370 mm
- **Weight:**
  - bridge assembly : 5 kg
  - pole with mounting plate : 30 kg
  - intermediate pole (h = 0.5 / 1/2 m) : 7/14/21 kg
  - obstruction light : 5 kg
- **Life time** : 10 years

CERTIFICATION

- № 16385 issued by the State Committee for Standardization of the Republic of Belarus
- № 48786-19 issued by Federal Agency on Technical Regulation and Metrology (Russian Federation)
- № 601 issued by Interstate Aviation Committee. Airport and Equipment Certification Committee

PRODUCT DESIGNATION STRUCTURE (ORDER CODE)

PELENG SL-03 Nephelometer 6266.00.00.000 (X.X.X.X.X)

- **Bridge**
  - minimum set — M
  - basic set — B
  - complete set — P
  - special set — S
- **Pole 2.5 m (for bridge installation)**
  - without pole — 0
  - pole — 1
  - special pole — 2
- **Intermediate pole (to increase the overall height of the bridge)**
  - without intermediate pole — 0
  - intermediate pole 0.5 m — 1
  - intermediate pole 1 m — 2
  - intermediate pole 2 m — 3
  - special intermediate pole 0.5 m — 4
  - special intermediate pole 1 m — 5
  - special intermediate pole 2 m — 6
- **Obstruction light (with obstruction lights' control post)**
  - without obstruction light — 0
  - obstruction light — 1
  - special obstruction light — 2
- **Installation kit (for bridge mounting to the pipe Ø45...50 mm)**
  - without installation kit — 0
  - installation kit — 1

ORDER EXAMPLE

PELENG SL-03 Nephelometer 6266.00.00.000 (B.1.3.0.0)

Nephelometer with basic bridge set, with poleincreased by 2 m with the help of intermediate pole (total height of bridge installation - 4.5 m), without obstruction light, without installation kit

WS-75

NEPHELOMETER

PURPOSE

- Meteorological optical range determination
- Determination of current weather phenomena according to WMO No. 306
- Determination of intensity and amount of precipitation

APPLICATION

- Meteorology
- Airfields and helipads
- Road and railway monitoring
- Maritime segment

ADVANTAGES

- Determination of 49 weather phenomena
- Possibility to simulate sensor messages from other manufacturers with console customization
- Heated protective glasses and housings
- Compensation of protective glasses' contamination
- Temperature compensation: stable readings in the temperature range from -60°C to +65°C
- Offline software
- Possibility to choose the product's set (order code)

EQUIPMENT CONFIGURATION

- Nephelometer

OPTIONAL EQUIPMENT

- Translator
- Power supply unit BP-220-24

MAIN SPECIFICATIONS

- **Measurement range** : 10 - 50000 m
- **Measurement error** : ± 8% (from 10 to 600 m)
: ± 10% (more than 600 to 10000 m)
: ± 20% (more than 10000 to 50000 m)
- **Operation mode** : automatic message or upon request
- **Message interval** : 15 - 60 s (adjustable)
- **Power supply voltage:**
- DC mains : 12 - 24 V
- **Power consumption including heating** : ≤ 50 W
- **Output interface** : RS-485-2W, V.23
- **Communication protocol** : ASCII
- **Operating conditions:**
- air temperature : -60°C to +65°C
- relative humidity : 0 - 100%
- atmospheric pressure : 60 - 110 kPa
- **Protection** : IP 66
- **Life time** : 10 years

PRODUCT DESIGNATION STRUCTURE (ORDER CODE)

WS-75 Nephelometer 6330.00.00.000 (X.X.X.X.X.)

Weather sensor	- weather sensor complete set (3 channels)	P
	- weather sensor basic set (2 channels)	B
Pole (for weather sensor installation, 2.5 m height)	- without pole	0
	- pole	1
Intermediate pole (to increase the overall 2.5 m height of the pole)	- without intermediate pole	0
	- intermediate pole 0.5 m	1
	- intermediate pole 1 m	2
	- intermediate pole 2 m	3
Obstruction light	- without obstruction light	0
	- obstruction light	1
Installation kit (for weather sensor mounting to the horizontal pipe of 50 mm square section)	- without installation kit	0
	- installation kit	1

ORDER EXAMPLE

WS-75 Nephelometer 6330.00.00.000 (P.1.3.0.0)

Nephelometer with basic bridge set, with pole increased by 2 m with the help of intermediate 2.5 m pole (total height of bridge installation - 4.5 m), without obstruction light, without installation kit

SD-02-2006

CEILOMETER

PURPOSE

- Cloud-base hight measurement Operation principle is based on atmospheric backscatter measurement

APPLICATION

- Meteorology
- Airfields and helipads
- Maritime segment

ADVANTAGES

- Operation principle is based on atmospheric backscatter measurement
- Up to three cloud layers are determined
- Determination of vertical visibility
- Calculation of sky coverage by clouds (in point and octant formats)
- Possibility to simulate sensor messages from other manufacturers with console customization
- Built-in automatic self-test system
- Offline software
- Protection against birds
- Certified by the Russian Maritime Register of Shipping as part of the AMIS-PELENG SF-09 system

EQUIPMENT CONFIGURATION

- Optoelectronic unit
- Installation kit
- Set of spare parts, tools and accessories

OPTIONAL EQUIPMENT

- Translator

MAIN SPECIFICATIONS

- **Measurement range** : 5 - 8000 m
- **Measurement error** : ± 5 m (from 5 to 100 m)
  ± 10% (more than 100 to 2000 m)
  ± 5% (more than 2000 to 8000 m)
- **Operation mode** : automatic message or upon request
- **Message interval** : 15 s
- **Power supply voltage:**
  - AC mains : 230 V 50 Hz
- **Power consumption** : ≤ 150 W
- **Output interface** : RS-485-2W, V.23
- **Communication protocol** : ASCII
- **Operating conditions:**
  - air temperature : -60°C to +65°C
  - relative humidity : 0 -100%
  - atmospheric pressure : 60 -110 kPa
- **Protection** : IP 66
- **Dimensions (L×W×H)** : 530×340×1400 mm
- **Weight:**
  - ceilometer : 42 kg
  - pole with mounting plate : 26 kg
- **Life time** : 10 years

CERTIFICATION

- № 15102 issued by the State Committee for Standardization of the Republic of Belarus
- № 78976-20 issued by Federal Agency on Technical Regulation and Metrology (Russian Federation)
- № 545 issued by Interstate Aviation Committee. Airport and Equipment Certification Committee

SD-02-2006

SMALL SIZE CEILOMETER

PURPOSE

- Cloud-base hight measurement Operation principle is based on atmospheric backscatter measurement

APPLICATION

- Meteorology
- Airfields and helipads
- Maritime segment

ADVANTAGES

- Operation principle is based on atmospheric backscatter measurement
- Up to three cloud layers are determined
- Determination of vertical visibility
- Calculation of sky coverage by clouds
- (in point and octant formats)
- Possibility to simulate sensor messages from other manufacturers with console customization
- Built-in automatic self-test system
- Offline software

EQUIPMENT CONFIGURATION

- Optoelectronic unit
- Installation kit
- Set of spare parts, tools and accessories

OPTIONAL EQUIPMENT

- Translator
- Power supply unit BP-220-24

MAIN SPECIFICATIONS

• **Measurement range**	: 5 - 8000 m
• **Measurement error**	: ± 5 m (from 5 to 100 m) ± 10% (more than 100 to 2000 m) ± 5% (more than 2000 to 8000 m)
• **Operation mode**	: automatic message or upon request
• **Message interval**	: 15 s
• **Power supply voltage:** - DC mains	 : 24 V
• **Power consumption including heating**	: ≤ 50 W
• **Output interface**	: RS-485-2W
• **Communication protocol**	: ASCII
• **Operating conditions:** - air temperature - Relative humidity - atmospheric pressure	 : -60°C to +65°C : 0 - 100% : 60 - 110 kPa
• **Protection**	: IP 66
• **Dimensions (L×W×H)**	: 450×450×560 mm
• **Weight**	: 26 kg
• **Life time**	: 10 years

PELENG SL-02

BACKGROUND LUMINANCE SENSOR

www.peleng.by

PURPOSE

- Background luminance measurement

APPLICATION

- Meteorology
- Airfields and helipads

ADVANTAGES

- Possibility to simulate sensor messages from other manufacturers with console customization
- Heated protective glass

EQUIPMENT CONFIGURATION

- Optical unit with cover
- Set of spare parts, tools and accessories

OPTIONAL EQUIPMENT

- Translator
- Power supply unit BP-220-24
- Column assembly

MAIN SPECIFICATIONS

- **Measurement range** : 1 - 50000 cd/m^2
- **Measurement error** : ± 15 cd/m2 (from 1 to 40 cd/m^2)
  ± 10% (more than 40 to 20000 cd/m^2)
  ± 20% (more than 20000 to 50000 cd/m^2)
- **Operation mode** : automatic
- **Message interval** : 15 s
- **Power supply voltage:**
  - DC mains : 24 V
- **Power consumption including heating** : ≤ 30 W
- **Output interface** : RS-485-2W, V.23
- **Communication protocol** : ASCII
- **Operating conditions:**
  - air temperature : -60°C to +65°C
  - relative air humidity : 0 - 100%
  - atmospheric pressure : 60 - 110 kPa
- **Protection** : IP 66
- **Dimensions (L×W×H):**
  - optical unit with cover : 315×145×130 mm
  - column assembly : 225×225×1500 mm
- **Weight:**
  - optical unit with cover : 4 kg
  - column assembly : 10 kg
- **Life time** : 10 years

CERTIFICATION

- № 17488 issued by the State Committee for Standardization of the Republic of Belarus
- № 84590-22 issued by Federal Agency on Technical Regulation and Metrology (Russian Federation)
- № 673 issued by Interstate Aviation Committee. Airport and Equipment Certification Committee

PELENG SF-03

CUP ANEMOMETER AND WIND VANE

PURPOSE

- Wind direction and speed measurement

APPLICATION

- Meteorology
- Airfields and helipads
- Road and railway monitoring
- Industrial enterprises
- Maritime segment
- Energy and renewable energy sources
- Construction

ADVANTAGES

- Used autonomously or as a part of meteorological measurement and information systems
- Possibility to simulate sensor messages from other manufacturers with console customization
- Offline software
- Independent installation of cup anemometer and wind vane
- Certified by the Russian Maritime Register of Shipping as part of the AMIS-PELENG SF-09 system

EQUIPMENT CONFIGURATION

- Cup anemometer
- Wind vane
- Measurement unit with cross-beam
- Installation kit
- Set of spare parts, tools and accessories
- Distribution box

OPTIONAL EQUIPMENT

- Translator
- Power supply unit BP-220-24

MAIN SPECIFICATIONS

- **Wind speed measurement:**
  - measurement range : 0.4 - 75 m/s
  - measurement error : ± 0.3 m/s (0.4 - 10 m/s) ± 3% (more than 10 to 75 m/s)
- **Wind direction measurement:**
  - measurement range : 0 - 360°
  - measurement error : ± 3°
- **Operation mode** : automatic message or upon request
- **Message interval** : 3 s
- **Power supply voltage:**
  - DC mains : 24 V
- **Power consumption including heating** : ≤ 25 W
- **Output interface** : RS-485-2W, V.23
- **Communication protocol** : ASCII, MODBUS, RTU, NMEA 0183
- **Operating conditions:**
  - air temperature : -60°C to +65°C
  - relative humidity : 0 - 100%
  - atmospheric pressure : 60 - 110 kPa
- **Protection** : IP 56
- **Dimensions (L×W×H):**
  - cup anemometer : 325×325×240 mm
  - wind vane : 416×87×260 mm
  - measurement unit with cross-beam : 710×131×200 mm
- **Weight:**
  - cup anemometer : 1.2 kg
  - wind vane : 1.6 kg
  - measurement unit with cross-beam : 4 kg
- **Life time** : 10 years

CERTIFICATION

- № 15103 issued by the State Committee for Standardization of the Republic of Belarus
- № 91926-24 issued by Federal Agency on Technical Regulation and Metrology (Russian Federation)
- № 268 issued by Interstate Aviation Committee. Airport and Equipment Certification Committee

PELENG SF-17

ULTRASONIC CUP ANEMOMETER AND WIND VANE

PURPOSE

- Wind direction and speed measurement

APPLICATION

- Meteorology
- Airfields and helipads
- Road and railway monitoring
- Industrial enterprises
- Maritime segment
- Energy and renewable energy sources
- Construction

ADVANTAGES

- Used autonomously or as a part of meteorological measurement and information systems
- Possibility to simulate sensor messages from other manufacturers with console customization
- Offline software
- Resistant to sound pressure
- Certified by the Russian Maritime Register of Shipping as part of the AMIS-PELENG SF-09 system

EQUIPMENT CONFIGURATION

- Sensor
- Installation kit

OPTIONAL EQUIPMENT

- Translator
- Power supply unit BP-220-24

MAIN SPECIFICATIONS

- **Wind speed measurement:**
  - measurement range : 0.3 - 55 m/s
  - measurement error : ± 0.3 m/s (0.3 - 10 m/s)
    ± 3% (more than 10 to 55 m/s)
- **Wind direction measurement:**
  - measurement range : 0 - 360°
  - measurement error : ± 3°
- **Operation mode** : automatic message or upon request
- **Message interval** : 3 s
- **Power supply voltage:**
  - DC mains : 24 V
- **Power consumption including heating** : ≤ 35 W
- **Output interface** : RS-485-2W, V.23
- **Communication protocol** : ASCII, NMEA 0183
- **Operating conditions:**
  - air temperature : -60°C to +65°C
  - relative humidity : 0 - 100%
  - atmospheric pressure : 60 - 110 kPa
  - sound pressure exposure : up to 130 dB
- **Protection** : IP 66
- **Dimensions (L×W×H)** : 285×285×430 mm
- **Weight** : 2.7 kg
- **Life time** : 10 years

CERTIFICATION

- № 17727 issued by the State Committee for Standardization of the Republic of Belarus
- № 95552-25 issued by Federal Agency on Technical Regulation and Metrology (Russian Federation)

PRODUCT IDENTIFICATION STRUCTURE (ORDER CODE)

SF-17 Ultrasonic cup anemometer and wind vane 6284.00.00.000 (X.X.X.)

Sensor	- basic version	B
	- special version (for maritime climate)	S
Adapter	- without adapter	0
	- with adapter (for fastening to a mast with a diameter from 48 mm to 60 mm; to a horizontally installed bridge with a size from 30x30 mm to 40x40 mm or with a diameter from 35 mm to 40 mm)	1
	- with special version adapter (for maritime climate)	2
Container	- cellular cardboard container set	1
	- wooden container set	2

ORDER EXAMPLE

SF-17 Ultrasonic cup anemometer and wind vane 6284.00.00.000 (S.2.2.)

ultrasonic cup anemometer and wind vane of a special version with a special version adapter with wooden container set

SF-15

SOIL TEMPERATURE SENSORS

PURPOSE

- Soil temperature measurement at depths up to 4 cm in field conditions of agricultural enterprises, during scientific research in institutions of the Ministry of Agriculture, at meteorological stations of the network of hydrometeorological centers

APPLICATION

- Meteorology
- Hydrology
- Agriculture

EQUIPMENT CONFIGURATION

- Panel (with 1.5V AA batteries - 4 pcs.)
- Temperature probe (up to 10 units)
- Software
- RS232 cable
- Case

MAIN SPECIFICATIONS

- **Measurement range** : -30°C to +30°C
- **Measurement error** : ± 0.5°C
- **Power source - internal** : 4.5 - 6.6 V
- **Current consumption** : ≤ 250 mA
- **Output interface** : RS-232
- **Operating conditions:**
  - air temperature : -30°C to +30°C
  - relative humidity : 0 - 98%
  - atmospheric pressure : 84 - 110 kPa
- **Protection:**
  - soil temperature sensor : IP58
  - panel : Ip40
- **Dimensions (L×W×H):**
  - soil temperature sensor : 9920×35×35 mm
  - panel : 200×120×50 mm
- **Weight:**
  - soil temperature sensor : 0.5 kg
  - panel : 0.5 kg
- **Life time** : 8 years

PTV

AIR TEMPERATURE AND RELATIVE HUMIDITY MEASUREMENT DEVICE

PURPOSE

- Air temperature and relative humidity measurement

APPLICATION

- Meteorology
- Airfields and helipads
- Road and railway monitoring
- Industrial enterprises
- Maritime segment
- Energy and renewable energy sources
- Construction

ADVANTAGES

- Used autonomously or as a part of measurement and information systems
- Sensitive elements of different manufacturers can be used
- The modular principle allows to complete the required configuration and modernization according to the customer's requirements
- Enables instantaneous measured values to be displayed on the controller's display
- Possibility to simulate sensor messages from other manufacturers with console customization
- Offline software
- Possibility to choose the product's set (order code)

EQUIPMENT CONFIGURATION

- Air temperature and relative humidity sensor
- Temperature and moisture controller
- Radiation shield
- Bridge
- Power and consumption cable

MAIN SPECIFICATIONS

- **Type of applied air temperature and humidity sensor*** : HMP155, DTV-05, DTVV-01, HMP555, LTH211
- **Operation mode** : automatic message or upon request
- **Message interval** : 15 - 60 s (adjustable)
- **Power supply voltage:**
  - DC mains : 12 - 24 V
- **Power consumption including heating** : ≤ 10 W
- **Output interface** : RS-485-2W
- **Communication protocol** : ASCII
- **Operating conditions:**
  - air temperature : -60°C to +65°C
  - relative humidity : 0 - 100%
  - atmospheric pressure : 60 - 110 kPa
  - wind speed : 0 - 65 m/s
- **Protection** : IP 66
- **Dimensions (L×W×H):**
  - temperature and moisture controller : 137×128×190 mm
  - radiation shield D220 : Ø 220×322 mm
  - radiation shield D110 : Ø 105×303 mm
  - shield DTR13 : Ø 220×300 mm
  - shield DTR503A : Ø 105×266 mm
  - bridge A : 1400×140×141 mm
  - bridge B : 1400×140×166 mm
  - bridge V : 238×80×174 mm
  - bridge G : 308×190×174 mm
- **Weight:**
  - temperature and moisture controller : 1.7 kg
  - radiation shield D220 : 2.3 kg
  - radiation shield D110 : 1.1 kg
  - shield DTR13 : 1.9 kg
  - shield DTR503A : 0.5 kg
  - bridge A : 4.7 kg
  - bridge B : 4.7 kg
  - bridge V : 0.8 kg
  - bridge G : 0.7 kg
- **Life time** : 10 years

* *The technical specifications of the applied air temperature and humidity sensor are specified in its operation documents*

PRODUCT DESIGNATION STRUCTURE (ORDER CODE)

PVT Air temperature and relative humidity measurement
6332.00.00.000 (K.X.X.X.XX.X)

Data processing	- temperature and moisture controller	K
Air temperature and relative humidity sensor	- HMP155	1
	- DTV-05	2
	- DTVV-01	3
	- HMP555	4
	- LTH211	5
Radiation shield	- without radiation shield	0
	- radiation shield D220	1
	- radiation shield D110	2
	- shield DTR13	3
	- shield DTR 503A	4
Bridge	- without bridge	0
	- bridge A (distance from the mast - 1 m; mounting to the pipe Ø 50-76 mm)	A
	- bridge Б (distance from the mast - 1 m; mounting to the pipe Ø 76-102 mm)	B
	- bridge B (near to the mast; mounting to the pipe Ø 45-60 mm)	V
	- bridge Г (near to the mast; mounting to the pipe Ø 90-120 mm)	G
Power and communication cable	- L = cable length (1 - 50 m)	L
Packaging	- honeycomb box	1
	- wooden box	2

ORDER EXAMPLE

PVT Air temperature and relative humidity measurement
6332.00.00.000 (K.2.2.B.45.1)

For device with DTV-05 sensor, protected by radiation shield D110 and mounted on bridge B, with power and communication cable with length of 45 m in a honeycomb box

DO-22

PRECIPITATION GAUGE

www.peleng.by

PURPOSE

- Measurement of quantity and intensity of precipitation: liquid, solid, mixed

APPLICATION

- Meteorology
- Airfields and helipads
- Hydrology
- Agriculture
- Industrial enterprises
- Military meteorology

ADVANTAGES

- Measurement of all types of precipitation
- Heated receiving hole
- Altera or Tretyakov wind protection
- A special mechanism for opening the windshield
- Display of information on external indicator
- Attached ladder
- Possibility to simulate sensor messages from other manufacturers with console customization
- Offline software
- Possibility to choose the product's set (order code)

OPTIONAL EQUIPMENT

- Translator
- Power supply unit BP-220-24

MAIN SPECIFICATIONS

- **Receiving hole area** : 200 cm^2
- **Measurement range** : 0.2 - 1500 mm
- **Measurement error** : ± 0.2 mm (from 0.2 to 1 mm)
  ± 5% (more than 1 to 1500 mm)
- **Operation mode** : automatic message or upon request
- **Message interval** : 15 - 60 s (adjustable)
- **Power supply voltage:**
  - DC mains : 12 - 24 V
- **Power consumption including heating** : ≤ 50 W
- **Output interface** : RS-485-2W
- **Communication protocol** : ASCII, MODBUS ASCII, RTU
- **Operating conditions:**
  - air temperature : -50°C to +65°C
  - relative air humidity : 0 -100%
  - atmospheric pressure : 60 -110 kPa
- **Protection** : IP 66
- **Dimensions (L×W×H):**
  - precipitation measurement unit : Ø450×610 mm
  - pole : 300X300x1400 mm
  - Tretyakov wind protection : Ø1220x2000 mm
  - Altera wind protection : Ø1060x2010 mm
  - ladder : 1250x650x1530 mm
- **Weight:**
  - precipitation measurement unit : 20 kg
  - pole : 23 kg
  - Tretyakov wind protection : 21 kg
  - Altera wind protection : 24 kg
  - ladder : 30 kg
- **Life time** : 10 years

CERTIFICATION

- №93599-24 Federal Agency on Technical Regulation and Metrology (Russian Federation)
- № 17672 issued by the State Committee for Standardization of the Republic of Belarusь

DO-22 with Altera wind protection

DO-22 with Tretyakov wind protection

PRODUCT DESIGNATION STRUCTURE (ORDER CODE)

DO-22 Precipitation gauge (B.X.X.X.)

Data processing	- precipitation measurement unit	B
Pole	- without pole	0
	- with pole	1
Wind protection	- without wind protection	0
	- with Altera wind protection	A
	- with Tretyakov wind protection	T
Ladder	- without ladder	0
	- with ladder	1

ORDER EXAMPLE

DO-22 Precipitation gauge (B.1.T.1)

Precipitation measurement unit, pole, with Tretyakov wind protection and ladder

ELECTRONIC UNITS

BP-220-24 · POWER SUPPLY UNIT

ELECTRONIC UNIT

TRANSMIT / RECEIVE UNIT

LOGGER

TRANSLATOR

CONVERTER


БЛОК ПИТАНИЯ
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№ 16440004
Сделано в Беларуси
ОАО "ГЕЛЕН"

BP-220-24

POWER SUPPLY UNIT

PURPOSE

- Converts 220 V input voltage with 50 Hz AC frequency to 24 V DC output voltage

APPLICATION

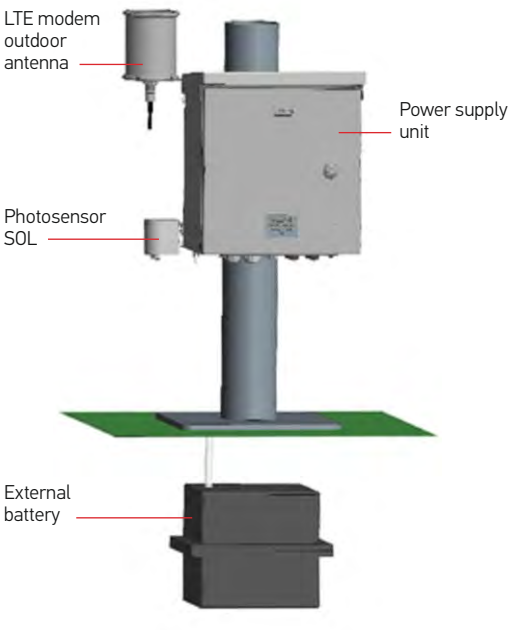
- Meteorology
- Airfields and helipads
- Hydrology
- Agriculture

ADVANTAGES

- Low temperature conditions operation Power supply unit and sealed external battery box covers are equipped with thermostatically controlled heater and insulating layer
- Over-voltage protection
- Short-circuit protection
- Mechanical locking
- Rain roof
- Mounting on mast, pole, wall
- Additional functionality in kits:
  - uninterruptible power supply
  - low-intensity obstruction lights control post
  - LTE modem
- Possibility to choose the product's set (order code)

ОСНОВНЫЕ ТЕХНИЧЕСКИЕ ХАРАКТЕРИСТИКИ

- **AC input voltage** : 230 V 50 Hz
- **DC output voltage** : 24 V
- **Maximum output voltage** : 2 A
- **Power consumption** : ≤ 50 W
- **Operating conditions:**
  - air temperature : -60°C to +65°C
  - relative humidity : 0 - 100%
  - atmospheric pressure : 600 - 110 kPa
- **Protection** : IP 66
- **Dimensions (L×W×H)** : 345×310×350 mm
- **Weight:**
  - power supply unit : 15 kg
  - external battery : 8 kg
  - antenna : 0.2 kg
  - photosensor : 0.1 kg
- **Life time** : 10 years



PRODUCT DESIGNATION STRUCTURE (ORDER CODE)

BP-220-24 Power supply unit 6321.00.00.000 (X.X.X.X.X.X.X)

Power supply with foam rubber insulated housing	- without housing	N
	- with housing	U
Communication set	- without communication set	0
	- with communication set	1
External battery set	- without external battery set	0
	- with external battery set	1
SOL control assembly	- without SOL control assembly	0
	- with SOL control assembly	1
Heater set	- without heater set	0
	- with heater set	1
Installation kit	- without installation kit	0
	- with installation kit	1
Packaging	- set of honeycomb cardboard containers with poriflex liners	1
	- container set made of wood	2
	- set of honeycomb cardboard containers with foam logements	3

ORDER EXAMPLE

BP-220-24 Power supply unit 6321.00.00.000 (U.1.0.1.1.1.2)

For power supply unit with foam rubber, communication set, without external battery set, with SOL control assembly, heater set, installation kit in container set made of wood

ELECTRONIC UNIT

PURPOSE

- Convertion of analog signals coming from actinometric devices to digital form

APPLICATION

- Meteorology

ADVANTAGES

- Commutation of several devices with analog output signal (up to 8 pcs.) into a single system
- Increased measurement accuracy and resource optimization due to large number of channels
- Display of measured values on the electronic unit indicator

MAIN SPECIFICATIONS

- **Number of channels (connected devices)** : 8
- **Signal range** : from - 50 mV up to +50 mV
- **Operation mode** : automatic message
- **Message interval** : 120 s
- **Power supply voltage:**
  - DC mains : 24 V
- **Power consumption** : ≤ 10 W
- **Output interface** : RS-485-2W, RS-232
- **Communication protocol** : ASCII
- **Operating conditions:**
  - air temperature : -60°C to +80°C
  - relative humidity : 0 -100%
  - atmospheric pressure : 60 -110 kPa
- **Protection** : IP 65
- **Dimensions (L×W×H)** : 200×200×120 mm
- **Weight** : 3 kg
- **Life time** : 10 years

RECEIVING and TRANSMITTING UNIT

PURPOSE

- Conversion and switching of information messages from sensors via V.23 communication lines to RS-485 serial interface

APPLICATION

- Used as part of AMIS-PELENG SF-09 meteorological system for airfields

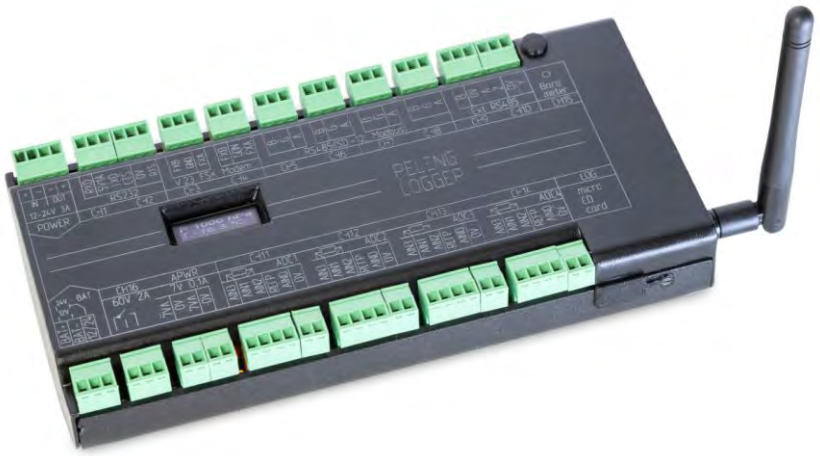
ADVANTAGES

- Mounted on rack 19"

MAIN SPECIFICATIONS

- **Number of modules:**
  - main : 1 pc.
  - backup : 1 pc.
- **V.23 modem:**
  - number of main channels : 20 pcs.
  - number of backup channels : 20 pcs.
- **RS-485-2W interface:**
  - number of main channels : 2 pcs.
  - number of backup channels : 2 pcs.
- **RS-232 interface:**
  - number of main channels : 2 pcs.
  - number of backup channels : 2 pcs.
- **Power supply voltage:**
  - DC mains : 12 - 24 V
- **Power consumption** : ≤ 10 W
- **Interfaces** : RS-485-2W, RS-232
- **Communication protocol** : ASCII
- **Operating conditions:**
  - air temperature : +5°C to +40°C
  - relative humidity : 0 - 80%
  - atmospheric pressure : 60 - 110 kPa
- **Protection** : IP 21
- **Life time** : 10 years

LOGGER



PURPOSE

- Multifunctional measuring converter of analog electric signals
- Digital signal concentrator with functions of acquisition, storage, processing and automatic retransmission of received data to a PC or local network

APPLICATION

- Meteorology
- Airfields and helipads
- Hydrology
- Agriculture
- Road and railway monitoring
- Industrial enterprises
- Maritime segment
- Energy and renewable energy sources

ADVANTAGES

- Energy efficient
- Compactness
- Scalability
- Configurability
- Interface redundancy
- DIN 35 mm mounting
- Possibility to choose the product's set (order code)

VERSIONS

- **Version 1. Energy efficient:**
  - without galvanic isolation
  - power consumption 50-100 mW
- **Version 2. Basic:**
  - galvanic isolation
  - power consumption 0.5 - 1 W
- **Version 3. Performance:**
  - galvanic isolation
  - Linux computing module
  - power consumption 5 - 8 W

MAIN SPECIFICATIONS

- **Interfaces:**
  - RS-232 : 2 channels
  - RS-485-2W : 6 channels
  - V.23 : 2 channels
  - USB 2.0 (version 3) : 4 ports
- **Analog-to-digital converter (ADC) 24-bit** : 4 channels with combined sensors' connection
- **Input voltage range** : 0 - 5 V
- **Built-in atmospheric pressure meter:**
  - measurement range : 300 - 1100 gPa
  - measurement error : ± 0.5 gPa
- **Switching channels:**
  - number of channels (relays) : 2 channels
  - type of relay : solid state relay 60V /4A (250 V / 0.2A may be installed)
- **Wired data transmission (version 3)** : LAN 100 Mbit
- **Wireless data transmission** : Wi-Fi IEEE 802.11
- **Network protocols** : FTP, TCP/IP, HTTP
- **Real time clock (RTC)** : +
- **Data logging** : micro SD (up to 64 GB)
- **Power supply voltage:**
  - DC mains : 12 - 24 V
- **Power consumption** : ≤ 10 W
- **Operating conditions:**
  - air temperature : -40°C to +85°C
  - relative air humidity : 0 - 80%
- **Protection** : IP 20
- **Dimensions (L×W×H)** : 200×94×35 mm
- **Weight** : 0.5 kg
- **Mounting** : DIN 35 mm

PRODUCT DESIGNATION STRUCTURE (ORDER CODE)

Logger 6331.00.00.000 (X)

Power consumption to performance ratio	- energy efficient (minimum power consumption and feature set)	E
	- basic	B
	- productive (maximum power consumption and feature set	P

ORDER EXAMPLE

Logger 6331.00.00.000 (E)

For energy efficient logger

Logger 6331.00.00.000 (П)

TRANSLATOR

PURPOSE

- Conversion of information messages from sensors via V.23 communication lines to RS-485-2W serial interface

APPLICATION

- Meteorology
- Airfields and helipads

ADVANTAGES

- DIN 35 mm mounting
- Possibility to choose the product's set (order code)

MAIN SPECIFICATIONS

- **V.23 modem** : 1 channel
- **RS-485-2W interface** : 2 channels
- **USB interface** : 1 channel
- **Power supply voltage:**
  - DC mains : 12 - 24 V
- **Power consumption** : ≤ 1 W
- **Operating conditions:**
  - air temperature : -40°C to +60°C
  - relative humidity : 0 - 80%
  - atmospheric pressure : 60 - 110 kPa
- **Protection** : IP 20
- **Dimensions (L×W×H)** : 100×18×59 mm
- **Life time** : 10 years

PRODUCT DESIGNATION STRUCTURE (ORDER CODE)

Translator 6323.00.00.000 (X.X)

Data processing	- without processing	A
	- with processing	V
Power supply set	- without set	0
	- with set	1

ORDER EXAMPLE

Translator 6323.00.00.000 (V.1)

Translator with data processing and power supply set

CONVERTER

PURPOSE

- Conversion of METAR/SPECI weather reports, generated in the central rack of the automated weather observing system for airports and helipads AMIS-PELENG SF-09, into images on the display panel

APPLICATION

- Used as part of AMIS-PELENG SF-09 meteorological system for airfields

ADVANTAGES

- Connection diagram - “Ring” or “Star”

MAIN SPECIFICATIONS

- **Interfaces** : V.23, RS-485-2W, Ethernet
- **Output interface** : HDMI
- **Power supply voltage:**
  - DC mains : 12 - 24 V
- **Power consumption** : ≤ 10 W
- **Operating conditions:**
  - air temperature : +5°C to +40°C
  - relative humidity : 0 - 80%
  - atmospheric pressure : 60 - 110 kPa
- **Protection** : IP 21
- **Life time** : 10 years

VERIFICATION INSTRUMENTS SETS

KFS-1 · SET OF DIFFUSING FILTERS

PELENG SF-05 · SET OF FILTERS

PO-4 · INSTALLATION FOR CONTROL OF ACTINOMETRIC DEVICES

PO-11 · INSTALLATION FOR VERIFICATION OF PYRANOMETER AND NET RADIOMETER

KPP · SUPPORT EQUIPMENT SET FOR VERIFICATION AND REPAIR WORKS

KP-01 · VERIFYING SET


120
150
180
210
240
270
300
330
30
60
6263 00 02 000
No 2001

KFS-1

SET OF DIFFUSING FILTERS

PURPOSE

- PELENG SL-03 calibration and check
- Filters from the set attenuate and diffuse the luminous flux in the working area of the nephelometer, thus simulating a certain value of meteorological optical range, which is determined by the nephelometer

EQUIPMENT CONFIGURATION

- Set of filters (4 pcs.)
- Plate assembly
- Control fixture
- Direct reflection shield
- Reflecting plate
- Case set

MAIN SPECIFICATIONS

- **MOR range simulated by the filter:**
  - filter 6296.00.00.120 : 10 - 550 m
  - filter 6296.00.00.110 : 5 - 499 m
  - filter 6296.00.00.110-0 : 500 - 4999 m
  - filter 6296.00.00.110-02 : 5000 - 14000 m
- **Operating conditions:**
  - air temperature : -10°C to +35°C
  - relative humidity : 0 - 80 % @ 35°C
- **Shipping case dimensions (L×W×H)** : 360×260×65 mm
- **Filter set weight** : 2 kg
- **Life time** : 10 years

CERTIFICATION

- №14399 issued by the State Committee for Standardization of the Republic of Belarus
- № 84341-22 issued by Federal Agency on Technical Regulation and Metrology (Russian Federation)

PELENG SF-05

SET OF FILTERS

PURPOSE

- Meteorological parameters check of meteorological optical range meters PELENG SF-01 during verification process
- Filters from the set attenuate the luminous flux in the working area of the device thus simulating a certain value of meteorological optical range

EQUIPMENT CONFIGURATION

- Set of filters (3 pcs.)
- Frame
- Case set

MAIN SPECIFICATIONS

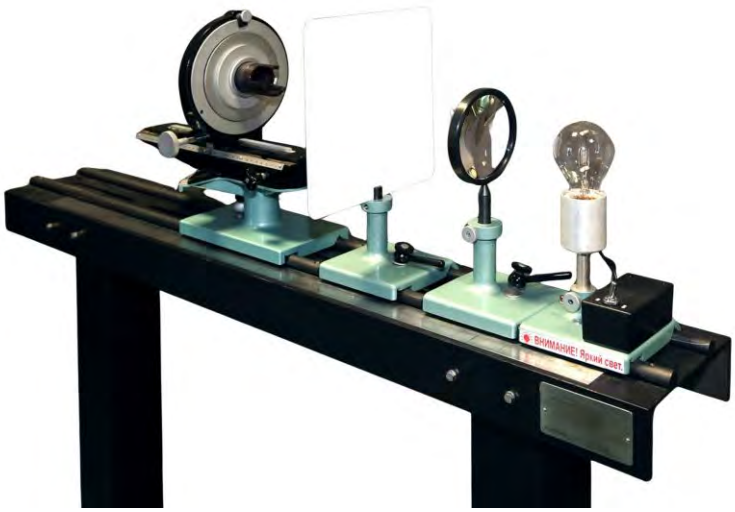
- **The range of nominal values of the transmission coefficients:**
  - filter 1 : 0.20 - 0.30
  - filter 2 : 0.45 - 0.55
  - filter 3 : 0.70 - 0.80
- **Tolerance limits of error in reproduction of transmission coefficients** : ± 0.05
- **Operating conditions:**
  - air temperature : -10°C to +35°C
  - relative humidity : 0 - 93 % @ 25°C
- **Dimensions:**
  - frame : Ø135×48 mm
  - filter 1; 2; 3 : Ø135×18 mm
- **Weight:**
  - frame : 0.45 kg
  - filter 1; 2; 3 : 0.45 kg
- **Life time** : 10 years

CERTIFICATION

- №17976 dated 12.09.2024 issued by the State Committee for Standardization of the Republic of Belarus
- № 25191-21 issued by Federal Agency on Technical Regulation and Metrology (Russian Federation)

PO-4

INSTALLATION FOR CONTROL OF ACTINOMETRIC DEVICES



PURPOSE

- Characteristics measurement and verification of actinometric devices (pyranometers, actinometers, net radiometer) in laboratory conditions
- The design and equipment of the installation make it possible to center and ensure the stability of the centering of the optical axis of the controlled devices with the optical axis of the measuring units included in the installation kit in order to conduct measurements using methods developed on the basis of geometric optics

EQUIPMENT CONFIGURATION

- Bench assembly
- Shading screen
- Adjustment screen
- Lens
- Casing
- Net radiometer installation device
- Illuminator
- Sleeve
- Holder
- Slide
- Rider (5 pcs.)
- Voltmeter
- Stabilizer
- Lamp E27-500 W (2 pcs.)

MAIN SPECIFICATIONS

- **Installation scale length** : 1 000 mm
- **Scale division** : 1 mm
- **Power supply voltage:**
  - AC mains : 230 V 50 Hz
- **Power consumption** : 500 W
- **Operating conditions:**
  - air temperature : +15°C to +25°C
  - relative humidity : 0 - 80 % @ 25°C
- **Bench length** : 1 200 mm
- **Bench width** : 500 mm
- **Weight** : 100 kg
- **Life time** : 8 years

PO-11

INSTALLATION FOR VERIFICATION OF PYRANOMETER AND NET RADIOMETER

PURPOSE

- Verification of pyranometers and net radiometers in natural conditions
- The installation ensures that the receiving surfaces of the devices are perpendicular to the sun's rays, shading them from scattered radiation and protecting them from wind

EQUIPMENT CONFIGURATION

- Tube assembly
- Rack
- Support

MAIN SPECIFICATIONS

- **Angle of rotation of the receiving part:**
  - horizontal axis : 0 - 360°
  - vertical axis : 0 - 90°
- **The error of installation of the receiving part on the Sun** : 3'
- **Working corner field** : 10°
- **Operating conditions:**
  - air temperature : -60°C to +80°C
  - relative humidity : 0 - 100 % @ 25°C
- **Dimensions ((L×W×H)** : 659×240×566 mm
- **Weight (without adapter rings and protective casing of the net radiometer)** : 12 kg
- **Life time** : 10 years

KPP

SUPPORT EQUIPMENT SET FOR VERIFICATION AND REPAIR WORKS

PURPOSE

- Set is an integral part of the equipment necessary for verification of ceilometer SD-02-2006 according to the verification procedure of МРБ МП.1884-2009

EQUIPMENT CONFIGURATION

- Casing
- Transmitter (emitting diode)
- Cable (3 pcs.)
- Adapter (2 pcs.)

MAIN SPECIFICATIONS

- **Operating conditions:**
  - air temperature : -15°C to +25°C
  - relative humidity : 30 - 80%
- **Dimensions (L×W×H)** : 285×278×180 mm
- **Weight:**
  - casing : 1 kg
  - transmitter (emitting diode) : 0.3 kg
- **Life time** : 10 years

KP-01

VERIFYING SET

PURPOSE

- Determination of metrological characteristics of PELENG SF-03 cup anemometer and wind vane during verification (TY РБ 100230519.165-2000)

EQUIPMENT CONFIGURATION

- Test-bench for wind speed measurement channel check
- Fixture for measuring the angle of rotation of the wind vane axis
- Fixture for friction torque check
- Accessories set
- Set of spare parts
- Cases

MAIN SPECIFICATIONS

- **Reproduction range of shaft speed:**
  - range 1 : 0.0410 - 24.5110 Hz
  - range 2 : 0.0346 - 25.8835 Hz
- **Limits of tolerable relative error of shaft speed reproduction** : ±1%
- **Range of values of the arrow rotation angle of the wind vane test fixture** : 0 - 360°
- **Limits of tolerable arrow rotation angle values of the wind vane test fixture** : ±1°
- **Weights for friction torque check:**
  - for cup anemometer : $1_{-0.2}$ g, $2.8_{-0.2}$ g*
  - for wind vane : $2_{-0.3}$ g, $4.5_{-0.3}$ g*
- **Power supply voltage:**
  - AC mains : 230 V 50 Hz
- **Power consumption** : ≤ 20 W
- **Operating conditions:**
  - air temperature : +1°C to +40°C
  - relative humidity : 0 - 80 % @ 25°C
- **Dimensions (L×W×H):**
  - case 1 : 465×335×157 mm
  - case 2 : 465×335×157 mm
- **Weight:**
  - case 1 : 10 kg
  - case 2 : 5 kg

* *For cup anemometer and wind vane manufactured before 2023*

CERTIFICATION

- №15483 dated 18.08.2022 issued by the State Committee for Standardization of the Republic of Belarus
- № 88852-23 issued by Federal Agency on Technical Regulation and Metrology (Russian Federation)

METEOROLOGICAL MASTS

MM-1 · METEOROLOGICAL TOWER WITH THE LIGHTNING ROD AND WINCH

MM-2 · METEOROLOGICAL MAST

TELESCOPIC PNEUMATIC MAST

PORTABLE METEOROLOGICAL MAST

PORTABLE MAST

SMALL SIZE METEOROLOGICAL MAST

MM-1

METEOROLOGICAL TOWER WITH THE LIGHTNING ROD AND WINCH

PURPOSE

- The mast is designed for installation of the meteorological measuring equipment used as a part of meteorological stations for the needs of synoptic and meteorological networks

ADVANTAGES

- High load capacity
- One-man installation
- High corrosion resistance
- The main structural elements of the mast
- MM-1 can be made of steel with protective coating or stainless steel
- Standard mast coloring: red-white (aviational) or white
- Possibility to choose the product's set (order code)

EQUIPMENT CONFIGURATION

- Mast sections
- Lightning rod set
- Winch
- Cable set
- Installation kit

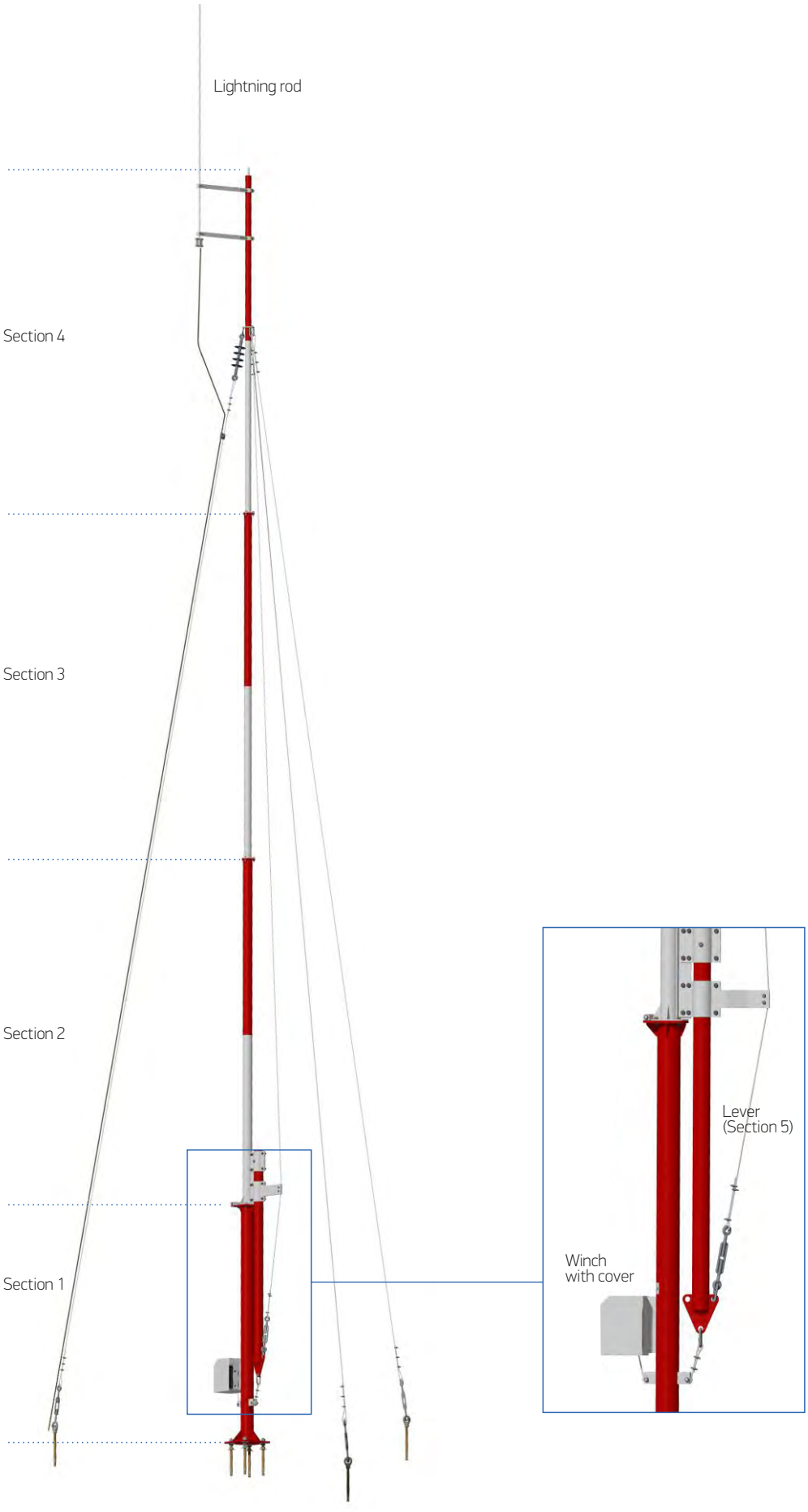
MAIN SPECIFICATIONS

- **Mast height** : 10 m
- **Distributed load capacity** : 75 kg
- **Load at the top of the mast** : 15 kg
- **Mast sections (pipes) diameter:**
  - section 1 : Ø 102 mm
  - section 2 : Ø 76 mm
  - section 3 : Ø 60 mm
  - section 4 : Ø 48 mm
  - lever (section 5) : Ø 76 mm
- **Main winch specifications:**
  - payload : 1000 kg
  - cable diameter : 6 mm
  - cable weight : 5 kg
- **Operating conditions:**
  - air temperature : -60°C to +65°C
  - relative air humidity : 0 - 100%
  - atmospheric pressure : 60 - 110 kPa
  - wind speed : 0 - 60m/s
- **Mast weight** : 90 kg
- **Overall mast weight with winch, lightning rod, cable set and installation kit (net)** : 140 kg
- **Life time** : 10 years

PRODUCT DESIGNATION STRUCTURE (ORDER CODE)

MM-1 Meteorological tower with lightning rod and winch 6309.00.00.000 (XX.X.X.X)

Mast versions	- white, stainless steel, polymer coated	BN
	- white, structural steel, corrosion-resistant coated (phosphated)	BK
	- aviation coloring, stainless steel, corrosion-resistant (phosphated)	AK
	- aircraft coloring, stainless steel, polymer coated	AN
	- aircraft coloring, special version, stainless steel, coated for marine climate	AS
Components for construction of lightning protection grounding circuit	- without components	0
	- with components	1
Extra tier stretch kit	- without set	0
	- with extra tier stretch kit	1
	- with extra tier stretch kit for the special version	2
Case set	- container set made of wood	1
	- set of honeycomb cardboard containers	2
	- container set made of wood for the special version	3


Lightning rod
Section 4
Section 3
Section 2
Section 1
Lever
(Section 5)
Winch
with cover

MM-2

METEOROLOGICAL MAST

PURPOSE

- The mast is designed for installation of the meteorological measuring equipment

ADVANTAGES

- Possibility to install the mast on concrete pads and the ground
- Low weight of sections, tripod and winch simplify mast mounting/dismantling
- It is possible to choose the optimal mast height (adjustable by the number of sections)

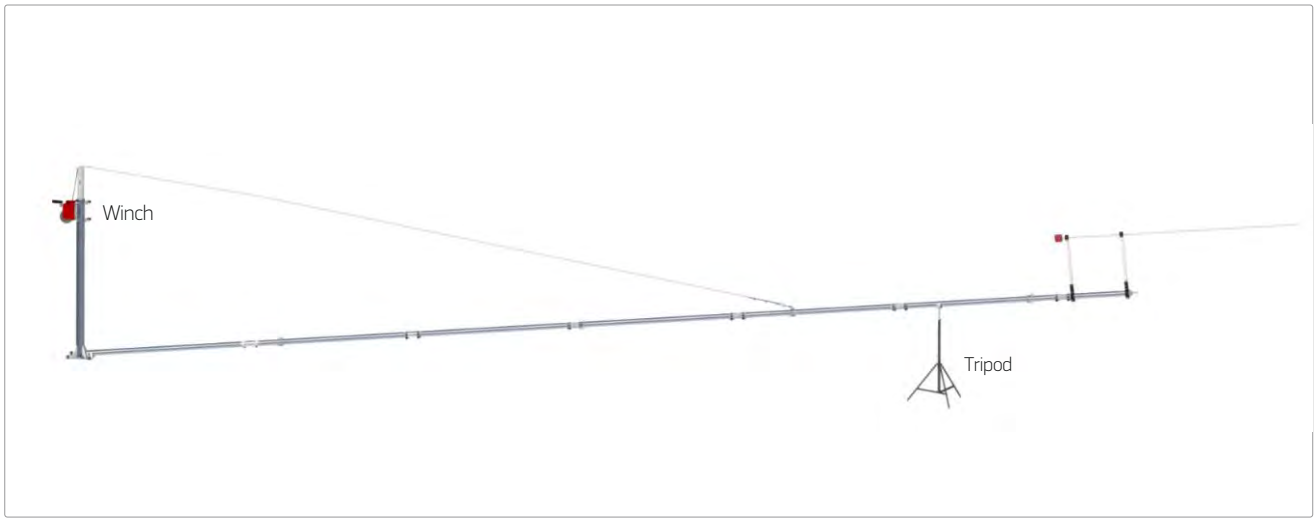
EQUIPMENT CONFIGURATION

- Mast
- Lightning rod set
- Winch
- Cable set
- Installation kit
- Tripod

MAIN SPECIFICATIONS

- **Mast height (depending on number of sections):**
  - one section : 3.85 m
  - two sections : 5.4 m
  - three sections : 6.95 m
  - four sections : 8.5 m
  - five sections : 10.05 m
- **Distributed load capacity** : 70 kg
- **Operating conditions:**
  - air temperature : -60°C to +65°C
  - relative air humidity : 0 -100%
  - atmospheric pressure : 60 -110 kPa
  - wind speed : 0 - 60m/s
- **Mast weight** : 60 kg
- **Overall mast weight with winch, lightning rod, cable set, installation kit and tripod (net)** : 106 kg
- **Life time** : 10 years

Position of the MM-2 mast in which the meteorological equipment is installed




Lightning rod
Winch

TELESCOPIC PNEUMATIC MAST

PURPOSE

- йThe telescopic mast is designed for installation of the meteorological measuring equipment used as a part of portable meteorological stations for the needs of synoptic and meteorological networks

ADVANTAGES

- The telescopic mast is driven into working position by a pneumatic compressor or hand pump
- Mast installation time: 15 min
- Thanks to the use of composite materials and aluminum, low weight and high corrosion resistance of the mast are achieved

EQUIPMENT CONFIGURATION

- Mast
- Cable set
- Installation kit
- Shipping cases (2 pcs.)

OPTIONAL EQUIPMENT

- Lightning rod set

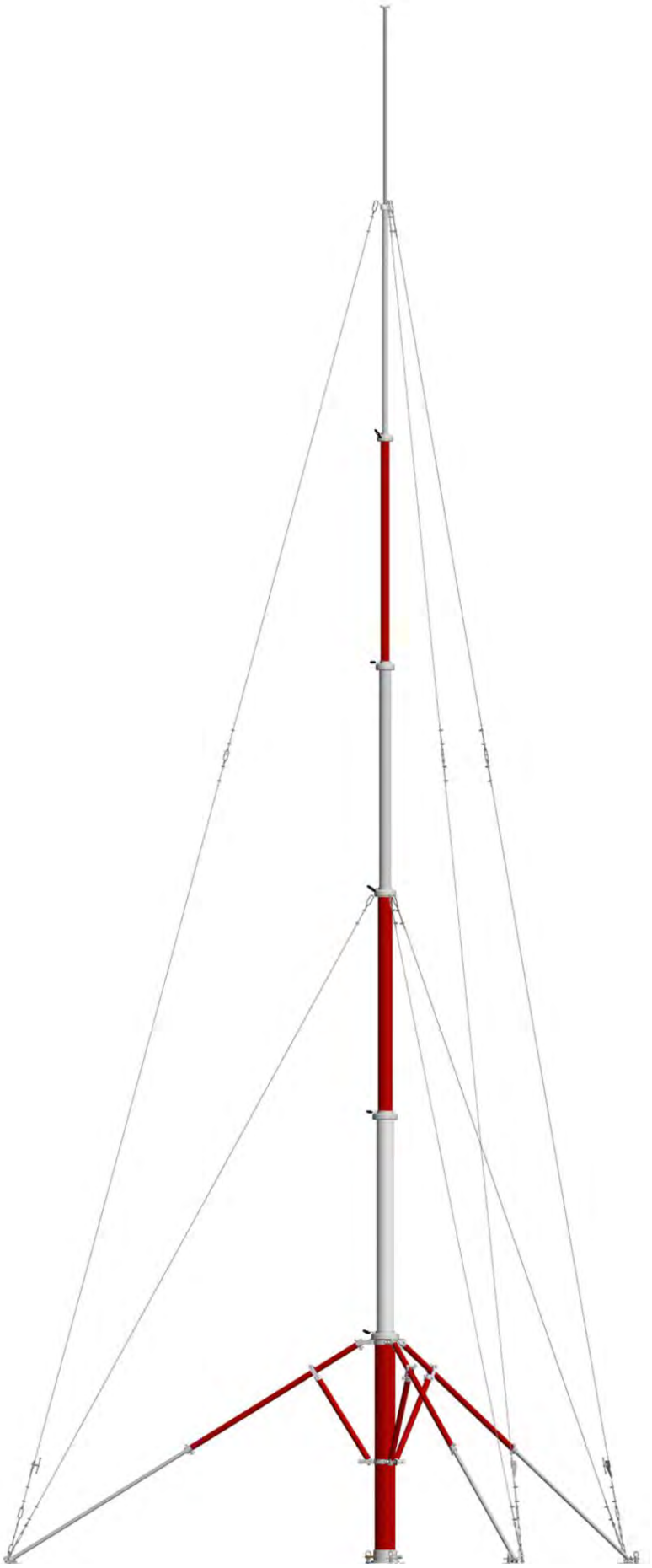
MAIN SPECIFICATIONS

- **Mast height** : 2 - 9.5 m
- **Distributed load capacity** : 60 kg
- **Operating conditions:**
  - air temperature : -60°C to +65°C
  - relative air humidity : 0 - 100%
  - atmospheric pressure : 60 - 110 kPa
  - wind speed : 0 - 60m/s
- **Mast weight** : 45 kg
- **Shipping cases weight with mast, cable set, installation kit (gross / net):**
  - case 1 : 55 / 45 kg
  - case 2 : 21 / 14 kg
- **Shipping cases dimensions (L×W×H):**
  - case 1 : 2040×440×420 mm
  - case 2 : 720×520×400 mm
- **Life time** : 10 years

Mast type in shipping case

Case 1

Case 1



PORTABLE METEOROLOGICAL MAST

PURPOSE

- The portable meteorological mast is designed for installation of the meteorological measuring equipment used as a part of portable meteorological stations

ADVANTAGES

- The mast is delivered to the deployment site in a compact shipping case
- Mast installation time: 10 min.

EQUIPMENT CONFIGURATION

- Mast
- Cable set
- Sensor holder (adapter D62 and D18)
- Installation kit
- Shipping case

MAIN SPECIFICATIONS

- **Maximum mast height** : 3.2 m
- **Distributed load capacity** : 20 kg
- **Sensor holder load** : 5 kg
- **Max support diameter** : 1.42 m
- **Mast tube diameter** : Ø 28 mm
- **Connection size of the sensor holder:**
  - adapter D62 : Ø 62 mm
  - adapter D18 : Ø 18 mm
- **Operating conditions:**
  - air temperature : -60°C to +65°C
  - relative air humidity : 0 - 100%
  - atmospheric pressure : 60 - 110 kPa
  - wind speed : 0 - 35 m/s
- **Mast weight** : 6.5 kg
- **Shipping case dimensions (L×W×H):** : 945×515×243 mm
- **Shipping cases weight with mast, cable set, installation kit (gross / net)** : 20 / 8 kg
- **Life time** : 10 years

Mast type in shipping case


Adapter D62
Adapter D18

PORTABLE MAST

PURPOSE

- The portable mast is designed for installation of the equipment used as a part of portable meteorological stations, including extreme operating conditions

ADVANTAGES

- The mast is delivered to the deployment site in a compact shipping case
- Mast installation time: 10 min
- Ball bearing allows vertical installation of the mast on uneven terrain
- Bubble level
- Possibility to install the mast in rocky ground and ice

EQUIPMENT CONFIGURATION

- Mast
- Cable set
- Sensor holder (adapter D32)
- Set of spare parts, tools and accessories
- Shipping case

MAIN SPECIFICATIONS

- **Maximum mast height** : 3.3 m
- **Distributed load capacity** : 20 kg
- **Sensor holder load** : 5 kg
- **Max support diameter** : 1.72 m
- **Mast tube diameter** : Ø 28 mm
- **Connection size of sensor holder (adapter D32)** : Ø 32 mm
- **Operating conditions:**
  - air temperature : -60°C to +65°C
  - relative air humidity : 0 - 100%
  - atmospheric pressure : 60 - 110 kPa
  - wind speed : 0 - 35 m/s
- **Mast weight** : 7 kg
- **Shipping case dimensions (L×W×H):** : 655×445×307 mm
- **Shipping cases weight with mast, cable set, SPTA set (gross / net)** : 20 / 9 kg
- **Life time** : 10 years

Mast type in shipping case

Adapter D32

SMALL SIZE METEOROLOGICAL MAST

PURPOSE

- The small size meteorological mast is designed for mounting meteorological sensors at a specific height for measurements

ADVANTAGES

- The absence of stretchers simplifies the installation and removal of the mast, which is especially important when working in confined spaces or with frequent relocation
- Mounting is performed on a pre-prepared base using anchor bolts, ensuring a strong and stable connection, resistant to mechanical stress and loads
- For ease of installation and maintenance, the mast is made of two sections. The ability to tilt and fix the upper section in a tilted position provides convenient access for repair and preventive work
- Mast design allows for one-person operation
- The mast is made of stainless steel. It has high corrosion resistance, durability, strength, and an aesthetic appearance
- Basic coloring: alternating red and white stripes (airports and other high-visibility areas). Other colors and schemes may be used depending on specific requirements and operating conditions

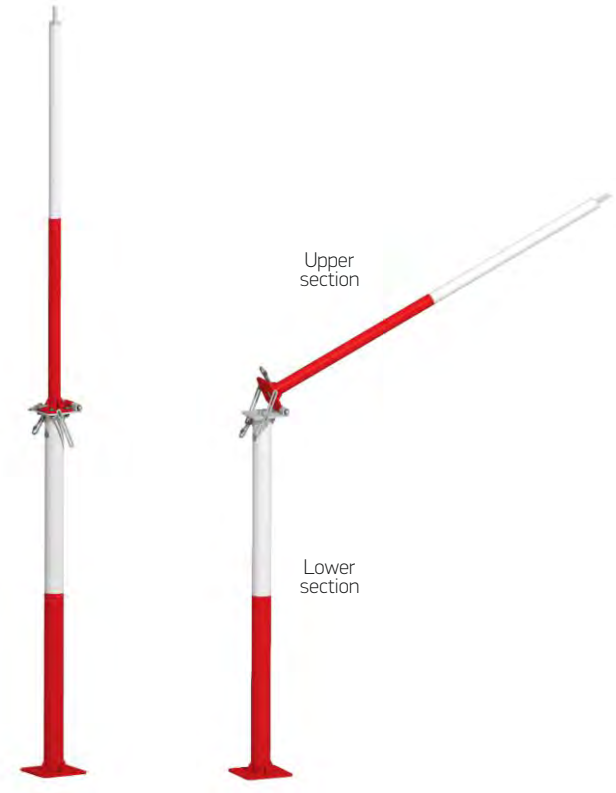
EQUIPMENT CONFIGURATION*

- Mast (1 pc.)
- Installation kit (1 kit):
  - securing cable (1 pc.)
  - stopper (2 pcs.)
  - axle (1 pc.)
  - fastener kit (1 kit)
  - wedge anchor M20x200 (4 pcs.)
  - open-end wrench 13x17 (1 pc.)
- Lightning rod set (optional)

**- tailored to customer needs*

MAIN SPECIFICATIONS

- **Mast height** : 3.1 m
- **Mast cutting height** : 1.7 m
- **Distributed load capacity** : 60 kg
- **Mounting dimension at the top of the mast** : Ø18 mm
- **Mast sections (pipes) diameter:**
  - upper section : Ø 48 mm
  - lower section : Ø 76 mm
- **Dimensions of the mast base** : 200×200 mm
- **Operating conditions:**
  - air temperature : -60°C to +65°C
  - relative air humidity : 0 - 100%
  - atmospheric pressure : 60 - 110 kPa
  - wind speed : 0 - 60m/s
- **Mast weight** : 26 kg
- **Overall mast weight with installation kit (net)** : 31 kg
- **Life time** : 10 years



SMALL SIZE
SPECIAL METEOROLOGICAL MAST

PURPOSE

- The small size special meteorological mast is designed for mounting meteorological sensors at a specific height for measurements

ADVANTAGES

- The absence of stretchers simplifies the installation and removal of the mast, which is especially important when working in confined spaces or with frequent relocation
- Mounting is performed on a pre-prepared base using anchor bolts, ensuring a strong and stable connection, resistant to mechanical stress and loads
- For ease of installation and maintenance, the mast is made of two sections. The ability to tilt and fix the upper section in a tilted position provides convenient access for repair and preventive work
- Mast design allows for one-person operation
- The mast is made of stainless steel. It has high corrosion resistance, durability, strength, and an aesthetic appearance
- Basic coloring: alternating red and white stripes (airports and other high-visibility areas). Other colors and schemes may be used depending on specific requirements and operating conditions

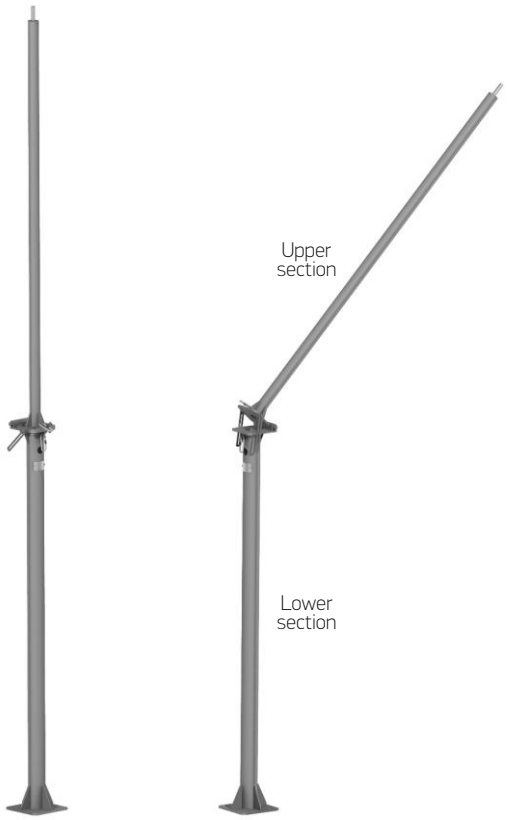
EQUIPMENT CONFIGURATION*

- Mast (1 pc.)
- Installation kit (1 kit):
  - securing cable (1 pc.)
  - stopper (2 pcs.)
  - axle (1 pc.)
  - fastener kit (1 kit)
  - wedge anchor M20x200 (4 pcs.)
  - open-end wrench 13x17 (1 pc.)
- Lightning rod set (optional)

**- tailored to customer needs*

MAIN SPECIFICATIONS

- **Mast height** : 3.1 m
- **Mast cutting height** : 1.7 m
- **Distributed load capacity** : 60 kg
- **Mounting dimension at the top of the mast** : Ø18 mm
- **Mast sections (pipes) diameter:**
  - upper section : Ø 48 mm
  - lower section : Ø 76 mm
- **Dimensions of the mast base** : 200×200 mm
- **Operating conditions:**
  - air temperature : -60°C to +65°C
  - relative air humidity : 0 - 100%
  - atmospheric pressure : 60 - 110 kPa
  - wind speed : 0 - 60m/s
- **Mast weight** : 26 kg
- **Overall mast weight with installation kit (net)** : 31 kg
- **Life time** : 10 years



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