OptoElectron

Artillery - Grenade Launchers

Land, Naval And Air Optical Technologies Since 1971
Dear Customers,
Dear Partners,

Opticoelectron Group JSCo has more than 45 years long experience in production of optomechanical and optoelectronic devices and systems for military purposes.

Our focus has always been on providing you with high-quality products and solutions, and we work hard to ensure that our products and services have the features and functionality that best contribute to your success.

As always, customer service is our top priority. We appreciate your loyalty and look forward to serving you even better in the years to come.

Sincerely,

dipl.eng. Ivan Garchev

dipl.eng. Nikodim Kazandzhiev

Executive Managers of Opticoelectron Group JSCo
Optoelectron Group JSCo is one of the most advanced companies specialized in optomechanical, optoelectronic and laser devices and systems for defence and security, medicine, device-building, machine-building. The company has more than 45 years old history and traditions, and it is considered as a leader in the production of optical devices in Bulgaria and on the international market.

It has a closed cycle of production starting from research and development going through production process to marketing, promoting and trading finished products. The company head office and its premises are situated in the town of Panagyurishte which is 90 km. south-east of capital city Sofia and 80 km. north-west of Plovdiv (the second largest city in Bulgaria). It is located in an Industrial Park of 260 000 sq.m. where 108 000 sq.m. of the total area are production plots.

Over 97% of total production goes on export to EU countries, North America and the Middle East. Optoelectron Group JSC is ISO 9001, ISO 14001, ISO 18001 and ISO 27001 certified. Our NATO Commercial and Governmental Entity code (NCAGE) is 000DU. Optoelectron Group JSC has obtained a Certificate for Registry in the field of international relations “NATO-SECRET” and a Certificate for access to operate with state classified information. The company also has a statute of supplier for US Government - DUNS Registration.

Key defence products in our portfolio are as follows: anti-aircraft and ground artillery sights for firing in daytime and in nighttime; day, night and thermal optical sights, SWIR lenses, laser range finders, laser target designators, optical systems for armoured vehicles, video observation and surveillance systems.

**HI-TECH INDUSTRIAL PARK**
**“OPTICOELECTRON”**
- Total site area: 260 000 m²
- Total building footprint: 50 100 m²
- Total building area: 108 500 m²
MUM-706M
Unified Mortar Sight
NSN 1240-50-000-1579

Description:
Unified Mortar Sight MUM is designed to enable sighting 60 mm, 81 mm, 82 mm and 120 mm mortars during direct fire as well as from covered positions. It is also suitable for observing the battlefield. An illumination system of the reticle is included in the sight set, which enables its operation in low visibility conditions (i.e. at dusk or night).

Technical characteristics:

Magnification: 2.5 x
Field of view: 9°
Exit pupil distance: 26 mm
Exit pupil diameter: 4 mm
Resolution: 25"
Diopter adjustment: -0.75 dpnt
Range of horizontal sighting: 360°
Angle of inclination in vertical plane: ± 30°
Angle of elevation: 35° to 90°
Power supply sources: Lithium Battery: 3V 1/3N and CR2

Value of the divisions of the angles of the elevation mechanism and the anglemeter:
Coarse scale, artillery thousandths (1/6000): 1 - 00
Precise scale, artillery thousandths (1/6000): 0 - 01
Parallax: 2"
Operating temperature: -50°C to +50°C
Storing temperature: -55°C to +60°C
Weight: 0.9 kg
Dimensions (LxWxH): 190 x 100 x 108 mm

*MUM can come with custom-made interface, as well as NATO standard (1/6400) or Russian standard (1/6000)*
MBOK-9M
Combined Artillery Optical Sight
OE3.812.019

Description:
Combined Artillery Optical Sight MBOK-9M is designed to enable precise laying of artillery gun B10 during direct fire and from covered positions, determining the distance to the target and observation of the battlefield. An illumination system of the reticle is included in the sight set, which enables its operation in low visibility conditions (i.e. at dusk and night).

Technical characteristics:
Sight for direct laying:
- Magnification: 4.2 x
- Field of view: 10.5°
- Exit pupil distance: 27 mm
- Exit pupil diameter: 4.2 mm
- Resolution: 14"
- Power supply sources: Lithium Battery: 3V 1/3N and CR2

Sight:
- Magnification: 2.5 x
- Field of view: 9°
- Exit pupil distance: 26 mm
- Resolution: 25"
- Operating temperature: -50°C to +50°C
- Storing temperature: -55°C to +60°C
- Weight: 2.9 kg
- Dimensions (LxWxH): 225 x 162 x 220 mm
ZAP-23
Anti-Aircraft
Automatic Sight
NSN 1240-50-000-9498

Description:
Anti-aircraft Automatic Sight ZAP-23 is designed to aid in accurately meeting the projectile with the target during direct fire, regardless of the position of the target (i.e. in the air or on the ground). The sight is included in a 23 mm twin launcher Zu-23, which is a worthwhile instrument for aiming at targets located in the air at a distance up to 2500 m and altitude up to 1500 m.

Technical characteristics:
Sight 2Ts 27:
Range of distance scale: 0 - 2000 m
Range of speed scale: 0.300 m/sec
Target course: no limitation
Scales of landing angles: 0° to 90°
Elevation angles: 0° to 60°
Distance scale (value of one scale division): 100 m
Speed scale (value of one scale division): 5 m/sec
Course scale (value of one scale division): 1°
Scales of landing and elevation (value of one scale division): 5°
Range of elevation angles (value of one scale division): -11°15' to +92°
Guide inclination angle toward the sight control area (value of one scale division): 1°50' ± 5'

Optical sight 1 OM 8:
Magnitude: 3.5 x
Field of view: 4°30'
Resolution: 17'
Exit pupil diameter: 6 mm
Exit pupil distance: 72 mm
Range of fire distance: 500 - 2000 m
Value of one scale division of the distance scale: 100 m
Range of sight correction, artillery thousands (1/6000): ± 0 - 10
Value of one scale division of the sight correction, artillery thousands (1/6000): 0 - 010
Parallax: ≤ 2"

Collimator KV-L:
Value of one scale division, artillery thousands (1/6000): 0 - 05
Parallax, artillery thousands (1/6000): ≤ 0 - 01
Operating temperature: -50°C to +50°C
Storing temperature: -55°C to +60°C
**PG-1M**
Panoramic Periscope Sight

**Description:**
Panoramic Periscope Sight PG-1M is designed to enable precise laying of artillery weapons in the vertical or horizontal plane during direct fire and from covered positions. The adjusting mechanism provides horizontal and vertical laying by the means of coarse and precise reading scales. In low visibility conditions such as smoke, snow or rain, the panoramic periscope sight is used along with a Gunner Collimator K-1 (optional). Specific scales for use with the collimator and side-corrections during direct fire are included in the set.

**Technical characteristics:**
- Magnification: 3.7 x
- Field of view: 10°5'
- Exit pupil distance: 20 mm
- Exit pupil diameter: 4 mm
- Value of a scale division for precise reading the angle meter and angles of elevation, artillery thousandths (1/6000): 0 - 01
- Range of measuring angles in the horizontal plane, artillery thousandths (1/6000): 60 - 00
- Range of measuring angles in the vertical plane, artillery thousandths (1/6000): ± 3 - 00
- Operating temperature: -50°C to +50°C
- Storing temperature: -55°C to +60°C
- Weight: 2 kg
- Dimensions (LxWxH): 257 x 79 x 106 mm

*PG-1M is available as NATO standard (1/6400) or Russian standard (1/6000)*
OM 4M
Artillery Optical Sight

Description:
Designed to enable aiming of various types of artillery guns while performing direct fire on fixed or moving targets. The sight has mechanisms for adjusting the measuring angles and axes.

The reticle comprises the following elements: distance reticle, long-range measuring reticle, reticle for side-corrections, reticle for correction at a distance, reticle for side-components of target speed.

The distance marks on the reticle correspond to the gun ballistics and the type of ammunitions used. A "Luch" system for illumination of the reticle can be used when operating in low visibility conditions (i.e. at dusk and night).

Technical characteristics:
- Magnification: 5.5 x
- Field of view: 11°
- Exit pupil distance: 24 mm
- Exit pupil diameter: 5.5 mm
- Resolution: 8"
- Length in operation position: ≤ 430 mm
- Operating temperature: -50°C to +50°C
- Storing temperature: -55°C to +60°C
- Weight: 5 kg
Description:
Optical Gun Sight 1-OMG-122 is designed to enable precise laying of the one-barrel rocket system GRAD-P as well as observation of the battlefield. The set includes an illumination system of the reticle and scales, which enables its operation in low visibility conditions (i.e. at dusk and night).

Technical characteristics:
- Magnification: 2.5 x
- Field of view: 9°
- Exit pupil distance: 26 mm
- Exit pupil diameter: 4 mm
- Resolution: 14"
- Power supply sources: Lithium Battery: 3V 1/3N and CR2
- Operating temperature: -50°C to +50°C
- Storing temperature: -55°C to +60°C
- Weight: 2.6 kg
- Dimensions (LxWxH): 240 x 156 x 220 mm
SGO - 7VMU (MGO-7VMU)  
Grenade Launcher  
Optical Sight

Description:
Grenade launcher optical sight SGO-7VMU is designed to enable sighting handheld anti-tank grenade launcher RPG-7 and its modifications.

SGO-7VMU provides precision in firing any type of grenades, including the new 40/60 RTB - 7LDMA1 and modern thermobaric rounds such as GTB-7VS. Firing warheads PG-7V, PG-7VL, PG-7VLT, PG-7VR is performed using the reticle marks, while firing grenades K0-7V, 0FG-7V, 0G-7V (0G-7VM), 0G-7VE – using the graduated mechanical drum scale.

On the reticle there are side-correction marks for deviation to the left or to the right, ranging from 0 to 50 with resolution of 0-10 (artillery thousandths). The long-range reticle enables the user to determine distances to targets at 2.7 m base.

There is an illumination system available, which enables its operation in low visibility conditions (i.e. at dusk or night).

Technical characteristics:
- Magnification: 2.7 x
- Field of View: 13°
- Exit pupil diameter: 4.5 mm
- Eye relief distance: 27 mm
- Resolution: 28"
- Power supply source: Lithium Battery 3V 1/3N or Lithium 3.6V 1/2AA or Alkaline 1.5V AA

*Various options of power supply sources are available on customer request

Parallax: < 2’
Range of elevation turning: > 30”
Operating temperature: -50°C to +50°C
Storing temperature: -55°C to +60°C
Weight: 1.08 kg
Dimensions (LxWxH): 140 x 180 x 70 mm

*Note: The low operating temperature depends on the power supply source
Description:
This grenade launcher optical sight SGO-7VPMU is designed to enable sighting handheld anti-tank grenade launcher RPG-7 and its modifications.

SGO-7VPMU provides precision in firing any type of grenades, including the new 40/60 RTB – 7LDMA1 and modern thermobaric rounds such as GTB-7VS. Firing warheads PG-7V, PG-7VL, PG-7VLT, PG-7VR is performed using the reticle marks, while firing grenades K0-7V, 0FG-7V, 0G-7V (0G-7VM), 0G-7VE – using the graduated mechanical drum scale.

On the reticle there are side-correction marks for deviation to the left or to the right, ranging from 0 to 50 with resolution of 0-10 (artillery thousandths). The long-range reticle enables the user to determine distances to targets at 2.7 m base.

There is an illumination system available, which enables its operation in low visibility conditions (i.e. at dusk or night). The body of the device is made from a special plastic.

Technical characteristics:
- Magnification: 2.7 x
- Field of view: 13º
- Exit pupil diameter: 4.5 mm
- Eye relief distance: 27 mm
- Resolution: 28"
- Power supply source: Lithium 3.6V 1/2AA or AA
- Parallax: < 2’
- Range of elevation turning: < 30”
- Operating temperature: -50°C to +50°C
- Storing temperature: -55°C to +60°C
- Weight: 0.840 kg
- Dimensions (L x W x H): 140 x 180 x 70 mm

*Note: The low operating temperature depends on the power supply source*
SGO - 7VMU/SGO-7VPMU with MNV-50
Grenade Launcher Optical Sight With Night Vision Attachment

Description of MNV-50:
Designed to fit your specific night vision needs. The brightest and sharpest images available due to a High Resolution Super Gen, 3rd Generation or 4G type Image Intensifier Tube.

Technical characteristics of MNV-50:
- Magnification: 1 x
- F#: 1.2
- Focal length: 50 mm
- Adjustment range of the focal: 1 m to infinity
- Field of view: ≥ 19.85°
- Diopter adjustment: -2 to +2 dptr
- Eye relief: 24 mm
- Power supply: 1pc. Battery AA
- Operation time with a 1.5V battery: >12 h
- Operation time with a 3.6V battery: >50 h
- Operating temperature: *-40°C to +50°C
- Storing temperature: -40°C to +60°C
- Weight without battery: 0.570 kg
- Dimensions (LxWxH): 180 x 55 x 74 mm
- Mounting interface: Picatinny (MIL STD 1913)

* Note: The low operating temperature depends on the power supply source
SGO - 7V (MGO-7V)
Grenade Launcher
Optical Sight

Description:
Designed to enable sighting handheld anti-tank grenade launcher RPG-7 and its modifications.

The sight provides precision in firing grenades PG-7V, PG-7VM, PG-7VL and PG-7VR during the day and night periods.

On the reticle there are side-correction marks – left and right, up to 0-50 with divisions of 0-10 (artillery thousandths). The long-range reticle enables the user to determine distances to targets at 2.7 m base.

There is an illumination system available, which enables its operation in low visibility conditions (at dusk or night).

Technical characteristics:
Magnification: 2.7 x
Field of view: 13°
Exit pupil diameter: 4.5 mm
Exit pupil distance: 27 mm
Resolution: 28"
Power supply sources: Lithium 3V 1/3N or Lithium 3.6V 1/2AA or Alkaline 1.5V AA
*Various options of power supply sources are available on customer request
Parallax: 2"
Continuous operation with one battery: > 60 h
Operating temperature: -50°C to +50°C
Storing temperature: -55°C to +60°C
Weight: 0.6 kg
Dimensions (LxWxH): 140 x 180 x 62 mm
* Note: The low operating temperature depends on the power supply source
SGO - 7VP
Grenade Launcher
Optical Sight

Description:
Designed to enable sighting handheld anti-tank grenade launcher RPG-7 and its modifications.

The sight provides precision in firing grenades PG-7V, PG-7VM, PG-7VL and PG-7VR during the day and night periods.

On the reticle there are side-correction marks – left and right, up to 0-50 with divisions of 0-10 (artillery thousandths). The long-range reticle enables the user to determine distances to targets at 2.7m base.

There is an illumination system available, which enables its operation in low visibility conditions (i.e. at dusk or night), and a function for automatic brightness level adjustment.

The body of the device is made from a special plastic.

Technical characteristics:
- Magnification: 2.7 x
- Field of view: 13°
- Exit pupil diameter: 4.5 mm
- Exit pupil distance: 27 mm
- Resolution: 28"
- Power supply sources: Lithium Battery 3.6V 1/2AA or AA
- Parallax: 2'
- Continuous operation with one battery: > 60 h
- Operating temperature: *-50°C to +50°C
- Storing temperature: -55°C to +60°C
- Weight: 0.37 kg
- Dimensions (LxWxH): 140 x 180 x 62 mm

* Note: The low operating temperature depends on the power supply source
Description:
Designed to enable sighting handheld automatic grenade launcher RPG-7 and its modifications (for direct fire).

The sight provides precision in firing grenades PG-7V, PG-7VL and PG-7VLT.

On the reticle there are side-correction marks – left and right, up to 0-50 with divisions of 0-10 (artillery thousandths). The long-range reticle enables the user to determine distances to targets at 2.7 m base.

The body of the device is made from a special plastic.

Technical characteristics:
- **Magnification:** 3 x
- **Field of view:** 8°
- **Exit pupil diameter:** 4 mm
- **Exit pupil distance:** 43.8 mm
- **Resolution:** ≤ 30°
- **Operating temperature:** -50°C to +50°C
- **Storing temperature:** -55°C to +60°C
- **Weight:** 0.270 kg
- **Dimensions (LxWxH):** 185 x 135 x 55 mm
SGO - K9 (PGO K9)
Combined Grenade Launcher Optical Sight

Description:
Designed to enable precise laying of grenade launcher SPG –9 (6G8) during direct fire and from covered positions. The device allows the user to observe the battlefield and determine distances to targets. An illumination system of the reticle is included in the sight set, which facilitates its operation in low visibility conditions (i.e. at dusk or night).

Technical characteristics:
Sight for direct laying:
Magnification: 4.2 x
Field of view: 10.5°
Exit pupil distance: 27 mm
Exit pupil diameter: 4.2 mm
Resolution: 14"
Sight:
Visible magnification: 2.5 x
Filed of view: 9°
Exit pupil distance: 26 mm
Exit pupil diameter: 4 mm
Power supply source: Lithium Battery 3V 1/3N and CR2
Resolution: 25"
Operating temperature: -50°C to +50°C
Storing temperature: -55°C to +60°C
Weight: 2.45 kg
Dimensions (LxWxH): 225 x 162 x 220 mm
**K-1 Gunner Collimator**

**Description:**
Gunner Collimator K-1 is designed to enable precise laying of guns, mortars etc. in low visibility conditions due to smoke, snow or rain and in the absence of natural light (i.e. at dusk and night).

**Technical characteristics:**
- **Field of view:** 10.7°
- **Exit pupil diameter:** 48 mm
- **Number of strips (scale divisions):** 76
- **Value of one scale division artillery thousandths (1/6000):** 0 - 02.2
- **Power supply source:** 1pc Battery AA
- **Operating temperature:** -50°C to +50°C
- **Storing temperature:** -55°C to +60°C
- **Dimensions (LxWxH):** 280 x 31 x 95 mm

*Note: The low operating temperature depends on the power supply source.*

**KO Gunner Quadrant**

**Technical characteristics:**
- **Range of the measured angles, mils (1/6400):** from 0 to 1600
- **Value of the divisions of the gear sector scale:** 10 mils
- **Value of the divisions of micrometer:** 0.2 mils
- **Value of the divisions of the level bubble:** 30° ± 3°
- **Error in the quadrant reading while measuring angles in ranging from 0 to 1600 mils:** < ±0.5 mils for temperature range (50° C)
- **Operating temperature:** -50°C to +50°C
- **Storing temperature:** -55°C to +60°C
- **Weight:** 0.98 kg
- **Total weight including appliances and case:** 2.05 kg
- **Dimensions (LxWxH):** 270 x 215 x 105 mm

*Available is a model with range from 0-00 to 15-00 (Russian standart 1/6000)*

**Description:**
Gunner Quadrant KO is designed to enable the user to determine the elevation of a gun barrel. The device uses a spirit level whose scale goes from 0° to 90°.
6G-18 Disposable Grenade Launcher RPG-22

Description:
Designed for a one-shot, disposable rocket launcher RPG-22 preloaded with a fin stabilized rocket. The smoothbore barrel/container consists of two main parts, both of which are made of fiberglass —main tube and telescoping forward extension, which slides over the barrel.

It uses grenade PG-2 to fight tanks, self-propelled artillery launchers and other armored vehicles as well as to destroy light shelters and brick buildings. The grenade launcher is also suitable for parachute landing fall.

Technical characteristics:
- Caliber: 72.5 mm
- Armor penetration: 400 mm
- Distance of right shot: 150 m
- Initial speed: 133 m/s
- Time to change from march to battle position: < 10 s
- Operating temperature: -40°C to +50°C
- Storing temperature: -55°C to +60°C
- Weight:
  - including round: 4.8 kg
  - without round: 2.7 kg
- Dimensions (LxWxH): 870 x 90 x 340 mm

BULSPIKE Disposable Grenade Launcher

Description:
Designed for a disposable rocket launcher loaded with an PG-22(AT), TB-22M(TB) and OG-22M(AP) rounds. It is used to fight tanks, self-propelled artillery launchers and other armored vehicles as well as destroy light shelters and brick buildings.

The grenade launcher is also suitable for parachute landing fall.

Technical characteristics:
- Caliber: 72.5 mm
- Armor penetration: 400 mm
- Distance of right shot: 100-150 m*
- Sighting range: 350-500 m*
- Initial speed: 100-133 m/s*
- Time to change from march to battle position: < 8 s
- Operating temperature: -40°C to +50°C
- Storing temperature: -55°C to +60°C
- Weight:
  - Including round: 3.280-3.8 kg*
  - Without round: 1.8 kg
- Dimensions (LxWxH): 765 x 150 x 150 mm

*Depends on type of used rounds (AT, TB or AP)
Description:
The Periscope Artillery Aiming Circle PAB 2 AM is designed to enable the user to determine the Azimuth and measure terrain angles to the vertical and horizontal. The device provides orientation according to the positions of the stars and eases topographic work both during the day and at dusk owing to the illumination system of the scales and reticles of the aiming circle, the monocular and the measuring rod. In addition, distances up to 400m can be determined based on a given reference point. The periscope included in the set allows observation of the battlefield at both covered and fire positions. PAB 2AM is available in various sets, customized according to the client’s request with scale divisions in mils (1/6400).

Technical characteristics:
Aiming circle magnification: 8 x
Field of view (with and without the periscope):
- in artillery thousandths (1/6000): 0 – 83
- in linear meters at distance 1000 m: 87 m
Exit pupil distance: 12.5 mm
Exit pupil diameter: 2.8 mm
Entrance pupil diameter: 22 mm
Periscope:
350 mm
Range of the angle measuring scale, artillery thousandths (1/6000):
- horizontal angles: 60 – 00 (360°)
- vertical angles: 30 – 00 (18°)
Value of the divisions of the angle measuring scale
and the aiming circle scale:
- coarse, artillery thousandths (1/6000): 1 – 00
- precise, artillery thousandths (1/6000): 0 – 01
Value of the divisions of the scale for vertical reading:
- coarse, artillery thousandths (1/6000): 1 – 00
- precise, artillery thousandths (1/6000): 0 – 01
Reading accuracy, artillery thousandths (1/6000): 0 – 01 (3.6°)
Value of the round level divisions, artillery thousandths (1/6000):
0 – 03
Azimuth head:
Magnification: 4 x
Field of view: 9° 20’
Exit pupil distance: 9.6 mm
Exit pupil diameter: 4 mm
Value of the level division: 2’
Sighting line shift from the vertical line while turning at vertical plane at 900, artillery thousandths (1/6000): 0 – 00.4 (1.5°)
Illumination set:
5 pcs. power supply sources with Li-ion rechargeable 17335, Li non-rechargeable 1/2AA or AA
Operating temperature: *-50°C to +50°C
Storing temperature: *-55°C to +60°C
Weight (complete set): 12 kg
Dimensions for aiming circle only (LxWxH): 130x140x195mm.

Complete set including: Aiming circle, periscope, measuring rod, tripod, azimuth head (optional), hard case and soft case for tripod only.

* Note: The low operating temperature depends on the power supply source
**LARTOS**
Forward Artillery Observer Post

Description:
The LARTOS system is designed to identify targets and objects, the distance to them, and their angular coordinates with respect to the LARTOS itself or to a particular point (position) whose coordinates are pre-entered/set in the system. The LARTOS system also calculates the opposite task-defines its own coordinates and direction "NORTH" (orientational directions) by known data for one or several points with known linear and/or angular coordinates (directional angles) with accuracy ± 0.02 thousandths/± 2.1 mils. The following functional modules are included in the "LARTOS" system: main system module, control and visualization unit, power unit, positioning unit, cables, software to perform tasks of artillery instrumental intelligence (azimuth, elevation angle, defining a distance to the target from the LARTOS and a distance to the target from a forward position).

The LARTOS system maintains a database of coordinates of the objects. This is non-volatile database, i.e. when the system power is turned off, the data is not lost.

The system consists of the following modules:
- Main Module
- Height and Azimuth movement Module
- Leveling mechanism
- Power supply unit
- Touchscreen display
Technical characteristics:
Main module
The main module includes thermal imaging channel, laser rangefinder and measurement module.

1.1 Thermal imaging channel
Objective: 100 mm with focal length from 80 m to infinity
Field of view: 6.2°(Hor.) x 5°(Ver.)
Working spectral range: 8 – 14 μm
Pixel size: 17 μm
Image resolution: 640 x 512 pxl
Matrix type: Uncooled VOx Microbolometer
Analog/Digital video interface: 1 Vpp PAL(CCIR), NTSC(RS-170) / BT601,656
Noise equivalent differential temperature (NEdT): < 50 mK at f/1.0
Detection and Recognition characteristics:
Detection vehicle: 2.3 x 2.3 m > 4.5 km
Detection human figure: > 3 km
Recognition vehicle: 2.3 x 2.3 m > 3 km
Recognition human figure: > 1.2 km

1.2 Laser rangefinder module
Range: from 100 to 20 000 m
Accuracy: ± 5 m
Field of view: 7°
Optical magnification: 7 x
Exit pupil diameter: 12.5 mm
Measurements per minute: 8
Guaranteed number of measurements: 20 000
Wavelength: 1064 nm
Interface for data exchange with external devices: WiFi

1.3 Measurement module
Measurement of horizontal angles: from 00-00 to 59-99 accuracy of ± 00-02 thousandths / ± 2.1 mils
Measurement of vertical angles: ±05-00 with accuracy of ± 00-02 thousandths/±2.1 mils
Interface for data exchange with external devices: WiFi
GPS-accuracy of horizontal positioning: < 2.5m

1.4 Management and visualization unit
The main function of the control and visualization unit is to combine the information from all devices of the LARTOS system - visualizing the picture from the thermal imaging channel, performing calculations of the data, ensuring the fulfillment of the tasks of the artillery intelligence (azimuth determination, distance to the target from the device and distance to the target from another position). The control of the modular system LARTOS is done with a touchscreen display with screen resolution of 800 x 480 pixels, 10-finger capacitive touch and viewable screen size: 155 mm x 86 mm.

1.5 Leveling with mechanism
Used to set the system to a position for leveling.

1.6 Height and Azimuth movement Module
It serves to horizontalize the system for smooth and fast moving in the vertical and the azimuth. It is located above the tripod.

1.7 Power supply module
Provides no less than 6 hours continuous autonomous operation of the modular system LARTOS with one power supply unit, mounted at the bottom of the tripod. The power supply module consists of a LiFePO4 / 12.8 V /10A rechargeable battery with an integrated electronics unit, contained in aluminium housing.
The system is equipped with two power units and chargers: 230V AC and 12V DC (for car socket).

1.8 Working environment and protection:
Relative humidity, non-condensing: from 10% to 70%
Operating temperature: -30°C to +50°C
Storing temperature: -40°C to +60°C
IP protection class: IP 65
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