





ABOUT THE COMPANY



INNOVATIONS FOR
THE PEOPLE'S SAFETY



PCO S.A. is a leading domestic producer of technically advanced optoelectronic equipment based on night-vision, thermal imaging and laser technologies.

The solutions used in the Company use modern scientific achievements, and the products of PCO SA are well-regarded both among military customers and domestic and foreign manufacturers cooperating with the Company. The high quality of the products and services offered is confirmed by certificates and awards obtained over the years.

INDIVIDUAL EQUIPMENT

COMBAT PLATFORM EQUIPMENT

OFFER WITHIN THE CONSORTIUM



GOGGLES AND MONOCULARS

BINOCULARS

WEAPON SIGHTS

NIGHT VISION PERISCOPES

MODERNIZATION SETS FOR TANKS

LASER RADIATION DETECTION SYSTEMS

DAY/NIGHT, THERMAL AND TELEVISION CAMERAS

INTEGRATED OPTOELECTRONIC MODULES

OPTOELECTRONIC HEADS

360° OBSERVATION SYSTEMS

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- SOD

- INTEGRATED INDIVIDUAL COMBAT SYSTEM CODENAME TYTAN

* The product catalog is for informational purposes and does not constitute a commercial offer within the meaning of article 66 paragraph 1 of the Civil Code. All product names included in the catalog are marketing names.

MU-3M

NIGHT VISION MONOCULAR



Intended for terrain observation by an individual user in limited lighting and night conditions

The weight of the MU-3M monocular is 265g

Mounted on any type of helmet, can be mounted on a head harness

The design based on the latest 10 mm image intensifier type 4G INTENS™

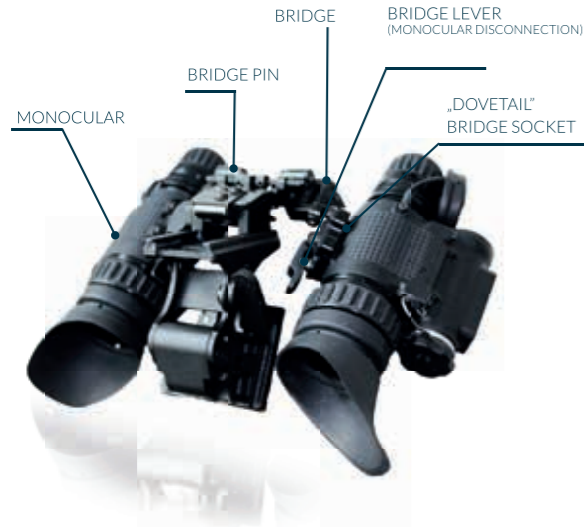
It can work in combination with a thermal imaging cap, thus enabling observation in fusion mode of images: night vision and thermal imaging

INDIVIDUAL EQUIPMENT

TECHNICAL PARAMETERS

	WITHOUT ADAPTER	ADAPTER	ADAPTER
Zoom	1x	3x	5x
Field of vision	≥40°	≥ 11.5°	≥6.5°
Focusing range of the lens	from 0.25 m to ∞	from 2.5m to ∞	from 7 m to ∞
Image intensifier type	XR5™/4G INTENS™ 16mm		
Diopter movement	from -6 to +2dpt		
Power	1xAA 1.5V or 1x rechargeable AA 1.2V or 1x 3.6V or 1x CR123 3.0V		
Operation time in normal temperature	40 h (1x lithium battery AA 1.5V) Oper-		
Operational temperature range	-35°C ÷ +50°C		
Weight of the monocular	265 g		





MONOCULAR GIVES THE POSSIBILITY OF COMBINATION

- With a swivel arm
- With a gun holder
- With 3x and 5x enhancement cap,
- With a head harness
- With a helmet holder
- With a thermal imaging cap
- With a double-sided bridge
- With a GoPro camera
- With an optical sight and a reflector sight



ON THE HELMET

After placing the MU-3M night vision goggles (2 monoculars + bridge) in the Flip-up mount, the kit can be mounted on the helmet (in the mount or mounting socket).



IN HEAD HARNESS

A special harness allows you to mount the goggles directly on your head.



INDIVIDUAL PREFERENCES

Easily change the observation side from the left to the right eye without having to detach the monocular.

Adjustable options for individual features and preferences - diopter, horizontal and vertical adjustment, and goggle gauge.

FLIP-UP

After plugging the swivel arm into the Flip-up mount and mounting it on the helmet, it is possible to move it out of the field of vision (similar to goggles).



MONOCULAR WITH WEAPON MOUNT

The monocular has the option of mounting, using an optional weapon mount, on a Picatinny rail. In conjunction with the daytime optical sight or the reflector sight, it allows for conducting effective weapon fire in conditions of limited lighting or at night.

ABILITIES:

Works with reflector and optical sights, e.g. DCM-1 Can be mounted on a weapon with a Picatinny rail via a weapon mount. Possibility of conducting weapon fire in night conditions.

MU-3ADM

NIGHT VISION GOGGLES



Mounted on any type of helmet, can be mounted on the head

Intended for terrain observation by an individual user in night conditions

The goggles can be tilted upwards and placed on the helmet

They can work in combination with a thermal imaging cap, thus enabling observation in fusion mode of images: night vision and thermal imaging

Design is based on a new generation 4G INTENS™ 16mm image intensifier, enabling observation in night vision and thermal imaging modes

INDIVIDUAL EQUIPMENT

TECHNICAL PARAMETERS

	WITHOUT ADAPTER	ADAPTER	ADAPTER
Zoom	1x	3x	5x
Field of vision	≥40°	≥ 11.5°	≥6.5°
Focusing range of the lens	from 0.25 m to ∞	from 2.5m to ∞	from 7 m to ∞
Image intensifier type	XR5™/4G INTENS™16mm		
Diopter movement	from -6 to +2dpt		
Axle gauge adjustment range	58 mm ÷ 72 mm		
Power	1xAA 1.5V or 1x rechargeable AA 1.2V or 1x 3.6V or 1x CR123 3.0V		
Operation time in normal temperature	40 h (1x lithium battery 3.6V)		
Operational temperature range	-35°C ÷ +50°C		
Weight of the monocular	265 g		
Weight of the goggles + the bridge	630 g		



PNL-2ADM

NIGHT VISION GOGGLES



Three power sources: in a set of goggles, container attached to the back of the helmet, power supply from the on-board installation

Universal mounting, adapted for mounting on any type of helmet used by land forces

White phosphorus provides 20% more detail than green night vision

Built-in infrared illuminator enabling vision in absolute darkness

Stereoscopic vision allows for effective driving in conditions of limited lighting or at night.

INDIVIDUAL EQUIPMENT

TECHNICAL PARAMETERS

Zoom	1x
Field of vision	≥40°
Focusing range of the lens	from 0.25m to ∞
Image intensifier type	XR5™/4G INTENS™16mm
Diopter movement	from -5 to +2dpt
Axle gauge adjustment range	58 mm ÷ 72 mm
Power vehicle on-board grid;	1xAA 1.5V or 1x rechargeable AA 1.2V or 1x 3.6V
Operation time in normal temperature	20 h (1x lithium battery 3.6V)
Operational temperature range	-35°C ÷ +50°C
Weight of the goggles	700 g



NPL-2

NIGHT VISION GOGGLES



Equipped with an additional source of lighting that works in the infrared, enabling the operation of night vision in closed rooms, in absolute darkness

Intended for terrain observation by an individual user in limited lighting conditions and at night

It can be used as a handheld device, mounted on any type of helmet or on the head with a special harness.

With the use of a dedicated adapter for the goggles, the NPL-2 can be used as a handheld observation device over longer distance.



TECHNICAL PARAMETERS

	WITHOUT ADAPTER	ADAPTER	ADAPTER
Zoom	1x	3x	5x
Field of vision	≥ 40°	≤ 11.5°	≤ 6.5°
Focusing range of the lens	from 0.25 m to ∞	from 2.5 m to ∞	from 7 m to ∞
Image intensifier type		XD4/XR5	
Diopter movement		from -6 to +2dpt	
Axle gauge adjustment range		60 mm ÷ 72 mm	
Power	1xAA 1.5V or 1x rechargeable AA 1.2V or 1x 3.6V or 1x CR123 3.0V		
Operation time in normal temperature	20 h (1x lithium battery 3.6V)		
Operational temperature range	-35°C ÷ +50°C		
Weight of the goggles	700 g		

PNL-4

AVIATOR'S NIGHT VISION GOGGLES



Goggles suitable for helicopter flights equipped with Class A, B or C airborne and exterior lighting (Minus Blue Class A, B or C)

They provide comfortable stereoscopic observation while maintaining the feeling of natural shapes and sizes of the objects and scenery observed

They provide a wide range of adjustments to customize the goggles to your individual characteristics and preferences

Modern 16mm state-of-the-art 4G INTENS™ image intensifier with autogating system

Small weight of 525 g

Power - dual battery power supply (2 x AA battery) or battery-network (on-board grid or 1 x AA battery)



TECHNICAL PARAMETERS

Zoom	1x
Field of vision	≥40°
Focusing range of the lens	from 0.25m to ∞
Image intensifier type	XR5™/4G INTENS™16mm
Diopter movement	from -6 to +2dpt
Axle gauge adjustment range	51 mm ÷ 72 mm
Operation time in normal temperature	20h (1x lithium battery AA) or continuous operation with on-board power supply
Operational temperature range	-35°C ÷ +52°C
Weight of the goggles	525 g

PNL-3M

AVIATOR'S NIGHT VISION GOGGLES



018

Designed for civilian helicopter crews, primarily for the police, fire brigade, air ambulance, border guards, SAR and transport tasks, for flights in restricted lighting conditions and at night

They fit the most popular helmet types

They have an automatic release system in the event of an emergency touchdown according to D0275

16mm state-of-the-art 4G INTENS™ image intensifier with autogating system

Small weight of 525 g

Tested and admitted to flight on civilian aircrafts by the European Aviation Safety Agency (EASA)

INDIVIDUAL EQUIPMENT

TECHNICAL PARAMETERS

Zoom	1x
Field of vision	≥40°
Focusing range of the lens	from 0.25 m to ∞
Image intensifier type	XR5™/4G INTENS™16mm
Diopter movement	from -6 to +2dpt
Axle gauge adjustment range	51 mm ÷ 72 mm
Operation time in normal temperature	20h (1x lithium battery AA), min. 40h (2x lithium battery AA) Ope-
rational temperature range	-35°C ÷ +52°C
Weight of the goggles	525 g



019

NPL-1M

NIGHT VISION BINOCULARS



Intended for terrain observation by an individual user in limited lighting conditions and at night

For long-distance observations

Small lightweight night vision device



TECHNICAL PARAMETERS

Zoom	3x
Field of vision	≤ 12°
Focusing range of the lens	from 5m to ∞
Image intensifier type	XD4™/XR5™/4G INTENS™ 18mm
Diopter movement	from -6 to +2dpt
Axle gauge adjustment range	62 mm ÷ 72 mm
Power	1xAA 1.5V or 1x rechargeable AA 1.2V or 1x 3.6V or 1x CR123 3.0V
Operation time in normal temperature	26 h (1x lithium battery 3.6V)
Operational temperature range	-35°C ÷ +50°C
Weight of the binoculars	860 g

NPL-1T

THERMAL BINOCULAR



- Excellent picture quality
- High resolution
- Digital video output
- Small size and weight
- Ultra low energy consumption
- Photo saving, filming capability
- It includes an input from an external military GPS receiver
- Wide operational temperature range

INDIVIDUAL EQUIPMENT

TECHNICAL PARAMETERS

Detector type	microbolometer	
Detector resolution	640x480 pixels	
Pixel size	17 μm	
Spectral range	8μm ÷ 14μm	
Sensitivity	≤ 50 mK	
Field of vision x2	12° x 9°, 6° x 4.5°	
Additional options with the adapter	x2,x3,x4	
Video output	FPD Link 3	
Operational temperature range	-30°C ÷ +50°C	
Dimensions	190 mm x 150 mm x 100 mm	
Weight	800 g	
Power	4xAA 1.5V int. or ext.	
Power consumption	1.25 W	
Ranges[D/R/I]	to a person	to a tank
lens FOV 12 deg	[1.7 x 0.5 m]: 1.5 / 0.5 / 0.25 km	[2.3 x 2.3 m]: 3 / 1 / 0.5 km
lens FOV 8 deg	[17x0.5 m]: 2.4 / 0.8 / 0.4 km	[2.3 x 2.3 m]: 4.8 / 16 / 0.8 km
lens FOV 6 deg	[17x0.5 m]: 3 / 1 / 0.5 km	[2.3x2.3 m]: 6 / 2 / 1 km



SCT

THERMAL WEAPON SIGHT



Designed for the observation and conducting weapon fire regardless of lighting conditions and adverse weather circumstances

Additional equipment with an external helmet display enables observation and shooting from „behind the corner“.

Includes the energy saving function

Weight with batteries ≤ 1 kg

Functions Digital zoom 2x, 4x B/W polarization change, saving images



TECHNICAL PARAMETERS

Spectral range	8 ÷ 14 μ m
Detector resolution	640x480 pixels
NETD	≤ -50 mK
Field of vision	$\leq 12 \times 9^\circ$
Focusing range of the lens	from 3 to ∞
Diopter movement	from -4dpt to +4dpt
Power	4x rechargeable AA or CRI123
Digital input	FPD Link 3
Operation time in normal temperature	8h
Operational temperature range	-30°C ÷ +60°C

HELMET DISPLAY:	
Weight	≤ 0.3 kg
Diopter movement	from -4dpt to +4dpt
Power	from the SCT sight
Resolution	800 x 600 pix

PCS-5M

NIGHT VISION WEAPON SIGHT



026

PCS-5M is designed for use on guns with universal mounting rail MIL-STD-1913 (Picatinny).

Used for battlefield observation, target detection and recognition

PCS-5M can be used for many types of weapons and for anti-tank grenade launchers with a lateral aiming system - „dovetail” type



TECHNICAL PARAMETERS

Zoom	2.2x
Field of vision	≥ 12°
Focusing range of the lens	from 5 m to ∞
Image intensifier type	XD4TM/XR5TM/4G INTENSTM 18mm
Diopter movement	from -4 dpt to +4 dpt
Power	1 x lithium battery AA
Operation time in normal	temperature 30 h
Operational temperature	range -40°C ÷ +50°C
Weight	1300 g

027

CKW

DAY/NIGHT WEAPON SIGHT



Aiming comfort in good and limited visibility conditions as well as at night thanks to amplifiers, lights XD4™/XR5™/4G INTENS™ 18mm

Sight intended for individual and team weapons - rifles, machine guns, sniper rifles (including large-caliber ones)

Convenient change of the day and night operation mode by quickly replacing the ocular with the image intensifier module



TECHNICAL PARAMETERS

	DAY	NIGHT
Zoom	1.5x-6x	1.8x-7.5x
Field of vision	9°-4.2°	7°-1.4°
Focusing range of the lens	from 50m to ∞	
Image intensifier type	XD4™/XR5™/INTENS™ 18mm	
Diopter movement	from -6dpt to +2dpt	
Power	1 x lithium battery AA 3.6 V	
Operation time in normal temperature	30 h	
Operational temperature range	-30°C ÷ +50°C	
Weight	1100 g	

DCM-1

MODULAR DAY SIGHT



The DCM-1 sight is dedicated to the latest 5.56 mm GROT rifle, which is included in the Polish Armed Forces equipment. It can also be used on other types of rifles equipped with Picatinny rail (MIL-STD-1913) or NATO rail (STANAG 4694)

Combination of the LDK-4 optical sight with the MK-1 reflector sight

Designed for mounting on various types of weapons using MIL-STD-1913 or NATO Rail standard

Compact and robust design with fixed quadruple magnification and adjustable crosshairs illumination

Suitable for use in combination with a night vision device in limited lighting conditions or at night

Compact and robust design



TECHNICAL PARAMETERS

OPTICAL SIGHT LDK4

Zoom	4 x 32
Field of vision	≤ 7°
Power	1x battery AA 1.5V or 1x rechargeable AA 1.2V or 1x lithium battery 3.6 V
Operation time in normal temperature Minister	100 h
Operational temperature range	-35°C ÷ +50°C
Weight	500 g

REFLECTOR SIGHT

Zoom	1 x
Power	CR 2032
Operation time	100 h



PNK

NIGHT VISION DRIVER'S PERISCOPE



Binocular instrument for night-time observation designed for various armored vehicles

Allows the vehicle driver to observe the road and its surroundings at night

Equipped with a heated glass pane, allowing the instrument to be used in different weather conditions

Replaces all active night vision devices of the driver without the need to modify the settling socket

Includes two independent optical channels that use the XD-4 passive image intensifiers, which provides stereoscopic vision

It can be used in the following types of vehicles:
 - tank types: T-54B, T-55, T-55A, T-55AM, T-72, T-72M,
 - infantry combat vehicle types: BWP-1, BWP-2
 - self-propelled howitzer types: GOŻDZIK
 - technical protection vehicle types: WZT-1, WZT-2 i WZT-3
 - KTO Rosomak



TECHNICAL PARAMETERS

Zoom	1x
Field of vision	≥ 30°
Image intensifier type	XD-4
Ocular spacing	64 mm
Power	On-board grid
Operational temperature range	-30°C ÷ +50°C

POD

DAY/NIGHT COMMANDER'S OBSERVATION DEVICE



POD enables the following:

- day and night observation of the area
- identifying targets and distances to them
- guiding the cannon to the target while driving at night and day

Includes two independent optical channels that use the SuperGen passive image intensifiers

It is durable and resistant to climatic and mechanical exposure

Designed for tank types T-55, T-72, infantry combat vehicles BWP-1, BWP-2 and similar



TECHNICAL PARAMETERS

	DAY	NIGHT
Zoom	≥ 4.5x	≥ 4.5x
Field of vision	≥ 9.9°	≥ 7.9°
Image intensifier type	SuperGen	
Ocular focus	± 5 dpt	
Ocular spacing	58 - 71 mm	
Power	On-board grid	
Operational temperature range	-30°C ÷ +52°C	

ZMKT

THERMAL CAMERA MODIFICATION SET



ZMKT ensures the identification and tracking of targets in day and night limited visibility conditions, without exposing its own position

ZMKT includes a thermal imaging camera KLW-1 which belongs to the state-of-the-art, third generation of these devices

Designed for PT-91 tanks with SKO 1T (DRAWA-T) fire control systems



DISTINCTIVE FEATURES OF THE PRODUCT

The ZMKT set, the basic element of which is the thermal imaging camera KLW-1, is designed for use in PT-91 tanks equipped with SKO 1T (DRAWA-T) fire control systems as the gunner's sight.

THE SET INCLUDES THE FOLLOWING COMPONENTS:

- THERMAL IMAGING CAMERA KLW-1
- GUNNER'S DISPLAY WD-1
- GUNNER'S MONITOR MD-1
- MULTIFUNCTION MONITOR MFM-2
- ADAPTER
- CABLES KZ1 ÷ KZ3

PCT-72

PERISCOPIC THERMAL SIGHT

PCT-72 INCLUDES



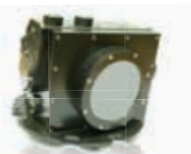
KLW-1 THERMAL IMAGING CAMERA



MD-1 GUNNER'S DISPLAY



MFM-2 MULTIFUNCTIONAL



PERISCOPE HEAD



DISTINCTIVE FEATURES OF THE PRODUCT

PCT-72 ensures the identification and tracking of targets in day and night limited visibility conditions, without exposing its own position. The PCT-72 thermal imaging sight can be used in all tanks of the T-72 family, in place of the previously used TPN-1-23-11 night sight.

THE PCT-72 SET INCLUDES

- Thermal imaging camera KLW-1
- Periscope head with a pantograph adaptor
- Gunner's monitor MD-1 with a strut and a forehead guard
- Multifunctional (commander's) monitor MFM-2
- Electrical beams

SSP-1 OBRA-3

LASER WARNING SYSTEM



Detection of radiation from vehicles, military objects by pulsed rangefinders and laser illuminators

Optical and acoustic **signaling** of the detected radiation indicates:

- direction
- device type
- time from the start of radiation

Updating the direction from which the radiation is coming

Can be operated by any of the crew members

Creating the smoke screen in the direction from which the radiation originated in combination with the smoke grenade launcher

Firing of smoke grenades in the following operating modes:

- manual
- semi-automatic
- automatic



TECHNICAL PARAMETERS

Number of detection heads	from 4 to 8
Spectral range for detection of radiation sources	0.6 μm ÷ 11 μm
Angular detection range in the vertical plane	-6° ÷ +30°
Angular detection range in the horizontal plane	360°
Number of radiation directions detected	20 sectors of 18°
Number of operated smoke grenade launchers	up to 24
System supply voltage	18V ÷ 30V
Electricity consumption	55W / 60W
Operational temperature	-30°C to +55°C

KDN-1T

DAY/NIGHT DRIVER'S CAMERA



The KDN-1T camera together with the MFM- 3 monitor consists of a rear view camera system for Leopard 2A4 and 2A5 tanks.

Enables driving in day and night conditions under difficult weather circumstances

User switching between day and night mode

Automatic lens cleaning function

Camera protection against dust and stones

Device test function

Two-way control interface RS422

Mechanism of automatic closing of the shield before accidental power outage

The camera is equipped with a system of OSD, which visualizes the vehicle's lines and operating parameters



TECHNICAL PARAMETERS

DAY CAMERA PARAMETERS:

Transducer type	CMOS 1/3"
Transducer revolution:	1280 (width) x 960 (height); 1.2 Mpx
Shutter type:	GLOBAL SHUTTER
Object detection from a distance of	250m
Dimensions:	282 mm x 83 mm x 125 mm 332 mm x 88.5 mm x 139 mm
Power	from the vehicle's grid
Range of focusing:	0.5 m ÷ ∞

THERMAL CAMERA PARAMETERS:

Spectral range:	8-14 μm
Resolution	640 (width) x 480 (height)
Thermal sensitivity (NETD):	≤ 80 mK
Focusing range:	0.5 m ÷ ∞
Number of frames per second:	25
Object detection from a distance of	150 m

KLW-1

THERMAL CAMERA



Cooled thermal imaging camera KLW-1 is designed for fire control systems and observation and reconnaissance systems.

High quality third generation cooled detector operates within the 7.7 - 9.4 μm band

Ease of integration with most of the sights used in military combat vehicles

High stability of the aiming line position



TECHNICAL PARAMETERS

Spectral range	7.7 ÷ 9.4 μm
Detector resolution	640x512 pixels
NETD	$\leq 30\text{mK}$
Horizontal field of vision	NFOV $\leq 3^\circ$ WFOV $\leq 10^\circ$
Focusing range of the lens	NFOV from 30 m to ∞ ; WFOV from 5m to ∞
Power	On-board grid
Operational temperature range	$-30^\circ\text{C} \div +50^\circ\text{C}$
Functions	image polarization change, image orientation change, targeting marks, digital zoom x2, x4, contrast and brightness adjustment: manual/automatic
Output video signal	CCIR PAL

KLW-1E

THERMAL CAMERA



Thermal imaging camera KLW-1E with a cooled detector, which operates within the 7.7 - 9.4 μm band, is designed for fire control systems and observation and reconnaissance systems.

Contrast and brightness adjustment: manual/automatic

High quality third generation cooled detector

Cooled microbolometer matrix enables you to obtain a clear and distinct image, ensuring that the smallest details of the object are visible.

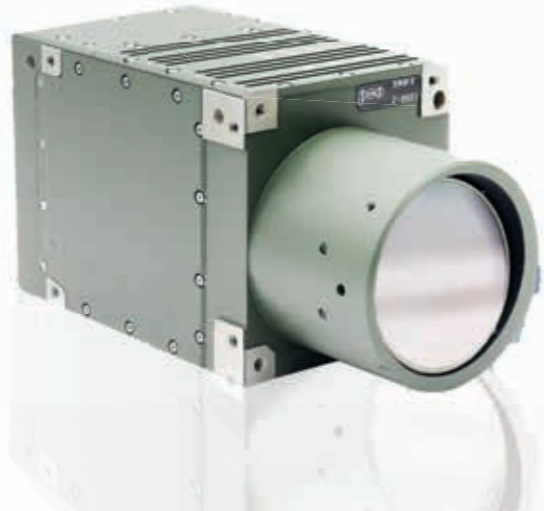


TECHNICAL PARAMETERS

Spectral range	7.7 ÷ 9.4 μm
Detector resolution	640x512 pixels
NETD	≤ 40 mK
Horizontal field of vision	NFOV $\leq 3.0^\circ$; WFOV $\leq 10^\circ$
Focusing range of the lens	NFOV from 30 m to ∞ ; WFOV from 5 m to ∞
Power	On-board grid
Operational temperature range	-30°C ÷ +55°C
Functions	image polarization change, image orientation change, targeting marks, digital zoom x2, contrast and brightness adjustment: manual/automatic
Output video signal	CCIR PAL

KMW-3

THERMAL CAMERA



Thermal imaging camera KMW-3 with a cooled detector, which operates within the 3.7 - 4.8 μm band, is designed for fire control systems of the **anti-aircraft kits**

Cooled matrix of the photon detectors enables you to obtain a clear and distinct image, ensuring that the smallest details of the object are visible.

High quality third generation cooled detector

Contrast and brightness adjustment: manual/automatic

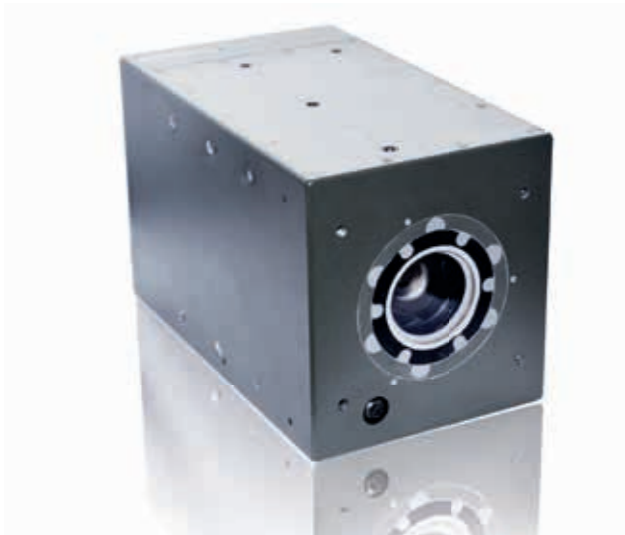


TECHNICAL PARAMETERS

Spectral range	3.7 ÷ 4.8 μm
Detector resolution	640x512 pixels
Horizontal field of vision	NFOV $\leq 2.3^\circ$; WFOV $\leq 12^\circ$
Focusing range of the lens	NFOV from 100 m to ∞ ; WFOV from 30m to ∞
Power	On-board grid
Operational temperature range	-30°C ÷ +50°C
Functions	image polarization change, image orientation change, targeting marks, digital zoom x2, x4, contrast and brightness adjustment: manual/automatic
Output video signal	CCIR PAL

KTVD-1M

TELEVISION CAMERA



Application of the POPRAD self-propelled anti-aircraft missile set in the observation and targeting head

Possibility of mounting on self-propelled wheeled and tracked vehicles

KTVD-1M is designed to detect and track aircrafts, helicopters and ground objects in daylight conditions



TECHNICAL PARAMETERS

Horizontal field of vision	NFOV 2° WFOV 7.5°
Detector	CCD 1/3"
Power	On-board grid
Operational temperature range	-35°C ÷ +50°C
Output video signal	CCIR PAL

ZMO-1

INTEGRATED OPTOELECTRONIC MODULE



Application of ZMO-1:

- in fire control systems for remote-controlled armament modules
- in stationary observation systems
- in fire control systems for the on-board weapons

The module uses a laser rangefinder, which enables measurement of the distance to the target

The functions of the module are controlled from the multifunctional control panels used in the system

The module is equipped with the following sensors:

- a thermal imaging camera with a bolometric detector
- television camera system
- laser rangefinder



DISTINCTIVE FEATURES OF THE PRODUCT

Enables the integration of a standalone multifunctional monitor or an external on-board monitor

Enables observation of the terrain in the television track, thermal track and measurement of distance to the target

High resolution of the uncooled matrix on the thermal imaging track

Small size of the device

Large observation range

Operational temperature range of the device is: $-30^{\circ}\text{C} \div +55^{\circ}\text{C}$

ZMO-3

NEW

INTEGRATED OPTOELECTRONIC MODULE



The optoelectronic module includes:

- thermal imaging camera (spectral range 3-5 μm)
- television camera system
- mono-pulse laser rangefinder, safe for the eye

They enable the detection, recognition, identification and measurement of the distance to the detected target

The functions of the module are controlled from the multifunctional control panels used in the system



TECHNICAL PARAMETERS

Device controls:	RS-422
Supply voltage	18V ÷ 32V
Maximum power consumption	≤ 250 W
Operational temperature:	-30°C ÷ +50°C
Dimensions:	284 mm x 225 mm x 190 mm
Weight of the ZMO-3 module	≤ 14 kg

ZMO-3 is designed for remotely controlled armament module (ZSMU), which is an equipment of light armored reconnaissance transporter LOTR.

GOS-1

OBSERVATION AND TRACKING OPTOELECTRONIC SYSTEM



The head may be used:

- in fire control systems,
- in observation and targeting systems

The head is an element of SKO 23-mm anti-aircraft missile and artillery set ZU-23-2SP of the „PILICA” system, of which the „videotracker” is an essential element

High quality of stabilization parameters



DISTINCTIVE FEATURES OF THE PRODUCT

Precise target tracking in cooperation with the videotracker

Wide range of guidance and tracking speeds (from minimum speed below 100 μ rad/sec to above 2 rad/sec)

Compact design: the controlling systems are located in a single device

Small size and weight for easy integration into battle platforms (vehicles, armament modules, anti-aircraft kits) Possible configuration and integration of sensors, i.e.: thermal imaging cameras, television cameras, laser rangefinder, according to individual requirements of the user

GOD-1

STABILIZED COMMANDER'S OPTOELECTRONIC SYSTEM



It enables the detection, recognition, identification, tracking and measurement of the distance to the detected target

The functions of the module are controlled from the multifunctional control panels used in the system

Observation range:
 -elevation: -20° - $+60^{\circ}$
 - azimuth: $n \times 360^{\circ}$



DISTINCTIVE FEATURES OF THE PRODUCT

- Enables observation of the terrain in the television track, thermal imaging track and measurement of distance to the target
- Enables object tracking
- Enables the integration of a multifunctional on-board panel High resolution of the uncooled matrix on the thermal imaging track
- Small size of the device
- Large observation range
- Operational temperature range of the device is: $-30^{\circ}\text{C} \div +50^{\circ}\text{C}$

GOC-1

STABILIZED GUNNER'S OPTOELECTRONIC SYSTEM



It enables the detection, recognition, identification, tracking and measurement of the distance to the detected target

The functions of the module are controlled from the multifunctional control panels used in the system

Application of the head:

- in remote-controlled armament modules mounted on various platforms (e.g. armored car equipment, reconnaissance vehicles, unmanned platforms, ships)
- in fire control systems for the on-board weapons
- in observation systems

Observation range:

- elevation: -10° - $+60^{\circ}$
- azimuth: $n \times 360^{\circ}$



DISTINCTIVE FEATURES OF THE PRODUCT

Enables observation of the terrain in the television track, thermal imaging track and measurement of distance to the target

Enables object tracking

Enables the integration of a multifunctional on-board panel High resolution of the uncooled matrix on the thermal imaging track

Small size of the device

Large observation range

Operational temperature range of the device is: $-30^{\circ}\text{C} \div +50^{\circ}\text{C}$

SOD

OMNIDIRECTIONAL OBSERVATION SYSTEM



The 360-degree observation system for day and night operation is designed for wide-angle observation of the close surroundings of vehicles, monitoring the surroundings of objects and motion detection.

The thermovision and TV track can operate completely independently or can observe the same section of space with the possibility of superimposing the thermovision image on the TV image at a selected pair of cameras

Elements of the 360-degree observation system:

- four TV and thermovision camera modules
- hub
- systems for protecting lenses against damage
- switch-power supply and monitor mounted at the command post
- wiring



TECHNICAL PARAMETERS

Monitor	
Touch interface	Yes
Min. resolution	1024 x 768 pixel
Power	18-32 VDC from the on-board grid
Weight	Max 4.5 kg
Television and thermal imaging module	
Summary field of vision of the module	110° x 43° (±10%)
Power	18-32 VDC from the on-board grid
Output video signal	Digital, Ethernet
Weight	6 kg
Maximum dimensions	150 mm / 235 mm / 170 mm

Television track	
Detector type	CMOS
Detector resolution	1280 x 960 pixel
Pixel size	3.75 μm ÷ 3.75 μm
Thermal imaging track	
Detector type	uncooled matrix, microbolometric
Minimum detector resolution	640x480 pixels (FPA)
Spectral range	8 - 14 μm
Pixel size	17 x 17 μm
Thermal resolution	80 mK
Image polarization	YES
Computer - Hub	
Power	18-32 VDC from the grid
Weight	Max. 4.5 kg

FUTURE SOLDIER

INTEGRATED INDIVIDUAL COMBAT SYSTEM CN TYTAN



OBSERVATION AND RECONNAISSANCE SYSTEM: Sights, camera system, night vision, warning and identification system, helmet headset

ARMAMENT SYSTEM: carbine, suspended grenade launcher, pistol, knife-bagnet, hand grenades, ammunition

PROTECTION SYSTEM: bulletproof vest (various configurations), modular helmet, gas mask

UNIFORM SYSTEM: combat clothing, thermoactive clothing, joint protectors, biomedical sensors

C4I SYSTEM: radio station, display integrator, power system, navigation, helmet display, headset

CONVEYOR SYSTEM: integrated into the security subsystem: pockets and containers for ammunition and equipment



DISTINCTIVE FEATURES OF THE PRODUCT

The Future Soldier Program is implemented by a scientific and industrial consortium consisting of defense industry companies and military research institutes.

The role of the consortium leader is currently fulfilled by PCO S.A. The primary objective of the program implemented by the consortium is to equip the soldier for the needs of the modern battlefield. The Future Soldier is a program of great importance for the Polish economy. The technologies developed in it have an impact on the efficiency and safety of soldiers on the battlefield, and also affect the safety of citizens.

INDIVIDUAL EQUIPMENT INCLUDES:

ARMAMENT SYSTEM

C4I SYSTEM

OBSERVATION AND RECONNAISSANCE SYSTEM:

PROTECTION SYSTEM

UNIFORM SYSTEM

CONVEYOR SYSTEM





OUR SERVICES

OPTICS

manufacturing optical elements according to the customer's drawings, e.g. lenses, mirrors (including consultations and corrections made by our technologists)

design of the optics of individual components such as lenses, mirrors and entire optical devices

making thin layers on optical elements (various types of filters on optics made by the Thin Layer Laboratory)

design of optical filters (Thin Layer Laboratory)

regeneration of optics/glass



QUALITY TESTS
AT THE TEST STATION

SPARE PARTS
FOR PCO PRODUCTS

SERVICING
EQUIPMENT HEALTH ASSESSMENT,
REPAIR AND TESTING OF EQUIPMENT

**MODIFICATION AND
MODERNIZATION OF PRODUCTS**

CONDUCTING TRAININGS
IN THE FIELD OF SERVICE, REPAIR AND
MAINTENANCE OF PCO EQUIPMENT





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