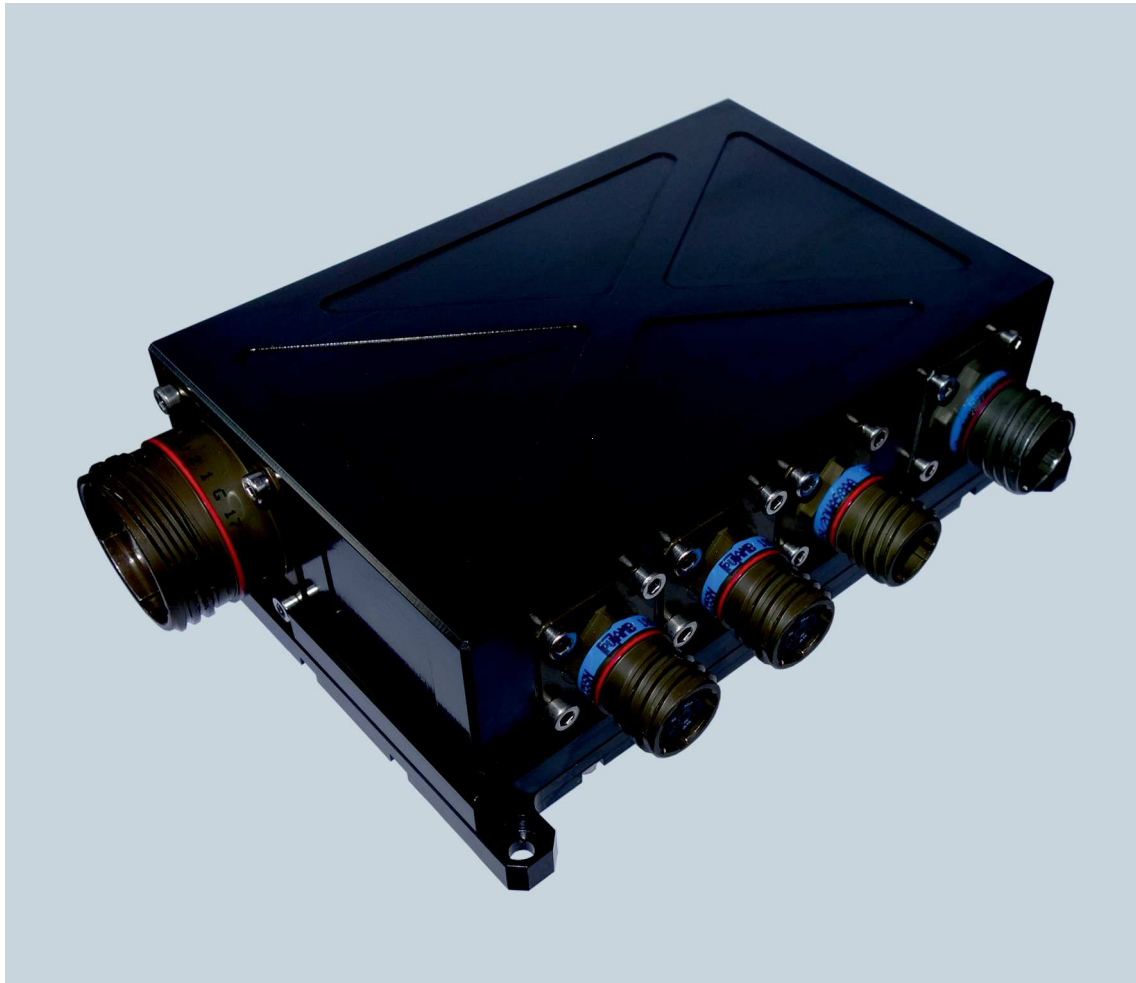


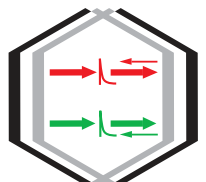
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LAWAREC GATEWAY



The LAWAREC GATEWAY is a modular system of detection and identification of radiation for protection against weapon systems with laser or radar assistance, which allows to reliably detect threats of a mobile or stationary object.



LAWAREC GATEWAY

USE AND DESCRIPTION:

The LAWAREC GATEWAY is a modular system of detection and identification of radiation for protection against weapon systems with laser or radar assistance, which allows to reliably detect threats of a mobile or stationary object. System status, information about current threats and system control panels are indicated on the display modules of the master on-board computer.

The core of the system is the LW GATEWAY control unit, which communicates with all variants of detector assemblies on the input side and with the master on-board computer on the output side. The control unit can also be connected with necessary number of ExPal modules for management of smoke grenades launchers activities.

On the input side, all types of detector modules in any combination can be connected via the neural network universal bus:

- central detection head with laser detectors
- central detection head with laser and radar detectors
- distributed BRICK detection modules with laser detectors
- distributed BRICK detection modules with laser and radar detectors
- HEXOCULUS detection modules
- module of own range finder activity detection

On the input side also the following modules can be connected to a separate neural bus:

1. ExPal modules for controlling smoke grenade launchers and monitoring of their status - each ExPal module serves a set of eight launchers
2. Information module about the current position of the turret system towards the platforma - used for calculating the current relative position of the detection system and the launcher system, if they are not on the same part of the platform (detection system

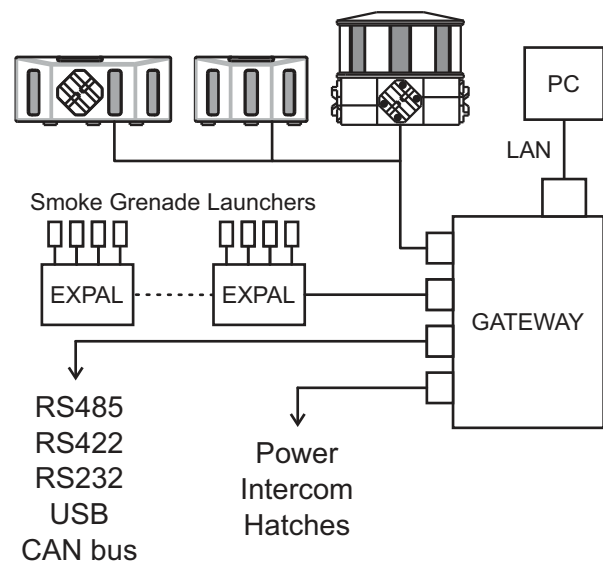
on the chassis, launchers on the turret system and vice versa), to determine the correct direction of firing of the smoke grenades

3. detection module of own range finder activity (blocking of own range finder)
4. entrance/exit hatch status - serves to ensure crew safety against unauthorized interference when getting off or on board during work with smoke grenade launchers

On the output side, the following communication interfaces are available for communication with the master computer:

- LAN (ethernet UDP protocol)
- RS485, RS422, RS232
- USB
- CAN
- phonetic sound output
- another interface may be implemented based on request and discussion.

The standard communication protocol is included. In order to ensure the customer's operational requirements, it is possible to adapt the communication protocol according to his needs.



FUNCTIONS OF THE CONTROL UNIT:

The control unit receives information from a central detection head or a chain of detection modules through a neural network, evaluates this information and provides comprehensive information to the master on-board computer about the direction and type of threat. Optionally, it also provides information about the activity of its own lasers (so-called "blocking").

The unit provides the information about the current threat also in the form of phonetic sound output to the vehicle intercom (any language mutation can be implemented).

The control unit also evaluates and provides information on the state of smoke grenade launchers and after the command from the master on-board computer, controls firing smoke grenades through ExPal modules, while monitors the closing-opening of hatches and scuttles of the military vehicle to ensure crew safety against accidental or unintentional firing of smoke grenades.

The basic functions of the control unit include:

- POST - power on self-test
- BIT – built-in test
- providing an error code in the event of a fault

The warm-up time is max. 4 seconds. Maximum number of simultaneously detectable threats equals the total number of detectors in the actually used detection modules.

The laser detector modules recognize not only the direct but also the reflected beam. The laser and radar detector modules are hermetically sealed for moisture protection and are filled with dry nitrogen to provide a protective atmosphere for the internal environment. Modules contain moisture, temperature and pressure sensors to monitor their status.

Detailed information about the detection modules and their parameters can be found at our website www.metrodat.eu.

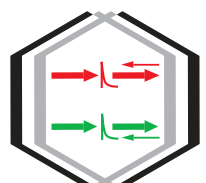
All variants of detection modules consist of various combinations of laser and radar detectors. The parameters of these detectors are as follows:

1. Laser detector:

Spectral range:	750 ÷ 1700 nm, 400 ÷ 2200nm (optional)
Sensitivity:	10 W/m ²
Repeating frequency:	40 kHz max.
Pulse width:	10 ÷ 500 ns
Recognition:	monopulse rangefinder, multipulse rangefinder, target designator, beam rider, dazzler (optional)
Operating temperature:	-30 ÷ 60°C
Angular resolution:	depends on the number and arrangement of detectors in the module and is indicated individually for each detector modules

2. Radar detector:

Spectral range:	8 ÷ 18 GHz
Minimum sensitivity:	-51 dBm
Pulse width:	100 ns min.
Repeating frequency:	10 Hz ÷ 20 kHz
Angular resolution:	90° (4 detectors for 360° covering)



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