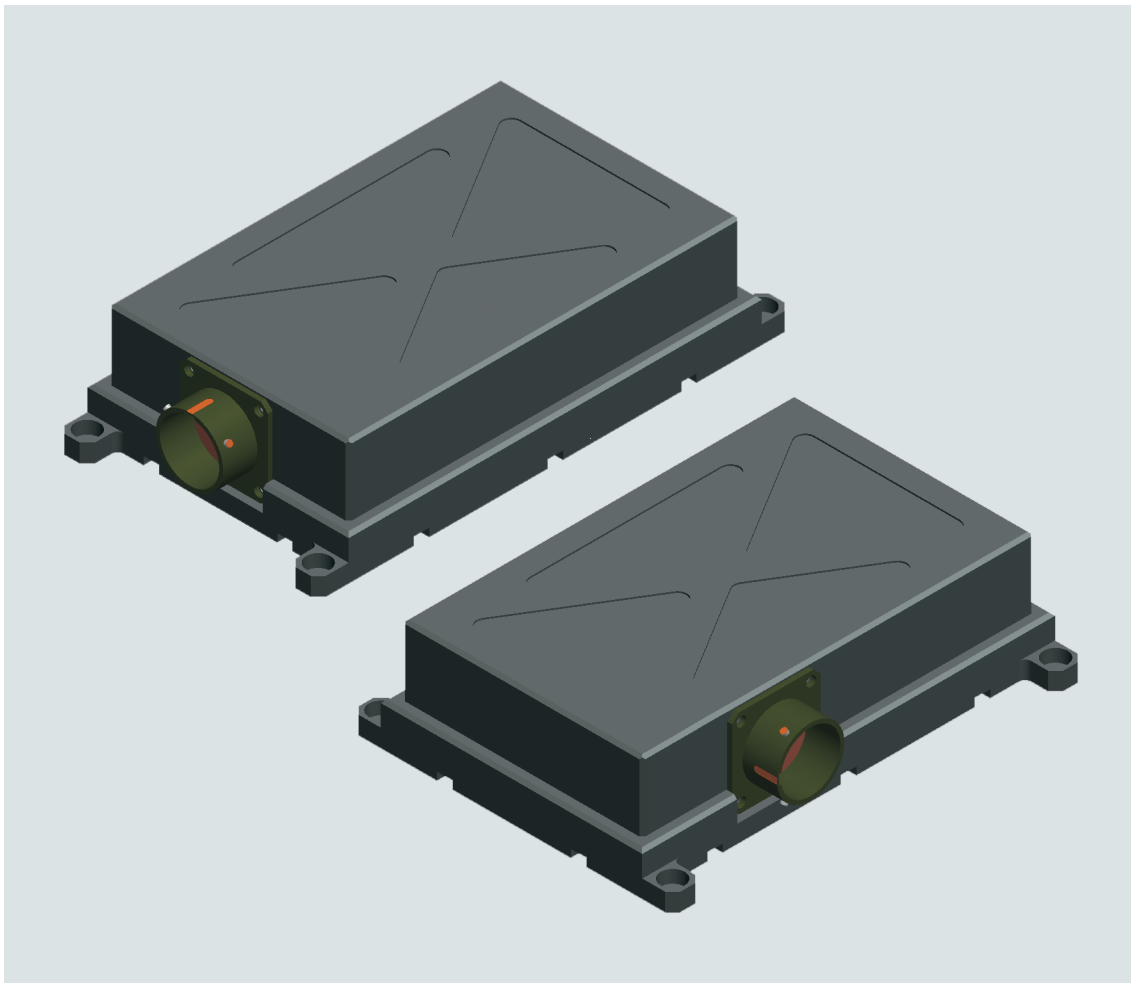
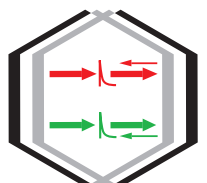


LAWAREC ExPal Module



The LAWAREC ExPal - External Smoke Grenade Launcher Controller was developed as an optional accessory for the system of detection and identification of radar and laser irradiation LAWAREC.



LAWAREC ExPal Module

USE AND DESCRIPTION:

The ExPal Module was developed as an optional accessory for the system of detection and identification of radar and laser irradiation LAWAREC.

It is designed for the applications where Control Unit and Smoke Grenade Launchers are located on the mutually moving parts of the platform. For example, Control Unit is located on the chassis and Smoke Grenades Launchers on the turret. In this case, the launchers are not connected to the control unit directly but through the module, which is located in its vicinity. Using the ExPal module greatly simplifies the implementation of the system to platforms containing stationary (chassis) and moving part (turret).

A typical example of the use is an Infantry Fighting Vehicle or Tank where the Smoke Grenade Launchers are located on the moving part (turret) and the Control Unit with the detection modules are located on the stationary part (chassis).

Without the use of the ExPal module, it is

necessary to wire the individual launchers (usually 8 pcs) through the Slip Rings, which must be rated for a minimum load current 3A. Such a solution typically represents a significant technical problem. The implementation of LAWAREC using ExPal module needs only two Slip Rings for low load current (100mA), making it considerably easier.

The ExPal module needs for its operation 24V/6A power supply (assuming that the power feed line is a standard feature of the moving part) plus one pair for the operating of module by neural network.

Simultaneously, ExPal module preserves the utmost security requirements against unwanted, uncontrolled firing of smoke grenades. The implemented system of triple securing provides the elimination of incidents (accidents of crew or operator caused by uncontrolled firing of grenades).

ExPal module can be supplied in two versions, with the trailer jack located on a narrow or

SMOKE GRENADE LAUNCHER ORIENTATION:

Smoke Grenade Launchers are connected and spatially oriented in the same way as on the Manual Launcher Selector on the Lawarec Control Panel:

LEFT SIDE

GL4
GL3
GL2
GL1

minimum deviation
from the axis

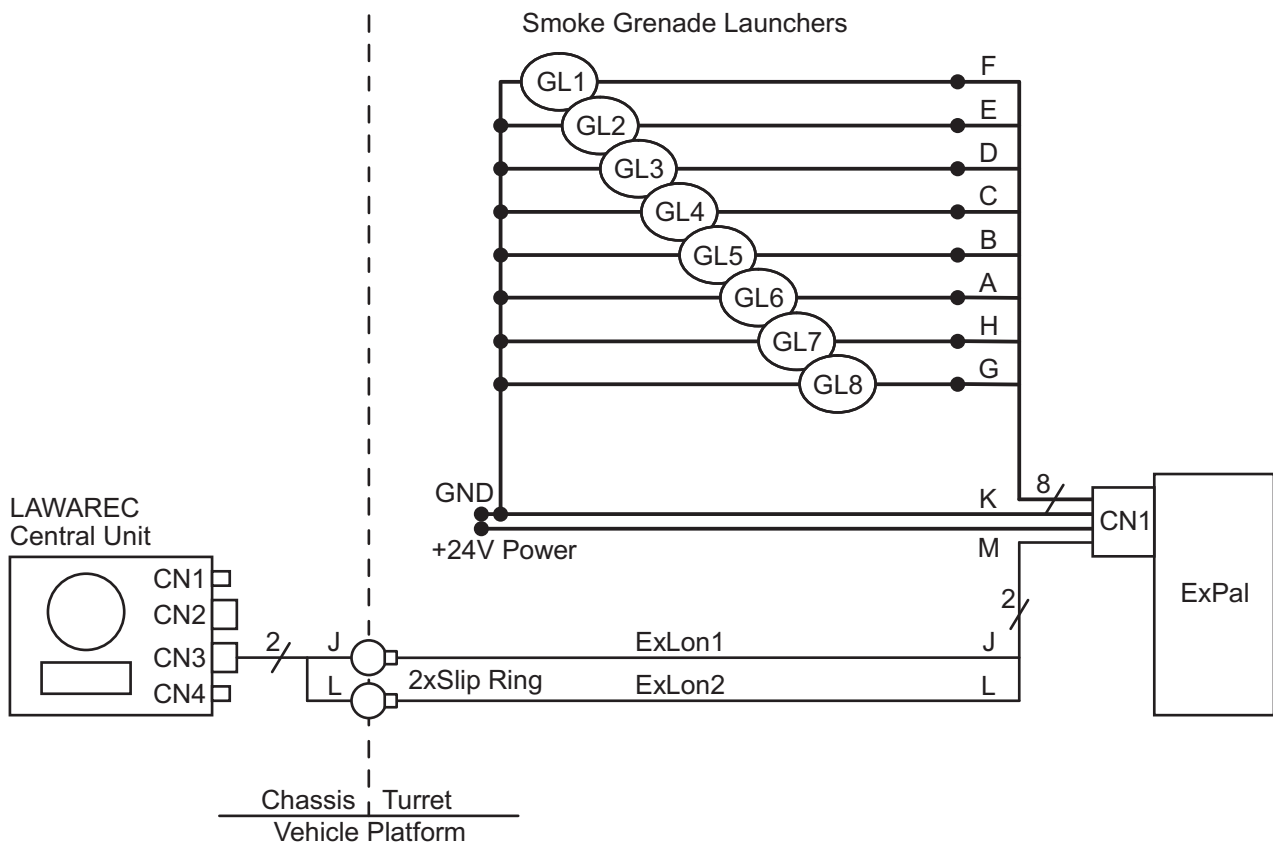
maximum deviation
from the axis

RIGHT SIDE

GL5
GL6
GL7
GL8



CONNECTION DIAGRAM:

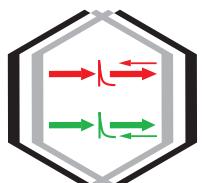


Current Load of Wires

+24V to M (CN1 ExPal)	6A max. (20ms pulse) ¹
GND to K (CN1 ExPal)	200mA max. (continuously)
GL1...GL8 to A...H (CN1 ExPal)	3A max. (50ms pulse) ²
GL1...GL8 to GND	3A max. (50ms pulse) ²
J (CN3 CentralUnit) to SlipRing (ExLon1)	100mA max (continuously)
L (CN3 CentralUnit) to SlipRing (ExLon2)	100mA max (continuously)
SlipRing to J (CN1 ExPal) (ExLon1)	100mA max (continuously)
SlipRing to L (CN1 ExPal) (ExLon2)	100mA max (continuously)

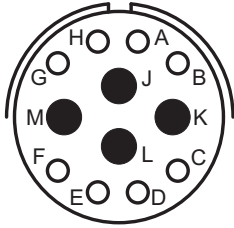
¹ While firing two or more SG. While firing one SG, the max current load is 3A/50ms. With no firing SG, the load current is 0A.

² While firing SG. With no firing SG, the load current is 0A.



LAWAREC ExPal Module

CONNECTOR CN1 PIN PATTERN

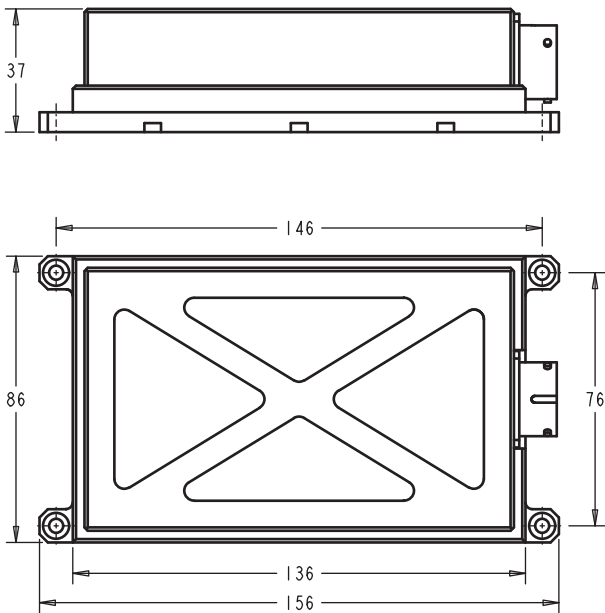


A	GL6	
B	GL5	
C	GL4	
D	GL3	
E	GL2	
F	GL1	
G	GL8	
H	GL7	
J	ExLon1	Neuron Net for control of ExPal Module
L	ExLon2	Neuron Net for control of ExPal Module
M	Power +24V	
K	GND Power Return	

Connector type:
PT02E14-12P / PT06E14-12S

BASIC DIMENSIONS:

ExPal module version with the trailer jack located on a narrow side.



ExPal module version with the trailer jack located on a broad side.

