

c4i *communication*

EXPERIENCE THE DIFFERENCE
YOUR SECURITY & SAFETY PRODUCTS



ROWS-N 20

20mm Remotely Operated Weapon Station

ROWS-N 20

REMOTELY OPERATED WEAPON STATION



Description

ROWS-N 20 is a state of the art lightweight stabilized Remote Operated Weapon Station (ROWS) that can be fitted with 14.5x114mm or 20mm automatic cannon. Primary intend to fill the gap between light 0.50 cal (12.7 mm) and heavy 30 mm remote weapon stations. It offers significantly greater firepower and range than the 12.7mm caliber without limitations of 30mm remotely operated weapon stations in mass and dimensions. ROWS 20 is system that can meet the ever demanding need for heavy stopping power operational needs of armed forces worldwide, asindeed the effect of a couple of 20 mm rounds is far more devastating on a car than a whole burst of 12.7mm.

- Light weight
- Immediate stopping power.
- Capability to destroys light armoured vehicles.

ROWS-N 20 perform multi-role tasks like surveillance, patrolling, border security, counter-terrorist and asymmetric missions. Due to its light weight and innovative design, ROWS 20 can be easily installed on the roof of all types of vesseles including very light fast patrol craft. No penetration of the hull is required. The weapons are primarily stabilized on two axis with ammunition box fitted on the mount.

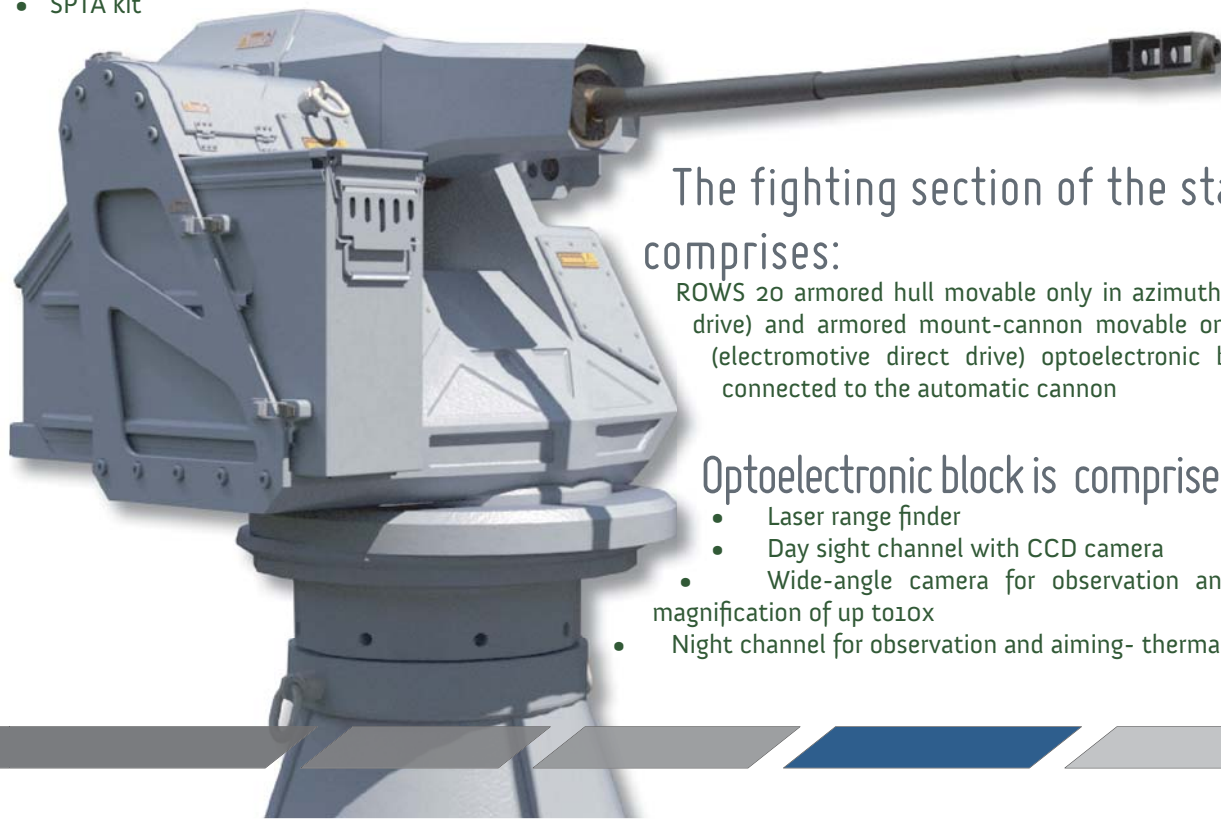
ROWS-N 20 Fire Control System (FCS) consists of a modular sighting system including a Day TV camera and uncooled camera Infra-Red (IR) (optional cooled thermal camera) for night vision, and Laser Range Finder (LRF) 10+km range.

Due to in house development of ROWS-N 20 FCS architecture provides potential for system adjustment to every customer request. Both sighting system and firing are computer assisted and operated from a protected position inside the vessel through a multi-function display and joystick. The Gunner is assisted by a Fire Control Computer (FCC) with ballistic calculation as well as video auto-tracker. Fully stabilized system provides unmatched observation and engagement capabilities. Color Daylight camera allows a wide field of view while observing, and optical magnified close-up view of the target area when identifying and engaging a long distance target.

ROWS 20 is designed to minimize power consumption in order to grant a very long mission

ROWS-N—HMG comprises of:

- 14.5x114mm or 20mm automatic cannon
- Upper carriage with Cradle and Ammunition box
- Lower carriage with vessel attachment mechanical interface
- Electrical servo drive in elevation and traverse with drive electronics and Traverse and elevation encoders
- Stabilization block
- Fire Control System
- Control panel and electronics
- Electrical equipment and slip ring
- Manual operation like backup
- Electrical and manual re-cooking
- SPTA kit

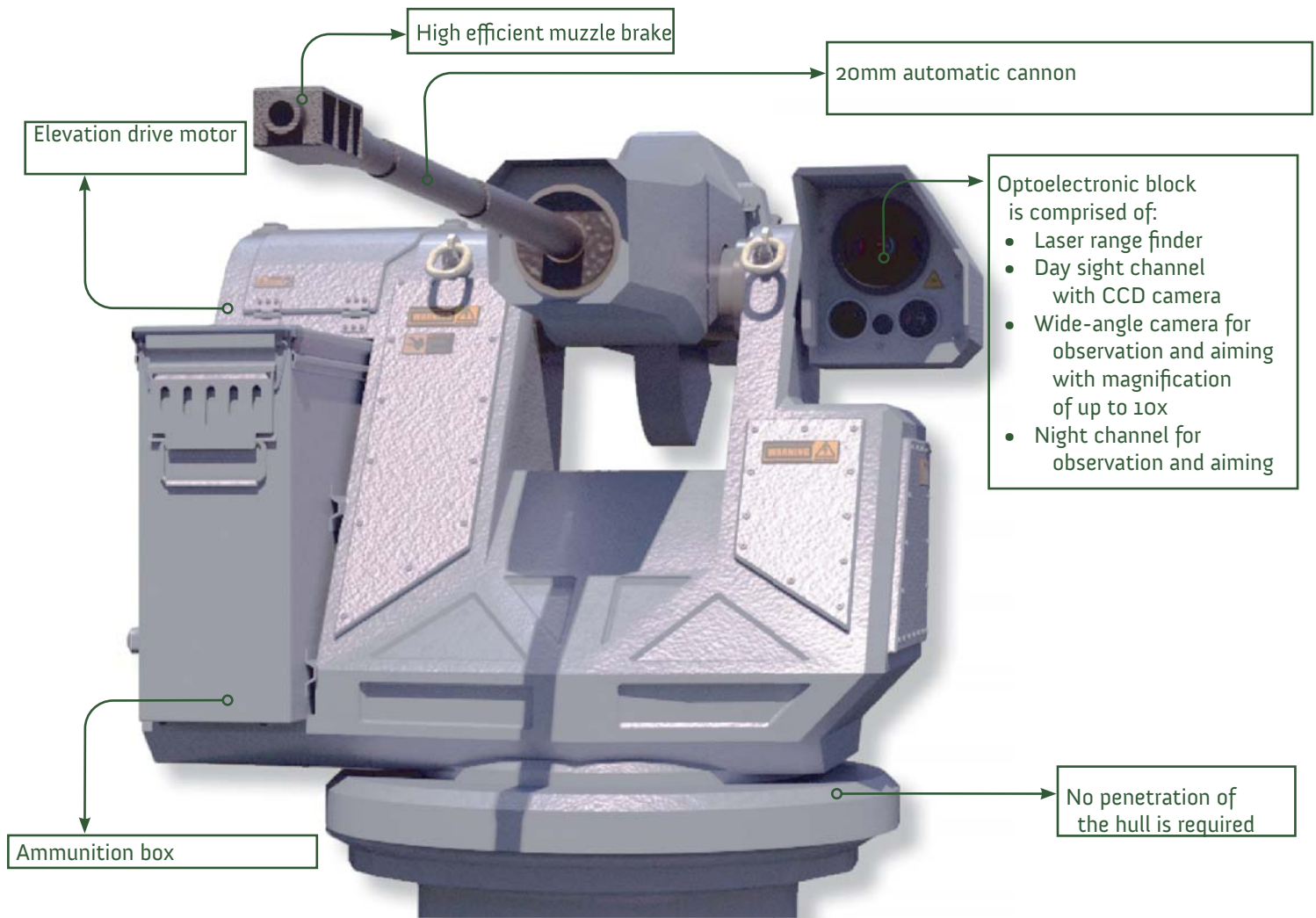


The fighting section of the station comprises:

ROWS 20 armored hull movable only in azimuth (electromotive drive) and armored mount-cannon movable only in elevation (electromotive direct drive) optoelectronic block (housing) connected to the automatic cannon

Optoelectronic block is comprised of:

- Laser range finder
- Day sight channel with CCD camera
- Wide-angle camera for observation and aiming with magnification of up to 10x
- Night channel for observation and aiming- thermal camera



Control command block is located inside the vessel and it comprises:

- Command block with controls for camera selection and video distribution
- Control sticks with joystick for moving the weapon station in elevation and azimuth.

Technical data for RCWS 20

- Type: modernized, self-contained, externally mounted
- Caliber: 20 x 110mm
- Operation mode: Gas operated, delayed blowback
- Maximum range of firing:
 - Against aerial targets: ~ 2000 m
 - Against ground targets: ~ 4000 m
 - Machine gun feeding: drum or belt
 - Rate of fire: 680 – 750 rounds/min
 - Automatic cannon weight: ~ 52kg

ROWS drive in traverse and elevation:	electrical
Azimuth field of action:	~n x 360°
Elevation field of action:	~ -7° to +60°
Size and weight	
L x W x H (mm):	~2820x1380x760
Total weight (without ammunition):	~350 kg

ROWS-HMG Upper carriage

The upper carriage is welded steel structure which : holds the cradle (with recoil compensation system) housing armament which rotates in elevation; carries opto electronic sensor block of FCS slaved to the main weapon axes on one side and ammunition box on the other . Upper carriage also integrates mechanisms for elevation and traverse as well as their corresponding encoders.

ROWS-HMG Lower carriage

Purpose of the lower carriage is to provide rotation of the upper carriage In traverse ; assembling on the vehicle hull body, and power supply and signal exchange between the ROWS and control panels and electronic boxes inside the vehicle through Slip Ring

Ammunition box with the capacity up to 350rds.

ROWS-HMG Elevation and traverse mechanisms

Mechanisms for traverse (both electrical and manual) allow movement of the ROWS in traverse in 360° and -7° to 60° in elevation.

Max angular velocity in elevation
Max angular velocity in traverse
Min angular velocity

1.5 rad/s
1.4 rad/s
<5 mrad/s



ROWS FIRE CONTROL SYSTEM

ROWS-HMG is operated from operator control console. Weapon control, sighting and firing remote via joystick and computer with fire control system software

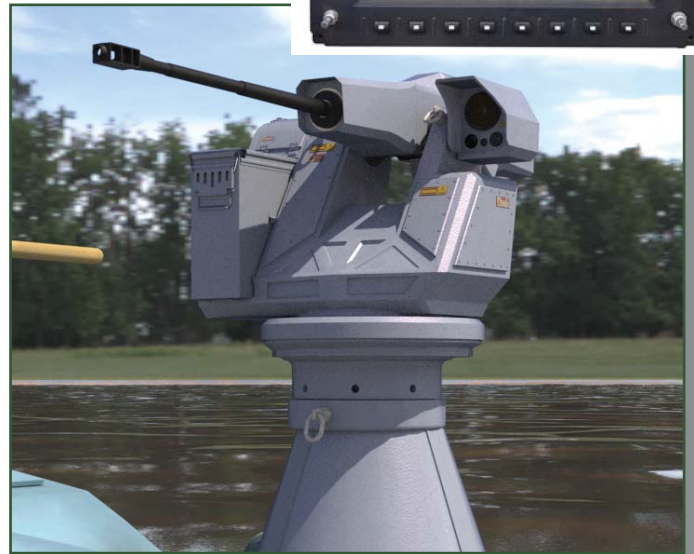
Day channel technical characteristics

- 26x Optical, 12x Digital Zoom Lens
- 1/4" Super HAD CCD
- Lens : 26x Zoom, f=3.5mm (wide) to 91.0 mm (tele), F1.6 to F3.8
- Angle of View (H) : 42 degree (wide) to 1.7 degree (tele)
- Auto/Manual Gain & Focus
- Image Stabilization



Night channel technical characteristics

- Wave length 8-12 μm
- Wide field of view (WFOV) 20.6°x16.5°
- Narrow field of view (NFOV) 4.2°x3.3°
- Detector 640x512 17μm
- Average Transmission (8 ~12m)~80% (DLC)
- Reticle standard NATO, rectification, alpha numerical
- Focus Mechanism continues zoom
- Focus Range (WFOV) 30mm-4m ~ 00
(NFOV) 150mm-10m ~00



Laser channel technical characteristics

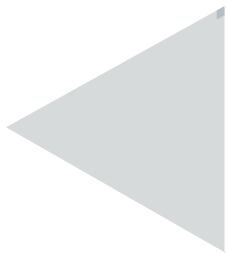
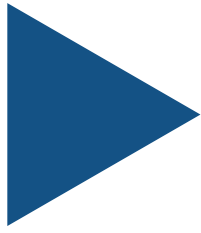
Range 10000m
Type: eye safe
Wavelength: 905 or 1540nm

ROWS - HMG Stabilization block

In order to provide comfortable surveillance, target acquisition and required hit probability, on the move a 2 axes stabilization is provided (traverse and elevation). In order to achieve this requirement the ROWS is equipped with:

- Gyro block – three axes,
- Additional Control electronics,





LEARN MORE: c4icommunication.com

FOR MORE INFORMATION: contact@c4icommunication.com or +1 (302)9811340