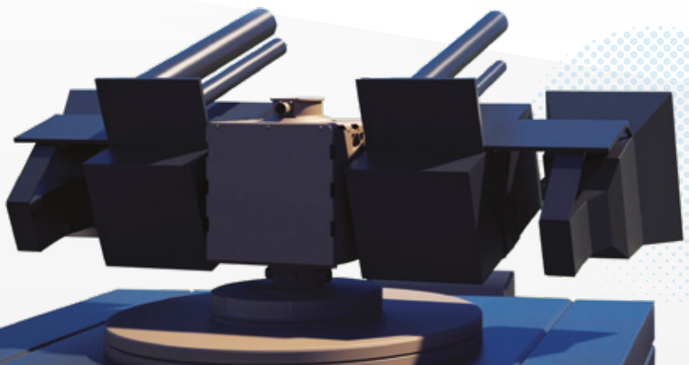
PRODUCT CATALOGUE

roketsan


roketsan
PRODUCT CATALOGUE
roketsan
roketsan
roketsan

CONTENTS



LAND SYSTEMS

ARTILLERY ROCKETS

TRG-122 GUIDED ROCKET

TRLG-122 LASER GUIDED MISSILE

TRG-230 GUIDED MISSILE

TRLG-230 LASER GUIDED MISSILE

TRG-300 GUIDED MISSILE

KHAN MISSILE

T-107/122 MULTI BARREL ROCKET LAUNCHER [MBRL] SYSTEM

MULTI BARREL ROCKET LAUNCHER

105/155 MM HOWITZER RANGE CORRECTION KIT

01

ARTILLERY ROCKETS

TR-107 Rocket

TR/TRB-122 Rocket

ROKETSAN Artillery Rockets provide fire power to maneuvering forces, with minimum dispersion and maximum warhead effectiveness on targets between the ranges of 3-40 km.

TECHNICAL SPECIFICATIONS OF TR-107	
Diameter	107 mm
Weight	20 kg
Minimum Range	3 km [at Sea Level]
Maximum Range	11 km [at Sea Level]
Propellant Type	Reduced Smoke Composite Solid
Warhead Type	High Explosive + Fragmentation
Warhead Weight	8,4 kg
Warhead Effectiveness Radius	≥ 14 m
Fuze Type	Point Detonating

TECHNICAL SPECIFICATIONS OF TR-122	
Diameter	122 mm
Weight	66 kg
Minimum Range	16 km [at Sea Level] 21 km [at 600 m ASL*] 10 km [with Drag Ring]
Maximum Range	36 km [at Sea Level] 40 km [at 600 m ASL*]
Propellant Type	Composite Solid
Warhead Type	High Explosive + Fragmentation
Warhead Weight	18,4 kg
Warhead Effectiveness Radius	≥ 20 m
Fuze Type	Point Detonating

POD

The pod, provides easy load & fire capability to launcher, and rocket can be stored and transported in it. A Sealed Pod contains 20 pcs. ready to fire rockets / 12 pcs. guided rockets

It Provides Advantages Such As:
Protection against Adverse Weather and Environmental Conditions
Extended Shelf Life
Easy Transportation
Fast and Easy Loading and Unloading
Quick Reaction Time
Maintenance Free
Built-In Test Capability

TECHNICAL SPECIFICATIONS OF TRB-122	
Diameter	122 mm
Weight	66 kg
Minimum Range	16 km [at Sea Level] 21 km [at 600 m ASL*] 10 km [with Drag Ring]
Maximum Range	36 km [at Sea Level] 40 km [at 600 m ASL*]
Propellant Type	Composite Solid
Warhead Type	High Explosive + Steel Ball
Warhead Weight	18 kg
Warhead Effectiveness Radius	≥ 40 m
Fuze Type	Point Detonating and Proximity

***ASL** Above Sea Level

TRG-122
GUIDED ROCKET

The 122 mm TRG-122 Guided Rocket provides accurate and effective fire power on high priority targets within the ranges of 13-30 km.

SYSTEM SPECIFICATIONS

24/7 All Weather/Terrain Usage Capability
Ready to Fire in a Very Short Time
Highly Accurate
Low Collateral Damage
Precision Strike Capability
Simple and Fast Use

POTENTIAL TARGETS

Targets Located with High Accuracy
Artillery and Air Defence Systems
Radar Sites
Assembly Areas
Logistic Facilities
C3 Facilities
Other High Priority Targets

TECHNICAL SPECIFICATIONS

Diameter	122 mm
Weight	76 kg
Range	13-30 km
Guidance	GPS*+GLONASS** Aided INS***
Control	Aerodynamic Control with an Electromechanical Actuation System
Propellant Type	Composite Solid
Warhead Type	High Explosive + Steel Ball
Warhead Weight	13.5 kg
Warhead Effectiveness Radius	≥ 40 m
Fuze Type	Point Detonating and Proximity
Accuracy [CEP**]**	≤ 20 m

***GPS** Global Positioning System

****GLONASS** Global Navigation Satellite System

*****INS** Inertial Navigation System

******CEP** Circular Error Probability

TRLG-122
LASER GUIDED MISSILE

SYSTEM SPECIFICATIONS

Ready to Fire in a Short Time
Pin Point Accuracy
Low Collateral Damage
Precision Strike Capability
Pod Structure for Transportation, Storage and Firing

POTENTIAL TARGETS

Artillery and Air Defence Systems
Radar Sites
Assembly Areas
Logistic Facilities
C3 Facilities
Other High Priority Targets

122 mm **TRLG-122 Missile** provides accurate and effective fire power on high priority targets within the ranges 13 - 30 km.

TECHNICAL SPECIFICATIONS

Diameter	122 mm
Weight	76 kg
Range	13 - 30 km
Guidance	INS* + LASER SEEKER**
Control	Aerodynamic Control with Electromechanical Actuation System
Propellant Type	Composite Solid
Warhead Type	HE*** + Steel Ball
Warhead Weight	13.5 kg
Warhead Effective Radius	≥ 40 m
Fuze Type	Point Detonating and Proximity
Shelf Life	10 years
Accuracy	≤ 2 m

***INS**	Inertial Navigation System
****LASER SEEKER**	[Compatible with Stanag 3733]
*****HE**	High Explosive

TRG-230
GUIDED MISSILE

The TRG-230 Missile provides accurate and effective fire power against high priority targets within the ranges of 20-70 km.

TRG-230 Missile can be launched from ROKETSAN Multi-Barrel Rocket Launcher [MBRL] and other platforms with compatible interfaces.

POTENTIAL TARGETS

Targets Located with High Accuracy
Artillery and Air Defence Systems
Radar Sites
Assembly Areas
Logistic Facilities
C3 Facilities
Other High Priority Targets

SYSTEM SPECIFICATIONS

24/7 All Weather/Terrain Usage Capability
Ready to Fire in a Very Short Time
Highly Accurate
Low Collateral Damage
Precision Strike Capability
Pod Structure for Transportation, Storage

TECHNICAL SPECIFICATIONS

Diameter	230 mm
Weight	215 kg
Range	20-70 km
Guidance	GPS*+GLONASS** Aided INS***
Control	Aerodynamic Control with an Electromechanical Actuation System
Propellant Type	Composite Solid
Warhead Type	High Explosive + Steel Ball
Warhead Weight	42 kg
Warhead Effectiveness Radius	≥ 55 m
Fuze Type	Point Detonating and Proximity
Accuracy [CEP**]**	≤ 10 m

***GPS**	Global Positioning System
****GLONASS**	Global Navigation Satellite System
*****INS**	Inertial Navigation System
******CEP**	Circular Error Probability

TRLG-230
LASER GUIDED MISSILE

TRLG-230 Missile provides accurate and effective fire power on high priority targets within the ranges 20 - 70 km.

SYSTEM SPECIFICATIONS

- Combat Proven
- Ready to Fire in a Short Time
- Pin Point Accuracy
- Low Collateral Damage
- Precision Strike Capability
- Pod Structure for Transportation, Storage and Firing
- Other High Priority Targets

POTENTIAL TARGETS

- Artillery and Air Defence Systems
- Radar Sites
- Assembly Areas
- Logistic Facilities
- C3 Facilities

TRLG-230 Missile can be launched from ROKETSAN MCL [Multi-Caliber Launcher] Artillery Weapon System and other platforms with compatible interfaces.

TECHNICAL SPECIFICATIONS

Diameter	230 mm
Weight	210 kg
Range	20 - 70 km
Guidance	GPS* + GLONASS** Aided INS*** + LASER SEEKER****
Control	Aerodynamic Control with Electromechanical Actuation System
Propellant Type	Composite Solid
Warhead Type	HE*****+ Steel Ball
Warhead Weight	42 kg
Warhead Effective Radius	≥ 55 m
Fuze Type	Point Detonating and Proximity [Optional]
Shelf Life	10 years
Accuracy	≤ 2 m

***GPS**	Global Positioning System
****GLONASS**	Global Navigation Satellite System
*****INS**	Inertial Navigation System
****** LASER SEEKER**	Compatible with Stanag 3733
*******HE**	High Explosive

TRG-300
GUIDED MISSILE

TRG-300 Guided Missile Missile provides accurate and effective fire power on high priority targets within the ranges 20 - 120 km.

TRG-300 Guided Missile can be launched from ROKETSAN Multi Barrel Rocket Launcher [MBRL] Weapon System and other platforms with compatible interfaces.

SYSTEM SPECIFICATIONS

Combat Proven
7/24 All Weather/Terrain Usage
Ready to Fire in a Short Time
Highly Accurate
Low Collateral Damage
Long Range Precision Strike Capability
Anti-Jamming and Anti-Spoofing Solutions

POTENTIAL TARGETS

Targets Located with High Accuracy
Artillery and Air Defence Systems
Radar Sites
Assembly Areas
Logistic Facilities
C3 Facilities
Other High Priority Targets

BLOCK-II TECHNICAL SPECIFICATIONS	
Diameter	300 mm
Weight	660 kg
Range	20 - 90 km
Guidance	GPS* + GLONASS** Aided INS*** with Anti Jamming Capability
Control	Aerodynamic Control with Electromechanical Actuation System
Propellant Type	Composite Solid
Warhead Type	HE****+ Steel Ball
Warhead Weight	180 kg
Warhead Effective Radius	≥ 80 m
Fuze Type	Point Detonating and Proximity
Accuracy [CEP]	≤ 10 m

BLOCK-III TECHNICAL SPECIFICATIONS	
Diameter	300 mm
Weight	585 kg
Range	30 - 120 km
Guidance	GPS** + GLONASS*** Aided INS**** with Anti Jamming Capability
Control	Aerodynamic Control with Electromechanical Actuation System
Propellant Type	Composite Solid
Warhead Type	HE*****+ Steel Ball
Warhead Weight	105 kg
Warhead Effective Radius	≥ 70 m
Fuze Type	Point Detonating and Proximity
Accuracy [CEP]	≤ 10 m

***GPS**	Global Positioning System
****GLONASS**	Global Navigation Satellite System
*****INS**	Inertial Navigation System
******HE**	High Explosive

KHAN MISSILE

The KHAN Missile , provides accurate and effective fire power on strategic targets in the battlefield.

The missile can be launched from an 8x8 Multi-Barrel Rocket Launcher [MBRL]. In accordance with the customer's requirements, it can also be launched from other tactical wheeled vehicle platforms with integration-compatible interfaces.

SYSTEM SPECIFICATIONS

Combat Proven
24/7 All Weather/Terrain Usage Capability
Ready to Fire in a Short Time
Highly Accurate
Low Collateral Damage
Anti-Jamming/Anti-Spoofing Solutions

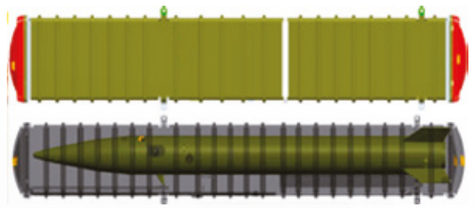
POTENTIAL TARGETS

Targets Located with High Accuracy
Artillery and Air Defence Systems
Radar Sites
Assembly Areas
Logistic Facilities
C3 Facilities
Other High Priority Targets

TECHNICAL SPECIFICATIONS

Diameter	610 mm
Weight	2.500 kg
Range	80 - 280 km
Guidance	GPS*+GLONASS** Aided INS***
Control	Aerodynamic Control with Electromechanical Actuation System
Propellant Type	Composite Solid
Warhead Type	High Explosive
Warhead Weight	470 kg
Fuze Type	Point Detonating and Proximity
Accuracy [CEP**]**	≤ 10 m

***GPS**	Global Positioning System
****GLONASS**	Global Navigation Satellite System
*****INS**	Inertial Navigation System
******CEP**	Circular Error Probability



Missile In Canister

T-107/122
MULTI BARREL ROCKET LAUNCHER [MBRL] SYSTEM

T-107/122 Multi Barrel Rocket Launcher [MBRL] System; is a weapon system that provides concentrated and effective fire support to maneuvering forces against high priority targets in all weather and terrain conditions during the day and night.

A T-107/122 MBRL Battery, is capable of carrying out independent missions with its mission support vehicles.

A T-107/122 Battery is composed of 1 x C-107/122 Command & Control Vehicle, 6 x T-107/122 Launchers, 6 x L-107/122 Ammunition Supply Vehicles, 1 x M-107/122 Meteorology Vehicle and 1 x R-107/122 Maintenance and Repair Vehicle. The number and type of vehicles can be customized according to the customer's requirements.

SYSTEM SPECIFICATIONS

- Onboard Crane for Ammunition Supply
- Automatic Aiming
- Wired/Wireless - Voice/Data Communication System
- Hydraulic Stabilization System
- Integrated Ground Meteorology System
- Cabin Pressurization System [Optional]
- Power Supply and Distribution System
- Inside Cabin or Remote Firing Capability
- Ready to Fire within 5 Minutes
- Ballistic Protection [Optional]
- Capability of Firing at a Negative Elevation

T-107/122 MBRL BATTERY ORGANIZATION

The Command & Control System and Weapon Management System of the battery can be integrated with modern fire support automation [tactical fire direction system] and battlefield command-control and management systems. Target acquisition devices such as target acquisition radars and unmanned aerial vehicles provide information on the target to the system.

TECHNICAL SPECIFICATIONS

Diameter	107 mm and 122 mm
Range	3 - 40 km
Number of Tubes	3x20 TR-107 1x20 TR-122, TRB-122, 1x12 TRG-122, TRLG-122
Salvo Interval	0,5 ~ 2 sec.
Vehicle	4x4 or 6x6 Tactical Wheeled Vehicle
Aiming	Automatic Manual [Back-Up]
Stabilization	4 Hydraulic Legs
Navigation System	INS*+GPS**

***INS** Inertial Navigation System

****GPS** Global Positioning System

MULTI BARREL ROCKET LAUNCHER

Multi-Barrel Rocket Launcher

Multi-Barrel Rocket Launcher [MBRL], is capable of providing precise fire on critical targets between the ranges of 10-280 km.

The MBRL is a highly maneuverable fire support system that can fire TR-122 & TRB-122 Unguided Rockets, TRG-122, TRLG-122, TRG-230, TRLG-230, TRG-300 and KHAN Missiles.

A MBRL battery is composed of a Command & Control Vehicle, Launching Vehicles, Ammunition Supply Vehicles, a Meteorology Vehicle and a Maintenance & Repair Vehicle, as well as other mission vehicles that are needed.

SYSTEM SPECIFICATIONS

Steel or Composite Pods
Automatic Aiming
Wired/Wireless - Voice / Data Communication System
Hydraulic Stabilization System
Integrated Ground Meteorology System
Cabin Pressurization System [Optional]
Power Supply and Distribution System
Inside Cabin and Remote Firing Capability
Ready to Fire within 5 Minutes
Ballistic Protection [Optional]

TECHNICAL SPECIFICATIONS

Diameter	122 mm, 230 mm, 300 mm ve 610 mm
Range	10 - 280 km
Number of Tubes	2 x 20 TR-122, TRB-122, 2 x 12 TRG-122, TRLG-122, 2 x 6 TRG-230, TRLG-230, 2 x 2 TRG-300, 1 x KHAN
Salvo Interval	0,5 ~ 15 sec.
Vehicle	6x6 or 8x8 Tactical Wheeled Vehicle
Aiming	Automatic Manual [Back-Up]
Stabilization	4 Hydraulic Legs
Navigation System	INS*+GPS**

***INS** Inertial Navigation System

****GPS** Global Positioning System

BATTERY ORGANIZATION THE COMMAND & CONTROL AND WEAPON

Management System of the battery can be integrated with modern fire support automation [tactical fire direction system] and battlefield command-control and management systems. Target acquisition radars or unmanned aerial vehicles supply target information to the battery.

105/155 MM HOWITZER RANGE CORRECTION KIT

105/155 mm Howitzer Ammunition Range Correction Kit [MDK] is a guidance kit that can be used instead of the standard fuzes of unguided artillery ammunition, reducing the range probable error to 50 m.

SYSTEM SPECIFICATIONS

Elliminating the Muzzle Velocity Update and Lot Management
No Need for Additional Specialized Personnel
Electronic Counter-Counter Measures Capability
GNSS Free

ADVANTAGES

Low Cost and Increased Impact with Less Ammunition Use
High Benefit in Accuracy and Operational Flexibility for 105 and 155 mm Howitzer Ammunition
Low Collateral Damage

TECHNICIAL SPECIFICATIONS

Caliber	105 - 155 mm
Probable Error	< 50 m [Independent of Range]
On Front Safety Distance	> 65 m
Operating Temperature	-32 and +50 °C
Storage Temperature	-33 and +63 °C
Compatible Munitions	M107, MOD274 and Other 105/155 mm Howitzer Ammunition

NAVAL SYSTEMS

ATMACA ANTI-SHIP MISSILE

AKYA NEXT-GENERATION HEAVY-CLASS TORPEDO

ORKA NEXT-GENERATION LIGHTWEIGHT TORPEDO

ANTI-SUBMARINE WARFARE [ASW] ROCKET AND LAUNCHER SYSTEM

02

NAVAL SYSTEMS

ATMACA
ANTI-SHIP MISSILE

Developed to meet the operational needs of surface warfare, **ATMACA** is a high-precision anti-ship missile that can be integrated into assault boats, frigates and corvettes.

SYSTEM SPECIFICATIONS

Autonomous
Long range
Low Radar Cross Section
High Precision
Operable in All Weather Conditions
Resistant to Countermeasures
Target Update, Re-Attack and Mission Abort Capability via Data Link
3D Mission Planning
Time on Target [ToT], Designated Time on Target [DToT], Simultaneous Time on Target [SToT], Ripple [Salvo] Fire
Engagement against Land and Surface Targets from Surface and Underwater Platforms
Re-Attack Mode
Engagement against Land and Surface Targets from Surface and Underwater Platforms

TECHNICAL SPECIFICATIONS

Length	4.3–5.2 m
Weight	< 750 kg
Range	> 220 km
Guidance	INS* + GPS** + Barometric Altimeter + Radar Altimeter
Warhead	High Explosive Fragmentation Effective Penetration
Warhead Weight	220 kg
Seeker	Active RF

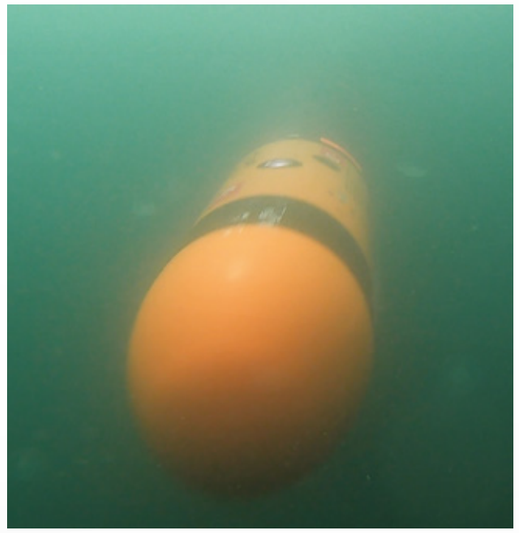
***INS** Inertial Navigation System

****GPS** Global Positioning System

NAVAL SYSTEMS

AKYA
HEAVYWEIGHT TORPEDO

AKYA is a fully indigenous design, new generation Heavyweight Torpedo launched from submarines to engage submarines and surface targets of various types. AKYA is a high speed, long range, fully autonomous or fibre optic wire guided torpedo with active/passive sonar homing head, In addition, AKYA employs wake homing guidance for surface targets.

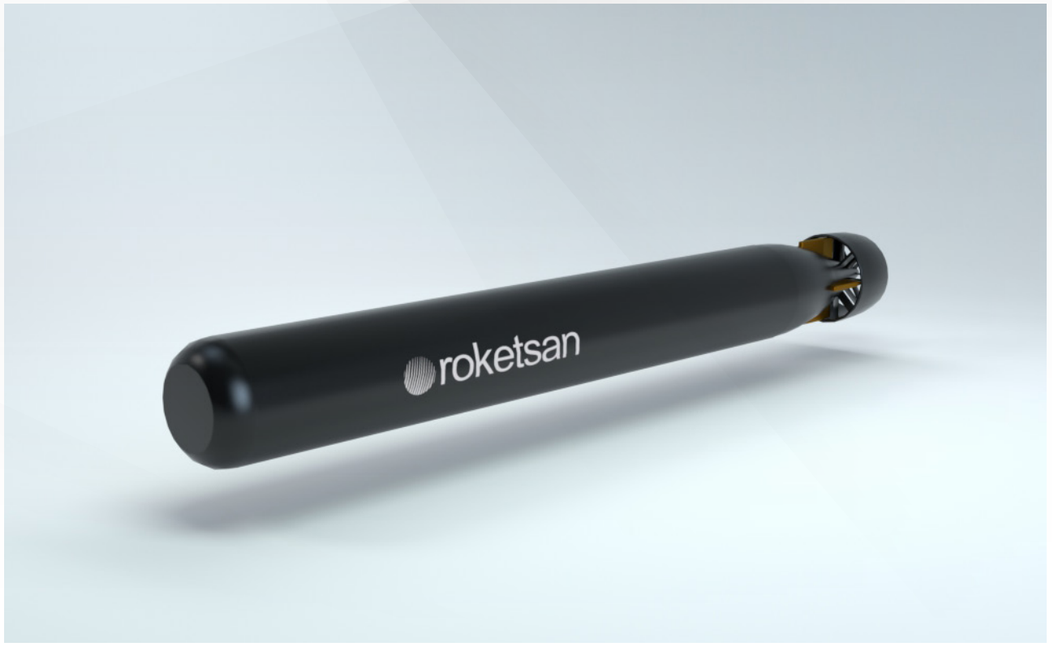


TECHNICAL SPECIFICATIONS	
Range	50+ km
Speed	45+ knots
Targets	Submarines, Surface Targets
Guidance	Active/Passive Sonar Head with Acoustic Counter-Countermeasure Capability and Wake Guidance
Guidance Mode	Self Guidance Onboard Guidance Via Fibreoptic Cable
Fuze	Proximity / Impact
Warhead	Insensitive Warhead with Underwater Shock Effect
Launch Type	Swim - Out
Propulsion System	Brushless DC Electrical Motor + Counter - Rotating Propeller System
Battery	High-Energy Chemical Battery

ORKA
NEXT-GENERATION LIGHTWEIGHT TORPEDO

ORKA is a fully indigenous, new generation Lightweight Torpedo capable of being launched from surface ships and air vehicles to engage submarines of various types.

ORKA is a high speed, fully autonomous torpedo with active/passive sonar homing head.



TECHNICAL SPECIFICATIONS	
Range	25+ Kilometres
Speed	45+ knots
Targets	Submarines
Launcher Platforms	Surface Platforms, Helicopters, Maritime Patrol Aircraft, Armoured Unmanned Aerial Vehicles
Guidance	Active/Passive Sonar Head with Acoustic Counter-Countemeasure Capabilities
Guidance Mode	Self Guidance
Fuze	Impact
Warhead	Shaped Charged Insensitive Warhead
Launch Type	Push - Out
Propulsion System	Brushless DC Electrical Motor + Pumpjet Propeller System
Battery	High-Energy Lithium Battery

ANTI-SUBMARINE WARFARE [ASW] ROCKET AND LAUNCHER SYSTEM

Anti-Submarine Warfare [ASW] Rocket and Launcher System; is developed to be deployed on new type patrol boats in order to engage undersea targets within a range of 500-2,000 m and a depth of 15-300 m and it has an automatic laying system that works in tandem with the vessel's weapon management system and sonar.

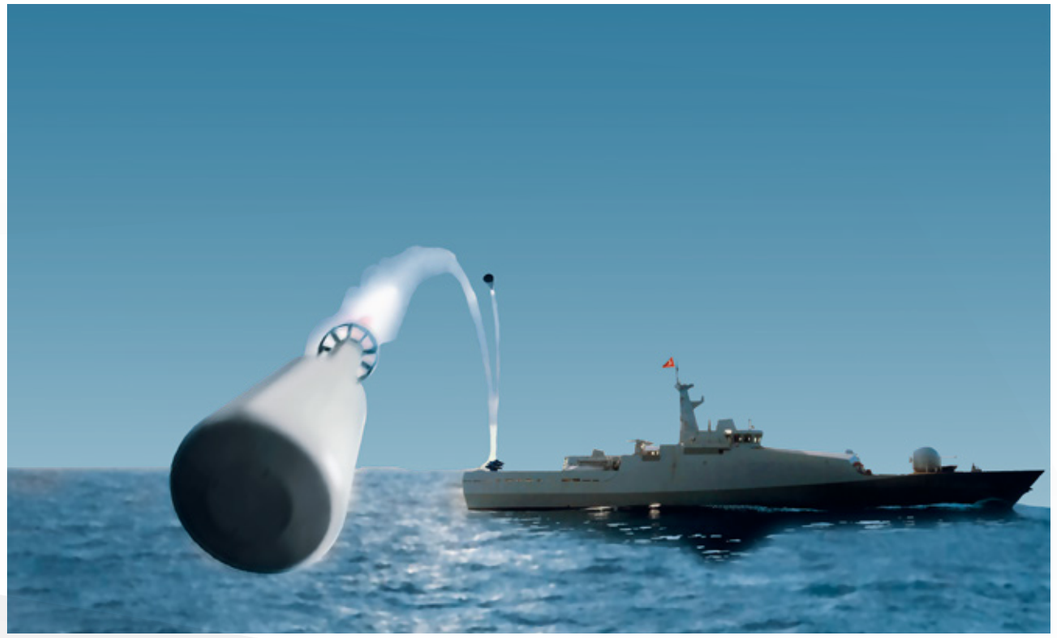
The system can generate single or salvo fire against its targets, while its setting fuze allows the rockets to be detonated at the desired depth.

The ASW Rocket, with its high explosive warhead, also has an insensitive ammunition feature.

The firing system is capable of stabilization, and automatically and manually laying.

The Fire Control System utilizes the navigation and target information provided by the vessel and calculates the necessary firing data.

TECHNICAL SPECIFICATIONS	
Diameter	196 mm
Weight [Rocket]	35,5 kg
Weight [Explosive]	12 kg
Weight of Launcher	1.200 kg
Length [Rocket]	1,3 m
Range	500-2.000 m
Depth of Detonation	15-300 m
Warhead Type	High Explosive
Fuze Type	Time Setting [Automatic Depth Setting by Fire Control Computer]
Salvo Interval	0.8 sec
Propellant Type	Reduced Smoke Composite Propellant
Launcher System	Stabilized, Automatic Launcher Laying Using Sonar Data
Launcher System Rocket	6
Launcher Laying	Automatic Manual [Back-Up]



AIR DEFENCE SYSTEMS

SUNGUR AIR DEFENCE MISSILES

HİSAR AIR DEFENCE MISSILES

ALKA NEW [NETWORK ENABLED WEAPON]

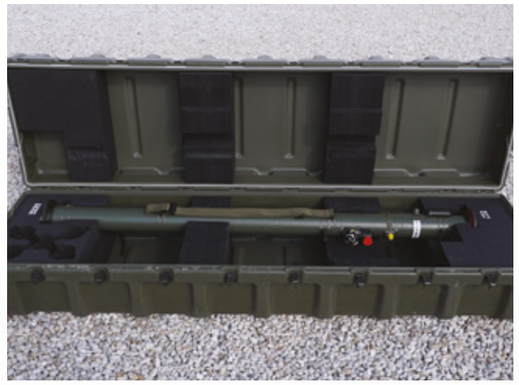
SUNGUR
AIR DEFENCE MISSILE SYSTEM

SUNGUR Air Defence Missile System has been developed for the short-range air defence of moving/ stationary troops and facilities located in the battlefield and its surroundings.

SUNGUR Air Defence Missile System has been developed to be compatible with different platform integrations.

SYSTEM SPECIFICATIONS

- Longest Range in its Class
- Lock-on before Launch via Imagining Infrared Seeker
- High-Explosive Partial Piercing Warhead and Direct Attack
- Minimum Flight Time
- Platform Integration
- User Friendly Solution with a Viewing and Tracking Screen [Seeker, Thermal Target Footage]
- Easy Target Acquisition and Launch through Voice and Symbology Instructions
- Asymmetric Battle Capability
- Integrated with Air Defence Early Warning Command and Control System [HERIKKS-6]
- Identification Friend or Foe [IFF] Equipment [Upgradeable - Mechanical Connection]



TECHNICAL SPECIFICATIONS

Performance	
Maximum Range	8 km
Minimum Range	500 m
Altitude	Up to 4 km [Sea Level]
Types Of Targets	Fixed-Wing Aircraft Unmanned Rotary-Wing Aircraft [UAV]
Operation Mode	Lock-On Before Launch [Fire-And-Forget]

Seeker

- Lock-on Before Launch
- Resistant to Countermeasures
- Automatic Target Tracking
- ±40 Degree Visual Angle

Warhead

- High Explosive, Semi Armor Piercing Warhead , Initiated By Programmable Impact Fuze
- [Insensitive Munition, Type 4, Fuel Fire & Bullet Attack]

Engine	
Launch Engine	Separation in The Launch Tube [Insensitive Munition, Type 4, Fuel Fire and Bullet Impact]
Flight Engine	Two-Stage Solid Propellant Rocket [Insensitive Munition, Type 4, Fuel Fire and Bullet Impact]

Guidance And Control

- Terminal Guidance via IIR [Imaging Infra-Red]
- High Manoeuvrability and Rapid Performance Capability

LAUNCH PLATFORMS	
Platform Types	Land and Naval Platforms and Unmanned Aerial Vehicles

HİSAR
AIR DEFENCE MISSILES

HİSAR Air Defence Missiles are used for the protection of military bases, ports, facilities and troops against attacks from rotary- and fixed-wing aircraft, cruise missiles, air-to-ground missiles and unmanned aerial vehicles [UAV].

HİSAR-A and HİSAR-O have a modular structure as part of a family concept, and are designed to be compatible with different platforms, fire control, and command control infrastructures.

SYSTEM SPECIFICATIONS

- Vertical Launch Capability with 360° Effectiveness
- Dual-Stage Rocket Motor
- Multi-platform Integration Interface
- Thrust Vector Control System
- Impact and Proximity Fuze
- Common Canister and Umbilical Connection
- Interface for HİSAR-A and HİSAR-O

TECHNICAL SPECIFICATIONS OF HİSAR-A [LOW ALTITUDE]

Interception Range	10+ km
Warhead Type	High Explosive Blast Fragmentation
Guidance	INS* IIR** One-Way Data Link
Engine	Dual-Pulse Solid Propellant
Types of Targets	Fixed-Wing Aircraft Rotary-Wing Aircraft Cruise Missiles UAVs Air-to-Ground Missiles

TECHNICAL SPECIFICATIONS OF HİSAR-O [MEDIUM ALTITUDE]

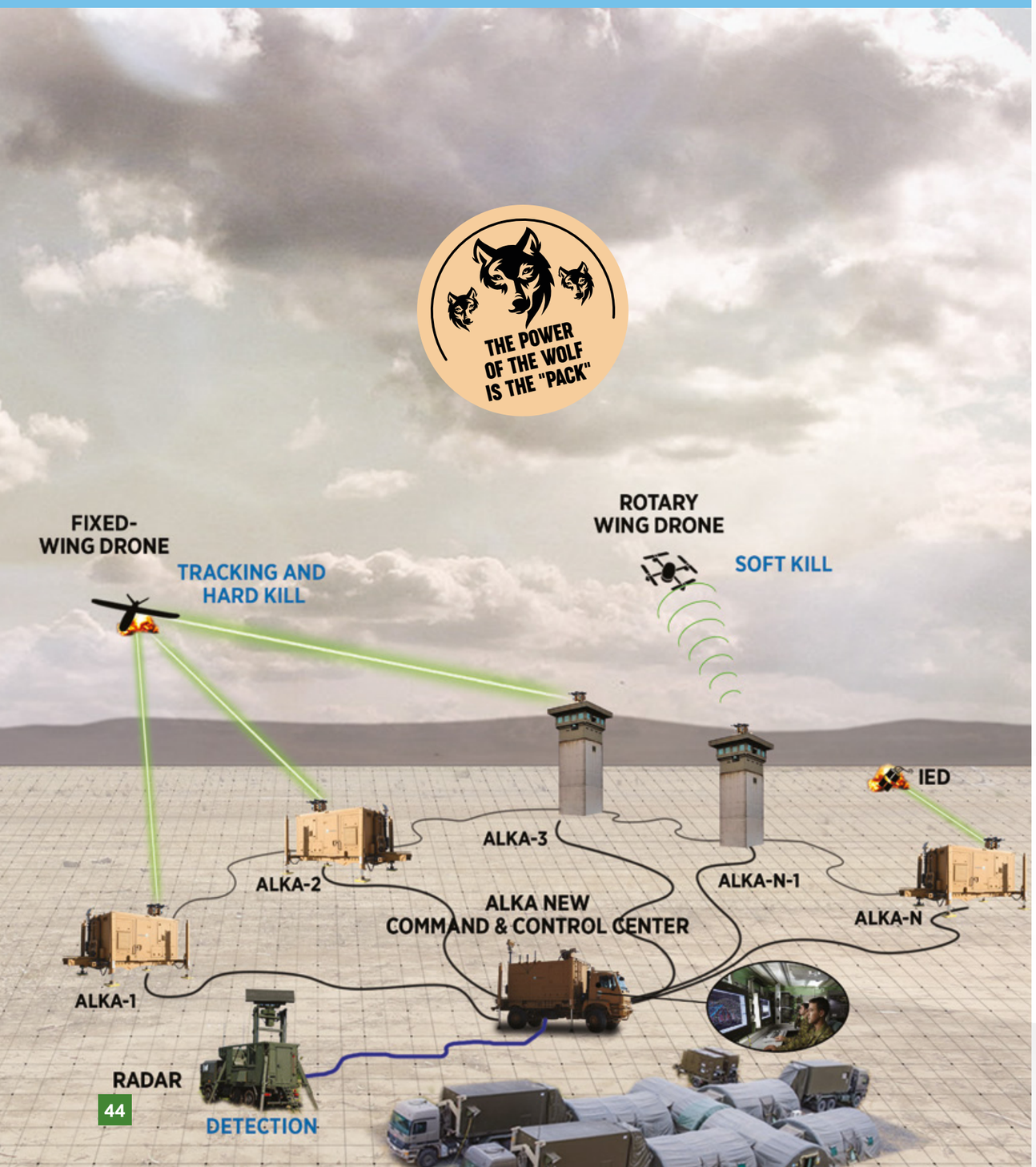
Interception Range	20+ km
Warhead Type	High Explosive Blast Fragmentation
Guidance	INS* IIR** One-Way Data Link
Engine	Dual-Pulse Solid Propellant Rocket Engine
Types of Targets	Fixed-Wing Aircraft Rotary-Wing Aircraft Cruise Missiles UAVs Air-to-Ground Missiles

***INS** Inertial Navigation System

****IIR** Imaging Infra-Red

AIR DEFENCE SYSTEMS

ALKA NEW
[NETWORK ENABLED WEAPON]



ALKA NEW is a new generation network enabled weapon system that provides detection, tracking, electromagnetic jamming and laser destruction capabilities in an integrated architecture for the protection of critical facilities and mobilized troops against asymmetrical threats; such as mini/micro drones and improvised explosive devices [IEDs].

After detection of drone threats with the radar, threats are tracked with electro-optical systems. ALKA employs layered defense architecture to encounter swarming threats with electromagnetic jamming for soft kill [EJS] and laser weapon for hard kill.

Radar Detection | **Electro - Optical Tracking** | **Electromagnetic Jamming** | **Laser Destruction** | **Autonomous and Network Enabled Operation**

ALKA SYSTEM SPECIFICATIONS

- Selection of the Precise Destruction Point on the Target
- Automatic Target Detection and Tracking Through Artificial Intelligence Assisted Image Processing [Minimum False Alarm / Warning Rate]
- Day - Night Operations
- Low Cost per Shot Compared to Conventional Methods
- Mobile Operation and Stationary Deployment Capability
- No Collateral Damage




- Autonomous and Network Enabled Operation
- Redundant Command & Control Capability on Each Vehicle
- Coordinated Targeting of Multiple Laser Weapons on the Same Target
- Threat Evaluation and Weapon Assignment [TEWA] Against Swarming Threats
- Integration Interface with External Sensors and Jamming Systems
- Low False Alarm Rate With Data Fusion [Multi-Sensor Usage]

THE "NEW ALPHA" OF ANTI-DRONE WEAPONS; ALKA NEW.

PRECISION GUIDED MISSILES

CİRİT LASER-GUIDED MISSILE

TACTICAL MISSILE WEAPON SYSTEM

UMTAS LONG-RANGE ANTI-TANK MISSILE SYSTEM

L-UMTAS GUIDED LONG-RANGE ANTI-TANK MISSILE SYSTEM

OMTAS MEDIUM-RANGE ANTI-TANK MISSILE SYSTEM

KARAOK SHORT-RANGE ANTI-TANK WEAPON

TANOK 120 MM LASER GUIDED TANK CANNON MUNITIONS

LASER GUIDED MINI MISSILE SYSTEM

SOM STAND-OFF MISSILE

SOM-J STAND-OFF MISSILE

KARA ATMACA [SURFACE-TO-SURFACE CRUISE MISSILE]

04

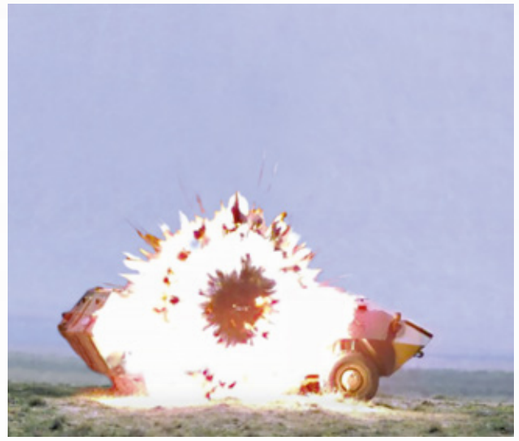
PRECISION GUIDED MISSILES

CİRİT
LASER-GUIDED MISSILE

2.75" **Laser Guided CİRİT Missile** is a highly accurate and cost-effective solution for armed helicopters, and is optimized for use against static or moving lightly armored/unarmored targets. The next generation CİRİT has been designed to fill the tactical gap between 2.75" unguided rockets and guided anti-tank missiles.

TECHNICAL SPECIFICATIONS	
Diameter	2,75" [70 mm]
Length	1,9 m
Weight	15 kg [Without Canister]
Range	1.5–8 km
Warhead Type	Multi-Purpose Warhead [MPW*] High Explosive Warhead [HEW****]
Guidance	MEMS**, IMU***, Semi-Active Laser Seeker
Engine	Min. Smoke Composite Solid Propellant
Types of Targets	Light Armored / Unarmored Vehicles, Infantry
Laser Designation	Designators Compatible with STANAG 3733

***Multi-Purpose Warhead**	Multi-Purpose Warhead [Anti-Armour, Anti-Personnel and Incendiary]
****MEMS**	Micro Electro Mechanical Systems
*****IMU**	Inertial Measurement Unit
******HEW**	High-Explosive Warhead [Anti-Personnel]



PLATFORMS

CİRİT Laser-Guided Missile's versatile design permits easy integration and use with different platforms. It has already proven its capabilities in both air-to-surface and surface-to-surface engagement scenarios.

Armed
Unmanned
Surface Vehicle
[AUSV]

AERIAL PLATFORMS

Wheeled/Tracked
Armoured Vehicle

LAND PLATFORMS

NAVAL PLATFORMS

PRECISION GUIDED MISSILES

TACTICAL MISSILE WEAPON SYSTEM

Tactical Missile Launching System [TMLS] is a stabilised turret system that can be used both while stationary and mobile due to its high mobility, its 360° rotation and its ability to be controlled from inside the vehicle.

It is capable of high precision and is extremely destructive due to its IIR- and Laser-Guided Missiles.

Tactical Missile Launching Weapon System [TMLS];

This system can carry four UMTAS/L-UMTAS missiles or eight CİRİT missiles, or two UMTAS/L-UMTAS and four CİRİT Missiles.

The system has high reconnaissance, surveillance and target tracking capabilities, the offers STANAG 3733-compliant autonomous laser marking, full HD IR, TV and SWIR video with ISR [Intelligence, Surveillance and Reconnaissance] and a day/night operational capability, operator and command console, MIL-STD-1760 compatibility is a weapon system that provides the user with high control and firepower with onboard spare munition storage areas.

SYSTEM SPECIFICATIONS

This is a High Technology Weapon System that has the Capability of Launching four Different Types of Missiles, Including Laser and IIR Guided Missiles [UMTAS, L-UMTAS, OMTAS and CİRİT]
It is Able to Launch While the Platform is on the Move Thanks to its Stabilised Turret,
Strike Precision at Ranges of up to 8 km

TARGETS

Light Armoured Vehicles
Tanks / Light Armoured Vehicles
Anti-Personnel
Opportunity Targets

TMLS can **launch CİRİT, L-UMTAS, UMTAS and OMTAS,** is the weapon system that offers the highest firepower in its class.

PRECISION GUIDED MISSILES

UMTAS
LONG-RANGE
ANTI-TANK MISSILE SYSTEM

Long-Range Anti-Tank Missile System [UMTAS] is an anti-tank precision guided missile system that has been developed for integration primarily with attack helicopters.

Its Imaging Infrared Seeker permits day and night use, and in all adverse weather conditions.

The missile has fire-and-update flight modes that permit lock-on before or after launch through the RF data link between the launcher and the missile.

Its precision guidance and control capability, together with its tandem armour piercing warhead, make UMTAS an effective weapon system against armoured targets.

PLATFORMS

- Attack Helicopters
- Light Attack Aircrafts
- Land Vehicles
- Naval Platforms

SYSTEM SPECIFICATIONS

Effective against Static and Mobile Targets

Target Update Capability Enables:
- Target Update
- Switch of Target During Flight
- Fire from Behind Cover

Insensitive Munition Characteristics against Fuel Fire and Bullet Impact

TECHNICAL SPECIFICATIONS

Diameter	160 mm
Length	1.8 m
Weight	37.5 kg
Range	0.5–8 km
Seeker	IIR*, RF Data Link
Warhead Type	Tandem High-Explosive Anti-Tank Blast Fragmentation
Attack Modes	Direct Attack / Top Attack
Operation Modes	Fire-and-Forget Fire-and-Update
Launcher	Quadruple or Double
Standard Interface	MIL-STD-1760

***IIR** Imaging Infra-Red

L-UMTAS
LASER GUIDED LONG-RANGE ANTI-TANK MISSILE SYSTEM

Laser Guided Long Range Anti-Tank Missile System [L-UMTAS] is an anti-tank precision-guided missile system developed primarily for integration with helicopter platforms.

The laser guidance and tandem armour-piercing warhead features of L-UMTAS ensure its effectivity against both static and mobile targets. The missile can lock onto the target before or after launch.

SYSTEM SPECIFICATIONS

Capability of Operating Day & Night
Lock-On Before Launch [LOBL] or Lock-On After Launch [LOAL]
Effective against Static and Mobile Targets
Insensitive Munition Characteristics against Fuel Fire and Bullet Impact

TECHNICAL SPECIFICATIONS

Diameter	160 mm
Length	1.8 m
Weight	37.5 kg
Range	8 km
Seeker	Semi-Active Laser Seeker
Warhead Type	Tandem Anti-Tank High Explosive Anti-Tank Blast Fragmentation, Thermobaric
Launcher	Quadruple or Double
Standard Interface	MIL-STD-1760

PLATFORMS

Attack Helicopters
Light Attack Aircrafts
Land Vehicles
Naval Platforms

OMTAS
MEDIUM-RANGE
ANTI-TANK MISSILE SYSTEM

OMTAS is a medium-range anti-tank weapon system that is effective against armoured threats on the battlefield. Its Imaging Infrared Seeker permits day and night use, and in all adverse weather conditions.

The RF data link between the launcher and the missile provides the user with operational flexibility. The missile can be used in fire-and-forget or fire-and-update modes, and offers both lock-on before launch or lock-on after launch capabilities. With its precision guidance capability and its armour-piercing tandem warhead, OMTAS ensures effective strikes against armoured threats.

TECHNICAL SPECIFICATIONS

Diameter	160 mm
Length	1.8 m
Weight	35 kg [Missile + Launch Tube]
Range	0.2–4 km
Seeker	IIR*
Warhead Type	Tandem High Explosive Anti-Tank Blast Fragmentation Thermobaric
Attack Modes	Direct Attack / Top Attacks
Operation Modes	Fire-and-Forget Fire-and-Update

***IIR** Imaging Infra-Red

SYSTEM SPECIFICATIONS

Capability of Operating Day & Night and in all Weather Conditions

Effective against Static and Mobile Targets

Target Update Capability Enables:
- Update of the Strike Point on the Target
- Switch of Target During Flight
- Fire from Behind Cover

Insensitive Munition Characteristics against Fuel Fire and Bullet Impact

PLATFORMS

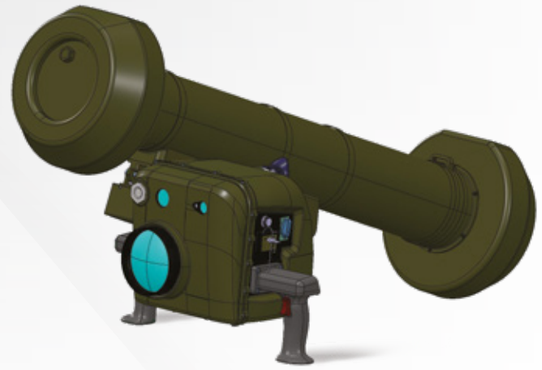
OMTAS can be fired from its tripod and can also be integrated into land platforms with open or closed turrets.

PRECISION GUIDED MISSILES

KARAOK
SHORT-RANGE
ANTI-TANK MISSILE

Man Portable Short-Range Fire-and-Forget Anti-Tank Guided Missile KARAOK is a portable system that is effective at both day and night due to its Imaging Infrared Seeker.

TECHNICAL SPECIFICATIONS	
Diameter	125 mm
Weight	<16 kg [Missile + Launching Tube]
Range	2.5 km
Warhead Type	Armour Piercing Tandem
Attack Modes	Direct Attack / Top Attack
Operation Modes	Fire-and-Forget



TANOK
120 MM LASER GUIDED
TANK CANNON MUNITION

TANOK 120 mm Laser Guided Tank Cannon Munition has been developed as an innovative alternative to the conventional munitions used in tanks and other artillery guns, and provides accurate and cost-effective firepower on the battlefield.

TANOK Missile satisfies the need of the Turkish Armed Forces for laser-guided anti-tank artillery ammunition. Thanks to its low weight and soft launch engine, which ensures the safety of the user, the missile can be fired from both land and portable platforms.

TECHNICAL SPECIFICATIONS

Diameter	120 mm
Length	984 mm
Weight	11 kg
Range	1–6 km
Seeker	Semi-Active Laser Seeker
Warhead Type	Armour Piercing Tandem
Types of Targets	Heavy and Light Armoured Vehicles
Platforms	Tanks, Land Vehicles

SYSTEM SPECIFICATIONS

- Can be Fired from Existing Tanks without the Need for Modification
- High Hit Probability against Static and Mobile Targets due to its Semi-Active Laser Guidance
- Direct and Top Attack Modes
- Effectiveness against Heavy Armoured Threats and Bunkers with its Armor-Piercing Tandem Warhead

PRECISION GUIDED MISSILES

LASER GUIDED MINI MISSILE SYSTEM

Laser Guided Mini Missile System is an innovative weapon system that is used in both hybrid and conventional operations; can be launched from manned or unmanned platforms and enables effective destruction power against stationary targets and personnel with superiority of range and precision capability.

TECHNICAL SPECIFICATIONS	
Diameter	40 mm
Length	~ 50 cm
Weight	~ 1.2 kg
Maximum Range	~ 1.000+ m
Guidance Method	Semi-Active Laser
Accuracy	1 m [CEP*]
Platforms	Drones, Mini Unmanned Aerial Vehicles, Land Platforms [Manned / Unmanned], Sea Platforms [Manned / Unmanned], Gun Turrets [Manned / Unmanned], Grenade Launchers

Dropped from Drone
Laser Guided Mini Missile System [METE]

***CEP** Circular Error Probability

PRECISION GUIDED MISSILES

SOM
STAND-OFF MISSILE

Stand-Off Missile [SOM] is an air-to-surface cruise missile fired from beyond the range of air defence systems, and is suited for use against heavily defended land or naval targets deep in the battlefield.

SYSTEM SPECIFICATIONS

Capable of Engaging Opportunity Targets
Selectable Impact Parameters
Autonomous Use
Long Range
Low Radar Cross Section
Survivable
High Precision Terminal Phase via Imagining Infrared Seeker [IIR]
Low Observability
High Precision
Operable in all Weather Conditions
Resistant to Countermeasures
Capable of Engaging Opportunity Targets
Selectable Impact Parameters
Target Update, Re-Attack and Mission Abort Capability via Data Link
3D mission planning
Time on Target [ToT], Designated Time on Target [DToT], Simultaneous Time on Target [SToT], Ripple [Salvo] Fire
Engagement against Land and Surface Targets from Surface and Underwater Platforms
Re-Attack Mode
Engagement against Land and Surface Targets from Surface and Underwater Platforms

TECHNICAL SPECIFICATIONS OF SOM-A

Length	~ 4 m
Weight	~ 600 kg
Range	250 km [135 nmi]
Guidance Modes	INS*/GPS**/TRN***
Warhead Type	High Explosive Fragmentation
Warhead Weight	~ 230 kg
Platforms	F-4 / F-16

TECHNICAL SPECIFICATIONS OF SOM-B1

Length	~ 4 m
Weight	~ 600 kg
Range	250 km [135 nmi]
Guidance Modes	INS*/GPS**/TRN***/ GRNS****/ATA*****
Warhead Type	High Explosive Fragmentation
Warhead Weight	~ 230 kg
Seeker	IIR******
Platforms	F-4 / F-16

TECHNICAL SPECIFICATIONS OF SOM-B2

Length	~ 4 m
Weight	~ 600 kg
Range	250 km [135 nmi]
Guidance Modes	INS*/GPS**/TRN***/ GRNS****/ATA*****
Warhead Type	Tandem Penetrator
Warhead Weight	~ 230 kg
Seeker	IIR******
Platforms	F-4 / F-16

***INS**	Inertial Navigation System
****GPS**	Global Positioning System
*****TRN**	Terrain Referenced Navigation
******IBN**	Image-Based Navigation
*******ATA**	Automatic Target Acquisition
********IIR**	Imaging Infra-Red

PRECISION GUIDED MISSILES

SOM-J
STAND-OFF MISSILE

SOM-J is an air-to-surface munition that has been developed for use against heavily defended land and naval targets, and that is mounted inside the aircraft/ below the wing.

The missile's modular design supports the operational flexibility of the missile. Built based on the existing SOM technologies that are already in service with the Turkish Air Force, SOM-J today provides enhanced capabilities. The long-range SOM-J is a cost-effective solution due to its reduced observability, among its other capabilities.

SYSTEM SPECIFICATIONS

Autonomous Use
Long Range
Low Radar Cross Section
Survivable
High-Precision Terminal Phase via Imagining Infrared Seeker [IIR] and Data Link
Operable in all Weather Conditions
Resistant to Countermeasures
Network-Enabled Weapon [NEW] Capability
Capable of Engaging Opportunity Targets
Selectable Impact Parameters
In-Flight Retargeting
Universal Armament Interface [UAI] Compatibility

TECHNICAL SPECIFICATIONS

Length	~ 3.9 m
Weight	~ 540 kg
Range	275 km [150 nmi]
Guidance	INS*/GPS**/TRN***/ GRNS****/ATA*****
Warhead Type	High-Explosive Fragmentation, Armour Piercing
Warhead Weight	~140 kg
Seeker	IIR******
Platforms	F-35 [JSF] F-16
Speed	High Subsonic

***INS** Inertial Navigation System

****GPS** Global Positioning System

*****TRN** Terrain Relative Navigation

******IBN** Image-Based Navigation

*******ATA** Automatic Target Acquisition

********IIR** Imaging Infra-Red

PRECISION GUIDED MISSILES

KARA ATMACA
[SURFACE-TO-SURFACE CRUISE MISSILE]

Kara Atmaca Weapon System, is a jamming-resistant long-range cruise missile system launched on tactical wheeled vehicles and used against strategical land targets.

SYSTEM SPECIFICATIONS

Autonomous
Long Range
Low Observable
High Precision
All Weather Operational Capability
Resistant to Countermeasures
Target Update, Re-Target and Mission Abort Capability via Data Link
Advanced Mission Planning [3D routing]
Time on Target [ToT], Designated Time on Target [DToT], Simultaneous Time on Target [SToT], Ripple [Salvo] Fire
Fired From Tactical Wheeled Vehicles and Engagement Against Stationary Targets [Strategic Land Targets, Sam Batteries, Stationary / Mobile Launchers]
Re-Attack Mode

TECHNICAL SPECIFICATIONS

Length	6 m
Weight	890 kg
Range	280 km
Guidance	INS* + GPS** + Barometric Altimeter + Radar Altimeter + TRN***
Warhead	High Explosive, Blast Fragmentation, Penetration Warhead
Warhead Weight	250 kg
Seeker	Imaging Infrared Seeker

***INS**	Inertial Navigation System
****GPS**	Global Positioning System
*****TRN**	Terrain Referenced Navigation

PRECISION GUIDED MUNITIONS

MAM-C SMART MICRO MUNITION

MAM-L SMART MICRO MUNITION

MAM-T SMART MUNITION

TEBER GUIDANCE KIT

LAÇİN GUIDANCE KIT AND LACIN POD [L-POD]

05

MAM-C
SMART MICRO MUNITION

MAM-C lightweight Smart Micro Munition has been developed for unmanned aerial vehicles [UAV] and light attack aircraft, and for air-to-ground missions where weight is a critical factor.

MAM-C provides high strike precision against static and mobile targets.

TECHNICAL SPECIFICATIONS	
Diameter	70 mm
Length	970 mm
Weight	6,5 kg
Range	8 km
Guidance	Laser Seeker
Warhead Type	Multi-purpose Warhead** Blast Fragmentation, Armour piercing and Incendiary High Explosive Blast Fragmentation
Types of Targets	Light Armored / Unarmored Vehicles Anti-Personnel
Platforms	UAVs Light Attack Aircraft

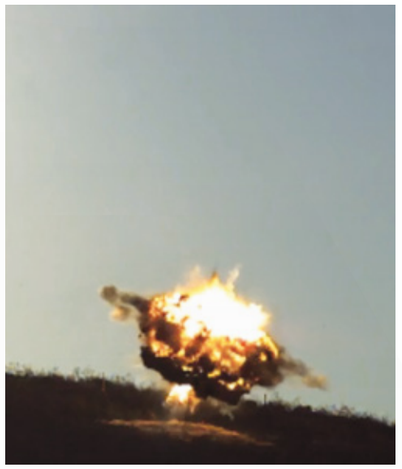
***Multi-Purpose Warhead	Blast Fragmentation, Armor Piercing and Incendiary

MAM-L
SMART MICRO MUNITION

MAM-L Lightweight Smart Micro Munition has been developed for unmanned aerial vehicles [UAV], light attack aircraft and air-to-ground missions.

MAM-L offers high strike precision and efficiency with alternative warheads against fixed and mobile targets.

TECHNICAL SPECIFICATIONS	
Diameter	160 mm
Length	1 m
Weight	22 kg
Range	15 km
Guidance	Laser Seeker
Types of Targets	Main Battle Tanks, Light Armoured Vehicles, Personnel
Warhead Type	Armour piercing High Explosive Blast Fragmentation, Thermobaric
Fuze Type	Impact / Proximity
Platforms	UAVs Light Attack Aircraft



MAM-T
SMART MUNITION

MAM-T Smart Micro Munition was developed for unmanned aerial vehicles and light attack aircraft for use in critical air/ground missions.

With its fixed wing structure and improved warhead, MAM-T provides the user with high strike precision and efficiency against fixed and mobile targets at longer ranges.

SYSTEM SPECIFICATIONS

Destruction of Static and Mobile Targets through High Strike Precisions
High Blast Fragmentation Warhead Developed in Accordance with UAV Operational Concepts
Increased Range through Wing Addition
High Destructive Power
Against Critical Aerial Targets

TECHNICAL SPECIFICATIONS

Diameter	230 mm
Length	1.4 m
Weight	95 kg
Warhead	Blast Fragmentation Warhead
Range	UAV - 30+ km
Guidance	Laser Seeker
Platform	Unmanned Aerial Vehicles [UAV], Light Attack Aircraft

TEBER GUIDANCE KIT

TEBER is a guidance kit that enhances the hit capability of MK-81 and MK-82 general purpose bombs.

TEBER converts these bombs into smart weapon systems through the incorporation of an Inertial Navigation System [INS], a Global Positioning System [GPS] and a Laser [SAL] Seeker.

TEBER increases the ability of the bomb to strike both static and mobile targets with high precision.

TEBER can also be detonated by its proximity sensor.

TECHNICAL SPECIFICATIONS	
Length	2.1 m [TEBER-81] 2.6 m [TEBER-82]
Weight	~155 kg [TEBER-81] ~270 kg [TEBER-82]
Range	2-28 km
Guidance	IMU* GPS** SAL***
Warhead Type	MK-81 / MK-82
Proximity Sensor	2-15 m
Accuracy [CEP]	< 3 m

***IMU** Inertial Measurement Unit

****GPS** Global Positioning System

*****SAL** Laser Guidance

LAÇİN GUIDANCE KIT AND LAÇİN POD [L-POD]

LAÇİN guidance kit can be used against fixed and mobile targets with its imaging infrared seeker and data link. LAÇİN, in which the pilot is kept in the loop via L-POD, is compatible with MK-82 general purpose bombs. The guidance kit transforms General purpose bombs into smart weapon systems through the integration of an Inertial Measurement Unit [IMU], a Global Positioning System [GPS] and an Infrared Seeker.

The L-POD transmits the image signal produced by the Infrared Seeker to the cockpit via the datalink, and simultaneously sends the commands inputted by the pilot to the LAÇİN munition.

TECHNICAL SPECIFICATIONS	
Guidance	IMU* GPS** Infrared Seeker
Warhead	MK-82
Range [Min - Max]	2 - 28 km
Accuracy	< 3 m
Transport Altitude	0–40,000 feet
Types of Targets	Static Mobile Targets
Weight	262 kg
Length	2,7 m

***IMU** Inertial Measurement Unit

****GPS** Global Positioning System

BALLISTIC PROTECTION SYSTEMS

06

BALLISTIC PROTECTION SYSTEMS

Ballistic Protection Center [BPC] is an experienced ballistic protection system solution supplier for military platforms.

Unique expertise and capability to fill all the steps from design, testing, production and the platform integration is actively used for the effective ballistic protection.

From design to system integration, ballistic protection solutions created around platform requirements to give best protection to our users.

Our solutions currently installed not only land systems but also sea and critical infrastructures of both Turkish Armed Forces and Allied Military.

BPC ABILITIES

- Kinetic energy and shape charge threat effectiveness data base
- Vulnerability and Survivability Analysis for all kind of Platforms
- Unique Simulation Codes for High Speed Impact Phenomena
- Ballistic Ceramics and Multi Layered Composite Structure Design
- Explosive Material Design for Reactive Protection Solutions
- Advanced Production Infrastructure for Ballistic Protection Systems
- RPG Protection Solutions Based On Passive, Reactive And Stand-off [Cage Or Net] Armor.
- Protection Solutions Against IED Threats

TANK SURVIVABILITY SOLUTIONS

Altay Armor System

T-72 Armor System

SYSTEM FEATURES

- Maximum Protection Against APFSDS Anti Armour Rockets and Anti-Tank Guided Missiles
- Protection Against Tandem Warheads
- Multi-Hit Capability
- Low Collateral Damage
- Modular and Open Arcitecture System Design
- Flexible Design for easy adoption to Different Platforms

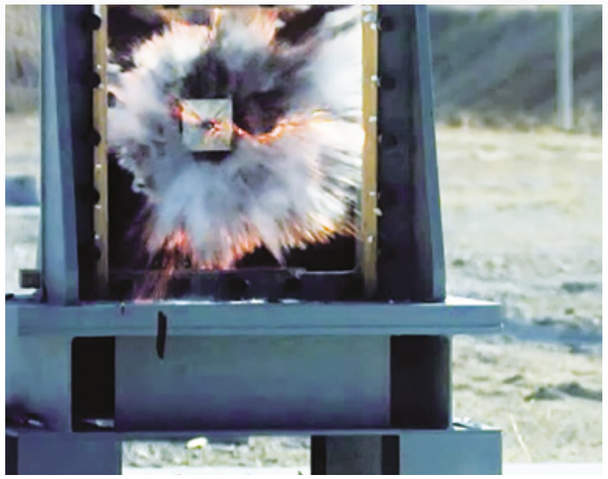
Leopard 2A4 T1 Add-on Armor System

The hybrid reactive armor system is a new generation armor system developed within the scope of increasing the survivability of armored vehicles.

Based on platform requirement, optimized protection system adds the minimum weight for providing excellent protection while keeping maneuverability and operational range maxiumum.

Up to date threat scenarios constantly being adopted to vulnerability analysis to generate protection solutions for specifed tank platforms

The tank survivability system solution is designed for rapid integration with minimal changes in user interfaces and vehicle mobility performance.



BALLISTIC PROTECTION SYSTEMS

ADD-ON ARMOR SOLUTIONS

SYSTEM SPECIFICATIONS

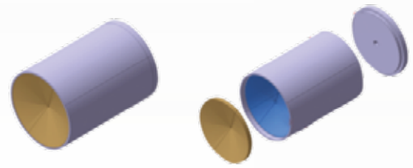
Stanag 4569 AEP 55 Vol 1 Level 1-6 Armor Solutions
Stanag 4569 AEP 55 Vol 3 IED Protection Solutions
Modular Design based on Open Architectural Design
High Multi Hit Capability
Scable up Armoring Options for Increasing Protection Level
Spall-liner Solutions

Add-on Armor Solutions

Multi-layered ballistic protection add-on armor solutions are optimized for keeping minumum effect on power to weight ratio change on platform. Add-on armor solution has capability to withstand both KE and IED threats.

25mm X 137 APDS-T | 25mm X 137 APFSDS-T | 30mm X 165 AP-T | 30mm X 173 APFSDS-T | Artillery Shell Type IED

Steel Ball type IED

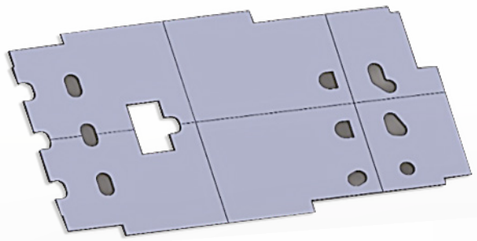


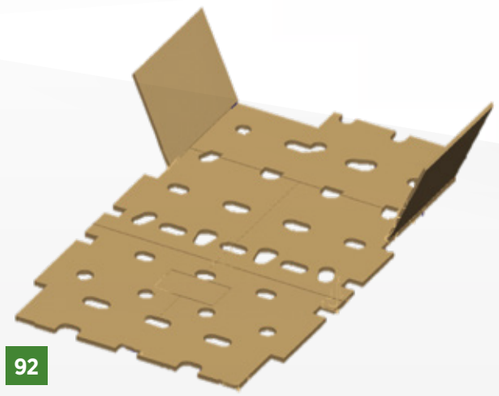
Penetrator Type IED

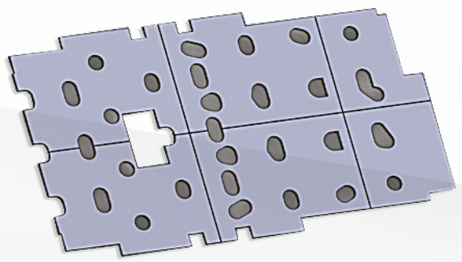
FLOOR PROTECTION AND SEAT ARMOR

AIR PLATFORMS

Tailor Made Solution for Both Fixed and Rotating Wing Platforms
Different Protection Levels Available Based on Selected Standards and User Defined Demands [NIJ-0108.01, MIL-PRF-46103, Stanag 4569]
Certification of Mechanical and Environmental Properties







SEAT ARMOR

Armour Solutions for Special Crew Seat Applications

Retractable Side Armor Wing

S70 Sea Hawk Armored Seat

BALLISTIC PROTECTION SYSTEMS

RPG
PROTECTION SOLUTIONS

Roketsan BPC has developed solutions for the protection of armored vehicles against RPG threats in order to meet different system requirements.

- RPG Net
- Light Armored Vehicle Reactive Armor System
- ERA Pack

REACTIVE ARMOR SYSTEM FOR LIGHT ARMORED VEHICLE

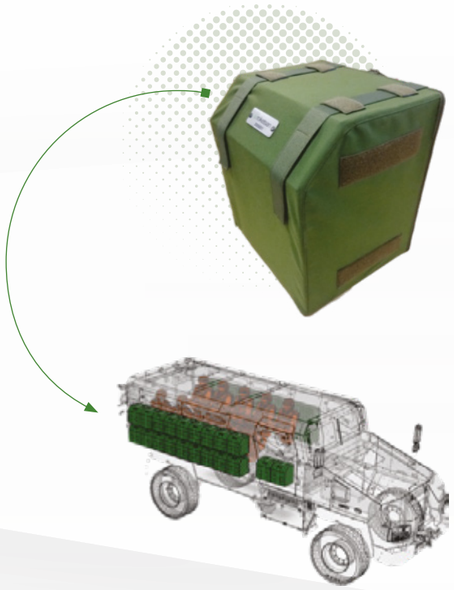
- Provides High Protection Against RPG Threats
- Up to AEP-55 Vol.1 Lv.4 Protection
- Up to AEP-55 Vol.3 Lv.4 Protection Against IED
- Low System Weight
- Minimal Changes to User Interfaces and Mobility.

RPG NET

- Protection Against Different Types of RPG Rounds
- Low System Weight
- Easy Integration
- Applicable for All Type of Platforms
- Already Integrated on Kirpi [MRAP], Cobra, Cobra II, Ejder Armored Loader Vehicles

ERA PACK

- Common Armor Solution for Tactical Wheeled and Tracked Vehicles
- Protection for RPG Threats
- No Special Tool Required for Handling and Integration
- No-Affect the Mobility Performance of the Vehicle



FORCE PROTECTION

Military Base or Critical Infrastructure protection by installing layered protection solutions.

Battlefield Proven Protection Levels According to Stanag 2280 Test Procedures and Classification of The Effect of Weapons on Structures.

- Up to 14.5mm AP-A5 Level
- RPG Shoulder Fired Anti Tank Ammunition- B3 Level
- Up to 82mm Mortar-C3 Level

FORCE PROTECTION SYSTEM [RZB20 ARMOR BLOCK]

Developed for Force Protection Up to 14.5mm AP-A5 Level

Protection Against Light Weapons Effect

Mortar and Fragmentation Protection

Easy Installation and Assembly

FORCE PROTECTION SYSTEMS [RZK 7 CAGE ARMOR]

Developed for RPG 7 Anti Tank Rounds

Designed to Disrupt Warhead Attacks

Ideal for Military Assets in Combat Zones and High-Risk areas.

Easy Installation and Assembly

FORCE PROTECTION SYSTEMS [RZP 10 FRAG SHIELD]

Developed for Fragmantation and Blast Protection

Modular Open Architectural Design for Application on Different Military Assets Such as Building or Containers

Multi Layered Design for Fragmentation and Blast Protection Against Mortar and Artilery Rocket

NAVIGATION SYSTEMS

GLOBAL NAVIGATION SATELLITE SYSTEM RECEIVER

MULTI-CONSTELLATION AND MULTI-FREQUENCY GLOBAL NAVIGATION SATELLITE SYSTEM RECEIVER

TURNA-TM TACTICAL GRADE FOG INERTIAL MEASUREMENT UNIT

TURNA-TK TACTICAL GRADE FOG INERTIAL MEASUREMENT UNIT

TURNA-N NAVIGATION GRADE FOG INERTIAL MEASUREMENT UNIT

RNU-100M NAVIGATION GRADE INERTIAL MEASUREMENT UNIT

RAL2000 NAVIGATION GRADE RLG INERTIAL MEASUREMENT UNIT

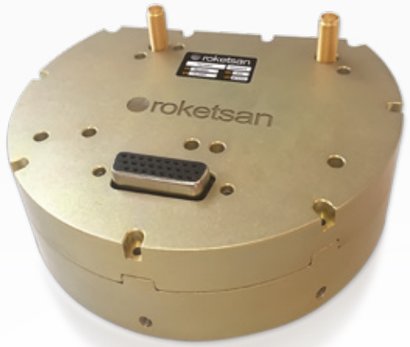
ALBATROS MODULAR INTEGRATED NAVIGATION SYSTEM

RNL2000-K RLG BASED INERTIAL LAND NAVIGATION SYSTEM

STAR TRACKER NAVIGATION SYSTEM

07

GLOBAL NAVIGATION SATELLITE SYSTEM RECEIVER

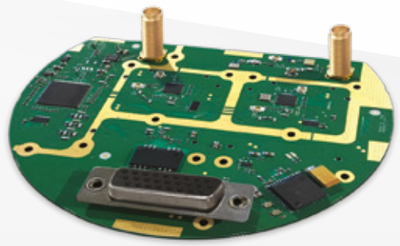


Global Navigation Satellite System Receiver; design, production and testing infrastructure ROKETSAN's is a Global Navigation satellite System receiver.

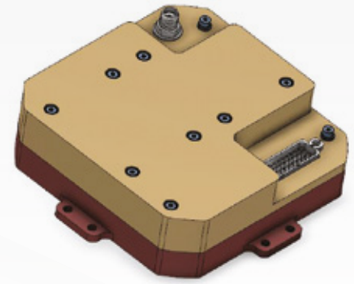
The receiver, which uses GPS, GLONASS and GALILEO satellite systems, is adaptable to different platform [missile, guided ammunition, unmanned aerial vehicle, land vehicle, etc.].

TECHNICAL SPECIFICATIONS

Performance Specifications	
Channel Configuration	GPS L1 C/A, GLONASS L1, GALILEO E1
Position Accuracy [3D]	≤ 10 m [RMS]
Typical value for GDOP < 2.5. It varies depending on global positioning systems signals, ionospheric and tropospheric conditions, multipath error effect, presence of jamming and deception signals.	
Dynamic Range	
Velocity	≥ 1,400 m/sec
Altitude	≥ 40.000 m
Mechanical Specifications	
Dimensions	Ø 108 mm x 38 mm
Weight	340 gr
Environmental Specifications	
COMPATIBLE WITH MIL-STD-810G AND MIL-STD-461F STANDARDS	



MULTI-CONSTELLATION AND MULTI-FREQUENCY GLOBAL NAVIGATION SATELLITE SYSTEM RECEIVER



It is a GNSS receiver, whose design, production and test infrastructure is at Roketsan, and which simultaneously uses civil coded signals at multiple frequencies [L1 and L2] from all Global Positioning Systems [GPS, GLONASS, GALILEO, BEIDOU]. Its resistance to jamming and spoofing has been significantly enhanced by both the multi-constellation multi-frequency receiver structure and algorithm/software updates.

Multi-Constellation and Multi-Frequency Global Navigation Satellite System Receiver GNSS receiver can be integrated into missile, land, air and sea platforms.

TECHNICIAL SPECIFICATIONS

Channel Configuration	GPS L1 C/A, GPS L2C, GLONASS L1, GLONASS L2, GALILEO E1, BEIDOU B1I
Position Accuracy* [3D]	< 6 m [RMS]
Velocity Accuracy*	< 0,5 m/sn [RMS]
Data Rate	≤ 10 Hz Measurements - ≤ 10 Hz Position
Start Time	≤ 40 s Cold Start - ≤ 10 s Hot Start
Signal Capture Time	≤ 1 sec
Dynamics Range	
Speed	0 - 515 m/s
Acceleration	± 20 g Functional
	± 65 g Durability
Altitude	0 – 18.000 km
Mechanical Properties	
Dimensions	104 x 104 x 30 mm
Weight	< 500 gr
Electrical Characteristics	
Operating Voltage	5 V – 28 V
Power	< 15 W
Communication Interface	RS-232, RS-422, RS-485
Environmental Features	
Operating Temperature	[- 40 °C, +80 °C] [Operational] - [- 40 °C, +85 °C] [Storage]
Power	MIL - STD - 810G
Communication Interface	MIL - STD - 461E

* Typical value for GDOP < 2.5. It varies depending on global positioning systems signals, ionospheric and tropospheric conditions, multipath error effect, presence of jamming and deception signals.

TurNa-TM
TACTICAL GRADE FOG INERTIAL MEASUREMENT UNIT

TurNa-TM, is a tactical grade Inertial Measurement Unit [IMU] consisting of three Fiber Optic Gyroscopes [FOG] and three Micro Electro Mechanical Systems [MEMS] accelerometers, which can be used in various practices of guidance, control and navigation.

TurNa-TM, which can sustain high performance under harsh environmental conditions and with high dynamic platforms, can be integrated into missiles, guided munitions, stabilized platforms and flight control systems of unmanned aerial and similar vehicles. systems of unmanned aerial and similar vehicles.

TECHNICIAL SPECIFICATIONS[1]

Sensor	MEMS* Accelerometer[2]	Fiber Optic Gyroscope[3]
Performance Specifications		
Measurement Range	± 10 g [a] ± 30 g [b]	± 490°/ sec
Residual Bias Error [1σ]	< 0,33 mg [a] < 0,66 mg [b]	< 1 °/ hr
Mechanical Specifications		
Dimensions	Ø 127 mm x 79 mm	
Weight	1,2 kg	
Environmental Specifications		
COMPATIBLE WITH MIL-STD-810G AND MIL-STD-461F STANDARDS		

[1] IEEE-528-2001

[2] IEEE 1293-1998

[3] IEEE-952-1997

[a,b] TurNa-TM Performance Specifications in Different Axes

***MEMS** Micro Electro Mechanical Systems

TurNa-TK
TACTICAL GRADE FOG INERTIAL MEASUREMENT UNIT

TurNa-TK, containing three Fiber Optic Gyroscopes [FOG] and three Quartz Pendulum Accelerometers, is a tactical grade Inertial Measurement Unit [IMU].

TurNa-TK, which can sustain high performance under harsh environmental conditions and with high dynamic platforms, can be integrated into missiles, guided munitions, stabilized platforms and flight control systems of unmanned aerial and similar vehicles.

TECHNICIAL SPECIFICATIONS[1]

Sensor	Quartz Pendulum Accelerometer[2]	Fiber Optic Gyroscope[3]
Performance Specifications		
Measurement Range	± 60 g	± 490 °/ sec
Residual Bias Error [1σ]	< 1 mg	< 1 °/ hr
Mechanical Specifications		
Dimensions	Ø 127 mm x 79 mm	
Weight	1,3 kg	
Environmental Specifications		
COMPATIBLE WITH MIL-STD-810G AND MIL-STD-461F STANDARDS		

[1] IEEE-528-2001

[2] IEEE-1293-1998

[3] IEEE-952-1997

TurNa-N
NAVIGATION GRADE FOG INERTIAL MEASUREMENT UNIT

TurNa-N is a navigation grade Inertial Measurement Unit [IMU] consisting of three Fiber Optic Gyroscopes [FOG] and three Quartz Pendulum Accelerometers. Designed to sustain high performance under harsh environmental conditions, **TurNa-N** can be used on different platforms such as land vehicles, fire control systems, unmanned aerial vehicles and naval vessels.

With its high performance, **TurNa-N** can satisfy both Global Navigation Satellite System [GNSS] aided and pure inertial navigation [0.8 nmi/hr] requirements.

TECHNICIAL SPECIFICATIONS[1]

Sensor	Quartz Pendulum Accelerometer[2]	Fiber Optic Gyroscope[3]
Performance Specifications		
Measurement Range	± 30 g	± 250 °/ sec
Residual Bias Error [1σ]	< 50 µg	< 0,04 °/ hr
Mechanical Specifications		
Dimensions	286 mm x 160 mm x 160 mm	
Weight	< 9,4 kg	
Environmental Specifications		
COMPATIBLE WITH MIL-STD-810G AND MIL-STD-461E STANDARDS		

[1] IEEE-528-2001
[2] IEEE-1293-1998
[3] IEEE-952-1997

RNU-100M
NAVIGATION GRADE INERTIAL MEASUREMENT UNIT

RNU-100M is a navigation grade Inertial Measurement Unit [IMU] developed for land, aerial and naval platforms.

RNU-100M can satisfy high navigation performance and adverse environmental requirements through its Ring Laser Gyroscope [RLG] and Quartz Pendulum Accelerometer technologies.

TECHNICIAL SPECIFICATIONS[1]

Sensor	Quartz Pendulum Accelerometer[2]	Ring Laser Gyroscope [RLG][3]
Performance Specifications		
Measurement Range	± 22 g	± 400 °/ sec
Residual Bias Error [1σ]	< 25 µg	< 0,04 °/ hr
Mechanical Specifications		
Dimensions	315 mm x 420 mm x 240 mm	
Weight	22 kg	
Environmental Specifications		

[1] EEE-528-2001
[2] IEEE-1293-1998
[3] IEEE-647-200

RAL2000
NAVIGATION GRADE RLG INERTIAL MEASUREMENT UNIT

The RAL2000 is a navigation grade Inertial Measurement Unit [IMU] that has been developed for land, sea and air platforms, including unmanned aerial vehicles.

The RAL2000 can satisfy high navigation performance and adverse environmental requirements through its Ring Laser Gyroscope and Quartz Pendulum Accelerometer technologies. It is an upgraded version of RNU-100M in terms of mass and volume.

TECHNICAL SPECIFICATIONS[1]

Sensor	Quartz Pendulum Accelerometer	Ring Laser Gyroscope [RLG][3]
Performance Specifications		
Measurement Range	± 22 g	± 400 °/sn
Residual Bias Error [1σ]	< 25 µg	< 0.04 °/ hr
Mechanical Specifications[2]		
Dimensions	265 mm x 255 mm x 230 mm	
Weight	< 16 kg	
Environmental Specifications		
COMPATIBLE WITH MIL-STD-810G AND MIL-STD-461E STANDARDS		

[1] IEEE-528-2001

[2] IEEE-1293-1998

[3] IEEE-647-2006

ALBATROS
MODULAR INTEGRATED NAVIGATION SYSTEM

ALBATROS is a modular integrated Inertial Navigation System [INS] that can utilize different Inertial Measurement Units [IMU] and Global Navigation Satellite System [GNSS] receivers. Its modular architecture enables the user's compatible IMUs and GNSS receivers to transform into an INS that can be used with various platforms. In addition, by means of its integrated structure, TurNa-TQ/TM/N and ANTARES can be used with ALBATROS to obtain an INS that meets the system requirements.

Another feature of the modular architecture is its embodiment of the navigation algorithms required for land, aid and naval applications. This ensures that a particular INS can provide the same level of navigation precision when integrated into different platforms [missiles, guided munitions, unmanned aerial vehicles, land platforms, naval vessels etc.].

TECHNICIAL SPECIFICATIONS

Horizontal & Vertical Positioning Accuracy	Horizontal Position [CEP**]	Vertical Position [CEP**]
Inertial + GNSS*	≤ 10 m	≤ 10 m
Inertial Only [Land Application]	≤ 0,5 nmi / hr	≤ 0,5 nmi / hr
Inertial Only	≤ 10 nmi / hr	≤ 10 nmi / hr
Mechanical Specifications		
Dimensions	210 mm x 210 mm x 165 mm	
Weight	< 4,7 kg	
Environmental Specifications		
Compatible with MIL-PRF-71185A [AR], MIL-STD-810G and MIL-STD-461E standards.		

***GNSS** Global Navigation Satellite System

****CEP** Circular Error Probability

[GPS, GLONASS, GALILEO, BEIDOU etc. globally positioned satellite based navigation systems]

RNL2000-K
RLG BASED INERTIAL
LAND NAVIGATION SYSTEM

RNL2000-K is an Inertial Navigation System [INS] that has been designed to meet the requirements of land platforms.

RNL2000-K is capable of providing high navigation performance and overcoming adverse environmental requirements through its Ring Laser Gyroscope technologies. Optionally, RNL2000-K can be provided with a Navigation Control and Visualization Unit [NCVU].

TECHNICIAL SPECIFICATIONS

Horizontal & Vertical Positioning Accuracy	Horizontal Position [CEP*]	Vertical Position [CEP*]
Inertial+GNSS**	≤ 10 m	≤ 10 m
Inertial Only [ZUPT*** period: 4 min.]	18 m [DT**** ≤ 27 km]	≤ 10 m [DT**** ≤ 35 km]
Mechanical Specifications		
Dimensions	265 mm x 255 mm x 230 mm	
Weight	< 15,5 kg	

***CEP** Circular Error Probability

****GNSS** Global Navigation Satellite System [GPS, GLONASS, GALILEO, BEIDOU etc. globally positioned satellite based navigation systems]

*****ZUPT** Zero Velocity Update

******DT** Distance Traveled

STAR TRACKER
NAVIGATION SYSTEM

Designed, developed tested and verified in ROKETSAN, **Star Tracker** provides precise orientation data for platforms that experince high dynamics and fly at high altitudes. **Star Tracker** is used in support for the inertial navigation system.

The system provides precise orientation data and is aimed to be used in high altitude and highly dynamic applications in support of the inertial navigation system.

OPERABILITY UNDER HIGHLY DYNAMIC CONDITIONS

Since the Star Tracker is aimed to be used in a highly dynamic system, optical and mechanical designs are done to accomodate high vibration , shock and high temperature conditions. To eliminate the effects of vibration and angular motion on the star trackers' output accuracy filtering image distortion studies are ongoing.

TECHNICIAL SPECIFICATIONS

Orientation Accuracy	< 40 arc - sec
Data Speed	< 10 Hz
First Orientation Learning Time	< 10 sec
Minimum Altitude[1]	> 40 km
Weight	< 5 kg
Operating Temperature	-40 °C / +70 °C

[1]	Refers to the approximate minimum altitude at which the system is required to operate in daytime.

FUZE SYSTEMS

08

FUZE SYSTEMS

Design, qualification, production and delivery activities of missile fuzes, artillery rocket fuzes and ammunition fuzes for different sizes are carried out at Roketsan Fuze Technology Center.

Proximity fuze production for Long Range 122 mm Rockets manufactured by Roketsan; Electromechanical fuze production for CİRİT, L-UMTAS, UMTAS and OMTAS Missiles; Electromechanical fuze production for MAM-L and MAM-C Smart Munitions; Electromechanical fuze production for ASW Rocket, TRG-230 Missile Proximity fuze productions, electromechanical fuze verification and qualification activities for KARAOK Missile, development activities for electromechanical / electronic fuzes for Kamikaze UAVs, development activities of Laser Guided Mini Missile Fuze and test support for the development and verification process of TST-101 Fuze, developed by TÜBİTAK SAGE and planned to be used in Aircraft Bombs and SOM Missiles, and preparatory acitvities for the serial production of TST-101 Fuze at ROKETSAN are carried out.

Fuzes, designed and developed with a system engineering approach in accordance with MIL-STD-1316 and STANAG-4187 within Fuze Technology Center, are tested in accordance with MIL-STD-331 and MIL-STD-810.

TEST INSFRASTUCTURE

Climatic Test Chambers	Explosion Test Equipment
Anechoic Chamber	Centrifugal Test Equipment
Jolt/Jumble Test Equipment	Vibration Test Equipment
1,5 m & 12 m Drop Test Equipment	X-Ray Inspection Equipment
ESD Test Equipment	Endoscopic Inpection Equipment
HALT/ HASS Test Equipment	

ROCKET FUZES

107 mm ROCKET IMPACT FUZE TECHNICAL SPECIFICATIONS

Type	Mechanical
Diameter	40 mm
Length	123 mm
Intrusion Depth	46 mm
Weight	637 g
Function	Impact [SQ / Short Delay / Long Delay]
Arming Condition	Spin
Arming	14,000 rpm
Reference Standard	MIL-STD-331
Environmental Tests	MIL-STD-331
Operation Temperature	-40°C / +60°C
Status	Production

122 MM ROCKET IMPACT FUZE TECHNICAL SPECIFICATIONS

Type	Mechanical
Diameter	64 mm
Length	196 mm
Intrusion Depth	55 mm
Weight	740 g
Function	Impact [SQ / Short Delay / Long Delay]
Arming Condition	Acceleration
Arming	25g
Reference Standard	MIL-STD-331
Environmental Tests	MIL-STD-331
Operation Temperature	-40°C / +60°C
Status	Production

122 mm ROCKET PROXIMITY FUZE TECHNICAL SPECIFICATIONS

Type	Electromechanical
Diameter	64 mm
Length	233 mm
Intrusion Depth	54 mm
Weight	740 g
Function	Proximty [1-15 m], Impact, Time [0-200 s]
Arming Condition	Acceleration
Arming	25g
Safe and Arm	Two Independent Safety Features
Reference Standard	MIL-STD-1316
Environmental Tests	MIL-STD-331
Operation Temperature	-40°C / +60°C
Status	Production

300 mm GUIDED ROCKET PROXIMITY FUZE TECHNICAL SPECIFICATION

Type	Electromechanical
Diameter	80 mm
Length	224 mm
Intrusion Depth	57 mm
Weight	2,400 g
Function	Proximty [1-15 m], Impact, Time [0-200 s]
Arming Condition	Acceleration
Arming	25g
Safe and Arm	Two Independent Safety Features
Reference Standard	MIL-STD-1316
Environmental Tests	MIL-STD-331
Operation Temperature	-40°C / +60°C
Status	Production

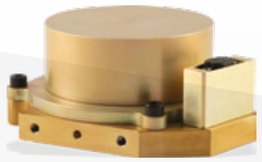
ANTI-SUBMARINE WARFARE ROCKET FUZE TECHNICAL SPECIFICATIONS

Type	Electromechanical
Diameter	60 mm
Length	200 mm
Intrusion Depth	200 mm
Weight	1,500 g
Function	Impact, Time [1-60 s]
Arming Condition	Acceleration and Spin
Arming	25g / 500 rpm
Safe and Arm	Two Independent Safety Features
Reference Standard	MIL-STD-1316
Environmental Tests	MIL-STD-331 MIL-STD-810
Operation Temperature	-10°C / +50°C
Status	Production

MISSILE FUZES

CİRİT [2,75"] MISSILE FUZE TECHNICAL SPECIFICATIONS	
Type	Electromechanical
Diameter	40 mm
Length	55 mm
Weight	125 g
Function	Multi-purpose, Blast&Fragmentation, Thermobaric Warhead Fuze
Arming Condition	Acceleration
Arming	30g
Safe and Arm	Two Independent Safety Features
Reference Standard	MIL-STD-1316
Environmental Tests	MIL-STD-810 MIL-STD-331
Operation Temperature	-35°C / +60°C
Status	Production

OMTAS / UMTAS / L-UMTAS ANTI-TANK MISSILE FUZE TECHNICAL SPECIFICATIONS	
Type	Electromechanical
Diameter	80 mm / 135 mm
Length	40 mm / 50 mm
Weight	315 g / 667 g
Function	Front and Main Fuze Set for Tandem Armour Piercing Warhead Pre-Fragmented Warhead Fuze
Safe and Arm	Two Independent Safety Features
Reference Standard	MIL-STD-1316
Environmental Tests	MIL-STD-810 MIL-STD-331
Operation Temperature	-35°C / +60°C
Status	Production



SMART MICRO MUNITION [MAM-L] FUZE TECHNICAL SPECIFICATIONS	
Type	Electromechanical
Diameter	135 mm
Length	50 mm
Weight	660 g
Function	Pre-Fragmented, Armour Piercing and Thermobaric Warhead Fuze
Safe and Arm	Two Independent Safety Features
Referans Standart	MIL-STD-1316
Environmental Tests	MIL-STD-810 MIL-STD-331
Operation Temperature	-35°C / +60°C
Status	Production

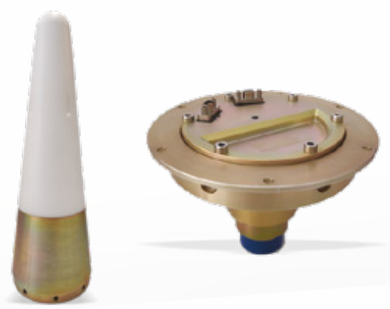
SMART MICRO MUNITION [MAM-C] FUZE TECHNICAL SPECIFICATIONS	
Type	Electromechanical
Diameter	62 mm
Length	100 mm
Weight	385 g
Function	Multi-purpose, Pre-fragmented Warhead Fuze
Safe and Arm	Two Independent Safety Features
Reference Standard	MIL-STD-1316
Environmental Tests	MIL-STD-810 MIL-STD-331
Operation Temperature	-35°C / +60°C
Status	Production

TRG-300 TIGER MISSILE FUZE

Type	Electromechanical
Diameter	85 mm / 195 mm
Length	205 mm / 75 mm
Weight	2,000 g / 1,600 g
Function	Impact / Proximity [10-15 m]
Arming Condition	Acceleration
Arming	30g
Safe and Arm	Two Independent Safety Features
Target Detection	External Proximity Unit
Reference Standard	MIL-STD-1316
Environmental Tests	MIL-STD-810 MIL-STD-331
Operation Temperature	-30°C / +71°C
Status	Production

TRG-230 MISSILE PROXIMITY FUZE TECHNICAL SPECIFICATION

Type	Electromechanical
Diameter	80 mm / 115 mm
Length	330 mm / 100 mm
Weight	2,200 g / 700 g
Function	Impact / Proximity [1-15 m]
Safe and Arm	Two Independent Safety Features
Target Detection	External Proximity Unit
Reference Standard	MIL-STD-1316
Environmental Tests	MIL-STD-810 MIL-STD-331
Operation Temperature	-30°C / +60°C
Status	Production



KARAOK ANTI-TANK MISSILE FUZE TECHNICAL SPECIFICATIONS

Type	Electromechanical
Diameter	60 mm / 72 mm
Length	40 mm / 60 mm
Weight	200 g / 400 g
Function	Front and Main Fuze Set for Tandem Armor Piercing Warhead
Safe and Arm	Two Independent Safety Features
Reference Standard	MIL-STD-1316
Environmental Tests	MIL-STD-810 MIL-STD-331
Operation Temperature	-32°C / +55°C
Status	Verification - Validation

LASER GUIDED MINI MISSILE FUZE TECHNICAL SPECIFICATIONS

Type	Electromechanical
Diameter	40 mm
Length	50 mm
Weight	115 g
Function	Blast&Fragmentation Warhead Fuze
Safe and Arm	Two Independent Safety Features
Reference Standard	MIL-STD-1316
Environmental Tests	MIL-STD-810 MIL-STD-331
Operation Temperature	-30°C / +50°C
Status	Development

FUZE SETTERS

20 MM AMMUNITION FUZE TECHNICAL SPECIFICATIONS

Diameter	17 mm
Length	31,6 mm
Intrusion Depth	9,6 mm
Weight	22 g
Function	Çarpma
Arming Condition	Acceleration and Spin
Arming	120,000g, 830 rps
Operating Temperature	-40°C / +60°C
Status	Production

RST-100 ARTILLERY AMMUNITION FUZE TECHNICAL SPECIFICATIONS

Type	Mechanical
Dimensions	MIL-STD-333 compliant
Weight	700 g [max.]
Function	Impact [SQ / Short Delay / Long Delay]
Safe and Arm	Two Independent Safety Features Safe for Flip Ramming
Arming Acceleration	> 1,000g
Arming Spin	> 1,500 rpm
Max. Acceleration	24,000g
Max. Spin	24,000 rpm
Reference Standard	MIL-STD-1316
Environmental Tests	MIL-STD-331
Operation Temperature	-40°C / +60°C
Status	Development

RST-500 MULTI-OPTION FUZE TECHNICAL SPECIFICATIONS

Type	Multi-Option
Dimensions	MIL-STD-333 Compliant
Weight	700 g [max.]
Function	Impact, Proximity and Time
Safe and Arm	Two Independent Safety Features
Arming Acceleration	>1,000g
Arming Spin	>1,500 rpm
Max. Acceleration	24,000g
Max. Spin	24,000 rpm
Reference Standard	MIL-STD-1316
Environmental Tests	MIL-STD-331
Setting	Inductive Fuze Setter AOP-22 Compliant
Operation Temperature	-40°C / +60°C
Status	Development

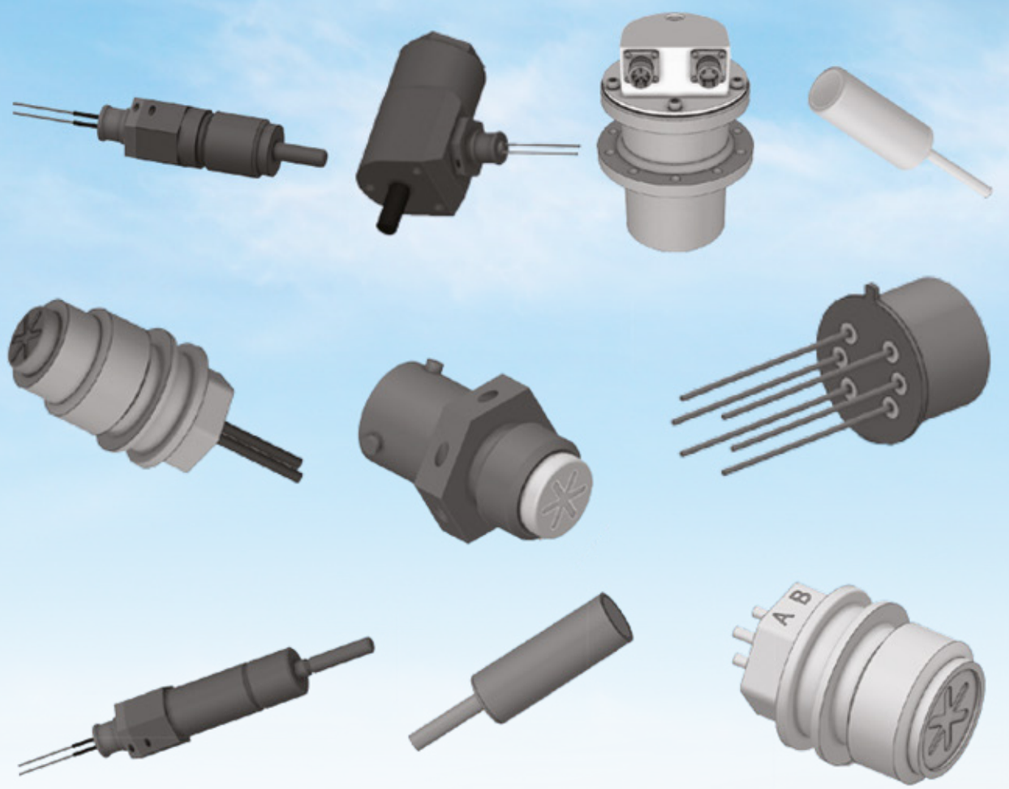
KAMIKAZE UAV AMMUNITION [RIHAM-C] FUZE TECHNICAL SPECIFICATIONS

Type	Electromechanical
Diameter	62 mm
Length	100 mm
Weight	400 g
Safe and Arm	Two Independent Safety Features
Reference Standard	MIL-STD-1316
Environmental Tests	MIL-STD-331 MIL-STD-810
Electrical Interface	RS-485
Operation Temperature	-35°C / +60°C
Status	Development

FUZE ADJUSTING UNITS

INDUCTIVE FUZE SETTER TECHNICAL SPECIFICATIONS	
Function	Inductive Fuze Setter
Weight	< 1,000 g
Dimensions	100 x 255 x 85 mm
Fuze Systems	Compatible with Fuzes Defined in AOP-22
Interface	RS-232 [9600 Band; 8 Bit, 1 Stop Bit]
Operation Temperature	-35° / +60°C

FUZE SETTER TECHNICAL SPECIFICATIONS	
Function	Proximity Fuze Setter
Weight	< 1,000 g
Dimensions	77 x 181 x 50 mm
Fuze Systems	122 & 300 mm Rocket Proximity Fuzes
Interface	Mini USB
Operation Temperature	-30°/+60°C



PYROTECHNIC SYSTEMS

ROCKET MOTOR IGNITERS

SAFE & ARM DEVICES

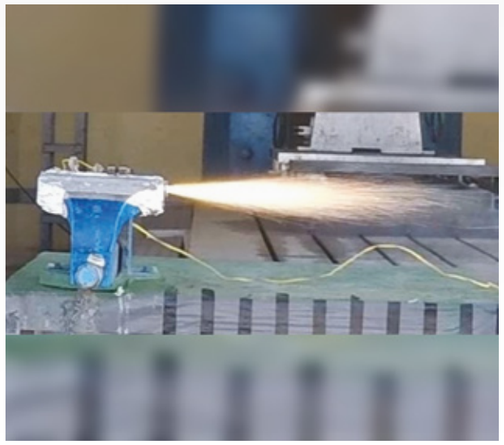
INITIATORS & CARTRIDGES

DETONATION SYSTEMS

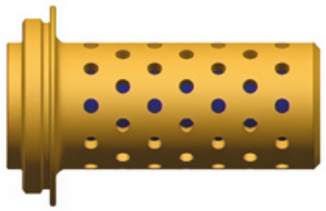
PYROTECHNIC DEVICES

09

ROCKET MOTOR IGNITERS



IGNITERS OF VARIOUS ROCKET MOTORS



ROCKET MOTOR IGNITERS

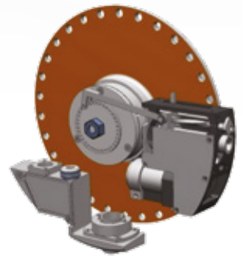
Designed for Solid Propellant Rocket Motors [with or without SAD]
Designed for Turbojet Motors
Complies with MIL-STD-1901A, MIL-STD-1576 and STANAG 4368
Protected against Electrostatic Discharge [AECTP-500]
Complies with Electromagnetic Compatibility Standards [MIL-STD-464A/461F]
1W/1A/5 Minutes No Fire, High Reliability

SAFE AND ARM DEVICES [SAD]

SAFE AND ARM DEVICES [SAD]

Arm - Safe Electrical Signals	Arming Time for EM-SADs <250 ms
Arm - Safe Indicator	-40 to +70°C Operation Temperature
Manual / Remote Control	Adjustable Interfaces [Mechanical or Electrical]

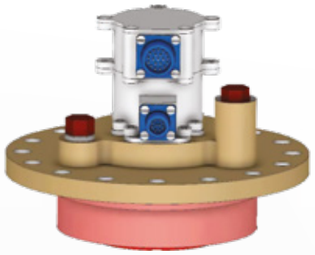
EM-EKM100



E-EKM400

EM-EKM200

EM-EKM500



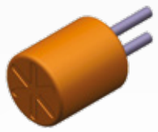
EM-EKM300

EM-EKM600

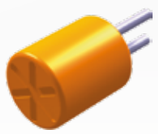
INITIATORS & POWER CARTRIDGES

INITIATORS & POWER CARTRIDGES

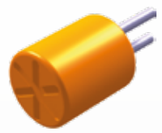
Highly reliable, low cost and light weight low-voltage hot-bridgewire explosives [initiators and power cartridges]; are used for the initiation of rocket motor igniters, gas generators and pyrotechnic devices.



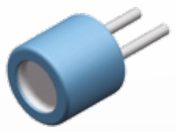
RSKM-100 [SQUIB]	
Bridgewire Resistance	1,1 ± 0,1 Ω
Max. No-Fire [5 min.]	1 A / 1 W
All Firing Current	3,5 A [50 ms]
Function Time	< 5 ms
Output [16.4 cc chamber]	1,5 MPa
Electrical Interface	Pin Type
Operational Temperature	[-60 °C] - [+70 °C]
Environmental Tests	MIL - DTL - 23659



RSKT-200 [SQUIB]	
Bridgewire Resistance	2,15 ± 0,15 Ω
Max. No-Fire [5 min.]	0,35 A
All Firing Current	1,2 A [10 ms]
Function Time	< 10 ms
Output [16.4 cc chamber]	1,5 MPa
Electrical Interface	Pin Type
Operational Temperature	[-35 °C] - [+60 °C]
Environmental Tests	MIL DTL 23659



RSKU-100 [SQUIB]	
Bridgewire Resistance	0,6 ± 0,1 Ω
Max. No-Fire [5 min.]	1 A / 1 W
All Firing Current	3,5 A [50 ms]
Function Time	< 25 ms
Output [16.4 cc chamber]	1,5 MPa
Electrical Interface	Pin Type
Operational Temperature	[-60 °C] - [+70 °C]
Environmental Tests	MIL- DTL - 23659



RSKKOM-100 [SQUIB]	
Bridgewire Resistance	1,15+-0,1 Ω
Max. No-Fire [5 min.]	1 A / 1 W
All Firing Current	3,5 A [50 ms]
Function Time	< 5 ms
Output [16.4 cc chamber]	0,7 MPa
Electrical Interface	Pin Type
Operational Temperature	[-60 °C] - [+70 °C]
Environmental Tests	MIL - DTL - 23659

TECHNICAL SPECIFICATIONS OF RS-GK600 [POWER CARTRIDGES]	
Bridgewire Resistance	1,15±0,15 Ω [Dual BW]
Max. No-Fire [5 min.]	1 A / 1 W [Each BW]
All Firing Current	3,5 A - 50 ms [Each BW]
Function Time	< 5 ms
Output [16.4 cc chamber]	2 MPa
Electrical Interface	Shielded Twisted Pair Cable
Operational Temperature	[-40 °C] - [+60 °C]
Environmental Tests	MIL - DTL - 23659

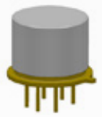
RS-GK200 [POWER CARTRIDGES]	
Bridgewire Resistance	1,15 ± 0,2 Ω [Dual BW]
Max. No-Fire [5 min.]	1 A / 1 W [Each BW]
All Firing Current	3,5 A - 50 ms [Each BW]
Function Time	< 10 ms
Output [16.4 cc chamber]	1 MPa
Electrical Interface	Pin Type
Operational Temperature	[-60 °C] - [+70 °C]
Environmental Tests	MIL - DTL - 23659

RS-GK100 [POWER CARTRIDGES]	
Bridgewire Resistance	1,15 ± 0,2 Ω [Dual BW]
Max. No-Fire [5 min.]	1 A / 1 W [Each BW]
All Firing Current	3,5 A - 50 ms [Each BW]
Function Time	< 10 ms
Output [16.4 cc chamber]	1 MPa
Electrical Interface	MS3111P8-4P Connector Per MIL-DTL-26482
Operational Temperature	[-60 °C] - [+70 °C]
Environmental Tests	MIL - DTL - 23659

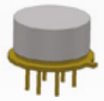
RS-GK400 [POWER CARTRIDGES]	
Bridgewire Resistance	1,15 ± 0,2 Ω [Dual BW]
Max. No-Fire [5 min.]	1 A / 1 W [Each BW]
All Firing Current	3,5 A - 50 ms [Each BW]
Function Time	< 10 ms
Output [16.4 cc chamber]	1 MPa
Electrical Interface	Shielded Twisted
Operational Temperature	[-60 °C] - [+70 °C]
Environmental Tests	MIL - DTL - 23659

DETONATION SYSTEMS

Detonation Systems are Exploding Foil Initiators [EFI] and Low Energy Exploding Foil Initiators [LEEFI] used to activate the warheads or rocket motors. Systems are resistant to electromagnetic interference and are activated with high voltage.



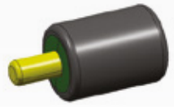
RS-EFI300 LOW ENERGY EXPLODING FOIL INITIATOR	
Properties	316L Steel Withness Plate 0.4 mm Deep Dent
Function Time	< 2 µs
Operating Temperature	[-54˚C] - [+71˚C]
Shelf Life	20 Years
Igniter Type	Electrical Detonator



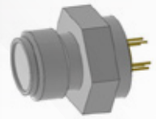
RS-EFI301 LOW ENERGY EXPLODING FOIL INITIATOR	
Properties	316L Steel Withness Plate 0.25 mm Deep Dent
Function Time	< 2 µs
Operating Temperature	[-54˚C] - [+71˚C]
Shelf Life	20 Years
Igniter Type	Electrical Detonator

RS-EFI302 LOW ENERGY EXPLODING FOIL INITIATOR	
Properties	316L Steel Withness Plate 0.8 mm Deep Dent
Function Time	< 2 µs
Operating Temperature	[-54˚C] - [+71˚C]
Shelf Life	20 Years
Igniter Type	Electrical Detonator

RS-EFI310 LOW ENERGY EXPLODING FOIL INITIATOR	
Properties	316L Steel Withness Plate 0.4 mm Deep Dent
Function Time	< 2 µs
Operating Temperature	[-54˚C] - [+71˚C]
Shelf Life	20 Years
Igniter Type	Electrical Detonator



DET130 DETONATOR	
Properties	70-95 HRB Steel Withness Plate, Minimum 0.4 mm Deep Dent
Function Time	< 100 µs
Operating Temperature	[-54˚C] - [+71˚C]
Shelf Life	10 Years
Igniter Type	Electrical Detonator



TBI100 THROUGH BULKHEAD INITIATOR	
Properties	10 cc Pressure Chamber Minimum 3 MPa, Maximum 9 MPa Pressure
Function Time	< 10 ms
Operational Temperature Range	[-54˚C] - [+71˚C]
Shelf Life	10 Years
Igniter Type	Electrical Detonator

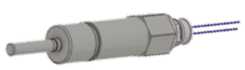
RS-ISD300	
Power	28V input, max. 1400V High Voltage
High Voltage Time	Max. 20ms
Communication Protocol	RS-485 Port
Operating Temperature	[-40 °C] - [+85 °C]
Environmental Tests	MIL-STD-1901 and MIL-STD-331
Status	Verification

PYROTECHNIC DEVICES

RS-PC160 EXPLOSIVE BOLT [NON-FRAGMENTING]	
Properties	Tensile Load ≥ 91.000 N
Function Time	0 - 15 ms
Operational Temperature Range	[-54˚C] - [+71˚C]
Shelf Life	15 Years
Igniter Type	Electrical Squib

RS-PC110 EXPLOSIVE BOLT [NON-FRAGMENTING]	
Properties	Tensile Load ≥ 10.000 N
Function Time	0 - 15 ms
Operational Temperature Range	[-54˚C] - [+71˚C]
Shelf Life	15 Years
Igniter Type	Electrical Squib

RS-PIC100 EJECTION DEVICE	
Properties	Tensile Load ≥ 20.000 N Min Force: 10.000 N
Function Time	< 15 ms
Operational Temperature Range	[-54 °C] - [+71 °C]
Shelf Life	15 Years
Igniter Type	Electrical Squib



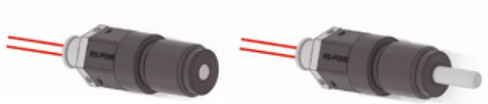
RS-PC1785 EXPLOSIVE BOLT [NON-FRAGMENTING]	
Properties	Tensile Load ≥ 5000 N
Function Time	0 - 15 ms
Operational Temperature Range	-54 ˚C - +71 ˚C
Shelf Life	15 Years
Igniter Type	Electrical Squib

RS-PC163 EXPLOSIVE BOLT [NON-FRAGMENTING]	
Properties	Tensile Load ≥ 91000 N
Function Time	0 - 15 ms
Operational Temperature Range	[-54˚C] - [+71˚C]
Shelf Life	15 Years
Igniter Type	Electrical Squib

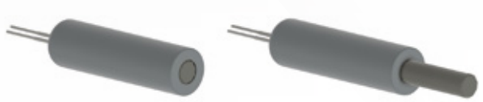
RS-PC130 EXPLOSIVE BOLT [NON-FRAGMENTING]	
Properties	Tensile Load ≥ 30000 N
Function Time	0 - 15 ms
Operational Temperature Range	[-54˚C] - [+71˚C]
Shelf Life	15 Years
Igniter Type	Electrical Squib

RS-PC165 EXPLOSIVE BOLT [NON-FRAGMENTING]	
Properties	Tensile Load ≥ 91000 N
Function Time	0 - 15 ms
Operational Temperature Range	[-54˚C] - [+71˚C]
Shelf Life	15 Years
Igniter Type	Electrical Squib

RS-PI172 PIN PUSHER	
Properties	Cutting 6061-T6 Aluminum Pin with radius of 0.05” [1,27 mm]
Function Time	< 1 ms
Operational Temperature Range	[-54 °C] - [+71 °C]
Shelf Life	10 Years
Igniter Type	Electrical Squib

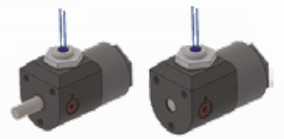


RS-PI300 PIN PUSHER	
Properties	Stroke: 15mm Min. Force: 3500N
Function Time	0 - 15 ms
Operational Temperature Range	[-54 °C] - [+71 °C]
Shelf Life	15 Years
Igniter Type	Electrical Squib

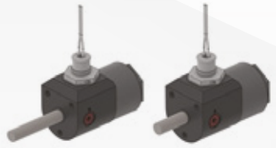


RS-mPI0623 PIN PUSHER	
Properties	Stroke: 15mm Min. Force: 400N
Function Time	0 - 15 ms
Operational Temperature Range	[-54˚C] - [+71˚C]
Shelf Life	10 Years
Igniter Type	Electrical Squib

RS-PI310 PIN PUSHER	
Properties	Stroke: 10mm Min. Force: 3500N
Function Time	0 - 15 ms
Operational Temperature Range	[-54˚C] - [+71˚C]
Shelf Life	15 Years
Igniter Type	Electrical Squib



PS-PCK3564 PIN PULLER	
Properties	Stroke: 13mm Radial Load on Pin ≤ 1000N
Function Time	0 - 15 ms
Operational Temperature Range	[-54˚C] - [+71˚C]
Shelf Life	15 Years
Igniter Type	Electrical Squib



RS-PCK130 PIN PULLER

Properties	Stroke: 13mm [negative] Radial Load on Pin ≤ 1000N
Function Time	0 - 15 ms
Operational Temperature Range	[-54˚C] - [+71˚C]
Shelf Life	15 Years
Igniter Type	Electrical Squib

RS-mPCK0420 PIN PULLER

Properties	Strok=3mm Radial Load on Pin <5N
Function Time	0 - 15 ms
Operational Temperature Range	[-54˚C] - [+71˚C]
Shelf Life	10 Years
Igniter Type	Electrical Squib

RS-PV105 PYROTECHNIC VALVE

Properties	3/8" 316 SS 400 Bar Normally Closed
Function Time	0 - 15 ms
Operational Temperature Range	[-54˚C] - [+71˚C]
Shelf Life	15 Years
Igniter Type	Electrical Squib

RS-KK1990 CABLE CUTTER

Properties	Used for Cutting 3mm AISI 302/304 SS wire
Function Time	0 - 15 ms
Operational Temperature Range	[-54˚C] - [+71˚C]
Shelf Life	15 Years
Igniter Type	Electrical Squib

RS-AS100 SEPERATION NUT [NON-FRAGMENTING]

Properties	Tensile Load ≥ 100000 N
Function Time	0 - 15 ms
Operational Temperature Range	[-54˚C] - [+71˚C]
Shelf Life	15 Years
Igniter Type	Electrical Squib

RS-mKM0825 BELLOWS ACTUATOR

Properties	Stroke: 25mm Min. Force: 100N
Function Time	0 - 15 ms
Operational Temperature Range	[-54˚C] - [+71˚C]
Shelf Life	10 Years
Igniter Type	Electrical Squib

roketsan

2021 ENG-V2

roketsan

Kemalpaşa Mahallesi Şehit Yüzbaşı Adem Kutlu Sokak No:21
06780 Elmadağ, ANKARA / TURKEY

Phone : + 90 [312] 860 55 00
Fax : + 90 [312] 863 42 08
e-mail : pazarlama@roketsan.com.tr
web : www.roketsan.com.tr