



MSSA

MAIN SENSOR SLAVED ARMAMENT

TAKING RESPONSIBILITY IN A CHANGING WORLD

 RHEINMETALL

MSSA (Main Sensor Slaved Armament) is a remote-controlled weapon station of the latest generation, which is capable of countering the diverse threat scenarios of a modern conflict. The system can be equipped with machine guns of different calibres as well as automatic grenade launchers. The system's modular modification options range from non-lethal weapons (e.g. ROSY, Laser-Dazzler) to a CUAV configuration (radar system in conjunction with an MG6, for example). Even heavily armoured targets can be engaged thanks to the integration of Spike launchers.

The MSSA is a highly functional extension of the state-of-the-art SEOSS2 sight system, also from Rheinmetall, and thus offers the option of a killer-killer capability for infantry fighting vehicles and battle tanks without restricting all-round visibility or requiring additional installation space on the turret.

The MSSA is operated by the commander as an extension of the commander's sight. It is also suitable for use on smaller vehicles or turrets on which the SEOSS2 already has space as a visual aid.

The real-time evaluation of all control and fire control signals in conjunction with a permanent coincidence analysis, optional automatic tracking and a backlash-free drive train, which is decoupled from the sight, enables unrivalled precision and first-hit probability.

Modern multiplexing technology ensures high availability of the SEOSS2 visual aid. This prevents a total failure of the system and the commander's view can still be used if the weapon system is damaged.

The system was developed in accordance with IEC 61508 and cross-sectionally qualified for use on wheeled and tracked vehicles according to AECTP400.

PERFORMANCE CHARACTERISTICS

- High first-hit probability
- Modular tailoring for different threat scenarios
- Possible CUAV functionality
- Possible engagement of heavily armoured targets
- 4-axis stabilised
- Highest precision due to backlash-free drive trains
- High availability of the command visualisation system due to integrated armour protection and independent weapon system
- Can be used cross-sectionally on wheeled and tracked vehicles
- Preparation for duel simulation
- IEC 61508
- AECTP200/AECTP300/AECTP400
- MIL-STD-1275E/MIL-STD-461F
- ITAR-free

Technical data of the MSSA based on the basic configuration with Browning M2 with ammunition box integrated in the elevation structure and without further options:

TECHNICAL DATA	
Height (above the flange)	978mm
Length	1150mm
Width	780mm
Empty weight (without weapon and ammunition)	387 kg
Operating weight (M2 with 200 rounds of ammunition)	≈450 kg
Azimuthal aiming range	n x 360°
Elevation aiming range	-15° to 75°
Max. aiming speed	120°/s
Max. acceleration	300°/s ²
Armament	
Weapon	Browning M2 HB QCB
Firing modes	Single fire Continuous fire Bursts (adjustable length) Rapid single fire (cadence adjustable)
Ammunition supply	200 rounds

TECHNICAL DATA OF THE VISUAL AID	
Thermal imaging camera	
Spectral band	3 μm – 5 μm
Resolution	1024 x 768
FoV horizontal/vertical	W FoV: 16.7° x 12.5° M FoV1: 8.9° x 6.7° M FoV2: 4.4° x 3.3° N FoV: 2.2° x 1.7°
Range	Detection ≈18,000m
B3 armoured vehicle (2.3 m x 2.3 m)	Reconnaissance ≈10,000m
1/3/6 LP STANAG 4347	Identify ≈5,500m
Day vision camera	
Spectral band	350 – 1,100 nm
Resolution	2464 x 2056
FoV horizontal/vertical	W FoV: 16.7° x 12.5° M FoV1: 8.9° x 6.6° M FoV2: 4.4° x 3.3° N FoV: 2.2° x 1.7°
Range	Detection ≈17,000m
B3 armoured vehicle (2.3 m x 2.3 m)	Reconnaissance ≈8,500m
1/3/6 LP STANAG 4347	Identify ≈4,900m
Laser rangefinder	
Distance measuring range	50 – 39,999m
Range (2.3 m x 2.3 m target)	>12,400m
Wavelength	1,565 – 1,575 nm
Frequency	12 – 30 Hz
Classification	Class 1M

The architecture and design of the MSSA offers options for fitting alternative armaments, additional actuators and sensors as well as further configuration options.

ALTERNATIVE AND ADDITIONAL POSSIBLE ARMAMENTS AND OPTIONS	
Alternative guns can be fitted	
7.62 x 51 mm	Mag58, MG5A1, MG6
12.7 x 99 mm or 12.7 x 108 mm	M2, NSV-T
40 x 53 mm	Mk47, HK GMW
Ammunition capacity	
7.62 mm x 51	up to 3,000 rounds
12.7 mm x 99	up to 500 rounds
40 mm x 53	up to 64 rounds
Air defence/anti-tank defence	max. 4 missiles
Alternative sighting systems	
SEOSS 200	For details see data sheet SEOSS 200
SEOSS 300	For details see data sheet SEOSS 300
SEOSS 320	For details see data sheet SEOSS 320
SEOSS 400	For details see data sheet SEOSS 400
Fittable missiles	
Air defence	FIM-92 Stinger, Javelin
Anti-tank defence	Spike LR2, Enforcer
Further options	
Additional sensors	Radar StormGuard ELM-2135
Non-lethal means of defence	High-Intensity-Light, Laser-Dazzler, ROSY, Maske
Armour protection of the visual aid	up to STANAG Level 3

EXAMPLE CONFIGURATION WITH MISSILE PODS

The ability to integrate up to four guided missiles (Spike LR2, Enforcer) makes it possible to engage heavily armoured targets.

The MSSA can also be used to engage aerial targets. FIM-92 Stinger or Javelin guided missiles can be integrated into the system for this purpose.

Shown here is the configuration with a Browning M2 (200 rounds) and two Enforcer guided missiles.



EXAMPLE CONFIGURATIONS FOR DRONE DEFENCE

Combat and reconnaissance of UAVs is possible by mounting a radar and a MG6 on the weapon station.

The high rate of fire of the MG6 in combination with an extended ammunition capacity of up to 3,000 rounds and the radar system offers the possibility of rapid and cost-efficient combat against UAVs.

Shown here is the configuration with a mounted MG6, an ammunition box for up to 3,000 rounds in 7.62 x 51 mm calibre and two StormGuard ELM-2135s.



EXAMPLE CONFIGURATIONS FOR MAIN BATTLE TANKS

For use on military vehicles with restrictive height requirements, a design with lateral weapon mount and reduced sight system is also possible.

Compared to the SEOSS 300, the SEOSS 400 shown here offers significantly higher performance data in a smaller installation space.

A configuration with a lateral RMG 7.62, a SEOSS 400 sight system, a StormGuard ELM-2135 radar and four bi-spectral smoke dischargers (MASKE) is shown.



Please note that the information on the scope of delivery, appearance, performance, dimensions and weights of the system corresponds to the design status at the time of printing. Any deviations from the illustrations in colour and form, errors and misprints, as well as changes, are reserved.

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