



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 CUAS 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 SEOSS 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 SEOSS 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 SEOSS 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 CUAS 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 | | | 120°/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 | WFOV: | | 16.7° x 12.5° |
| | MFoV1: | | 8.9° x 6.7° |
| | MFoV2: | | 4.4° x 3.3° |
| | NFoV: | | 2.2° x 1.7° |
| Range | Detection | | ≈18,000 m |
| B3 armoured vehicle (2.3 m x 2.3 m) | Reconnaissance | | ≈10,000 m |
| 1/3/6 LP STANAG 4347 | Identify | | ≈5,500 m |
| Day vision camera | | | |
| Spectral band | | | 350 – 1,100 nm |
| Resolution | | | 2464 x 2056 |
| FoV horizontal/vertical | WFOV: | | 16.7° x 12.5° |
| | MFoV1: | | 8.9° x 6.6° |
| | MFoV2: | | 4.4° x 3.3° |
| | NFoV: | | 2.2° x 1.7° |
| Range | Detection | | ≈17,000 m |
| B3 armoured vehicle (2.3 m x 2.3 m) | Reconnaissance | | ≈8,500 m |
| 1/3/6 LP STANAG 4347 | Identify | | ≈4,900 m |
| Laser rangefinder | | | |
| Distance measuring range | | | 50 – 39,999 m |
| Range (2.3 m x 2.3 m target) | | | >12,400 m |
| Wavelength | | | 1,565 – 1,575 nm |
| Frequency | | | 12 – 30 Hz |
| Classification | | | Class 1 M |

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/M240, 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 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 | | EchoDyne EchoGuard |
| 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 EchoDyne EchoGuard.



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, an EchoDyne EchoGuard 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.

Rheinmetall Electronics GmbH

Brüggeweg 54

28309 Bremen

Germany

www.rheinmetall.com