



THERMAL IMAGER SENSOR – SAPHIR 2.6 MK

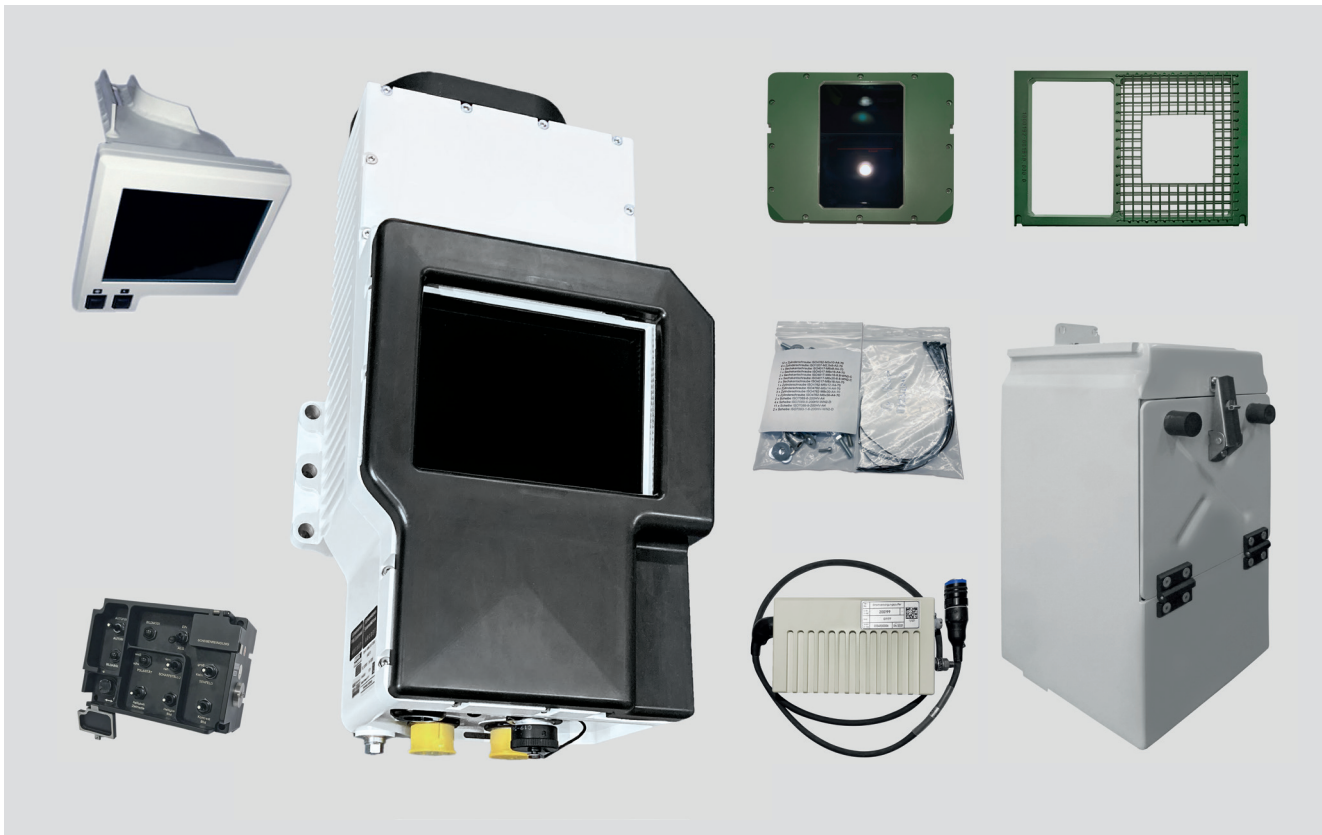
IFV Marder was designed and produced in Germany in the 1970s. More than 2000 units were produced and today more than 500 vehicles are in service worldwide. Ongoing updates and improvements keep the vehicles modern. Rheinmetall currently offers a substantial life extension program. Modular kits are combined with comprehensive thoughts. This includes a new engine and goes up to latest ATGM integration. Replacement of outdated WBG-X for gunner and commander is important to keep the IFV capable for recent tasks. In general, Rheinmetall is the reliable long-term partner for nations worldwide to upkeep tank fleets.

Saphir 2.6 MK is a modern thermal imager technology with all key characteristics required by modernized IFV Marder. Performance is significantly improved and matches today's tasks, including procedures for ATGM fire missions. Introduced IFV fleet can remain in local service during update. Saphir 2.6 MK allows cost effective future on high standards of modern IFV. Local participation for updates with Saphir is typical. Despite 50 years in service, there is even many more years to come for IFV Marder.

Saphir 2.6 MK Thermal Imager for Infantry Fighting Vehicle Marder with 3rd Generation Detector Technology

- Rheinmetall Saphir is an established product according to OEM requirements

- In service with the German IFV Marder fleet since 2022
- Form Fit Function Replacement Kit for easy installation and minimum logistic implication
- Reuse of mechanical, optical and electrical interfaces with tailored state of the art technology
- Mid wave detector and price performance champion for land systems
- Extended range performance for tactical advantages compared to old status
- Improved target identification capability for the crews via high image resolution
- External video interface for future growth potential
- Modern and improved user interface with TFT displays in the existing user concept
- Look alike appearance for crews & maintainer for intuitive usage, including experienced staff
- Easy local replacement on workshop level – Rheinmetall service support on demand
- Long term logistical support guarantee with Rheinmetall common product line (at least 2040)
- Combination with comprehensive upgrade modules of the Marder life extension program



PERFORMANCE OF THE INFRARED SIGHT SYSTEM

Detector	Cooled detector, CMT – FPA (HgCdTe)	
Numbers of detector pixels	640 x 480	
Wavelength	3 – 5 μm	
Cooling time	≤ 6.5 min (@ 23°C), ≤ 12 min (@ 71°C)	
NFoV	2.8° (Horizontal)	
WFOV	9.2° (Horizontal)	
Focus distance (@ 21°C)	10m to infinity for NFoV, 5m to infinity for WFOV	
Type of optics	Switching optic with 2FoVs	
FoV change time (@ 21°C)	≤ 1 s	
NETD	≤ 30 mK	
Range performance *)	Identification	$> 2,950$ m
*) STANAG 4347 $\sigma = 0.2$		
Communication	CAN-Bus	
Video	Analogous, camera link	
Display	6.5 inch, 1024 x 480 Pixel, colour	
Power	18V – 36V; MIL-STD-1275D (max. 200W)	
Weight	< 35 kg	