

Protection and Survivability



Protection against:

- ← Bomblets
- ← Artillery fragments
- ← Shaped charges
- ← KE projectiles
- ← IED
- ← Anti-tank mines
- ← NBC threats

Advanced overall protection

PUMA's superior level of protection is achieved by a combination of cutting-edge protection technologies:

- Threats are identified early and adequate countermeasures can be initiated immediately. The latest generation of optical and optronic vision equipment and sensors combined with the control and display concept and the communication devices ensure that the entire crew is integrated in the observation and reconnaissance activities.
- PUMA's protection affords its crew with the world's latest generation of protection technologies which provide the highest available level of combined protection against mines, shaped charges and KE ammunition as well as NBC weapons.
- Redundant functionalities and fall-back modes guarantee a high level of operational availability, even in the event of failure of individual components.

Modular protection concept

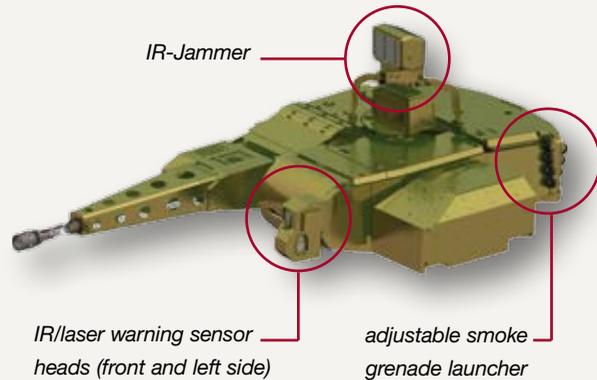
PUMA features a modular protection concept. Weight reduction for air transportability to configuration level A (Airtransportable), based on the requirements for Airbus A400M is achieved by simply removing the armour modules. These armour modules are easily mounted and increase PUMA's protection to the significantly higher configuration level C (Combat). This modular protection concept also enables the integration of future protection technologies against future threats.

The ballistic armour is designed to provide protection against hand-held anti-tank weapons, medium calibre weapons, artillery fragments and bomblets. The mine protection is highly effective against heavy blast mines and also explosive formed projectile (EFP) mines. Interfaces for active protection systems are already integrated in the vehicle. These interfaces ensure that customised solutions of hardkill and softkill protection systems can be easily integrated. All PUMA operated by the German Army comprise a softkill protection system against guided missiles as a standard feature.

Multifunctional self-protection system

The AIFV PUMA for the German Army is equipped with a soft-kill protection system against guided missiles which also includes laser warning elements.

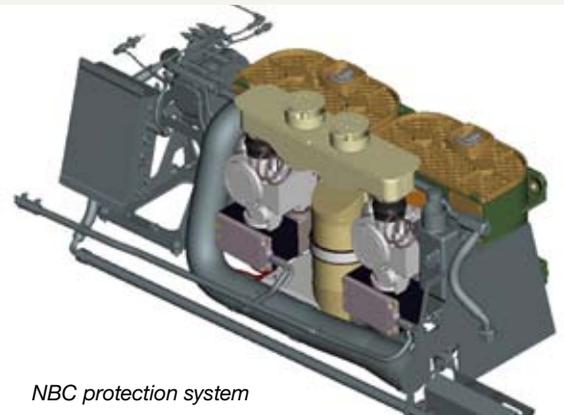
The turret is equipped with four dual-sensor heads for all-round detection of enemy laser range finders and guided anti-tank missiles. The sensor heads communicate with a central electronic system. This central electronic system activates the IR-Jammer and/or adjustable smoke grenade launcher for appropriate counter measures.



NBC protection

The NBC protection is integrated in the heating/air conditioning system and supplies the crew with clean, fresh air and provides excellent thermal comfort at all times.

Additionally, modern nuclear and chemical sensor technology warns the crew about these existential threats.



Fire suppression system for the crew compartment – Fire extinguishing system for the engine compartment

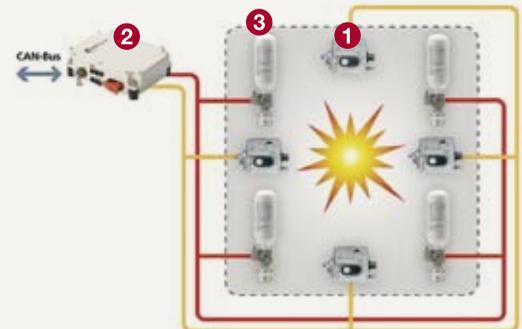
Efficient fire protection is essential for survival – not only for the vehicle but also for the crew. An early detection and automatic extinguishing of a fire in the crew or engine compartment is critical for protecting crew and vehicle.

The fire suppression system is installed in the crew compartment. Fires and explosions need to be detected in the first milliseconds and suppressed immediately after detection.

PUMA's fire suppression system detects and suppresses a fire explosion within these crucial milliseconds which protects the crew against grievous injuries.

The fire extinguishing System is installed in the engine compartment and extinguishes any fires automatically – even at high engine speed.

NBC protection system



Fire suppression system (crew compartment):
 ① Infrared detectors with two sensors
 ② Control unit for evaluation of signals and activation of
 ③ Fire extinguishing cylinders