



Cargo Hold System for Military Aircraft Airbus A400M

Cargo Loading Systems from Airbus DS Airborne Solutions (ADAS) in Bremen are fitted on numerous Airbus aircraft (e.g. A330/A340, A340 or the A380), and are also part of the new military transporter A400M

Humanitarian support and interventions by international organizations such as the UN and NATO cover the whole range of relief missions and require the mobilization of substantial logistic resources. Therefore, modern military transport aircraft require a cargo hold system, which – both electrically and electronically – is easy to operate and completely reliable.

Airbus has developed a new military aircraft for transport and aerial delivery. Acting as prime contractor for Airbus, ADAS is responsible for the Loadmaster Control System for the new A400M military transport aircraft.

The new Loadmaster Control System serves as the electronic brain of the entire cargo hold. It essentially consists of the following components:

- Loadmaster Workstation
- Loadmaster Control Panel
- Eight Sidewall Lock Panels
- Remote Control Unit for the cargo
- Winches and crane

On the ground, the system ensures safe, efficient loading of the plane. In the air, the Loadmaster enables effective control and navigation of numerous interface systems. For example, the Loadmaster Workstation and the other operating panels will permit to drop cargo while the aircraft is in flight – one of the main missions of the A400M.

Technical Data

System Componentes	Technical Features
Main functions	<p>Control, monitoring and display of:</p> <ul style="list-style-type: none"> ▪ Cargo handling (roller / restraint system rail locks) ▪ Rear cargo door and ramp operation ▪ Aerial delivery (gravity-, ejection-control and back-up operations) ▪ Cargo winch operation ▪ Cargo hold lighting ▪ Crew & cargo hold oxygen ▪ Cargo hold cooling, heating and ventilation ▪ Cargo hold / lavatory fire warning ▪ Full audio communication with flight-crew, passenger and ground station ▪ Landing gear kneeling system operation ▪ Aircraft support struts ▪ APU emergency shut-down ▪ Toilet waste level indications ▪ Door warning ▪ LMC instrument integral lighting: integral lighted plates, annunciators management ▪ Remote control of retrieval winches, cargo winch and crane ▪ Load planning ▪ Support weight and CG calculation ▪ Video monitoring (optional) ▪ Support CH aural alerts triggering
Loadmaster Workstation (LMWS)	<p>Provides display of cargo handling operations and system status</p> <p>Gives the cockpit information about in-flight opening of cargo ramp and rear cargo door</p> <p>Control and monitoring of the aerial delivery operation</p> <p>Master control function to enable/disable the control of the panels</p> <p>Multifunctional display</p>
Loadmaster Control Panel (LMCP)	<p>Supervision of cargo hold, ramp control, cargo hold lights, ramp lights, loading area lights, door warning systems</p> <p>Controls related to aerial delivery of paratroops</p> <p>Controls loading and off-loading</p>
Sidewall Lock Panels (SWLPs)	<p>Controls the detent latches (for longitudinal restraint of pallets and platforms) in segments</p>
Remote Control Unit (RCU)	<p>Operation of retrieval winches, cargo winch and crane</p>