



Fast and Secure Data Loading

Data Loader Connector Panel

The growth of aircraft systems operated by onboard loadable software and the extinction of 3,5" floppy disks make common Airborne Data Loaders (ADL) and Multipurpose Disk Drive Units (MDDU) more and more inconvenient. We provide a plug-and-play Data Loader Connector Panel (DLP) for easy connection of any ARINC 615 Standard Portable Data Loader (PDL). The Lufthansa Technik solution comprises hardware, approved design data, and documentation for an easy replacement of the existing ARINC 615 compatible Airborne Data Loader (ADL) or Multipurpose Disc Drive Unit (MDDU).

The installation of the Portable Data Loader panel is approved as a minor change to the type design and has received an EASA DOA approval. Bilateral agreements between the European Union and other countries enable the installation of the DLP without further certification effort also on aircraft not registered in EASA region.

Customer Advantages

- 3,5" floppy disks no longer required
- Toolless access to front panel connector
- Retrofit within minutes
- Reduced panel space (blanking plate for resulting space included)
- Maintenance free



Secure Portable Data Loader

TechSAT's Portable Data Loader PDL Mk.II GARDT® is an integrated software and hardware solution for loading aircraft software parts, such as databases and operational programs, into airborne computers.

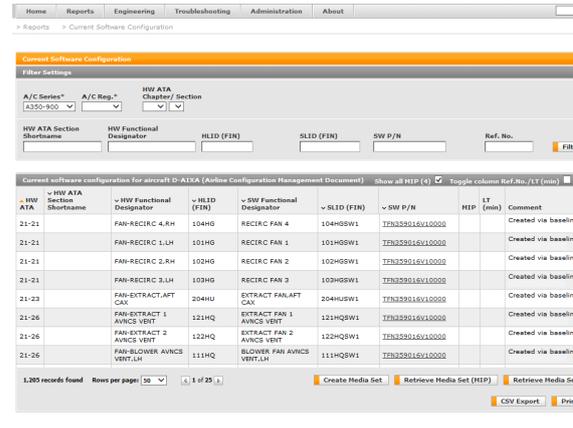


- TechSAT GARDT® Technology for secure data loading according to Airbus Security Requirements for Portable Data Loader
- ARINC 429, ARINC 615/603, ARINC 615A, and USB emulator data loading via standard aircraft Data Loading Connector
- Engine data loading and data acquisition (e.g. FADEC, EEC, LEAP)
- Compatible with all Airbus and Boeing aircraft
- Direct data loading from USB 3.5" floppy disk, USB DVD drive, USB stick, or HDD media repository
- Import of load parts from all types of USB media or via LAN to HDD media repository
- Full-ruggedized 10.1" Panasonic Convertible Toughbook CF-20 in a polyethylene protector case
- Fully compliant with standard PDL adapter cables

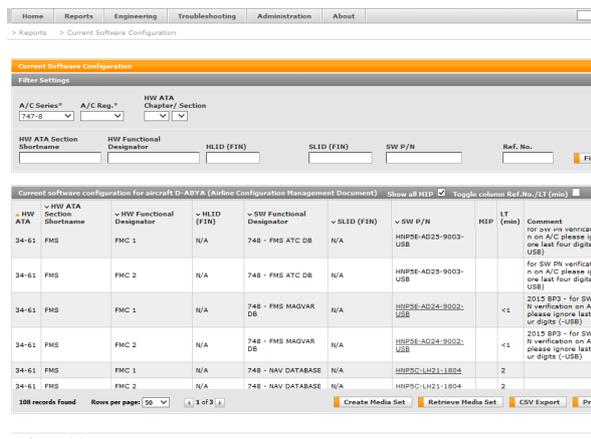


eEnabled Software Management

The eEnabled Software Management (eESM) platform allows customers to handle software management for an entire fleet – today and in the future. eESM can be used as a standalone solution for operators of new eEnabled aircraft such as the A350, which contains 1,100 software positions and approximately 450 software part numbers. Operators of mixed-asset fleets, some of whom still use floppy disks, can also manage their software by integrating a portable data loader (PDL), an adapter plate (designed and certified by Lufthansa Technik) and the eESM suite. Thanks to the combination of these three devices, the use of technically obsolete delivery formats (e.g. floppy disks, DVDs, or USB sticks) can be eliminated.



| HW ATA Section Shortname | HW Functional Designator | HLID (FIN) | SW Functional Designator | SLID (FIN) | SW P/N | MIP | LT (min) | Comment |
|--------------------------|--------------------------|------------|--------------------------|------------|------------------|-----|----------|----------------------|
| 21-21 | FAN-RECIRC 4.RH | 104HG | RECIRC FAN 4 | 104HGSW1 | 7FN3292616V10000 | | | Created via baseline |
| 21-21 | FAN-RECIRC 1.LH | 101HG | RECIRC FAN 1 | 101HGSW1 | 7FN3292616V10000 | | | Created via baseline |
| 21-21 | FAN-RECIRC 2.RH | 102HG | RECIRC FAN 2 | 102HGSW1 | 7FN3292616V10000 | | | Created via baseline |
| 21-21 | FAN-RECIRC 3.LH | 103HG | RECIRC FAN 3 | 103HGSW1 | 7FN3292616V10000 | | | Created via baseline |
| 21-23 | FAN-EXTRACT_AFT CAK | 204HU | EXTRACT FAN_AFT CAK | 204HUSW1 | 7FN3292616V10000 | | | Created via baseline |
| 21-26 | FAN-EXTRACT 1 AVICS VENT | 121HQ | EXTRACT FAN 1 AVICS VENT | 121HQSW1 | 7FN3292616V10000 | | | Created via baseline |
| 21-26 | FAN-EXTRACT 2 AVICS VENT | 122HQ | EXTRACT FAN 2 AVICS VENT | 122HQSW1 | 7FN3292616V10000 | | | Created via baseline |
| 21-26 | FAN-BLOWER AVICS VENT_LH | 111HQ | BLOWER FAN AVICS VENT_LH | 111HQSW1 | 7FN3292616V10000 | | | Created via baseline |



| HW ATA Section Shortname | HW Functional Designator | HLID (FIN) | SW Functional Designator | SLID (FIN) | SW P/N | MIP | LT (min) | Comment |
|--------------------------|--------------------------|------------|--------------------------|---------------------|--------|---------------------|----------|---|
| 34-61 | FMS | FMC 1 | N/A | 748 - FMS ATC DB | N/A | HPFSE-AD23-9003-USB | | |
| 34-61 | FMS | FMC 2 | N/A | 748 - FMS ATC DB | N/A | HPFSE-AD23-9003-USB | | |
| 34-61 | FMS | FMC 1 | N/A | 748 - FMS MAGVAR DB | N/A | HPFSE-AD24-9002-USB | <1 | for SW P/N verification on A/C please ignore last four digits (-USB) |
| 34-61 | FMS | FMC 2 | N/A | 748 - FMS MAGVAR DB | N/A | HPFSE-AD24-9002-USB | <1 | 2015 BR3 - for SW P/N verification on A/C please ignore last four digits (-USB) |
| 34-61 | FMS | FMC 1 | N/A | 748 - NAV DATABASE | N/A | HRPDC-LH21-1804 | 2 | |
| 34-61 | FMS | FMC 2 | N/A | 748 - NAV DATABASE | N/A | HRPDC-LH21-1804 | 2 | |

The web-based application provides a detailed overview and display of an aircraft's current software configuration; software updates can be planned anytime and anywhere. eESM thus reduces manpower and resources while guaranteeing optimum access to the aircraft software – worldwide and anytime. Consequently, costs for logistics and work are reduced and the tool can be used for all aircraft types as a one-fits-all solution. eEnabled Software Management allows the user to import, store, and reproduce necessary software updates simply and securely to comply with legal requirements, incorporate design improvements, and perform corrective actions.

Customer Advantages

- Software always at your fingertips
- Less manpower and fewer resources
- Aircraft type-independent solution
- One-fits-all solution for every customer independently of aircraft type and fleet age
- Longstanding experience and know-how
- Process-oriented user guidance
- Requires only one week of training