

EDAMS® Embedded Datalogger for Meteorological Systems

A compact automatic weather station for meteorological observation.

» Mission:

Embedded Datalogger for Meteorological Systems (EDAMS®) is an automatic weather station for surface weather measurements, providing field-proven reliability and accuracy.

EDAMS® can be combined with Techno Sky e-AWOS system, allowing TWR observers to collect and monitor a set of meteorological data measured near the runway. Nowadays EDAMS® provides meteorological information at over 40 Italian airports.



Operational Scenario:

Acquisition of meteorological raw data from analog and digital field sensors, such as anemometers, barometers, thermometers, hygrometers, rain gauges and other instruments.

Key benefits:

- Independence from sensors vendor
- Easy integration with existing third party systems
- Flexible solution suitable to be easily expanded
- Configured according to local operational needs in several applications, such as aviation, agriculture, hydrology and climatology.
- Easy to service and maintain
- Low operational costs
- Low power consumption



Main technical features and overview:

- Validation and quality check of meteorological raw data according to operating sensors parameters
- Elaboration of data averages such as wind (direction and intensity), temperature, relative humidity and precipitation, as well as QNH, QFE, dew point and other derived data, according to ICAO standards and WMO guidelines
- Easy remote monitoring of weather data and sensors status via EDAMS® Viewer software application, or Techno Sky e-AWOS system or third party AWOS class systems
- Redundancy in communication interfaces, allowing data to be transmitted by means of different technologies
- Optional integration of smart instruments, such as transmissometers, ceilometers, visibility and present weather sensors

Interfaces:

Inputs:

- Serial RS232, RS422, RS485 and USB ports
- Pt100/ Pt1000 ports
- Dry/Wet contact ports
- Counter/Frequency/PWM channel

Outputs / Maintenance:

- Serial RS232, RS422, RS485
- Ethernet (redundant)
- Leased line modem
- WiFi
- Cellular

Technical specifications:

- Heavy-duty rugged waterproof case, which allows indoor or outdoor installation in regular or harsh environments
- Housing made up of a steel box and an aluminum shelter to mitigate heating due to solar radiation
- Easy installation on wall, trellis and mast
- Configuration tool available to manage operating parameters
- White shield protection against excessive sun radiation, to minimize temperature differences between day and night and to prevent internal condensation
- Wide operating temperature of -50° to +60° C
- Maximum relative humidity: 100% RH
- Stainless steel and aluminum material, painted with RAL 9003 color
- IP66 protection rating in accordance with EN 60529/09.200
- Embedded x86 single board computer based on linux
- Up to 7 hot-plug expansion modules for I/O communications
- Seamless operation for 12 hours without a main AC Power
- 120W AC/DC power supply unit and 12V lead acid battery
- Internal UPS for long-term operation during main power failures
- Additional 220W AC/DC power supply for sensor heaters and obstruction lights
- Compact Flash slot for data and log storage
- 16-bit ADC for analog inputs



Regulations and Certifications:

- ICAO Annex 3, Doc. 8896, Doc. 9328
- WMO No 8, No 306, No 731, No 732
- EN/IEC 61326-1 Electrical equipment for measurement, control and laboratory use - EMC requirements - Part 1: General requirements
- Directive 2014/30/EU on the harmonisation of the laws of the Member States relating to electromagnetic compatibility
- Directive 2014/35/EU on the harmonisation of the laws of the Member States relating to the making available on the market of electrical equipment designed for use within certain voltage limits
- EATMN Equipment compliant with Reg.(EU) 2018/1139
- Supporting ANSPs for SoC emission in compliance with Reg.(EU) 2017/373
- CMMI-DEV Level 2 (V.3.0) compliant development cycle
- Software Assurance Level (SWAL) according to EUROCAE ED-153
- Secure Development process compliant with EUROCAE ED-205A

Support:

- Train-the-Trainers service for user and maintenance topics