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

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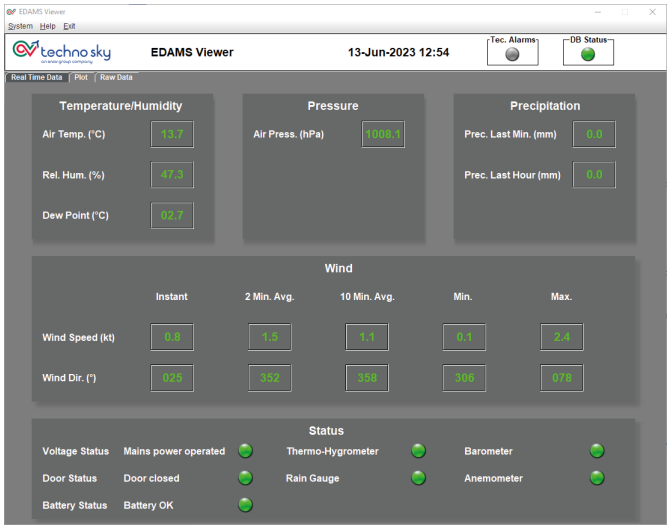
Interfaces:

- Serial I/O RS232, RS422, RS485 and USB ports available
- Dual RJ45 Gigabit Ethernet ports for IP based connections (TCP/UDP data streams and SSH maintenance connections)

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
- Pt100/ Pt1000 interfaces
- Dry/Wet contact channels
- Counter/Frequency/PWM interfaces
- Leased line modem



Regulations and Certifications:

- ICAO Annex 3, Doc. 8896, Doc. 9328, Doc 9705 standards
- WMO No 8, No 306, No 731, No 732 guides
- Electromagnetic compatibility: EN 61326-1: 2006
- Product safety: EN 60950-1: 2006 +A11:2009
- +A1:2010 +A12:2011
- 2004/108/EC: Directive of the European Parliament and of the Council of 15 December 2004 on the approximation of the laws of the Member States relating to electromagnetic compatibility and repealing Directive 89/336/ EEC.
- 2006/95/EC: Directive of the European Parliament and of the Council of 12 December 2006 on the harmonisation of the laws of Member States relating to electrical equipment designed for use within certain voltage limits.
- Developed according to the Software Assurance Level (SWAL) identified during the safety assessment process
- CMMI Compliant Development Cycle
- Software application developed according to ENAV Safety Management System and Security Policy

Support:

- Skilled Train-the-Trainers human resources for user and maintenance topics