EDAMS® 4.0 - Embedded Datalogger for Meteorological Systems 4.0

Enhanced compact automatic weather station for meteorological observation.

Mission:

The new Embedded Datalogger for Meteorological Systems (EDAMS® 4.0) is an automatic weather station for surface weather measurement, providing field-proven reliability and accuracy.

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:

- Reuse of legacy instruments and sensors
- Independence from sensors vendor
- Easy integration with existing third party systems
- Flexible solution suitable to be expanded without purchasing additional cards
- Configurable according to local operational needs in several applications, such as aviation, agriculture, hydrology and climatology.
- Easy to service and maintain
- Low operational costs and cheap spare parts
- Low power consumption

Main technical features and overview:

- Wireless sensor network thanks to an embedded single board computer (SBC), used as access point to connect sensors within the wireless range and to process weather measurements
- 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, precipitation, 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 third party meteorological systems

- Redundancy in communication interfaces, allowing data to be transmitted by means of different technologies
- Optional integration of smart instruments, such as transmissometers, ceilometers, visibilimeters and present weather sensors
- New wired sensors, as well as old legacy ones, can become wireless by means of one or more adaptors, cheap devices designed by Techno Sky to convert any interface to a standard one
- Heavy-duty rugged waterproof case allows indoor or outdoor installation in regular or harsh environments
- Housing made up of a thermoplastic material
- Easy installation on wall, trellis and mast
- Configuration tool available to manage operating parameters

Interfaces:

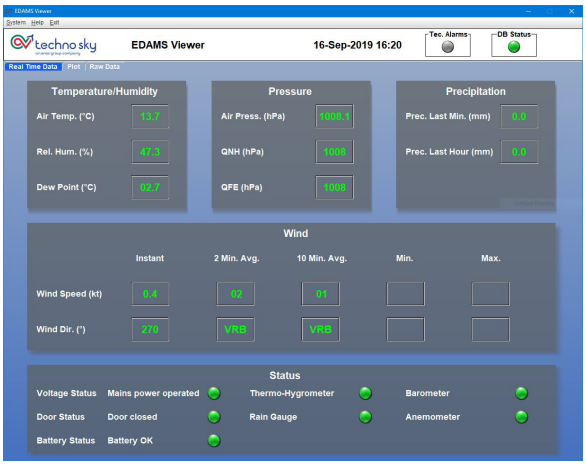
- Serial I/O RS232, RS422, RS485 and USB ports available
- RJ45 Fast Ethernet port and 802.11n Wireless LAN connections (TCP/UDP)
- Bluetooth 4.1

Technical specifications:

- Wide operating temperature of -20° to +60° C
- Maximum relative humidity: 100% RH
- Low-halogen thermoplastic material, 100% recyclable, painted with RAL 7035 color
- IP66 protection rating in accordance with EN 60529/09.200
- Embedded x86 single board computer based on Linux
- Seamless operation for 6 hours without a main AC Power
- 120W AC/DC power supply unit and 24V lead acid battery
- Internal UPS for long-term operation during main power failures
- Additional 100W AC/DC power supply for sensor heaters and obstruction lights

Regulations and Certifications:

- Software application developed according to ENAV Safety Management System and Security Policy
- CMMI Compliant Development Cycle
- Developed according to the Software Assurance Level (SWAL 4 compliant) identified during the safety assessment process
- ICAO Annex 3 standard and WMO Guides
- Electromagnetic compatibility for radio equipment: EN 301 489-17 V2.2.1



- Wideband transmission systems in 2.4 GHZ: EN 300 328 V2.1.1
- Product safety: EN 62368-1:2014/AC:2015
- DIRECTIVE 2014/53/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 April 2014 on the harmonization of the laws of the Member States relating to the making available on the market of radio equipment and repealing Directive 1999/5/EC
- DIRECTIVE 2014/35/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 26 February 2014 on the harmonization 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
- DIRECTIVE 2011/65/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 8 June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment

Support:

- Skilled Train-the-Trainers human resources for maintenance scope