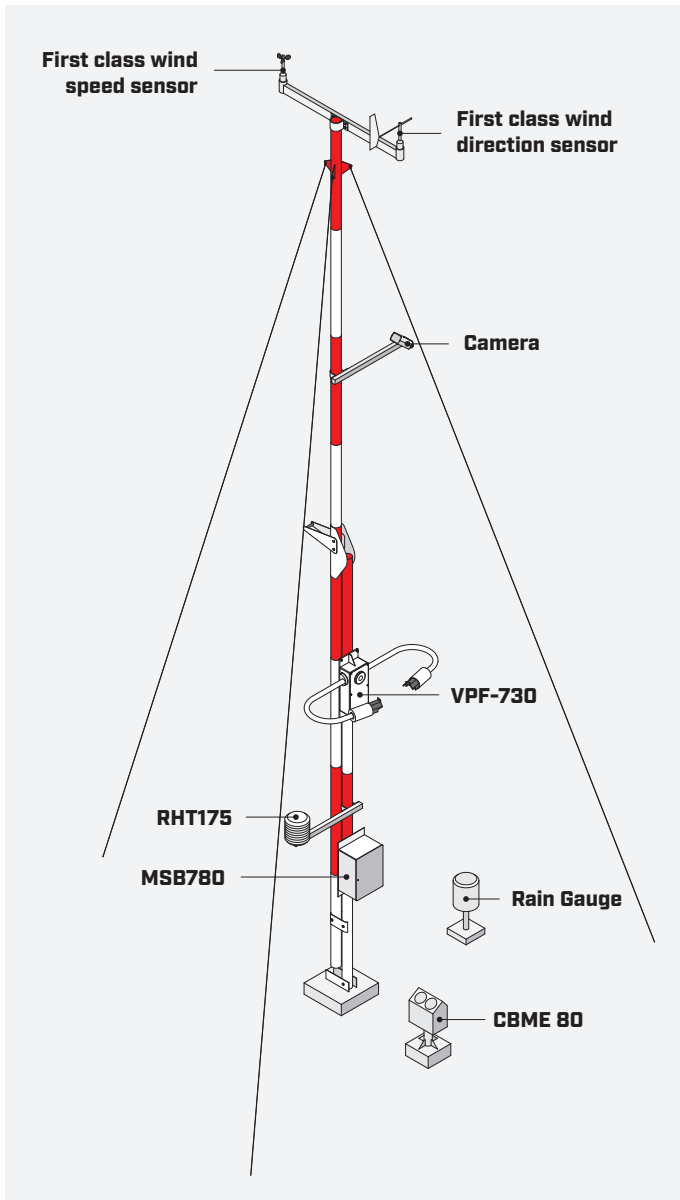


IMS4 MetReporter

Compact Automated Weather Observation System

Built on the modular and field proven IMS4 AWOS platform, IMS4 MetReporter is an ideal autonomous, easy-to-deploy and easy-to-maintain fully automated weather observation system (AWOS), for the general aviation, non-ICAO categorized airports and heliports.



Aviation Display

- Voice reporting
- Real-time camera view from site
- Optional data access via smart phone application
- Compliant with international standards

The system consist of:

- Embedded VHF Automated Terminal Information Service
- Embedded Automated Weather Observation Service:
 - **Standard:**
 - Wind speed, direction (gust, squall)
 - Temperature / dew point
 - Atmospheric pressure (QNH, QFE, tendency)
 - Visibility (MOR / VIS) / present weather
 - **Optional:**
 - Cloud base / vertical visibility / sky condition

- Lightning
- Precipitation
- Static view or 360° view camera
- METAR / SPECI (AUTO)
- MET REPORT / SPECIAL (AUTO)
- Real-time screens, archived data in tables / charts
- Sensor configuration, communication control
- Remote telemetry and control from local workstation over WiFi or GPRS VPN
- Optional computer based IMS4 Aviation Weather Display or full featured IMS4 Observer Workstation

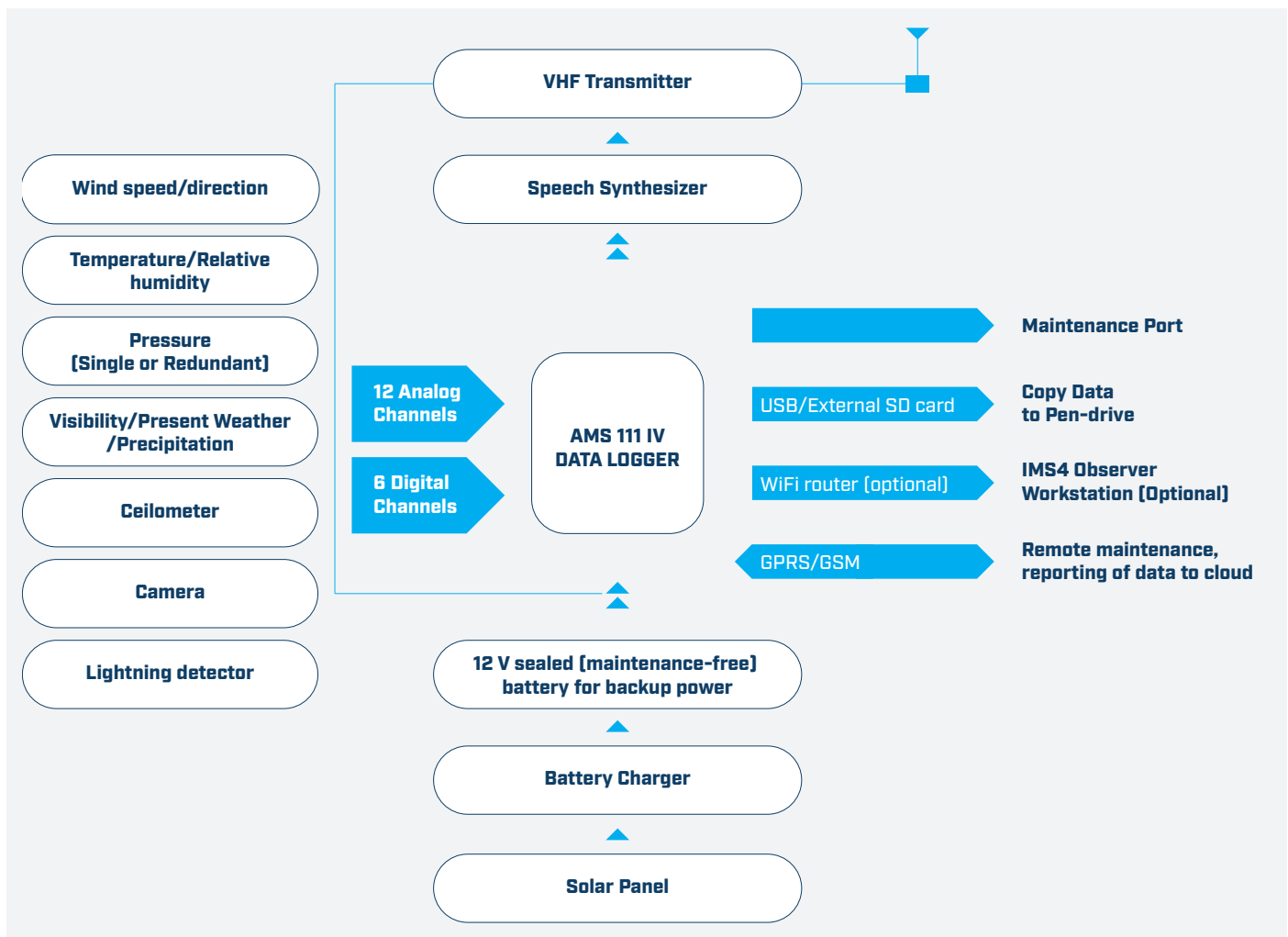
- Optional data reporting to the upper system for flight planning:
 - IMS4 Central AWOS server concentrating data from multiple MetReporters
 - or cloud computing provider
- Meets or exceeds applicable ICAO, WMO, EASA, CAAC regulations and recommendations

Power Supply

- low power consumption 110-230 V AC mains powered with backup battery (embedded UPS)
- optional non heated version 100 % off-grid, solar powered

Environmental conditions

Operating temperature range	-40 °C to +60 °C
Operating humidity range	0 to 100 %
Degree of protection (EN 60529)	IP 65 (IP 67 optional)



System architecture

Sensors – typical configuration¹

Ultrasonic 2D

Maintenance-free and without moving parts, the Ultrasonic 2D wind sensor is ideal for the long-term economic operation.

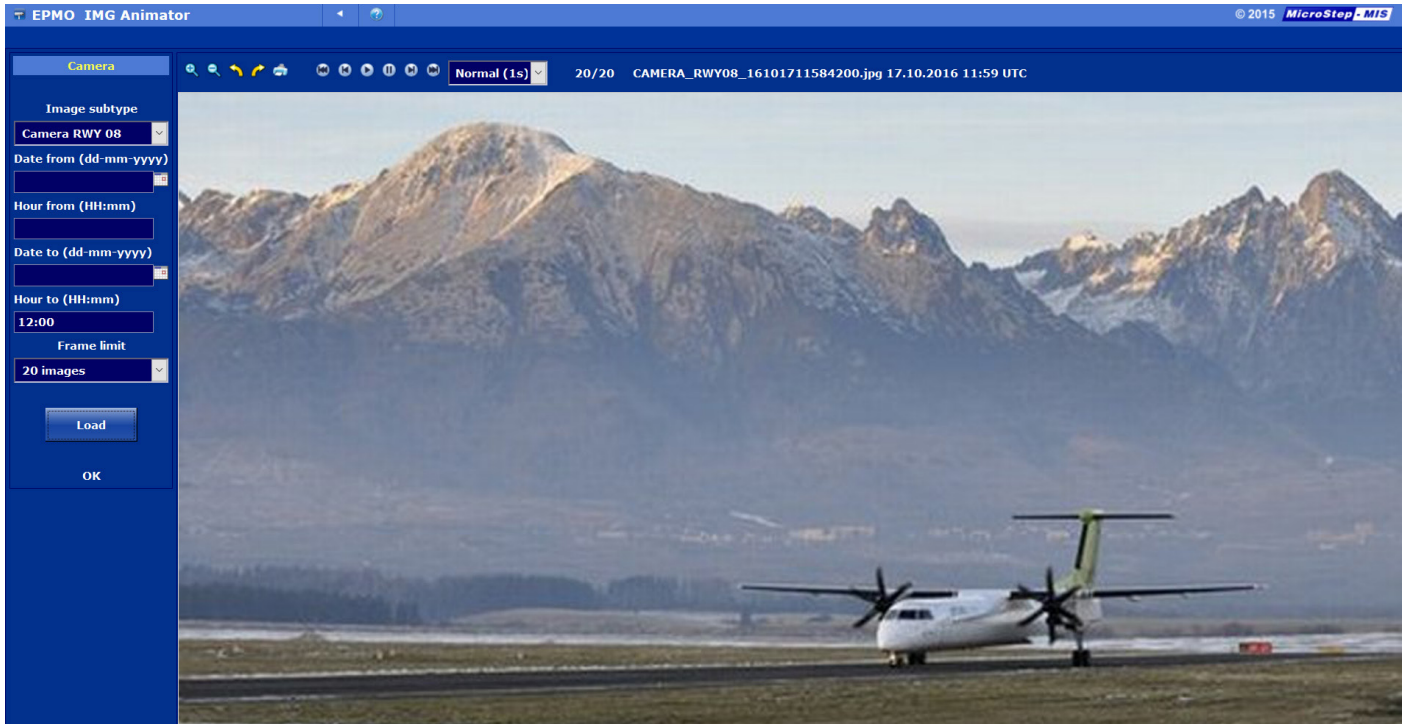
- Wind speed measurement range up to 75 m/s
- Optional heating for winter conditions

First Class Wind Sensors

First Class Advanced Wind Speed Transmitters and First Class Wind Direction Transmitters are designed for demanding requirements of high accuracy wind measurement technology.

- Wind speed measurement range up to 75 m/s
- Optional heating for winter conditions

¹The modular design of the system and the versatility of the AMS 111 IV datalogger and IMS4 application software make use of numerous types of sensors possible thus providing options matching the needs of the particular location (heated vs. non heated sensors, high accuracy vs. cost effectivity).



Real-time camera image view from the site

RHT175 Humidity Probe

The new generation of Relative Humidity and Temperature Probes RHT175 provides reliable and high precision relative humidity and temperature measurement.

- Accuracy typical 1 % RH
- Long-term stability < 1 % RH/year
- Humidity sensor 0 to 100 % RH

MSB780 Digital Barometer

Digital Barometer MSB780 is designed for use in professional meteorological and aviation applications that require reliable and highly accurate measurement, fast dynamic response and advanced long-term stability.

- Excellent total accuracy 0.15 hPa
- Typical long-term stability better than ± 0.05 hPa/year
- Fast dynamic response
- Fully temperature compensated
- Digital output
- 1 to 3 transducers

VPF-700 Series Visibility and Present Weather Sensors

Small, lightweight and rugged the VPF-700 Series offers long term reliability and provides correct measurement under all weather conditions.

- The VPF-700 Series is comprised of three models:
 - VPF-710 measures visibility and fog density
 - VPF-730 measures visibility, fog density, precipitation type, rainfall rate and snowfall rate
 - VPF-750 measures visibility, fog density, precipitation

(including freezing precipitation), distinguishes haze, smoke from mist

- 10 m to 75 km visibility range
- Accurate
- High reliability, low maintenance
- Precipitation type identified (VPF-730, VPF-750)
- Water equivalent volume for snow, sleet and hail measured (VPF-730, VPF-750)

Lightning detector [optional]

Rain gauge [optional]

Cloud Ceilometer CBME 80 [optional]

The cloud ceilometer CBME 80 is for fixed and mobile installations where accurate and reliable cloud height information is required.

The design is based on the LIDAR principle. The light emitting component is a low power diode laser with the output power limited to an eye-safe level.

- Reliable operation
- Easy installation and maintenance
- Very long laser life (calc. 10 year)
- 7 500 m (25 000 feet) measuring range capability
- Low weight and low power consumption

Cameras [optional]

- the IP Camera provides real-time condition view from the site
- the fish-eye lens camera provides 360° live view analysis of the current cloud conditions or helipad surroundings

Voice reporting

IMS4 MetReporter creates and broadcasts the standard voice meteorological reports based on the ICAO phraseology vocabulary using VHF radio communication.

The IMS4 software decodes the automatically collected data, converts it into expanded text and performs text-to-speech translation (in English or other ICAO language) before transmitting the processed information composed into a high quality natural voice.

Aviation Web Server

IMS4 MetReporter provides the local or remote users with the powerful and efficient web interface. All the user needs in order to view the AWOS data is a standard web browser and GSM/GPRS or WiFi connection.

Aviation Weather Displays

The optional Aviation Weather Display serves for operators at tower, approach, operations and other places where real-time screen containing local measured data is necessary to be permanently displayed.

Observer's Workstation

Observer's Workstation supports all processes related to collection of local meteorological data and real-time IP Camera image viewer outputs, creation and distribution of the meteorological messages METAR / MET REPORT and SPECI/SPECIAL.

Maintenance and support

All IMS4 systems have full remote maintenance capabilities including status reporting, download of measured data, maintenance of the sensors and data logger and software upgrade.

The on-site activities are minimized to regular cleaning of the optical or humidity sensors and solar panels plus periodic calibration of instruments.

Easy-to-use

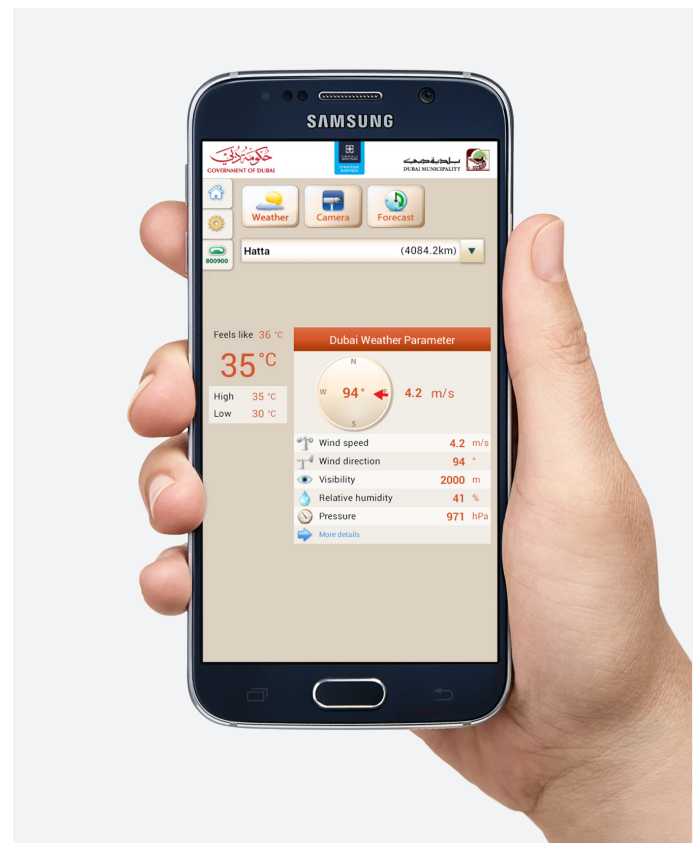
Graphic user interface is based on web applications. Thus it is easy to use for any user familiar with Internet.

IMS4 AWOS Central Server and smartphone application

IMS4 Met Reporter may send the real-time data optionally to the IMS4 AWOS Central Server concentrating the data from multiple MetReporter-s. A smartphone application can be used for the convenient data access.

Well defined upgrade path

The system is ready to grow with the airport expansion. The software license upgrade program and the design of the system allows cost-effective reconfiguration of the system to the ICAO CAT I or beyond.



IMS4 AWOS Central Server and smartphone application

Compliance with standards

- CAA Certified (Type approval, applicable standard)
- ICAO Annex 3 and 10 for Data Processing and Reporting Practices
- ICAO Annex 14 Aerodrome Design and Operations
- ICAO Doc 8896 for Aeronautical Meteorological Practices
- ICAO Doc 9328 for RVR Observing and Reporting Practices
- WMO No 306, Manual on codes
- WMO No 386, Manual on GTS
- ISO 9001 for quality assurance