



Cloud Base & Visibility Sensors for Aviation

Automatic Weather Station To Support The Operations Of A Military Air Base



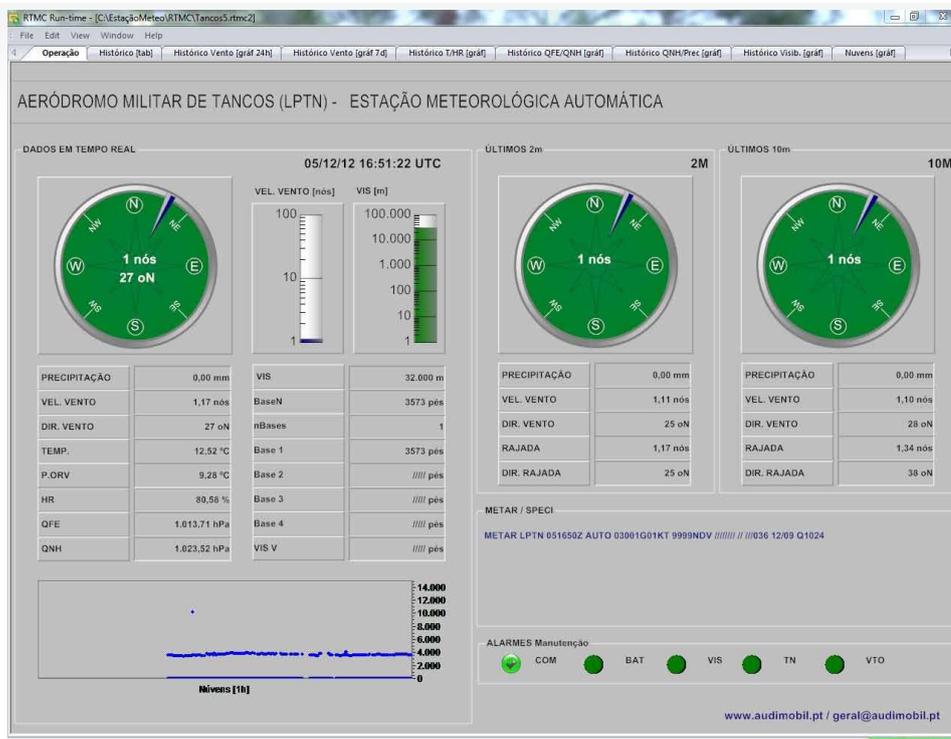
AUDIMOBIL recently installed in a Portuguese Military Air Base, an Automatic Weather Station for supporting the air operations, in accordance with ICAO and WMO recommendations for equipment and infrastructures.

The system was fitted with a set of sensors oriented for this application and can be expanded in accordance with future needs.

SENSORS AND DATALOGGER

- Datalogger Campbell Scientific CR1000
- Ceilometer Campbell Scientific CS135
- Visibility sensor Campbell Scientific CS120
- Air temperature & relative humidity Vaisala HMP155
- Barometric pressure Vaisala PTB330 (2 Class A sensors)
- Precipitation sensor R.M. Young 52203
- Wind sensor Gill WindSonic





Case Study Summary

Appication:
Military Air Base Operations

Location:
Portugal

Organisation:
Audimobil

Campbell Products Used:
CR1000, CS120 Visibility Sensor,
CS135 Ceilometer

Measured Parameters:
Cloud Base
Visibility
Temperature
Relative Humidity
Wind Speed & Direction
Barometric Pressure
Precipitation

INFRASTRUCTURE/ COMMUNICATIONS/ POWER

- Red and white painted frangible mast with ICAO type A Obstruction Light ;
- 2.4 GHz Radio communications with central PC;
- Mains power supply with backup battery .

In order to make it easy the readings of the information generated by the station, easy reading interface was developed, with instantaneous information from several sensors, and the processing of these information, which speeds the decision making.

Highlights:

- Graphic and numeric real time information;
- Processing of average and running totals for the last 2 and 10 minutes;
- Automatic generation of METAR and SPECI codes;
- Graphic and numeric historical information of the station;
- Validation of the sensors information;
- The station history is maintained in a file registry;
- Maintenance Alarms.

Timestamp	QFE méd	QNH méd	Temp. inst.	Temp. méd	Temp. máx.	Temp. mín.
10-05-2012 12:00:00	1.007.266	1.017.01	29.22	27.95	29.46	26.95
10-05-2012 11:00:00	1.007.449	1.017.594	27.17	26.07	27.4	24.86
10-05-2012 10:00:00	1.007.52	1.017.266	24.95	23.76	25.28	22.2
10-05-2012 09:00:00	1.007.882	1.017.429	22.3	20.71	22.49	19.16
10-05-2012 08:00:00	1.007.327	1.017.071	19.38	17.58	19.43	15.96
10-05-2012 07:00:00	1.006.843	1.016.583	16.01	15.37	16.41	14.16
10-05-2012 06:00:00	1.006.274	1.016.008	14.27	13.92	14.51	13.51
10-05-2012 05:00:00	1.005.975	1.015.706	14.22	14.31	15.08	13.6
10-05-2012 04:00:00	1.006.01	1.015.741	14.75	15.1	15.65	14.6
10-05-2012 03:00:00	1.006.055	1.015.787	15.28	16.05	17.53	15.06
10-05-2012 02:00:00	1.006.379	1.016.114	15.95	16.84	18.48	15.62
10-05-2012 01:00:00	1.006.789	1.016.528	18.29	18.32	18.86	17.76
10-05-2012 00:00:00	1.006.795	1.016.594	18.1	18.69	19.62	17.25
09-05-2012 23:00:00	1.006.869	1.016.609	19.14	18.65	20.35	18.16
09-05-2012 22:00:00	1.006.811	1.016.348	19.92	20.28	21.11	18.82
09-05-2012 21:00:00	1.006.294	1.015.938	20.05	21.19	22.84	20.05
09-05-2012 20:00:00	1.006.67	1.016.6	19.68	19.43	19.93	19.43

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