

Fig. 1

CARITEC MDA is the new powerful monitoring and data acquisition system for easy reading and recording data on your boat. You can read and record quantity as PRESSURE, LOAD, FLOW, LINEAR POSITION, ANGLE POSITION, TEMPERATURE, LEVEL and every quantity you can measure with a 0÷10 VDC or 4÷20 mA outlet signal.

The standard unit shows on a PC page 8 measure dials, but the system can be improved adding further 8 instruments pages.

Note: the CARITEC MDA system is designed just to read and record data, not to control quantities and steer your boat.

On a PC page you can simultaneously read 8 measurements with both analogical and digital visualization.

You can quickly and easily set for each instrument:

- Name
- Measure unit
- Signal range
- Instrument range
- Alarm and pre-alarm limit (visual and sound alarms)
- Type of signal (Tension or Current)

Also the data sampling frequency can be set from 0 to 60 seconds, and the software saves automatically a daily file in chronological order.

The recorded data can be stored in a .xls format table for further elaboration.

SOFTWARE INSTALLATION

CARITEC MDA system requirements: Windows 95/98/2000/NT/XP.

Close all programs, insert the CD, start the "SETUP.exe" in the favourite language directory, then follow the installation indications. Start the program.

The software can work 9 times without any password. The password must be required to SCS Mare (codes@scsmare.com Tel. 0039.02.93909430 Fax 0039.02.93909431) with references indicated by the software. If you install the software on a different PC, you have to require a new password.

Click on the A button (Fig. 1) to enter in the set up window.

The set up window is protected by standard password (1234). If you want to change this password, take in contact with SCS Mare.

Click on the SERIAL PORT button (Fig. 2) to set the port COM1, or COM2, or COM3, or COM4 where the master box is connected.

When the correct serial port is selected and the master box unit has power supply, the "ON LINE" indication is in evidence on the main window (Fig. 1).

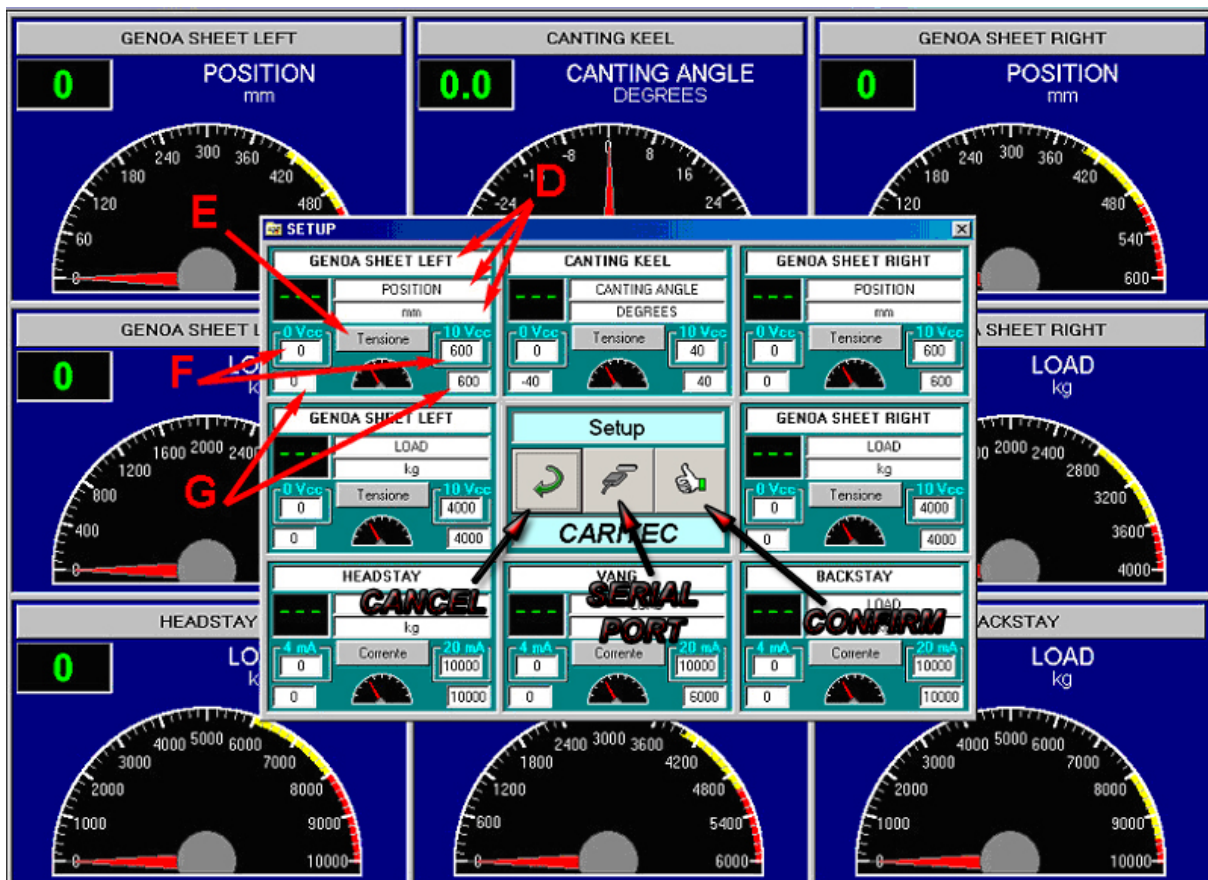


Fig. 2

• INSTRUMENT SETTING

Click on the A button (Fig. 1), write the titles and unit measure in D (Fig. 2), click on the E button (Fig. 2) for choosing the type of transducer (voltage or current), set the range of the transducer in the F boxes (Fig. 2), set the range of the analogical indicator in G boxes (Fig. 2).

If you need to read a measure unit derived from the transducer unit (for example load from pressure) you have to correct the transducer end of scale with an appropriate coefficient.

EXAMPLE: we want to read the load on a cylinder with 60 mm inside diameter and 20 mm piston rod diameter, using a 4-20mA and 0-400bar pressure transducer. The load at 0 bar (4mA) is 0 kg. The load at 400 bar (20mA) is 10258 kg:

$$\left(60^2 - 20^2\right) \cdot \frac{\pi}{4} \text{mm}^2 \cdot 400 \text{bar} \cdot \frac{1}{98 \text{ bar} \cdot \text{mm}^2} \text{kg} = 10258 \text{kg}$$

Therefore 0 and 10258 must be written in the F boxes. You can also write 0 and 10.258 and have kg x 1000 as measure unit, for a better instrument reading.

• ALARM SETTING

Click on the digital measurement window of each instrument to set the alarm and pre-alarm values (Fig. 3). The ranges will be marked in red and yellow on the analogical indicator.

• DATA SAMPLING FREQUENCY

Click on the B button (Fig. 1) and set the data sampling frequency between 1 to 60 seconds, and the delay of alarm activation between 1 to 60 seconds.

• RECORDED DATA

Click on the C button (Fig. 1) for reading all the daily files recorded in chronological order (Fig. 4). Read the daily file (Fig. 5) or save it in .xls format clicking the H button (Fig.4).

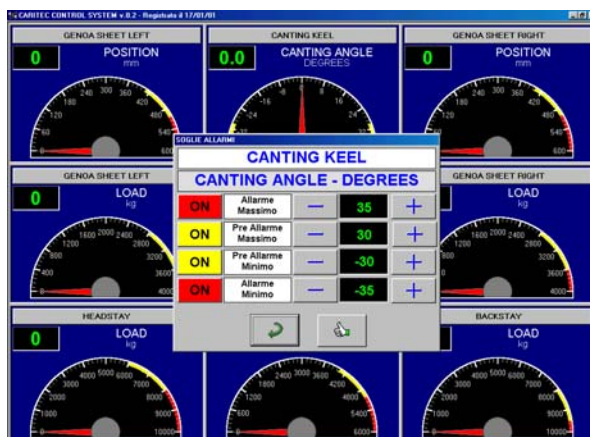
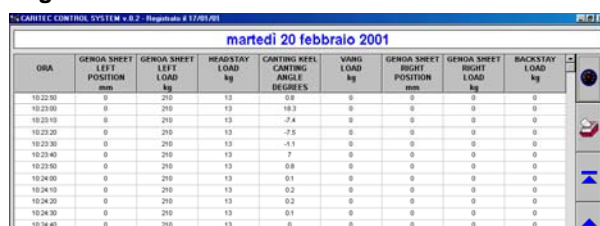


Fig. 3



Fig. 4



The screenshot shows a data recording table for 'martedì 20 febbraio 2001'. The table has columns for 'ORA', 'GENOA SHEET LEFT POSITION', 'GENOA SHEET LEFT LOAD', 'HEADSTAY LOAD', 'CANTING KEEL ANGLE', 'VANG LOAD', 'GENOA SHEET RIGHT POSITION', 'GENOA SHEET RIGHT LOAD', and 'BACKSTAY LOAD'. The data shows a constant load of 210 kg for the sheets and 13 kg for the headstay and vang, with a canting angle of 0.0 degrees.

ORA	GENOA SHEET LEFT POSITION	GENOA SHEET LEFT LOAD	HEADSTAY LOAD	CANTING KEEL ANGLE	VANG LOAD	GENOA SHEET RIGHT POSITION	GENOA SHEET RIGHT LOAD	BACKSTAY LOAD
10:22:30	0	210	13	0.0	0	0	0	0
10:23:00	0	210	13	0.0	0	0	0	0
10:23:15	0	210	13	-7.4	0	0	0	0
10:23:30	0	210	13	-7.5	0	0	0	0
10:23:33	0	210	13	-1.1	0	0	0	0
10:23:45	0	210	13	7	0	0	0	0
10:23:50	0	210	13	0.0	0	0	0	0
10:24:00	0	210	13	0.1	0	0	0	0
10:24:10	0	210	13	0.2	0	0	0	0
10:24:20	0	210	13	0.2	0	0	0	0
10:24:30	0	210	13	0.1	0	0	0	0
10:24:40	0	210	13	0	0	0	0	0

Fig. 5

The daily files can be also quickly downloaded in .dat format from the directories “AdamLog” and “AlarmLog”. The name of the files is represented by the number of year, month, day.

HARDWARE

The master unit is complete with a 16 poles connection for 8 transducers. Each auxiliary unit for further 8 instruments pages can be connected directly to the master unit or to another auxiliary unit.

Power supply 10÷30 VDC. You can acquire both 0÷10 VDC and 4÷20 mA signals with the following arrangements:

- With 12 VDC power supply, only 0÷10 VDC transducers can be employed.
- For 0÷10 VDC transducer the resistance on the sensor port (470Ω, 0,125÷0,250W, high stability) must be removed.
- The channel ports with no transducer must have the resistance or a short circuit.

The master unit is complete with standard serial cable 5 m length. Max 8 m length cable can be used. The serial port must be connected to the PC port COM1, or COM2, or COM3, or COM4. Any port with different name cannot be used.

