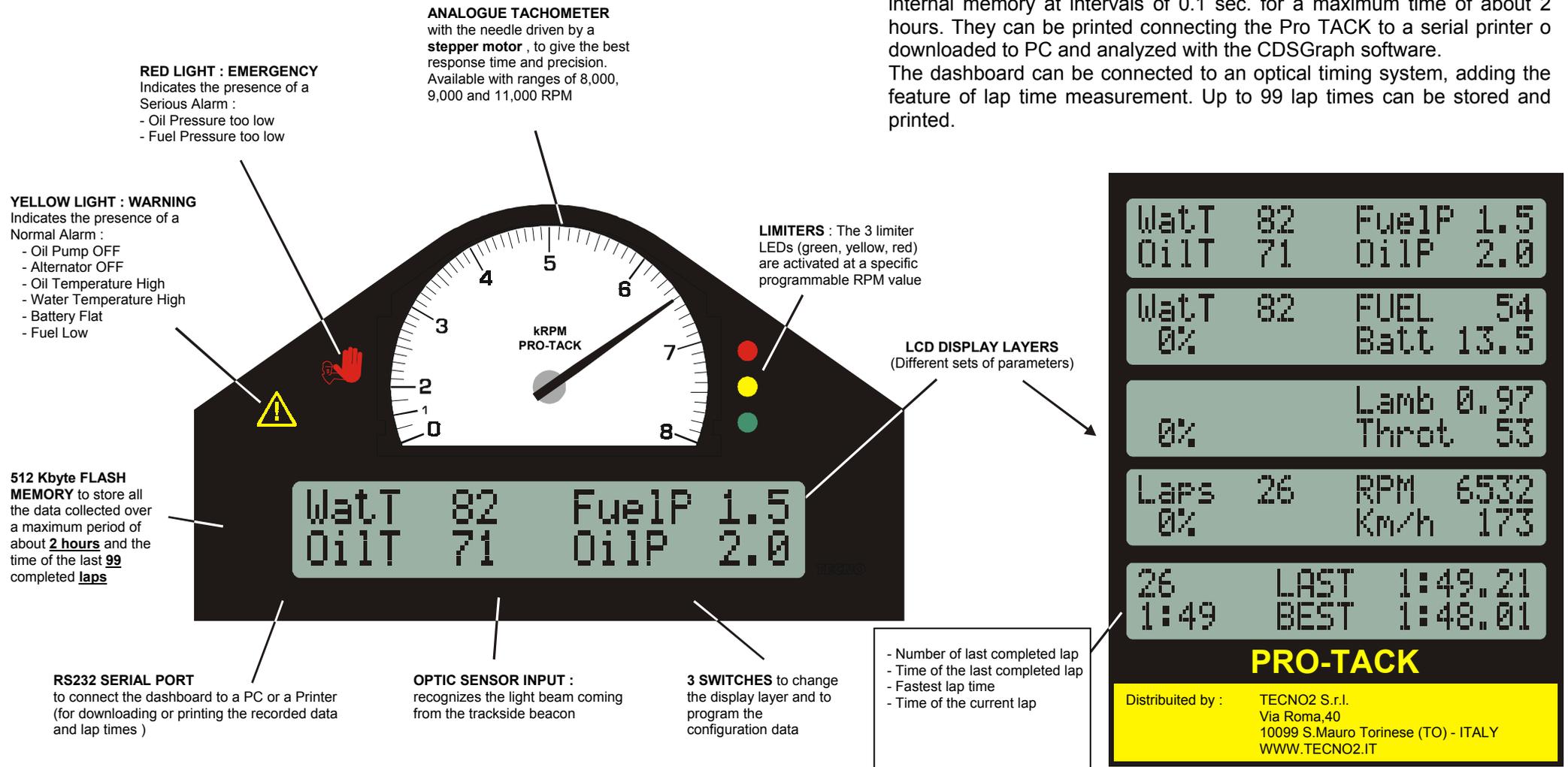# PRO-TACK

Circuit

Multifunction digital dashboard

The Circuit version, PRO-TACK digital dashboard monitors in real time the engine conditions by means of sensors that acquires the typical parameters, warning the driver in the events of engine malfunction.

An analogue tachometer allows to quickly monitor the engine RPM and 3 LEDs are available to advise for a gear shift.

The backlighted LCD display indicates the oil pressure and temperature, the water temperature, the fuel pressure, the battery voltage, the throttle position, the lambda value, the fuel level in the tank, the engine RPM and the car speed.

All the available data (sensor state and alarms) can be stored in the internal memory at intervals of 0.1 sec. for a maximum time of about 2 hours. They can be printed connecting the Pro TACK to a serial printer o downloaded to PC and analyzed with the CDSGraph software.

The dashboard can be connected to an optical timing system, adding the feature of lap time measurement. Up to 99 lap times can be stored and printed.

ANALOGUE TACHOMETER
with the needle driven by a **stepper motor** , to give the best response time and precision. Available with ranges of 8,000, 9,000 and 11,000 RPM

RED LIGHT : EMERGENCY
Indicates the presence of a Serious Alarm :
- Oil Pressure too low
- Fuel Pressure too low

YELLOW LIGHT : WARNING
Indicates the presence of a Normal Alarm :
  - Oil Pump OFF
  - Alternator OFF
  - Oil Temperature High
  - Water Temperature High
  - Battery Flat
  - Fuel Low

LIMITERS : The 3 limiter LEDs (green, yellow, red) are activated at a specific programmable RPM value

LCD DISPLAY LAYERS
(Different sets of parameters)

512 Kbyte FLASH MEMORY to store all the data collected over a maximum period of about **2 hours** and the time of the last **99** completed **laps**

RS232 SERIAL PORT
to connect the dashboard to a PC or a Printer (for downloading or printing the recorded data and lap times)

OPTIC SENSOR INPUT :
recognizes the light beam coming from the trackside beacon

3 SWITCHES to change the display layer and to program the configuration data

- Number of last completed lap
- Time of the last completed lap
- Fastest lap time
- Time of the current lap


```
WatT   82    FuelP 1.5
OilT   71    OilP  2.0

WatT   82    FUEL    54
0%           Batt 13.5

             Lamb 0.97
0%           Throt   53

Laps   26    RPM   6532
0%           Km/h   173

26      LAST   1:49.21
1:49    BEST   1:48.01
```

PRO-TACK

PRO-TACK
Circuit

Items

Standard version (base version)

The PRO-TACK Circuit version is supplied with the following components:

1 Wiring harness with the connections for the following signals:
  RPM, Water Temperature, Oil Temperature
  Oil Pressure, Fuel Pressure, Oil Pump Status
  Alternator Status, Fuel Tank Level
  Dash illumination, Lap Timing Sensor Input
  Power supply - battery, PC or serial printer

5 Sensors :
  Water temperature
  Oil temperature
  Oil pressure
  Fuel pressure
  Speed Sensor

3 Switches, for programming and user functions

1 PC/Printer Cable, to connect the PRO-TACK to a PC or a Printer

1 Software CDSGraph installation disk

1 Operating Manual

Options available

- Lambda sensor and cable
- Throttle sensor cable
- Lap timing sensor (FRX01)
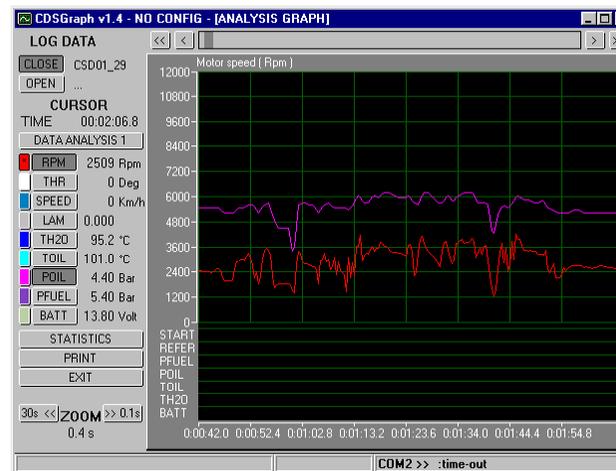- Trackside Optical Beacon (infra-red) (FTX01)

Data Analysis

The rata recorded by the PRO-TACK during the race can be printed connecting the dashboard directly to a serial printer

```
 Time    Throt  RPM   Spd  WatT OilT  OilP
-------------------------------------------
0:00:01   0    3160   150   67   105   5.4
0:00:02   0    3160   146   67   105   5.4
0:00:03   0    2320   146   67   105   5.4
0:00:04   0    3745   145   67   105   5.4
0:00:05   0    1899   145   67   105   5.3
```

or displayed on a PC using the CDSGraph software. You can print the time of the last 99 completed laps too.

Software

The CDSGraph program for Windows® has been developed in order to give to any, non PC expert, user the possibilities to verify the race parameters and to get the maximum performances from the car.

It is possible to easily compare two different recording sessions, visualize the statistical values of the recorded parameters, including peak and mean values.

Beyond the normal dashboard programming, the software allows to draw the sensor's response curve, giving the maximum flexibility to the product.

Features

Weight :	600 g.
Dimensions :	183 x 112 x 52 mm
Power Source :	9 - 14 Vdc
Digital Inputs :	9
	- Oil Pump
	- Alternator
	- RPM
	- Car Speed
	- 3 Switches
	- 1 Lap Timing Sensor
	- LCD Backlight
Analog Inputs :	8
	- Battery Voltage
	- Oil Pression
	- Fuel Pression
	- Oil Temperature
	- Water Temperature
	- Lambda
	- Fuel Level
	- Throttle position
Memory :	512 Kbyte Flash Memory
Chronometer :	Accuracy 0,01 sec.
Connections :	RS232 Serial Port
Visualizations :	40 Characters LCD Display
	1 Warning Light
	1 Emergency Light
	3 Sequential Shift Light
Dialscales range:	0-8,000, 0-9,000, 0-11,000
Software :	Compatible with Microsoft Windows®

PRO-TACK