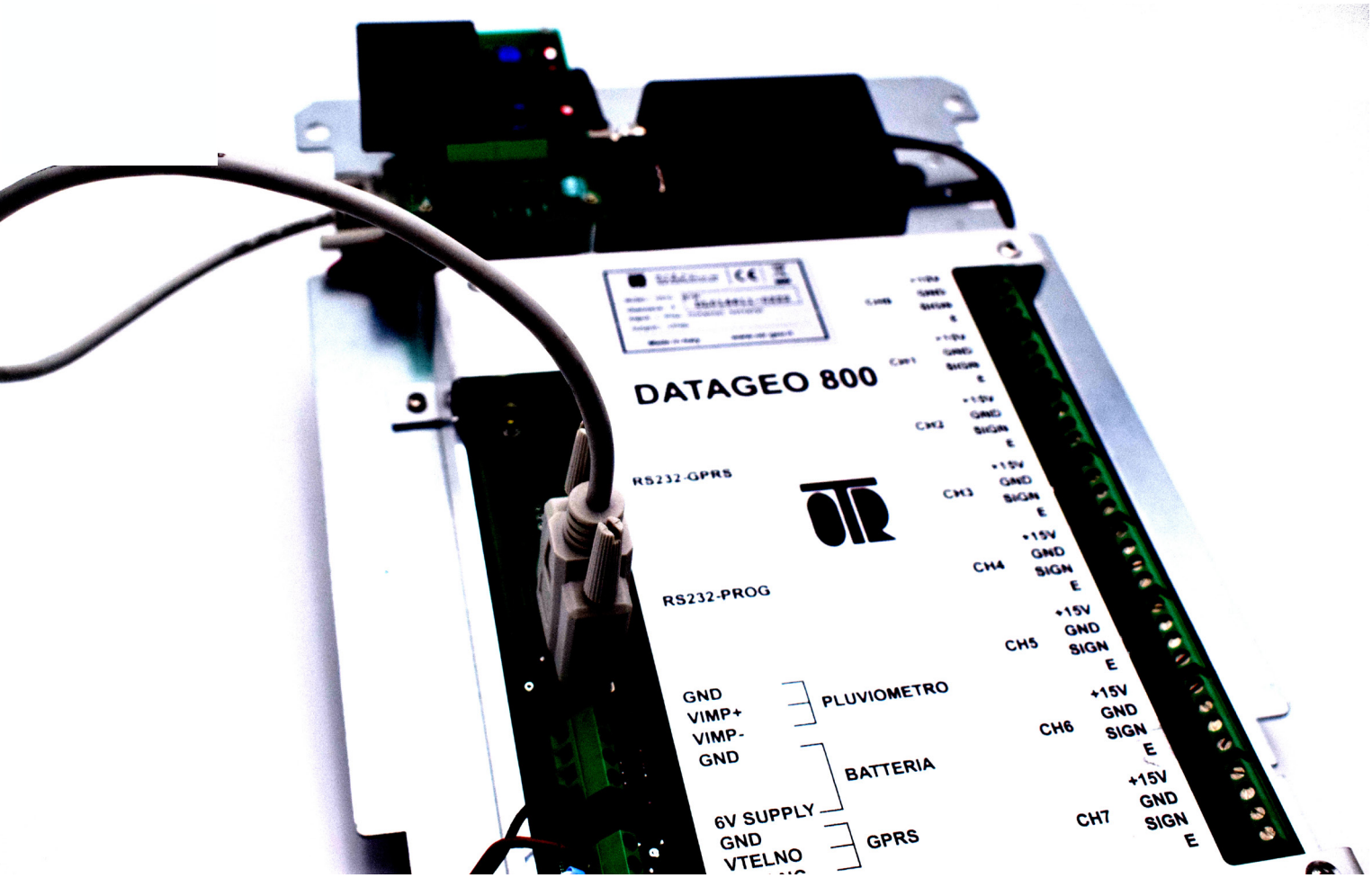

Datalogger
D800-D1600-D3200

STRUMENTI E MISURE GEOTECNICHE
E STRUTTURALI

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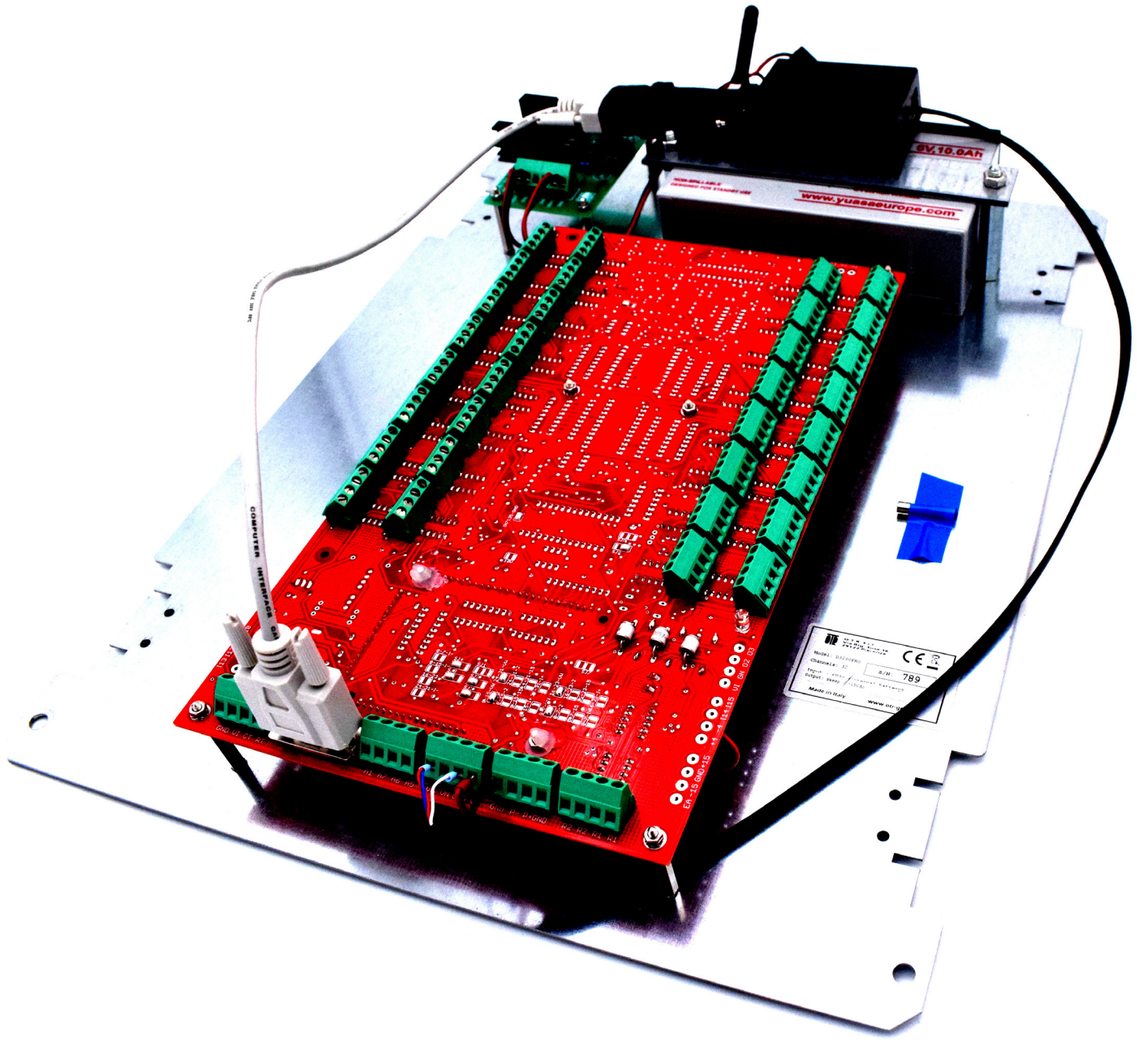
Datalogger D800-D1600 -D3200



WARNINGS

This instrument must be utilized only for the application it has been designed for, OTR declines all responsability for any improper use;

Use only the power supply and cables provided;
Do not recharge for more than 12 Hours;

Do not use the instrument near potentially explosive gases;

Do not connect the instrument with sensors placed in water where an electric dissipation is in progress;

Use protective gloves; Do not connect the instrument to the readout unit with wet hands;

Inoltre

- Do not open the instrument, contact the manufacturer for checks and repairs;
- Keep out of reach of children;
- During the recharge phase don not touch the datalogger with wet hands;
- During the recharge phase, disconnect the datalogger from the probe or from any device connected to the AC power supply (e.g. Personal Computer by USB);
- Clean the instrument and its cable with alcohol or water, do not use acetone or aggressive liquids for plastics or labels.
- Use only its original power supply unit to recharge the datalogger;

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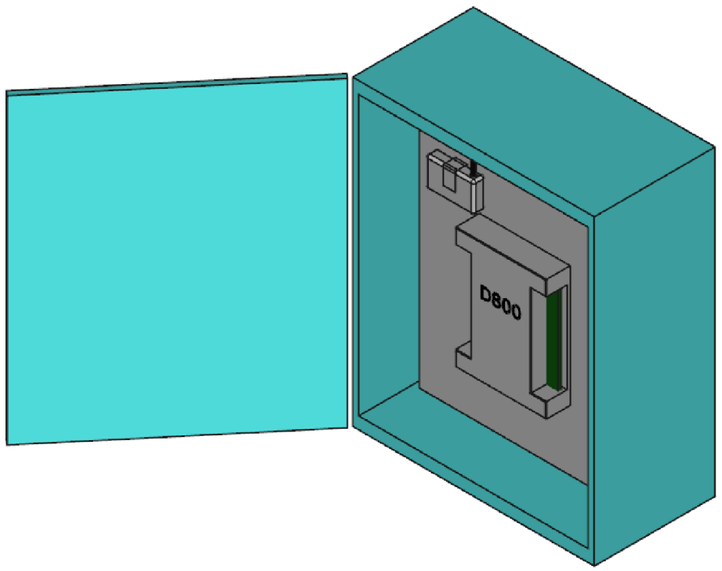
Applications

8-16-32 channels Dataloggers D800, D1600 and D3200 are used in Geotechnical, Structural and Enviromental fields with mV or mA sensor to monitoring:

- Electric piezometers
- Surface Clinometers
- Crack meters and Joint meters
- Temperatour sensors
- Conductometers.



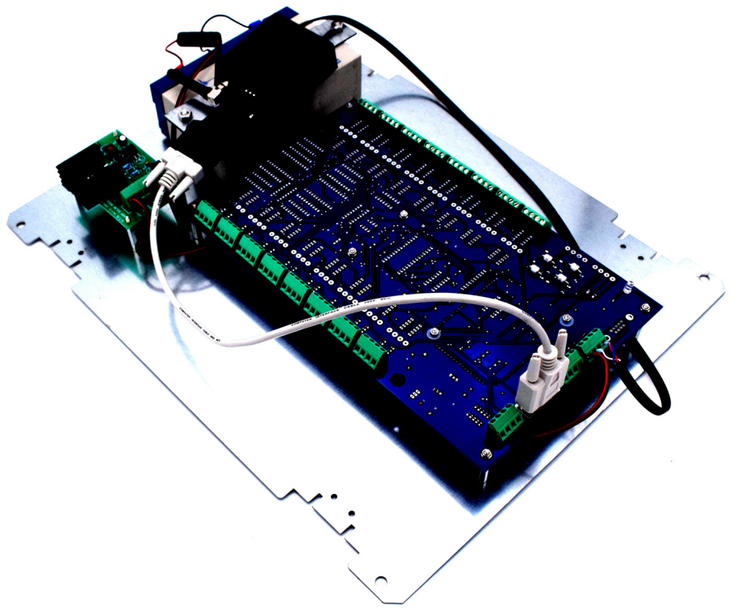
Identification

Every Datalogger is identified:

- Serial number associated to calibration report;
- Model;
- Power Supply;
- Input/Output.

Technical Specification

Input	0-2V 4-20 mA
Output	+15V , 2.048 Vref
Power Supply	6V dc



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Sensor Wiring

mV o 4-20mA Version
Before connecting sensors to datalogger, it is advised to check their integrity and their own wiring. To do that, it might be useful to use a multimer.

To connect a sensor with a mV output, find its power supply wire and plug it in the first of the four holes of the terminal block (first from top, labelled +15V). Plug its ground wire (GND) in the second hole (second from top) and its output signal wire to the third (SIGN).
If you're connecting a biaxial sensor (i.e. an inclinometer) then you need to connect its 2nd signal wire to the third hole of the next terminal block. You also need to connect the first hole of the first terminal block to the first hole of the next terminal block with a bridge to. Doing so ensures a correct power supply to both the blocks and a correct wiring of the sensor. Datalogger reads voltages between -4.000 and +4.000 Vdc. Values beneath or above this range will not be correctly read and will be shown as Full Scale values.

To connect a sensor with a 4-20mA output (2 wires) you need to find out wich one among its wires is the power supply wire (LOOP+) and wich one is the signal output wire (LOOP-). Then connect LOOP+ wire to the first hole (from top, labelled +15V) of the terminal block. Connect LOOP- wire to the third hole (SIGN).

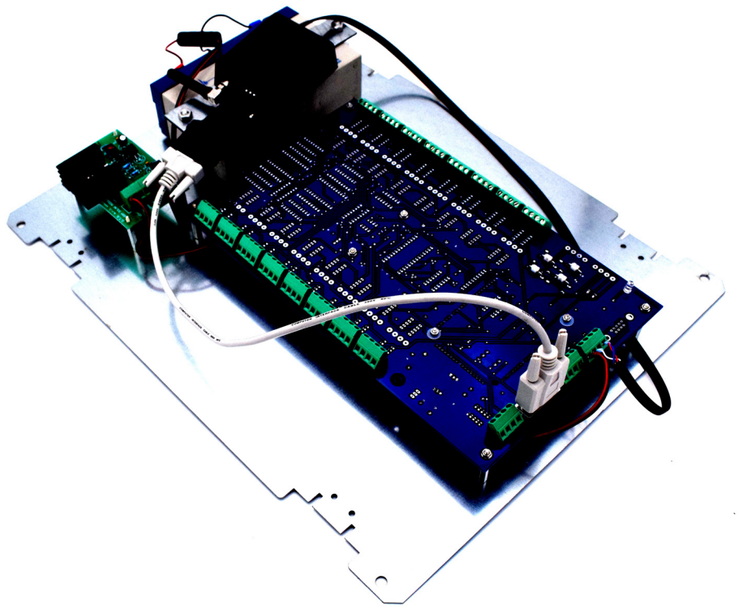
To connect sensors with a 4-20mA output (3 wires) you need to find out wich wire of the sensor is the power supply wire (LOOP+), which one is the signal output wire (LOOP-) and which one is the ground wire (GND). Then connect LOOP+ wire to the first hole (+15V), GND wire to the second and LOOP- wire to the third (SIGN).

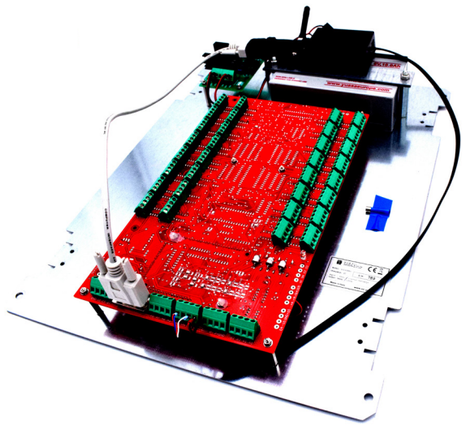
Check that each terminal is firmly screwed and that wires do not touch each other in order to avoid short circuits.

As soon as you complete the wiring process, you might want to perform a reading of all the sensor. This will help you to find out any connection error.

When connecting sensors with mV output, you need to make sure that the 100 Ohm load resistor is not connected. If a 100 Ohm load resistor is connected, datalogger will read unexpected load values.

On the contrary, when connecting a sensor with 4.20mA output, you need to make sure that the 100 Ohm load resistor is connected to the sensor terminal block. Resistor needs to be connected to the second and the third hole of the terminal block, between ground and signal wires.
Datalogger can read currents between -40.000 and +40.000 mA. Istructions for 4-20 mA sensors apply to 0-20mA sensors too.





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Date and Time

This tab allows you to access datalogger internal clock and to enabled automatic data acquisition.
Buttons Read and Write respectively read and write datalogger internal date and time.
Buttons Read START time and Write START time respectively read and write the date and time for the next scheduled data acquisition.
Acquire Now lets you schedule an immediate automatic data acquisition (though datalogger will not run a data acquisition until it is connected to computer and D800 software is open)
Acquisition enabled enables or disables automatic data acquisitions. If it is checked, then datalogger will automatically acquire data when it's time to do that and if it is disconnected from computer or D800 software is closed.
If Acquisition enabled is unchecked, then datalogger is in stand-by mode and will not acquire any data. Power consumption is about 200 µA when datalogger is in stand-by mode.

Timers

This tab allows you to set the time interval between two data acquisitions.
You can not set an interval shorter than one minute and if data acquisition takes longer than time interval, then next data acquisition will be delayed.
If you have a GSM version of datalogger, time interval can not be shorter than 10 minutes.

In this tab you can also set a pre-heating time. That is a waiting time between sensor power up and sensor reading.

Channels

This tab is used to set how many channels are active and connected to sensors.
You can read and write the number of channels using the buttons Read channels number and Write channels number.
Each mux can have up to 16 active channels.
When you edit channels number, D800 software asks for your confirmation. If you confirm and proceed, be aware that all data that are stored in memory will be deleted. Therefore, before adding or removing channels, remember to download data from datalogger.
D800 datalogger has just one mux (mux 0) that is made of 8 channels.
If your datalogger is a D800 model, then you need to set a value between 0 and 8 for the first mux (mux 0) and the value 0 for all the other muxes (mux1, mux2 and mux3).

Erase Memory cancels any data that was acquired and stored in datalogger.
Reset Datalogger completely resets datalogger restoring default settings and deleting data memory too. Use it only when strictly needed.

Sensors parameters

mV/mA Version
You can access this form clicking on Sensors parameters button in CHANNELS tab.
Each sensor is identified by a number between 0 and 15 and by its MUX (from 0 to 3)

You can set a name and four numeric values for each sensor. These values allow you to express sensor output in whatever measure unit you need.

You may refer to the following formula:

$$\text{Out} = \left(\left(\frac{\text{In} - \text{Z\_V}}{\text{F\_V} - \text{Z\_V}} \right) \times (\text{F\_F} - \text{Z\_F}) \right) + \text{Z\_F}$$

Where:
Out = output value
In = input value, expressed in tenth of millivolt
Z_V = zero, expressed in tenth of millivolt
F_V = full scale, expressed in tenth of millivolt
F_F = full scale, expressed in your unit of measure
Z_F = zero, expressed in your unit of measure

This formula is quite simple and does not require complex computations.
You just need to take note of two distinct output levels of the sensor and proceed as follows:

Potentiometric trasductor 4-20 mA –100mm

Potentiometric transducer 4-20mA, with full scale 100mm
Transducer output is 4mA when measuring 0mm and is 20mA when measuring 10mm.
Load resistor is 100 Ohm.
So, when sensor output is 4mA, zero value is 4000 (expressed in tenth of millivolt)
When sensor output is 20mA, full scale value is 20000 (expressed in tenth of millivolt)

So, the four parameters for the sensor are:

Zero_volt = 4000
Fs_Volt = 20000
Zero_Physical = 0
Fs_Physical = 100
Ouput is expressed in mm.
If you want to express it in cm, you just need to set Fs_Physical = 10

Inclinometer with output +/- 2 Volt 2.5 Volt e FS=+/- 30°

Inclinometer with output 2.5Volt +/- 2 Volt and full scale = +/- 30°
Transducer has a nominal zero at 2.5 V which corresponds to 25000 tenth of millivolts.
Zero_Volt = 25000
In this position the transducer nominally measures 0°
Zero_Physical = 0
Transducer full scale output is 4.5V (45000 tenth of millivolts)
Fs_Volt = 45000
In this position, inclination is + 30°
Fs_Physical = 30
This way you found all the four parameters needed to read the inclinometer (if needed, software allows you to enter floating-point parameters).

Piezometric transducer 4-20mA, with full scale 20m H20

Transducer output is 4mA when measuring 0m of water and is 20mA when measuring 20m.
Load resistor is 100 Ohm.
So, when sensor output is 4mA, zero value is 4000 (expressed in tenth of millivolt)
When sensor output is 20mA, full scale value is 20000 (expressed in tenth of millivolt)
So, the four parameters for the sensor are:
Zero_volt = 4000
Fs_Volt = 20000
Zero_Physical = 0
Fs_Physical = 20
Ouput is expressed in m.
If you want to express it in cm, you just need to set Fs_Physical = 2000

Barometer with output in Volts

Our transducer output is 0.1V when measuring 15KPa and is 2.35V when measuring 115KPa, so:
Load resistor is 100 Ohm.
When sensor is measuring 15KPa, zero value is 1000 (expressed in tenth of millivolt)
And when sensor is measuring 115KPa, full scale value is 23500 (expressed in tenth of millivolt)
Zero_volt = 1000
Fs_Volt = 23500
Zero_Physical = 15
Fs_Physical = 115
Ouput is expressed in KPa.

Data file example

Data that are downloaded from datalogger are easily readable and show all the sensors parameters too.
If you want to immediately visualize your data, then check Create Table before downloading. A downloaded ASCII text file is here copied as an example.
It contains download date and time, sensors parameters and acquired data, splitted by commas.

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How to import data's to Microsoft Excel

Open Microsoft Excel.
Open D800-D1600 file like (.TXT).
Start to import from the starting datas' line
Select datas with the commas delimitation.
End the importation.

DATA ACQ.: 06/01/2005 17.55.37,Numero Canali Attivi: 3 ,Numero Dati per Canale: 234

CANALE: 00 Y 25000 45000 0 2000
CANALE: 01 X 25000 45000 0 2000
CANALE: 02 T 5000 10000 0 50

05/01/2005 14.01.26 ,-710.8 ,228.8 ,17.96
05/01/2005 14.03.48 ,-711.8 ,228.4 ,17.56
05/01/2005 14.05.48 ,-712.0 ,228.4 ,17.26
05/01/2005 14.07.48 ,-711.4 ,229.4 ,16.94
05/01/2005 14.09.48 ,-711.2 ,229.4 ,16.72
05/01/2005 14.11.48 ,-711.0 ,229.6 ,16.48
05/01/2005 14.13.48 ,-710.8 ,230.0 ,16.26
05/01/2005 14.15.48 ,-711.6 ,229.4 ,16.04
05/01/2005 14.17.48 ,-711.0 ,229.8 ,15.84
05/01/2005 14.19.48 ,-712.0 ,229.6 ,15.64
05/01/2005 14.21.48 ,-711.8 ,229.8 ,15.48
05/01/2005 14.23.48 ,-711.6 ,230.0 ,15.32
05/01/2005 14.25.48 ,-711.2 ,230.4 ,15.24
05/01/2005 14.27.48 ,-711.8 ,230.0 ,15.12
05/01/2005 14.29.48 ,-711.4 ,230.6 ,15.04
05/01/2005 14.31.48 ,-712.0 ,230.2 ,14.92
05/01/2005 14.33.48 ,-711.6 ,230.8 ,14.86
05/01/2005 14.35.48 ,-711.4 ,230.8 ,14.78
05/01/2005 14.37.48 ,-712.0 ,230.4 ,14.68
05/01/2005 14.39.48 ,-711.8 ,231.0 ,14.6
05/01/2005 14.41.48 ,-712.2 ,230.4 ,14.5
05/01/2005 14.43.48 ,-711.8 ,231.2 ,14.44
05/01/2005 14.45.48 ,-712.2 ,231.0 ,14.38
05/01/2005 14.47.48 ,-712.2 ,230.8 ,14.3
05/01/2005 14.49.48 ,-712.0 ,231.4 ,14.24
05/01/2005 14.51.48 ,-712.2 ,230.8 ,14.16
05/01/2005 14.53.48 ,-711.4 ,231.4 ,14.08
05/01/2005 14.55.48 ,-712.2 ,230.8 ,14.0
05/01/2005 14.57.48 ,-712.4 ,231.0 ,13.92
05/01/2005 14.59.48 ,-712.0 ,230.8 ,13.88
05/01/2005 15.01.48 ,-712.4 ,231.0 ,13.8
05/01/2005 15.03.48 ,-712.2 ,231.0 ,13.76

Battery life

During stand-by mode, datalogger consumption is about 200 uA.
Consumption peak is during data acquisition and is about 100 mA.
For each channel, acquisition time is approximately 4 seconds.
Further 10 seconds need to be calculated each time the datalogger wakes up to acquire data.
Assuming these approximate values, we can compute an expected battery life, as follows:

Example 1:
15A/h battery, 4 acquisitions a day, 16 sensors connected:
Daily power consumption:

$$200\,\mu A \times 24 + 4 \times 100\,mA \times \left(\frac{16 \times 4}{3600} + \frac{10}{3600}\right)$$

0.0048 A + 0.0082 A per day

Expected battery life: $\left(\frac{5}{0.0130}\right)$ = 1154 days approximately.

To be sure not to overestimate battery life, let's divide the result by a factor of 3. We obtain an expected battery life of 1 year.
Example 2:
15A/h battery, 96 acquisitions a day, 2 sensors connected:
Daily power consumption:

$$200\,\mu A \times 24 + 96 \times 100\,mA \times \left(\frac{2 \times 4}{3600} + \frac{10}{3600}\right)$$

0.0048 A + 0.048 A = 0.0528 A per day
Expected battery life: $\left(\frac{15}{0.0528}\right)$ = 284 days approximately

To be sure not to overestimate battery life, let's divide the result by a factor of 3. We obtain an expected battery life of 3 months.

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Battery life Datalogger modem

If datalogger is connected to a modem, then it is bundled with a solar panel and/or a battery charger too.
Modem power consumption is around 30 mA. Solar panels and battery chargers may vary and depend on where datalogger needs to be installed and how it needs to be used.
If solar panel and battery charger provide the right power and are kept in optimal conditions (no snow on the panel, no leaves etc..) battery life is to be considered no longer than 2 years, as batteries naturally deteriorate over time.
It's highly recommended to avoid connecting datalogger to powerline battery chargers that have no protection against voltage peaks, thunders, etc. etc.
Whenever possible it is recommended to use solar panels and rechargeable batteries that completely isolate datalogger from unwanted external noises.
Batteries replacement
To replace sealed Lead batteries, use sealed Lead batteries 6Vdc 12Ah after a correct and full recharge.

Batteries' Sobstitution

Torch's Battery Sobstitution

Use torch's batteries Alkalyne LR20 SIze D model. Keep attempion to the batteries' acid releases.

Sealed lead Battery sobstitution

Use sealed lead battery 6vdc 12Ah after an enough and correct recharge.

Software conventions

For a correct use of D800 software, you need to check some Windows settings in Control Panel.
Go to Start > Settings > Control Panel > Regional and language > Formats > Advanced settings
Decimal digits separator needs to be a "."
Thousands separatore needs to be " ' ".
If decimal digits separator is a comma " , " D800 software will not correctly receive correct values from datalogger.

Serial and USB connections

Datalogger D800 uses a standard serial RS232 connection (3 wires + 1 wake-up wire).
Datalogger D800 version for GSM modem uses protocol 9600,n,8,1
Common USB/Serial adaptors can be used for connecting to datalogger D800.
If you use an adaptor, you can establish a direct communication between PC and datalogger, without the need to use serial cable included in datalogger box.

Trouble shooting

Datalogger does not connect to PC

- Check you chose the right COM port
- Check your cable is properly connected
- Check your cable status
- Check battery voltage

Datalogger does not acquire data

- Check Acquisition Enabled checkbox
- Check datalogger date and time

Measures seem uncorrect

- Check sensors wiring
- Remove humidity
- Check international settings in Windows Control Panel
- Check battery status
- In case you are measuring biaxial sensors, check that a bridge is properly connecting the two used terminal blocks

Data download is too long

- Check that Pc is not running other programs that may slow it down.

GSM & solar panel connections

Connecting to GSM modem

To connect datalogger to GSM modem you need to use the serial cable provided together with datalogger.
T connector needs to be connected to modem. C connector needs to be connected to datalogger.
When modem is powered on, its LED starts blinking quickly. When it gets connected to GSM network, it goes on blinking, but slowly.
Use only SIM cards that can receive incoming calls. Cards can be prepaid or not prepaid.
PIN on the SIM card must be disabled.

Connecting to solar panel

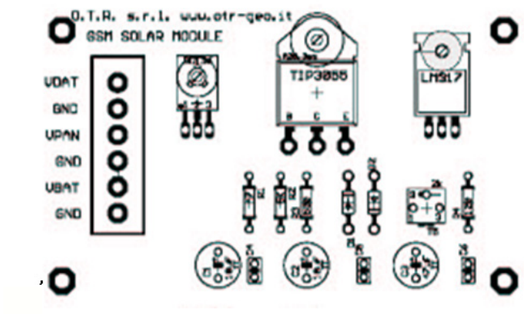
If your datalogger is connected to a GSM modem, it is connected to a solar panel too.
Solar panel supplies 10W. Battery charger for solar panel accepts 12/18Vin and supplies 7.2 Vout. Lead battery is sealed and is 6V-12A/h with a very long life.

Do not use the battery charger with panels supplying more than 15W.
Do not use different battery chargers (standard chargers supply 12 Vdc Out)

Warning: battery charger radiator can reach a high temperature, up to 70°C.

Connecting solar panel and battery charger for solar panel:

- Use the charge model in the following way.:



VDAT:
Positive datalogger power supply (red wire)

GND:
Negative datalogger power supply (black wire)

VPAN:
Positive solar panel voltage (wire color depends on solar panel)

GND:
Negative solar panel voltage (wire color depends on solar panel)

VBAT:
Positive battery voltage (red wire)

GND:
Negative battery voltage (black wire)

A stabilized charger with 12/18 Vdc 1A output can be connected to VPAN/GND to recharge your battery before datalogger installation or to supply power to datalogger from the electricity grid.
NB: in case you supply power to datalogger from electricity grid, you need to choose a professional charger, with protection from voltage peaks and provided with filters against noise. Voltage peaks or noise on the grid can result in a system malfunction.

Installation & maintenance

Installation

Datalogger box is an IP65 or IP66 protection class box.
Box needs to be correctly closed and every hole in the box needs to be filled with a cable connecting a sensor (if a sensor is connected), or a short piece of cable anyway (if sensor is not used).

If you are installing your datalogger in a particularly wet place or a place with repeated low and high temperature cycles, a further level of protection is needed in order to avoid condensation inside the box.

Maintenance

Datalogger maintenance is fairly simple:

- Every time you download data, check battery voltage.
- Check box interior to prevent condensation.

If you are not going to use datalogger for an extended period of time, in order to avoid internal backup battery failure:

- Recharge or replace main battery after the last data acquisition and data download
- Put datalogger in stand-by mode, without disconnecting the main battery.

In these conditions, backup battery life can be considered unlimited.

Backup battery life is very long if you use datalogger regularly. But it falls down to just 6-12 months if you do not use datalogger and disconnect its main battery. That is the reason for you should keep main batteries connected to datalogger and put datalogger in its stand-by mode.

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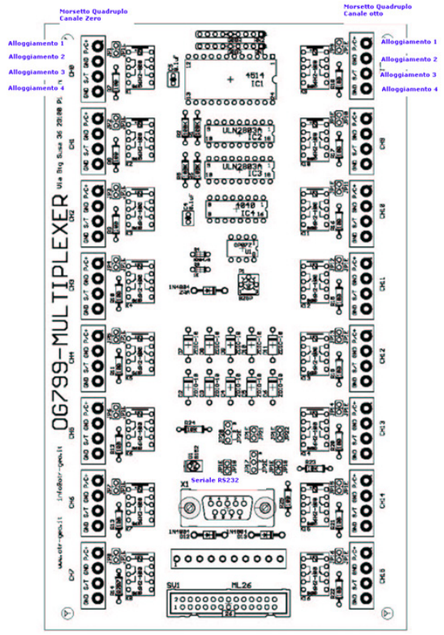
Backup battery replacement

In case the datalogger was not used for a long period of time and the above mentioned instructions were not followed, it is recommended to replace the backup battery.
Backup battery is a Li battery and can be easily found in stores (model PANASONIC CR2330 or equivalent)

If datalogger LED blinks 4 times when you power it up, it means that backup battery is to be replaced. Datalogger performed a reset and all data were lost.

You can find the backup battery to replace removing datalogger metallic cover and turning it upside down. Replace backup battery with an equivalent battery paying attention not to create a short-circuit and inserting it with the right polarization. This operation must be performed disconnecting the main Lead battery.

If you do not disconnect the mean battery while replacing the backup battery, once you replaced the backup battery you need to push the little yellow reset button on the datalogger board.



Technical Features

Microprocessor

Rabbit 3000

Number of measurable channels

Till 64 channels in V o 4-20mA individually selectable fot the Volt or mA version. 64 vibrating wire channels with their own thermistore for thre Vibrating Wire version.

Resolution

40000 measure points on +/-4Vdc or +/-2Vdc and +/- 1 Vdc or +/- 4.5Vdc on demand. From 0.01 to 0.5 Hz for vibrating wire version.

Sensors power supply

+15 Volt or +12 Volt on demand.
5.5 V Sweep from 500 to 6000 Hz for vibrating wire version.

Temperature' stability

<15 ppm/°C

Functioning temperature

From –20°C to +55°C

Memory

256 kB RAM Buffered And Flash memory from 256 kb

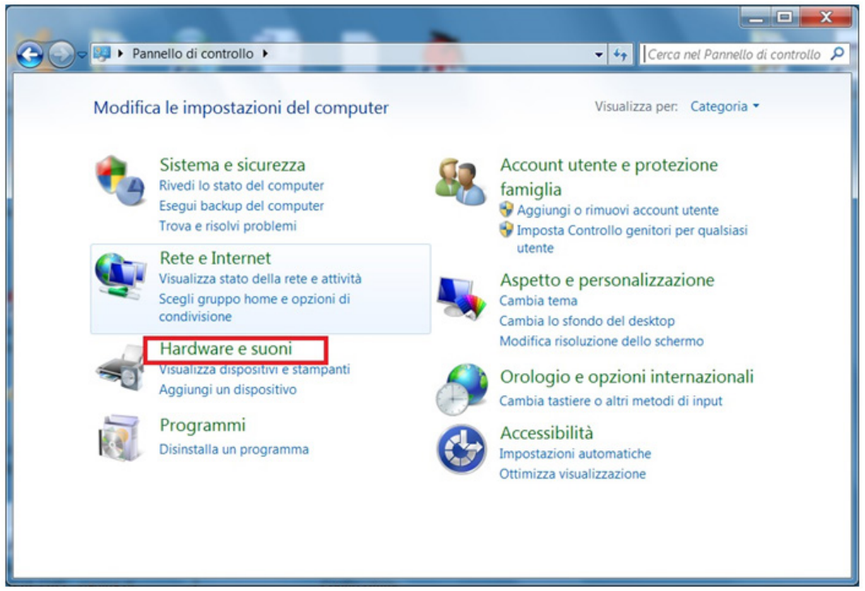
Consuption

About 200µA stand by and 100 mA full working

MUX

With sequentual relays

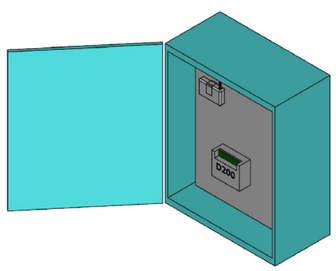
Quick installation



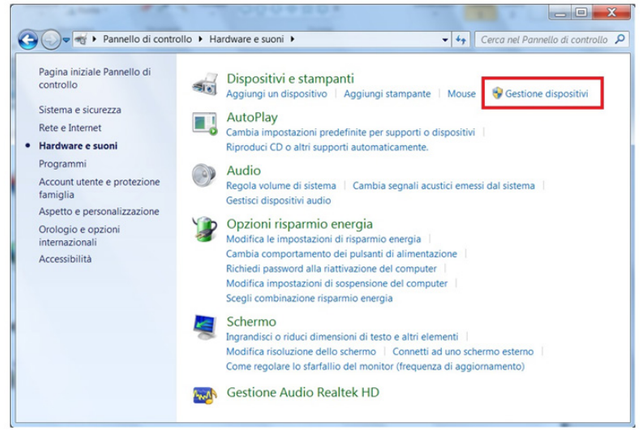
To instal the software:

1. Insert the fuse inside his casing on the red cable which is the one that connects the battery to the charge regolator.
2. Connect the battery. The red cable should be connected to the battery's clamp and the black cable should be connected to the black clamp.
3. If the datalogger's LED lights up wait his shutdown. If the LED keeps lightning you mustn't make the datalogger comunicate with the PC.
4. Insert USB-Serial adaptor to PC.
5. Wait the device's drivers are installed.

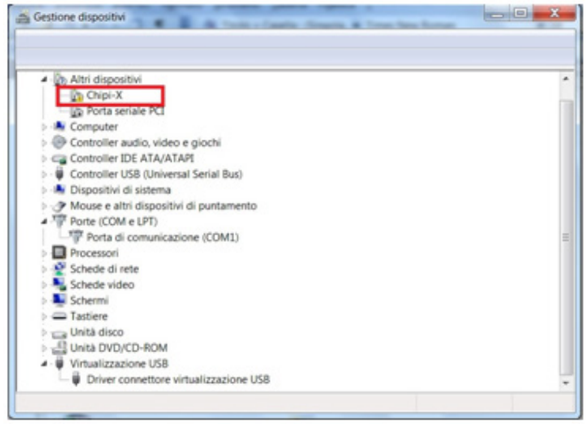
The adaptor needs the installation of a couple of drivers. If the drivers won't be authomatically installed, let's proceed in the following way:

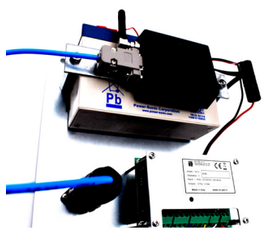


Find the adaptor in "Gestione dispositivi":



Click with the right key of the mause and select: "Aggiornamento software driver":





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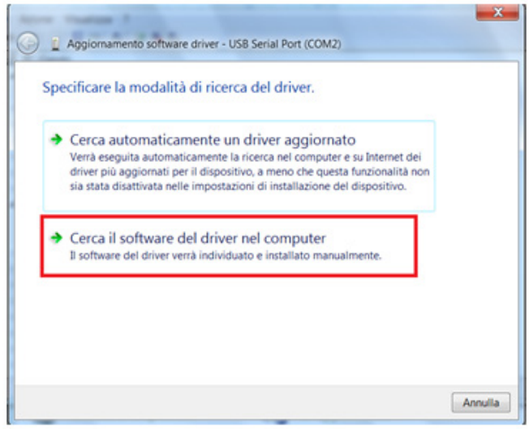
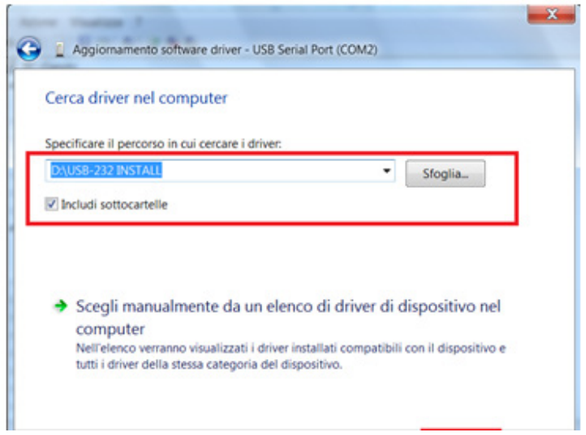
Find computer's driver:



Find "USB-232 INSTALL" Stored in OTR's CD and then Click on "Continua":



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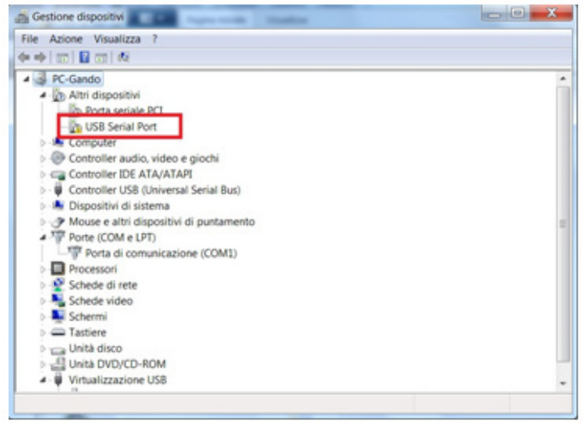
Find "USB-232 INSTALL" stored in OTR's CD and then "Continua":



Click with the right mouse's key on: "Aggiornamento software driver"

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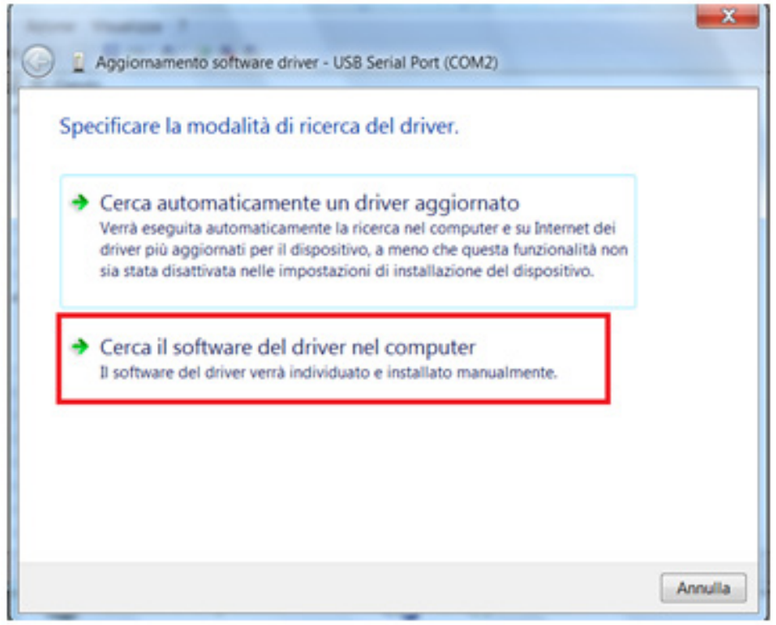
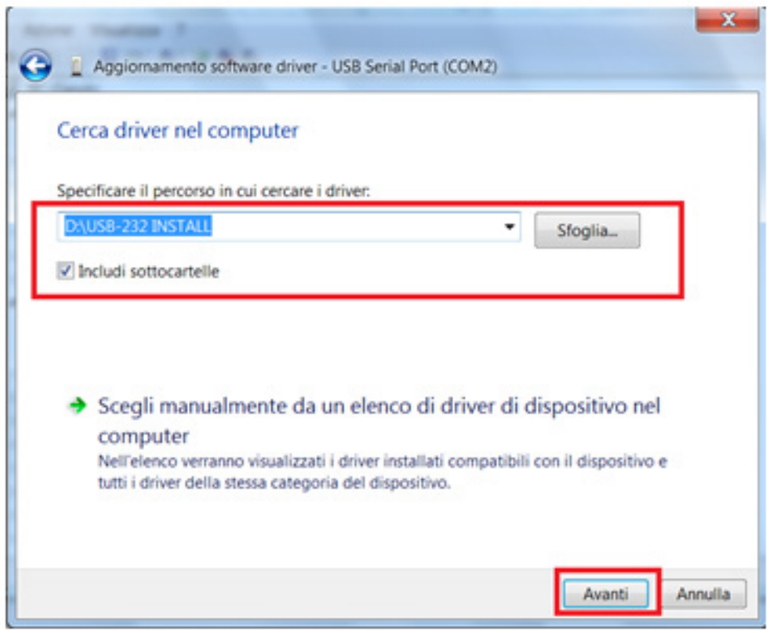
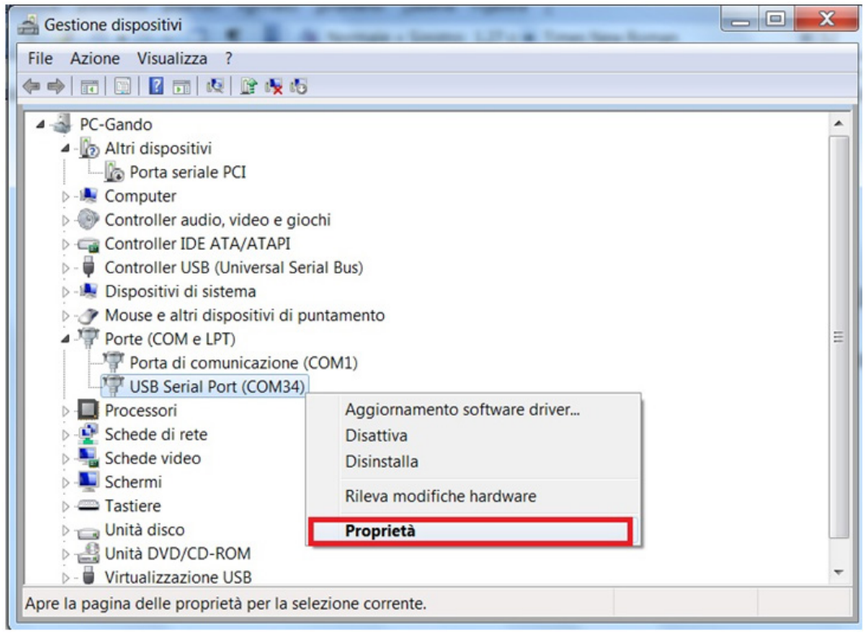
Serch in the computer's driver:



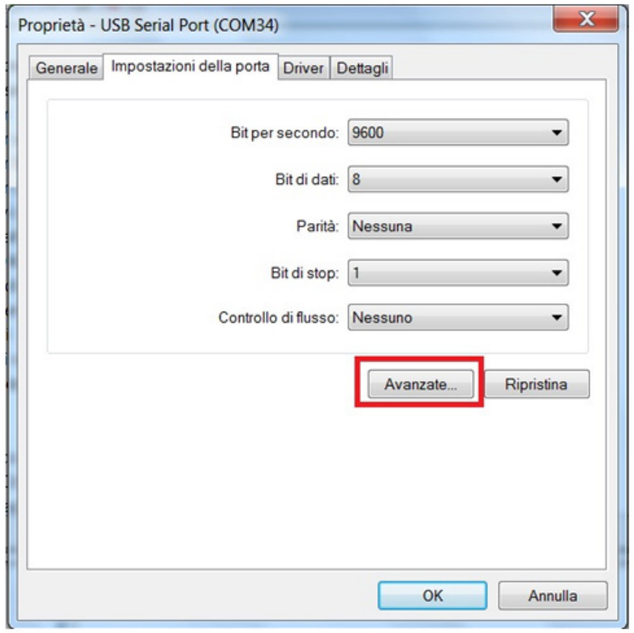
Find again "USB-232 INSTALL" inside CD and click on "Continua":



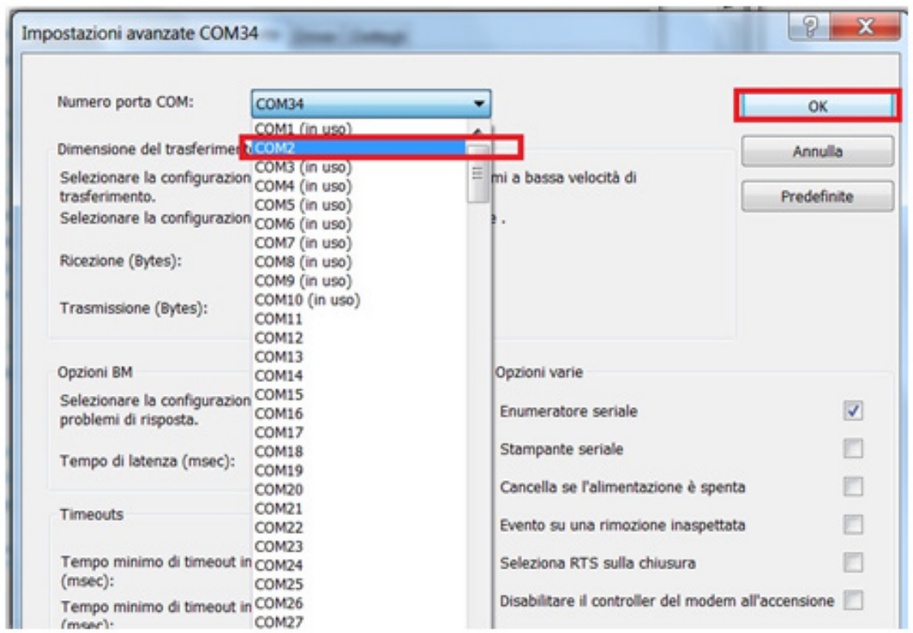
1) 1) Check "Serial Port". Serial-USB adaptor is now installed, but serial port number may be unsuittable with the software.
Serial-USB adaptor have to be installed on a COM port between 1 and 8. Follow the procedure:
Click with the right key of the mause on "USB Serial Port" and then "Proprietà":



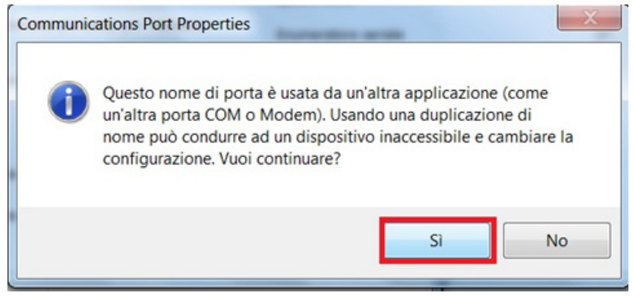
Click on “Avanzate”:



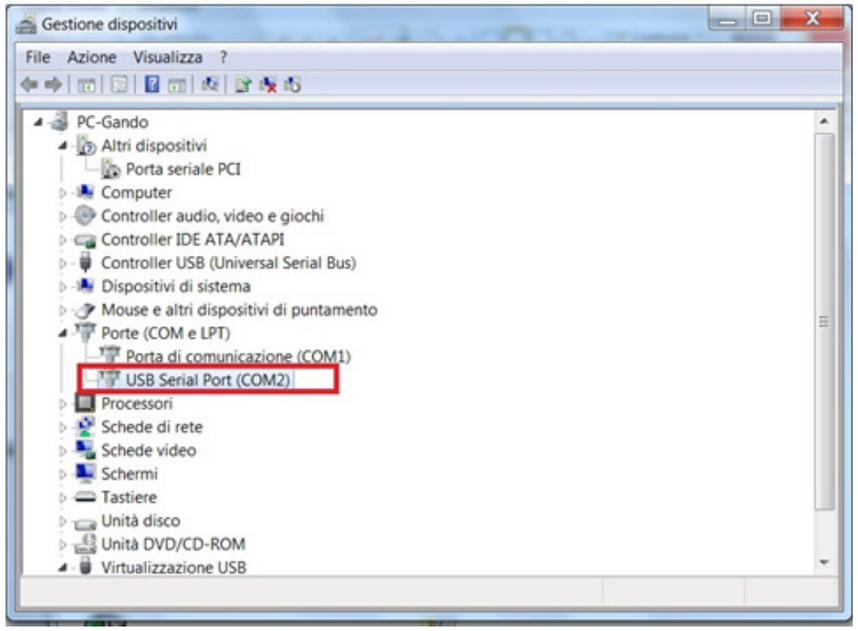
Choose a port COM between 1 e 8 And then click on OK:



Click on “Sì”:



Check USB Serial Port is correctly Installed:



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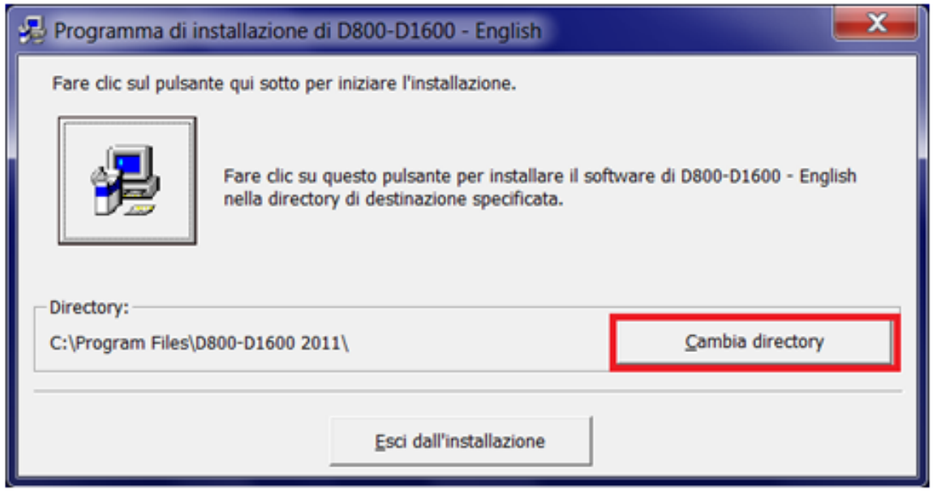
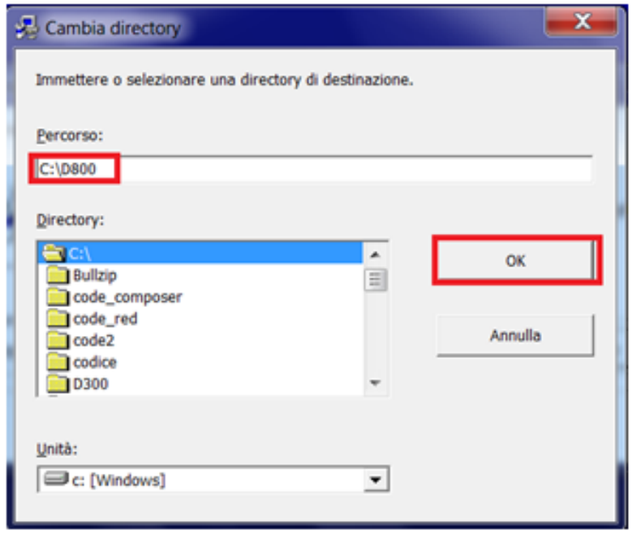
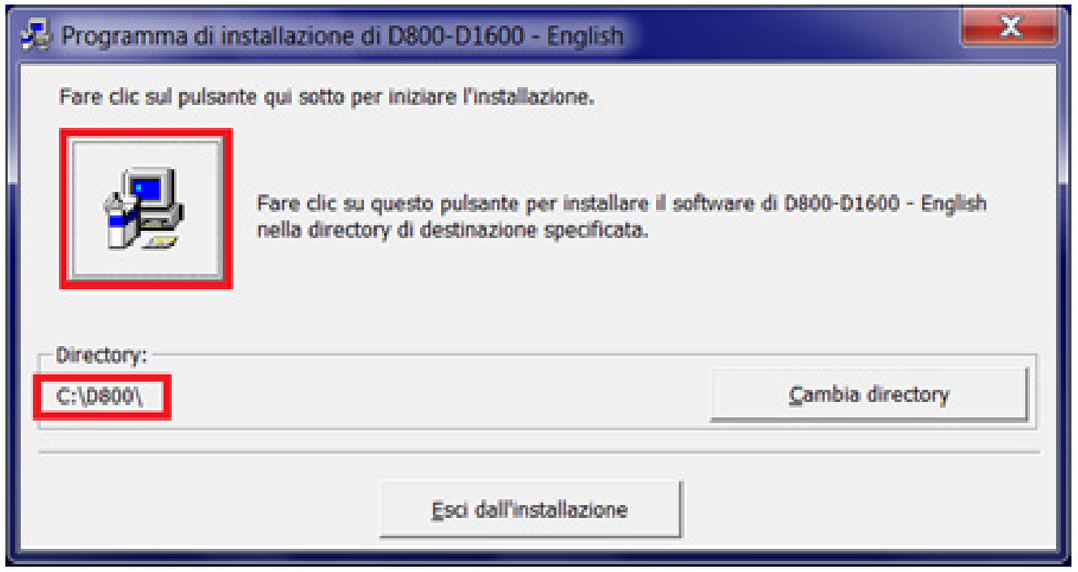
1. Disconnect the USB-Serial adaptor from PC, and connect again the adaptor. Now it's installed.
2. Instal D800-D1600 software provided by O.T.R. to do that double click on Setup.exe. file. And proceed in the following way:

Select installation folder, specifing a real folder created by the user, not by the system (Don't choose Programmi, Program Files, and so on)

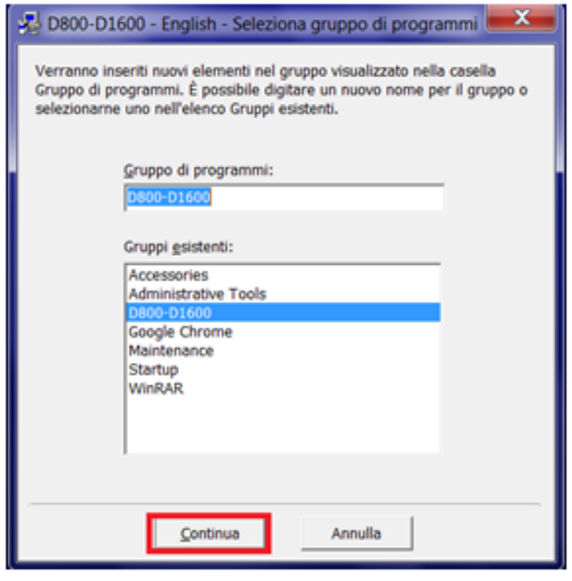




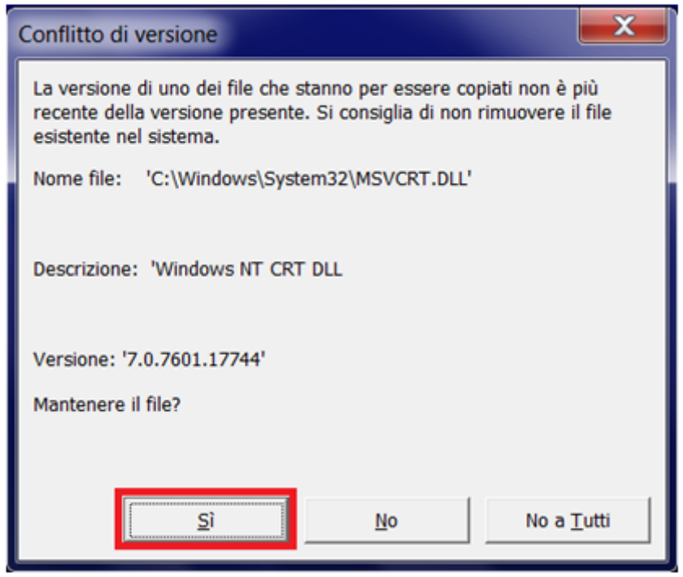
Click on the installing top left button:



Click on "Continua":



3. If some installing's dll is older than the courrent on PC, choose to mantain file, clicking on "Sì":



4. Connect Datalogger to the PC. If LED lights up, wait its shoutdown (LEDshould light up for 2 or 3 minutes).
5. Open the software for D800-D1600 and click on "Connessione".

Uses & Main functions

Write "Data Attuale"

Reading "Data Attuale" (Datalogger's Clock) change, if it's necessary, with "Scrivi la Data Attuale":

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Read & Write Data Start

Read and change the next acquisition date of the next acquisition data clicking on “Leggi la Data Start” or “Scrivi la Data Start”.

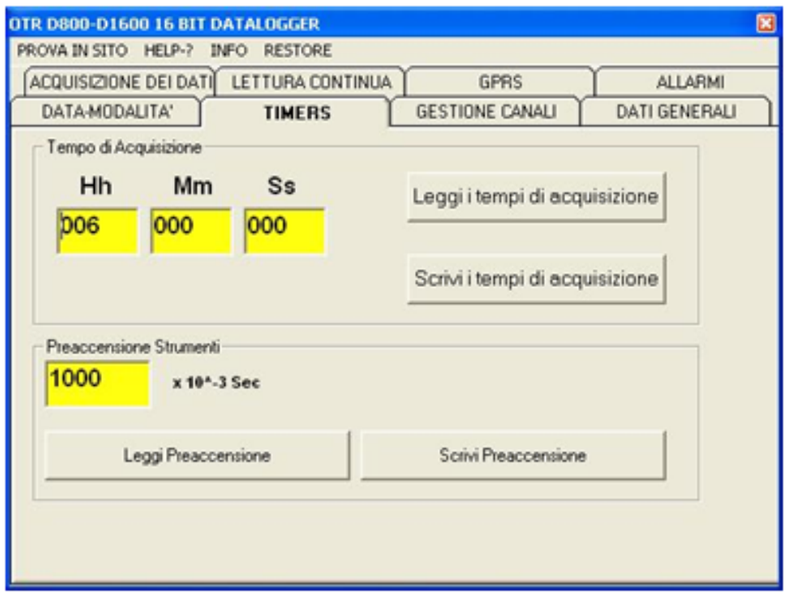
Take the Mesurement Now

“Esegui Subito la Misura” write a “Data start” corresponding to a previous time from the courrent date, forcing Datalogger to take a measure when it’s disconneced from the PC, or when the software is closed.

Registering Datas

If “Datalogger Abilitato per Acquisizione” isn’t check, the instrument won’t register datas.
On the previous exemple: it’s 10:26 of 07 October 2015,and datalogger will scan authomatically next monitoring at 12:00 of the 08 October.

Set the time distance of two consecutives measurements, opening the window TIMERS:



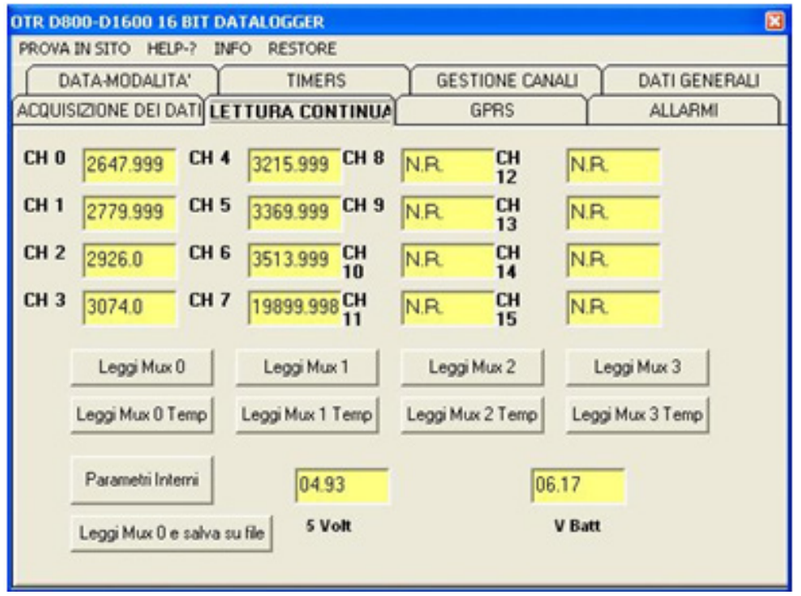
In this exemple Datalogger will measure the datas from 12:00 of 08 October. And the next acquisition will be at 13:00 of the same day, and every hour leater.

Read & Write Acquisition Time

“Leggi i tempi di acquisizione” Reads the timer. “Scrivi i tempi di acquisizione” scores the timer.

Sensors’ Wiring

To check sensors’ wiring; select the windiw “Lettura Continua” :



“Esegui la misura continua” Scores every functioning channel (1 or 2 Channels).
“Termina la misura continua” Stops datas’ reading.
VBATT shows battery charge o the monitor (V Batt)

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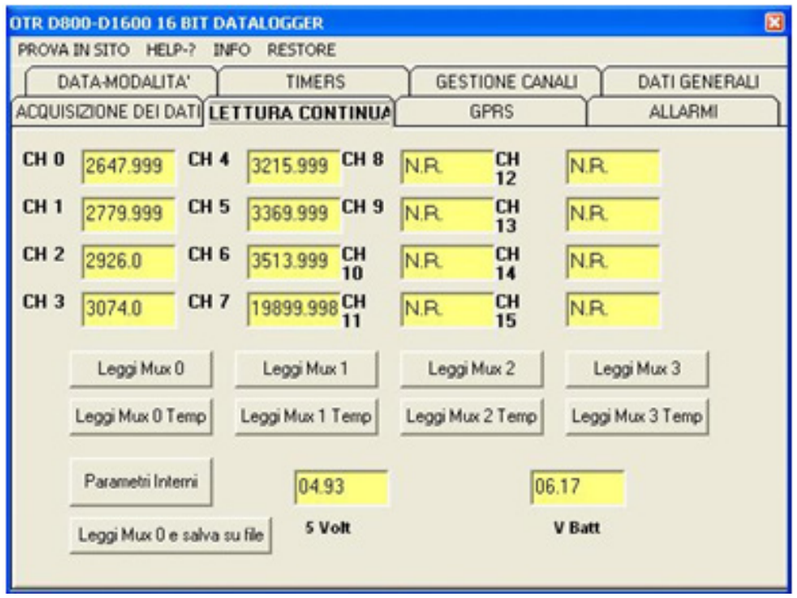

"Leggi MUX 0" read every active channels wired on MUX 0.
"Esegui la misura continua" Score every functioning channel (1 or 2 Channels).
"Termina la misura continua" Stops datas' reading.
VBATT shows battery charge o the monitor (V Batt)

WHEN THE BATTERY LEVEL IS UNDER 5.7V THE BATTERY HAVE TO BE RECHARGED OR REPLACED.

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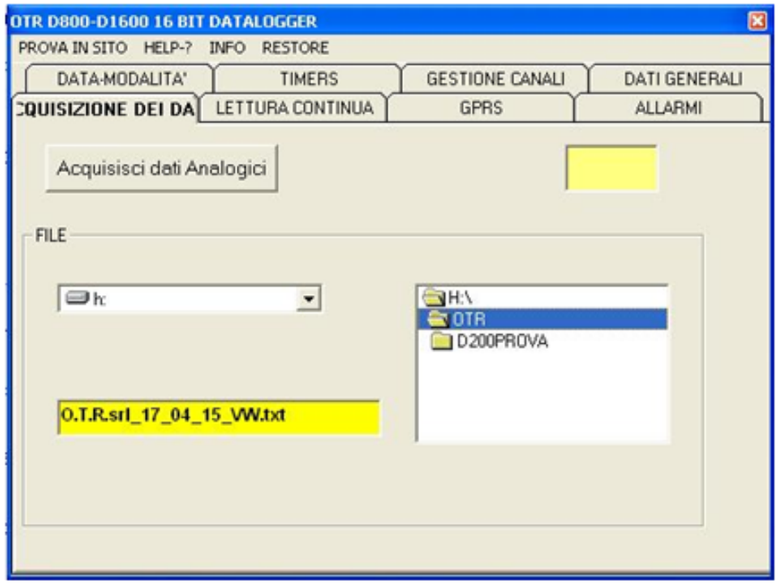
Download Datas

To download the datas on PC, open the window "ACQUISIZONE DEI DATI"



"Acquisisci i dati" start datas download on PC (models D800-D1600).

Memory, datas and Channel numbers

To cancel datas inside datalogger's memory: open "Gestione Canali" Window and click on "Cancella la memoria dati". This command cancel only acquisition datas, every other parameter won't be modified. Clicking on "Scrivi il numero dei canali", the number of the channels will be rewritten. This operation force soppresion of every acquisition data, just like clicking on "Cancella la memoria".

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