



### Technical Characteristics:

- . Easy installation, does not request peculiar maintenance.
- . Designed for field operation at low and high temperatures.
- . Connection with Control Center is via GSM / GPRS network ensuring safe transmissions.
- . It is possible to connect more than one C36T unit via RS485 insulated serial bus.
- . 4 independent high precision A/D channels (15 bits+sign) (optional).
- . Remotely selectable conversion range:  $\pm 2V$ ,  $\pm 20V$ ,  $\pm 50V$  (it can also be customized).
- . ON/OFF signals detection for installation safety.
- . 12V external power supply with optional battery backup system.
- . "run/stand-by mode" for solar panel systems
- . Optional high gain antenna for low signal areas.

The TDA4 GSM/GPRS Unit is a remote unit designed to control, acquire and transmit data related to a cathodic protection system (e.g. gas transportation piping, petrol, water, tanks, and so on. ).

TDA4 GSM/GPRS Unit is design following the SNAM Rete Gas S.p.A. GASD Tab. GASD C.07.05.02 Rev. 0 specifications and is homologated by SNAM Rete Gas S.p.A. (ENI Group). It can be used to realize a cathodic protection control system as requested by the most recent European standards.

TDA4 GSM/GPRS Unit is manufactured from some years and during this time different improvements have been introduced.

The "on field" extimated MTBF (Mean Time Between Failure) is about 200.000 hours (more than 20 years).

The unit is able to convert (analog to digital conversion), to elaborate and store data regarding cathodic protection (voltages and currents).

It is also possible to program all parameters related to the measurement (sampling frequency, range, mean calculation, etc.).

At programmable intervals, TDA4 GSM/GPRS Unit transmits, via wireless GSM/GPRS connection, from the field to the Provider Control Center, all memorized data. The unit can be connected, via insulated RS485 channel, to one or more C36T power supplies. Via RS485 connection it is possible to remote control all working parameters.

Therefore, via TDA4 GSM/GPRS Unit, control can be executed directly from the remote Control Center via connected to the GSM/GPRS network.

TDA4 GSM/GPRS Unit can be equipped with analog interfaces (up to 4) to sample electrical values related to critical points of the cathodic protection system.

Those interfaces are insulated one in respect to the other.

Alarms like : absence of power supply, system tampering, power supply out of order, and so on, are immediately sent to the control center via GSM/GPRS connection or via SMS.

The transmission protocol used to transmit data is realized using peculiar solutions that does not permit connection between control center and not enabled telephones.

Telemagnetica can deliver a complete hardware and software system for cathodic protection remote control, with data transmissions based on GSM/GPRS wireless network.

Remote control is entirely supported by the software CP Watch (Cathodic Protection Watch). This software is Windows 2000/XP/Vista compatible and allows to define, manage and maintain the entire system.

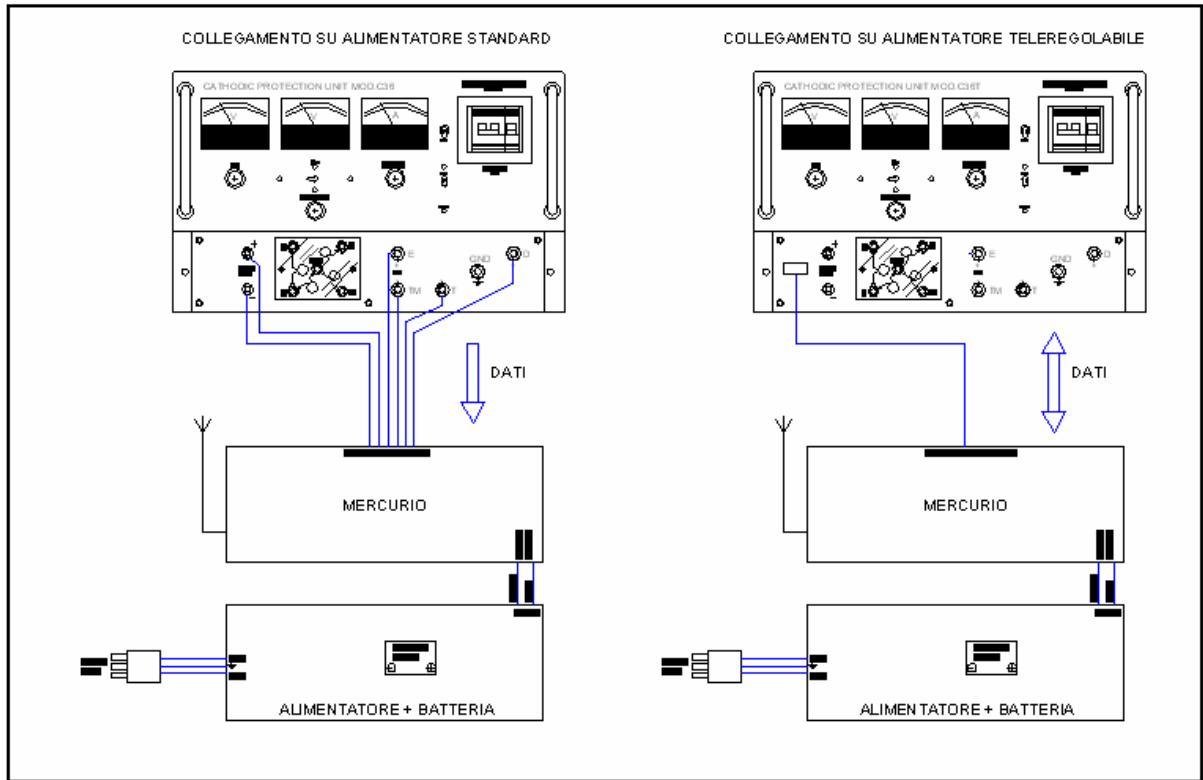
CP Watch permits to execute all operations needed to manage and maintain a network composed by a number virtually unlimited of cathodic protection system control devices (TDA4 GSM/GPRS Unit and/or TDA3 Units) and of power supplies (CT36).

CP Watch software can be customized upon customer specifications.

TDA4 unit can be connected to any power supply however in this case it must be equipped with analog interfaces and it will be not possible to remote control the unit, only alarms and analog values can be read remotely.

Telemagnetica can retrofit existing C36 Power supplies into CT36 remote controllable power supplies.

The two working modalities are depicted in the following picture :



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