

DM530-TM

MAIN TECHNICAL CHARACTERISTICS



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1 Product Description

The DM530 product series is the brand new evolution of the Apylink communication products and it takes advantage from the previous ST310 and AT420 product series, which are well known by the AMR market for their reliability and for being specifically developed for the AMR applications.

The main advantages in comparison with the previous products can be summarize in:

- ✘ Quad band communication
- ✘ Increased features, thanks to its ARM9 processor: the complete application firmware is embedded in the engine
- ✘ Selective Download Over The Air (DOTA). This means that it is not always necessary to download the full firmware: only a part of it can be replaced
- ✘ Wavecom Remote Device Management Services (RDMS) available, for maintenance issues.
- ✘ SNNP and telnet maintenance protocol integrated
- ✘ Increased reliability and temperature range
- ✘ INSIM ready (optional)
- ✘ Full technical compatibility with previous communication modules. This means that You will be able to replace a previous model "AT420" with the brand new DM530 without modifying anything in Your systems.

Moreover, DM530 takes advantage from AP Systems' experiences with the most important Italian energy distributors, allowing the highest reliability and cost-effectiveness of the solution.

2 DM530 Technical Description

2.1 General Technical Description

Here it follows a list of the main technical details:

Modem:

- * Quadri band GSM 850-900/1800-1900 GSM and GPRS communication
- * Data, SMS, Fax and voice transmission
- * SIM card reader for 3V SIM cards
- * GPRS multi-slot class 10
- * AT commands control
- * Power supply voltage: 8 to 30 Vcc
- * Dimensions (mm): 60x100x150
- * Antenna connector: SMA-f
- * RS-232 connector: Sub-D DB9
- * Power supply connector: microfit 2 pins
- * 2 LEDs for the main modem working and operative status
- * Reset: automatic and on request via AT commands

Power Supply cable:

- * Power supply cable with 50cm length terminated with microfit connector on one side, compatible with the modem's power supply connector.

The DM530 comes complete with labels, with the main following indications both on the device and on the carton box:

- * Name of the producer: AP Systems S.r.l.
- * Radiomodem model
- * Nominal power supply information (V in – I max)
- * CE mark
- * RAEE mark
- * "Made in Italy" mark
- * S/N both in numeric and bar-code
- * Nr. IMSI both in numeric and bar-code
- * Nr. IMEI both in numeric and bar-code
- * Eventual Customer's code

Example:

| | |
|--|---|
| ap E systems <small>Milano - Italy</small> | DM530-XX |
| Vin: 9,6-30V== | CE0470 |
| I max: 300 mA | |
| Made in Italy |  |
| Nr. Serie | |
| <input type="text"/> | |
| Codice IMSI: | <input type="text"/> |
| Codice IMEI | <input type="text"/> |
| Nr. Telefono | <input type="text"/> |
| EDEL LABEL | <input type="text"/> |

- ✘ Internal label on the SCB170 logic board containing the following information:
 - Modem model
 - S/N of the L/B
 - S/N of the complete device

2.2 DM530 main functionalities

The DM530 is a GSM and GPRS Class 10 modem, especially developed for telemetering applications. It is designed to allow GSM and GPRS communication with meters, concentrators, RTUs, etc...

The proposed DM530 has several value added functionalities, in comparison with the standard communication modems You can find on the market.

Here it follows a brief list of the main ones. Please note that many of these functionalities can be enabled and/or disabled by using AT commands both locally or by remote. Therefore the product's configuration can be freely customized for better fit the application requirements.

- ✘ Configurable (also by remote) automatic reset (typical every 12 hours) and refresh of the GSM/GPRS communication status
- ✘ Incoming Data calls filter. If this functionality is enabled, the modem accept data calls only if the calling number is comprehended in specific lists. There are 2 different lists: one for operative data calls can contain up to 100 numbers and the other for maintenance data calls can contain up to 30 numbers
- ✘ No reply to voice calls
- ✘ No reply to unknown numbers (the caller ID is not visible)
- ✘ Remote modem management by using AT commands
- ✘ Remote software download, by maintenance GSM data call or via FTP GPRS feature
- ✘ Remote acquisition of the modem operative working information
- ✘ Remote operative profile management

2.3 DM530 main environmental characteristics

| MECHANICAL & ENVIRONMENTAL CHARACTERISTICS | |
|--|--|
| Case material | LEXAN-940A Self-extinguishing material (UL94 standard) |
| Normal working temperature range | -30°C +70°C (Relative Humidity < 90%) |
| Extreme working temperature range | -35°C +75°C (Relative Humidity < 90%) ¹ |
| Temperature probe | Internal |
| Overvoltage protection | YES |
| Overtemperature protection | YES |
| Environmental protection | IP21 (optional IP65) |

3 DM530 Quality Characteristics

3.1 Reliability

| RELIABILITY | |
|-------------------|------------------------|
| Expected lifetime | More than 10 years |
| Failure Rate | Better than 0,35%/year |
| MTBF | > 450.000 h (@ 20°C) |
| FIT | < 2.000 (@ 20°C) |

3.2 Product Certifications

The DM530 product here proposed is certified as follows:

¹ A partial loss of performances is allowed but all functions will return to normal operations as soon as temperature returns in normal range

- × EC-R&TTE 99/5/CE
- × CE
- × Safety:
 - EN60950-1 (Vers. 2001)
- × EMC:
 - EN 301 489-1 (V 1.4.1)
 - EN 301 489-7 (V 1.2.1)
- × Spectrum Efficiency
 - EN 301 511 (V9.0.2)
 - EN 300607
- × Directive 2002/95/CE (RoHS)
- × Direttiva 2002/96/CE (RAEE)