RD32
Stand-alone Data Logger

Features

- 8 Single-ended / 4 Differential Analog Inputs
- 14 digital inputs
- Internal storage 512 KB
- Compact Flash (up to 512 MB)
- Isolated serial port RS232 or RS485 / RS422
- Serial port RS232
- Display 2x20
- Low Power
- User-friendly console
- GPS Time synchronization

The RD32 is a general purpose, high performance, low power, Data Acquisition & Data Logging system, specifically designed to accurately measure, store and process data acquired from analog and digital sensors, under different environmental conditions.

Sensors
The RD32 is provided with 8 analog and 14 digital inputs, with scalable and programmable ranges and 2 serial ports (RS232, RS485). They make it suitable for the most part of the sensors on the market, even the intelligent ones.

Storage
Storing data internally (512KB RAM) is reliable because the RD32 is provided with an internal battery with high autonomy. In case of larger amount of data, storing is possible on an external compact flash (up to 512MB).

Low Power
The RD32 perfectly fits field installations in limited energy conditions. Electronics and software are specifically low power oriented, in order to maximize the autonomy.

Front-end functionality
Users can operate with the RD32 in local and remote mode. Through a user-friendly console, it is possible to configure I/O parameters, access to the supervision functionalities, set the alarms and show data acquired in real-time, stored in memories and post-processed results.

Time synchronization
The RD32 is able to automatically synchronize the time, if connected with a GPS through any serial port.

RD32

Technical Data

Inputs

Analog	Voltage Mode - 8 single-ended - 4 differential Resistor mode - 4 inputs (e.g. PT100) Current Mode - 8 inputs (e.g. 4÷20 mA)
Digital	7 Inputs: - 5 frequency/counter - 1 8-bits parallel / synchronous serial - 1 alarm

Range, Resolution and Accuracy

	Range	Resolution	Accuracy
Analog	0÷2.4 V	50 µV	500 µV
	0÷70 mV	10 µV	100 µV
Digital frequency	10 KHz	1 Hz	1 Hz
Counter	65535	1 pulse	1 pulse

Storage

Internal memory	512 KB (RAM with battery)
Removable memory	CF type 1 (up to 512 MB)

Measurement Processing

Processing time levels	Capture, Sampling and Integration
Range	1 second÷12 hours
Data presentation	E.g. -30ºC÷70ºC, 4-20mA, etc.

Real-Time Clock

Type	dd/mm/yyyy - hh:mm:ss
Resolution & Drift	1 second - 10 ppm
Synchronization	Manual or by GPS

Serial Communication

Serial Port 1	RS232 (300÷38.400 bps)
Serial Port 2	Isolated RS232 or RS485 / RS422 (1.200÷9.600 bps)
Low power management	

Console Features

Session	Independently and simultaneously sessions could be established with each serial port
Configuration	Configuration, supervision, alarm management and display commands
Data	Real-Time and post-processed data, in RAM and Compact Flash, could be displayed on-command
Diagnosis	Displaying Real-Time input data

Display & Keypad

Display	2x20 Characters LCD with backlight
Indicators	4 low power leds: power on, wake-up mode, outputs
Keypad	4 arrow keys

Digital outputs

Number	2
Type	Open-collector optocoupler
Mode	Alarm, synchronized control, configurable general purpose

Power Supply Features

Backup	3.7 V Li-ion battery and Real-Time Clock
External	6÷16 VDC
Monitor	External and internal power measurement
Alarm	AC turned-off detection (e.g. no charge for an external battery)

Consumption Currents

Wake-up mode	<15 mA
Low power mode	<6 mA
Sleep mode	<1 mA
Serial port	20 mA
Display	20 mA

Sensor Power Supply

Power supply	Independent to the equipment supply.
Range	8÷24 VDC
Distribution	Optocoupled control for individual and groups of sensors

Operating Temperature Ranges

System	-30ºC÷70ºC
Compact Flash	-30ºC÷85ºC
Display	-20ºC÷50ºC

Mechanics

Case	Anodized aluminum with panel fastening supports
Length	196 mm
Width	108 mm
Height	64 mm
Weight:	250 gr

Options & Accessories

Power Supply

Power supply equipments	- 220 VAC adapter - Solar panel adapter
Battery	12V - 7Ah / 12V - 24Ah

Communication Equipments

GSM	GSM modem and antenna
Satellite	Satellite transmission modem
Radio	Radio modem
Ethernet	RS232-Ethernet adapter

Signal Conditioning

Amplification probe for sensor with µV resolution (e.g. pyranometer)

Additional Accessories

DIN rail adapter
Installation accessories