Smart Modem Communication for the Industry and Energy market

DinBox RTU$_{SL6087}$

Industrial GSM GPRS RTU & datalogger
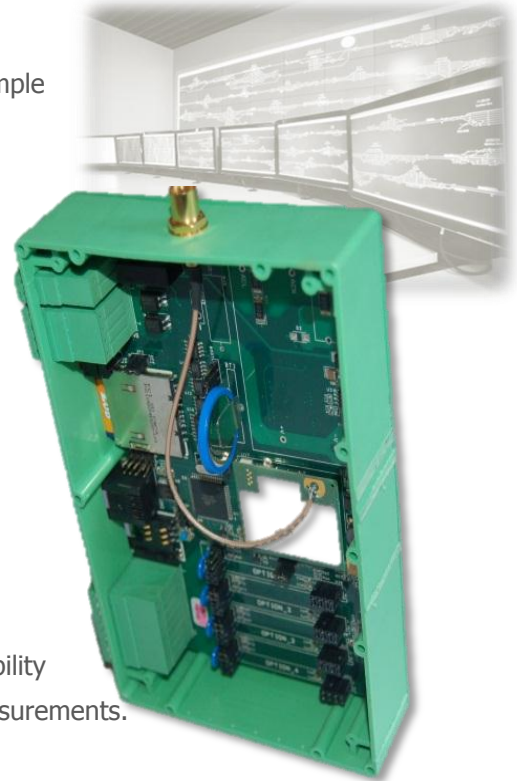
Designed by Bausch Datacom!

The DinBox RTU$_{SL6087}$ is a complete GSM GPRS SCADA communication device with logging possibilities in a DIN-rail housing and is conceived to operate via several communication protocol environments (IEC 60870-5-104, NMKD-3085 ASCII, DNP3.0, DLMS COSEM, FTP…)

The product is a unique concept for monitoring, alarming, logging & controlling. Registration and storage of measured values and sample rates are made possible by the integrated memory card. Up to 1000.000 samples can be easily logged with standard memory cards. There is easy access to SIM- and memory card without opening the enclosure! Controls, measurements, loggings or alarm events can be communicated by means of SMS, GSM or GPRS.

The in-house tailor made applications or integrated protocols can be upgraded through FOTA (firmware over the air) and AirVantage™ mass deployment services, making the upgrade of your applications very flexible.

Various applications are possible with fixed digital I/O, RS-232, RS-485 interfacing or 2 x 10-bits analog inputs providing the possibility to collect data for for example water- or other energy market measurements.

In short, the DinBox RTU$_{SL6087}$ is a device offering the advantages of a typical RTU and logger.

Typical Applications

° Substation IP communication with SCADA systems or central dispatch
° IEC-60870-5-104 or NMKD-3085 protocol between substation and control station
° SCADA installations in industries such as power and distribution, water and gas applications, oil and gas production
° Distributed Control Systems (DCS), PLC…
° Alarm management through SMS with ACK

Product Highlights

° Micro RTU in DINrail housing with integrated power supply, RTC, MMC and FRAM memory.
° Power backup with supercaps or NiMH battery
° Embedded TCP/IP GSM GPRS modem
° Integrated I/O: 2AI, 8DI, 2DO
° Internal data acquisition, handling and logging
° (Real time) alarm management through SMS
° Protocol and application software on demand
° FOTA and AirVantage™ firmware upgrade

BAUSCH DATACOM

MANAGEMENTSYSTEEM CERTIFICATIE
ISO 9001
DNV

DinBox RTU$_{SL6087}$ hardware specifications

The DinBox RTU$_{SL6087}$ is a micro-RTU, built inside a Phoenix DINrail housing with GSM GPRS Sierra Wireless modem, real time clock, 8DI, 2DO, 2AI. It is powered by a 85-264 AC mains or 9-25VDC power supply with optional backup 4X Maxwell PC10 Supercaps or NiMH rechargeable battery pack and fast battery charger.

Housing

° Type: Phoenix Dinrail enclosure
° Housing material: Reinforced polyamide fiber
° Housing type: DINrail housing side element, two pieces necessary to close base element, 1,5mm thick.
° DINrail snapslot for easy DINrail mounting
° Color: green
° Dimensions housing: : 172 mm x 35 mm x 135 mm
° General technical data:
  Ambient temperature (operation) -40°C +105°C
  Inflammability class acc. to UL 94: HB
  Power dissipation at 20°C in horizontal mounting position: 8.9W 18.3W
  IP51

Power Supply

° 85-264 AC or 9-25V DC
° Watchdog reset
° Supercap backup or NiMH rechargeable battery pack

GSM GPRS engine

° Built-in SL6087 Quad-band 800/900/1800/1900 MHz GSM/GPRS modem with internal TCP/IP stack
° Long term watchdog
° Magnetical Dual band FME antenna included
° Integrated 3V SIM card reader (SIMcard accessible without opening)
° Communication protocol: GPRS Class 10 / CSD / SMS
° GSM data : asynchronous transparent mode
° Flow control (RTS/CTS – XON/XOFF) and speed buffering
° Automatic format and speed sensing (300 to 115.200 bps)
° AT command set support
° Circuit-switched 14.4 Kbps data and Group 3 FAX (Class 1 and 2)

Digital Inputs

° 8 galvanically isolated active digital input channels
- Active 24Vdc/dc

Digital outputs

° 2 galvanically isolated digital output channels
- max. 120 mA load

Analog inputs

° 2 analog non-isolated input channels
- 12 bit single ended ADS's
- Input impedance 100KOhm
- Measurement precision > 1%
- Input voltage: 0-5Vdc
- 0-5Vdc AI (connected to the ATMEGA2561)

Memory

° 2x FRAM 64K
° SD card slot (SPI connection to the µp)
- accessible without opening enclosure
- Optional: 4 Gig TS2GSDC card or other

Interfaces

° Local communication (console port) with DB RTU$_{SL6087}$ for configuration using RJ-45 to DB9 serial cable
- Terminal software program (e.g. Hyperterminal) must be used to communicate with the micro-RTU.
° RS-232 communication port
° RS-485 communication port

Processors

° RTC: 10 ppm
° Global management of hardware: Atmel Xmega 256K

DinBox RTU$_{SL6087}$ applications

° Data coming from DI or AI can be transferred to a host system via GSM data, GPRS TCP socket, FTP or SMS
° Control by DO from host through SMS & GPRS protocols
° Communication of logged AI data by FTP or IEC 60870-5-104 protocol
° Application software embedded in Atmel 256 or SW SL6087 module. Programming in C, BASCOM or Open AT™
° Application firmware on demand
° FOTA firmware remote upload
° AirVantage™ mass deployment services

DinBox RTU$_{SL6087}$ protocols

° IEC 60870-5-104
° NMKD-3085 ASCII
° FTP
° 'TMX' proprietary
° DNP 3.0 (roadmap)
° DLMS COSEM (roadmap)
° Modbus
° SDI 12 (roadmap)

BAUSCH DATACOM

MANAGEMENTSYSTEEM CERTIFICATIE
ISO 9001
DNV