INTRODUCTION

FieldLogger is a versatile data acquisition device dedicated to analog variables. It operates as an electronic data recorder by storing measured data into its internal memory for later retrieval and analysis. This device can also operate as a real time remote terminal unit (when supplied without internal memory) by measuring and transmitting measured data to supervisory systems.

FieldLogger features eight configurable universal analog inputs, one digital input, alarm outputs and emergency power input which make this a highly versatile device in several data acquisition applicatons.

Configuration can be easily achieved by using the Windows based configuration software package which is supplied with the device.

The RS485 communication interface works under MODBUS RTU protocol and provides means for implementing networks with several other devices.

FEATURES

- Eight software selected universal inputs. Accepts thermocouples, Pt100, mA, mV and higher voltages by applying external resistor dividers.
- Recording capacity: 128,000 (optional).
- A/D converter resolution : 20,000 levels.
- Conversion type: double ramp.
- Auto zero and auto span.
- Isolated RS485 interface with MODBUS RTU protocol.
- Baud rate: selectable up to 19,200 bps.
- External battery input for operation during mains power outage.
- 3 LEDs in the front panel: 1 indicates recorder operation and the other 2 indicate active digital communication.
- Watchdog timer and reset for mains power outage.
- External trigger via dry contact for remote Start/Stop.
- Interval between loggings: programmable from 0.2 s (for 1 channel) to up to one month.
- HI and LO alarms can be indivually programmed per channel.

FieldChart

FieldChart is a Windows® compatible software which performs the communication and data treatment for the **FieldLogger** recorder and NOVUS controllers with RS485.

This easy-to-use intuitive system does not require previous user training. The main module collects data to the PC, displays the data in both digital and graphic formats in batches or in real time and provides trend and historical views.

It can zoom in and out, superimpose or link graphs in one screen, print graphs or lists and export to spreadsheets or word processors.

The practical configurator module performs the setup of the **FieldLogger** parameters and allows the user to check general status.

EXPANSION AND OPTIONS

- Real time closk with internal memory for 128,000 recordings and lithium battery for data back.
- Expansion of analog channels can be achieved by adding additional modules in the same RS485 network reaching up to 248 channels in the same network.
- **FieldChart** Software for data colletion and plotting.

SPECIFICATIONS

- Features 8 universal analog channels per module.
- Accepts t/c J, K, T, E, N, R, S, B; 4-20 mA, Pt100, 0-50 mV without hardware change (refer to table 1).

  Note: all thermocouple inputs are cold junction compensated and software linearized. Thermocouples are linearized according to NBR 12771/99 standards and , Pt100 according to NBR 13773/97.

- Accuracy:
  - Thermocouples J, K, T, E, N: 0.2% of full scale, ±1°C;
  - Thermocouples R, S and B: 0.25% of full scale, ±3°C;
  - Pt100: 0.2% of full scale;
  - 4-20 mA current and 0-50 mV voltage: 0.2% of FS.
- Input impedance:
  - 0 to 50 mV / Thermocouples / Pt100:>1M;
  - 4 to 20 mA: 100 .
- Pt100 measurements: 3-wire circuit with 170 µA current excitation and full cable resistance compensation.

  Note: when using Pt100 calibrators for checking the instrument please make sure that the calibrator excitation current is compatible with the **FieldLogger** requirements.

- Internal resolution: 20,000 levels(>14 bits).
- Recording capacity: 128,000 recordings (Virtual Recorder version).
- Sampling time: from 550 ms to 950 ms for eight channels.
- Alarm outputs: 2 SPST relays, 3 A / 250 Vac.
- Power:
  - 85 to 264 V$_{AC}$ (50/60 Hz);
  - 100 to250 V$_{DC}$;
  - 24 V$_{AC}$ ou V$_{DC}$ (optional).
- Maximum consumption: 2 VA.
- Secondary power:
  - Voltage: from +6 to 24 V$_{CC}$;
  - Consumption: < 50 mA.
- Working temperature: 0 to 55°C (32 to 131°F)
- ABS enclosure for 35 mm DIN rain mounting.
- Protection: IP30.
- Dimensions: 105 x 90 x 60 mm, weight: 210 grams.
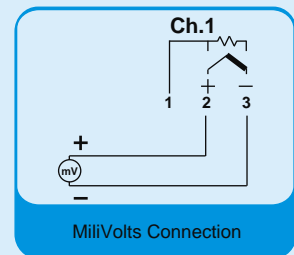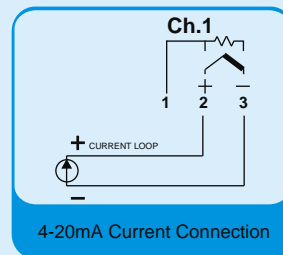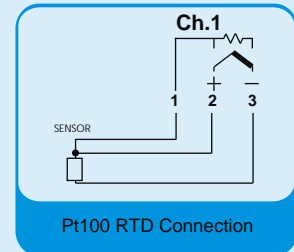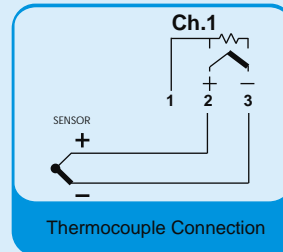- Serial communication: Rs485, MODBUS RTU.

REGISTRADORES

CONFIGURATOR SCREEN
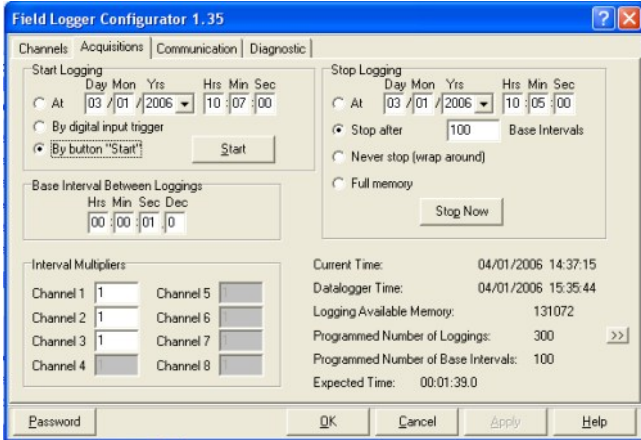
FIELD CHART SCREEN (OPTIONAL)
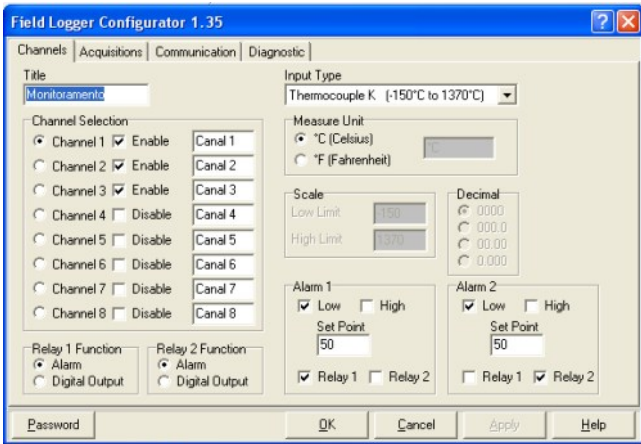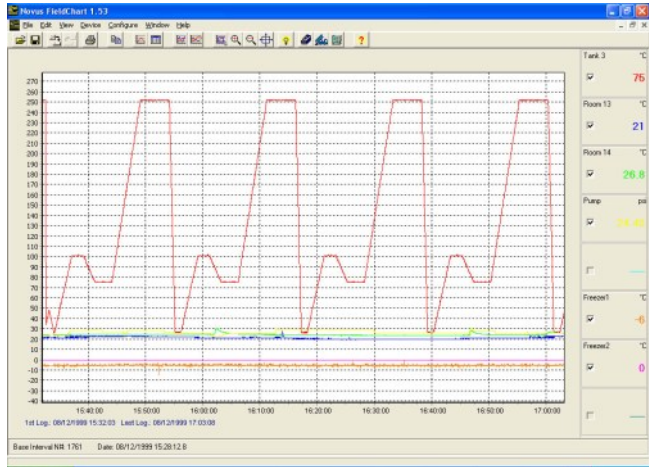
ELECTRICAL CONNECTIONS

Thermocouple Connection

Pt100 RTD Connection

4-20mA Current Connection

MiliVolts Connection
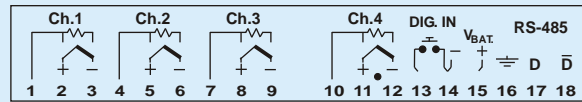
INPUT TYPES & MAXIMUM RANGES

Input channels can be individually programmed for the following sensors and ranges:

INPUT	MAXIMUM RANTE
• Thermocouple type J	-50 to 760°C (-58 to 1400°F)
• Thermocouple type K	-90 to 1370°C (-130 to 2498°F)
• Thermocouple type T	-100 to 400°C (-148 to 752°F)
• Thermocouple type E	-35 to 720°C (-31 to 1328°F)
• Thermocouple type N	-90 to 1300°C (-130 to 2372°F)
• Thermocouple type R	0 to 1760°C (-32 to 3200°F)
• Thermocouple type S	0 to 1760°C (-32 to 3200°F)
• Thermocouple type B	150 to 1820°C (302 to 3308°F)
• Pt100 (-0.00385)	-200.0 to 530.0°C (-328.0 to 986.0°F)
• 4-20 mA type J	-50 to 760°C (-58 to 1400°F)
• 4-20 mA typeK	90 to 1370°C (-130 to 2498°F)
• 4-20 mA type T	-100 to 400°C (-148 to 752°F)
• 4-20 mA type E	-35 to 720°C (-31 to 1328°F)
• 4-20 mA type N	-90 to 1300°C (-130 to 2372°F)
• 4-20 mA type R	0 to 1760°C (-32 to 3200°F)
• 4-20 mA type S	0 a 1760°C (-32 to 3200°F)
• 4-20 mA type B	150 to 1820°C (302 to 3308°F)
• 4-20 mA type Pt100	-200.0 to 530.0°C (-328.0 to 986.0°F)
• 4-20 mA	Programmable from -1999 to 9999
• 0-50 mV	Programmable from -1999 to 9999

Table 1

DIMENSIONS