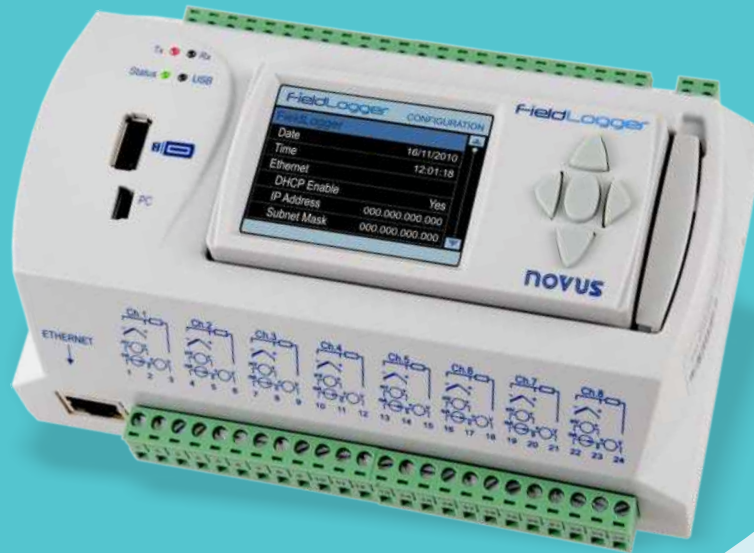


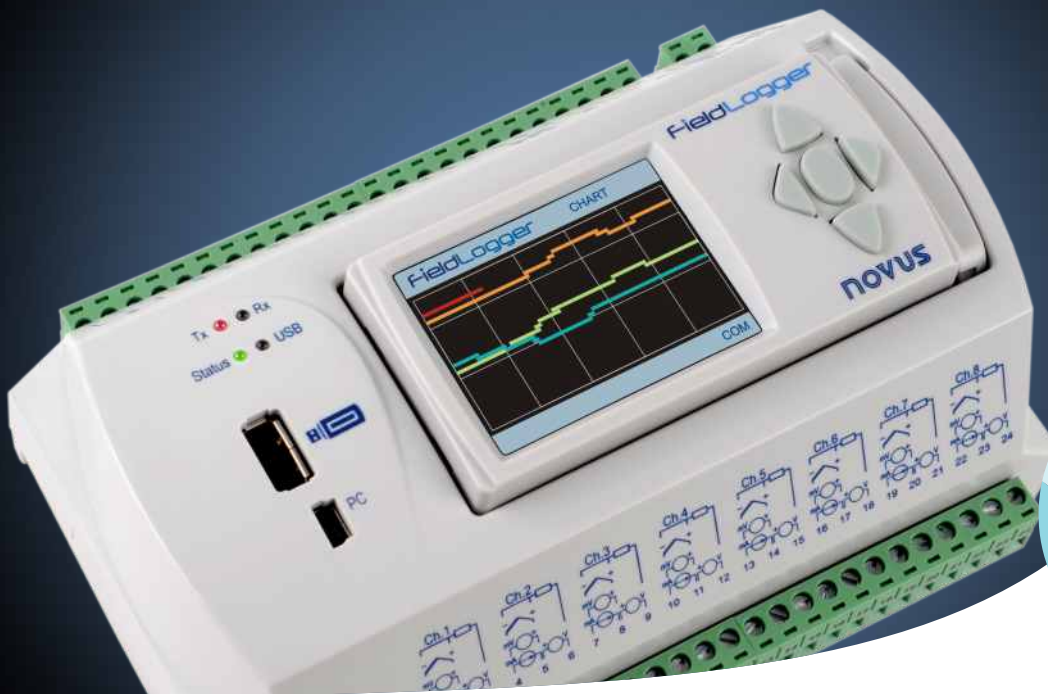
# Complete Automation Solution



## FieldLogger

Data Acquisition & SCADA

**NOVUS**  
We Measure, We Control, We Record



- Ethernet & USB
- Up to 16GB of memory
- 24-bit A/D converter
- Up to 1000 samples per second

## Introduction

# FieldLogger

**FieldLogger** is a versatile, powerful and yet cost effective data logger. The **FieldLogger** handles analog and digital input signals. Powerful mathematical functions and high resolution and speed make it the ideal data logging solution. FieldLogger features high performance along with high connectivity and ease of configuration and operation.

**FieldLogger's** local inputs include 8 software configurable analog inputs for thermocouples, Pt100, Pt1000, voltage and current signals. Two relay outputs and 8 digital ports are included. Digital ports are individually configurable as inputs or outputs. Up to 64 channels of remote inputs are available. Power supply availability of 90 to 240 V or 24 V.

Up to 128 mathematical channels can be used to perform operations on the measured values. Up to 32 alarm events can be detected, allowing output activations, e-mails and SNMP traps for e-mail notification. Networking greatly expands available alarm and calculation capability.

The RS485 interface can operate as a Modbus RTU master or slave. As a master, it can read and log up to 64 remote channels. It's 10/100 Mbps Ethernet interface allows access through a browser (HTTP), remote data download (FTP client and server), e-mails (sending SMTP, SNMP) and Modbus TCP.

**FieldLogger** has one USB interface to be connected to a computer (for configuration, monitoring and data download) and another USB port for plug-in flash driver for data retrieval. The 512k logging basic memory is used to store data and it can be greatly expanded to over 16 GB with an SD card.

An exclusive color HMI (human-machine interface) can be attached locally or remotely installed for indication or configuration. Our FREE user friendly configuration and monitoring software can be accessed by Ethernet, USB or RS485 and also provides on-line monitoring, data logging, plus downloading and exporting to spread sheets.



Model with HMI



Model without HMI

# Measurements and Loggings

## Input channels

• Available types:

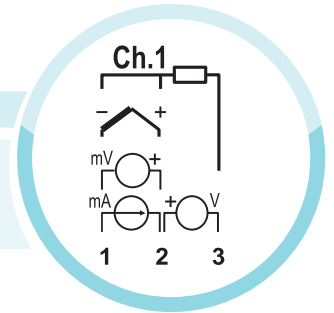
- Analog
- Digital
- Remote (registers read from external Modbus slaves)
- Virtual (outcomes from mathematical operations on other channels)

\* All channels can be logged and/or used **for** alarms.

## Analog inputs

• 8 universal analog input channels:

- Thermocouples (J, K, T, N, E, R, S and B), 0-5V, 0-10V, mV, mA, Pt100 and Pt1000
- Reading rates of up to 1000/second
- 24 bit A/D conversion resolution



## Mathematical operations

• Capable of up to 128 virtual channels

• Each virtual channel is a mathematical or logical operation on the input channels

• The outcome of a virtual channel can be used as an input for another channel, allowing the implementation of complex formulae

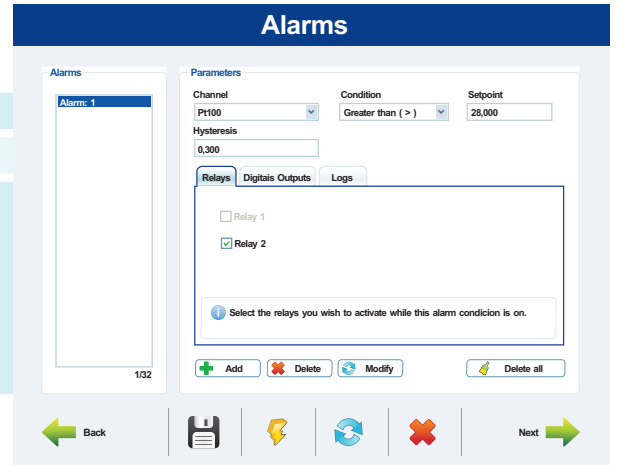
## Alarms

• Up to 32 configurable alarms

• Any channel can be used in a comparison with a setpoint

• Alarm actions may include:

- Relay activations
- Digital outputs activations
- E-mails sending for multiple targets
- SNMP traps sending
- Loggings start and stop



## Loggings

• Basic internal memory up to 512,000 loggings can be stored and up to 100 channels recorded

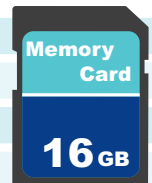
• When inserting a SD or SDHC card (optional), memory capability is expanded

• Data files are encrypted to meet FDA 21 CFR Part 11 and other Federal Agency requirements

• Logging rate can be as fast as 1000/second

• Data download can be done with the configuration software through a flash drive, USB device, RS485 or Ethernet interface

• Using the configurator, downloaded data can be viewed and exported for several formats: XLS, PDF, CSV, RTF, NOVUS SuperView and FieldChart

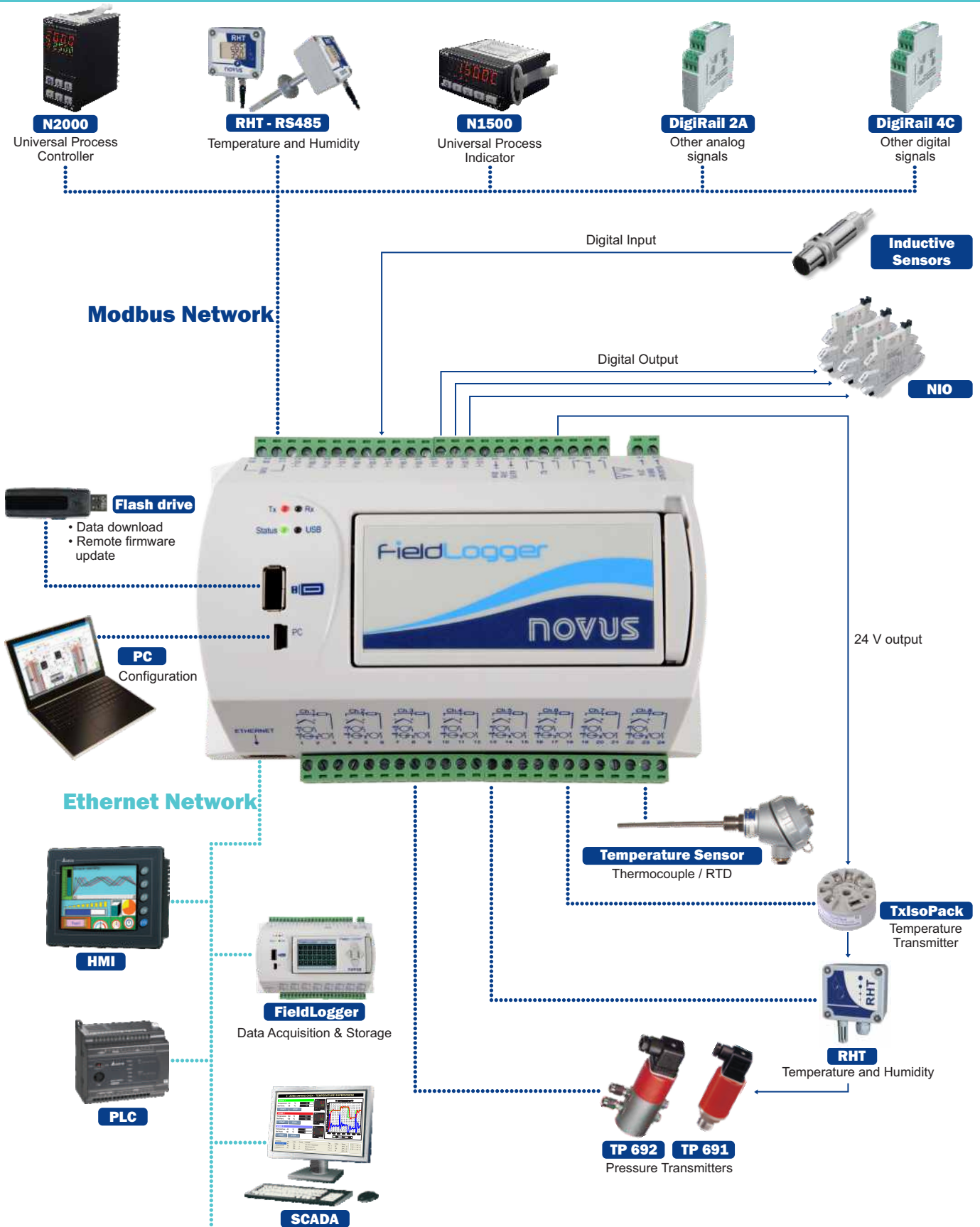


## Remote Registers

• Operating as a Modbus master, allows reading and logging up to 64 remote channels (a remote channel is a register read from an external Modbus slave)

# Connectivity Examples

## Modbus Network / Ethernet Network



# Multiple Interfaces

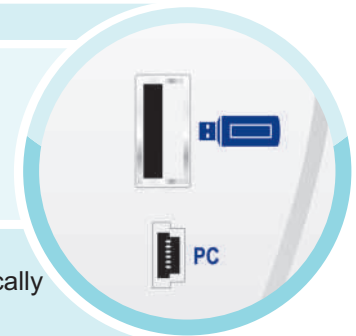
## RS485 / USB / Ethernet

### RS485 Interface

- Modbus RTU protocol
- Can act as a master or slave (communicating with SCADA systems)
  - Communication with multiple Modbus RTU slave devices
  - Allows acquisition of up to 64 external channels (remote channels)

### USB Interface

- Has two USB interfaces
- USB Device: connecting with a computer
  - Configuration and logged data download
  - Uses a standard Mini-B USB cable (included)
  - Computer USB port is seen as a virtual serial (COM) port
  - Communication using Modbus RTU protocol
- USB Host: flash drive
  - When a flash drive is plugged in download of the logged data is started automatically
  - The period of time for the data transfer to the flash drive is adjustable



### Interface Ethernet

- Ethernet 10/100 Mbps
- Services and protocols available:
  - DHCP: Search network parameters automatically
  - HTTP: Server of basic pages with information of the equipment, its alarms and channels readings
  - FTP (Client and Server): Download of the logged data
  - SNMP: Allows monitoring via network management software
  - SMTP (Client): Sends e-mail messages on alarm conditions
  - Modbus TCP: Communication with SCADA systems
  - Can serve pages in XML format, which allows data to be worked externally (example: creation of customized web pages)
- Can act as a gateway between a Modbus TCP and a Modbus RTU networks

### Introduction

## FieldLogger HMI (Optional)

- Color QVGA screen 2.4"
- 96 x 48 mm format
- Shows the current channel values or a historical chart
- Indicates FieldLogger status and alarms information
- Allows parameter checking and configuration
- Local or remote installation with RS485 communication
- Optional: kit for HMI remote mounting



# Software Tools

## Configuration, Download and Diagnostics

- User friendly interface to:
  - Download, view and export data
  - Configuration and set-up
  - System diagnostics
- Can communicate through USB, RS485 or Ethernet
- “Wizard” format (step-by-step guide)



**FieldLogger Configurator**

Buttons: CONFIGURATION, DOWNLOAD, DIAGNOSTICS, PREFERENCES

Information:

- Create and change the configuration of your FieldLogger.
- Download data and export it to known popular formats.
- Check the Diagnostics screen to quickly access essential information of your FieldLogger.

Version 1.2.1      ENGLISH

**Loggings Chart**

Graph showing data over time (10/02/2012 14:00:00 to 15:00:00). Y-axis ranges from 0 to 30.

10/02/2012 14:25:21

Ch. 1	31.2	Ch. 5	31.9
Ch. 2	30.4	Ch. 6	32.1
Ch. 3	30.1	Ch. 7	32.8
Ch. 4	31.0	Ch. 8	33.9

**Ethernet Interface**

Services:

- Disable All
- TCP/IP
- FTP ✓
- SMTP ✓
- SNMP ✓
- HTTP ✓
- Modbus TCP ✓

FTP:

Access Data Via FTP

User: \_\_\_\_\_ Password: \_\_\_\_\_ Port: 21

Daily FTP Download

Address: 10.51.20.40 Port: 21 User: flogger Password: \*\*\*\*\* Time: 01:00

Buttons: Back, Save, Refresh, Cancel, Next

**Check some other NOVUS products**

- Process Controllers
- Electronic Thermostats
- Pressure Transmitters
- Conditioners & Isolators
- Temperature Transmitters
- Humidity Transmitters
- Data Loggers
- DAQ - Data Acquisition
- Softwares & RTUs
- Recording & Supervision
- Timers & Counters
- Calibrators & Handhelds

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