ATAL

Complete Automation Solution
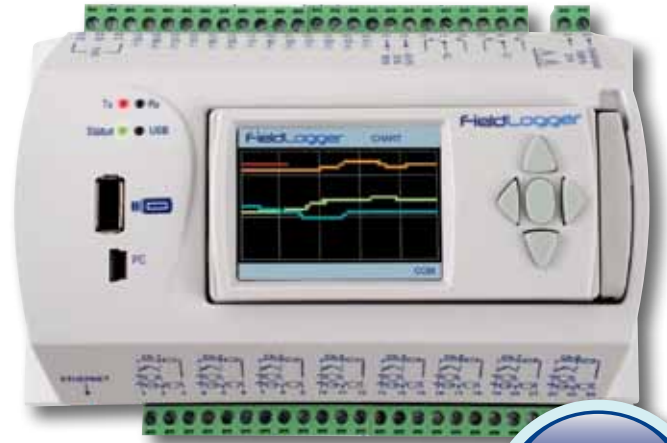
FieldLogger

Data Acquisition & SCADA

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 cliente and server), e-mails (sending SMTP, SNMP) and Modbus TCP.

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

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 drive 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

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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.

Digital I/O

- Digital I/O individually configured as inputs or outputs
- 2 relay outputs (NO, NC and common)
- Pulse count capability

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
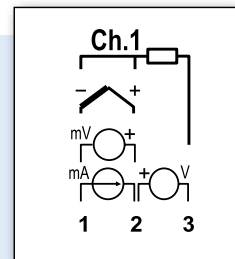
Mathematical operations

- 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
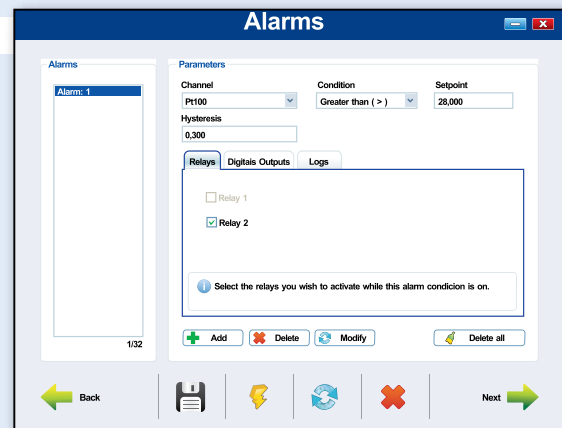
Loggings

- 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, SuperView and FieldChart
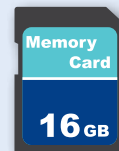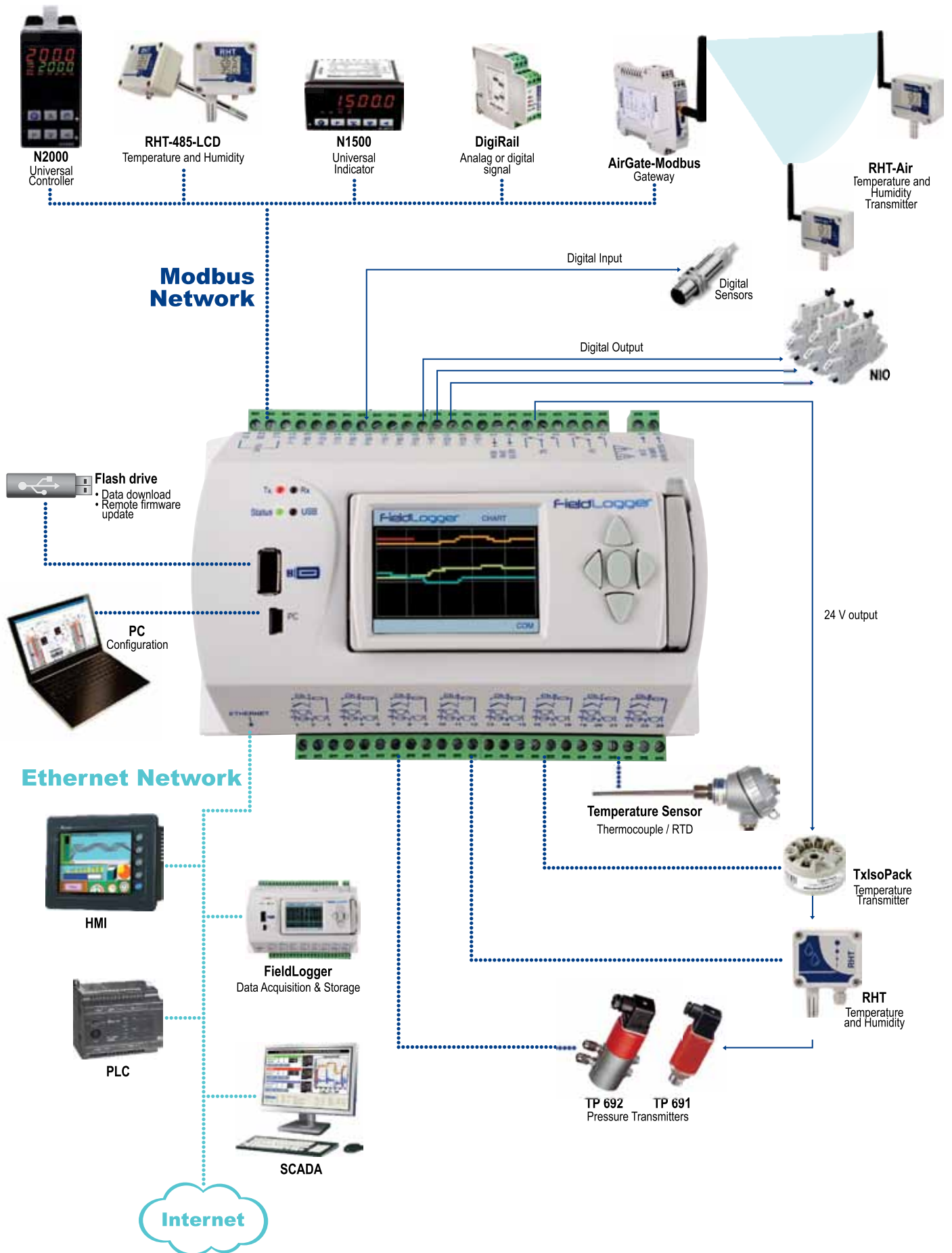
Remote Registers

- 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)

Modbus Network / Ethernet Network

N2000
Universal
Controller

RHT-485-LCD
Temperature and Humidity

N1500
Universal
Indicator

DigiRail
Analag or digital
signal

AirGate-Modbus
Gateway

RHT-Air
Temperature and
Humidity
Transmitter

Modbus Network

Digital Input

Digital
Sensors

Digital Output

NIO

Flash drive
• Data download
• Remote firmware
  update

PC
Configuration

24 V output

Ethernet Network

HMI

FieldLogger
Data Acquisition & Storage

PLC

SCADA

Temperature Sensor
Thermocouple / RTD

TxIsoPack
Temperature
Transmitter

RHT
Temperature
and Humidity

TP 692   TP 691
Pressure Transmitters
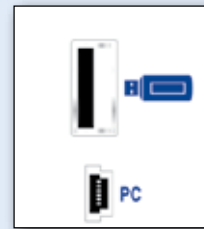
Internet

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Multiple Interfaces

RS485 / USB / Ethernet

RS485 Interfaces

- Modbus RTU protocol
- The main interface 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)
- The secondary interface is always slave and allows HMI connection

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 customizable pages with equipment information, alarms and channels readings
    - FTP (Client and Server): Download of the logged data (CSV format in Client mode)
    - 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)
    - Cloud Gateway connection
- Can act as a gateway between a Modbus TCP and a Modbus RTU networks
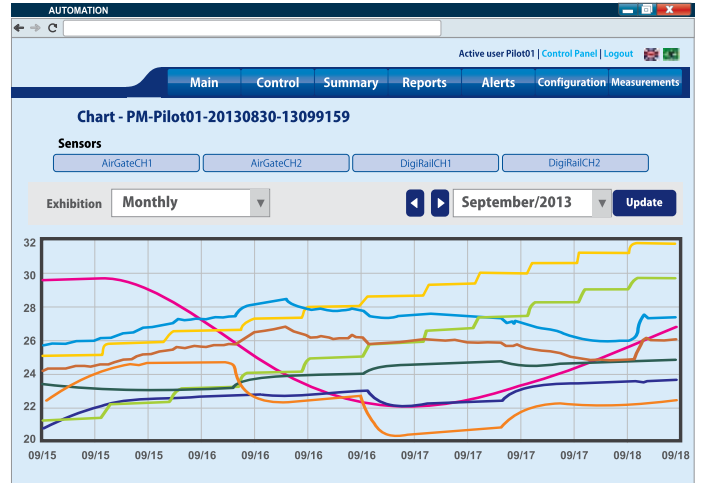
Introduction FieldLogger HMI

- *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*

Cloud Gateway

The FieldLogger is fully compatible with the Cloud Gateway service. Binding the FieldLogger to the Cloud brings a new way to store, analyze and export historic data from remote or local processes. Acting as a simple Modbus packet router or as online data storage server, the Cloud Gateway offers an intuitive web interface that allows users to view recent data, connection status, reports on logged data and also system exceptions of all remote telemetry points.
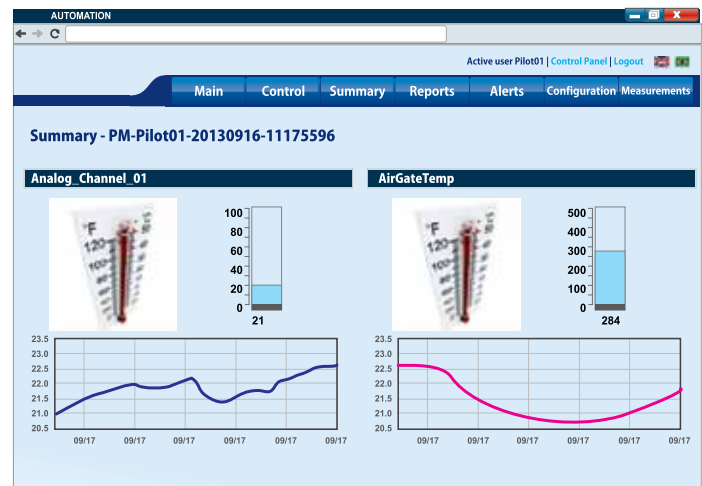

Configuration, Download and Diagnostics

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

FREE Software

The Fieldlogger can be used for a wide variety of applications, both in a clean and a polluted industrial environment.
They can even be used in the open air if they are fitted with the optional splash-proof housing. An overview of a number of common applications is shown below.

Control of critical water temperature
Recording and monitoring temperature of critical water temperatures in the pipe network.

Horticulture
Recording of temperature, relative humidity and carbon dioxide (CO_2), monitoring energy consumption.

Cooling and freezing technology
Recording and monitoring temperatures and pressures

Research & Development
Recording and monitoring of processes, recording of various parameters in test equipment.

Building and energy management
Recording of comfort parameters (including temperature, %RH, carbon dioxide (CO_2) and air velocity), control of air conditioning units, recording energy consumption.

Process industry
Recording of such parameters as pulse signals, pressures, temperatures, voltages and currents.

Food industry and supermarkets
Recording and monitoring critical temperatures required by the HACCP regulations

Laboratories and pharmacies
Recording of temperatures, carbon dioxide (CO_2) and other critical parameters required for the GLP or GMP regulations.

Monitoring and control instrumentation for:

temp.	temp R.H.	CO$_2$	water detection	CO	O$_3$ (ozon)	Air flow	Light (Fc)	event	Wireless Sensors	Wind speed
water temperature	Camera Surveillance	Moisture in wood	Moisture in building materials	A Amp.	Heating	Pa Pressure	DC Pulses	Sound	Barometric Pressure	Voltage

- *Sensors*

- *Dataloggers/Datarecorders*

- *Monitoring Systems*

- *Portable instruments*

- *Thermal imaging camera's*

- *Ethernet- & webbased sensors*

- *Calibration service*

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