

NI100 DATALOGGER

NI100



NI100 SERIES
4/6 CHANNELS ETHERNET DATA LOGGERS
with embedded webservice



DATASHEET

Rev. 13 del 03/08/2017
Redatto da R&D
Approvato da MKT

SPECIFICATIONS



- Webserver on board
- 4 Thermocouple input channels (NI101)
- 4 single ended voltage (0-30V) input channels and 2 thermocouple input channels (NI102)
- Thermocouple type: J,K,T,E,R,S,B,N
- Cold Junction Compensation
- GPRS Modem available
- Ethernet, RS485, RS232 and USB Host connections
- SMS and email alerts
- Modbus sensors

PHYSICAL CHARACTERISTICS

Weight	590 g (1.3 lb)
Dimensions (L x W x H)	231 L x 138 W x 75 mm H (9.09 x 5.43 x 2.9")
Material	Plastic
Wiring	Removable screw terminal connectors

CPU AND MEMORY

Processor	ARM Cortex-M3 MCU with 1MB Flash, 120MHz CPU, ART Accelerator, Ethernet
RAM Memory	1Mbyte RAM
Mass storage	2GB SD Card for data (about 5 Mega data points) and Web pages

ANALOG INPUT

Input number	2 possible configurations:- 4 thermocouples - 2 thermocouples and 4 analog input (0-30V)
ADC	16bit analog to digital converters, 8SPS to 869SPS

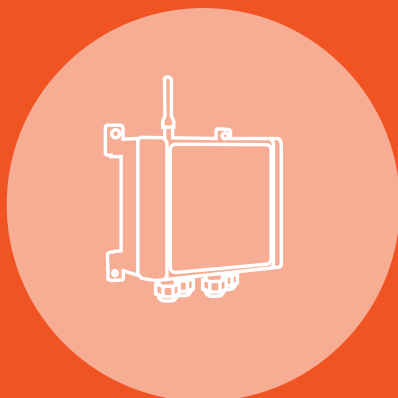
RS485: N° 2 OPTO-ISOLATED

Connection	5 screw clamp port for max. No.254 Modbus RS485 digital bus sensors
Communication Interface	RS485
Communication Protocol	MODBUS RTU
Voltage "V OUT"	Switched on and off under program control. V OUT is the unregulated input power supply 'V IN' (1 A).
Power Supply Management	Always on or energy safe

2 NI200 DETAILED SPECIFICATIONS

Thermocouple	Range	Accuracy	Resolution
(probes sold separately)			
Type J	-210° to 760°C (-346° to 1,400°F)	±0.6°C (±1.08°F) ± thermocouple probe accuracy	0.03°C (0.06°F)
Type K	-260° to 1,370°C (-436° to 2,498°F)	±0.7°C (±1.26°F) ± thermocouple probe accuracy	0.04°C (0.07°F)
Type T	-260° to 400°C (-436° to 752°F)	±0.6°C (±1.08°F) ± thermocouple probe accuracy	0.02°C (0.03°F)
Type E	-260° to 950°C (-436° to 1,742°F)	±0.6°C (±1.08°F) ± thermocouple probe accuracy	0.03°C at (0.05°F)
Type R	-50° to 1,550°C (-58° to 2,822°F)	±2.2°C (±3.96°F) ± thermocouple probe accuracy	0.08°C (0.15°F)
Type S	-50° to 1,720°C (-58° to 3,128°F)	±2.2°C (±3.96°F) ± thermocouple probe accuracy	0.08°C (0.15°F)
Type B	+60° to 1,820°C (1,022° to 3,308°F)	±2.5°C (±4.5°F) ± thermocouple probe accuracy	0.1°C (0.18°F)
Type N	-260° to 1,300°C (-436° to 2,372°F)	±1.0°C (±1.8°F) ± thermocouple probe accuracy	0.06°C (0.11°F)
Cold Junction Compensation	Type: automatic (integrated Electronic Temperature Sensor) Accuracy +/- 0.5 °C		
DIGITAL INPUT & OUTPUT			
Digital output	One relay output (for alarm, etc.): volt-free closure (low voltage 30V, 2A)		
Digital Input	Two opto-isolated digital inputs individually selectable for switch closure. <ul style="list-style-type: none"> • Max Input Voltage: 24V (max current: 10mA) • Min Input Voltage: 5V (max current: 2mA) • Measurement Rate (MR): max frequency 1 kHz • Accuracy: 0.1 Hz 		
SYSTEM POWER REQUIREMENTS			
Voltage (External Power Supply)	10 to 30 Vdc (reverse polarity protected), <ul style="list-style-type: none"> • Sleep Mode(MAX): 315 µA • ON: 62 mA - ON with ethernet connected: 87 mA - ON with display ON: 115 mA • ON with display ON and ethernet connected: 142 mA 		
Typical Current Drain (@12 Vdc, External Power Supply)			
INTERFACES			
Display & Keyboard	Small backlight graphic LCD 128 x 64 dpi with membrane keyboard for the minimal local management without the PC. Keyboard for starting a data acquisition scan, sequential display of the last stored readings for each channel (sensor ID, converted unit reading, unit of measure), device status, data download and firmware/Web pages update by USB pen drive, safe mode (back-up/format/restore internal SD card)		
LAN Ethernet Isolated	10/100 Mbps, RJ45		
RS232	9-pin, DE9: DCE port for optional GSM/GPRS modem connection		
USB	USB 2.0 pen drive only (FAT 32), 5 V 200 mA		
SOFTWARE & FIRMWARE			
<ul style="list-style-type: none"> • Web server on board (independent OS platform) • Acquisition Time Interval: selectable from 1 second up to 1 week (depends on the number of channels acquired) • FTP client to send data/alarms on an FTP server (SFTP not supported) • MAIL to send data/alarms to max 5 email address (SMTPS / SSL not supported) • SMS to send alarms to max 5 telephone numbers • Data download (readings, logs) in .csv file (compatible with Microsoft Excel) • Virtual channels management • Languages: Italian, English and French 			
ENVIROMENTAL CONDITIONS			
Operating Temperature:	-20 to 60°C (-4 to 140°F)		
Storage Temperature	-40 to 85°C (display -30 to 80°C)		
Relative Humidity	80% RH non condensing		

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DATALOGGERS



**INTERNET OF THINGS
SENSORS**



WEB SOFTWARE



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