WE CONNECT
TO THE REAL WORLD
STRUCTURAL **MONITORING**
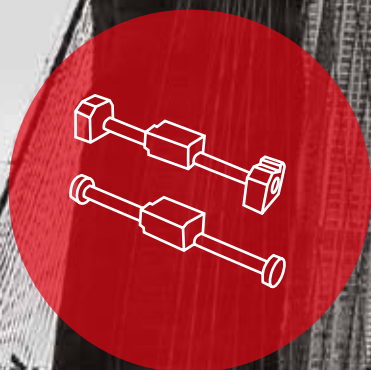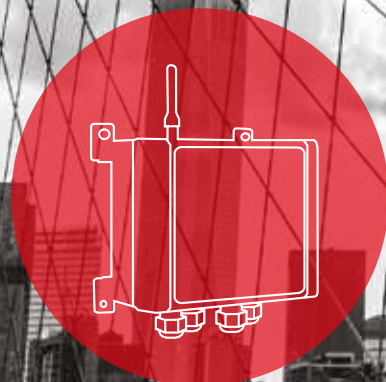
SMART **SENSORS**   WIRELESS **INTERFACE**   **SOFTWARE** CLOUD

neXT industries MILANO

Smart structural WIRELESS Interface

NI200 devices are **ultra low power** wireless sensors communication interfaces.

They can be provided with **169 / 868 Mhz radio** or with new standard network low power **SIGFOX**. **NI200 devices Family** is a low-cost vertical solution designed for **smart building monitoring**; this means you can **measure tilt, pressure** or **cracks extension** of the building. Thanks to our **cloud** service software you can view data in cloud mode with **smartphone** or **tablet** from different devices in different locations at the same time, with the possibility to choose the widget to display them.
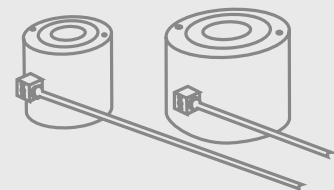
1 STEP1 — CONNECT SENSORS TO DEVICE
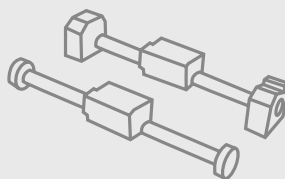
VIBRATING WIRE
• deformation

LOAD CELLS
• load distribution

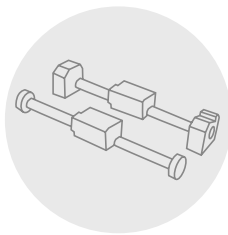## 2 STEP2 — CHOOSE WIRELESS INTERFACE

M-Bus wireless

• Long distance up to 15 km
• Standard en13757
• Tx power of up to 35mW
  169Mhz / 868 Mhz

sigfox

• Long life battery
• Long range distance
• Global reach
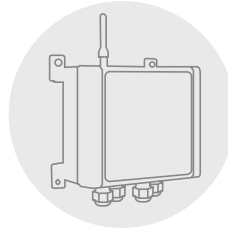• Out of the box connectivity

BUILD YOUR SYSTEM

STEP 1

CONNECT
SENSORS
TO DEVICE *****

STEP 2

CHOOSE
WIRELESS
INTERFACE

STEP 3

VIEW
DATA WITH
CLOUD

*Up to 2 Sensors
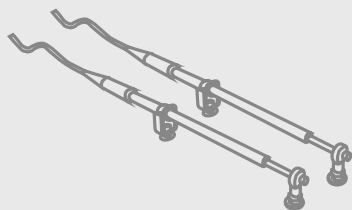
CRACK METERS
• movements
across cracks and
joints in buildings

INCLINOMETERS
• grade
• tilt

3 STEP3 VIEW DATA WITH CLOUD
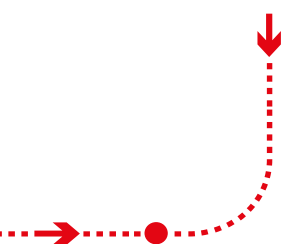
CHOOSE YOUR MODEL

SMART
STRUCTURAL

SMART
ENVIRONMENT

SMART
AGRICULTURE

SMART
PIPING

SMART
WATER

SMART
CITIES

BUILDING MONITORING

BRIDGE MONITORING

HISTORICAL MONITORING

JOINTS AND
CRAKS
MOVEMENTS

GRADE,
TILT
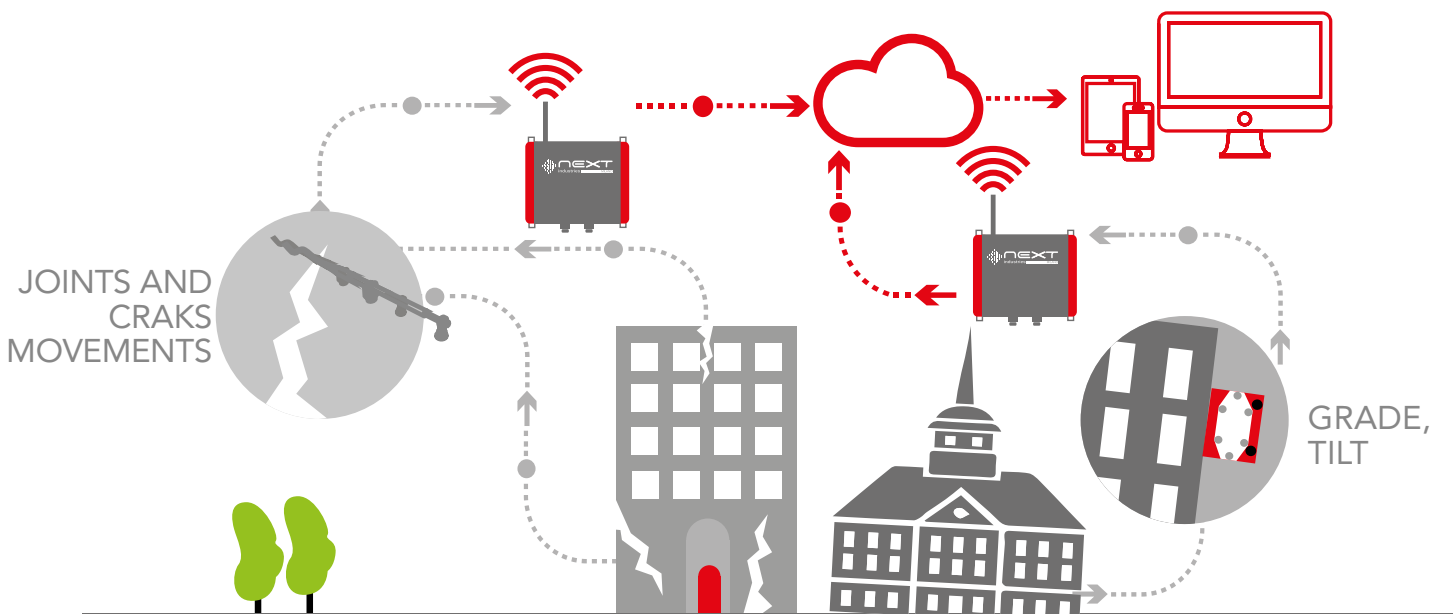
BUILDING MONITORING APPLICATION

NI200 WIRELESS
Devices

4
differential analog channels

2
pulse input

1
1 USB port, 1 RS 485

2
GB sd card

NI200 SPECIFICATIONS

NI200 devices are **ultra low power** data logger with optional integral modem designed specifically for **remote** and **stand alone** applications. **NI200 devices** are designed for hard environment field use with **IP67** box, USB memory stick and electromechanical relays for each measuring channel.

Available Measure (it depends on the model)
- mV, mA
- mV/V
- Pulse
- NTC
- Thermocouple
- Vibrating Wire

1

2

3

1 Antenna
2 External power supply
3 RS485 instruments
4 Analogue instruments
5 Digital output

5

4

FEATURES

- 2 differential analog channels
- Measures: mV, mA, mV/V, NTC,Thermocouple, Pulse, Vibrating Wire (it depends on the model)
- 0,05% F.S. Accuracy with mV measure

- WMBus, SIGFOX connectivity
- Web Server on Board
- Internet of Things Technology
- Cloud Base Dashboard Management

M-Bus
- Long distance up to 15 km
- Standard EN 13757
- Tx power of up to 35mW 169Mhz / 868 Mhz

sigfox
- Long life battery
- Long range distance
- Global reach
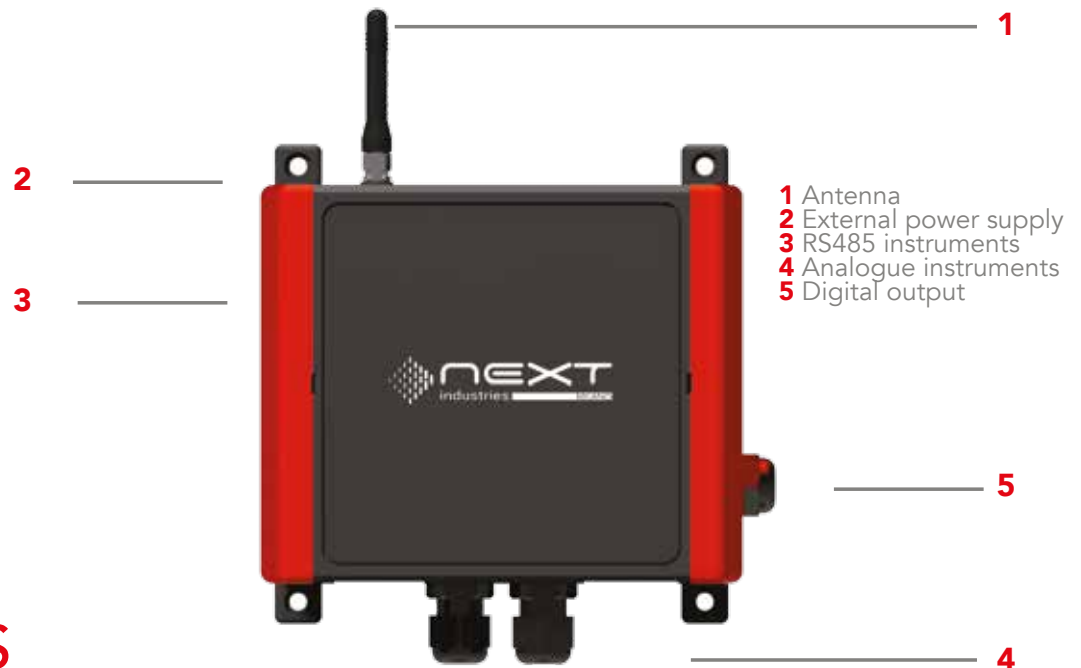- Out of the box connectivity

* Pictures are intended for product presentation only

www.nextind.eu

NI200 WIRELESS
Devices

SPECIFICATIONS

PHYSICAL CHARACTERISTICS	
Weight	780 grams (batteries included)
Dimensions (L x W x H)	151 x 125 x 90 mm (without cable gland and antenna)
Material	Polycarbonate
Wiring	5 screws clamp termination blocks; it clamps solid and stranded conductors up to 1,3 mm² (16 AWG)
Calibration	Recommended every 1 year

We reserve the right to change our product without prior notice.

	NI202	NI203
Case and Protection	IP67	IP67
2G/3G option	Y	Y
Wireless	Y	Y
Relay Output (30V 1A)	-	1
Analog Input Number	N	4
Voltage	N	Y
Current	N	Y
mV/V	N	Y
Vibrating Wire	N	Y
PT100 - NTC	N	Only NTC
Thermocouple	N	Y
Pulse Counter	Y	Y
Switchable Power supply	N	Y
(selectable by factory): 24 V, 12V , 5V		
RS485	1	1
Power Supply RS485	Y	Y
Display	7 segment	7 segment
USB HOST	Y	Y
PC Connection with USB	Y	Y
Relè Protection/Gas Discharge	-	Y
Memory	2GB	2GB
Software Web Server	Y	Y
Cloud Dashboard Management	Y	Y

SIGFOX	Networking: Sigfox Network
	Frequency: 868-870 MHz Modulation: BPSK
	Broadcast 1.6 sec
	ETSI: 140 messages of 12 bytes, per object per day
WMBus 169 Mhz	169 MHz band and runs Wireless M-Bus N mode protocol,
	defined by EN13757-4 2012 for this band, on Tx power of up to 500 mW.
WMBus 868 Mhz	Tx power up to 25mW with sensitivity up to -109 dBm
	Power consumption of less than 1.5 µA in sleep mode with an RTC clock running
	Download over the Air (DOTA)
915 Mhz	Low power consumption
	Superior outdoor range of up to 40 miles with 6 dBi antenna gain
	Data encryption (AES128) available

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SPECIFICATIONS

CPU AND MEMORY	
Mass storage	SD CARD 2 GB for data (about 5 Mega data points) and WEB pages

INPUT	
Analog differential inputs	N. 4 differential channels, individually configured at factory, according to the following sensors:
(it depends on model)	- Thermocouples
	- Vibrating Wire + Thermistor
	- 4-20 mA current loop (2 wires)
	- 4-20 mA (3-4 wires)
	- Voltage (4 wires)
	- Wheatston bridge (6 wires, utilize No. 2 channels)
Pulse	- N. 2 direction/alarm input
	- counter, frequency (max frequency 1 KHz, it depends on the sensor)

INTERFACES	
USB Device	USB 2.0 full speed (Mini B connector) 5V, max 500 mA, PC connection only
Modbus RTU sensor slave RS485	5 screw clamp: DCE port for max. No.64 Modbus digitized sensors.
(it depends on model)	Communication interface: RS485
	Communication protocol: MODBUS RTU
	The voltage 'V OUT' is switched on and off from the software. V OUT is the unregulated power supply
	input 'V IN' (0,75 A)
	Power supply management (always on or energy safe)

WIRELESS	
SIGFOX	SIGFOX, class 0
	Long range distance
	rapid access to internet
WMBus	169,868 MHz band

OUTPUT	
Digital output (it depends on model)	One relay output (for alarm, etc.): volt-free closure (low voltage 30V, 1A)

| SYSTEM POWER REQUIREMENTS	
Voltage	7.2 to 14 V DC, max 12 W
External rechargeable battery	12V DC nominal
(i.e. solar panel system)	
Internal non-rechargeable	6 batteries size AA, chemistry Lithium/ Iron disulfide (Life s2), nominal voltage 1.5 V,
batteries (no external power supply)	min 2 A continous current discharge, min 2 A pulse capability, min 3 Ah capacity

NI200 WIRELESS
Devices

SPECIFICATIONS

ENVIROMENTAL CONDITIONS	
Operating temperature	-30 to +70°C (batteries -20 to +60°C)
Storage temperature	-40 to +85°C (batteries 0 to +40°C)
Protection	IP67
Humidity	80%
Overvoltage category	II
Pollution degree	2
Sound levels	< 74dBA
Maximum height of use	3000m

WIRELESS
DEVICES
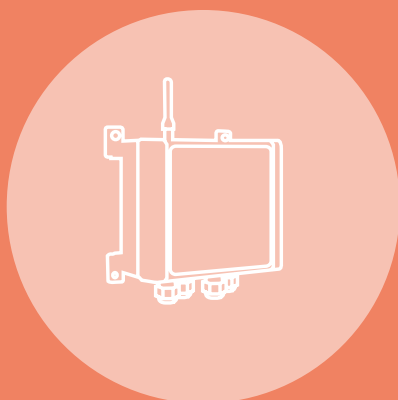
DATALOGGERS

INTERNET OF THINGS
SENSORS

WEB **SOFTWARE**