



**Machine To Cloud
Solutions**

NB-IoT/LTE Industrial Analog/Digital Sensor



Datasheet
Ref. ds_analog_iot
Rev. 1.0

Machine To Cloud Solutions, S.L.
www.m2csolutions.com
info@m2csolutions.com

Applications:

Remote sensor reading
Temperature and Humidity reading
Industrial control

Features

- RF Interface (NB-IoT)
- RS485 (ModBUS RTU)
- RS232 (ModBUS)
- 4x configurable inputs
 - 0-10 V
 - 4-20 mA
 - Optocoupled input
- Ultra low power modes
- Battery Mode
- Authentication and encryption features
- Temperature + Humidity

Characteristics

- RS485 (ModBUS RTU) / RS232:
 - Selectable baudrate

Wireless interface

- NB-IOT bands (NB1):
 - B8/B5/B20(800Mhz)
- LTE Cat M1
- EGPRS



Mechanicals

- Dimensions: 160x90x55mm.
- Weight: TBD
- Protection level: IP67 (on demand no humidity reads available)

Operating environment

- Operating temperature: -20°C to +60°C
- Operating humidity: 10% to 90% RH

Part numbers

Introduction

The M2C IOT Analog sensor is a multi purpose data acquisition tool.

The device acquire data:

- Temperature
- Humidity
- General purpose sensor with outputs:
 - 0-10 V
 - 4-20 mA
 - Modbus
 - Digital inputs

It sends data to M2C, Third-party or client proprietary platform using NB-IoT/LTE Cat M1 Networks from mobile phone operators.

The M2C Solutions platform in conjunction with M2C IoT Analog sensor provide an end to end secure communication based in secure chipset. The system is cable of:

- Secure key exchange
- Message authentication
- AES Encryption
- ECC cryptographic algorithms
- Anti-Tamper security protection

The device is battery or external (up to 24 DC voltage) powered.

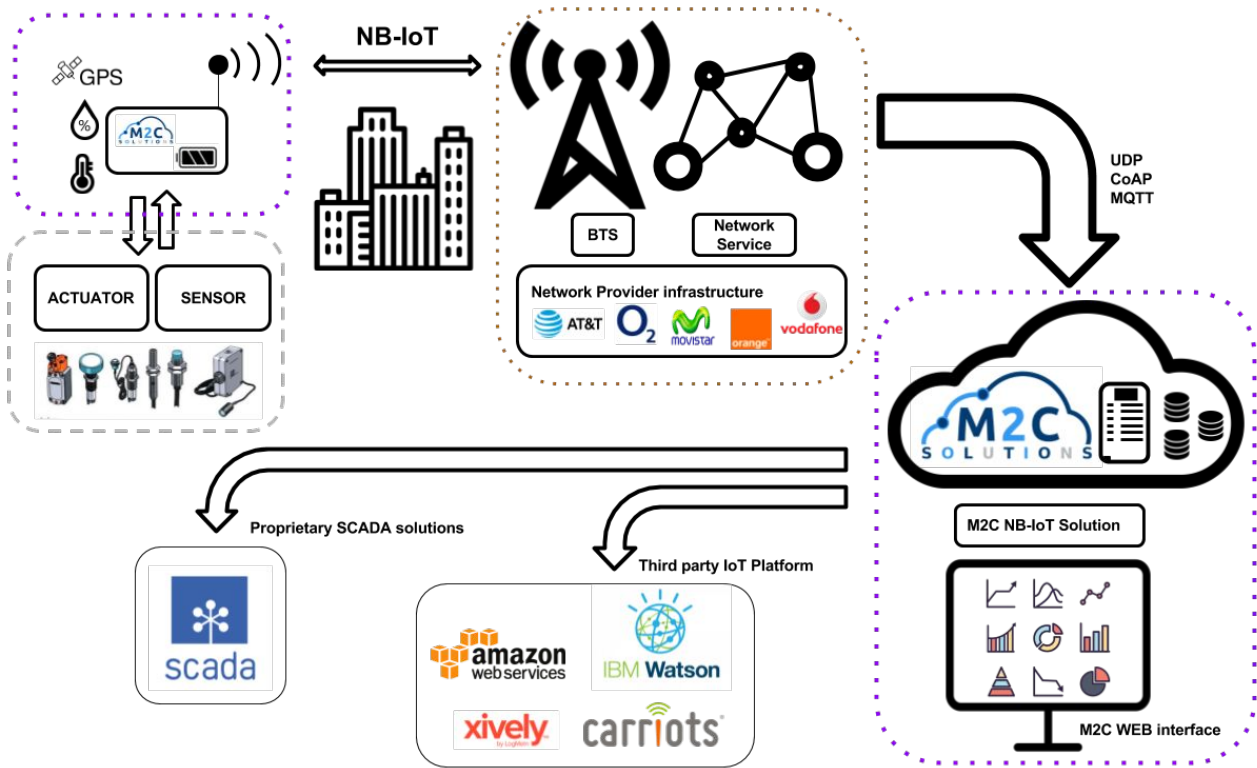
It uses ultra low power features to achieve battery life up to 5 years⁽¹⁾ without replacing power source.

1. Depending of time between RF transmissions

Key features and benefits:

- **Multipurpose** IoT industrial applications, data acquisition, remote actuators control.
- **Connectivity**: several communication interfaces (RS485, RS232, ModBus, 0-10V, 4-20mA...).
- **Secure**: Hardware based security & tampering detection protections.
- Easy **integration** with M2M Solutions Cloud or other platforms.
- **Interoperability**: Handles IoT protocols (UDP, CoAP, MQTT...) to connect with third party cloud services like: Amazon AWS IoT, Carriots...
- **Configuration**: the desired configuration is easily applied using a user-friendly web interface running on a embedded web server.
- **Programmable & Customizable**: the tools provided by M2C Solutions allow high levels of customization, enabling advanced software functionality.
- Ultra low power design for **Battery power** usage.
- **Compact design**.
- Industrial **rugged design**, IP67 on demand.

Global Solution:



Mechanical & Electrical characteristics

Parameter	Min	Typ	Max	Unit
Enclosure		Plastic, type PC		
Dimensions				
Supply voltage (VDC)	5	-	25	V
Power consumption (9V, sleep mode)	2	7	-	uA
Power consumption (@ 9Vcc, connected mode)		100	180	mA
Operating ambient temperature range	-20	-	60	°C
Operating humidity (non condensing)	10	-	90	%HR
Protection		IP67 ⁽¹⁾		

1. Without Temperature and Humidity measurement support



Machine To Cloud Solutions, S.L.

C/ La Bañeza 43 - L6

28035 - Madrid

Tlf: (+34) 911633522

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