

LoRaWAN™ TIC SENSOR



The TIC SENSOR is a LoRaWAN™ Class C sensor radio transmitting the customer tele-information (TIC) from residential electric meters as well as data from any pulse meters (water, gas, electricity, energy) and current from 2 electrical lines by using split core current transformers.

APPLICATIONS

- Wireless AMR – Smart metering
- Real time monitoring of energy consumption
- Building management – Monitoring of water and gas meter combined with TIC Data
- Current consumption per usage: Monitoring of current consumption on 2 electrical lines

BENEFITS & KEY FEATURES

- LoRaWAN™, Class C
- Easy to deploy and use
 - ✓ PTSM connector for TIC Signal
 - ✓ DIN Rail 1U
- 2 pulse inputs
- 2 current transformer inputs
- Electronic meter supported:
 - ✓ CBEMM
 - ✓ CBEMM-ICC
 - ✓ CJE
 - ✓ ICE
- Data compression for batch report

QUALITY & RELIABILITY

- RoHS compliant
- CE Compliant
- Radio-equipment directive 2014/53/UE



The TIC SENSOR from nke Watteco is wireless sensor operating from any wireless network using the LoRaWAN™, Class C protocol.

It has been designed to monitor and transmit the TIC data (index, base, consumption, active and reactive power, ..) from homes, offices, administrative centres and small industrial premises.

Two pulse inputs allows fast and cost-effective integration of any pulse meter into a LoRaWAN™ network without expensive and time-consuming cabling.

Two Current Transformer inputs enables to easily measure and control the current consumption of any electrical lines up to 80A. Larger current could be measured according to end user needs upon request.

If the variation of one of the parameter (active/reactive power, active/reactive energy, ..) is greater than the threshold set by the user an alarm is automatically generated allowing to track and analysis electrical line disturbances.

The measured parameters can be locally stored, concatenated and compressed. This unique batch mechanism significantly reduce the amount of data transmission for demanding applications such as loading curve.

The standard DIN rail mount design allows easy mounting and fast connections to the electrical board.

NKE WATTECO, YOUR PARTNER IN SMART SENSORS & ACTUATORS

We are a European leader in designing and manufacturing highly reliable and low power consumption smart sensors, actuators and multiprotocol remote data solutions.


nke Watteco is an adopter member of the LoRa® Alliance

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TECHNICAL CHARACTERISTICS

RF TRANSCEIVER	
Frequency (MHz)	EU: 863-870 US: 902-928 (On demand)
Transmit Power (dBm)	+14
Receiver Sensitivity (dBm)	-136
FIRMWARE	
Protocol	LoRaWAN™, Class C
Transmission cycles	10mn, 1h, 12h or defined by network
Data history	Available
Activation method	Activation by Personalization (ABP) Over-The-Air Activation (OTAA)
Data encryption	AES128
TIC	
Electronic Meter supported	"Blue" electronic single-phase, multi-rate meter (CBEMM) "Blue" electronic single-phase, multi-rate meter (CBEMM - ICC upgrade) "Yellow" electronic meter (CJE) "Emeraude Customer Interface" (ICE) meter
Connector type	PTSM
PULSE INPUTS	
Number of input	2
Voltage (V)	3 - 30
Frequency (Hz)	1 - 100
SPLIT CORE CURRENT TRANSFORMER	
Number of input	2
Measure (A) (with CR Magnetics 3110/3000)	Range : 0 - 90 Accuracy : +/- 2%
Calibration	Ready to use with Zemming Zemctk02 split core current transformer For other core current transformer a calibration might be required
ALARMS	
Active/Reactive Power	Occurs when variation is greater than the threshold set by the user
Active/Reactive Energy	Occurs when variation is greater than the threshold set by the user
POWER	
Power supply (V _{AC})	230
INTERFACE	
LED Indicator	Network pairing & configuration
Switches	Reset, ON/OFF
MECHANICAL FEATURES	
DIN Rail Dimension (mm)	1U – 89 x 60 x 18
ENVIRONMENTAL	
Operating temperature (°C)	-20 / +50
DIRECTIVES & STANDARD	
EN, 61000-4-2 EN 300-220-1 V2-4-1, EN 301 489 V1-6-1 CE and RoHS recommendation compliant	
	

ORDERING INFORMATION

REFERENCE	MODEL DESCRIPTION
50-70-002	LoRaWAN™ TIC SENSOR + 2S0
50-70-038	LoRaWAN™ TIC SENSOR + 2S0 + 2 CURRENT TRANSFORMERS