

TICS'O Sensor



The TICS'O LoRaWAN sensor allows the transfer of data from the TIC output of ENEDIS electronic electricity meters to a remote server using the LoRaWAN® communication protocol.

The TICS'O LoRaWAN sensor transforms the ENEDIS meter into an object connected to the Internet.

APPLICATIONS

- Telemetry, energy management
- Real-time monitoring of power consumption at ENEDIS meters

BENEFITS & FEATURES

- LoRaWAN®, Class A
- Ease of deployment and use
 - DIN rail 1U
 - External RF antenna which can be remote
 - Mains supply 230VAC or continuous 3.6V-24V
 - LINKY TIC power supply - (pins I1, A).
 - 6 distinct report configurations configurable from the remote server
- Data transmission
 - "request/response"
 - Periodic and/or on variation
- Decoding and analysis of ICT flow fields
- IP Class 20
- Compression of digital data prior to transmission
- ENEDIS meter compatible: PME-PMI, CBE, CJE, ICE (Trimaran2, QE16, QE16M), LINKY historical and standard frame.

CERTIFICATION

- RoHS, CE



The TICS'O sensor automatically recognizes the ENEDIS meter and adapts the communication speed (1,200 to 19,600 Bauds).

It decodes and analyzes all the fields of the ICT flow (Tele Customer Information) of ENEDIS meters. From the remote server, it is possible to select the useful fields according to the need.

6 different reports can be configured with separate issue criteria and separate data selections presented.

From the default configuration, the TICS'O sensor reports a report containing the energy indexes of the different quadrants after each expired tariff band. It compresses the digital data and can transmit the information every 10 minutes to recreate the load curve.

2 transmission modes are available:

- "Inquiry/Response"
- Periodic and/or on variations in the analysed data

The sensor is delivered with a remote SMA antenna if required (cable not supplied) when the sensor is installed in a metal cabinet.

The TICS'O sensor can be powered in three different ways:

- power supply (230v/50Hz)
- or power supply from a DC source from 3.6 to 24VDC / 100 mA (battery pack for example).
- or LINKY TIC power supply - (pins I1, A).




When it is powered by the 6V 18Ah battery pack, the autonomy of the TICS'O sensor is more than 6 years for a configuration with one report per hour.

WE HAVE THE SENSORS ADAPTED TO YOUR USES

nke WATTECO is a European leader in the design and manufacture of intelligent IoT devices to fit to all remote reading and data collection solutions.

nke Watteco is a member of the LoRa® Alliance.

TECHNICAL INFORMATION

RADIO FREQUENCIES	
Frequency (MHz)	EU: 863-870
Transmitted power (dBm)	+14
Sensitivity (dBm)	-140
FIRMWARE	
Protocol	LoRaWAN®, Class A
Transmission cycles	10mn, 1h, 12h or specified by the network
Data compression	Compression of digital data available
Activation method	Activation by Personalization (ABP) Over-The-Air Activation (OTAA)
Data Encryption	AES128
ICT	
Speed (baud)	1 200 à 19 600
RS232	Automatic detection of the polarity of the RS232 TX link of the PME-PMI counter
Decoding	ICT output stream decoded and continuously analysed
Modes of transmission	1. "request/response" 2. Periodic and/or on variation
Report	6 distinct report configurations configurable from the remote server
ENEDIS meter compatibility	SMEs (Itron - ACE 6000, Landys & Gyr - L19C1, Sagemcom - C3500) LINKY historical and standard, EPC, EJC, ICE (Trimaran 2, QE16)
ALARMS	
Numeric type fields	Triggering when the variation is greater than the threshold set by the user
Other types of fields	Triggering on user-defined variation (string, day, date, month, ...)
POWER SUPPLY	
Power supply	Mains: 230 VAC 50Hz or DC source: 3.6V to 24V, I _{MAX} =42mA or LINKY 100mW - pins I1,A
Autonomy in a range of +10°C to +25°C	> at 6 years on battery pack 6V 18Ah - 1 report per hour 5 years on battery pack 6V 18Ah - 1 report every 10mn
INTERFACE	
RJ45	Tx RS232 Tx link of the SMB meter
Terminal block I1, I2	ICT Link 50kHz
female SMA	RF Antenna
LED	Configuration and association on the network
Push button	- switch on/off: press for 5 seconds - reassociation of the sensor to the network: 3 successive supports - sensor reset: 2 short presses + 1 long press (+ 7 seconds)
BOX	
Dimension (mm)	1U - 90 x 70 x 19
IP Class	IP20
ENVIRONMENT	
Operating temperature(°C)	-20 / +50
Storage temperature(°C)	-10 / +30; +10/+20 for the battery pack qualified by nke Watteco
STANDARDS & REGULATIONS	
EN, 61000-4-2 EN 300-220-1 V2-4-1, EN 301 489 V1-6-1 Complies with CE and RoHS standards	
  	

PRODUCT REFERENCES

REFERENCE	DESCRIPTION
50-70-045	LoRaWAN® TICS'O SENSOR (former name Capteur TIC PME PMI)
21-08-038	Option alkaline battery pack qualified by NKE Reference CELL EXPERT 1501: 11 bis avenue de la Cigale 92600 Asnières - France www.cell-expert.com