INTENS'O

LoRaWAN

The **INTENS'O** sensor measures the electrical current that flows through the AC power supply of any equipment. The sensor is used to determine the equipment status according to one or more configurable current thresholds. Data is transmitted over a public or private LoRaWAN® radio network.

APPLICATIONS

- Escalator: detection of stair stoppage
- Public lighting: detection of a defective street lamp
- Buildings, factories : supervision of an elevator, machine, process for control of correct operation
- Detection of overconsumption in the context of predictive maintenance
- Indoor or outdoor protected uses

BENEFITS & KEY FEATURES

- LoRaWAN®, Class A
- Easy to use and deploy
- Remote current clamp (Split-core current transformer)
- Measurements at regular intervals
- Battery autonomy up to 12 years depending on configuration
- IP55

QUALITY & RELIABILITY

- RED, RoHS, LoRa Alliance™

INTENS'O analyses the current of any electrical conductor. The current magnitude is measured using a current transformer without disrupting the current path.

INTENS'O regularly measures the current and periodically transmits the operating status of the equipment. When the current is crossing a threshold previously set by the user, the sensor automatically transmits an alert with the associated current measurement. The alert can be transmitted over a public or private LoRaWAN® communication network.

INTENS'O is quickly and easily placed on the power phase conductor of any control cabinet or on the electrical motor of a piece of equipment for instance. It is used to check:
- if the equipment is operating or down, due to a mechanical failure for instance;
- whether a street light is operating properly or not in order to quickly replace the street lamp.

Up to 7 different current thresholds can be set by the user. When used in a building or in a factory for instance, It can be used to set up a predictive maintenance service.

INTENS'O is easy to use, deploy and maintain. The sensor is equipped with:
- a current transformer
- a 3m cable allowing the current clamp to be placed on the live conductor in the electrical panel, close to the motor. The sensor can be remotely located within the optimum radio coverage area,
- a 3M Dual Lock adhesive and adaptable hitching system
- an NFC identification tag (product code, serial number, batch number)
- a magnetic switch and a buzzer that allow the installer to easily enable / disable the sensor.

The sensor is powered by a 3.6V lithium battery. The autonomy exceeds 10 years when measuring current magnitude every 1 minute and when transmitting data every hour.

THE LARGEST IOT PRODUCTS RANGE FOR YOUR PROJECT

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

WATTECO is a LoRa Alliance® member.

INTENS'O

TECHNICAL DATA

RADIOFREQUENCY	Frequency (MHz)	Transmit Power (dBm)	Receiver Sensitivity (dBm)
	EU: 863-870	+14	-140

FIRMWARE	
Protocol	LoRaWAN®, Class A.
Activation method	Activation by Personalization (ABP) or Over-The-Air Activation (OTAA)
Data encryption	AES128
Application layer	ZCL (ZigBee Cluster Library) – to be interpreted by the remote server
Measurements & Transmission cycles	Configurable from 10 minutes to 24 hours
Data compression	Yes (differential coding)

POWER MONITORING	
Current transformer	Clamp 41 x 29.5 x 26mm; for insulated conductor up to Ø9mm Remote on 3m cable (Ø4.1mm) - connected to the sensor by a plug-in connector with ext. Ø 12mm
Transformation ratio	1 : 3000
Monitoring range	0 - 20A_{RMS} on 110, 230, 380 or 400VAC, 50/60Hz power supply 0.1A resolution in the range of 1 to 20A
Maximum current	70A_{RMS}
Dielectric insulation of the clamp	1000V – 1mA – 1 minute

POWER SUPPLY	
Voltage	3.6V / 3600mAh – Replaceable lithium battery
Autonomy in a range of +10°C to +25°C	> 10 years: 1 measurement / 1 minute - 1 transmission / 60 minutes

USER INTERFACES	
NFC Tag	Product code, serial number, batch number
Buzzer	Configuration and network pairing
Magnetic switch	Reset, ON/OFF

ENCLOSURE	Size (mm)	Fastenings	IP rating	Fire resistance
	84 x 82 x 85	Supplied screws and anchors	IP55	UL94-V0HB

ENVIRONMENT	Operating temperature	Storage conditions
	-20°C to +50°C	+10°C to +30°C +20%rH to +60%rH

DIRECTIVES & STANDARD
Radio Equipment Directive 2014/53/EU, RoHS

CE ⌧ RoHS

PRODUCT NUMBER

REFERENCE	DESCRIPTION
50-70-098	LoRaWAN® INTENS'O Sensor