Fludia

Smart Energy Components

tagawatt

Plug&Play Submetering

LoRaWAN NB-IoT LTE-M

tagawatt

Plug&Play Submetering

tagawatt is an innovative patented system for **submetering electricity consumption**. It consists of **miniature current sensors** (wattag) and a **voltage sensor** (voltag) installed on the terminals of one circuit breaker in the electrical panel. The voltage signal from the voltag (or from three voltags in a three-phase system) is distributed **via a bus** to all wattags, enabling the **calculation of active power.**

Benefits

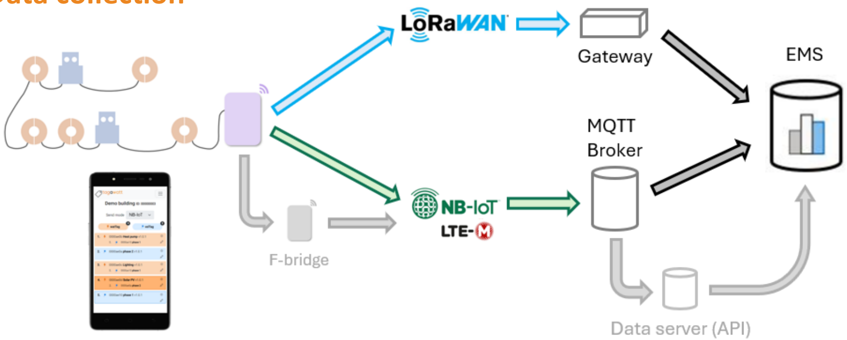
⇒ **Plug-and-play**: quick and easy installation, without power interruption

⇒ **Accurate**: second-by-second active power (from high-frequency current and voltage)

⇒ **Universal**: compatibility with any electrical panel (miniaturization, daisy chaining)

⇒ **Adaptable**: addition and removal of wattags and voltags; OTA reconfiguration and updates

Data collection



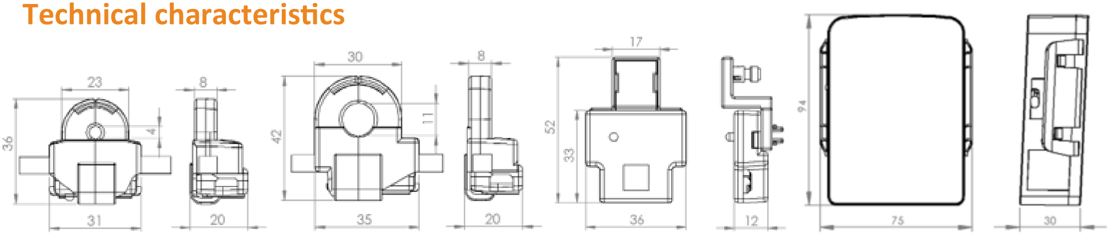
Use cases

⇒ Relevant reporting, monitoring of actual savings by end-use, detection of drifts

⇒ Real-time monitoring of equipment, rapid detection of anomalies

⇒ Instrumented diagnostics, identification of overconsumption, calibration of simulations

Technical characteristics



wattag_S (Small) wattag_M (Medium) voltag tag-bridge

Components	wattag_S, Ø 4mm, for 2.5mm^2 wire	Current measurement, voltage signal acquisition, active power calculation
	wattag_M, Ø 10mm, for 16mm^2 wire	
	wattag_L, Ø 20mm (coming soon)	
	wattag_XL, Ø 40mm(coming soon)	
	voltag_1p	Voltage measurement
	tag-pliers	Pliers for handling wattag
	tag-Bridge	Tag configuration and data transmission
Measurement	Active power every second	
Available values	Active energy over 1 minute, 5 minutes, 10 minutes, 15 minutes, 30 minutes… *Minimum 10 minutes for LoRaWAN*	
Configuration	Locally	NB-IoT/LTE-M or special cable for PC/android phone
	Remotely	NB-IoT/LTE-M or LoRa downlink
Power supply	Mains supply	5V adapter
		Optional 5V DIN-rail power supply
	Batteries (optional)	2 replaceable batteries (3,6V) for temporary supply
Data transfer architectures	LoRaWAN	Transmission to an operated LoRaWAN Network or a private LoRaWAN gateway
	NB-IoT/LTE-M	Transmission using the cellular network, replaceable nano SIM
	“LoRa Local” to F-Bridge	LoRa point-to-point transmission to an F-bridge (bridge to NB-IoT/LTE-M)
	“LoRa Local” to F-Link	LoRa point-to-point transmission to an F-Link (bridge to Ethernet, WiFi or Modbus TCP/IP)
Uplink Frequency	NB-IoT / LTE-M	multiple successive “available values” in 1 message
	LoRaWAN or “LoRa Local”	1 "available value" per wattag in 1 message

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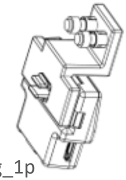
Plug&Play Submetering

wattag_S

References

wattag_S	Current sensor S-Size (1 cable-t_20 included) Ø 4 mm , for 2.5 mm^2 wire
wattag_M	Current sensor M-Size (1 cable-t_20 included) Ø 10 mm , for 16 mm^2 wire
voltag_1p	Voltage sensor 1 phase (1 cable-t_20 included, contact adapter_1 included)
tag-Bridge	Control and Communication Module (1 cable-t_40 included, supply-t_sector included, ant-ext-lora included)
tagpliers	Dedicated pliers for wattag installation and removal

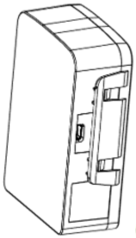
wattag_M



voltag_1p

Accessoires

cable-t_10	Tag interconnection cable (10 cm)
cable-t_20	Tag interconnection cable (20 cm)
cable-t_40	Tag interconnection cable (40 cm)
cable-t-coupler	Coupler for connecting 2 cables (for example 2 x 40 cm -> 80 cm)
supply-t_sector	5V power adapter
supply-t_DIN1	5V DIN-rail power supply - direct connection
supply-t_DIN2	5V DIN-rail power supply - screw contact on 1-module circuit breaker
cable-conf_BPR	Cable for local configuration
ant-ext-lora	External LoRa antenna
ant-ext-cell	External NB-IoT/LTE-M antenna
contact_1	Voltag adapter - screw contact on 1-module circuit breaker
contact_2	Voltag adapter - screw contact on 2-module circuit breaker
contact_3	Voltag adapter - direct connection through wires

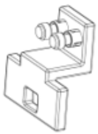


tag_Bridge

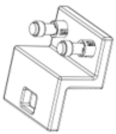
tagpliers

cable-t_xx

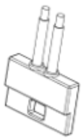
cable-t-coupler



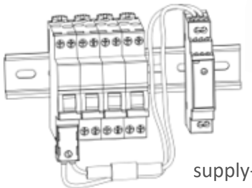
contact_1



contact_2



contact_3



supply-t_DIN2

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