

# Optosense

Energomonitor will provide you with a complete overview of your energy consumption and production.

The Energomonitor Optosense set measures the electricity consumption and production of the supply point by reading the optical impulse output on a digital electricity meter.



## Why choose Energomonitor

- ▶ **comprehensive information** about consumption, not only in MWh, but also the monetary cost monitoring
- ▶ **real time energy consumption, data saved every 90 seconds**, you can browse through the history anytime
- ▶ alerts in case of **emergency conditions**
- ▶ warnings about changes in **long-term conditions**
- ▶ weekly and monthly **e-mail reports**
- ▶ **watchdog** and inspection if everything is in order or as you expect in your household or company
- ▶ relevant **suggestions for potential economy drive**
- ▶ **the measured data is accessible anytime and from anywhere**, from any computer, tablet or mobile phone
- ▶ it is not necessary to have any new specific wires or data line installed, **Energomonitor uses your current infrastructure** and is compatible with the majority of the digital energy meters

## Energomonitor Optosense set contains:

- Energomonitor Homebase (with 230 V power supply)
- Energomonitor Transmitter
- Optosense Probe (with accessories for attachment to electricity meter)
- Ethernet cable
- All packed in nice paper box

## Energomonitor Optosense set can be expanded by:

- **Temperature measuring** (UNIT Thermosense unit)
- **Electricity consumption measuring** by connecting to phases (UNIT Powersense set)
- **Gas consumption measuring** (UNIT Relaysense Gas set)
- **Water consumption measuring** (UNIT Relaysense Water set)



**PLEASE, TAKE A LOOK**  
at the demo of the application on  
[energomonitor.com/demo](http://energomonitor.com/demo)



# Technical details of the hardware

## Energomonitor Optosense Probe



- The Optosense probe reads the optical impulse output on a digital electricity meter.
- The probe measures values from the electricity meter and gives them to the Transmitter which is connected with the probe by a cable.

## Energomonitor Optosense Transmitter



- The Transmitter is attached near the electricity meter, collects the measured values from the probe and wirelessly sends the data to the Homebase every 6 seconds.
- Each Transmitter can be equipped with one Optosense probe.
- The radio signal of the Transmitter can reach the Homebase up to 200 meter distance (depending on local conditions).
- Transmitter is designed in high quality metal case with various types of antenna.

## Energomonitor Homebase



- The Homebase continually receives the values measured by the Transmitters, which are paired with it, and sends this data to the Energomonitor cloud servers, where the data is processed and followingly visualized in the web application connection. The Homebase has to be connected to the internet via ethernet cable.
- One Homebase can accept data from 30 transmitters at the same time. This means that one unit is frequently sufficient to completely satisfy the needs of most of the supply points.

PHYSICAL SIZE		
probe: Ø 21 mm cable: 1 m	45 × 92 × 29 mm (without antenna)	110 × 80 × 26 mm (without antenna)
POWER SUPPLY		
from transmitter	2 × exchangeable AA alkaline battery 1.5 V	5V DC, 500 mA, USB-B
RADIO PROTOCOL		
—	proprietary protocol Chirp, working in 433 MHz band (868 MHz optionally)	proprietary protocol Chirp, working in 433 MHz band (868 MHz optionally)
INTERFACE		
1 × pulse output	1 × pulse input	RJ-45 10/100 Mb/s, RS-232
RANGE OF METERING		
> 1 ms width of pulses	2 <sup>^</sup> 32 imp. counter	—
RESOLUTION OF METERING		
—	1 W	—
CONVERSION CONSTANT ADJUSTABLE		
—	100, 400, 500, 600, 800, 1000, 1250, 1600, 3200, 4000, 5000, 10000 imp/kWh	—
CONSUMPTION		
—	> 2 years battery life time	2 W max.
WORKING CONDITIONS		
from -20 °C to +60 °C, 10 to 90 % RH	from -20 °C to +60 °C, 10 to 90 % RH	from 0 °C to +60 °C, 10 to 90 % RH
TYPE OF ANTENNA		
—	SMA connector for external aerial	telescopic (433 MHz band) internal (868 MHz band)