WiDom Energy Driven Switch

The smallest device in its category worldwide, and the only device specifically intended for use both as a Relay Switch with integrated power meter, and as an Energy Meter either at the point of entry of your electrical system, or on a section of the latter. Available in two versions, version S featuring an internal shunt resistor, and version C featuring an external current transformer, it is capable of measuring loads exceeding 10 KW. In addition to Power measurements, the device also provides data for Energy, Voltage, Current and Power factor.

Active Energy-saving Management

The only device suited for use with all types of Z-Wave controller, and capable of implementing an active energy-saving management policy defined by the user according to his energy consumption, or to the amount of energy produced by his solar power system. It automatically connects and disconnects a specific load if the threshold limit is exceeded, or “supplies” the required power, momentarily excluding non-priority loads.

Control and monitoring of usage

The energy consumed by a single appliance (e.g. a fridge, a washing machine, etc.) as measured by means of other devices, implies a local control of the appliance by a relay, which will in turn need to be continuously powered, thus producing unnecessary wastage. The internal meter of WiDom Energy Driven switch, however, can be directly connected to the load, consequently bypassing the relay contacts. This produces a considerable benefit both in terms of energy saving, and flexibility of installation.

The same product can also be used to monitor overall household usage. The highly precise and timely calculation of energy consumption allows specific threshold values to be set which, when exceeded, can be programmed to notify the user or to disconnect appliances with the aim of restoring appropriate consumption levels and avoiding the inconvenience of tripping of the master switch.

Control and monitoring of production and net metering

WiDom Energy Driven Switch not only facilitates the measurement of energy consumed, but also of energy generated. It is capable of ascertaining whether energy is being supplied to the grid or is being drawn from the latter. As an example, you will therefore be able to turn on the boiler when the level of energy supplied to the grid exceeds a threshold value set by yourself.

Monitoring of all network parameters

Provides bidirectional measurements for Power and Energy (produced/consumed). Energy calculations are carried out by means of an ad-hoc chip integrated into the device, thus yielding more precise measurements than those obtained using Z-Wave controllers that lack some of the measurement parameters provided by the device.

Do you think there may have been a network surge or that supply voltage is below the minimum prescribed levels? Energy Driven Switch is the sole device that provides effective readings for Supply Voltage and Power Factor, to allow you to carry out appropriate checks.

Management and prevention of electrical faults

Is the fridge motor always running? Has washing machine usage risen excessively? Has it been a long time since your central heating had its last service? WiDom Energy Driven Switch allows you to detect irregular consumption and ascertain specific usage times in order to identify faults or malfunctions in a timely manner and plan services effectively.

Intelligent Opening/Closing of the Relay

Have other electrical switches and meters ever stopped working due to a Relay fault? WiDom Energy Driven Switch features an integrated software which, by exploiting the precise current and voltage measurements, is capable of controlling the open/close position of the relay switch at the most appropriate time, corresponding to either a zero current or voltage. In this way, electrical stress on the relay contacts is minimized, thus affording a longer duration, and preventing the contacts from becoming glued together due to the electric arc that forms in all traditional devices lacking this innovative function.

Control of heavy loads

The device uses a relay with 16A contacts. Using the Shunt version you can monitor and directly control loads up to 13A, whilst with the Coil version, by means of an external contactor, loads of up to 45A can be handled.

Software Update

You will be able to independently update the device firmware "Over the Air" without even having to remove the devices from their location.

Extremely low energy usage

In line with the other WiDom products, the WiDom Energy Driven Switch features the lowest energy usage of all similar devices on the market.

Technical Specification

Power Supply	230 VAC±10% 50/60 Hz
Maximum Load on Relay	3000 VA – 250VAC – 12.5 A
Work Temperature	-10 +40 °C
Radio Protocol	Z-Wave 868,4 MHz
Radio Range	Up to 100 m outdoor Up to 40 m indoor
Dimensions (HxWxD)	37x37x17 mm
Consumption	< 260 mW in standby < 480 mW with working load
Electrical IP Rating	IP 20
Actuator element	Relay
Conformity	CE, RoHS
Parameters	Voltage RMS, Current RMS, Active Power, Power Factor, Energy
Meter Range	Voltage RMS: 250 V Current RMS: • 45 A – vers. C • 12 A – vers. S Active Power: • ± 11250 W – vers. C • ± 3000 W – vers. S Energy: 2.000.000 kWh
Resolution	Voltage RMS: 0.1 V Current RMS: 0.01 A Active Power: 0.01 W Power Factor: 0.01 Energy: 0.001 kWh
Maximum Error (within the dynamic range)	Voltage (dynamic range 20:1): ±0.95% Current (dynamic range 1000:1): • ±0.6% - vers. S • ±2.9% - vers. C Active Power (dynamic range 4000:1): • ±1.6% - vers. S • PF=1: ±4% - vers. C • PF=0.8: ±5.5% - vers. C