MV311

POWER & FLOW
ThPwr   w
VF   ml/d

Thermal energy calculator

ISONRG®

Managing energy

MV311: KEY FEATURES

Multicolor led as status indicator	Up to 4 pulse inputs (1khz)
6 lines display	Up to 3 simultaneous protocols
Ethernet connection (IP65)	Dual analogic and digital outputs
EN1434 and MID	"Quick Setup" function
PoE	Glycol correction up to 60% (MI004 approved up 40%)
4GB – data, event and alarm logger	Webserver and FTPServer connections can be protected with password and cryptography TLS 1.2 (*optional*)
Configurable in stand-alone mode via usb	

3 pulse inputs

FLOW SENSOR

Electromagnetic

Ultrasonic

Mechanical

Thermal Mass

Vortex

Coriolis

2 analog outputs

IoT

INDUSTRY 4.0

EN1434

ThPwr μ

VF mt/d

2 pulse outputs
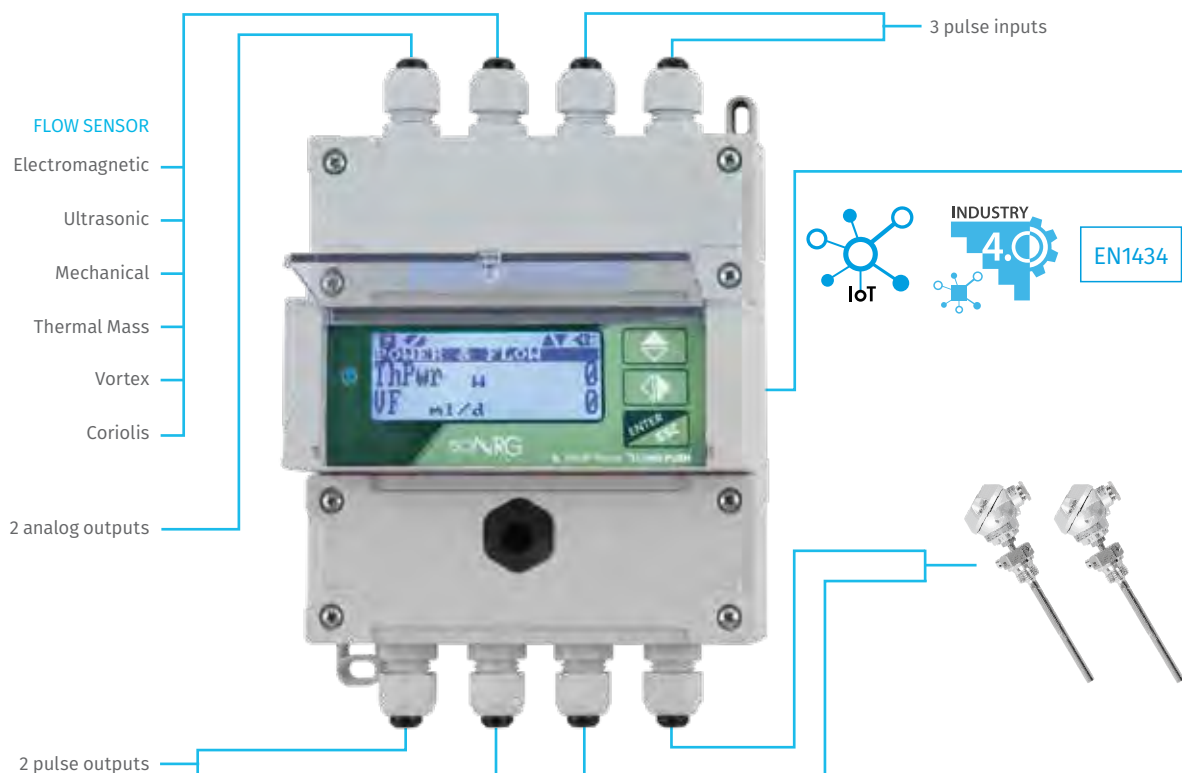
HVAC & R

- Energy measurement and distribution
- Energy efficiency
- Custody Transfer
- Co and Tri-generation
- Hot and chilled water
- Data Center
- District heating
- Building Automation

Application

Designed for industrial applications, the MV311 energy calculator ensures flexibility thanks to the **"Quick Setup"** function with different options unique in the market.
Fast in the calculation, **accurate** in the measure, while being **easy to use**.
A calculator designed for applications such as **cogeneration**, **energy efficiency** or acting as a simple **centralizer for various energy carriers**.

MV311 PROTOCOLS AND CERTIFICATIONS

PROTOCOLS	BACnet M-Bus Modbus PULSES 4-20mA
CERTIFICATIONS	MID MI-004 BTL

Please refer to the online datasheet for detailed information
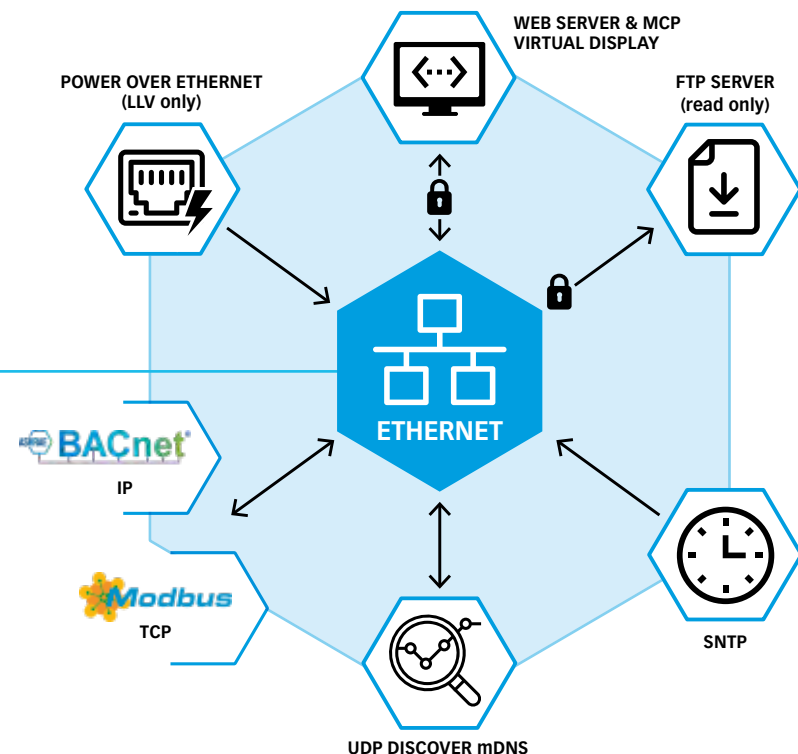
MV311 ENERGY CALCULATOR

PoE and Ethernet services

The **PoE** option (Power over Ethernet) allows power and **communications protocol** over the **same RJ45 cable**. Through the Ethernet connection the energy calculator can make use of the services **UDP DISCOVERY/mDNS, SNTP, FTP SERVER, WEB SERVER**, **DHCP** and **DNS**.

Protocols output

The **Ethernet connection** enables the energy calculator, to work with up to **three protocol simultaneously**. The selectable protocols are Mbus, Modbus (RTU and/or TCP), and BACnet (MS/TP or IP).

WEB SERVER & MCP VIRTUAL DISPLAY

POWER OVER ETHERNET (LLV only)

FTP SERVER (read only)

ETHERNET

BACnet IP

Modbus TCP

UDP DISCOVER mDNS

SNTP

QUICK SETUP FUNCTION

A unique function that guides the user through an initial configuration menu.
At the end of the menu the energy calculator is sealed compliant with the indications of the MID Directive.

Among the most important editable parameters are:

- *Pulse input value*
- *Measurement side for vector fluid*
- *Type of temperature sensors*
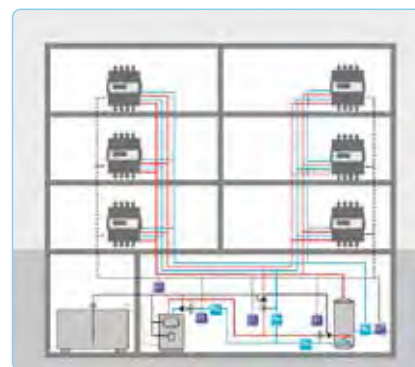- *Energy measure unit*
- *Decimal point position for Energy*

Memory

The MV311 calculator can include a **4GB memory** that allows **1 second interval recording** of all **measured values, alarms**, and **events**. Stored data can be transferred and processed through the freely available MCP management software. With a storage **frequency of 15 minutes** the memory capacity is **over 50 years**.
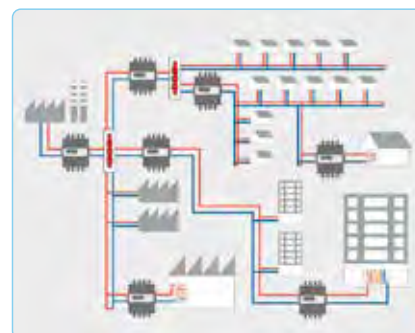
Inputs - Outputs

The energy calculator has **4 pulse inputs** (one for thermal vector, two for volumetric totalizers and one auxiliary input for totalizer with different measure units) with the possibility to have **two pulses and two analog outputs** configurable by the user. The input for thermal fluid can be, alternatively, an **analog input** 4-20mA.
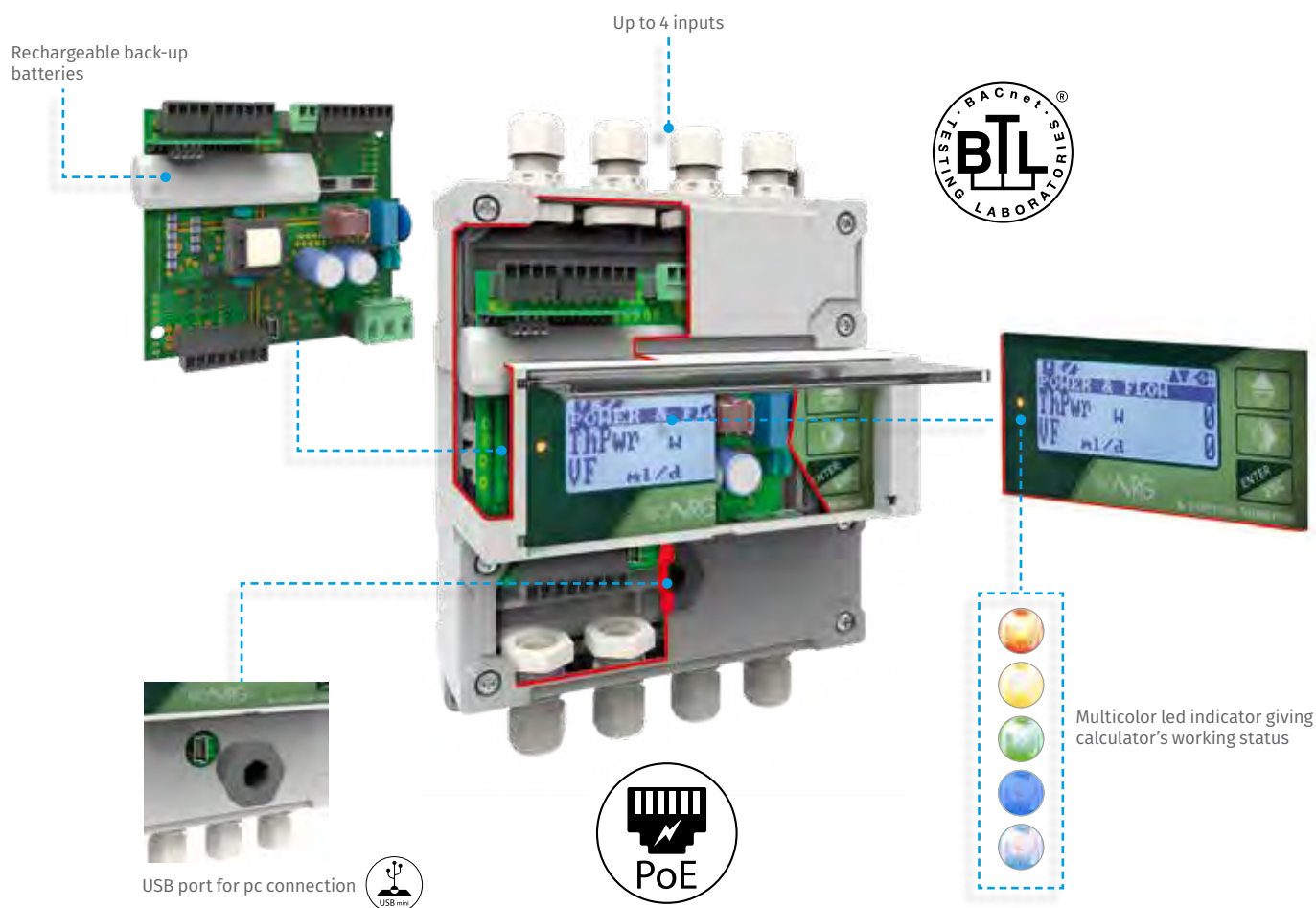

Typical application: building automation (commercial, offices, shopping malls, airports, large residential buildings…).

TECHINCAL FEATURES	
Power supply	24-36Vac; 45-66Vdc, 110-240Vac, PoE
Protection rate	IP65
Display	Graphic display 128x48 points, 4 or 6 lines
Temperature probes	PT100, PT500, and PT1000
Temperature probes connections	2 or 4 wires
Digital inputs	4 (one for thermal vector)
Analog input	1 (only for thermal vector)
Digital outputs	2
Analog outputs	2
Protocols	Up to 3 simultaneously
Memory	4Gb as option
Accuracy system	$0.20\% * (0.18 + \Delta\theta min/\Delta\theta)$
Class	2

Typical application: building automation for complete districts or facilites.

ISONRG

MV311

Rechargeable back-up batteries

Up to 4 inputs

BTL · BACnet · TESTING LABORATORIES ®

USB port for pc connection
USB mini

PoE

Multicolor led indicator giving calculator's working status

TEMPERATURE PROBES

DS

Typically used for DN≤32, ball-valve needed.

TECHNICAL FEATURES	
Class	B
Approval	MID MI004
Particularity	Pairing selection
Max cable length	10 m

Ball valve
(1" and 1"1/2)

PL

Used for DN>32, pocket needed.

TECHNICAL FEATURES	
Class	B
Approval	MID MI004
Particularity	Pairing selection
Max cable length	10 m

Pocket
(85 mm, 120 mm, 210 mm)

PLH

Head version probes, the connection can be 2 or 4 wires technology.

TECHNICAL FEATURES	
Class	A
Approval	MID MI004
Particularity	Pairing selection
Pocket	Included

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