WISE AIR 4.0®
MEASURE TO MANAGE

2026 · PRODUCT BROCHURE

Power Meters

WAPM-402

Multifunction Power Meter

PANEL MOUNT 96 × 96 · FLEXIBLE CURRENT COILS

True-RMS power, energy and harmonics of every compressor — measured with clip-on coils, without breaking a cable.

Voltage | Current | Power | Energy | Power factor | Harmonics





Class 0.5S
active energy

52nd
harmonic order

3.5"
colour TFT display

RS485
Modbus RTU + SD card

OVERVIEW

Know what every compressor really costs to run.

The WAPM-402 is a panel-mounted multifunction power meter with a 3.5" colour display. It measures true-RMS voltage and current per phase, active, reactive and apparent power, power factor, frequency, energy, demand and harmonics up to the 52nd order. Currents are measured with flexible current coils that fit around the existing cables, so there is no need to break the circuit or fit conventional CTs. Values are logged to a micro SD card and shared over RS485 Modbus RTU with the WADL-301, WASM-604, a PLC or SCADA. Paired with a WiseAir flow meter, it gives the specific power of each compressor.



MEASURES

- Voltage
- Current
- Power
- Energy
- Power factor
- Harmonics

Full power analysis

U, I, P, Q, S, PF, frequency, energy and demand per phase and total, from 8,000 samples per second.

Harmonics to the 52nd

Voltage and current THD plus five selectable harmonic orders, to spot VSD and rectifier distortion.

Flexible current coils

Coils fit around existing cables — no cable disconnection and no 1 A / 5 A current transformers.

3.5" colour display

320 × 480 colour TFT with six measurement pages, min/max values, demand and peak demand.

SD card logging

CSV records every 1–9999 s; about two years of 1-minute data on the supplied 1 GB card.

Ready to connect

RS485 Modbus RTU, energy pulse output and an alarm relay for WADL-301, WASM-604, PLC or SCADA.

APPLICATIONS

- Input power and energy of air compressors
- Specific power with a WiseAir flow meter
- Energy allocation by compressor, line or department
- Power factor and harmonic checks on VSD drives
- Dryers, chillers, blowers and vacuum pumps
- Energy audits and ISO 50001 monitoring

RECOMMENDED FOR COMPRESSORS

The WAPM-402 is the WiseAir meter proposed for compressors. Fit the coils on the compressor's main supply, after its isolator, to measure the whole package.

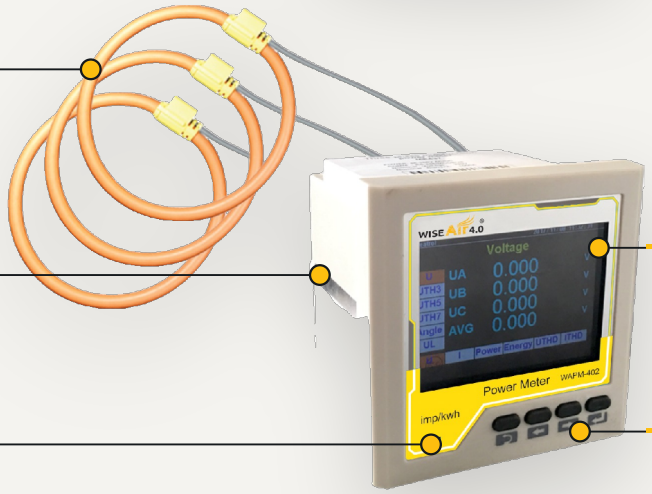
PRODUCT ANATOMY

Inside the WAPM-402



WAPM-403 DIN-rail version
Backlit LCD on a 35 mm rail, 4 modules wide, with relay output and digital input.

WAPM-403 terminals
Power, digital input, relay and voltage inputs along the lower edge.



Flexible current coils
One coil per phase; wraps round the conductor and clips shut.

96 × 96 mm panel housing
Fits a standard panel cut-out; 99 mm deep, fixed with rear clamps.

Energy pulse LED
imp/kWh indicator, with a matching pulse output on the rear.

3.5" colour TFT display
320 × 480 pixels; six measurement pages with min/max and demand.

Four-key menu
Password-protected settings for network, coils, Modbus and logging.

SAMPLING
8,000/s
true-RMS, per phase

LOGGING
1–9999 s
CSV to micro SD

SUPPLY
85–265 V
AC/DC control power

SIZE
96 × 96
mm front, 99 mm deep

TECHNICAL DATA

Specifications

MEASUREMENT

Networks	3PH4W, 3PH3W, 1PH2W (L-N, L-L), 1PH3W
Voltage	80–400 V AC (100–500 V AC version)
Frequency	50 / 60 Hz (45–65 Hz)
Current input	Flexible current coil or 333 mV CT
Primary current	0.1–9999 A, settable
Sampling	8,000 samples/s
Harmonics	Up to 52nd order; 5 orders shown

ACCURACY

Current	±0.5 % (1–120 % of rated current)
Voltage	±0.2 %
Frequency	±0.01 %
Power factor	±0.005
Active / apparent power	Class 0.5
Active energy	Class 0.5S (IEC 62053-22)
Reactive power, energy	Class 2

INPUTS AND OUTPUTS

Communication	RS485, Modbus RTU, 1200–57600 baud
Pulse output	1 × energy pulse
Relay output	1 × alarm relay, 0.5 A / 125 V AC, 1 A / 30 V DC

DISPLAY AND LOGGING

Display	3.5" colour TFT, 320 × 480
Data storage	Micro SD, 1 GB supplied (max. 4 GB), CSV
Interval	1–9999 s (default 60 s)

POWER AND MECHANICAL

Control power	85–265 V AC/DC, 3.5 W
Dimensions	96 × 96 × 99 mm, panel mounting
Weight	350 g
Terminals	Screw, 2.5 mm²

ENVIRONMENT AND STANDARDS

Operating	−25 … +55 °C, 5–95 % RH non-condensing
Storage	−40 … +85 °C
Protection	IP20; double-insulated front
Overvoltage category	III, up to 277/480 V AC
EMC	IEC 61000-4-2/-3/-4/-5/-6/-8
Standards	EN 62052-11, EN 61557-12, EN 62053-21/-22/-23, EN 61010-1

ACTIVE ENERGY
Class 0.5S
IEC 62053-22

VOLTAGE
±0.2 %
over the measuring range

CURRENT
±0.5 %
1–120 % of rated current

Quality Every meter is tested before dispatch. At commissioning, enter the coil rated current and the sensitivity printed on the coil (Set → Ratio).

SIZING AND INSTALLATION

Choose the coil. Fit it right.

Choosing the current coils

LOOP	TYPICAL USE	RANGE
80 mm	Single cables to 25 mm² · 7.5–37 kW	100–600 A
130 mm	Cables to 240 mm², small bus-bars · 45–160 kW	100–600 A
300 mm	Bus-bars, parallel cables · 200 kW and above	to 6000 A

Coils match the meter's 333 mV input. Never connect 1 A or 5 A current transformers.

Rear terminals

GROUP	TERMINALS	CONNECT TO
Voltage inputs	V1 · V2 · V3 · Vn	Phases and neutral, fused
Current inputs	IA · IB · IC (1/2)	Flexible coils, one per phase
Control power	L · N	85–265 V AC/DC
RS485	A · B · GND	WADL-301, PLC, SCADA
Pulse / relay	P+ P– · RO RI	Energy pulse · alarm

Supported networks

SETTING	NETWORK
3PH4W	Three-phase, four-wire
3PH3W	Three-phase, three-wire, with or without VTs
1PH2W L-N	Single-phase, line–neutral
1PH2W L-L	Single-phase, line–line
1PH3W	Single-phase, line–line–neutral

SPECIFIC POWER

kW ÷ Nm³/min

Input power from the WAPM-402 divided by the flow from a WiseAir flow meter on the same compressor. Track it over time to see loading, wear and control losses — and the real cost of every cubic metre.

1

Mount the meter

Push into the 96 × 96 mm panel cut-out and fix with the rear clamps.

2

Fit the coils

One coil per phase, all facing the load; L1 → IA, L2 → IB, L3 → IC.

3

Wire the voltages

V1, V2, V3 and Vn through fuses; 85–265 V AC/DC to L and N.

4

Set and verify

Set network, coil and Modbus address; check kW is positive on every phase.

ORDERING INFORMATION

WAPM-402	Panel-mount multifunction power meter, 96 × 96 mm, 3.5" colour TFT, RS485 Modbus RTU, pulse and relay outputs, micro SD logging, 85–265 V AC/DC, with 3 flexible current coils
WAPM-403	DIN-rail energy meter, 35 mm rail, 4 modules, backlit LCD, RS485 Modbus RTU, 1 GB SD recorder, relay output and digital input
Coils	State the coil loop size and rated current to suit the load when ordering

OPTIONS AND ACCESSORIES

WiseAir flow meter	Specific power in kW per Nm^3/min, with the WAPM-402
WADL-301 data logger	Local display and logging of several meters and sensors
WASM-604 Smart Monitoring	Online energy dashboards, alarms and reports
Spare current coils	Other loop sizes and ratings on request

IN THE BOX

- WAPM-402 power meter
- Flexible current coils, 3 pcs
- Power cable (2 m) and voltage measurement cables
- Micro SD card, 1 GB
- User manual

CONNECT TO WISEAIR 4.0

WAPM-402
power · energy · harmonics

↓ RS485 Modbus RTU

WADL-301 or PLC
data logger / plant control

↓ Ethernet · 4G

WASM-604
kW, kWh, specific power

WISE Air 4.0 ®
MEASURE TO MANAGE

Make every kilowatt count.

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