



VIA MAESTRI DEL
LAVORO,30
(ZONA INDUSTRIALE)
56021 CASCINA (PI)
ITALY

CAPITALE SOCIALE
100.000,00 €

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 isacsrl@isacsrl.it

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OPRIOPWR00

Energy Meter for Power Consumption Monitoring Reduced Data sheet

Version: 1

Date: 06/08/2026

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Overview

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OPRIOPWR00 is the ISAC energy and power measuring equipment for monitoring the power consumption of CNC machines. Data are collected by measuring the phase voltages and currents of the machine power supply network. Voltages are measured through a direct connection. Currents are measured through current transformers (CT) (not supplied) for each phase.

All the measured voltages and currents and the calculated electrical parameters (active, reactive and apparent energy and power, line frequency, harmonic distortion, phase to phase angle, zero crossing) are available to the central unit through the EtherCAT bus.

A non-volatile memory is available to record up to 16 events and the total active and reactive energy counters.

The device is designed for mounting on a standard DIN rail.



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Part Number

Code

Code	Description
OPRIOPWR00	Energy Meter for Power Consumption Monitoring

Alternative codes

For non-EtherCAT version of the same product, refer to OPRIOPWR01.

Product status

Item	Value
Status	In production
(In production since-)	June 2026

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Technical data summary

Supply	
Rated voltage	24Vdc
Operating voltage range	18..30Vdc
Max power consumption	0.5W
Electrical Protection	Overload Reverse Polarity
Connections	No.2 fixed terminal block (screw) 5.08mm pitch
Conductor cross section	0.2 mm ² ... 2.5 mm ²
Fieldbus	
Protocol	EtherCAT
Type of device	YY
Bus connector	RJ45 shielded
Max cable length	100mt
Supported Services	CoE (CAN over EtherCAT), FoE (File over EtherCAT), [firmware update] VoE (Vendor Specific over EtherCAT) DC or Free Run
Compliant with documents	ETG.5001.1
Electrical isolation	2500 V

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Voltage Input	
Number of inputs	4
Max rated voltage	600Vac
Frequency range	40..400Hz
Measuring error	+/- 0.5%
Connections	No.4 fixed terminal block (screw) 7.62mm pitch
Conductor cross section	0.2 mm ² ... 2.5 mm ²
Current Input	
Number of inputs	3
Input type	By external current transformers (CT)
Max rated current	5A
Measuring error	+/- 0.5%
Connections	No.6 fixed terminal block (screw) 5.08mm pitch
Conductor cross section	0.2 mm ² ... 2.5 mm ²
Hardware Diagnostics	
Power status	Blue LED
Bus status	Green LED
Bus error	Red LED
Phase L1/L2/L3 status	No.3 Green LED
Environment	
Operating Temperature	0 ~ 50 °C

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Storage Temperature	-20 ~ 70 °C
Humidity	Up to 90% without condensation
Overall Dimension	91x72x62mm
IP level	IP20 compliant
Frame	Plastic ABS
Weight	0.3 Kg
Mounting	
	Standard 35mm DIN rail according to EN 60715
Calculated Parameters	
	Per-phase voltage root mean square (RMS)
	Phase-to-phase voltage root mean square (RMS)
	Per-phase current root mean square (RMS)
	Total and per-phase active energy
	Total and per-phase reactive energy
	Total and per-phase apparent energy
	Total and per-phase active power
	Total and per-phase reactive power
	Total and per-phase apparent power
	Line frequency
	Per-phase voltage total harmonic distortion (THD)
	Per-phase current THD
	Voltage phase-to-phase angle

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	Power factor
NV Memory	
Recording depth	16 events
Counters	Total active energy
	Total reactive energy

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Certifications

Certification	Description
CE	EU Declaration of Conformity: EMC Directive 2014/30/UE Standards used: IEC/EN 61010-1 IEC/EN 61000-6-2:2019 IEC/EN 61000-6-4:2019
UL	Compliant with UL 61010-1, UL 61010-2-030
RoHS	Declaration of Conformity: RoHS Directive 2011/65/EU
Origin	Italy
CRA classification:	Product with Digital Elements
ISO 62443-2 classification:	None

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Layout and dimension

Here below are the overall dimensions and the drawing of the assembling template.

Height	91 mm
Width	72 mm
Depth	62 mm

Reference documents

DS-080_OPRIOPWR00