

# Product data sheet

Specifications



## Easergy P5M30 48-250V 3CT 1CSH 4VT 16DI-12DO RSTP Eth RJ45

REL50458

### Main

<b>Range of product</b>	Easergy P5
<b>Product or component type</b>	Protection relay
<b>Relay application</b>	Motor
<b>Product reference</b>	P5M30-BACB-HABAH-AAAA
<b>Mounting case size</b>	30TE
<b>Device mounting</b>	Flush
<b>Mounting mode</b>	Withdrawable
<b>Power supply</b>	48...250 V DC 100...230 V AC
<b>Measuring inputs</b>	: 1/5 A CT phase current 3 : CSH residual current 1 : VT voltage 4
<b>Number of sensors</b>	0 temperature sensor(s) 0 arc sensor(s)
<b>Number of Digital Inputs (DI)</b>	16
<b>Number of Digital Outputs (DO)</b>	11 DO 1 watchdog
<b>Number of analogue inputs</b>	0
<b>Number of analogue outputs</b>	0
<b>Communication ports</b>	RJ45 2 rear Extension port 1 rear with backup memory USB port 2 front
<b>Communication protocols</b>	IEC 61850 ed. 1 IEC 61850 ed. 2 DNP3 over ethernet Modbus TCP EtherNet/IP
<b>Redundancy communication port protocol</b>	RSTP
<b>Cybersecurity</b>	Password protection Port hardening Firmware signature Client IP address filter Secured communication with associated tools
<b>Protection functions</b>	Phase overcurrent 50/51 Directional phase overcurrent 67 Earth fault overcurrent 50N/51N Directional earth fault 67N Transient earth fault 67NI Neutral admittance 21YN Earth fault wattmetric 32N Broken conductor 46 I2/I1

Disclaimer: This documentation is not intended as a substitute for and is not to be used for determining suitability or reliability of these products for specific user applications

Current unbalance 46 I2/I1  
 Cold load pick-up  
 Switch ON to fault (SOTF)  
 H2 detection  
 H5 detection  
 Breaker failure 50BF  
 Directional active underpower 37P  
 Phase undercurrent 37  
 Excessive starting time, locked rotor 48/51LR  
 Motor restart inhibition 66  
 Negative sequence overcurrent 46  
 Overvoltage 59  
 Undervoltage 27  
 Positive sequence undervoltage 27P  
 Earth fault overvoltage 59N  
 Underfrequency 81/81N  
 Lockout relay 86  
 CT supervision 60  
 VT supervision 60  
 Programmable stages 99  
 Programmable logic  
 Programmable curve

<b>Measurement functions</b>	Current 3-phase Current zero sequence Current positive sequence Current negative sequence Current ratio of negative and positive Phasor diagram of currents or voltages Current 2nd, 15th harmonics with THD Voltage 3-phase Voltage residual Voltage zero sequence Voltage positive sequence Voltage negative sequence Frequency
<b>Control functions</b>	Switchgear control and monitoring Programmable switchgear interlocking Local/remote control
<b>Controllable switchgear devices</b>	6 controlled + 2 monitored objects
<b>Number of setting groups</b>	4
<b>Monitoring functions</b>	Trip circuit supervision 74 Circuit breaker monitoring Relay self-monitoring
<b>Logs and records</b>	Event recording Disturbance recording Tripping context Relay maintenance
<b>Switchgear diagnosis type</b>	CT/VT supervision ANSI code: 60 Trip circuit supervision ANSI code: 74
<b>Connections - terminals</b>	Screw (digital input/output) Ring lugs (analog inputs and outputs)

## Complementary

<b>Time synchronisation protocol</b>	SNTP
<b>Web server</b>	Embedded HTTP server
<b>Software name</b>	EcoStruxure Power Device ESetup Easergy Pro: virtual simulation test
<b>Display type</b>	and colour LCD 480 x 272 pixels
<b>Number of key</b>	7 customizable
<b>Local signalling</b>	4 x LED 10 x LED tri-colour programmable
<b>Height</b>	176 mm
<b>Width</b>	152 mm
<b>Depth</b>	219 mm
<b>Net weight</b>	3.5 kg

## Environment

<b>Electromagnetic compatibility</b>	Emission tests class A conforming to CISPR 11 Emission tests class A conforming to CISPR 22
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Emission tests conforming to IACS E10  
 EMC immunity class 4 conforming to IEC 61000-4-2  
 EMC immunity class 4 conforming to ANSI C37.90.3  
 EMC immunity level 3 conforming to IEC 61000-4-3  
 EMC immunity conforming to ANSI C37.90.2  
 EMC immunity conforming to GOST 32137  
 EMC immunity conforming to GOST 30804.4.3  
 EMC immunity conforming to IACS E10  
 EMC immunity level 5 conforming to IEC 61000-4-8  
 EMC immunity level 5 conforming to IEC 61000-4-9  
 EMC immunity level 5 conforming to IEC 61000-4-10  
 EMC immunity level 3 conforming to IEC 61000-4-6  
 EMC immunity level 3 conforming to IEC 61000-4-18  
 EMC immunity conforming to ANSI C37.90.1  
 EMC immunity conforming to IEC 61000-4-12  
 EMC immunity conforming to GOST 30804.4.12  
 EMC immunity level 4 conforming to IEC 61000-4-16  
 EMC immunity level 4 conforming to IEC 61000-4-4  
 EMC immunity level 4 conforming to IEC 61000-4-5

**Mechanical robustness**  
 Vibrations (level: class 2) conforming to IEC 60255-21-1  
 Vibrations conforming to GOST 17516.1  
 Vibrations conforming to IACS E10  
 Shocks (level: class 2) conforming to IEC 60255-21-2  
 Earthquakes (level: class 2) conforming to IEC 60255-21-3

**Climatic withstand**  
 Exposure to cold conforming to IEC 60068-2-1  
 Exposure to dry heat conforming to IEC 60068-2-2  
 Exposure to damp heat in service conforming to IEC 60068-2-78  
 Exposure to damp heat in service conforming to IEC 60068-2-30  
 Temperature variation conforming to IEC 60068-2-14  
 Salt mist conforming to IEC 60068-2-52  
 Influence of corrosion/gas test 2 conforming to IEC 60068-2-60  
 Influence of corrosion/gas test 4 conforming to IEC 60068-2-60  
 Influence of corrosion/gas test 2 conforming to IEC 60721-3-3  
 Influence of corrosion/gas test 4 conforming to IEC 60721-3-3

**Ambient air temperature for operation**  
 -40...85 °C ( 16 h )  
 -40...70 °C ( 96 h )

**Ambient air temperature for storage**  
 -40...85 °C

**IP degree of protection**  
 IP54 conforming to IEC 60529

**Relative humidity**  
 0...93 % at 40 °C, without condensation, 56 days  
 93...95 % at 25...55 °C, 6 cycles, 12 + 12 hours

**Maximum operating altitude**  
 2000 m

**Protective treatment**  
 Conformal coating conforming to IEC 60068-2-52:Kb/1  
 Conformal coating conforming to IEC 60068-2-60:Ke  
 Conformal coating conforming to IEC 60721-3-3:3C2

## Packing Units

**Unit Type of Package 1**  
 PCE

**Number of Units in Package 1**  
 1

**Package 1 Weight**  
 4.5 kg

**Package 1 Height**  
 30.0 cm

**Package 1 width**  
 30.0 cm

**Package 1 Length**  
 35.0 cm

## Offer Sustainability

**Sustainable offer status**  
 Green Premium product

**REACH Regulation**  
[REACH Declaration](#)

**EU RoHS Directive**  
 Pro-active compliance (Product out of EU RoHS legal scope)  
[EU RoHS Declaration](#)

**Mercury free**  
 Yes

**RoHS exemption information**  
[Yes](#)

**China RoHS Regulation**  
[China RoHS declaration](#)

**Environmental Disclosure**  
[Product Environmental Profile](#)

**WEEE**

The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins

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**Contractual warranty**

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**Warranty**

Up to 10 years extended warranty (Standard warranty 2 years. Please check with your local SE representative for extended warranty availability and conditions)

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