

# Product datasheet

Specifications



## Easergy P5U20 24-250V 3CT 2Io 10DI-8DO RSTP Eth RJ45

REL50333

### Main

Range of product	Easergy P5
Product or component type	Protection relay
Relay application	Universal
Product reference	P5U20-AABB-BABAH-AAAA
Mounting case size	20TE
Device mounting	Flush
Mounting mode	Withdrawable
Power supply	24...240 V DC 100...230 V AC
Measuring inputs	: 1/5 A CT phase current 3 : 1/5 A CT residual current 1 : 1 A CT residual current 1
Number of sensors	0 temperature sensor(s) 0 arc sensor(s)
Number of Digital Inputs (DI)	10
Number of Digital Outputs (DO)	7 DO 1 watchdog
Number of analogue inputs	0
Number of analogue outputs	0
Communication ports	RJ45 2 rear Extension port 1 rear with backup memory USB port 2 front
Communication protocols	IEC 61850 ed. 1 IEC 61850 ed. 2 DNP3 over ethernet Modbus TCP EtherNet/IP
Cybersecurity	Password protection Port hardening Firmware signature Client IP address filter Secured communication with associated tools
Protection functions	Phase overcurrent 50/51 Earth fault overcurrent 50N/51N Capacitor bank unbalance 51C Broken conductor 46 I2/I1 Current unbalance 46 I2/I1 Cold load pick-up Switch ON to fault (SOTF) H2 detection H5 detection Breaker failure 50BF Recloser 79

Thermal overload protection 49  
 Phase undercurrent 37  
 Negative sequence overcurrent 46  
 Excessive starting time, locked rotor 48/51LR  
 Motor restart inhibition 66  
 Capacitor overvoltage 59C  
 Lockout relay 86  
 CT 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 Frequency Phasor diagram of currents or voltages Current 2nd, 15th harmonics with THD
<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 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 LCD 192 x 96 pixels
<b>Number of key</b>	1 customizable
<b>Local signalling</b>	4 x LED 6 x LED tri-colour programmable
<b>Height</b>	176 mm
<b>Width</b>	102 mm
<b>Depth</b>	219 mm
<b>Net weight</b>	2.5 kg

## Environment

<b>Electromagnetic compatibility</b>	Emission tests class A conforming to CISPR 11 Emission tests class A conforming to CISPR 22 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
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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

<b>Mechanical robustness</b>	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
<b>Climatic withstand</b>	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
<b>Ambient air temperature for operation</b>	-40...85 °C ( 16 h ) -40...70 °C ( 96 h )
<b>Ambient air temperature for storage</b>	-40...85 °C
<b>IP degree of protection</b>	IP54 conforming to IEC 60529
<b>Relative humidity</b>	0...93 % at 40 °C, without condensation, 56 days 93...95 % at 25...55 °C, 6 cycles, 12 + 12 hours
<b>Maximum operating altitude</b>	2000 m
<b>Protective treatment</b>	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

<b>Unit Type of Package 1</b>	PCE
<b>Number of Units in Package 1</b>	1
<b>Package 1 Weight</b>	2.8 kg
<b>Package 1 Height</b>	13.5 cm
<b>Package 1 width</b>	27 cm
<b>Package 1 Length</b>	37 cm

## Offer Sustainability

<b>Sustainable offer status</b>	Green Premium product
<b>REACH Regulation</b>	<a href="#">REACH Declaration</a>
<b>EU RoHS Directive</b>	Pro-active compliance (Product out of EU RoHS legal scope) <a href="#">EU RoHS Declaration</a>
<b>Mercury free</b>	Yes
<b>RoHS exemption information</b>	<a href="#">Yes</a>
<b>China RoHS Regulation</b>	<a href="#">China RoHS declaration</a>
<b>Environmental Disclosure</b>	<a href="#">Product Environmental Profile</a>
<b>Circularity Profile</b>	<a href="#">End of Life Information</a>
<b>WEEE</b>	The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins

## Contractual warranty

<b>Warranty</b>	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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