

# Product datasheet

Specifications



## Easergy P5U20 24-250V 3CT 1CSH 10DI-8DO RSTP Eth RJ45

REL50334

### Main

|                                       |  |
|---------------------------------------|--|
| <b>Range of product</b>               | Easergy P5   |
| <b>Product or component type</b>      | Protection relay   |
| <b>Relay application</b>              | Universal  |
| <b>Product reference</b>              | P5U20-AABB-CABAH-AAAA  |
| <b>Mounting case size</b>             | 20TE   |
| <b>Device mounting</b>                | Flush  |
| <b>Mounting mode</b>                  | Withdrawable   |
| <b>Power supply</b>                   | 24...240 V DC<br>100...230 V AC  |
| <b>Measuring inputs</b>               | : 1/5 A CT phase current 3<br>: CSH residual current 1   |
| <b>Number of sensors</b>              | 0 temperature sensor(s)<br>0 arc sensor(s)   |
| <b>Number of Digital Inputs (DI)</b>  | 10   |
| <b>Number of Digital Outputs (DO)</b> | 7 DO<br>1 watchdog   |
| <b>Number of analogue inputs</b>      | 0  |
| <b>Number of analogue outputs</b>     | 0  |
| <b>Communication ports</b>            | RJ45 2 rear<br>Extension port 1 rear with backup memory<br>USB port 2 front  |
| <b>Communication protocols</b>        | IEC 61850 ed. 1<br>IEC 61850 ed. 2<br>DNP3 over ethernet<br>Modbus TCP<br>EtherNet/IP  |
| <b>Cybersecurity</b>                  | Password protection<br>Port hardening<br>Firmware signature<br>Client IP address filter<br>Secured communication with associated tools   |
| <b>Protection functions</b>           | Phase overcurrent 50/51<br>Earth fault overcurrent 50N/51N<br>Capacitor bank unbalance 51C<br>Broken conductor 46 I2/I1<br>Current unbalance 46 I2/I1<br>Cold load pick-up<br>Switch ON to fault (SOTF)<br>H2 detection<br>H5 detection<br>Breaker failure 50BF<br>Recloser 79<br>Thermal overload protection 49 |

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

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 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<br>Current zero sequence<br>Current positive sequence<br>Current negative sequence<br>Current ratio of negative and positive<br>Frequency<br>Phasor diagram of currents or voltages<br>Current 2nd, 15th harmonics with THD |
| <b>Control functions</b>               | Switchgear control and monitoring<br>Programmable switchgear interlocking<br>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<br>Circuit breaker monitoring<br>Relay self-monitoring  |
| <b>Logs and records</b>                | Event recording<br>Disturbance recording<br>Tripping context<br>Relay maintenance   |
| <b>Switchgear diagnosis type</b>       | CT supervision ANSI code: 60<br>Trip circuit supervision ANSI code: 74  |
| <b>Connections - terminals</b>         | Screw (digital input/output)<br>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<br>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<br>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<br>Emission tests class A conforming to CISPR 22<br>Emission tests conforming to IACS E10<br>EMC immunity class 4 conforming to IEC 61000-4-2<br>EMC immunity class 4 conforming to ANSI C37.90.3<br>EMC immunity level 3 conforming to IEC 61000-4-3<br>EMC immunity conforming to ANSI C37.90.2<br>EMC immunity conforming to GOST 32137<br>EMC immunity conforming to GOST 30804.4.3<br>EMC immunity conforming to IACS E10<br>EMC immunity level 5 conforming to IEC 61000-4-8<br>EMC immunity level 5 conforming to IEC 61000-4-9<br>EMC immunity level 5 conforming to IEC 61000-4-10<br>EMC immunity level 3 conforming to IEC 61000-4-6<br>EMC immunity level 3 conforming to IEC 61000-4-18<br>EMC immunity conforming to ANSI C37.90.1<br>EMC immunity conforming to IEC 61000-4-12<br>EMC immunity conforming to GOST 30804.4.12<br>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<br>Vibrations conforming to GOST 17516.1<br>Vibrations conforming to IACS E10<br>Shocks (level: class 2) conforming to IEC 60255-21-2<br>Earthquakes (level: class 2) conforming to IEC 60255-21-3  |
| <b>Climatic withstand</b>                    | Exposure to cold conforming to IEC 60068-2-1<br>Exposure to dry heat conforming to IEC 60068-2-2<br>Exposure to damp heat in service conforming to IEC 60068-2-78<br>Exposure to damp heat in service conforming to IEC 60068-2-30<br>Temperature variation conforming to IEC 60068-2-14<br>Salt mist conforming to IEC 60068-2-52<br>Influence of corrosion/gas test 2 conforming to IEC 60068-2-60<br>Influence of corrosion/gas test 4 conforming to IEC 60068-2-60<br>Influence of corrosion/gas test 2 conforming to IEC 60721-3-3<br>Influence of corrosion/gas test 4 conforming to IEC 60721-3-3 |
| <b>Ambient air temperature for operation</b> | -40...85 °C ( 16 h )<br>-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<br>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<br>Conformal coating conforming to IEC 60068-2-60:Ke<br>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)<br><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) |
|-----------------|--|