# Product datasheet

Specifications

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

REL50333

## Main

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| **Range Of Product** | PowerLogic P5 |
| **Product Or Component Type** | Protection and control relay |
| **Relay Application** | Universal |
| **Product Reference** | P5U20-AABB-BABAH-AAEA |
| **Mounting Case Size** | 20TE |
| **Device Mounting** | Flush |
| **Mounting Mode** | Withdrawable |
| **Power Supply** | 24...240 V DC<br>100...230 V AC |
| **Measuring Inputs** | : 1/5 A CT phase current 3<br>: 1/5 A CT residual current 1<br>: 1 A CT residual current 1 |
| **Number Of Sensors** | 0 temperature sensor(s)<br>0 arc sensor(s) |
| **Number Of Digital Inputs (Di)** | 10 |
| **Number Of Digital Outputs (Do)** | 7 DO<br>1 watchdog |
| **Number Of Analogue Inputs** | 0 |
| **Number Of Analogue Outputs** | 0 |
| **Communication Ports** | RJ45 2 rear<br>Extension port 1 rear with backup memory<br>USB port 2 front |
| **Communication Protocols** | IEC 61850 ed. 1<br>IEC 61850 ed. 2<br>DNP3 over ethernet<br>Modbus TCP<br>EtherNet/IP |
| **Cybersecurity** | Port hardening<br>Firmware signature<br>Client IP address filter<br>Secured communication with assciated tools<br>Security policy management<br>Role-based access control<br>Security log<br>LDAP<br>RADIUS based user authentication<br>IEC 62442-4-2 SL1 |

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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| **Protection Functions** | 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<br>Phase undercurrent 37<br>Negative sequence overcurrent 46<br>Excessive starting time, locked rotor 48/51LR<br>Motor restart inhibition 66<br>Capacitor overvoltage 59C<br>Lockout relay 86<br>CT supervision 60<br>Programmable stages 99<br>Programmable logic<br>Programmable curve |
| **Measurement Functions** | 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 |
| **Control Functions** | Switchgear control and monitoring<br>Programmable switchgear interlocking<br>Local/remote control |
| **Controllable Switchgear Devices** | 6 controlled + 2 monitored objects |
| **Number Of Setting Groups** | 4 |
| **Monitoring Functions** | Trip circuit supervision 74<br>Circuit breaker monitoring<br>Relay self-monitoring |
| **Logs And Records** | Event recording<br>Disturbance recording<br>Tripping context<br>Relay maintenance |
| **Switchgear Diagnosis Type** | CT supervision ANSI code: 60<br>Trip circuit supervision ANSI code: 74 |
| **Connections - Terminals** | Screw (digital input/output)<br>Ring lugs (analog inputs and outputs) |

## Complementary

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| **Time Synchronisation Protocol** | SNTP |
| **Software Name** | EcoStruxure Power Device<br>ESetup Easergy Pro: virtual simulation test |
| **Web Server** | Embedded HTTP server |
| **Display Type** | LCD 192 x 96 pixels |
| **Number Of Key** | 1 customizable |
| **Local Signalling** | 4 x LED<br>6 x LED tri-colour programmable |
| **Height** | 176 mm |
| **Width** | 102 mm |
| **Depth** | 219 mm |
| **Net Weight** | 2.5 kg |

## Environment

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| **Electromagnetic Compatibility** | Emission tests class A conforming to CISPR 11<br>Emission tests class A conforming to CISPR 32<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<br>EMC immunity level 4 conforming to IEC 61000-4-4<br>EMC immunity level 4 conforming to IEC 61000-4-5 |
| **Mechanical Robustness** | 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 |
| **Climatic Withstand** | 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 |
| **Ambient Air Temperature For Operation** | -40…85 °C ( 16 h )<br>-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<br>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<br>Conformal coating conforming to IEC 60068-2-60:Ke<br>Conformal coating conforming to IEC 60721-3-3:3C2 |

## Packing Units

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| **Unit Type Of Package 1** | PCE |
| **Number Of Units In Package 1** | 1 |
| **Package 1 Height** | 13.5 cm |
| **Package 1 Width** | 27.0 cm |
| **Package 1 Length** | 37.0 cm |
| **Package 1 Weight** | 2.8 kg |

## 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) |

## Sustainability

**Green Premium™ label** is Schneider Electric's commitment to delivering products with best-in-class environmental performance. Green Premium promises compliance with the latest regulations, transparency on environmental impacts, as well as circular and low-$CO_2$ products.

**Guide to assessing product sustainability** is a white paper that clarifies global eco-label standards and how to interpret environmental declarations.

Learn more about Green Premium >

Guide to assess a product's sustainability >

Transparency RoHS/REACh

## Well-being performance

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| Rohs Exemption Information | Yes |

## Certifications & Standards

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| **Reach Regulation** | REACh Declaration |
| **Eu Rohs Directive** | Pro-active compliance (Product out of EU RoHS legal scope) |
| **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 |
| **Circularity Profile** | End of Life Information |