# Product datasheet

Specifications

## PowerLogic™ P5U20 24-250V 3CT 2Io 4DI-4DO RSTP Eth RJ45

REL50331

**EAN Code: 3606481207807**

## Main

| | |
|---|---|
| **Range of product** | PowerLogic P5 |
| **Product or component type** | Protection and control relay |
| **Relay application** | Universal |
| **product reference** | P5U20-AABA-BABAH-BAEA |
| **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)** | 4 |
| **number of analogue inputs** | 0 |
| **number of Digital Outputs (DO)** | 3 DO<br>1 watchdog |
| **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 62443-4-2 SL1 |

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| 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 |
| measurement functions | 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 |
| control functions | Switchgear control and monitoring |
| | Programmable switchgear interlocking |
| | Local/remote control |
| controllable switchgear devices | 6 controlled + 2 monitored objects |
| number of setting groups | 4 |
| monitoring functions | Trip circuit supervision 74 |
| | Circuit breaker monitoring |
| | Relay self-monitoring |
| logs and records | Event recording |
| | Disturbance recording |
| | Tripping context |
| | Relay maintenance |
| Switchgear diagnosis type | CT supervision ANSI code: 60 |
| | Trip circuit supervision ANSI code: 74 |
| Connections - terminals | Screw (digital input/output) |
| | Ring lugs (analog inputs and outputs) |

# Complementary

| Time synchronisation protocol | SNTP |
|---|---|
| Software name | EcoStruxure Power Device |
| | 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 |
| | 6 x LED tri-colour programmable |
| Height | 176 mm |
| Width | 102 mm |
| Depth | 219 mm |
| Net weight | 2.5 kg |

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# Environment

| | |
|---|---|
| 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 |
| 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 |
| 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 |
| Ambient air temperature for operation | -40…85 °C ( 16 h )<br>-40…70 °C ( 96 h ) |
| IP degree of protection | IP54 conforming to IEC 60529 |
| 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 |
| Relative humidity | 0…93 % at 40 °C, without condensation, 56 days<br>93…95 % at 25…55 °C, 6 cycles, 12 + 12 hours |

# Packing Units

| | |
|---|---|
| Unit Type of Package 1 | PCE |
| Number of Units in Package 1 | 1 |
| Package 1 Height | 14.000 cm |
| Package 1 Width | 26.500 cm |
| Package 1 Length | 37.500 cm |
| Package 1 Weight | 2.997 kg |
| Unit Type of Package 2 | S04 |
| Number of Units in Package 2 | 4 |
| Package 2 Height | 30.000 cm |
| Package 2 Width | 40.000 cm |
| Package 2 Length | 60.000 cm |

| | |
|---|---|
| **Package 2 Weight** | 12.631 kg |
| **Unit Type of Package 3** | P12 |
| **Number of Units in Package 3** | 16 |
| **Package 3 Height** | 45.000 cm |
| **Package 3 Width** | 80.000 cm |
| **Package 3 Length** | 120.000 cm |
| **Package 3 Weight** | 62.524 kg |

# Contractual warranty

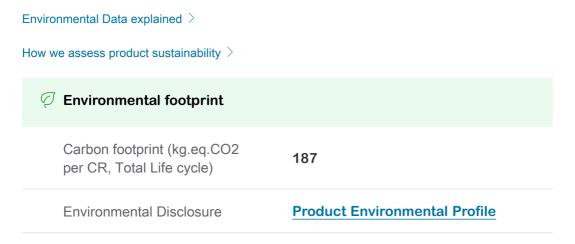| | |
|---|---|
| **Warranty** | Up to 10 years extended warranty (Standard warranty 2 years. Please check with your local SE representative for extended warranty availability and conditions) |

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# 🔵 Environmental Data

Schneider Electric aims to achieve Net Zero status by 2050 through supply chain partnerships, lower impact materials, and circularity via our ongoing "Use Better, Use Longer, Use Again" campaign to extend product lifetimes and recyclability.

Environmental Data explained 〉

How we assess product sustainability 〉

## 🌿 Environmental footprint

| | |
|---|---|
| Carbon footprint (kg.eq.CO2 per CR, Total Life cycle) | **187** |
| Environmental Disclosure | **Product Environmental Profile** |

## Use Better

### 📑 Materials and Substances

| | |
|---|---|
| Packaging made with recycled cardboard | **Yes** |
| Packaging without single use plastic | **No** |
| EU RoHS Directive | **Pro-active compliance (Product out of EU RoHS legal scope)** |
| REACh Regulation | **REACh Declaration** |
| China RoHS Regulation | **China RoHS declaration** |

## Use Again

### ↺ Repack and remanufacture

| | |
|---|---|
| Circularity Profile | **End of Life Information** |

| | | |
|---|---|---|
| WEEE |  | **The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins** |
| Take-back | **No** | |