Product datasheet

Specification





universal protection relay, PowerLogic P3U 3CT 1lo ringlug 4VT 16DI 8DO 48-230V DI24V 2RJ45

REL52022

Main

| Range Of Product | PowerLogic P3 |
|--|--|
| Product Or Component Type | Protection relay |
| Relay Application | Universal |
| Product Reference | P3U30-6AAA1BCAA |
| Mounting Case Size | 30TE |
| Power Supply | 48230 V AC/DC |
| Measuring Inputs | : 1/5 A CT phase current 3 : 1/5 A CT residual current 1 : 100 V/110 V VT voltage 4 |
| Number Of Digital Inputs (Di) | 16 |
| Number Of Digital Outputs (Do) | 1 watchdog 8 |
| Number Of Analogue Inputs | 0 |
| Number Of Analogue Outputs | 0 |
| Communication Ports | USB port 1 front RJ45 2 rear |
| Communication Protocols | IEC 61850 ed. 1 IEC 61850 ed. 2 IEC 60870-5-101 DNP3 TCP Modbus TCP EtherNet/IP |
| Redundancy Communication Port Protocol | RSTP PRP |
| Cybersecurity | Password protection Port hardening |

Price is "List Price" and may be subject to a trade discount – check with your local distributor or retailer for actual price.

Protection Functions

Phase overcurrent 50/51

Directional phase overcurrent 67

Earth fault overcurrent 50N/51N

Directional earth fault 67N Transient earth fault 67NI

Capacitor bank unbalance 51C

Broken conductor 46 I2/I1

Cold load pick-up

Switch ON to fault (SOTF)

Breaker failure 50BF

Directional active underpower 37P

Fault locator 21FL

Recloser 79

Phase undercurrent 37

Excessive starting time, locked rotor 48/51LR

Motor restart inhibition 66

Capacitor overvoltage 59C

Negative sequence overcurrent 46

Overvoltage 59

Undervoltage 27

Positive sequence undervoltage 27P

Earth fault overvoltage 59N

Underfrequency 81/81N

Rate of change of frequency 81R

Synchro-check 25

Lockout relay 86

CT supervision 60

VT supervision 60

H2 detection 68H2

H5 detection 68H5

Negative sequence overcurrent 47

Programmable stages 99

Programmable curve

Arc Flash Protection

No

Measurement Functions

Current 3-phase

Current zero sequence

Current positive sequence

Current negative sequence

Current ratio of negative and positive

Voltage phase to earth

Voltage phase to phase

Voltage zero sequence

Voltage positive sequence Voltage negative sequence

Voltage ratio of negative and positive

Short circuit fault reactance

Fault location current

Earth fault reactance

Frequency

Active power

RMS active power

Reactive power

RMS reactive power

Apparent power

RMS apparent power

Active energy Reactive energy

Cos φ

Tan φ

Power angle

Power factor

Voltage phasor diagram view Current phasor diagram view

Current 2nd, 15th harmonics with THD

Voltage 2nd, 15th harmonics with THD

Voltage interruption

Condition monitoring CB wear

Control Functions

Switchgear control and monitoring

Programmable switchgear interlocking

Local control on single-line diagram

Local control with I/O keys Local/remote control

2 function keys

Mobile application with Easergy SmartApp

Web-server

Programmable logic

| Controllable Switchgear Devices | 4 controlled + 8 displayed | |
|---------------------------------|--|--|
| 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 | |
| Switchgear Diagnosis Type | CT/VT supervision ANSI code: 60 CT supervision Trip circuit supervision ANSI code: TCS | |
| Connections - Terminals | Screw removable (digital input/output) Ring lugs removable (current transformer) Pin removable (voltage transformer) | |

Complementary

| Operating Threshold | 24230 V AC/DC | |
|-------------------------------|--|--|
| Time Synchronisation Protocol | SNTP | |
| Software Name | EcoStruxure Power Device ESetup Easergy Pro | |
| Web Server | Embedded HTTP server | |
| Display Type | LCD 128 x 64 pixels with single line diagram | |
| Number Of Key | 2 customizable | |
| Local Signalling | 4 LEDs 8 LEDs programmable | |
| Standards | IEC | |
| Height | 169.5 mm | |
| Width | 170 mm | |
| Depth | 205 mm | |
| Net Weight | 2.5 kg maximum | |

Environment

| Electromagnetic Compatibility | Emission tests conforming to IEC/EN 60255-26 ed. 3 |
|-------------------------------|---|
| | Emission tests class A conforming to CISPR 11 |
| | Emission tests class A conforming to CISPR 22 |
| | EMC immunity conforming to IEC/EN 60255-26 ed. 3 |
| | EMC immunity conforming to EN/IEC 61000-4-18 |
| | EMC immunity level 4 conforming to EN/IEC 61000-4-2 |
| | EMC immunity level 3 conforming to EN/IEC 61000-4-3 |
| | EMC immunity level 4 conforming to EN/IEC 61000-4-4 |
| | EMC immunity level 3 conforming to EN/IEC 61000-4-5 |
| | EMC immunity level 3 conforming to EN/IEC 61000-4-6 |
| | EMC immunity conforming to EN/IEC 61000-4-8 |
| | EMC immunity level 5 conforming to EN/IEC 61000-4-9 |
| | EMC immunity conforming to EN/IEC 61000-4-29 |
| | EMC immunity conforming to EN/IEC 61000-4-11 |
| | EMC immunity conforming to EN/IEC 61000-4-17 |
| Mechanical Robustness | Vibrations (level: class II) conforming to IEC 60255-21-1 |
| | Vibrations: Fc conforming to IEC 60068-2-6 |
| | Shocks (level: class II) conforming to IEC 60255-21-2 |
| | Shocks: Ea conforming to IEC 60068-2-27 |
| | Seismic tests method A (level: class II) conforming to IEC 60255-21-3 |
| | Bumps (level: class II) conforming to IEC 60255-21-2 |
| | Bumps: Ea conforming to IEC 60068-2-27 |

| Climatic Withstand | Exposure to dry heat Bb tests conforming to EN/IEC 60068-2-2 Exposure to cold Ad tests conforming to EN/IEC 60068-2-1 Exposure to damp heat in service Db tests conforming to EN/IEC 60068-2-30 Exposure to damp heat in service Cab tests conforming to EN/IEC 60068-2-78 | |
|---------------------------------------|--|--|
| Ambient Air Temperature For Operation | -4065 °C | |
| Ip Degree Of Protection | IP54 conforming to IEC 60529 | |
| Relative Humidity | 095 %, without condensation | |
| Maximum Operating Altitude | 2000 m | |
| Protective Treatment | Conformal coating | |

Packing Units

| Unit Type Of Package 1 | PCE |
|------------------------------|----------|
| Number Of Units In Package 1 | 1 |
| Package 1 Height | 30 cm |
| Package 1 Width | 29.9 cm |
| Package 1 Length | 39.8 cm |
| Package 1 Weight | 3.835 kg |
| Unit Type Of Package 2 | P06 |
| Number Of Units In Package 2 | 8 |
| Package 2 Height | 105 cm |
| Package 2 Width | 60 cm |
| Package 2 Length | 80 cm |
| Package 2 Weight | 43.46 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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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



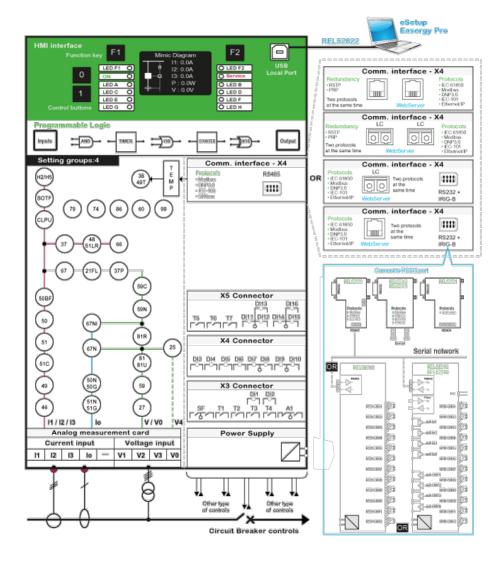
Rohs Exemption Information

Certifications & Standards

| 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 was collection and never end up in rubbish bins | |
| Circularity Profile | End of Life Information | |

Connections and Schema

Functional View

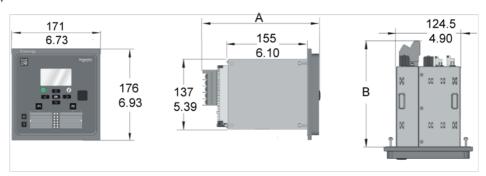


REL52022

Dimensions Drawings

Base Unit Dimensions

 $\frac{\text{mm}}{\text{in.}}$



| | Α | В |
|-------------------------|--------------|-------------|
| With screw connector | 214 mm/8.43" | 192 mm/7.6" |
| With ring-lug connector | 226 mm/8.90" | 204 mm/8.0" |