

Product datasheet

Specifications



universal protection relay,
PowerLogic P3U20, 4L, 1U, 10DI/
5DO, Uaux: 48-230V, DI: 220-230V,
2 x RJ-45

REL52042

Main

Range of product	PowerLogic P3
Product or component type	Protection relay
Relay application	Universal
product reference	P3U20-5AAA3ACAA
Mounting case size	20TE
power supply	48...230 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 1
Number of sensors	0 temperature sensor(s) 0 arc sensor(s)
number of Digital Inputs (DI)	10
number of analogue inputs	0
number of Digital Outputs (DO)	1 watchdog 5
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
Cybersecurity	Password protection Port hardening

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

protection functions	Phase undercurrent 37 Negative sequence overcurrent 46 Broken conductor 46 I2/I1 Excessive starting time, locked rotor 48/51LR Thermal overload protection 49 Phase overcurrent 50/51 Earth fault overcurrent 50N/51N Breaker failure 50BF Switch ON to fault (SOTF) Capacitor bank unbalance 51C Capacitor overvoltage 59C Neutral voltage displacement 59N Motor restart inhibition 66 Directional earth fault 67N Transient earth fault 67NI CT supervision 60 VT supervision 60 H2 detection 68H2 H5 detection 68H5 Recloser 79 Lockout relay 86 Cold load pick-up 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	2 controlled + 4 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 supervision Trip circuit supervision ANSI code: TCS
Connections - terminals	Screw removable (digital input/output) Clamp terminal removable (current transformer) Pin removable (voltage transformer)

Complementary

Operating threshold	220...230 V AC/DC
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

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
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
Electromagnetic compatibility	Emission tests conforming to IEC/EN 60255-26 ed. 3 Emission tests conforming to CISPR 11 Emission tests 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
Ambient air temperature for operation	-40...65 °C
Ambient air temperature for storage	-40...70 °C
IP degree of protection	IP54 conforming to IEC 60529
maximum operating altitude	2000 m
Protective treatment	Conformal coating

Relative humidity	0...95 %, without condensation
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Packing Units

Unit Type of Package 1	PCE
Number of Units in Package 1	1
Package 1 Height	16 cm
Package 1 Width	21.5 cm
Package 1 Length	27.5 cm
Package 1 Weight	3.5 kg

Contractual warranty

Warranty (in months)	24
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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

Total lifecycle Carbon footprint	722 kg CO2 eq.
Environmental Disclosure	Product Environmental Profile
Carbon footprint of the manufacturing phase [A1 to A3]	88 kg CO2 eq.
Carbon footprint of the distribution phase [A4]	4 kg CO2 eq.
Carbon footprint of the installation phase [A5]	0.1 kg CO2 eq.
Carbon footprint of the use phase [B2, B3, B4, B6]	624 kg CO2 eq.
Carbon footprint of the end-of-life phase [C1 to C4]	7 kg CO2 eq.

Use Better



Materials and Substances

Packaging made with recycled cardboard	Yes
Packaging without single use plastic	No
SCIP Number	7fd15df9-a702-4a28-ad01-afb36a7b785f
EU RoHS Directive	Compliant By Exemption
REACH Regulation	Reference contains Substances of Very High Concern above the threshold

Use Longer



Lifetime extension

Repair	No
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Use Again

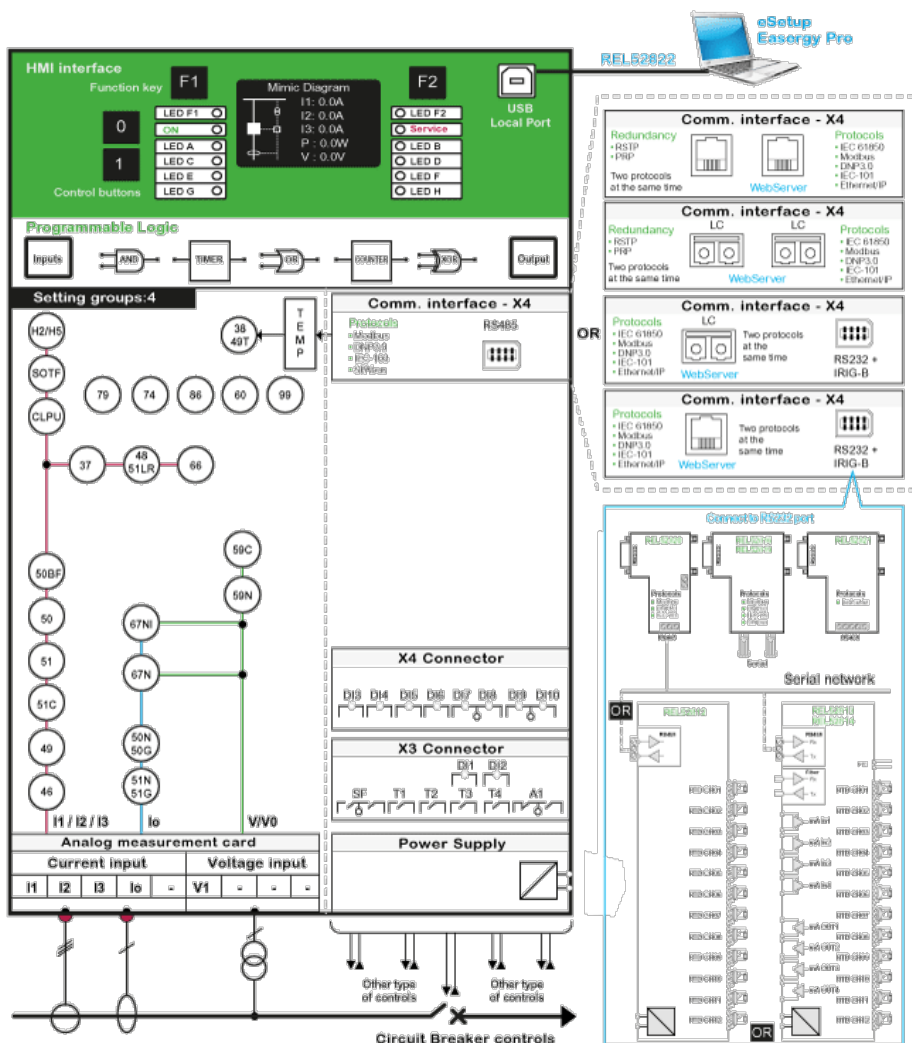


Repack and remanufacture

Recyclability potential, in %	32
End of life manual availability	End of Life Information
Take-back	No
WEEE Label	 The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins

Connections and Schema

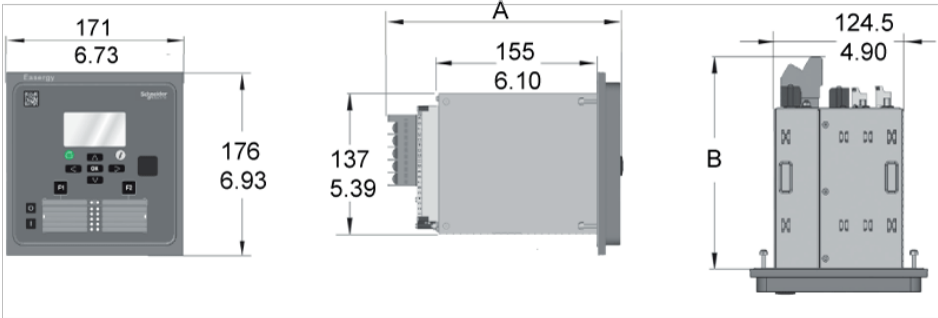
Functional View



Dimensions Drawings

Base Unit Dimensions

mm
in.



	A	B
With screw connector	214 mm/8.43"	192 mm/7.6"
With ring-lug connector	226 mm/8.90"	204 mm/8.0"