

# Product data sheet

Specifications



universal protection relay,  
PowerLogic P3U20, 4L ringlug, 1U,  
10DI/5DO, Uaux: 48-230V, DI:  
110-230V, RS-485

REL52039

## Main

Range Of Product	PowerLogic P3
Product Or Component Type	Protection relay
Relay Application	Universal
Product Reference	P3U20-6AAA2ABAA
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 Digital Outputs (Do)	1 watchdog 5
Number Of Analogue Inputs	0
Number Of Analogue Outputs	0
Type Of Temperature Module Connection	Copper cable external module Fiber optic cable external module
Communication Ports	USB port 1 front RS485 1 rear
Communication Protocols	IEC 60870-5-101 IEC 60870-5-103 DNP3 Modbus RTU DeviceNet SPAbus
Cybersecurity	Port hardening Password protection

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

<b>Protection Functions</b>	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
<b>Arc Flash Protection</b>	No
<b>Measurement Functions</b>	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 $\phi$ Tan $\phi$ 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
<b>Control Functions</b>	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
<b>Controllable Switchgear Devices</b>	2 controlled + 4 displayed
<b>Number Of Setting Groups</b>	4
<b>Monitoring Functions</b>	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) Ring lugs removable (current transformer) Pin removable (voltage transformer)

## Complementary

Operating Threshold	110...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

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	-40...65 °C
Ambient Air Temperature For Storage	-40...70 °C
Ip Degree Of Protection	IP54 conforming to IEC 60529
Relative Humidity	0...95 %, without condensation
Maximum Operating Altitude	2000 m

Protective Treatment	Conformal coating
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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	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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# 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<sub>2</sub> 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 >](#)

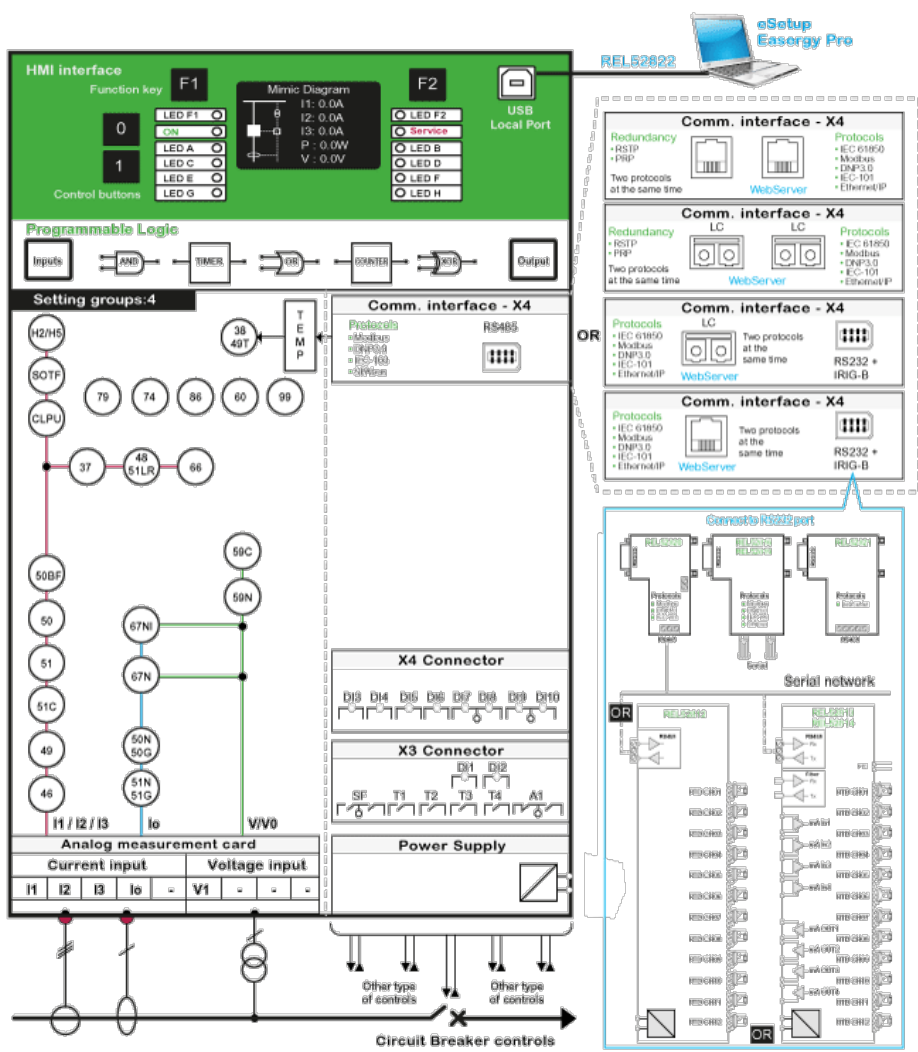


Transparency

Reach Regulation	<a href="#">REACH Declaration</a>
Eu Rohs Directive	Pro-active compliance (Product out of EU RoHS legal scope)
China Rohs Regulation	<a href="#">China RoHS declaration</a>
Environmental Disclosure	<a href="#">Product Environmental Profile</a>
Weee	The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins
Circularity Profile	<a href="#">End of Life Information</a>

Connections and Schema

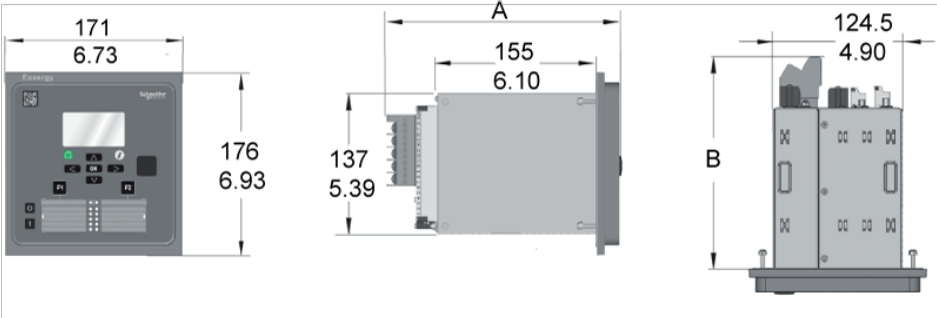
Functional View



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"