

# Product data sheet

Specifications



## Easergy P3U20, 4L, 1U, 10DI/5DO, Uaux: 48-230V, DI: 24-230V, RS-485

REL52032

### Main

<b>Range of product</b>	Easergy P3
<b>Product or component type</b>	Protection relay
<b>Relay application</b>	Universal
<b>Product reference</b>	P3U20-5AAA1ABAA
<b>Power supply</b>	48...230 V AC/DC
<b>Measuring inputs</b>	: 1/5 A CT phase current 3 : 1/5 A CT residual current 1 : 100 V/110 V VT voltage 1
<b>Number of sensors</b>	0 temperature sensor(s) 0 arc sensor(s)
<b>Number of Digital Inputs (DI)</b>	10
<b>Number of Digital Outputs (DO)</b>	1 watchdog 5
<b>Number of analogue inputs</b>	0
<b>Number of analogue outputs</b>	0
<b>Type of temperature module connection</b>	Copper cable external module Fiber optic cable external module
<b>Communication ports</b>	USB port 1 front RS485 1 rear
<b>Communication protocols</b>	IEC 60870-5-101 IEC 60870-5-103 DNP3 Modbus RTU DeviceNet SPAbus
<b>Cybersecurity</b>	Port hardening Password protection
<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

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

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 $\varphi$ Tan $\varphi$ 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
<b>Logs and records</b>	Event recording Disturbance recording Tripping context
<b>Switchgear diagnosis type</b>	CT supervision Trip circuit supervision ANSI code: TCS
<b>Connections - terminals</b>	Screw removable (digital input/output) Clamp terminal removable (current transformer) Pin removable (voltage transformer)
<b>Complementary</b>	
<b>Operating threshold</b>	24...230 V AC/DC
<b>Web server</b>	Embedded HTTP server
<b>Software name</b>	EcoStruxure Power Device ESetup Easergy Pro
<b>Number of key</b>	2 customizable
<b>Local signalling</b>	4 LEDs 8 LEDs programmable
<b>Standards</b>	IEC
<b>Height</b>	169.5 mm

<b>Width</b>	170 mm
<b>Depth</b>	205 mm
<b>Net weight</b>	2.5 kg maximum

## Environment

<b>Electromagnetic compatibility</b>	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
<b>Mechanical robustness</b>	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
<b>Climatic withstand</b>	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
<b>Ambient air temperature for operation</b>	-40...65 °C
<b>Ambient air temperature for storage</b>	-40...70 °C
<b>IP degree of protection</b>	IP54 conforming to IEC 60529
<b>Relative humidity</b>	0...95 %, without condensation
<b>Maximum operating altitude</b>	2000 m
<b>Protective treatment</b>	Conformal coating

## Packing Units

<b>Unit Type of Package 1</b>	PCE
<b>Number of Units in Package 1</b>	1
<b>Package 1 Weight</b>	3.5 kg
<b>Package 1 Height</b>	16 cm
<b>Package 1 width</b>	21.5 cm
<b>Package 1 Length</b>	27.5 cm
<b>Unit Type of Package 2</b>	S03
<b>Number of Units in Package 2</b>	1
<b>Package 2 Weight</b>	3.8 kg
<b>Package 2 Height</b>	30 cm
<b>Package 2 width</b>	30 cm
<b>Package 2 Length</b>	40 cm
<b>Unit Type of Package 3</b>	P12
<b>Number of Units in Package 3</b>	24
<b>Package 3 Weight</b>	78.49 kg
<b>Package 3 Height</b>	110 cm

Package 3 width	80 cm
Package 3 Length	120 cm

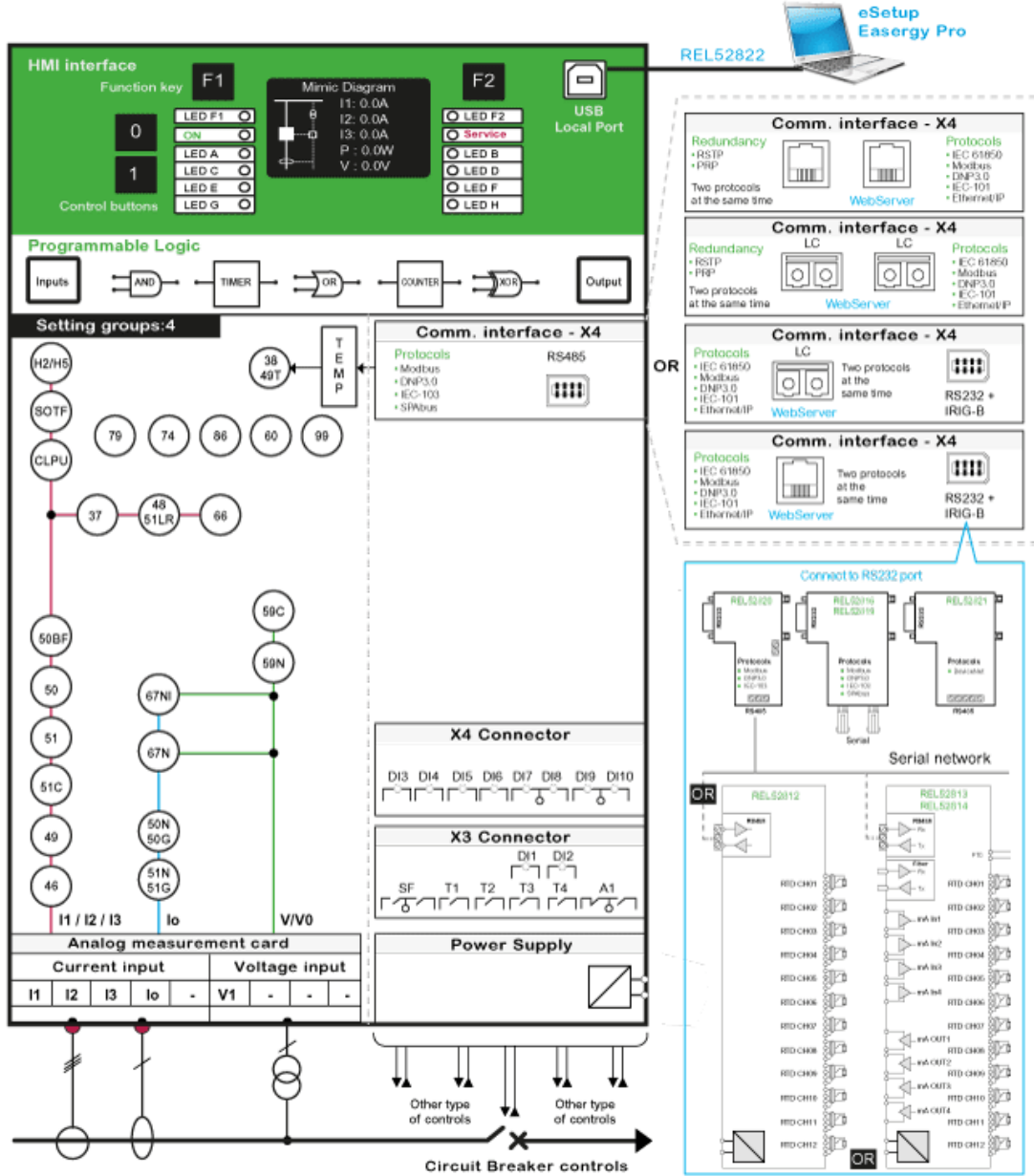
## Offer Sustainability

Sustainable offer status	Green Premium product
REACH Regulation	<a href="#">REACH Declaration</a>
EU RoHS Directive	Pro-active compliance (Product out of EU RoHS legal scope) <a href="#">EU RoHS Declaration</a>
Mercury free	Yes
RoHS exemption information	<a href="#">Yes</a>
China RoHS Regulation	<a href="#">China RoHS declaration</a>
Environmental Disclosure	<a href="#">Product Environmental Profile</a>
Circularity Profile	<a href="#">End of Life Information</a>
WEEE	The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins

## Contractual warranty

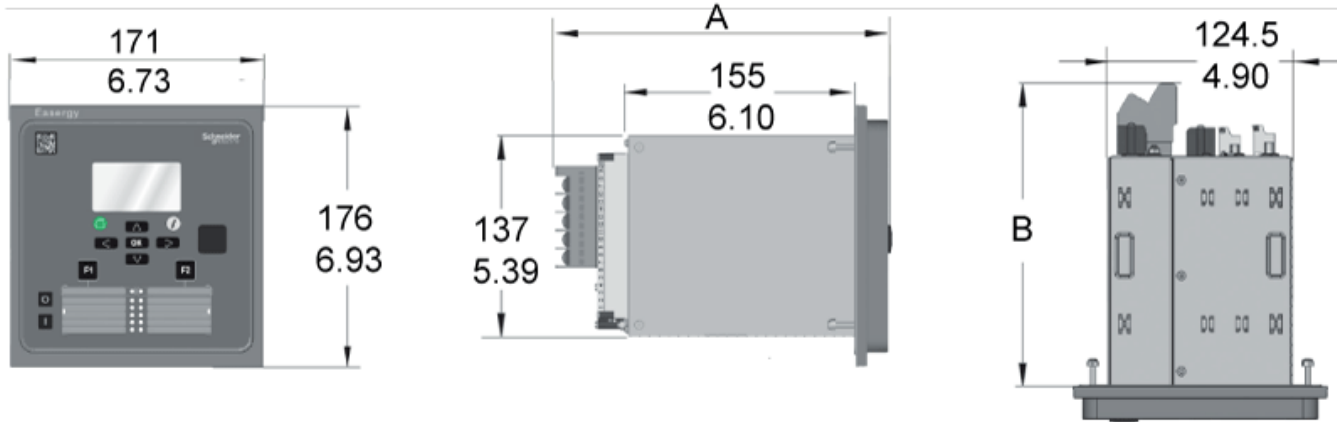
Warranty	Up to 10 years extended warranty (Standard warranty 2 years. Please check with your local SE representative for extended warranty availability and conditions)
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Functional View



**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"