

Product datasheet

Specifications



universal protection relay, PowerLogic P3U 3CT CSH 16DI 8DO 48-230V DI24 2RJ45

REL52096

Main

Range of product	PowerLogic P3
Product or component type	Protection relay
Relay application	Universal
product reference	P3U30-5CAA1BCAA
Mounting case size	30TE
Device mounting	Flush
Mounting mode	Flush mounting
power supply	48...230 V AC/DC
measuring inputs	: 1/5 A CT phase current 3 : CSH residual current 1 : 100 V/110 V VT voltage 4
Number of sensors	0 temperature sensor(s)
number of Digital Inputs (DI)	16
number of analogue inputs	0
number of Digital Outputs (DO)	8 DO 1 watchdog
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

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	Negative sequence overcurrent 47
	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 50N/51N
	H2 detection 68H2
	H5 detection 68H5
	Breaker failure 50BF
	Switch ON to fault (SOTF) 68H5
	Directional active underpower 37P
	Fault locator 21FL
	Recloser 79
	Phase undercurrent 37
	Excessive starting time, locked rotor 48/51LR
	Switch ON to fault (SOTF) 66
	Motor restart inhibition 66
	Capacitor overvoltage 59C
	Negative sequence overcurrent 46
	Overvoltage 59
	Undervoltage 27
	Positive sequence undervoltage 27P
	Earth fault overvoltage 59N
	Vector shift 78V
	Underfrequency 81/81N
	Rate of change of frequency 81R
	Synchro-check 25
	Lockout relay 86
	CT supervision 60
	VT supervision 60
	Programmable stages 99 8
	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 negative sequence
	Fault location current
	Earth fault reactance negative sequence
	Frequency phase to earth
	Fault location current phasor diagram view
	Active power zero sequence
	RMS active power positive sequence
	Reactive power phase to phase
	RMS reactive power zero sequence
	Apparent power positive sequence
	Earth fault reactance 3-phase
	RMS apparent power
	Active energy
	Reactive energy
	Cos φ
	Tan φ
	Power angle
	Power factor
	Frequency positive sequence
	Voltage phasor diagram view
	Current phasor diagram view
	Current 2nd, 15th harmonics with THD
	Active power phase to earth
	Voltage 2nd, 15th harmonics with THD
	Condition monitoring CB wear phasor diagram view
	Voltage interruption phasor diagram view
	RMS active power phase to phase
	Reactive power zero sequence
	RMS reactive power positive sequence
	Apparent power negative sequence

control functions	Switchgear control and monitoring with I/O keys Programmable switchgear interlocking Local control on single-line diagram Local control with I/O keys Local/remote control with I/O keys 2 function keys Mobile application with Easergy SmartApp Web-server with Easergy SmartApp Programmable logic Local/remote control with Easergy SmartApp
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 supervision Trip circuit supervision ANSI code: TCS
Connections - terminals	Screw removable (digital input/output) Pin removable (current transformer) Pin removable (voltage transformer)

Complementary

Operating threshold	24 V AC/DC
Time synchronisation protocol	SNTP
Software name	ESetup Easergy Pro: virtual simulation test Easergy SmartApp
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
Height	169.5 mm
Width	170 mm
Depth	205 mm
Net weight	2.5 kg maximum

Environment

climatic withstand	Exposure to dry heat Bd 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

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 conforming to IEC 60255-22-1 EMC immunity level 4 conforming to EN/IEC 61000-4-2 EMC immunity conforming to IEC 60255-22-2 EMC immunity level 3 conforming to EN/IEC 61000-4-3 EMC immunity conforming to IEC 60255-22-3 EMC immunity level 4 conforming to EN/IEC 61000-4-4 EMC immunity conforming to IEC 60255-22-4 EMC immunity level 3 conforming to EN/IEC 61000-4-5 EMC immunity conforming to IEC 60255-22-5 EMC immunity level 3 conforming to EN/IEC 61000-4-6 EMC immunity conforming to IEC 60255-22-6 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 EMC immunity conforming to IEC 60255-27 EMC immunity class III conforming to IEC 60255-5 EMC immunity conforming to EN/IEC 60255-1
Ambient air temperature for operation	-40...65 °C
Ambient air temperature for storage	-40...70 °C
IP degree of protection	IP54 front
maximum operating altitude	2000 m
Protective treatment	Conformal coating
Relative humidity	0...95 %, without condensation

Packing Units

Unit Type of Package 1	PCE
Number of Units in Package 1	1
Package 1 Height	29.0 cm
Package 1 Width	30.0 cm
Package 1 Length	40.0 cm
Package 1 Weight	3.51 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	723 kg CO2 eq.
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.
Environmental Disclosure	Product Environmental Profile

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