

Product datasheet

Specifications



generator protection relay,
PowerLogic P3G32 6CT 3Io ringlug
4VT 6DI 9DO 24-48V DI24V RS485
RJ45 ANSI

REL53097

Main

Range of product	PowerLogic P3
Product or component type	Protection relay
Relay application	Generator
product reference	P3G32-DGA1A-AA1FA-BAAAB
Mounting case size	30TE
Device mounting	Flush
Mounting mode	Flush mounting
power supply	24...48 V DC
measuring inputs	: 1/5 A CT phase current 6 : 5/1 A CT residual current 2 : 1/0.2 A CT residual current 1 : 100 V/110 V VT voltage 4
Number of sensors	0 temperature sensor(s) 0 arc sensor(s)
number of Digital Inputs (DI)	6
number of analogue inputs	0
number of Digital Outputs (DO)	10 DO 1 watchdog
number of analogue outputs	0
communication ports	USB port 1 front RS485 1 rear RJ45 1 rear
communication protocols	IEC 61850 ed. 1 IEC 61850 ed. 2 IEC 60870-5-101 DNP3 TCP Modbus TCP EtherNet/IP IEC 60870-5-103 DNP3 Modbus RTU DeviceNet SPABus
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	Underimpedance 21G
	Overfluxing (V/Hz) 24
	Synchro-check 25
	Undervoltage 27 8
	Positive sequence undervoltage 27P
	Directional active underpower 32
	Field loss (underimpedance) 40
	Under reactance 21/40
	Negative sequence overcurrent 46
	Thermal overload protection 49
	Earth fault overcurrent 50N/51N
	Phase overcurrent 50/51
	Breaker failure 50BF
	Switch ON to fault (SOTF) 32
	Capacitor bank unbalance 51C
	Voltage-restrained overcurrent 51V
	Switch ON to fault (SOTF) 81/81N
	Overvoltage 59
	Earth fault overvoltage 59N
	Restricted earth fault 64REF
	Stator earth fault 64S
	Directional phase overcurrent 67
	Directional earth fault 67N
	Magnetising inrush detection 68F2
	H5 detection 68H5
	Pole slip 78PS
	Underfrequency 81/81N
	Rate of change of frequency 81R
	Lockout relay 86
	Machine differential 87M
	Programmable stages 99 8
	Programmable curve 87M
	Cold load pick-up 99 8
	CT supervision 60
	VT supervision 60FL
	Programmable curve 99 8
Arc flash protection	No
Relay type	Differential current relay

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 positive sequence Earth fault reactance Frequency Short circuit fault reactance phasor diagram view Active power zero sequence RMS active power negative sequence Reactive power ratio of negative and positive Fault location current 3-phase RMS reactive power phase to phase Apparent power zero sequence RMS apparent power positive sequence Active energy Reactive energy Earth fault reactance positive sequence Cos φ Tan φ Power angle Power factor Voltage phasor diagram view Current phasor diagram view Frequency ratio of negative and positive Current 2nd, 15th harmonics with THD Voltage 2nd, 15th harmonics with THD Condition monitoring CB wear Active power phase to earth Voltage interruption phasor diagram view RMS active power zero sequence Reactive power positive sequence RMS reactive power negative sequence Apparent power ratio of negative and positive
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	3 controlled + 3 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 ANSI code: TCS Trip circuit supervision ANSI code: TCS
Connections - terminals	Screw removable (digital input/output) Pin removable (voltage transformer) Ring lugs fixed (current 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 128 pixels with single line diagram LCD 128 x 128 pixels with ANSI symbols
Number of key	2 customizable
Local signalling	2 LEDs 16 LEDs programmable
Height	176 mm
Width	270 mm
Depth	230 mm
Net weight	4.2 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
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 EMC immunity conforming to IEC 60255-22-1 EMC immunity conforming to IEC 60255-22-2 EMC immunity conforming to IEC 60255-22-3 EMC immunity conforming to IEC 60255-22-4 EMC immunity conforming to IEC 60255-22-5 EMC immunity conforming to IEC 60255-22-6 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 conforming to IEC 60529
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	40 cm
Package 1 Width	30 cm
Package 1 Length	30 cm
Package 1 Weight	5.3 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	1 240 kg CO2 eq.
Carbon footprint of the manufacturing phase [A1 to A3]	167 kg CO2 eq.
Carbon footprint of the distribution phase [A4]	5 kg CO2 eq.
Carbon footprint of the installation phase [A5]	0.2 kg CO2 eq.
Carbon footprint of the use phase [B2, B3, B4, B6]	1 056 kg CO2 eq.
Carbon footprint of the end-of-life phase [C1 to C4]	11 kg CO2 eq.
Environmental Disclosure	Product Environmental Profile

Use Better



Materials and Substances

Packaging made with recycled cardboard	No
Packaging without single use plastic	No
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 %	37
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