Product datasheet

Specifications

line differential protection relay, PowerLogic P5L30 48-250V 3CT 2Io 4VT 10DI-8DO SM 40km

REL50514

EAN Code: 3606487097099

Main

Range of product	PowerLogic P5
Product or component type	Protection and control relay
Relay application	Line differential
product reference	P5L30-AACB-MDAAA-BAEA
Mounting case size	30TE
Device mounting	Flush
Mounting mode	Withdrawable
power supply	48...250 V DC 100...230 V AC
measuring inputs	: 1/5 A CT phase current 3 : CSH residual current 1 : voltage input VT voltage 4
Number of sensors	0 temperature sensor(s)
number of Digital Inputs (DI)	10
number of analogue inputs	0
number of Digital Outputs (DO)	7 DO 1 watchdog
number of analogue outputs	0
communication ports	USB port 2 front LC 2 rear
communication protocols	SDLC
Cybersecurity	Password protection Port hardening Firmware signature Client IP address filter Secured communication with assciated tools Role-based access control Security policy management Security log LDAP RADIUS based user authentication IEC 62443-4-2 SL1

protection functions	Phase overcurrent 50/51 Line differential 87L 2 Directional phase overcurrent 67 Earth fault overcurrent 50N/51N Directional earth fault 67N Transient earth fault 67NI Neutral admittance 21YN Earth fault wattmetric 32N Restricted earth fault 64REF Thermal overload protection 49F Broken conductor 46 I2/I1 Cold load pick-up Switch ON to fault (SOTF) H2 detection H5 detection Breaker failure 50BF Directional active underpower 37P Fault locator 21FL Recloser 79 Negative sequence overcurrent 46 Overvoltage 59 Undervoltage 27 Earth fault overvoltage 59N Underfrequency 81/81N Rate of change of frequency 81R Synchro-check 25 Lockout relay 86 CT supervision VT supervision Programmable stages 99 Programmable curve Programmable logic
Arc flash protection	No
measurement functions	Phase current differential mode Phase current bias Current 3-phase Current zero sequence Current positive sequence Current negative sequence Current ratio of negative and positive Current phasor diagram view Current 2nd, 15th harmonics with THD Voltage single voltage Voltage residual Frequency bias
control functions	Switchgear control and monitoring Programmable switchgear interlocking Local/remote control
controllable switchgear devices	6 controlled + 2 monitored objects
number of setting groups	4
monitoring functions	Trip circuit supervision 74 Circuit breaker monitoring Relay self-monitoring
logs and records	Disturbance recording Event recording Trip context information Relay maintenance
Connections - terminals	Pin (digital input/output) Ring terminal (voltage transformer) Ring terminal (current transformer)

Complementary

Digital inputs nominal operation voltage	Digital input: 24...240 V DC Digital input: 100...230 V AC
Time synchronisation protocol	SNTP
Software name	ESetup Easergy Pro: virtual simulation test

Display type	LCD 480 x 272 pixels with single line diagram
Number of key	7 customizable
Local signalling	4 x LED device status 10 x LED tri-colour programmable
Height	176 mm
Width	152 mm
Depth	219 mm
Net weight	3.5 kg

Environment

climatic withstand	Exposure to dry heat conforming to EN/IEC 60068-2-2 Exposure to cold conforming to EN/IEC 60068-2-1 Exposure to damp heat in service conforming to EN/IEC 60068-2-30 Exposure to damp heat in service conforming to EN/IEC 60068-2-78 Temperature variation conforming to IEC 60068-2-14 Salt mist conforming to IEC 60068-2-52 Influence of corrosion/gas test 2 conforming to IEC 60068-2-60 Influence of corrosion/gas test 4 conforming to IEC 60068-2-60 Influence of corrosion/gas test 2 conforming to IEC 60721-3-3 Influence of corrosion/gas test 4 conforming to IEC 60721-3-3
Mechanical robustness	Vibrations (level: class 2) conforming to IEC 60255-21-1 Vibrations conforming to GOST 17516.1 Vibrations conforming to IACS E10 Shocks (level: class 2) conforming to IEC 60255-21-2 Earthquakes (level: class 2) conforming to IEC 60255-21-3
Electromagnetic compatibility	Emission tests class A conforming to CISPR 11 Emission tests class A conforming to CISPR 32 Emission tests conforming to IACS E10 EMC immunity class 4 conforming to IEC 61000-4-2 EMC immunity level 3 conforming to IEC 61000-4-3 EMC immunity level 4 conforming to IEC 61000-4-4 EMC immunity level 4 conforming to IEC 61000-4-5 EMC immunity level 3 conforming to IEC 61000-4-6 EMC immunity level 5 conforming to IEC 61000-4-8 EMC immunity level 5 conforming to IEC 61000-4-9 EMC immunity level 5 conforming to IEC 61000-4-10 EMC immunity conforming to IEC 61000-4-12 EMC immunity level 4 conforming to IEC 61000-4-16 EMC immunity level 3 conforming to IEC 61000-4-18 EMC immunity conforming to ANSI C37.90.1 EMC immunity conforming to ANSI C37.90.2 EMC immunity class 4 conforming to ANSI C37.90.3 EMC immunity conforming to GOST 30804.4.3 EMC immunity conforming to GOST 30804.4.12 EMC immunity conforming to GOST 32137 EMC immunity conforming to IACS E10
Ambient air temperature for operation	-40…85 °C (16 h) -40…70 °C (96 h)
Ambient air temperature for storage	-40…85 °C
IP degree of protection	IP54 front conforming to IEC 60529
maximum operating altitude	2000 m
Protective treatment	Conformal coating conforming to IEC 60068-2-52:Kb/1 Conformal coating conforming to IEC 60068-2-60:Ke Conformal coating conforming to IEC 60721-3-3:3C2
Relative humidity	0…93 % at 40 °C, without condensation, 56 days 93…95 % at 25…55 °C, 6 cycles, 12 + 12 hours

Packing Units

Unit Type of Package 1	PCE
Number of Units in Package 1	1

Package 1 Height	30 cm
Package 1 Width	30 cm
Package 1 Length	40 cm
Package 1 Weight	4.5 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)

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

Carbon footprint (kg.eq.CO2 per CR, Total Life cycle)	628
Environmental Disclosure	Product Environmental Profile

Use Better

Materials and Substances

Packaging made with recycled cardboard	Yes
Packaging without single use plastic	No
EU RoHS Directive	Compliant with Exemptions
REACh Regulation	REACh Declaration
China RoHS Regulation	China RoHS declaration

Use Again

Repack and remanufacture

Circularity Profile	End of Life Information
Take-back	No