



### Main

Range of product	Easergy P5
Product or component type	Protection relay
Relay application	Feeder - directional over current
Product reference	P5F30-BACB-GABAH-AAAA
Mounting case size	30TE
Device mounting	Flush
Mounting mode	Withdrawable
Power supply	100...230 V AC 48...250 V DC
Measuring inputs	Phase current : 1/5 A CT (x3) Residual current : 1/5 A CT (x1) Residual current : 1 A CT (x1) Voltage : VT (x4)
Number of sensors	0 temperature sensor(s) 0 arc sensor(s)
Number of Digital Inputs (DI)	16
Number of Digital Outputs (DO)	1 watchdog 11 DO
Number of analogue inputs	0
Number of analogue outputs	0
Communication ports	2 x RJ45 (rear) 2 x USB port (front) 1 x extension port with backup memory (rear)
Communication protocols	IEC 61850 ed. 2 Modbus TCP IEC 61850 ed. 1 DNP3 over ethernet Ethernet/IP
Redundancy communication port protocol	RSTP
Cybersecurity	Password protection Port hardening
Protection functions	Cold load pick-up Switch ON to fault (SOTF) Phase overcurrent ANSI:50/51 Directional phase overcurrent ANSI:67 Earth fault overcurrent ANSI:50N/51N

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

Directional earth fault ANSI:67N  
 Transient earth fault ANSI:67NI  
 Capacitor bank unbalance ANSI:2  
 Broken conductor ANSI:46 I2/I1  
 Breaker failure ANSI:50BF  
 Directional active underpower ANSI:37P  
 Recloser ANSI:79  
 Negative sequence overcurrent ANSI:46  
 Overvoltage ANSI:59  
 Undervoltage ANSI:27  
 Earth fault overvoltage ANSI:59N  
 Underfrequency ANSI:81/81N  
 Rate of change of frequency ANSI:81R  
 Synchro-check ANSI:25  
 Lockout relay ANSI:86  
 H2 detection  
 H5 detection  
 Programmable stages ANSI:99  
 Programmable curve  
 VT supervision  
 Fault locator ANSI:21FL  
 CT supervision

Measurement functions	Current 3-phase Current zero sequence Current positive sequence Current negative sequence Current ratio of negative and positive Voltage zero sequence Voltage positive sequence Voltage negative sequence Current 2nd, 15th harmonics with THD Phasor diagram of currents or voltages Voltage 3-phase Voltage residual Frequency
Control functions	Local/remote control Programmable switchgear interlocking Switchgear control and monitoring
Controllable switchgear devices	6 controlled + 2 monitored objects
Number of setting groups	4
Monitoring functions	Trip circuit supervision ANSI:74 Circuit breaker monitoring Relay self-monitoring
Logs and records	Disturbance recording Tripping context Event recording Relay maintenance
Switchgear diagnosis type	CT/VT supervision ANSI:60 Trip circuit supervision ANSI:74
Connections - terminals	Screw digital input/output Ring lugs analog inputs and outputs

## Complementary

Time synchronisation protocol	SNTP
Web server	Embedded HTTP server
Software name	ESetup Easergy Pro virtual simulation test EcoStruxure Power Device
Number of key	7 customizable
Local signalling	LED 4 LED 10 tri-colour programmable
Height	176 mm
Width	152 mm
Depth	219 mm
Product weight	3.5 kg

## Environment

Electromagnetic compatibility	<p>Emission tests class A conforming to CISPR 11  Emission tests class A conforming to CISPR 22  Emission tests conforming to IACS E10  EMC immunity class 4 conforming to IEC 61000-4-2  EMC immunity class 4 conforming to ANSI C37.90.3  EMC immunity level 3 conforming to IEC 61000-4-3  EMC immunity conforming to ANSI C37.90.2  EMC immunity conforming to GOST 32137  EMC immunity conforming to GOST 30804.4.3  EMC immunity conforming to IACS E10  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 level 3 conforming to IEC 61000-4-6  EMC immunity level 3 conforming to IEC 61000-4-18  EMC immunity conforming to ANSI C37.90.1  EMC immunity conforming to IEC 61000-4-12  EMC immunity conforming to GOST 30804.4.12  EMC immunity level 4 conforming to IEC 61000-4-16  EMC immunity level 4 conforming to IEC 61000-4-4  EMC immunity level 4 conforming to IEC 61000-4-5</p>
Mechanical robustness	<p>Vibrations class 2 conforming to IEC 60255-21-1  Vibrations conforming to GOST 17516.1  Vibrations conforming to IACS E10  Shocks class 2 conforming to IEC 60255-21-2  Earthquakes class 2 conforming to IEC 60255-21-3</p>
Climatic withstand	<p>Salt mist conforming to IEC 60068-2-52  Exposure to cold conforming to IEC 60068-2-1  Exposure to dry heat conforming to IEC 60068-2-2  Exposure to damp heat in service conforming to IEC 60068-2-78  Exposure to damp heat in service conforming to IEC 60068-2-30  Temperature variation conforming to IEC 60068-2-14  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</p>
Ambient air temperature for operation	<p>-40...85 °C (16 h )  -40...70 °C (96 h )</p>
Ambient air temperature for storage	-40...85 °C
IP degree of protection	IP54 conforming to IEC 60529
Relative humidity	<p>0...93 % at 40 °C 56 days without condensation  93...95 % at 25...55 °C 12 + 12 hours 6 cycles</p>
Maximum operating altitude	2000 m
Protective treatment	<p>Conformal coating IEC 60068-2-52 Kb/1  Conformal coating IEC 60068-2-60 Ke  Conformal coating IEC 60721-3-3 3C2</p>

## Contractual warranty

Warranty period	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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