

# Product data sheet

Specifications



## Easergy P3U 3LPCT+Io+5LPVT 16DI 8DO 48-230V DI24V RS485

REL52078

### Main

Range of product	Easergy P3
Product or component type	Protection relay
Relay application	Universal
Product reference	P3U30-7AAA1CBAA
Device mounting	Flush
Power supply	48...230 V AC/DC
Measuring inputs	: LPCT phase current 3 : 1/5 A CT residual current 1 : LPVT voltage 5
Number of sensors	0 temperature sensor(s) 0 arc sensor(s)
Number of Digital Inputs (DI)	16
Number of Digital Outputs (DO)	8 DO 1 watchdog
Number of analogue inputs	0
Number of analogue outputs	0
Communication ports	USB port 1 front RS485 1 rear
Communication protocols	IEC 60870-5-101 IEC 60870-5-103 DNP3 Modbus RTU DeviceNet SPAbus
Cybersecurity	Password protection Port hardening
Protection functions	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 I2/1 Cold load pick-up H2 detection 68H2 H5 detection 68H5 Breaker failure 50BF Switch ON to fault (SOTF) Directional active underpower 37P Fault locator 21FL Recloser 79 Phase undercurrent 37 Excessive starting time, locked rotor 48/51LR Motor restart inhibition 66 Capacitor overvoltage 59C

Negative sequence overcurrent 46  
 Overvoltage 59  
 Undervoltage 27  
 Positive sequence undervoltage 27P  
 Earth fault overvoltage 59N  
 Underfrequency 81/81N  
 Rate of change of frequency 81R  
 Synchro-check 25  
 Lockout relay 86  
 CT supervision 60  
 VT supervision 60  
 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 $\phi$ Tan $\phi$ Power angle Power factor Voltage phasor diagram view Current phasor diagram view Current 2nd, 15th harmonics with THD Voltage 2nd, 15th harmonics with THD Condition monitoring CB wear Voltage interruption
<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
<b>Controllable switchgear devices</b>	4 controlled + 8 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) Pin removable (current transformer) Pin removable (voltage transformer)

## Complementary

<b>Operating threshold</b>	24 V AC/DC
<b>Display type</b>	and LCD 128 x 64 pixels with single line diagram
<b>Number of key</b>	2 customizable
<b>Local signalling</b>	4 LEDs 8 LEDs programmable

<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 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
<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
<b>Climatic withstand</b>	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
<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 Height</b>	29.0 cm
<b>Package 1 Width</b>	30.0 cm
<b>Package 1 Length</b>	40.0 cm
<b>Package 1 Weight</b>	3.51 kg

## Offer Sustainability

<b>Sustainable offer status</b>	Green Premium product
<b>REACH Regulation</b>	<a href="#">REACH Declaration</a>
<b>EU RoHS Directive</b>	Pro-active compliance (Product out of EU RoHS legal scope) <a href="#">EU RoHS Declaration</a>

<b>Mercury free</b>	Yes
<b>RoHS exemption information</b>	Yes
<b>China RoHS Regulation</b>	China RoHS declaration
<b>Environmental Disclosure</b>	Product Environmental Profile
<b>Circularity Profile</b>	End of Life Information

**Recommended replacement(s)**