

# Product data sheet

Specifications



motor protection relay, PowerLogic  
P3M32 6CT 3lo ringlug 4VT 12DI  
14DO 110-230V DI110V RS485  
RJ45 ANSI

REL52121

Product availability: Stock - Normally stocked in distribution facility

Price\*: 4,877.81 USD

## Main

|                                |  |
|--------------------------------|--|
| Range Of Product               | PowerLogic P3  |
| Product Or Component Type      | Protection relay   |
| Relay Application              | Motor  |
| Product Reference              | P3M32-CGG1A-AA1FA-BBAAB  |
| Mounting Case Size             | 30TE   |
| Device Mounting                | Flush  |
| Mounting Mode                  | Flush mounting   |
| Power Supply                   | 48...230 V AC/DC   |
| Measuring Inputs               | 6 1/5 A CT phase current<br>2 5/1 A CT residual current<br>1 1/0.2 A CT residual current<br>4 100 V/110 V VT voltage   |
| Number Of Sensors              | 0 temperature sensor(s)<br>0 arc sensor(s)   |
| Number Of Digital Inputs (Di)  | 12   |
| Number Of Digital Outputs (Do) | 14 DO<br>1 watchdog  |
| Number Of Analogue Inputs      | 0  |
| Number Of Analogue Outputs     | 0  |
| Communication Ports            | Front USB port 1<br>Rear RJ45 1<br>Rear RS485 1  |
| Communication Protocols        | IEC 61850 ed. 1<br>IEC 61850 ed. 2<br>IEC 60870-5-101<br>DNP3 TCP<br>Modbus TCP<br>EtherNet/IP<br>IEC 60870-5-103<br>DNP3<br>Modbus RTU<br>DeviceNet<br>SPAbus |
| Cybersecurity                  | Password protection<br>Port hardening  |

Price is "List Price" and may be subject to a trade discount – check with your local distributor or retailer for actual price.

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  | Synchro-check 25                              |
|                       | Undervoltage 27                               |
|                       | Directional active underpower 32              |
|                       | Phase undercurrent 37                         |
|                       | Negative sequence overcurrent 46              |
|                       | Phase sequence 46                             |
|                       | Excessive starting time, locked rotor 48/51LR |
|                       | Thermal overload protection 49                |
|                       | Earth fault overcurrent 50N/51N               |
|                       | Phase overcurrent 50/51                       |
|                       | Breaker failure 50BF                          |
|                       | Switch ON to fault (SOTF)                     |
|                       | Capacitor bank unbalance 51C                  |
|                       | Capacitor overvoltage 59C                     |
|                       | Overvoltage 59                                |
|                       | Earth fault overvoltage 59N                   |
|                       | Stator earth fault 64S                        |
|                       | Restricted earth fault 64REF                  |
|                       | Motor restart inhibition 66                   |
|                       | Directional phase overcurrent 67              |
|                       | Directional earth fault 67N                   |
|                       | Magnetising inrush detection 68F2             |
|                       | H5 detection 68H5                             |
|                       | Underfrequency 81/81N                         |
|                       | Rate of change of frequency 81R               |
|                       | Lockout relay 86                              |
|                       | Machine differential 87M                      |
|                       | Programmable stages 99 8                      |
|                       | Programmable curve                            |
|                       | Cold load pick-up                             |
|                       | CT supervision 60                             |
|                       | VT supervision 60FL                           |
| <hr/>                 |   |
| Arc Flash Protection  | No  |
| <hr/>                 |   |
| Relay Type            | Differential current relay                    |
| <hr/>                 |   |
| 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                        |
|                       | Earth fault reactance                         |
|                       | Frequency                                     |
|                       | Active power                                  |
|                       | RMS active power                              |
|                       | Reactive power                                |
|                       | RMS reactive power                            |
|                       | Apparent power                                |
|                       | RMS apparent power                            |
|                       | Active energy                                 |
|                       | Reactive energy                               |
|                       | Cos $\varphi$                                 |
|                       | Tan $\varphi$                                 |
|                       | 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                          |

|                                 |   |
|---------------------------------|---|
| Control Functions               | Switchgear control and monitoring<br>Programmable switchgear interlocking<br>Local control on single-line diagram<br>Local control with I/O keys<br>Local/remote control<br>2 function keys<br>Mobile application with Easergy SmartApp<br>Web-server<br>Programmable logic |
| Controllable Switchgear Devices | 6 controlled + 6 displayed  |
| Number Of Setting Groups        | 4   |
| Monitoring Functions            | Trip circuit supervision 74<br>Circuit breaker monitoring<br>Relay self-monitoring  |
| Logs And Records                | Event recording<br>Disturbance recording<br>Tripping context  |
| Switchgear Diagnosis Type       | CT/VT supervision<br>Trip circuit supervision TCS   |
| Connections - Terminals         | Screw removable (digital input/output)<br>Ring lugs fixed (current transformer)<br>Pin removable (voltage transformer)  |

## Complementary

|                               |   |
|-------------------------------|---|
| Operating Threshold           | 110 V AC/DC   |
| Time Synchronisation Protocol | SNTP  |
| Software Name                 | ESetup Easergy Pro virtual simulation test<br>Easergy SmartApp                          |
| Web Server                    | Embedded HTTP server  |
| Display Type                  | LCD 128 x 128 pixels with single line diagram<br>LCD 128 x 128 pixels with ANSI symbols |
| Number Of Key                 | 2 customizable  |
| Local Signalling              | 2 LEDs<br>16 LEDs programmable  |
| Height                        | 6.93 in (176 mm)  |
| Width                         | 10.63 in (270 mm)   |
| Depth                         | 9.06 in (230 mm)  |
| Net Weight                    | 9.26 lb(US) (4.2 kg) maximum  |

## Environment

|                                       |   |
|---------------------------------------|---|
| Electromagnetic Compatibility         | Emission tests IEC/EN 60255-26 ed. 3<br>Emission tests class A CISPR 11<br>Emission tests class A CISPR 22<br>EMC immunity IEC/EN 60255-26 ed. 3<br>EMC immunity EN/IEC 61000-4-18<br>EMC immunity IEC 60255-22-1<br>EMC immunity level 4 EN/IEC 61000-4-2<br>EMC immunity IEC 60255-22-2<br>EMC immunity level 3 EN/IEC 61000-4-3<br>EMC immunity IEC 60255-22-3<br>EMC immunity level 4 EN/IEC 61000-4-4<br>EMC immunity IEC 60255-22-4<br>EMC immunity level 3 EN/IEC 61000-4-5<br>EMC immunity IEC 60255-22-5<br>EMC immunity level 3 EN/IEC 61000-4-6<br>EMC immunity IEC 60255-22-6<br>EMC immunity EN/IEC 61000-4-8<br>EMC immunity level 5 EN/IEC 61000-4-9<br>EMC immunity EN/IEC 61000-4-29<br>EMC immunity EN/IEC 61000-4-11<br>EMC immunity EN/IEC 61000-4-17<br>EMC immunity IEC 60255-27<br>EMC immunity class III IEC 60255-5<br>EMC immunity EN/IEC 60255-1 |
| Mechanical Robustness                 | Vibrations class II) IEC 60255-21-1<br>VibrationsFc IEC 60068-2-6<br>Shocks class II) IEC 60255-21-2<br>ShocksEa IEC 60068-2-27<br>Seismic tests method A class II) IEC 60255-21-3  |
| Climatic Withstand                    | Exposure to dry heat Bd EN/IEC 60068-2-2<br>Exposure to cold Ad EN/IEC 60068-2-1<br>Exposure to damp heat in service Db EN/IEC 60068-2-30<br>Exposure to damp heat in service Cab EN/IEC 60068-2-78   |
| Ambient Air Temperature For Operation | -40...149 °F (-40...65 °C)  |
| Ambient Air Temperature For Storage   | -40...158 °F (-40...70 °C)  |
| Ip Degree Of Protection               | IP54 front IEC 60529  |
| Relative Humidity                     | 0...95 %, without condensation  |
| Maximum Operating Altitude            | 6561.68 ft (2000 m)   |
| Protective Treatment                  | Conformal coating   |

## Ordering and shipping details

|                   |               |
|-------------------|---------------|
| Category          | US1PL1S11405  |
| Discount Schedule | PL1S          |
| Gtin              | 3606481499943 |
| Returnability     | No            |
| Country Of Origin | US            |

## Packing Units

|                              |                       |
|------------------------------|-----------------------|
| Unit Type Of Package 1       | PCE                   |
| Number Of Units In Package 1 | 1                     |
| Package 1 Height             | 15.75 in (40 cm)      |
| Package 1 Width              | 11.81 in (30 cm)      |
| Package 1 Length             | 11.81 in (30 cm)      |
| Package 1 Weight             | 10.14 lb(US) (4.6 kg) |

## Contractual warranty

**Warranty**

Up to 10 years (Standard warranty 2 years. Please check with your local SE representative for extended warranty availability and conditions)

# Sustainability

**Green Premium™ label** is Schneider Electric’s commitment to delivering products with best-in-class environmental performance. Green Premium promises compliance with the latest regulations, transparency on environmental impacts, as well as circular and low-CO<sub>2</sub> products.

**Guide to assessing product sustainability** is a white paper that clarifies global eco-label standards and how to interpret environmental declarations.

[Learn more about Green Premium >](#)

[Guide to assess a product’s sustainability >](#)



## Transparency

|                          |  |
|--------------------------|--|
| Reach Regulation         | <a href="#">REACH Declaration</a>  |
| Eu Rohs Directive        | Compliant with Exemptions  |
| China Rohs Regulation    | <a href="#">China RoHS declaration</a>   |
| Environmental Disclosure | <a href="#">Product Environmental Profile</a>  |
| Weee                     | The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins. |
| Circularity Profile      | <a href="#">End of Life Information</a>  |