

# เอกสารข้อมูลผลิตภัณฑ์

ข้อมูลจำเพาะ



รีเลย์ป้องกันและควบคุม, PowerLogic P 7, มาตรฐานมอเตอร์, 5CT, 4VT, 24BI, 20BO, 24-34V, ethernet RJ45

REL72500

## Main

|                                        |                                                                                                     |
|----------------------------------------|-----------------------------------------------------------------------------------------------------|
| Range of product                       | PowerLogic P7                                                                                       |
| Product or component type              | Protection and control relay                                                                        |
| Relay application                      | Motor application and bay control                                                                   |
| product reference                      | P7                                                                                                  |
| Mounting case size                     | 40TE                                                                                                |
| Device mounting                        | Flush                                                                                               |
| Mounting support                       | 19" rack                                                                                            |
| Mounting mode                          | Flush mounting<br>Rack-mounted                                                                      |
| power supply                           | 24...34 V DC                                                                                        |
| measuring inputs                       | 4 CT 1/5 A<br>1 CT 1 A<br>4 VT                                                                      |
| number of Digital Inputs (DI)          | 24                                                                                                  |
| number of analogue inputs              | 8 RTD optional                                                                                      |
| number of Digital Outputs (DO)         | 20<br>1 watchdog                                                                                    |
| type of temperature module connection  | 2 twisted, type A, shielded wires (RS485)                                                           |
| communication ports                    | 1 CAN port<br>1 Ethernet TCP/IP<br>2 SFP ports<br>1 USB port<br>1 COM serial link                   |
| communication protocols                | Modbus serial and TCP<br>DNP3 serial and TCP<br>IEC 61850 Ed 2.1<br>IEC 61869-9<br>IEC 61850-9-2 LE |
| Redundancy communication port protocol | HSR<br>PRP<br>RSTP<br>Failover                                                                      |

การดูแลสิทธิ์: เอกสารนี้ไม่มีวัตถุประสงค์เพื่อใช้แทน หรือใช้เพื่อกำหนดความเหมาะสม หรือความน่าเชื่อถือของผลิตภัณฑ์เหล่านี้สำหรับการใช้งานเฉพาะทาง

|                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Cybersecurity         | IEC 62443 SL2<br>LDAP<br>RADIUS based user authentication<br>Port hardening<br>Role-based access control<br>Secure boot<br>Security log<br>Syslog protocol support<br>Secured communication with associated tools<br>Password protection<br>Firmware signature<br>Client IP address filter<br>Pre-login banner<br>Security policy management                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| protection functions  | Phase overcurrent 50/51<br>Ground fault protection 50N/51N<br>Sensitive earth fault overcurrent 50G/51G<br>Negative sequence overcurrent 46<br>Inrush detection 68<br>Phase undercurrent 37<br>Undervoltage 27<br>Overvoltage 59<br>Positive sequence undervoltage 47<br>Overfrequency 81O<br>Underfrequency 81U<br>High impedance differential 64REF<br>Motor differential 87M<br>Thermal overload for machines 49<br>Temperature monitoring (8 or 16 RTDs) 38/49T<br>Startup motoring 48<br>Locked rotor 51LR<br>Motor restart inhibition 66<br>Voltage check 47<br>Overspeed 12<br>Underspeed (2 set points) 14<br>Field loss (underimpedance) 40<br>Underimpedance 21<br>Out of step 78PS<br>CT supervision 60<br>VT supervision 60FL<br>Breaker failure 50 BF<br>Programmable logic        |
| measurement functions | Current 3-phase<br>RMS current 3-phase<br>Current sequence<br>Current 1-phase<br>RMS current 1-phase<br>Voltage 3-phase<br>RMS voltage 3-phase<br>Voltage sequence<br>Voltage 1-phase<br>RMS voltage 1-phase<br>Power fundamental frequency<br>Power factor<br>Active power fundamental frequency<br>Apparent power fundamental frequency<br>Reactive power fundamental frequency<br>RMS active power minimum<br>RMS reactive power maximum<br>RMS apparent power maximum<br>Active power demand maximum<br>Active power demand minimum<br>Reactive power demand maximum<br>Reactive power demand minimum<br>Apparent power demand maximum<br>Apparent power demand minimum<br>RMS phase current demand maximum<br>RMS phase current demand minimum<br>Earth fault current external measurement |
| control functions     | Switchgear control and monitoring<br>Programmable switchgear interlocking<br>Local/remote control<br>Programmable logic<br>Remote control<br>Function keys                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

|                                 |                                                                                                                                                              |
|---------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| controllable switchgear devices | 10 controlled objects                                                                                                                                        |
| number of setting groups        | 8                                                                                                                                                            |
| monitoring functions            | Circuit breaker monitoring<br>Switch monitoring<br>Relay self-monitoring<br>Trip circuit supervision 74<br>Event counters<br>Watchdog                        |
| logs and records                | Disturbance recording<br>Event recording<br>Fault recording<br>Operation log                                                                                 |
| Switchgear diagnosis type       | CT/VT supervision ANSI code: 60<br>Auxiliary power supply monitoring<br>Cumulative breaking current<br>Number of operations<br>DC battery voltage monitoring |
| Connections - terminals         | Screw type terminals (digital input/output<br>Ring terminal (analogue input                                                                                  |

## Complementary

|                                |                                                                                                                                                                                      |
|--------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Input power interruption       | 50 ms                                                                                                                                                                                |
| Maximum power consumption in W | 24 W typical                                                                                                                                                                         |
| Operating threshold            | 24 V DC                                                                                                                                                                              |
| Time synchronisation protocol  | IRIG-B<br>SNTP<br>IEEE 1588                                                                                                                                                          |
| Software name                  | PowerLogic Engineering Suite                                                                                                                                                         |
| Display type                   | Colour touchscreen 800 x 640 pixels                                                                                                                                                  |
| Display size                   | 7 inch                                                                                                                                                                               |
| Information displayed          | Single line diagram<br>Menu-driven user interface                                                                                                                                    |
| Control button type            | 1 home physical key<br>1 reset physical key<br>12 customizable virtual function keys                                                                                                 |
| Local signalling               | 4 LEDs red/orange device status<br>24 LEDs tri-colour programmable                                                                                                                   |
| Communication compatibility    | DNP3<br>Modbus<br>IEC 61850 Ed 2.1                                                                                                                                                   |
| Device connection              | Connection to a PC USB<br>Extension port extension cable<br>Ethernet port RJ45<br>Serial port RS485 cable<br>SFP redundant Ethernet port fibre optic/RJ45 multi/single mode optional |
| Product certifications         | cUL listed<br>UKCA<br>KETOP<br>CE<br>DNV                                                                                                                                             |
| Height                         | 178 mm                                                                                                                                                                               |
| Width                          | 205.2 mm                                                                                                                                                                             |
| Depth                          | 282 mm                                                                                                                                                                               |
| Net weight                     | 8.8 kg maximum                                                                                                                                                                       |

# Environment

|                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|---------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| climatic withstand                    | Exposure to cold Ae conforming to IEC 60068-2-1<br>Exposure to dry heat Be conforming to IEC 60068-2-2<br>Exposure to damp heat in service Cab conforming to IEC 60068-2-78<br>Temperature variation Nb conforming to IEC 60068-2-14<br>Exposure to damp heat not in service Cab conforming to IEC 60068-2-30<br>Salt mist Kb/1 conforming to IEC 60068-2-52<br>Influence of corrosion/gas test 2 Ke conforming to IEC 60068-2-60<br>Influence of corrosion/gas test 4 Ke conforming to IEC 60068-2-60                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Mechanical robustness                 | Vibrations (level: class 2 conforming to IEC 60255-21-1<br>Shocks (level: class 2 conforming to IEC 60255-21-2<br>Shocks (level: class 1 conforming to IEC 60255-21-2<br>Bumps (level: class 1 conforming to IEC 60255-21-2<br>Seismic tests (level: class 2 conforming to IEC 60255-21-3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Electromagnetic compatibility         | Electromagnetic immunity class A conforming to CISPR 11<br>Electromagnetic immunity class A conforming to CISPR 22<br>Electromagnetic immunity level 3 conforming to IEC 6100-4-3<br>Radiated radio-frequency electromagnetic field immunity test conforming to ANSI C37.90.2<br>Electrostatic discharge level 4 conforming to IEC 6100-4-2<br>Electrostatic discharge conforming to ANSI C37.90.3<br>Immunity to magnetic fields level 4 conforming to IEC 61000-4-8<br>Immunity to magnetic fields level 5 conforming to IEC 61000-4-9<br>Immunity to magnetic fields level 5 conforming to IEC 61000-4-10<br>Conducted RF disturbances level 3 conforming to IEC 61000-4-6<br>Fast transient bursts level 4 conforming to IEC 61000-4-4<br>Damped oscillatory wave level 3 conforming to IEC 61000-4-18<br>Damped oscillatory wave conforming to ANSI C37.90.1<br>Damped oscillatory wave level 3 conforming to IEC 61000-4-12<br>Conducted disturbance emission A conforming to IEC 61000-4-16<br>Surges level 4 conforming to IEC 61000-4-5 |
| Ambient air temperature for operation | -40...70 °C ( 96 h                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Ambient air temperature for storage   | -40...85 °C (96 h)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| IP degree of protection               | IP54 front conforming to IEC 60529<br>IP30 case conforming to IEC 60529<br>IP20 rear conforming to IEC 60529                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| IK degree of protection               | IK07 conforming to IEC 62262                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| maximum operating altitude            | 2000 m                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Protective treatment                  | Conformal coating conforming to IEC 60068-2-52:Kb/1<br>Conformal coating conforming to IEC 60068-2-60:Ke                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Relative humidity                     | 0...93 % at 40 °C, without condensation, 56 days                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

# 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             | 8.217 kg |

# Contractual warranty

|                          |    |
|--------------------------|----|
| การรับประกัน (เป็นเดือน) | 24 |
|--------------------------|----|

Schneider Electric ให้ความสำคัญที่จะบรรลุสถานะ Net Zero ภายในปี 2050 ด้วยความร่วมมือในห่วงโซ่อุปทาน วัสดุที่มีผลกระทบต่อสิ่งแวดล้อม และการหมุนเวียนผ่านแคมเปญ "Use Better, Use Longer, Use Again" เพื่อยืดอายุการใช้งานของผลิตภัณฑ์และการนำกลับมาใช้ใหม่

Environmental Data คืออะไร >

วิธีประเมินความยั่งยืนของผลิตภัณฑ์ >

| ฟุตพริ้นต์ด้านสิ่งแวดล้อม                            |                                               |
|------------------------------------------------------|-----------------------------------------------|
| การปล่อยก๊าซคาร์บอน                                  | 1 709 kg CO2 eq.                              |
| ข้อมูลด้านสิ่งแวดล้อมของผลิตภัณฑ์ (PEP)              | <a href="#">Product Environmental Profile</a> |
| รอยเท้าคาร์บอนของขั้นตอนการผลิต [A1–A3]              | 683 kg CO2 eq.                                |
| รอยเท้าคาร์บอนของขั้นตอนการจัดจำหน่าย [A4]           | 2 kg CO2 eq.                                  |
| รอยเท้าคาร์บอนของขั้นตอนการติดตั้ง [A5]              | 1 kg CO2 eq.                                  |
| รอยเท้าคาร์บอนของขั้นตอนการใช้งาน [B2, B3, B4, B6]   | 1 011 kg CO2 eq.                              |
| รอยเท้าคาร์บอนของขั้นตอนสิ้นสุดอายุการใช้งาน [C1–C4] | 12 kg CO2 eq.                                 |

Use Better

| วัสดุและสาร                            |                                      |
|----------------------------------------|--------------------------------------|
| Packaging made with recycled cardboard | Yes                                  |
| Packaging without single use plastic   | No                                   |
| <a href="#">EU RoHS Directive</a>      | สอดคล้องกับข้อกำหนด                  |
| SCIP Number                            | 7185a990-e1e7-4906-8102-573086cf8d7d |
| REACH Regulation                       | <a href="#">REACH Declaration</a>    |

Use Longer

| การขยาย Life |     |
|--------------|-----|
| ซ่อมแซม      | ไม่ |

Use Again

| บรรจุและผลิตใหม่    |                                                                                                                                                                                                                 |
|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Circularity Profile | <a href="#">End of Life Information</a>                                                                                                                                                                         |
| Take-back           | No                                                                                                                                                                                                              |
| ฉลาก WEEE           |  The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins |

Technical Illustration

Assembly's dimensions

