

# Product data sheet

Specifications



## Direct online starter, TeSys island, 30A AC-1, 25A AC-3, 11kW / 15hp

TPRST025

### Main

|                                             |                                                                                                                                                                                                                                                                                      |
|---------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Range                                       | TeSys                                                                                                                                                                                                                                                                                |
| Product name                                | TeSys island                                                                                                                                                                                                                                                                         |
| Device short name                           | TPRST                                                                                                                                                                                                                                                                                |
| Product or component type                   | Motor starter                                                                                                                                                                                                                                                                        |
| Motor starter type                          | Direct on line                                                                                                                                                                                                                                                                       |
| Device presentation                         | Direct starter connected to an automation controller through a bus coupler<br>Operational only when connected to a bus coupler                                                                                                                                                       |
| Function available                          | Upstream voltage presence detection<br>Electrical line and load protection<br>Power and energy monitoring when connected with TPRVM voltage module                                                                                                                                   |
| Product compatibility                       | TPRBC bus coupler<br>TPRVM voltage interface module                                                                                                                                                                                                                                  |
| Poles description                           | 3P (3 NO)                                                                                                                                                                                                                                                                            |
| Utilisation category                        | AC-1<br>AC-2<br>AC-3<br>AC-4                                                                                                                                                                                                                                                         |
| Motor power kW                              | 5.5 kW at 230 V 50 Hz (AC-3)<br>11 kW at 380...415 V 50 Hz (AC-3)<br>11 kW at 440 V 50 Hz (AC-3)<br>15 kW at 500 V 50 Hz (AC-3)<br>15 kW at 690 V 50 Hz (AC-3)                                                                                                                       |
| Motor power HP (UL / CSA)                   | 2 hp at 120 V AC 60 Hz for 1 phase motors<br>3 hp at 240 V AC 60 Hz for 1 phase motors<br>7.5 hp at 208 V AC 60 Hz for 3 phases motors<br>7.5 hp at 240 V AC 60 Hz for 3 phases motors<br>15 hp at 480 V AC 60 Hz for 3 phases motors<br>20 hp at 600 V AC 60 Hz for 3 phases motors |
| [Ue] rated operational voltage              | <= 480 V AC 47...63 Hz for overvoltage cat. III<br><= 690 V AC 47...63 Hz for overvoltage cat. II                                                                                                                                                                                    |
| [Ie] rated operational current              | 25 A (at <50 °C) at <= 440 V AC-3<br>30 A (at <50 °C) at <= 440 V AC-1                                                                                                                                                                                                               |
| [Ith] conventional free air thermal current | 30 A (at 50 °C)                                                                                                                                                                                                                                                                      |
| [Ui] rated insulation voltage               | 690 V conforming to IEC 60947-4-1<br>600 V conforming to UL 60947-4-1<br>600 V conforming to CSA C22.2 No 60947-4-1                                                                                                                                                                  |
| [Uimp] rated impulse withstand voltage      | 6 kV conforming to IEC 60947-1                                                                                                                                                                                                                                                       |
| Overvoltage category                        | III for Ue <= 480 V<br>II for Ue <= 690 V                                                                                                                                                                                                                                            |

|                                          |                                                                                       |
|------------------------------------------|---------------------------------------------------------------------------------------|
| Thermal protection adjustment range      | 0.5...25 A                                                                            |
| Thermal overload class                   | Class 5...30                                                                          |
| Reset                                    | Remotely or automatically                                                             |
| Irms rated making capacity               | 450 A at 440 V conforming to IEC 60947                                                |
| Rated breaking capacity                  | 450 A at 440 V conforming to IEC 60947                                                |
| [Icw] rated short-time withstand current | 380 A 40 °C - 1 s<br>240 A 40 °C - 10 s<br>120 A 40 °C - 1 min<br>50 A 40 °C - 10 min |
| Average impedance                        | 2 mOhm - Ith 30 A 50 Hz                                                               |
| Power dissipation per pole               | 1.25 W AC-3 - Ith 25 A<br>1.8 W AC-1 - Ith 30 A                                       |
| [Uc] control circuit voltage             | 24 V DC supplied by the bus coupler                                                   |
| Current consumption                      | 160 mA contactor sealed<br>160 mA contactor closing                                   |
| Power dissipation in W                   | 6.6 W at Ie AC-3                                                                      |

### Complementary

|                          |                                                                                                                                                                                                                                                                                                                                                                |
|--------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Mechanical durability    | 30 Mcycles                                                                                                                                                                                                                                                                                                                                                     |
| Electrical durability    | 1.65 Mcycles 25 A AC-3 at Ue 440 V<br>2 Mcycles 30 A AC-1 at Ue 440 V                                                                                                                                                                                                                                                                                          |
| Maximum operating rate   | 3600 cyc/mn AC-3                                                                                                                                                                                                                                                                                                                                               |
| Operating time           | < 100 ms closing<br>< 30 ms opening                                                                                                                                                                                                                                                                                                                            |
| Safety performance level | B10d = 1369863 cycles contactor with nominal load conforming to EN/ISO 13849-1<br>B10d = 20000000 cycles contactor with mechanical load conforming to EN/ISO 13849-1                                                                                                                                                                                           |
| Protection type          | Thermal overload protection<br>Motor overload<br>Overcurrent<br>Undercurrent<br>Jam<br>Long start<br>Stall<br>Rapid cycle lockout<br>Rapid restart lockout<br>Phase sequence<br>Phase reversal<br>Phase loss<br>Phase unbalance<br>Ground current                                                                                                              |
| Monitoring type          | Time device ON<br>Time device switch ON<br>Number of faults<br>Number of switching cycles<br>Number of device power cycles<br>Average current Iavg<br>Average voltage Vavg<br>Max current Imax<br>Max voltage Vmax<br>Active and reactive power with voltage module<br>Active and reactive energy with voltage module<br>True power factor with voltage module |
| Local signalling         | 1 LED (green/red) for DS (device status)<br>1 LED (green/red) for LS (load status)                                                                                                                                                                                                                                                                             |
| Standards                | EN/IEC 60947-1<br>EN/IEC 60947-4-1<br>UL 60947-4-1<br>CSA C22.2 No 60947-4-1                                                                                                                                                                                                                                                                                   |
| Product certifications   | CCC<br>UL<br>CSA<br>EAC                                                                                                                                                                                                                                                                                                                                        |
| Mounting mode            | Horizontal and vertical (35 mm symmetrical DIN rail)                                                                                                                                                                                                                                                                                                           |
| Connections - terminals  | Screw-clamp terminals 1 cable(s) 1.5...10 mm² (AWG 16...AWG 8) rigid<br>Screw-clamp terminals 2 cable(s) 1.5...10 mm² (AWG 16...AWG 8) rigid                                                                                                                                                                                                                   |

|                   |                                                                                                                                                                                                                                                                                                                                                                             |
|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                   | Screw-clamp terminals 1 cable(s) 2.5...10 mm² (AWG 14...AWG 8) flexible without cable end<br>Screw-clamp terminals 2 cable(s) 2.5...10 mm² (AWG 14...AWG 8) flexible without cable end<br>Screw-clamp terminals 1 cable(s) 1.5...10 mm² (AWG 16...AWG 10) flexible with cable end<br>Screw-clamp terminals 2 cable(s) 1.5...6 mm² (AWG 16...AWG 10) flexible with cable end |
| Tightening torque | 2.5 N.m - with screwdriver flat Ø 6 mm<br>2.5 N.m - with screwdriver Philips No 3                                                                                                                                                                                                                                                                                           |
| Width             | 45 mm                                                                                                                                                                                                                                                                                                                                                                       |
| Height            | 121 mm                                                                                                                                                                                                                                                                                                                                                                      |
| Depth             | 115 mm                                                                                                                                                                                                                                                                                                                                                                      |
| Net weight        | 0.718 kg                                                                                                                                                                                                                                                                                                                                                                    |

## Environment

|                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|---------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Ambient air temperature for storage   | -25...70 °C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Ambient air temperature for operation | -10...50 °C without derating<br>50...60 °C with current derating                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Relative humidity                     | 5...95 %                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Operating altitude                    | 0...2000 m without derating                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| IP degree of protection               | IP20                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Pollution degree                      | 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Protective treatment                  | TC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Fire resistance                       | 960 °C conforming to UL 94<br>850 °C conforming to IEC 60695-2-1<br>650 °C conforming to IEC 60695-2-12                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Shock resistance                      | 15 gn (duration = 11 ms) conforming to IEC 60068-2-27                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Vibration resistance                  | 1.5 mm peak to peak (f= 3...13 Hz) conforming to IEC 60068-2-6<br>1 gn (f= 13...200 Hz) conforming to IEC 60068-2-6                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Electromagnetic compatibility         | Electrostatic discharge immunity test, level 3, 8 kV air, 6 kV contact, conforming to EN/IEC 61000-4-2<br>Radiated RF field immunity test, level 3, 10 V/m, conforming to EN/IEC 61000-4-3<br>Fast transient immunity test, level 4, 4 kV, conforming to EN/IEC 61000-4-4<br>Surge immunity test (differential mode), level 3, 2 kV, conforming to EN/IEC 61000-4-5<br>Surge immunity test (common mode), level 4, 4 kV, conforming to EN/IEC 61000-4-5<br>Conducted RF disturbance immunity test, 20 V, conforming to EN/IEC 61000-4-6 |

## Packing Units

|                              |           |
|------------------------------|-----------|
| Unit Type of Package 1       | PCE       |
| Number of Units in Package 1 | 1         |
| Package 1 Weight             | 774.0 g   |
| Package 1 Height             | 3 cm      |
| Package 1 width              | 11 cm     |
| Package 1 Length             | 13 cm     |
| Unit Type of Package 2       | S02       |
| Number of Units in Package 2 | 14        |
| Package 2 Weight             | 11.081 kg |
| Package 2 Height             | 15 cm     |
| Package 2 width              | 30 cm     |
| Package 2 Length             | 40 cm     |

## Offer Sustainability

|                          |                                   |
|--------------------------|-----------------------------------|
| Sustainable offer status | Green Premium product             |
| REACH Regulation         | <a href="#">REACH Declaration</a> |
| EU RoHS Directive        | Compliant                         |

|                                     |                                                                                                                             |
|-------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| <a href="#">EU RoHS Declaration</a> |                                                                                                                             |
| Mercury free                        | Yes                                                                                                                         |
| RoHS exemption information          | <a href="#">Yes</a>                                                                                                         |
| China RoHS Regulation               | <a href="#">China RoHS declaration</a><br>Product out of China RoHS scope. Substance declaration for your information       |
| Environmental Disclosure            | <a href="#">Product Environmental Profile</a>                                                                               |
| Circularity Profile                 | <a href="#">End of Life Information</a>                                                                                     |
| WEEE                                | The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins |
| Halogen content performance         | Halogen free plastic parts product                                                                                          |
| <b>Contractual warranty</b>         |                                                                                                                             |
| Warranty                            | 18 months                                                                                                                   |