Product data sheet
Characteristics

TPRSS009
Direct online SIL starter, TeSys island, 15A AC-1, 9A AC-3, 4kW / 5hp

Main

Range	TeSys
Product name	TeSys island
Device short name	TPRSS
Product or component type	SIL motor starter
Motor starter type	Direct on line
Device presentation	Direct starter connected to an automation controller through a bus coupler Operational only when connected to a bus coupler
Function available	Upstream voltage presence detection Electrical line and load protection Power and energy monitoring when connected with TPRVM voltage module Safe stop function available when connected with a TPRSM module
Product compatibility	TPRBC bus coupler TPRVM voltage interface module TPRSM SIL interface module
Poles description	3P (3 NO)
Utilisation category	AC-1 AC-2 AC-3 AC-4
Motor power kW	2.2 KW at 230 V 50 Hz (AC-3) 4 KW at 380...415 V 50 Hz (AC-3) 4 KW at 440 V 50 Hz (AC-3) 5.5 KW at 500 V 50 Hz (AC-3) 5.5 kW at 690 V 50 Hz (AC-3)
Motor power HP (UL / CSA)	0.33 Hp at 120 V AC 60 Hz for 1 phase motors 1 Hp at 240 V AC 60 Hz for 1 phase motors 2 Hp at 208 V AC 60 Hz for 3 phases motors 2 Hp at 240 V AC 60 Hz for 3 phases motors 5 Hp at 480 V AC 60 Hz for 3 phases motors 7.5 hp at 600 V AC 60 Hz for 3 phases motors
[Ue] rated operational voltage	<= 690 V AC 47...63 Hz
[Ie] rated operational current	9 A (at <50 °C) at <= 440 V AC-3 15 A (at <50 °C) at <= 440 V AC-1
[Ith] conventional free air thermal current	15 A (at 50 °C)
[Ui] rated insulation voltage	690 V conforming to IEC 60947-4-1 600 V conforming to UL 60947-4-1 600 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
Thermal protection adjustment range	0.18…9 A
Thermal overload class	Class 5…30
Reset	Remotely or automatically
Irms rated making capacity	250 A at 440 V conforming to IEC 60947
Rated breaking capacity	250 A at 440 V conforming to IEC 60947
[Icw] rated short-time withstand current	210 A 40 °C - 1 s 105 A 40 °C - 10 s 61 A 40 °C - 1 min 30 A 40 °C - 10 min

Average impedance	2.5 mOhm - Ith 15 A 50 Hz
Power dissipation per pole	0.2 W AC-3 - Ith 9 A 0.56 W AC-1 - Ith 15 A
[Uc] control circuit voltage	24 V DC supplied by the bus coupler
Current consumption	160 mA contactor sealed 160 mA contactor closing
Power dissipation in W	3.5 W at Ie AC-3

Complementary

Mechanical durability	30 Mcycles
Electrical durability	2 Mcycles 9 A AC-3 at Ue 440 V 1.2 Mcycles 15 A AC-1 at Ue 440 V
Maximum operating rate	3600 cyc/mn AC-3
Operating time	< 100 ms closing < 30 ms opening
Safety function	Safe stop: category 0 conforming to IEC 60204-1 when associated with a TPRSM module Safe stop: category 1 conforming to IEC 60204-1 when associated with a TPRSM module
Safety integrity level	SIL 2 conforming to IEC 61508 in single channel system architecture SILCL 2 conforming to IEC 62061 in single channel system architecture PL = d category 2 conforming to ISO 13849-1 in single channel system architecture
Safety performance level	B10d = 1369863 cycles contactor with nominal load conforming to EN/ISO 13849-1 B10d = 20000000 cycles contactor with mechanical load conforming to EN/ISO 13849-1
Protection type	Thermal overload protection Motor overheat Overcurrent Undercurrent Jam Long start Stall Rapid cycle lockout Rapid restart lockout Phase sequence Phase loss Phase reversal Phase unbalance Ground current
Monitoring type	Time device ON Time device switch ON Number of faults Number of switching cycles Number of device power cycles Average current Iavg Average voltage Vavg Max current Imax Max voltage Vmax Active and reactive power with voltage module Active and reactive energy with voltage module True power factor with voltage module
Local signalling	1 LED (green/red)DS (device status): 1 LED (green/red)LS (load status):
Standards	EN/IEC 60947-1 EN/IEC 60947-4-1 UL 60947-4-1 CSA C22.2 No 60947-4-1
Product certifications	EAC UL CSA CCC
Mounting mode	Horizontal and vertical (35 mm symmetrical DIN rail)

Connections - terminals	Screw-clamp terminals 1 cable(s) 1…4 mm² (AWG 16...AWG 12) rigid Screw-clamp terminals 2 cable(s) 1…4 mm² (AWG 16...AWG 12) rigid Screw-clamp terminals 1 cable(s) 1.5…4 mm² (AWG 16...AWG 12) flexible without cable end Screw-clamp terminals 2 cable(s) 1.5…4 mm² (AWG 16...AWG 12) flexible without cable end Screw-clamp terminals 1 cable(s) 1…4 mm² (AWG 16...AWG 12) flexible with cable end Screw-clamp terminals 2 cable(s) 1…2.5 mm² (AWG 16...AWG 14) flexible with cable end
Tightening torque	1.7 N.M - with screwdriver flat Ø 6 mm 1.7 N.m - with screwdriver Philips No 2
Width	45 mm
Height	116 mm
Depth	115 mm
Net weight	0.656 kg

Environment

Ambient air temperature for storage	-25…70 °C
Ambient air temperature for operation	-10…50 °C without derating 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 94 850 °C conforming to IEC 60695-2-1 650 °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 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 Radiated RF field immunity test, level 3, 10 V/m, conforming to EN/IEC 61000-4-3 Fast transient immunity test, level 4, 4 kV, conforming to EN/IEC 61000-4-4 Surge immunity test (differential mode), level 3, 2 kV, conforming to EN/IEC 61000-4-5 Surge immunity test (common mode), level 4, 4 kV, conforming to EN/IEC 61000-4-5 Conducted RF disturbance immunity test, 20 V, conforming to EN/IEC 61000-4-6

Packing Units

Package 1 Weight	618.000 g
Package 1 Height	11.500 cm
Package 1 width	4.500 cm
Package 1 Length	12.000 cm

Offer Sustainability

EU RoHS Directive	Compliant EU RoHS Declaration
Mercury free	Yes
RoHS exemption information	Yes
China RoHS Regulation	China RoHS Declaration
Environmental Disclosure	Product Environmental Profile
Circularity Profile	End Of Life Information
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

Contractual warranty

Warranty	18 months