

Data sheet

Order No.: 1805314

Type: MSTBT 2,5/ 3-STF-5,08

Plug component, Screw connection with tension sleeve



The figure shows a 10-position version of the product

1 Main features



• No. of pos.	3	• Nominal current	12 A
• Conductor cross section	2.5 mm ²	• Nominal voltage	320 V
• Color	green	• Connection direction	0 °
• Pitch	5.08 mm	• Type of packaging	packed in cardboard
• Connection method	Screw connection with tension sleeve		

2 Your advantages

- ✓ Well-known connection principle allows worldwide use
- ✓ Low temperature rise, thanks to maximum contact force
- ✓ Screwable flange for superior mechanical stability
- ✓ Allows connection of two conductors



Make sure you always use the latest documentation.

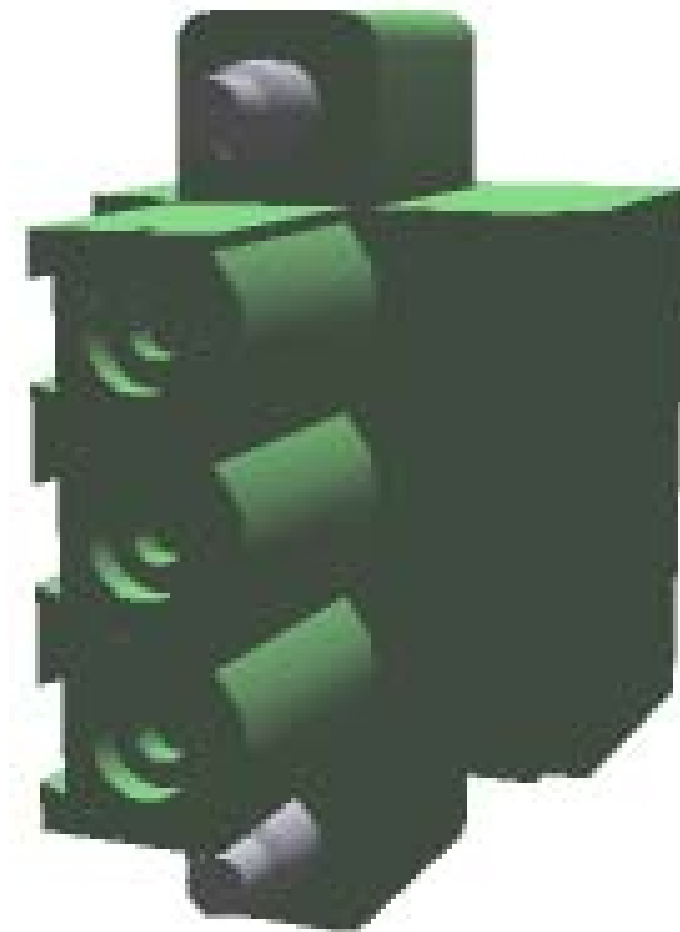
It can be downloaded at: phoenixcontact.net/product/1805314

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4 3D model in PDF can be activated (Acrobat Reader only)



1805314 MSTBT 2,5/ 3-STF-5,08**5 item properties**

Order No.	1805314
Type	MSTBT 2,5/ 3-STF-5,08
Type of contact	Female connector
Range of articles	MSTBT 2,5/..-STF
Pitch	5.08 mm
Number of positions	3
Connection method	Screw connection with tension sleeve
Drive form screw head	Slotted
Screw thread	M3
Tightening torque	0.5 Nm ... 0.6 Nm
Locking	Screw flange

5.1 Connection capacity

Conductor cross section, solid	0.2 mm ² to 2.5 mm ²
Conductor cross section, flexible	0.2 mm ² to 2.5 mm ²
Conductor cross section AWG/kcmil	24 to 12
2 conductors with same cross section, solid	0.2 mm ² to 1 mm ²
2 conductors with same cross section, stranded	0.2 mm ² to 1.5 mm ²
Conductor cross section flexible, with ferrule without plastic sleeve	0.25 mm ² to 2.5 mm ²
Conductor cross section flexible, with ferrule with plastic sleeve	0.25 mm ² to 2.5 mm ²
2 conductors with same cross section, stranded, with ferrule without plastic sleeve	0.25 mm ² to 1 mm ²
2 conductors with same cross section, stranded, with TWIN ferrules with plastic sleeve	0.5 mm ² to 1.5 mm ²
Cylindrical gauge a x b / diameter	2.8 mm x 2.0 mm / 2.4 mm
Stripping length	7 mm

5.2 Material data

Material of metal parts	
Note	WEEE/RoHS-compliant, whisker-free acc. to IEC 60068-2-82/JEDEC JESD 201
Contact material	Cu alloy
Terminal point surface	Sn 5 µm ... 7 µm
Surface contact area	Sn 5 µm ... 7 µm
Surface characteristics	hot-dip tin-plated
Insulating material data	
Insulating material	PA
CTI according to IEC 60112	600
Flammability rating according to UL 94	V0
Color	green (6021)
Glow wire flammability index GWFI according to EN 60695-2-12	850
Glow wire ignition temperature GWIT according to EN 60695-2-13	775
Temperature for the ball pressure test according to EN 60695-10-2	125 °C

6 Dimensions

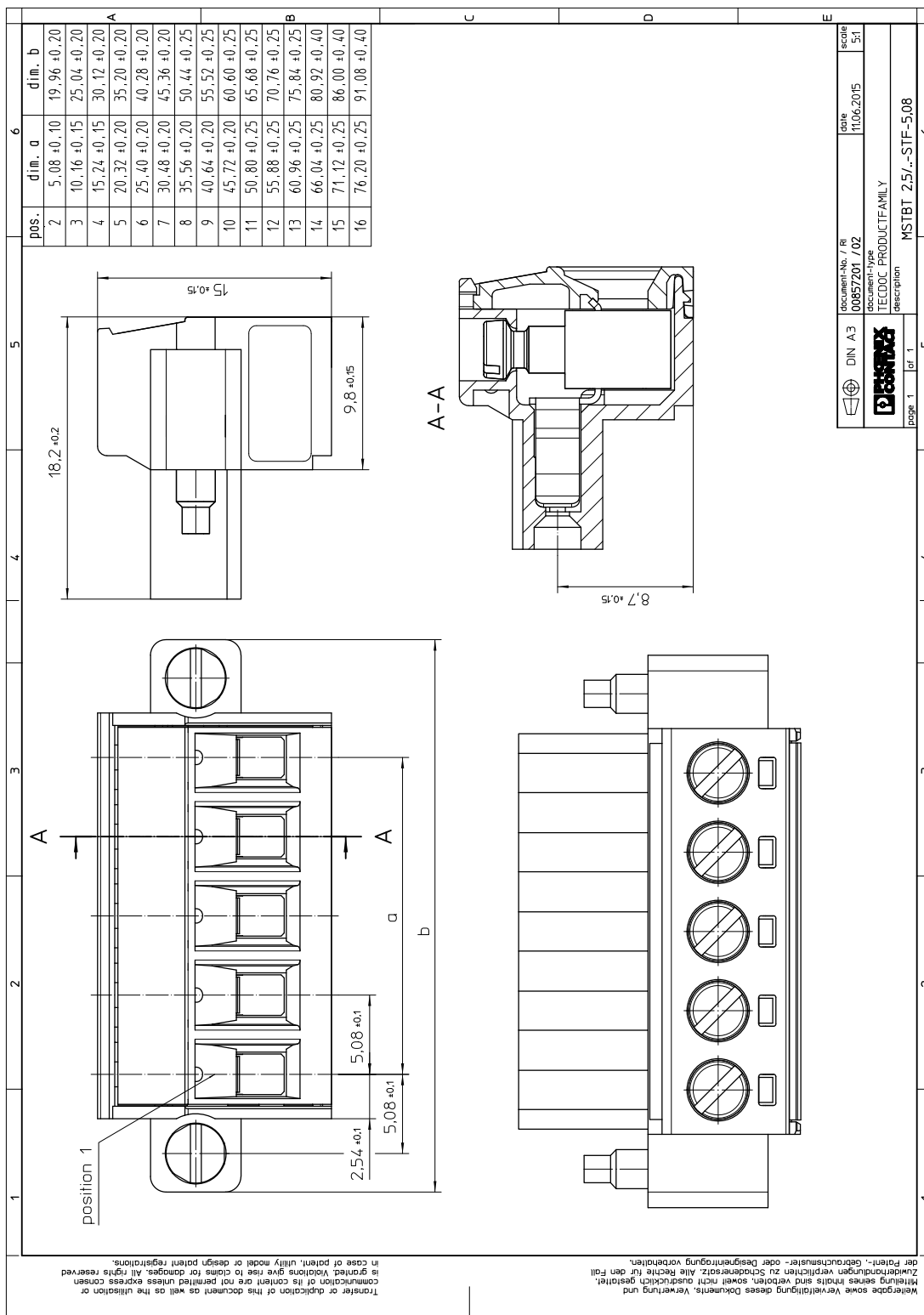
1805314 MSTBT 2,5/ 3-STF-5,08

6.1 Dimensions for the product

Length	18.2 mm
Width	25.04 mm
Total height	15 mm
Dimension a	10.16 mm

1805314 MSTBT 2,5/ 3-STF-5,08

7 Series drawing



1805314 MSTBT 2,5/ 3-STF-5,08**8 Packaging information**

Type of packaging	packed in cardboard
Pieces per package	50

9 Application**9.1 Temperature limit values**

Ambient temperature (storage/transport)	-40 °C ... 70 °C
Ambient temperature (assembly)	-5 °C ... 100 °C
Ambient temperature (operation)	-40 °C (dependent on the derating curve)

1805314 MSTBT 2,5/ 3-STF-5,08**10 Mechanical tests**

Mechanical test group A	
Specification	IEC 61984:2008-10
Visual test	Test passed
Specification	IEC 60512-1-1:2002-02
Dimensional test	Test passed
Specification	IEC 60512-1-2:2002-02
Resistance of marking	Test passed
Specification	IEC 60068-2-70:1995-12
Insertion and withdrawal force	Test passed
Specification	IEC 60512-13-2:2006-02
No. of cycles	25
Insertion strength per pos. approx.	13 N
Withdraw strength per pos. approx.	8 N
Polarization and coding	Test passed
Specification	IEC 60512-13-5:2006-02
Test force	20 N
Contact retention in insert	Test passed
Specification	IEC 60512-15-1:2008-05
Test force per pos.	46 N

10.1 Termination and connection method

Specification	IEC 60999-1:1999-11
Check for damage to conductor or loosening	Test passed

10.2 Pull-out test

Termination and connection method: pull-out test	
Specification	IEC 60999-1:1999-11
Result	Test passed
Conductor cross section/conductor type/tractive force actual value	0.14 mm ² / solid / > 10 N
Conductor cross section/conductor type/tractive force actual value	0.14 mm ² / stranded / > 10 N
Conductor cross section/conductor type/tractive force actual value	2.5 mm ² / solid / > 50 N
Conductor cross section/conductor type/tractive force actual value	2.5 mm ² / stranded / > 50 N

1805314 MSTBT 2,5/ 3-STF-5,08**11 Electrical tests****11.1 Electrical data**

Rated current / conductor cross section	12 A / 2.5 mm ²
Rated insulation voltage (III/2)	320 V
Rated surge voltage (III/2)	4 kV
Contact resistance	1.6 mΩ
Degree of pollution	2

11.2 Air and creepage distances

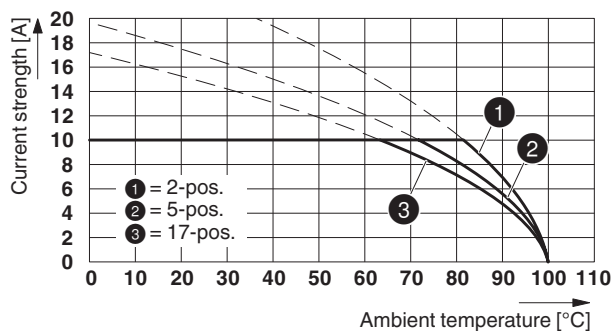
Component	Plug component		
Specification	IEC 60664-1:2007-04		
Mains type	unearthed mains		
Insulating material group	I		
Comparative tracking index (IEC 60112:2003-01)	CTI 600		
Rated insulation voltage	250 V	320 V	630 V
Rated surge voltage	4 kV	4 kV	4 kV
Degree of pollution	3	2	2
Overvoltage category	III	III	II
Minimum clearance case A (inhomogeneous field)	3 mm	3 mm	3 mm
Minimum value of the creepage path requirement in acc. with table	3.2 mm	3 mm	3.2 mm

1805314 MSTBT 2,5/ 3-STF-5,08

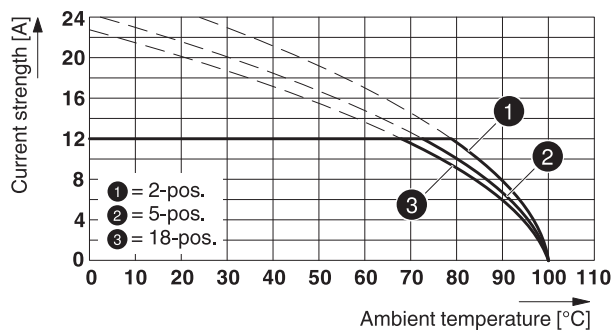
12 Current carrying capacity/derating curves

Specification	IEC 61984:2008-10
Note	Representation based on IEC 60512-5-2:2002-02
Reduction factor	0.8
Number of positions	See diagram
Conductor cross section	2.5 mm ²

Type: MSTBT 2,5/...-STF-5,08 with MDSTB 2,5/...-GF-5,08



Type: MSTBT 2,5/...-STF-5,08 with IC 2,5/...-STGF-5,08



Type: MSTBT 2,5/...-STF-5,08 with MSTB 2,5/...-GF-5,08

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Type: MSTBT 2,5/...-STF-5,08 with MDSTBV 2,5/...-GF-5,08

88375_1000_en

Type: MSTBT 2,5/...-STF-5,08 with CC 2,5/...-GF-5,08 P26THR

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Type: MSTBT 2,5/...-STF-5,08 with CCV 2,5/...-GF-5,08 P26THR

89943_1000_en


1805314 MSTBT 2,5/ 3-STF-5,08**13 Environmental and durability tests****13.1 Vibration test**


Specification	IEC 60068-2-6:2007-12
Result	Test passed
Frequency	10 - 150 - 10 Hz
Sweep speed	1 octave/min
Amplitude	0.35 mm (10 - 60.1 Hz)
Acceleration	5 g (60.1 - 150 Hz)
Test duration per axis	2.5 h
Test directions	X-, Y- and Z-axis


14 Classification for connectors


Specification	IEC 61984:2008-10
Main features	Connectors without switching capacity (COC)
Construction form	Fixed connectors
Strain relief elements	without strain relief
Connection method	Can be reconnected
Protection against electric shock	Not encapsulated - touch-proof when inserted
Protective conductor	without PE
Lock	no
Connection method	Screw terminal points

15 Approvals

CSA 				
Use group	B	D		
mm ² /AWG/kcmil	28-12	28-12		
Voltage	300 V	300 V		
Current	10 A	10 A		

VDE Gutachten mit Fertigungsüberwachung 				
mm ² /AWG/kcmil	0.2-2.5			
Voltage	250 V			
Current	12 A			

IECEE CB Scheme 				
mm ² /AWG/kcmil	0.2-2.5			
Voltage	250 V			
Current	12 A			

cULus Recognized 				
Use group	B	D		
mm ² /AWG/kcmil	30-12	30-12		
Voltage	300 V	300 V		
Current	15 A	10 A		

2017-10-24

Product version 04

Document revision 0

1805314 MSTBT 2,5/ 3-STF-5,08

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1805314 MSTBT 2,5/ 3-STF-5,08**16 Commercial Data**

Order No.	1805314
Type	MSTBT 2,5/ 3-STF-5,08
Pieces per package	50
Net weight	5.882 g
GTIN	4017918046460
	Information that applies locally, see link on page 1
Country of origin	Information that applies locally, see link on page 1

17 corresponding headers

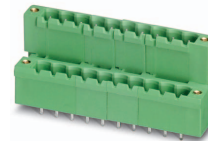
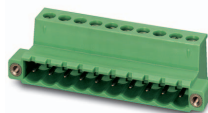
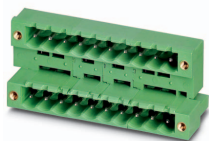
Order No.	Type
1776511	MSTB 2,5/ 3-GF-5,08
1777086	MSTBV 2,5/ 3-GF-5,08
1845646	MDSTBV 2,5/ 3-GF-5,08
1874633	MDSTB 2,5/ 3-GFL-5,08
1874646	MDSTB 2,5/ 3-GFR-5,08
1874675	MDSTBV 2,5/ 3-GFL-5,08
1874688	MDSTBV 2,5/ 3-GFR-5,08
1898648	EMSTBV 2,5/ 3-GF-5,08
1898994	DFK-MSTBA 2,5/ 3-GF-5,08
1899294	DFK-MSTBVA 2,5/ 3-GF-5,08
1899621	EMSTB 2,5/ 3-GF-5,08
1927577	MSTB 2,5/ 3-GF-5,08 THT
1940907	MSTBV 2,5/ 3-GF-5,08 THT
1954702	CC 2,5/ 3-GF-5,08 P26THR
1954812	CC 2,5/ 3-GF-5,08 P26THRR56
1955646	CCV 2,5/ 3-GF-5,08 P26THR
1955756	CCV 2,5/ 3-GF-5,08 P26THRR56

18 Accessories

Description	Order No.	Type
Actuation tool, for ST terminal blocks, insulated, also suitable for use as a bladed screwdriver, size: 0.6 x 3.5 x 100 mm, 2-component grip, with non-slip grip	1205053	SZS 0,6X3,5
	0804293	SK 5,08/3,8:FORTL.ZAHLEN
Coding profile, is inserted into the slot on the plug or inverted header, red insulating material	1734634	CP-MSTB
Insertion bridge, fully insulated, for connectors with 5.0 or 5.08 mm pitch, no. of positions: 2	1733169	EBP 2- 5

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19 Combination tests



MSTBT 2,5/..-STF

MDSTB 2,5/..-GF

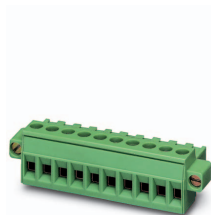
IC 2,5/..-STGF

MSTB 2,5/..-GF

MDSTBV 2,5/..-GF

Specification	IEC 61984	IEC 61984	IEC 61984	IEC 61984
Mechanical tests (A)				
Insertion/withdrawal force per position	approx. 13 N / 8 N	approx. 7 N / 5 N	approx. 8 N / 6 N	approx. 8 N / 6 N
Polarization when inserted Requirement >20 N	Test passed	Test passed	Test passed	Test passed
Contact holder in insert Requirements >20 N	Test passed	Test passed	Test passed	Test passed
Durability tests (B)				
Contact resistance R ₁	1.6 mΩ	1.8 mΩ	1.2 mΩ	1.5 mΩ
Insertion/withdrawal cycles	25	25	25	25
Contact resistance R ₂	1.6 mΩ	2 mΩ	1.2 mΩ	1.5 mΩ
Rated impulse voltage at sea level Voltage waveform ≥ (1.2/50 μs)	4.8 kV	4.8 kV	4.8 kV	4.8 kV
Power-frequency withstand voltage Voltage waveform ≥ (50/60 Hz)	2.21 kV	2.21 kV	2.21 kV	2.21 kV
Insulation resistance Requirements > 5 MΩ	> 0.2 TΩ	> 8 TΩ	> 0.2 TΩ	> 0.2 TΩ
Thermal tests (C)				
Tested number of positions	17	18	18	18
Tested conductor cross section	2.5 mm ²	2.5 mm ²	2.5 mm ²	2.5 mm ²
Test current	10 A	12 A	12 A	
Upper limiting temperature Requirements < 100°C	Test passed	Test passed	Test passed	Test passed
Climatic tests (D)				
Test sequence 1: low temperature storage	-40 °C/2 h	-40 °C/2 h	-40 °C/2 h	-40 °C/2 h
Test sequence 2: heat storage	100 °C/168 h	100 °C/168 h	100 °C/168 h	100 °C/168 h
Test sequence 3: noxious gas storage (ISO 6988)	0.2 dm ³ SO ₂ on 300 dm ³ / 40 °C/1 cycle	0.2 dm ³ SO ₂ on 300 dm ³ / 40 °C/1 cycle	0.2 dm ³ SO ₂ on 300 dm ³ / 40 °C/1 cycle	0.2 dm ³ SO ₂ on 300 dm ³ / 40 °C/1 cycle
Rated impulse voltage at sea level Voltage waveform ≥ (1.2/50 μs)	4.8 kV	4.8 kV	4.8 kV	4.8 kV
Power-frequency withstand voltage Voltage waveform ≥ (50/60 Hz)	2.21 kV	2.21 kV	2.21 kV	2.21 kV
Environmental and endurance tests (E)				
Specification	IEC 61984:2008-10	IEC 61984:2008-10	IEC 61984:2008-10	IEC 61984:2008-10
Degree of protection	Finger safety with IP20 test finger	Finger safety with IP20 test finger	Finger safety with IP20 test finger	Finger safety with IP20 test finger

1805314 MSTBT 2,5/ 3-STF-5,08



MSTBT 2,5/...-STF

CC 2,5/...-GF

CCV 2,5/...-GF

Specification	IEC 61984	IEC 61984		
Mechanical tests (A)				
Insertion/withdrawal force per position	approx. 8 N / 6 N			
Polarization when inserted Requirement >20 N	Test passed	Test passed		
Contact holder in insert Requirements >20 N	Test passed	Test passed		
Durability tests (B)				
Contact resistance R ₁	1.3 mΩ	1.2 mΩ		
Insertion/withdrawal cycles	25	25		
Contact resistance R ₂	1.3 mΩ	1.3 mΩ		
Rated impulse voltage at sea level Voltage waveform ≥ (1.2/50 μs)	4.8 kV	4.8 kV		
Power-frequency withstand voltage Voltage waveform ≥ (50/60 Hz)	2.21 kV	2.21 kV		
Insulation resistance Requirements > 5 MΩ	> 0.2 TΩ	> 0.2 TΩ		
Thermal tests (C)				
Tested number of positions	12	12		
Tested conductor cross section	2.5 mm ²	2.5 mm ²		
Test current	12 A	12 A		
Upper limiting temperature Requirements < 100°C	Test passed	Test passed		
Climatic tests (D)				
Test sequence 1: low temperature storage	-40 °C/2 h	-40 °C/2 h		
Test sequence 2: heat storage	100 °C/168 h	100 °C/168 h		
Test sequence 3: noxious gas storage (ISO 6988)	0.2 dm ³ SO ₂ on 300 dm ³ / 40 °C/1 cycle	0.2 dm ³ SO ₂ on 300 dm ³ / 40 °C/1 cycle		
Rated impulse voltage at sea level Voltage waveform ≥ (1.2/50 μs)	4.8 kV	4.8 kV		
Power-frequency withstand voltage Voltage waveform ≥ (50/60 Hz)	2.21 kV	2.21 kV		
Environmental and endurance tests (E)				
Specification	IEC 61984:2008-10	IEC 61984:2008-10		
Degree of protection	Finger safety with IP20 test finger	Finger safety with IP20 test finger		



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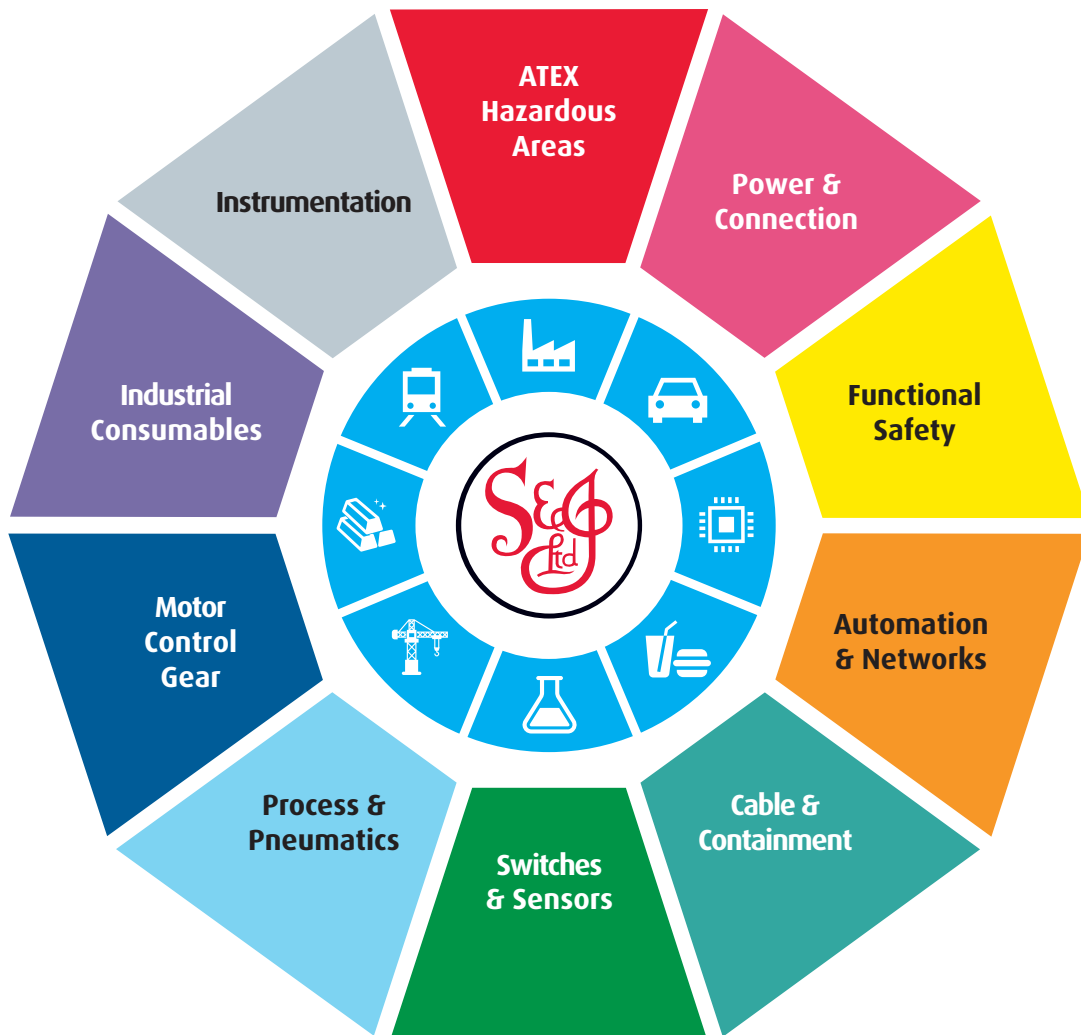
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