

Data sheet

Order No.: 1767025

Type: GMSTB 2,5/ 4-ST-7,62

PCB connector, Screw connection with tension sleeve



The figure shows a 10-position version of the product

1 Main features



• No. of pos.	4	• Nominal current	12 A
• Conductor cross section	2.5 mm ²	• Nominal voltage	630 V
• Color	green (6021)	• Connection direction	
• Pitch	7.62 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
- ✓ Larger pitch for increased voltage requirements
- ✓ Allows connection of two conductors



Make sure you always use the latest documentation.

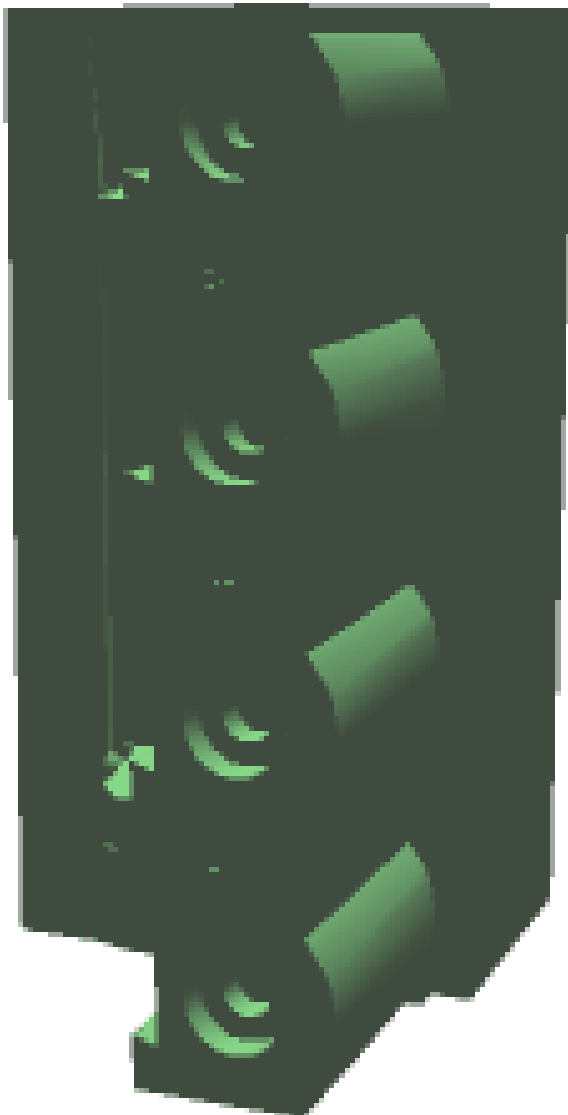
It can be downloaded at: phoenixcontact.net/product/1767025

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



1767025 GMSTB 2,5/ 4-ST-7,62**5 General Technical Data****5.1 item properties**

Order No.	1767025
Type	GMSTB 2,5/ 4-ST-7,62
Plug-in system	CLASSIC COMBICON
Product type	PCB connector
Type of contact	Female connector
Range of articles	GMSTB 2,5/...-ST
Pitch	7.62 mm
Range of positions	2...12
Number of positions	4
Number of levels	1
Number of connections	4
Number of potentials	4
Connection method	Screw connection with tension sleeve
Screw thread	M3
Drive form screw head	Slotted (L)
Type of locking	without
Connection direction of the conductor to the PCB	0 °
Solder pins per potential	1
Type	Standard

5.2 Connection capacity

Conductor cross section, solid	0.2 mm ² ... 2.5 mm ²
Conductor cross section, flexible	0.2 mm ² ... 2.5 mm ²
Conductor cross section flexible, with ferrule without plastic sleeve	0.25 mm ² ... 2.5 mm ²
Conductor cross section flexible, with ferrule with plastic sleeve	0.25 mm ² ... 2.5 mm ²
2 conductors with same cross section, solid	0.2 mm ² ... 1 mm ²
2 conductors with same cross section, stranded	0.2 mm ² ... 1.5 mm ²
2 conductors with same cross section, stranded, with ferrule without plastic sleeve	0.25 mm ² ... 1 mm ²
2 conductors with same cross section, stranded, with TWIN ferrules with plastic sleeve	0.5 mm ² ... 1 mm ²
Cylindrical gauge a x b / diameter	2.8 mm x 2.4 mm / 2.5 mm
Stripping length	7 mm
Tightening torque	0.5 Nm ... 0.6 Nm

5.3 Connection capacity AWG

Conductor cross section AWG	24 ... 12
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6 Material properties**6.1 Material of metal parts**

1767025 GMSTB 2,5/ 4-ST-7,62

Note	WEEE/RoHS-compliant, whisker-free acc. to IEC 60068-2-82/JEDEC JESD 201
Contact material	Cu alloy
Terminal point surface	Tin (5 - 7 µm Sn)
Surface contact area	Tin (5 - 7 µm Sn)
Surface characteristics	hot-dip tin-plated

6.2 Material Kunststoffteile

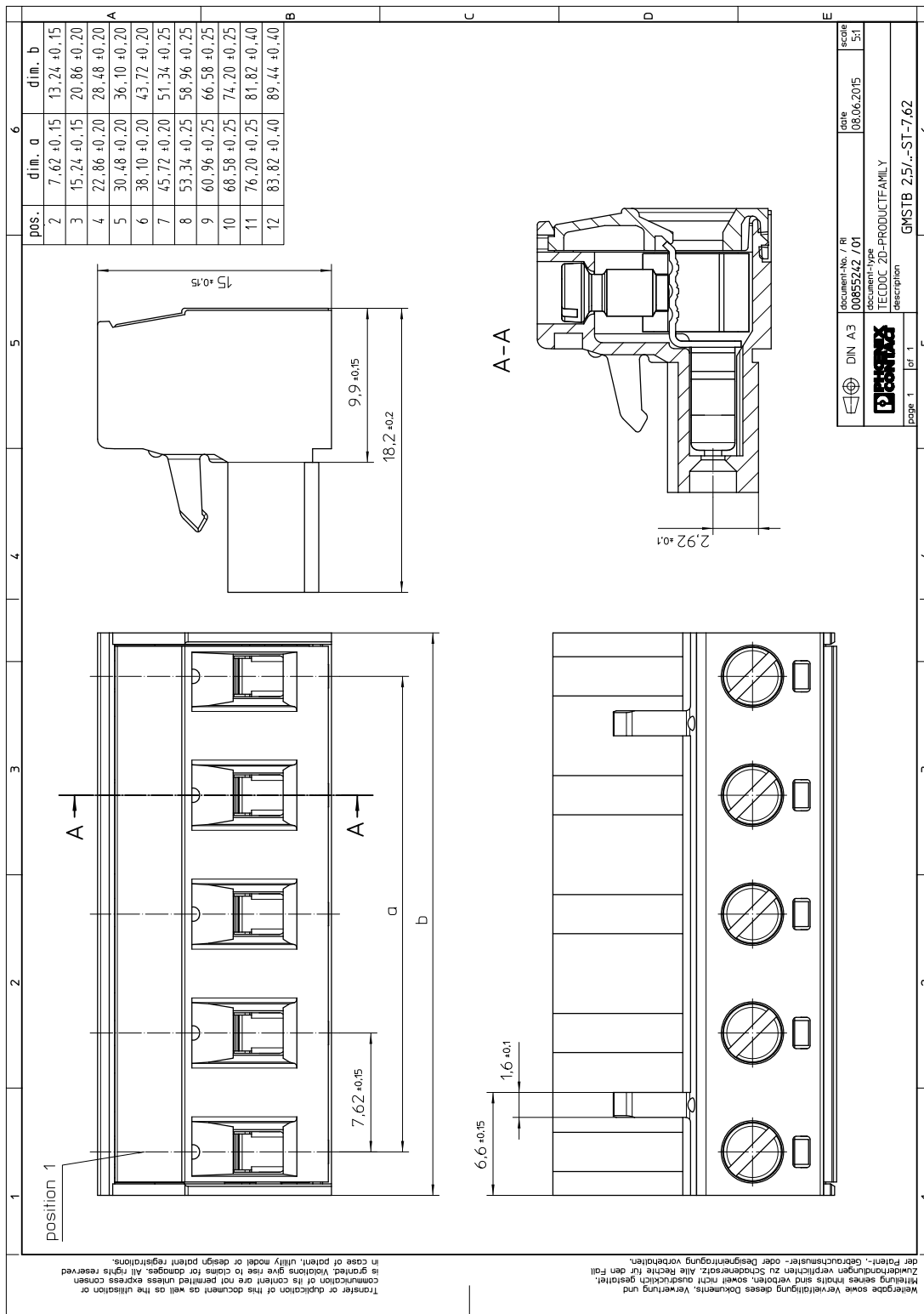
	Housing
Color	green (6021)
Insulating material	PA
Insulating material group	I
CTI according to IEC 60112	600
Flammability rating according to UL 94	V0
Glow wire flammability index GWFI according to EN 60695-2-12	850
Glow wire ignition temperature GWIT according to EN 60695-2-13	775
Temperature for the ball pressure test according to EN 60695-10-2	125 °C

1767025 GMSTB 2,5/ 4-ST-7,62**7 Dimensions****7.1 Dimensions for the product**

Length	18.2 mm
Width	28.48 mm
Height	15 mm
Total height	15 mm
Dimension a	22.86 mm

1767025 GMSTB 2,5/ 4-ST-7,62

8 Series drawing



1767025 GMSTB 2,5/ 4-ST-7,62**9 Packaging information**

Type of packaging	packed in cardboard
Pieces per package	50

10 Application**10.1 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)

1767025 GMSTB 2,5/ 4-ST-7,62**11 General tests****11.1 Specification**

Specification	IEC 61984
Specification	IEC 60999-1
Brief description	COMBICON connectors

12 Mechanical tests**12.1 Check for damage to conductor or loosening**

Result	Test passed
Specification	IEC 60999-1:1999-11

12.2 Pull-out test

Specification	IEC 60999-1:1999-11
Result	Test passed
Conductor cross section/conductor type/tractive force actual value	0.2 mm ² / solid / > 10 N
Conductor cross section/conductor type/tractive force actual value	0.2 mm ² / flexible / > 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 / flexible / > 50 N

12.3 Torque test

Specification	IEC 60999-1:1999-11
Result	Test passed

12.4 Mechanical test group A

Specification	IEC 61984:2008-10
Visual examination	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.	8 N
Withdraw strength per pos. approx.	6 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.	37 N

1767025 GMSTB 2,5/ 4-ST-7,62**13 Electrical tests****13.1 Electrical data**

Rated current / conductor cross section	12 A / 2.5 mm ²
Rated insulation voltage (III/2)	630 V
Rated surge voltage (III/2)	6 kV
Contact resistance	1.3 mΩ
Degree of pollution	2

13.2 Air and creepage distances

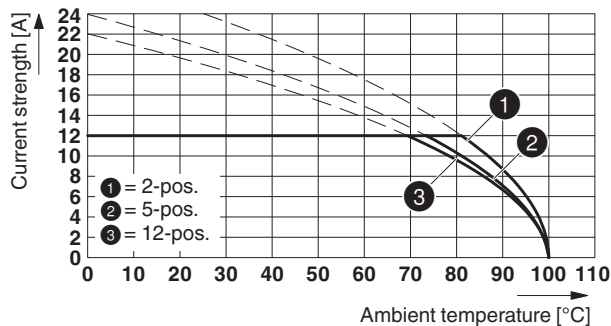
Component	PCB connector		
Specification	IEC 60664-1:2007-04		
Mains type	unearthed mains		
Insulating material group	I		
Comparative tracking index (IEC 60112:2003-01)	CTI 600		
Rated insulation voltage	400 V	630 V	1000 V
Rated surge voltage	6 kV	6 kV	6 kV
Degree of pollution	3	2	2
Overvoltage category	III	III	II
Minimum clearance case A (inhomogeneous field)	5.5 mm	5.5 mm	5.5 mm
Minimum value of the creepage path requirement in acc. with table	5 mm	3.2 mm	5 mm

1767025 GMSTB 2,5/ 4-ST-7,62

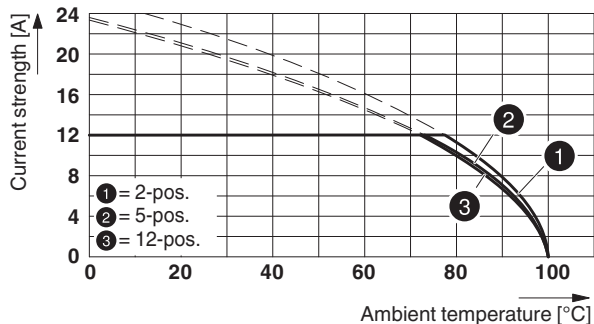
14 Current carrying capacity/derating curves

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

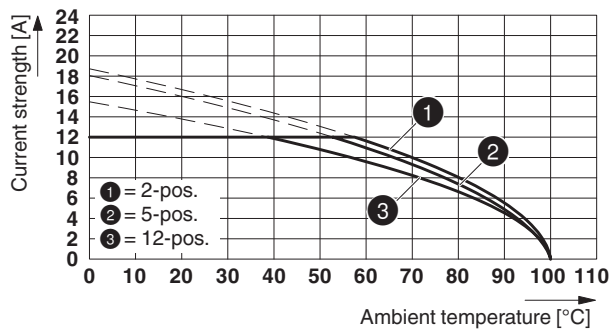
Type: GMSTB 2,5/...-ST-7,62 with GMSTB 2,5/...-G-7,62



Type: GMSTB 2,5/...-ST-7,62 with GMSTBA 2,5/...-G-7,62

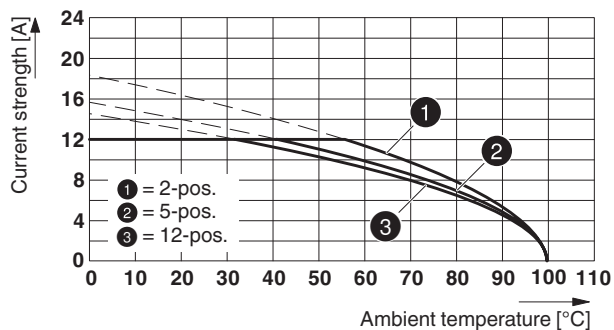


Type: GMSTB 2,5/...-ST-7,62 with GMSTBV 2,5/...-G-7,62



1767025 GMSTB 2,5/ 4-ST-7,62

Type: GMSTB 2,5/..-ST-7,62 with GMSTBVA 2,5/..-G-7,62



Insulation resistance

Specification IEC 60512-3-1:2002-02

Result Test passed

Insulation resistance, neighboring positions > 20 GΩ

1767025 GMSTB 2,5/ 4-ST-7,62**15 Environmental and durability tests****15.1 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
Note	The connected conductor loops were guided to the test sample at a distance of approx. 10 cm.

1767025 GMSTB 2,5/ 4-ST-7,62**16 Type approval and special tests****16.1 Insulation resistance**

Specification	IEC 60512-3-1:2002-02
Result	Test passed
Insulation resistance, neighboring positions	> 20 GΩ

17 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

18 Approvals

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

IECEE CB Scheme				
mm ² /AWG/kcmil	0.2-2.5			
Voltage	400 V			
Current	12 A			

VDE Gutachten mit Fertigungsüberwachung				
mm ² /AWG/kcmil	0.2-2.5			
Voltage	400 V			
Current	12 A			

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

1767025 GMSTB 2,5/ 4-ST-7,62**19 Commercial Data**

Order No.	1767025
Type	GMSTB 2,5/ 4-ST-7,62
Pieces per package	50
Net weight	7.54 g
GTIN	4017918033033
	Information that applies locally, see link on page 1
Country of origin	Information that applies locally, see link on page 1

20 corresponding headers

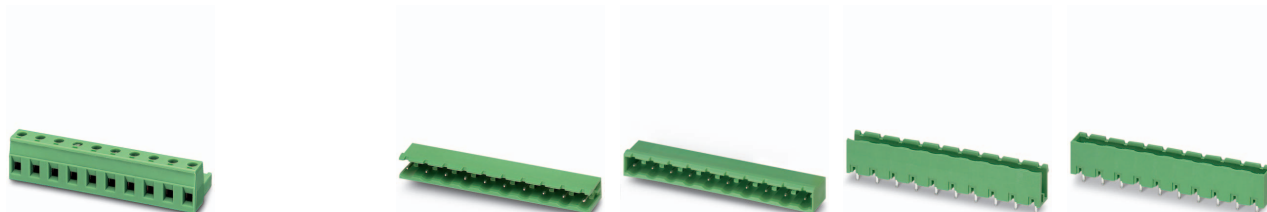
Order No.	Type
1766149	GMSTB 2,5/ 4-G-7,62
1766259	GMSTBA 2,5/ 4-G-7,62
1766589	GMSTBV 2,5/ 4-G-7,62
1766796	GMSTBVA 2,5/ 4-G-7,62
1879625	GMSTBA 2,5/ 4-G-7,62 PIN 9,5

21 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
Coding profile, is inserted into the slot on the plug or inverted header, red insulating material	1734634	CP-MSTB
	0804549	SK 7,62/3,8:FORTL.ZAHLEN
	0805441	SK 7,62/3,8:UNBEDRUCKT
	0805153	SK 7,62/3,8:SO
	1803905	KGG-MSTB 2,5/ 6
Marker pen, for manual labeling of unprinted Zack strips, smear-proof and waterproof, line thickness 0.5 mm	1051993	B-STIFT
	1948048	EB 2-CC 7,5

1767025 GMSTB 2,5/ 4-ST-7,62

22 Combination tests



GMSTB 2,5/...-ST

IEC 61984	IEC 61984	IEC 61984	IEC 61984	IEC 61984
Mechanical tests (A)				
Insertion/withdrawal force per position	approx. 8 N / 6 N	approx. 9 N / 6 N	approx. 8 N / 6 N	approx. 7 N / 3 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	1.3 mΩ	1.4 mΩ	2.5 mΩ	2.6 mΩ
Insertion/withdrawal cycles	25	25	25	25
Contact resistance R ₂	1.3 mΩ	1.5 mΩ	2.6 mΩ	2.7 mΩ
Rated impulse voltage at sea level Voltage waveform ≥ (1.2/50 μs)	7.3 kV	7.3 kV	7.3 kV	7.3 kV
Power-frequency withstand voltage Voltage waveform ≥ (50/60 Hz)	3.31 kV	3.31 kV	3.31 kV	3.31 kV
Thermal tests (C)				
Tested number of positions	12	12	12	12
Tested conductor cross section	2.5 mm ²	2.5 mm ²	2.5 mm ²	2.5 mm ²
Test current	12 A	12 A DC		12 A DC
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)	7.3 kV	7.3 kV	7.3 kV	7.3 kV
Power-frequency withstand voltage Voltage waveform ≥ (50/60 Hz)	3.31 kV	3.31 kV	3.31 kV	3.31 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



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