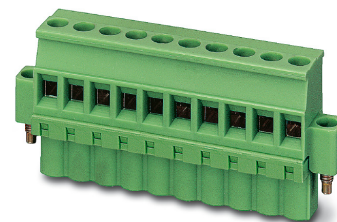


Item No.: 1834903

Type: MVSTBW 2,5/ 2-STF-5,08

PCB connector, Screw connection with tension sleeve



The figure shows a 10-position version of the product

1 Main features



- | | | | |
|---------------------------|--------------------------------------|------------------------|---------------------|
| • No. of pos. | 2 | • Nominal current | 12 A |
| • Conductor cross section | 2.5 mm ² | • Nominal voltage | 320 V |
| • Color | green (RAL 6021) | • Connection direction | -90 ° |
| • 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
- ✓ Allows connection of two conductors
- ✓ Screwable flange for superior mechanical stability



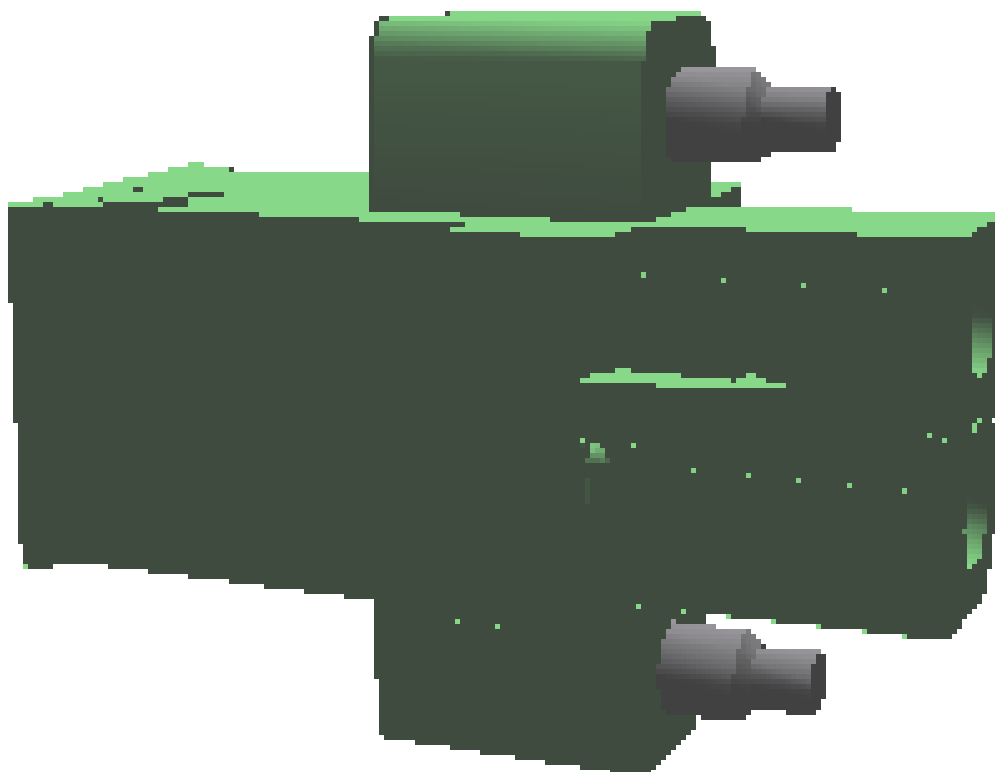
Make sure you always use the latest documentation.
It can be downloaded at: phoenixcontact.net/product/1834903

3 Table of contents

1	Main features.....	1
2	Your advantages	1
3	Table of contents	2
4	3D model in PDF can be activated (Acrobat Reader only)	3
5	General Technical Data	4
6	Mounting.....	5
7	Conductor connection	6
8	Material properties.....	7
9	Dimensions.....	8
10	Series drawing.....	9
11	Product notes	10
12	Packaging specifications	10
13	Application.....	10
14	General tests	11
15	Mechanical tests.....	11
16	Insertion and withdrawal forces	13
17	Electrical tests	14
18	Air and creepage distances	15
19	Current carrying capacity/derating curves	16
20	Environmental and durability tests	19
21	Type approval and special tests	20
22	Classification for connectors.....	20
23	Approvals / Certificates.....	21
24	Commercial Data.....	22
25	corresponding headers.....	22
26	Accessories	22
27	Combination tests.....	23

1834903 MVSTBW 2,5/ 2-STF-5,08

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



1834903 MVSTBW 2,5/ 2-STF-5,08**5 General Technical Data****5.1 item properties**

Item no.	1834903
Type	MVSTBW 2,5/ 2-STF-5,08
Product line	COMBICON Connectors M
Connector system	COMBICON MSTB 2,5
Product type	PCB connector
Type of contact	Socket
Range of articles	MVSTBW 2,5/...STF
Pitch	5.08 mm
Number of positions	2
Number of rows	1
Number of connections	2
Number of potentials	2
Connection method	Screw connection with tension sleeve
Screw thread	M3
Drive form screw head	Slotted (L)
Connection direction of the conductor to plug-in direction	-90 °

1834903 MVSTBW 2,5/ 2-STF-5,08**6 Mounting****6.1 Flange mounting**

Type of locking	Screw locking
Mounting flange	Screw flange
Tightening torque	0.3 Nm

1834903 MVSTBW 2,5/ 2-STF-5,08**7 Conductor connection****7.1 Connection capacity**

Nominal cross section	2.5 mm ²
Conductor cross section, rigid	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 the same cross section flexible with TWIN ferrule and plastic sleeve	0.5 mm ² ... 1.5 mm ²
Cylindrical gauge a x b / diameter	2.8 mm x 2.0 mm / 2.4 mm
Stripping length	7 mm
Tightening torque	0.5 Nm ... 0.6 Nm

7.2 Connection capacity AWG

Conductor cross section AWG	24 ... 12
-----------------------------	-----------

1834903 MVSTBW 2,5/ 2-STF-5,08**8 Material properties****8.1 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	Tin (4 - 8 µm Sn)
Surface contact area	Tin (4 - 8 µm Sn)
Surface characteristics	hot-dip tin-plated

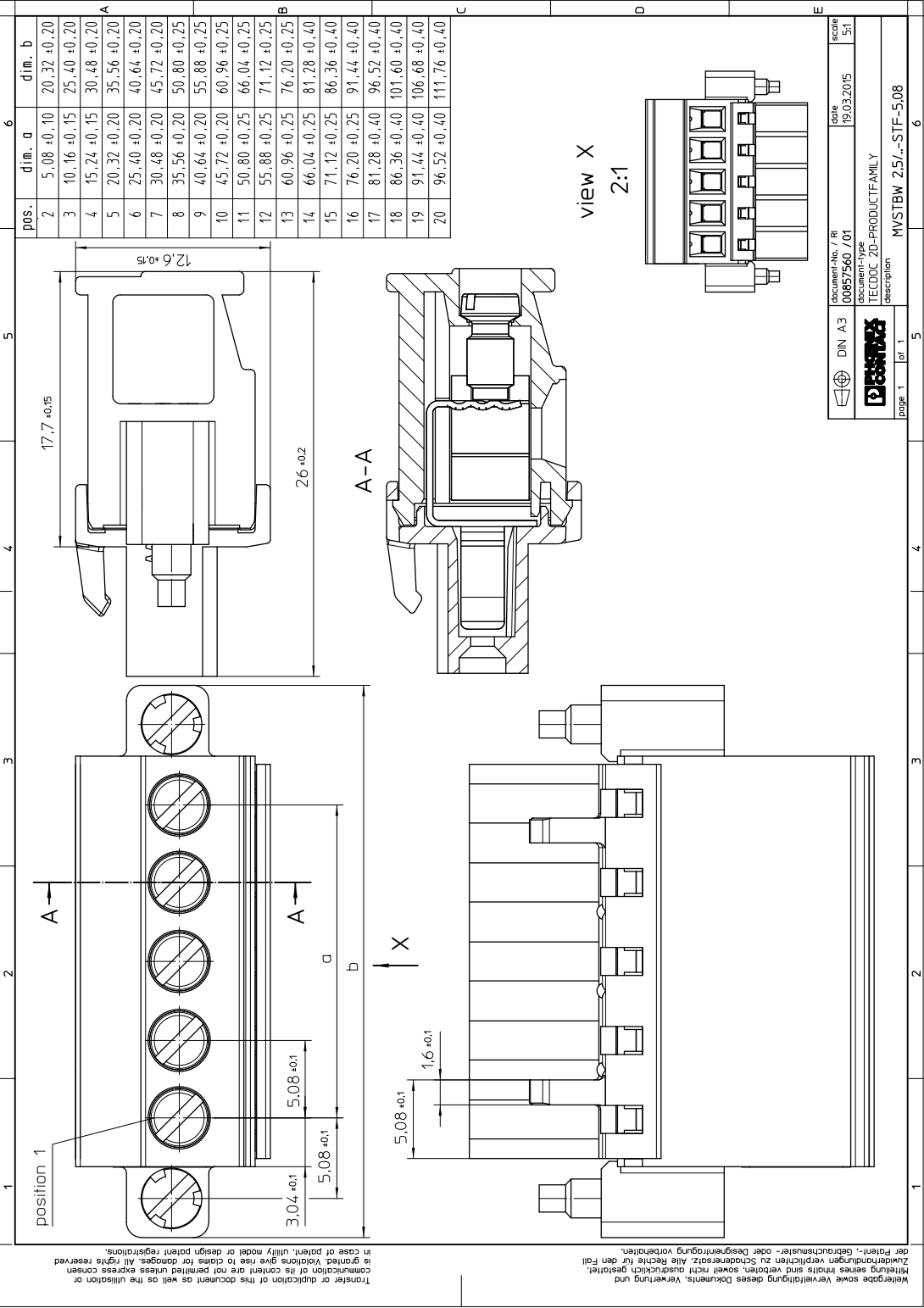
8.2 Material of plastic parts

	Housing
Color	green (RAL 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

1834903 MVSTBW 2,5/ 2-STF-5,08**9 Dimensions****9.1 Dimensions for the product**

Length	12.6 mm
Width	20.32 mm
Total height	26 mm

10 Series drawing



1834903 MVSTBW 2,5/ 2-STF-5,08

11 Product notes

11.1 General information

Notes on operation

In accordance with IEC 61984, COMBICON connectors have no switching power (COC). During designated use, they must not be plugged in or disconnected when carrying voltage or under load.

12 Packaging specifications

Type of packaging

packed in cardboard

Packing unit

50

13 Application

13.1 Temperature limit values

Ambient temperature (storage/transport)

-40 °C ... 70 °C

Relative humidity (storage/transport)

30 % ... 70 %

Ambient temperature (assembly)

-5 °C ... 100 °C

Ambient temperature (operation)

-40 °C ... 100 °C (dependent on the derating curve)

1834903 MVSTBW 2,5/ 2-STF-5,08**14 General tests****14.1 Specification**

Specification	IEC 61984
Specification	IEC 60999-1
Brief description	Printed-circuit board connector

15 Mechanical tests**15.1 Check for damage to conductor or loosening**

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

15.2 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

15.3 Torque test

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

15.4 Visual examination

Specification	IEC 61984:2008-10
Visual examination	Test passed
Specification	IEC 60512-1-1:2002-02

15.5 Dimensional test

Dimensional test	Test passed
Specification	IEC 60512-1-2:2002-02

15.6 Resistance of marking

Resistance of marking	Test passed
Specification	IEC 60068-2-70:1995-12

15.7 Polarization and coding

1834903 MVSTBW 2,5/ 2-STF-5,08

Polarization when inserted
Requirement >20 N

Test passed

Specification

IEC 60512-13-5:2006-02

1834903 MVSTBW 2,5/ 2-STF-5,08**16 Insertion and withdrawal forces**

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

1834903 MVSTBW 2,5/ 2-STF-5,08**17 Electrical tests**

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	2.2 mΩ
Degree of pollution	2

1834903 MVSTBW 2,5/ 2-STF-5,08**18 Air and creepage distances**

Component	PCB connector		
Specification	IEC 60664-1:2007-04		
Mains type	unearthed mains		
Insulating material group			
Comparative tracking index (IEC 60112)	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

1834903 MVSTBW 2,5/ 2-STF-5,08

19 Current carrying capacity/derating curves

Specification

IEC 61984:2008-10

Note

Representation based on IEC 60512-5-2:2002-02

Note

For number of positions, see diagram

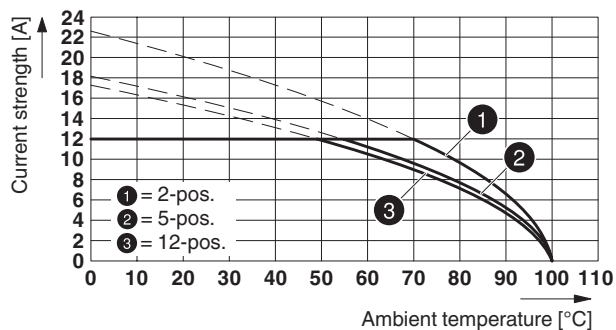
Reduction factor

0.8

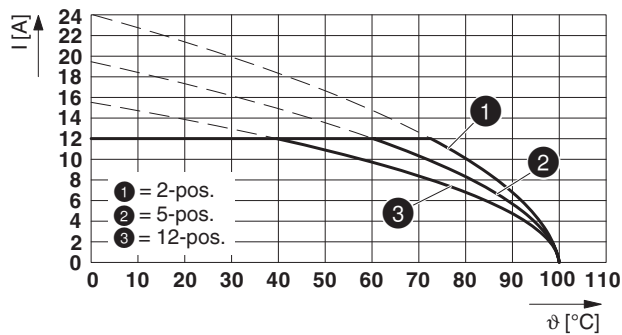
Conductor cross section

2.5 mm²

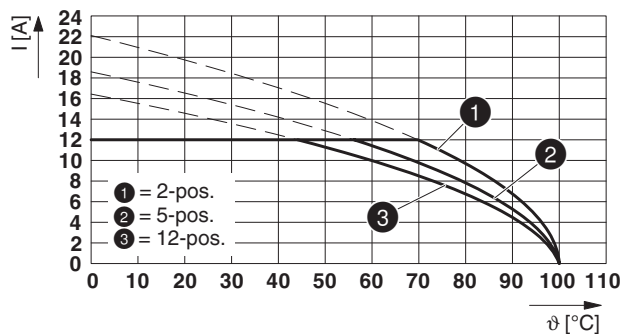
Type: MVSTB(R/W) 2,5/...-STF-5,08 with CC 2,5/...-GF-5,08 P26THR

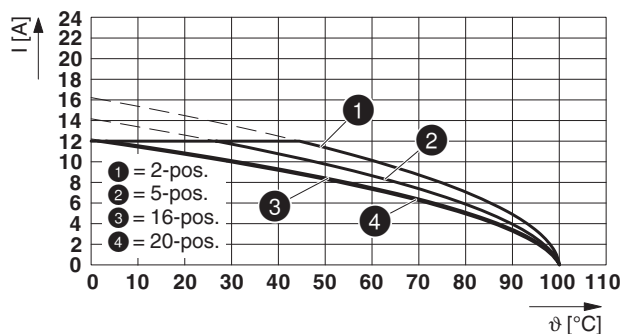
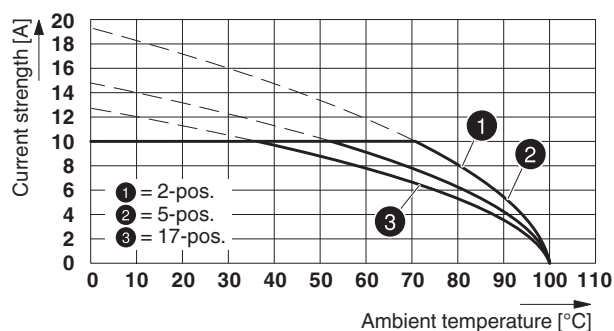
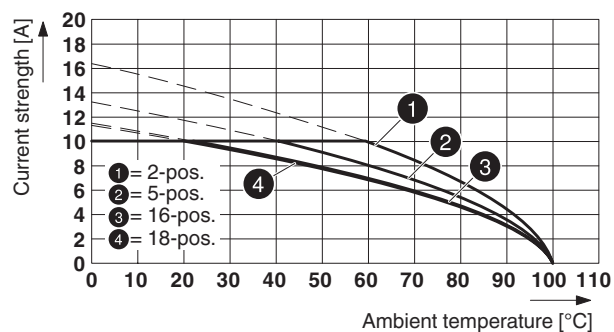


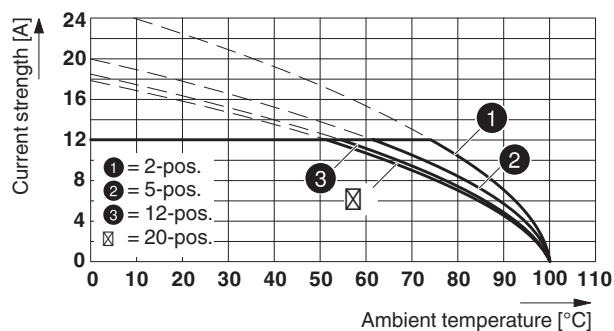
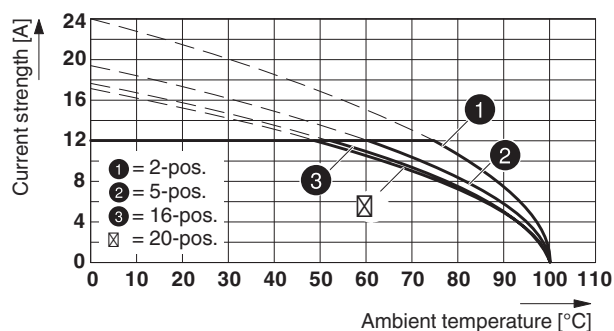
Type: MVSTB(R/W) 2,5/...-STF-5,08 with CC 2,5/...-GF-5,08-LR P...THR



Type: MVSTB(R/W) 2,5/...-STF-5,08 with CCV 2,5/...-GF-5,08-LR P...THR



1834903 MVSTBW 2,5/ 2-STF-5,08**Type: MVSTB(R/W) 2,5/...-STF-5,08 with MSTBV 2,5/...-GF-5,08****Type: MVSTB(R/W) 2,5/...-STF-5,08 with MDSTB 2,5/...-GF-5,08****Type: MVSTB(R/W) 2,5/...-STF-5,08 with MDSTBV 2,5/...-GF-5,08**

1834903 MVSTBW 2,5/ 2-STF-5,08**Type: MVSTBW 2,5/...-STF-5,0 with UMSTBVK 2,5/...-GF-5,08****Type: MVSTBW 2,5/..-STF-5,08 with MVSTBU 2,5/..-GFB-5,08**

1834903 MVSTBW 2,5/ 2-STF-5,08**20 Environmental and durability tests****20.1 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 Hz ... 60.1 Hz)
Acceleration	5g (60.1 Hz ... 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.

20.2 Insulation resistance

Specification	IEC 60512-3-1:2002-02
Result	Test passed
Insulation resistance, neighboring positions	> 5 MΩ

1834903 MVSTBW 2,5/ 2-STF-5,08**21 Type approval and special tests****22 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
Locking	no
Connection method	Screw terminal points

1834903 MVSTBW 2,5/ 2-STF-5,08**23 Approvals / Certificates**

CSA 	Voltage [V]	Current [A]	Cross section [AWG]	Cross section [mm ²]
Usegroup B				
	300 V	10 A	28 - 12	-
Usegroup D				
	300 V	10 A	28 - 12	-
IECEE CB Scheme 	Voltage [V]	Current [A]	Cross section [AWG]	Cross section [mm ²]
	250 V	12 A	-	0.2 - 2.5
EAC 				
cULus Recognized 	Voltage [V]	Current [A]	Cross section [AWG]	Cross section [mm ²]
Usegroup B				
	300 V	15 A	30 - 12	-
Usegroup D				
	300 V	10 A	30 - 12	-
VDE Zeichengenehmigung 	Voltage [V]	Current [A]	Cross section [AWG]	Cross section [mm ²]
	250 V	12 A	-	0.2 - 2.5

1834903 MVSTBW 2,5/ 2-STF-5,08**24 Commercial Data**

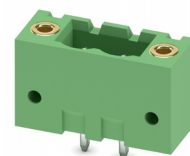
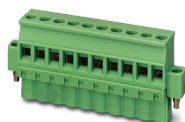
Item no.	1834903
Type	MVSTBW 2,5/ 2-STF-5,08
Packing unit	50
Net weight	5.105 g
GTIN	4017918102166
	Information that applies locally, see link on page 1

25 corresponding headers

Item no.	Type
1736768	MDSTB 2,5/ 2-GFR-5,08
1736771	MDSTB 2,5/ 2-GFL-5,08
1955633	CCV 2,5/ 2-GF-5,08 P26THR
1955743	CCV 2,5/ 2-GF-5,08 P26THRR32

26 Accessories

Description	Item No.	Type
	0805412	SK 5,08/3,8:UNBEDRUCKT
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

1834903 MVSTBW 2,5/ 2-STF-5,08**27 Combination tests****MVSTBW 2,5/..-STF**

IEC 61984

Mechanical tests (A)

Insertion/withdrawal force per position

Polarization when inserted
Requirement >20 NContact holder in insert
Requirements >20 N**Durability tests (B)**Contact resistance R_1 1st levelContact resistance R_1 2nd level

Insertion/withdrawal cycles

Contact resistance R_2 Rated impulse voltage at sea level
Voltage waveform $\geq (1.2/50 \mu s)$ Power-frequency withstand voltage
Voltage waveform $\geq (50/60 \text{ Hz})$ Insulation resistance
Requirements > 5 M Ω **Thermal tests (C)**

Tested number of positions

Tested conductor cross section

Test current

Upper limiting temperature
Requirements < 100°C**Climatic tests (D)**

Test sequence 1: low temperature storage

Upper limiting temperature
Requirements < 100°C

Test sequence 2: heat storage

Test sequence 3: noxious gas storage
(ISO 6988)Rated impulse voltage at sea level
Voltage waveform $\geq (1.2/50 \mu s)$ Power-frequency withstand voltage
Voltage waveform $\geq (50/60 \text{ Hz})$ **Environmental and endurance tests (E)**

Specification

Degree of protection

CC 2,5/..-GF

IEC 61984

approx. 8 N / 6 N

Test passed

Test passed

2.2 m Ω

25

2.3 m Ω

4.8 kV

2.21 kV

> 5 M Ω

12

2.5 mm²

12 A

Test passed

-40 °C/2 h

Test passed

100 °C/168 h

0.2 dm³ SO₂ on 300 dm³/
40 °C/1 cycle

4.8 kV

2.21 kV

IEC 61984:2008-10

Finger safety with IP20
test finger**CC 2,5/..-GF-LR**

IEC 61984

approx. 8 N / 6 N

Test passed

Test passed

2.1 m Ω

25

2.2 m Ω

4.8 kV

2.21 kV

> 5 M Ω

12

2.5 mm²

12 A

Test passed

-40 °C/2 h

Test passed

100 °C/168 h

0.2 dm³ SO₂ on 300 dm³/
40 °C/1 cycle

4.8 kV

2.21 kV

IEC 61984:2008-10

Finger safety with IP20
test finger**CCV 2,5/..-GF-LR**

IEC 61984

approx. 8 N / 6 N

Test passed

Test passed

2.1 m Ω

25

2.1 m Ω

4.8 kV

2.21 kV

> 5 M Ω

12

2.5 mm²

12 A

Test passed

-40 °C/2 h

Test passed

100 °C/168 h

0.2 dm³ SO₂ on 300 dm³/
40 °C/1 cycle

4.8 kV

2.21 kV

IEC 61984:2008-10

Finger safety with IP20
test finger**MSTBV 2,5/..-GF**

IEC 61984

approx. 8 N / 6 N

Test passed

Test passed

3.5 m Ω

25

3.5 m Ω

4.8 kV

2.21 kV

> 5 M Ω

20

2.5 mm²

12 A

Test passed

-40 °C/2 h

Test passed

100 °C/168 h

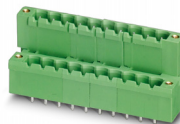
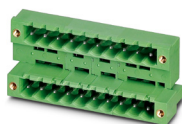
0.2 dm³ SO₂ on 300 dm³/
40 °C/1 cycle

4.8 kV

2.21 kV

IEC 61984:2008-10

Finger safety with IP20
test finger

1834903 MVSTBW 2,5/ 2-STF-5,08**MVSTBW 2,5/..-STF**

IEC 61984

Mechanical tests (A)

Insertion/withdrawal force per position

Polarization when inserted
Requirement >20 NContact holder in insert
Requirements >20 N**Durability tests (B)**Contact resistance R_1 1st levelContact resistance R_1 2nd level

Insertion/withdrawal cycles

Contact resistance R_2 Rated impulse voltage at sea level
Voltage waveform $\geq (1.2/50 \mu s)$ Power-frequency withstand voltage
Voltage waveform $\geq (50/60 \text{ Hz})$ Insulation resistance
Requirements > 5 M Ω **Thermal tests (C)**

Tested number of positions

Tested conductor cross section

Test current

Upper limiting temperature
Requirements < 100°C**Climatic tests (D)**

Test sequence 1: low temperature storage

Test sequence 2: heat storage

Test sequence 3: noxious gas storage
(ISO 6988)Rated impulse voltage at sea level
Voltage waveform $\geq (1.2/50 \mu s)$ Power-frequency withstand voltage
Voltage waveform $\geq (50/60 \text{ Hz})$ **Environmental and endurance tests (E)**

Specification

Degree of protection

MDSTB 2,5/..-GF

IEC 61984

approx. 8 N / 6 N

Test passed

Test passed

2.4 m Ω 2.8 m Ω

25

2.4 m Ω

4.8 kV

2.21 kV

> 5 M Ω

17

2.5 mm²

10 A

Test passed

-40 °C/2 h

100 °C/168 h

0.2 dm³ SO₂ on 300 dm³/
40 °C/1 cycle

4.8 kV

2.21 kV

IEC 61984:2008-10

Finger safety with IP20
test finger**MDSTBV 2,5/..-GF**

IEC 61984

approx. 8 N / 6 N

Test passed

Test passed

3.4 m Ω 2.4 m Ω

25

3.4 m Ω

4.8 kV

2.21 kV

> 5 M Ω

18

2.5 mm²

10 A

Test passed

-40 °C/2 h

100 °C/168 h

0.2 dm³ SO₂ on 300 dm³/
40 °C/1 cycle

4.8 kV

2.21 kV

IEC 61984:2008-10

Finger safety with IP20
test finger**UMSTBVK 2,5/..-GF**

IEC 61984

approx. 8 N / 6 N

Test passed

Test passed

2.9 m Ω

25

2.9 m Ω

4.8 kV

2.21 kV

> 5 M Ω

20

2.5 mm²

12 A

Test passed

-40 °C/2 h

100 °C/168 h

0.2 dm³ SO₂ on 300 dm³/
40 °C/1 cycle

4.8 kV

2.21 kV

IEC 61984:2008-10

Finger safety with IP20
test finger**MVSTBU 2,5/..-GFB**

IEC 61984

approx. 8 N / 6 N

Test passed

Test passed

3 m Ω

25

3.2 m Ω

4.8 kV

2.21 kV

> 5 M Ω

20

2.5 mm²

12 A

Test passed

-40 °C/2 h

100 °C/168 h

0.2 dm³ SO₂ on 300 dm³/
40 °C/1 cycle

4.8 kV

2.21 kV

IEC 61984:2008-10

Finger safety with IP20
test finger