

MSTBO 2,5/ 4-G1R BUGY CD:1,2,3 - PCB header



1016975

<https://www.phoenixcontact.com/us/products/1016975>

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The figure shows the standard item

PCB headers, nominal cross section: 2.5 mm², color: blue gray, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Sn, contact connection type: Pin, number of rows: 1, number of positions: 4, product range: MSTBO 2,5/..-G1R, pitch: 5 mm, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.5 mm, number of solder pins per potential: 1, Pin connector pattern alignment: Orthogonal, locking: without, type of packaging: packed in cardboard, Fixed coding of the positions: 1, 2, 3, item with lateral pin outlet on the right

Your advantages

- Plug-in direction orthogonal to the PCB

Commercial data

Item number	1016975
Packing unit	50 pc
Minimum order quantity	500 pc
Note	Made to order (non-returnable)
Product key	ACHADB
GTIN	4055626521008
Weight per piece (including packing)	2.958 g
Weight per piece (excluding packing)	2.958 g
Country of origin	PL

Technical data

Product properties

Product type	PCB headers
Product family	MSTBO 2,5/..-G1R
Type	Header perpendicular to the PCB
Number of positions	4
Pitch	5 mm
Number of rows	1
Pin layout	Linear pinning
Solder pins per potential	1

Electrical properties

Properties

Nominal current I_N	12 A
Nominal voltage U_N	250 V
Contact resistance	1.6 mΩ
Rated voltage (III/3)	250 V
Rated surge voltage (III/3)	4 kV
Rated voltage (III/2)	320 V
Rated surge voltage (III/2)	4 kV
Rated voltage (II/2)	630 V
Rated surge voltage (II/2)	4 kV

Mounting

Mounting type	Wave soldering
Pin layout	Linear pinning

Material specifications

Material data - contact

Note	WEEE/RoHS-compliant, free of whiskers according to IEC 60068-2-82/JEDEC JESD 201
Contact material	Cu alloy
Surface characteristics	tin-plated
Metal surface contact area (top layer)	Tin (Sn)
Metal surface contact area (middle layer)	Nickel (Ni)
Metal surface soldering area (top layer)	Tin (Sn)
Metal surface soldering area (middle layer)	Nickel (Ni)

Material data - housing

Color (Housing)	blue gray (7031)
Insulating material	PA
Insulating material group	I

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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

Dimensions

Dimensional drawing	
Pitch	5 mm
Width [w]	19.95 mm
Height [h]	16.5 mm
Length [l]	14.65 mm
Solder pin length [P]	3.5 mm
Pin dimensions	1 x 1 mm

PCB design

Hole diameter	1.4 mm
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Mechanical tests

Visual inspection

Specification	IEC 60512-1-1:2002-02
Result	Test passed

Dimension check

Specification	IEC 60512-1-2:2002-02
Result	Test passed

Resistance of inscriptions

Specification	IEC 60068-2-70:1995-12
Result	Test passed

Polarization and coding

Specification	IEC 60512-13-5:2006-02
Result	Test passed

Contact holder in insert

Specification	IEC 60512-15-1:2008-05
Contact holder in insert Requirements >20 N	Test passed

Insertion and withdrawal forces

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Specification	IEC 60512-13-2:2006-02
Result	Test passed
No. of cycles	25
Insertion strength per pos. approx.	8 N
Withdraw strength per pos. approx.	6 N

Electrical tests

Thermal test | Test group C

Specification	IEC 60512-5-1:2002-02
Tested number of positions	4

Insulation resistance

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

Air clearances and creepage distances |

Specification	IEC 60664-1:2007-04
Insulating material group	I
Comparative tracking index (IEC 60112)	CTI 600
Rated insulation voltage (III/3)	250 V
Rated surge voltage (III/3)	4 kV
minimum clearance value - non-homogenous field (III/3)	3 mm
minimum creepage distance (III/3)	3.2 mm
Rated insulation voltage (III/2)	320 V
Rated surge voltage (III/2)	4 kV
minimum clearance value - non-homogenous field (III/2)	3 mm
minimum creepage distance (III/2)	3 mm
Rated insulation voltage (II/2)	630 V
Rated surge voltage (II/2)	4 kV
minimum clearance value - non-homogenous field (II/2)	3 mm
minimum creepage distance (II/2)	3.2 mm

Environmental and real-life conditions

Durability test

Specification	IEC 60512-9-1:2010-03
Impulse withstand voltage at sea level	4.8 kV
Contact resistance R ₁	1.6 mΩ
Contact resistance R ₂	1.6 mΩ
Insertion/withdrawal cycles	25
Insulation resistance, neighboring positions	> 5 MΩ

Climatic test

Specification	ISO 6988:1985-02
Corrosive stress	0.2 dm ³ SO ₂ on 300 dm ³ /40 °C/1 cycle

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Thermal stress	100 °C/168 h
Power-frequency withstand voltage	2.21 kV

Vibration test

Specification	IEC 60068-2-6:2007-12
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

Ambient conditions

Ambient temperature (storage/transport)	-40 °C ... 55 °C
Relative humidity (storage/transport)	30 % ... 70 %
Ambient temperature (assembly)	-5 °C ... 100 °C
Ambient temperature (operation)	-40 °C ... 105 °C (dependent on the derating curve)

Packaging specifications

Type of packaging	packed in cardboard
Outer packaging type	Carton

Drawings

Diagram

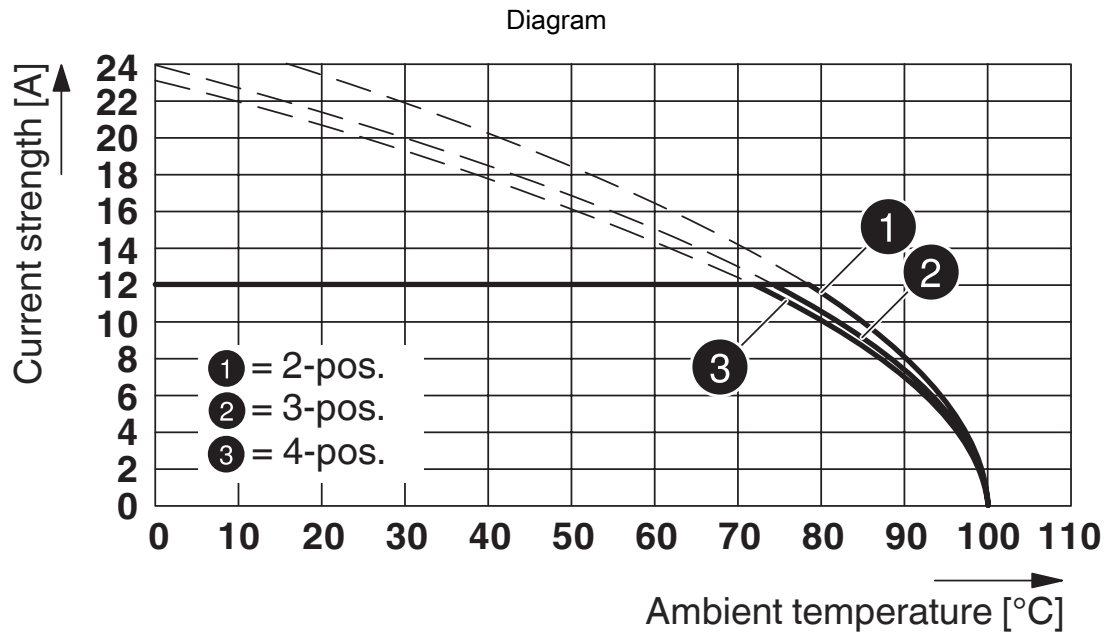


Type: MSTB 2,5/...-ST with MSTBO 2,5/...-G1R

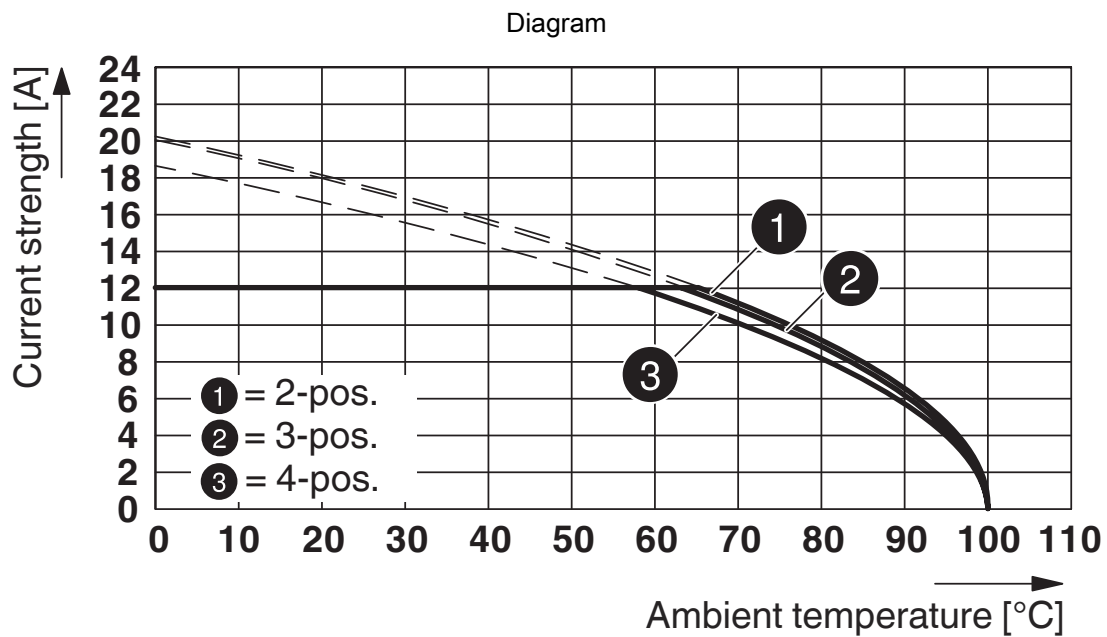
Diagram



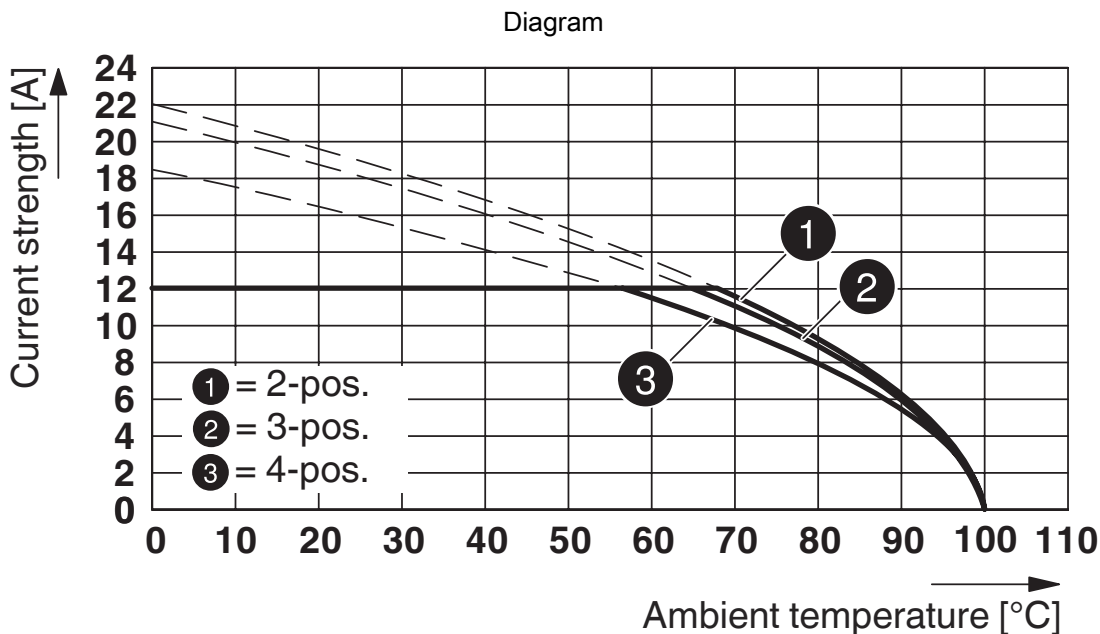
Type: MSTBP 2,5/...-ST with MSTBO 2,5/...-G1R



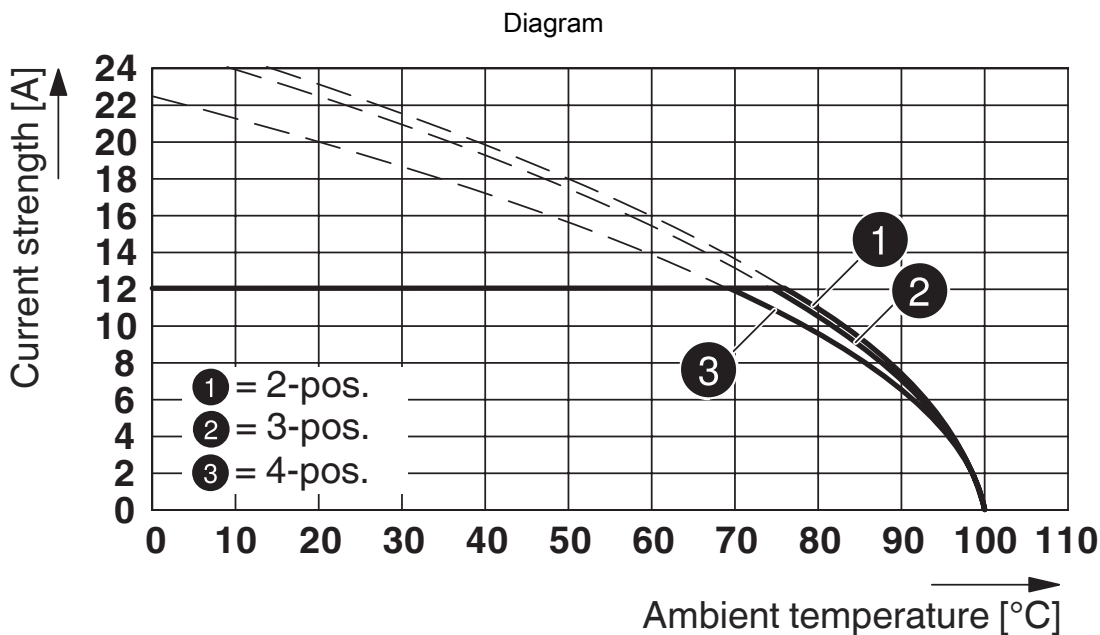
Type: MSTBT 2,5/...-ST with MSTBO 2,5/...-G1R



Type: SMSTB 2,5/...-ST with MSTBO 2,5/...-G1R



Type: MVSTB(R/W) 2,5/...-ST with MSTBO 2,5/...-G1R



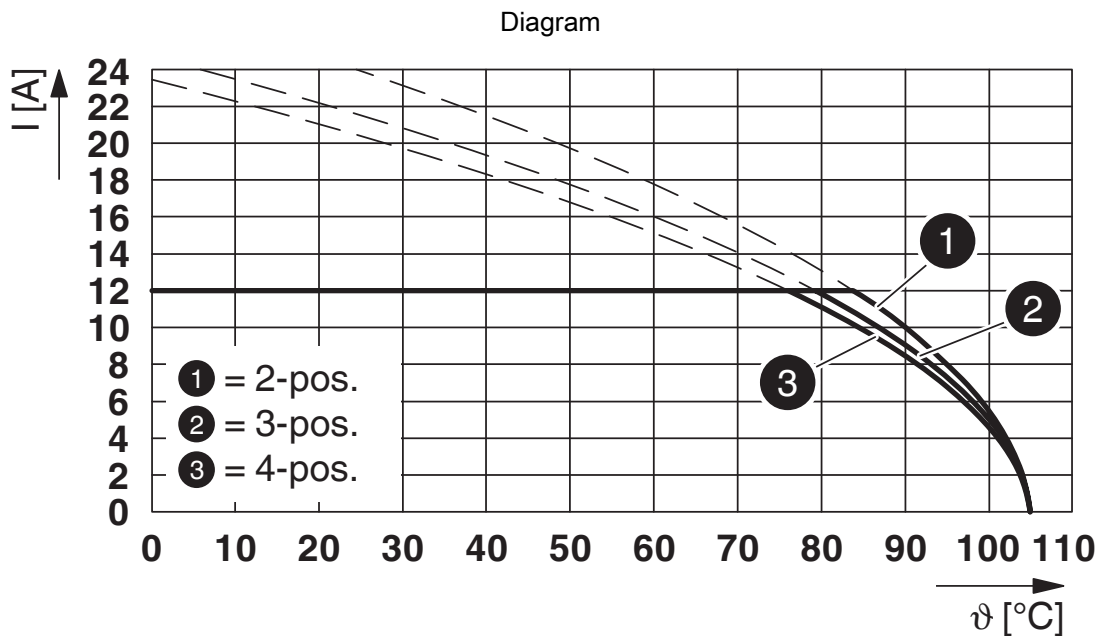
Type: FRONT-MSTB 2,5/...-ST with MSTBO 2,5/...-G1R



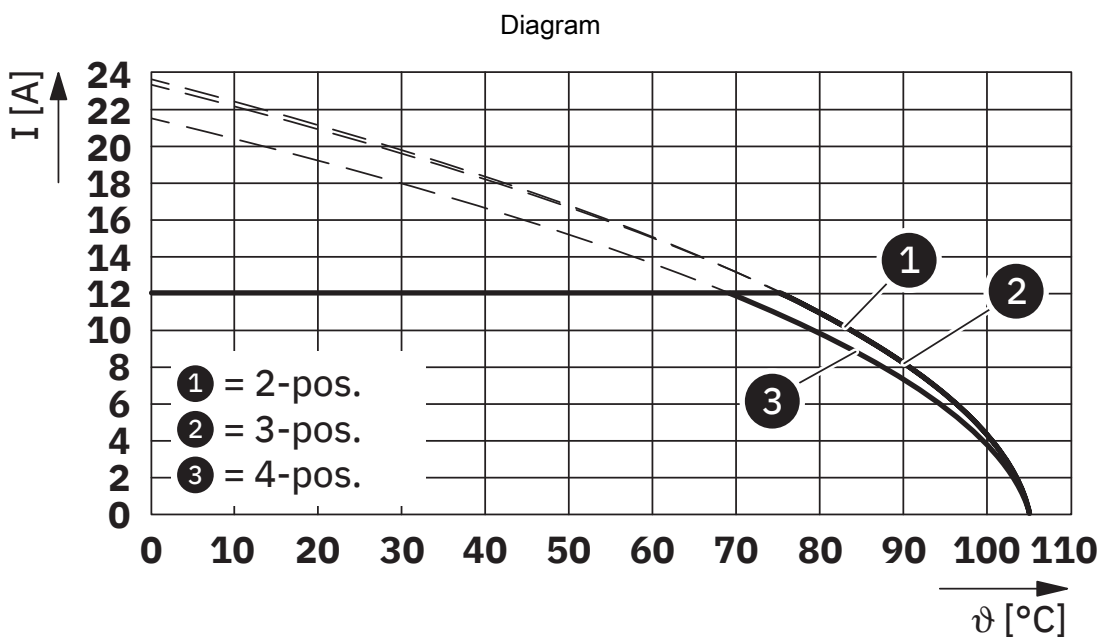
Type: MSTBTP 2,5/...-ST with MSTBO 2,5/...-G1R



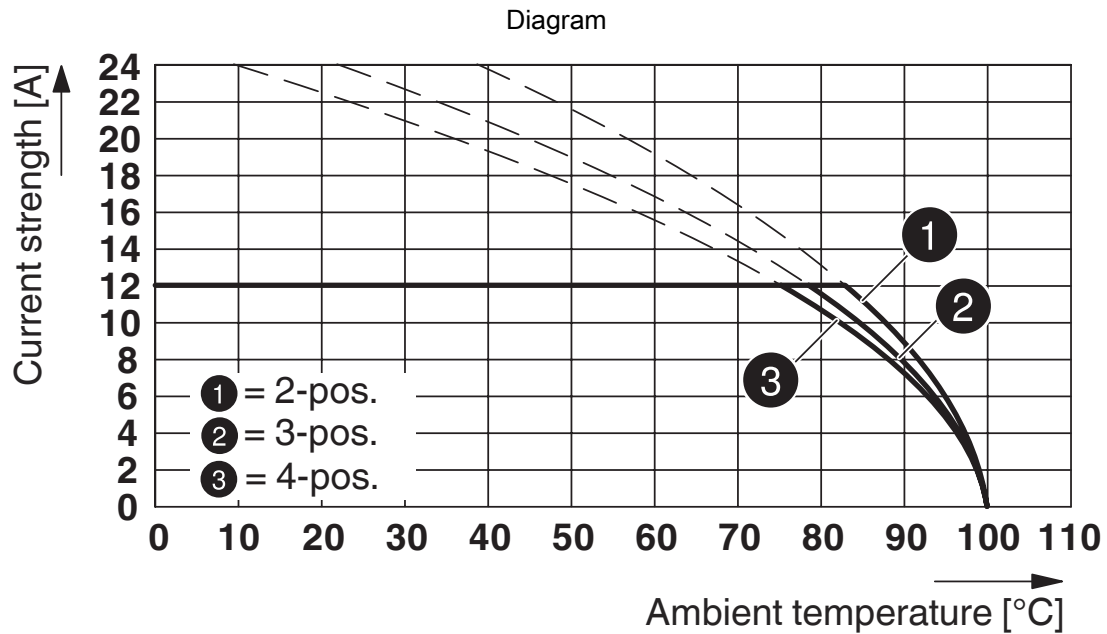
Type: FKCN 2,5/...-ST with MSTBO 2,5/...-G1R



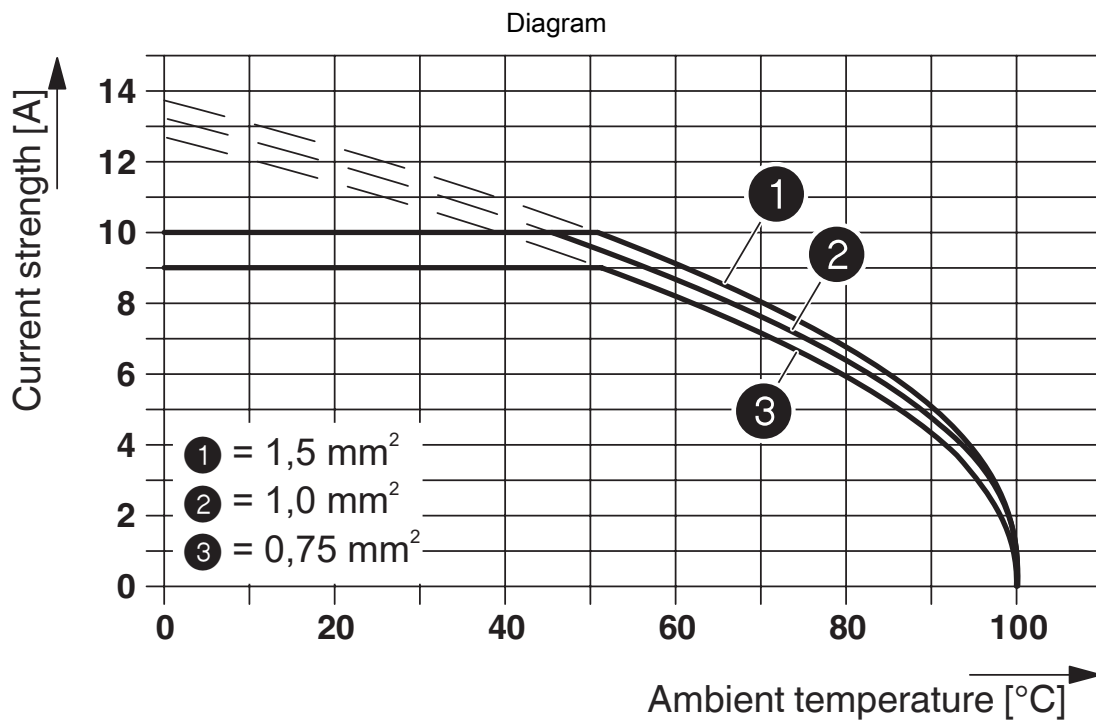
Type: FKCT 2,5/...-ST with MSTBO 2,5/...-G1R



Type: FKCVR 2,5/...-ST with MSTBO 2,5/...-G1R



Type: FKCS 2,5/...-ST with MSTBO 2,5/...-G1R



Type: TVFKC 1,5/...-ST with MSTBO 2,5/...-G1(L/R)

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Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1016975>

 cULus Recognized Approval ID: E60425-20050718				
	Nominal voltage U_N	Nominal current I_N	Cross section AWG	Cross section mm^2
B	300 V	16 A	-	-
D	300 V	10 A	-	-

 CSA Approval ID: 2406780				
	Nominal voltage U_N	Nominal current I_N	Cross section AWG	Cross section mm^2
B	300 V	10 A	-	-
D	300 V	10 A	-	-

 VDE Zeichengenehmigung Approval ID: 40050648				
	Nominal voltage U_N	Nominal current I_N	Cross section AWG	Cross section mm^2
keine	250 V	8 A	-	-

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Classifications

ECLASS

ECLASS-13.0	27460201
ECLASS-15.0	27460201

ETIM

ETIM 10.0	EC002637
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UNSPSC

UNSPSC 21.0	39121400
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Environmental product compliance

EU RoHS

Fulfills EU RoHS substance requirements	Yes, No exemptions
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China RoHS

Environment friendly use period (EFUP)	EFUP-E
	No hazardous substances above the limits

EU REACH SVHC

REACH candidate substance (CAS No.)	No substance above 0.1 wt%
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EF3.1 Climate Change

CO2e kg	0.021 kg CO2e
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