

# Printed-circuit board connector - FKCS 2,5/19-ST-5,08 - 1975244

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PCB connector, nominal current: 12 A, rated voltage (III/2): 320 V, nominal cross section: 2.5 mm<sup>2</sup>, number of positions: 19, pitch: 5.08 mm, connection method: Push-in spring connection, color: green, contact surface: Tin




The figure shows a 10-position version of the product

## Your advantages

- Time saving push-in connection, tools not required
- Clamping space opened by means of fixed screwdriver enables convenient conductor connection
- Quick and convenient testing using integrated test option
- Can be combined with the MSTB 2,5 range



## Key Commercial Data

Packing unit	50 pc
GTIN	 4 017918 971571
GTIN	4017918971571

## Technical data

### Item properties

Brief article description	Printed-circuit board connector
Plug-in system	CLASSIC COMBICON
Type of contact	Female connector
Range of articles	FKCS 2,5/...-ST
Pitch	5.08 mm
Number of positions	19
Connection method	Push-in spring connection
Locking	without
Number of levels	1
Number of connections	19
Number of potentials	19

# Printed-circuit board connector - FKCS 2,5/19-ST-5,08 - 1975244

## Technical data

### Electrical parameters

Nominal current	12 A
Nom. voltage	320 V
Rated voltage	320 V
Rated voltage (III/2)	320 V
Rated voltage (II/2)	630 V
Rated surge voltage (III/3)	4 kV
Rated surge voltage (III/2)	4 kV
Rated surge voltage (II/2)	4 kV

### Connection capacity

Connection method	Push-in spring connection
pluggable	Yes
Conductor cross section solid	0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
Conductor cross section flexible	0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
Conductor cross section AWG / kcmil	24 ... 12
Conductor cross section flexible, with ferrule without plastic sleeve	0.25 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
Conductor cross section, flexible, with ferrule, with plastic sleeve	0.25 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
2 conductors with the same cross section, flexible, with TWIN ferrule with plastic sleeve	0.5 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Cylindrical gauge a x b / diameter	2.8 mm x 2.0 mm / 2.0 mm
Stripping length	10 mm

### 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	hot-dip tin-plated
Metal surface terminal point (top layer)	Tin (4 - 8 µm Sn)
Metal surface contact area (top layer)	Tin (4 - 8 µm Sn)

### Material data - housing

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

### Dimensions for the product

Length [ l ]	25.23 mm
Width [ w ]	97.14 mm
Height [ h ]	15 mm

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## Technical data

### Dimensions for the product

Pitch	5.08 mm
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### Packaging information

Type of packaging	packed in cardboard
Pieces per package	50
Denomination packing units	Pcs.

### Ambient conditions

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

### Termination and connection method

Conductor connection test	The stripped-off ends of the largest conductor can be completely inserted in the opening of the terminal point without using excessive force.
Test result	Test passed
Test – repeated connection and release	IEC 60999-1:1999-11
	Test passed
Test for conductor damage and slackening	IEC 60999-1:1999-11
	Test passed

### Pull-out test

Pull-out test	IEC 60999-1:1999-11
	Test passed
Conductor cross section / conductor type / tensile force	0.2 mm <sup>2</sup> / solid / > 10 N
	0.2 mm <sup>2</sup> / flexible / > 10 N
	2.5 mm <sup>2</sup> / solid / > 50 N
	2.5 mm <sup>2</sup> / flexible / > 50 N

### Mechanical tests according to standard

Test specification	IEC 61984
Visual inspection	IEC 60512-1-1:2002-02
Dimension check	IEC 60512-1-2:2002-02
Resistance of inscriptions	IEC 60068-2-70:1995-12
Insertion and withdrawal force	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	IEC 60512-13-5:2006-02
Contact holder in insert	IEC 60512-15-1:2008-05
Test force per pos.	29 N

### Air clearances and creepage distances

Clearances and creepage distances	IEC 60664-1:2007-04
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## Technical data

### Air clearances and creepage distances

Specification	IEC 60664-1:2007-04
Minimum clearance - inhomogeneous field (III/3)	3 mm
Minimum clearance - inhomogeneous field (III/2)	3 mm
Minimum clearance - inhomogeneous field (II/2)	3 mm
Minimum creepage distance value (III/3)	4 mm
Minimum creepage distance value (III/2)	3 mm
Minimum creepage distance value (II/2)	3.2 mm

### Electrical tests - Function

Specification	IEC 60999-1:1999-11
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### Temperature cycles

Specification	IEC 60999-1:1999-11
Test current (minimum cross section)	4 A AC
Test current (maximum cross section)	12 A AC
Temperature cycles	192

### Current carrying capacity / derating curves

Caption	Type: FKCS 2,5/...-ST-5,08 with CCA 2,5/...-G-5,08 P26THR
Specification	IEC 61984:2008-10
Reduction factor	0.8
Note	Representation based on IEC 60512-5-2:2002-02
	For number of positions, see diagram

### Mechanical tests (A)

Test specification	IEC 61984
Insertion strength per pos. approx.	8 N
Withdraw strength per pos. approx.	6 N
Polarization when inserted requirement >20 N	Test passed
Contact holder in insert requirements >20 N	Test passed

### Durability tests (B)

Specification	IEC 60512-9-1:2010-03
Contact resistance R <sub>1</sub>	1.1 mΩ
Insertion/withdrawal cycles	25
Contact resistance R <sub>2</sub>	1.2 mΩ
Impulse withstand voltage at sea level	4.8 kV
Power-frequency withstand voltage	2.21 kV
Insulation resistance, neighboring positions	> 24 GΩ

### Thermal tests (C)

Specification	IEC 60512-5-1:2002-02
Number of positions	12
Conductor cross section	2.5 mm <sup>2</sup>

# Printed-circuit board connector - FKCS 2,5/19-ST-5,08 - 1975244

## Technical data

### Thermal tests (C)

Test current	12 A DC
Upper limiting temperature requirements <100 °C	Test passed

### Climatic tests (D)

Specification	ISO 6988:1985-02
Cold stress	-40 °C/2 h
Thermal stress	100 °C/168 h
Corrosive stress	0.2 dm <sup>3</sup> SO <sub>2</sub> on 300 dm <sup>3</sup> /40 °C/1 cycle
Impulse withstand voltage at sea level	4.8 kV
Power-frequency withstand voltage	2.21 kV

### Environmental and durability tests (E)

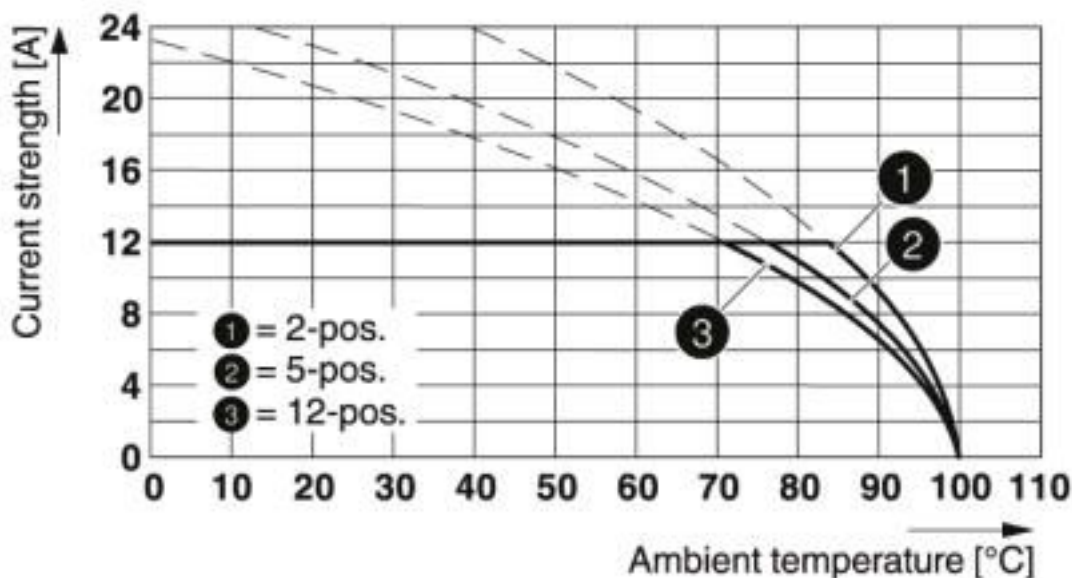
Specification	IEC 61984:2008-10
Result, degree of protection, IP code	Finger safety with IP20 test finger

### Environmental Product Compliance

China RoHS	Environmentally friendly use period: unlimited = EFUP-e
	No hazardous substances above threshold values

## Drawings

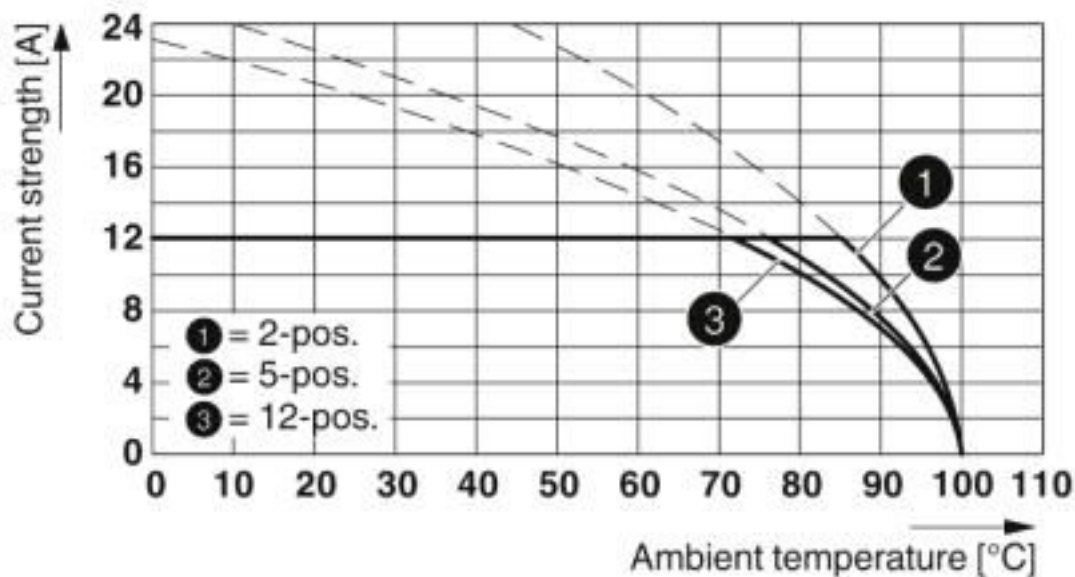
Diagram



Type: FKCS 2,5/....-ST-5,08 with CCA 2,5/....-G-5,08 P26THR

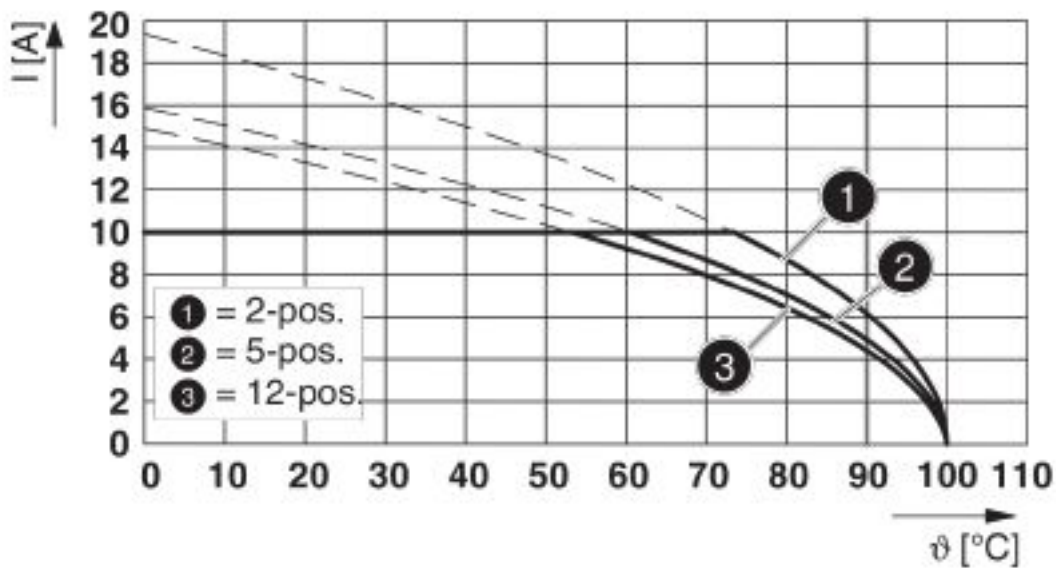
# Printed-circuit board connector - FKCS 2,5/19-ST-5,08 - 1975244

Diagram



Type: FKCS 2,5/...-ST-5,08 with CCVA 2,5/...-G-5,08 P26THR

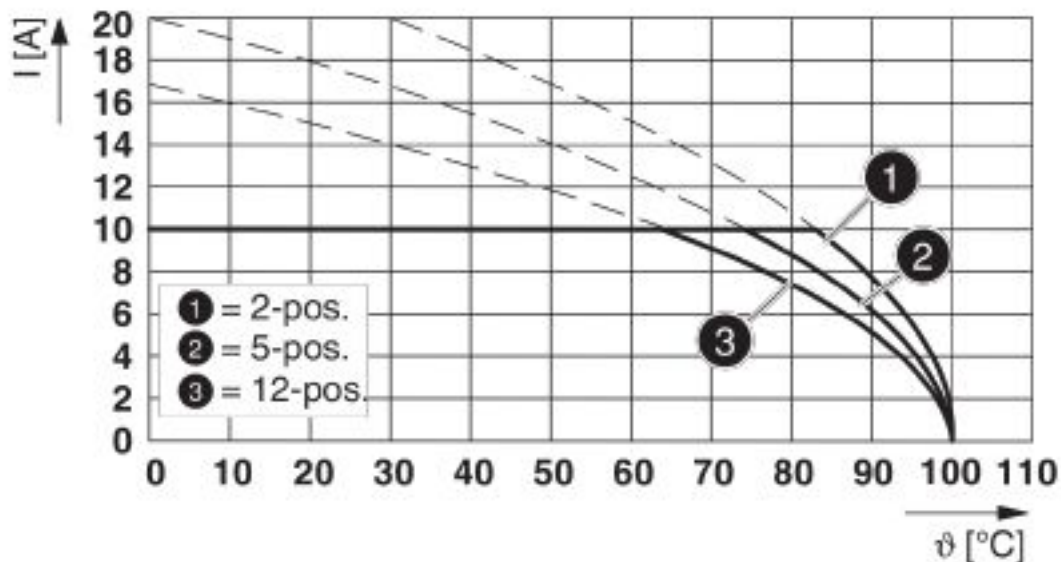
Diagram



Type: FKCS 2,5/...-ST-5,08 with MDSTBV 2,5/...-G-5,08

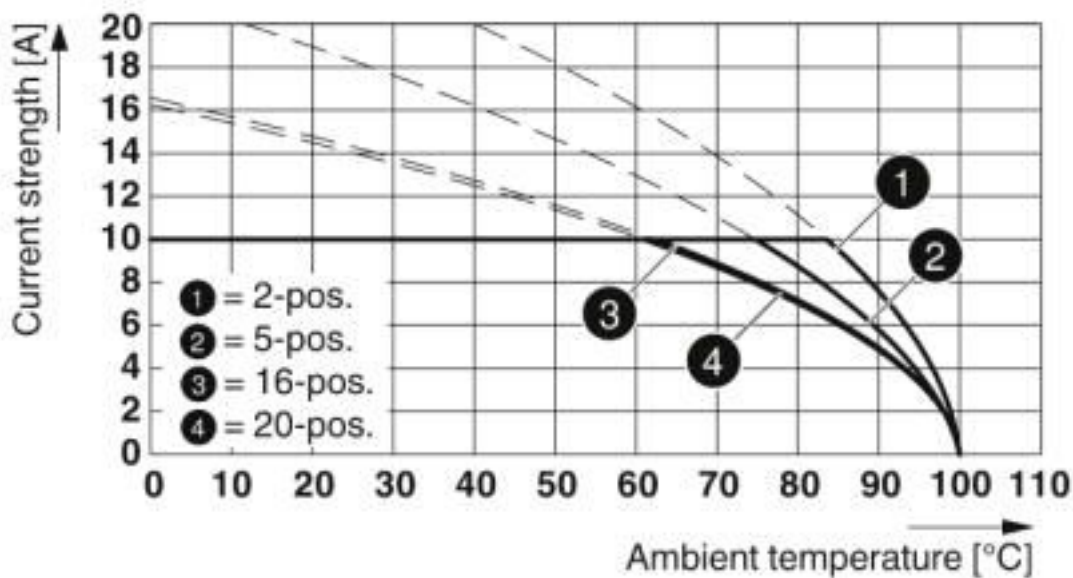
# Printed-circuit board connector - FKCS 2,5/19-ST-5,08 - 1975244

Diagram



Type: FKCS 2,5/...-ST-5,08 with MDSTBA 2,5/...-G-5,08

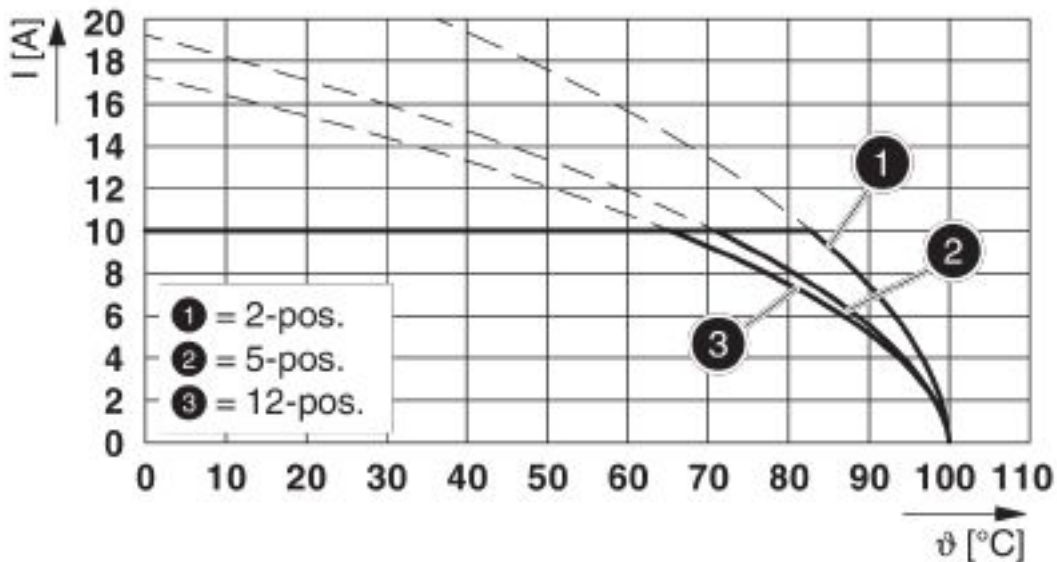
Diagram



Type: FKCS 2,5/...-ST-5,08 with MDSTB 2,5/...-G1-5,08

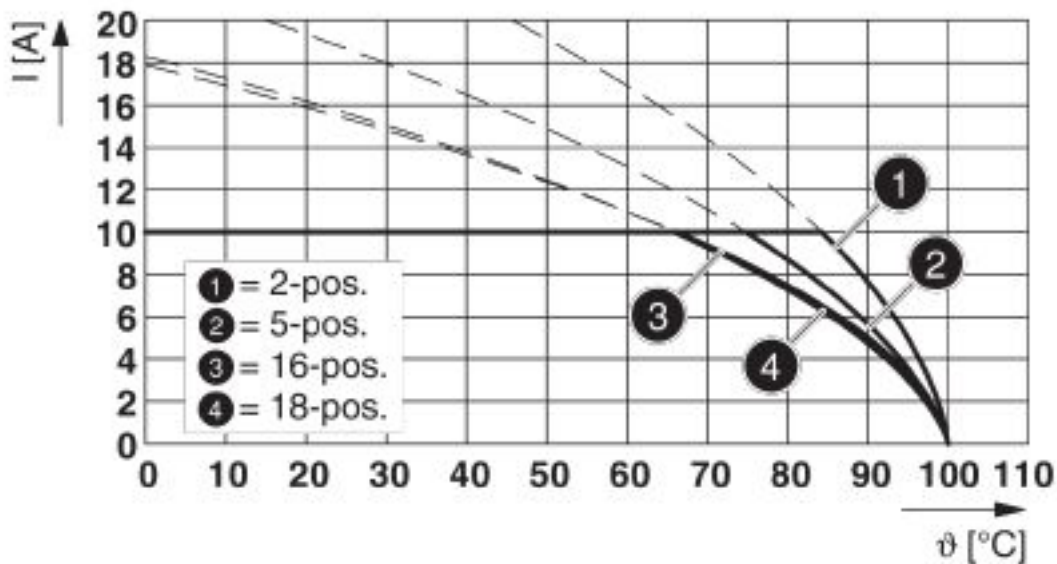
# Printed-circuit board connector - FKCS 2,5/19-ST-5,08 - 1975244

Diagram



Type: FKCS 2,5/...-ST-5,08 with MDSTBW 2,5/...-G-5,08

Diagram

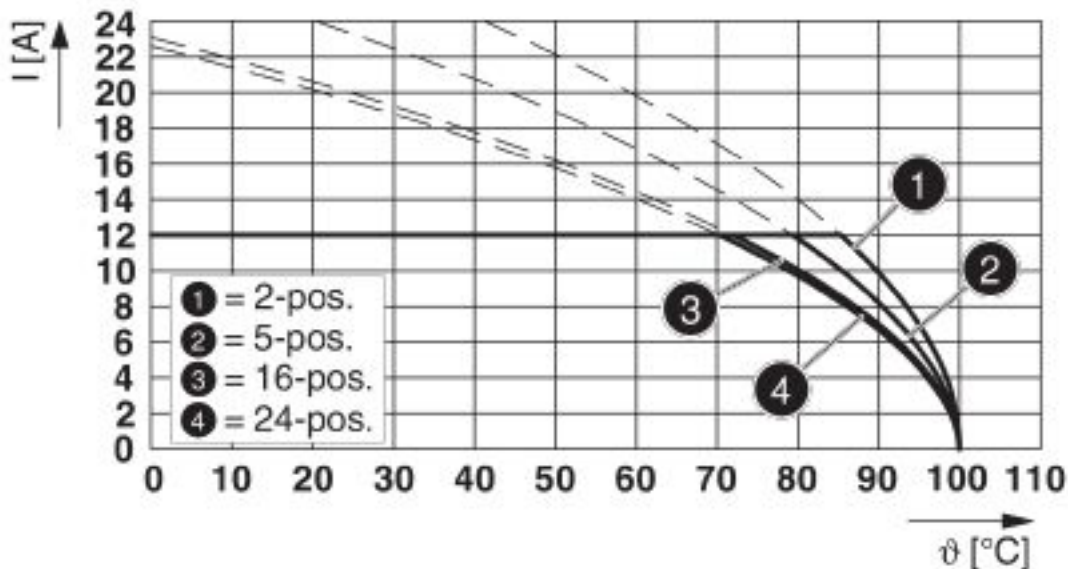


Type: FKCS 2,5/...-ST-5,08 with CCDN 2,5/...-G1-5,08 P...THR



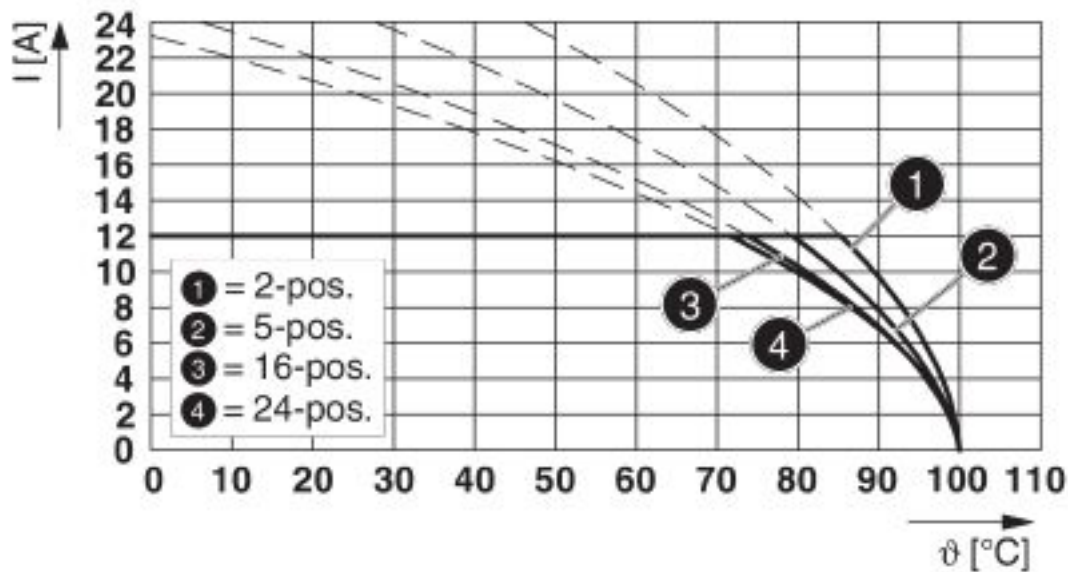
# Printed-circuit board connector - FKCS 2,5/19-ST-5,08 - 1975244

Diagram



Type: FKCS 2,5/...-ST-5,08 with SMSTB 2,5/...-G-5,08

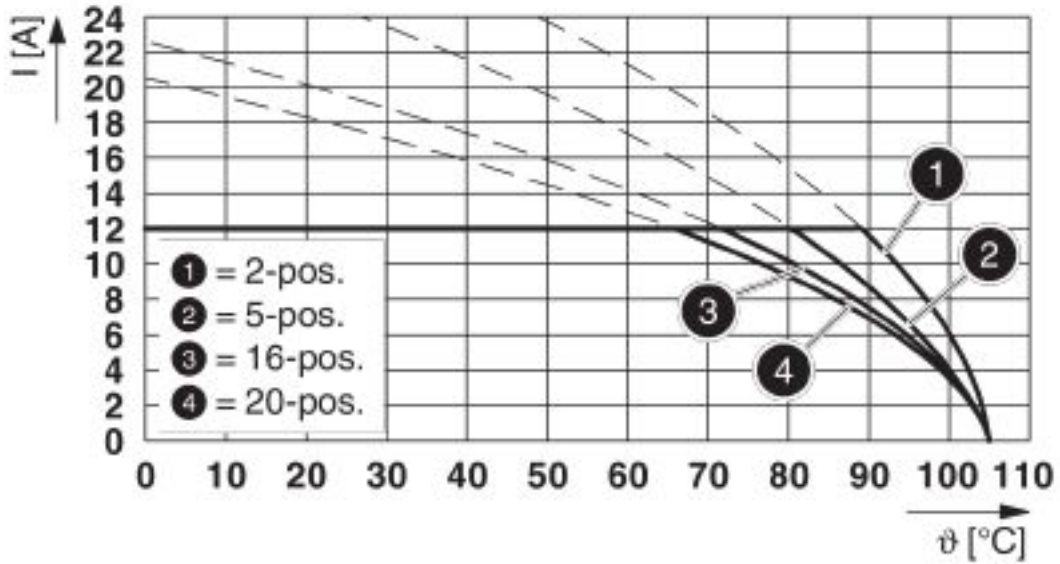
Diagram



Type: FKCS 2,5/...-ST-5,08 with SMSTBA 2,5/...-G-5,08

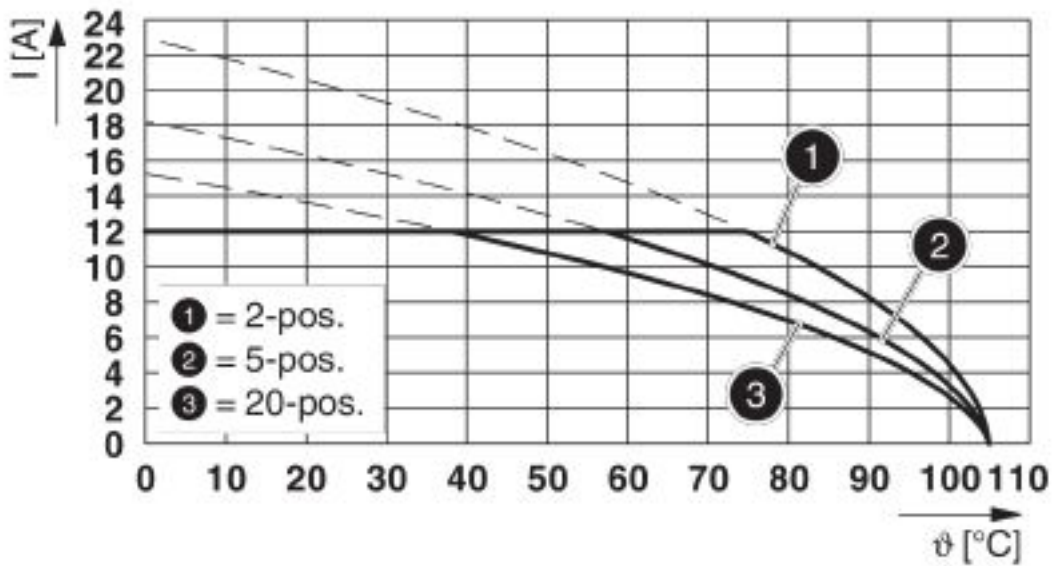
# Printed-circuit board connector - FKCS 2,5/19-ST-5,08 - 1975244

Diagram



Type: FKCS 2,5/...-ST-5,08 with MSTBW 2,5/...-G-5,08

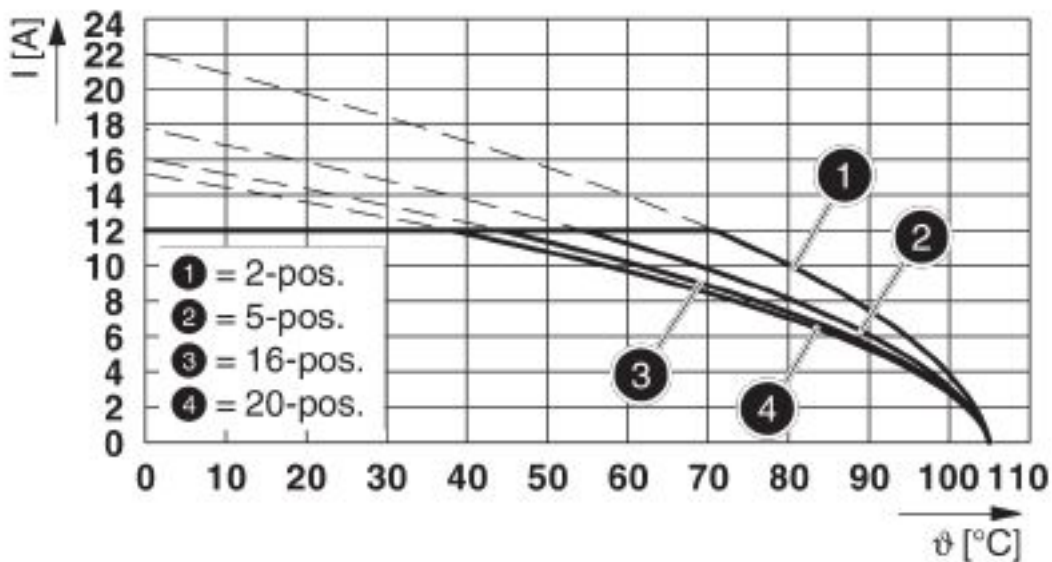
Diagram



Type: FKCS 2,5/...-ST-5,08 with MSTBV 2,5/...-G-5,08

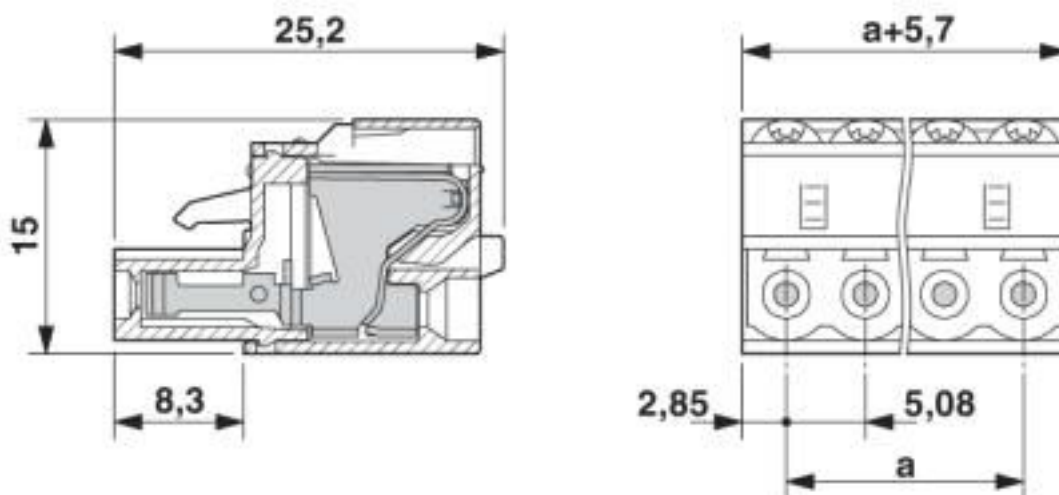
# Printed-circuit board connector - FKCS 2,5/19-ST-5,08 - 1975244

Diagram



Type: FKCS 2,5/...-ST-5,08 with MSTBVA 2,5/...-G-5,08

Dimensional drawing



## Classifications

eCl@ss

eCl@ss 10.0.1	27440309
eCl@ss 4.0	27260700
eCl@ss 4.1	27260700
eCl@ss 5.0	27260700
eCl@ss 5.1	27260700
eCl@ss 6.0	27260700

# Printed-circuit board connector - FKCS 2,5/19-ST-5,08 - 1975244

## Classifications

### eCl@ss

eCl@ss 7.0	27440309
eCl@ss 8.0	27440309
eCl@ss 9.0	27440309

### ETIM

ETIM 3.0	EC001121
ETIM 4.0	EC002638
ETIM 5.0	EC002638
ETIM 6.0	EC002638
ETIM 7.0	EC002638

### UNSPSC

UNSPSC 6.01	30211810
UNSPSC 7.0901	39121409
UNSPSC 11	39121409
UNSPSC 12.01	39121409
UNSPSC 13.2	39121409
UNSPSC 18.0	39121409
UNSPSC 19.0	39121409
UNSPSC 20.0	39121409
UNSPSC 21.0	39121409

## Approvals

### Approvals

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### Approvals


IECEE CB Scheme / EAC / cULus Recognized / VDE Zeichengenehmigung

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### Ex Approvals

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### Approval details

IECEE CB Scheme		<a href="http://www.iecee.org/">http://www.iecee.org/</a>	DE1-60988-B1B2
Nominal voltage UN	250 V		
Nominal current IN	12 A		
mm <sup>2</sup> /AWG/kcmil	0.2-2.5		

# Printed-circuit board connector - FKCS 2,5/19-ST-5,08 - 1975244

## Approvals

EAC		B.01687
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cULus Recognized		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	E60425-19931011
	B	D	
Nominal voltage UN	300 V	300 V	
Nominal current IN	10 A	10 A	
mm <sup>2</sup> /AWG/kcmil	26-12	26-12	

VDE Zeichengenehmigung		<a href="http://www2.vde.com/de/Institut/Online-Service/VDE-gepruefteProdukte/Seiten/Online-Suche.aspx">http://www2.vde.com/de/Institut/Online-Service/VDE-gepruefteProdukte/Seiten/Online-Suche.aspx</a>	40050694
Nominal voltage UN	250 V		
Nominal current IN	12 A		
mm <sup>2</sup> /AWG/kcmil	0.2-2.5		

## Accessories

### Accessories

#### Coding element

Coding profile - CP-MSTB - 1734634

Coding profile, is inserted into the slot on the plug or inverted header, red insulating material



#### Crimping tool

Crimping pliers - CRIMPFOX 6 - 1212034



Crimping pliers, for ferrules without insulating collar according to DIN 46228 Part 1 and ferrules with insulating collar according to DIN 46228 Part 4, 0.25 mm<sup>2</sup> ... 6.0 mm<sup>2</sup>, lateral entry, trapezoidal crimp

#### Insulating sleeve

## Printed-circuit board connector - FKCS 2,5/19-ST-5,08 - 1975244

### Accessories

Insulating sleeve - MPS-IH WH - 0201663

Insulating sleeve, color: white



Insulating sleeve - MPS-IH RD - 0201676

Insulating sleeve, color: red



Insulating sleeve - MPS-IH BU - 0201689

Insulating sleeve, color: blue



Insulating sleeve - MPS-IH GN - 0201702

Insulating sleeve, color: green



### Labeled terminal marker

Marker card - SK 5,08/3,8:FORTL.ZAHLEN - 0804293

Marker card, Card, white, labeled, horizontal: consecutive numbers 1 ... 10, 11 ... 20, etc. up to 91 ... (99)100, mounting type: adhesive, for terminal block width: 5.08 mm, lettering field size: 5.08 x 3.8 mm



### Screwdriver tools

## Printed-circuit board connector - FKCS 2,5/19-ST-5,08 - 1975244

### Accessories

Screwdriver - SZS 0,6X3,5 - 1205053



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

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### Strain relief

Strain relief - STZ 4-FKC-5,08 - 1876877



Strain relief for snapping into the latching chambers of the plugs, 4-pos.

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Strain relief - STZ 8-FKC-5,08 - 1876880



Strain relief for snapping into the latching chambers of the plug components, 8-pos.

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### Terminal marking

Marker card - SK 5,08/3,8:UNBEDRUCKT - 0805412



Marker card, Card, white, unlabeled, can be labeled with: Marker pen, mounting type: adhesive, for terminal block width: 5.08 mm, lettering field size: 5.08 x 3.8 mm

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### Test plug terminal block

Test plugs - MPS-MT - 0201744



Test plugs, with solder connection up to 1 mm<sup>2</sup> conductor cross section, color: gray

## Printed-circuit board connector - FKCS 2,5/19-ST-5,08 - 1975244

### Accessories

Reducing plug - RPS - 0201647



Reducing plug, color: gray

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### Additional products

Feed-through header - MSTBW 2,5/19-G-5,08 - 1735714



PCB headers, nominal current: 12 A, rated voltage (III/2): 320 V, nominal cross section: 2.5 mm<sup>2</sup>, number of positions: 19, pitch: 5.08 mm, color: green, contact surface: Tin, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.5 mm

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Printed-circuit board connector - MSTBVA 2,5/19-G-5,08 - 1755901



PCB headers, nominal current: 12 A, rated voltage (III/2): 320 V, nominal cross section: 2.5 mm<sup>2</sup>, number of positions: 19, pitch: 5.08 mm, color: green, contact surface: Tin, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.9 mm

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Printed-circuit board connector - MSTBA 2,5/19-G-5,08 - 1757417



PCB headers, nominal current: 12 A, rated voltage (III/2): 320 V, nominal cross section: 2.5 mm<sup>2</sup>, number of positions: 19, pitch: 5.08 mm, color: green, contact surface: Tin, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.5 mm

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Feed-through header - MSTBV 2,5/19-G-5,08 - 1758186



PCB headers, nominal current: 12 A, rated voltage (III/2): 320 V, nominal cross section: 2.5 mm<sup>2</sup>, number of positions: 19, pitch: 5.08 mm, color: green, contact surface: Tin, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.9 mm



## Printed-circuit board connector - FKCS 2,5/19-ST-5,08 - 1975244

### Accessories

#### Feed-through header - MSTB 2,5/19-G-5,08 - 1759185

PCB headers, nominal current: 12 A, rated voltage (III/2): 320 V, nominal cross section: 2.5 mm<sup>2</sup>, number of positions: 19, pitch: 5.08 mm, color: green, contact surface: Tin, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.5 mm



#### Feed-through header - MDSTB 2,5/19-G1-5,08 - 1762538

PCB headers, nominal current: 10 A, rated voltage (III/2): 320 V, nominal cross section: 2.5 mm<sup>2</sup>, number of positions: 19, pitch: 5.08 mm, color: green, contact surface: Tin, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.5 mm. In combination with MVSTB or FKCV plug components, both an MVSTBW (or FKCVW) and an MVSTBR plug (or FKCVR) must be used. Combination with TMSTBP plug components is not possible!



#### Feed-through header - MDSTBV 2,5/19-G1-5,08 - 1762677

PCB headers, nominal current: 10 A, rated voltage (III/2): 320 V, nominal cross section: 2.5 mm<sup>2</sup>, number of positions: 19, pitch: 5.08 mm, color: green, contact surface: Tin, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.9 mm. In combination with MVSTB or FKCV plug components, both an MVSTBW (or FKCVW) and an MVSTBR plug (or FKCVR) must be used. Combination with TMSTBP plug components is not possible!



#### Feed-through header - SMSTBA 2,5/19-G-5,08 - 1767546

PCB headers, nominal current: 12 A, rated voltage (III/2): 320 V, nominal cross section: 2.5 mm<sup>2</sup>, number of positions: 19, pitch: 5.08 mm, color: green, contact surface: Tin, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.5 mm



#### Feed-through header - MSTBA 2,5/19-G-5,08-LA - 1768118

PCB headers, number of positions: 19, pitch: 5.08 mm, color: green, contact surface: Tin, pin layout: Linear pinning, solder pin [P]: 3.5 mm



## Printed-circuit board connector - FKCS 2,5/19-ST-5,08 - 1975244

### Accessories

Printed-circuit board connector - SMSTB 2,5/19-G-5,08 - 1769638

PCB headers, nominal current: 12 A, rated voltage (III/2): 320 V, nominal cross section: 2.5 mm<sup>2</sup>, number of positions: 19, pitch: 5.08 mm, color: green, contact surface: Tin, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.5 mm



Feed-through header - MSTBV 2,5/19-GEH-5,08 - 1808638

PCB headers, nominal current: 12 A, rated voltage (III/2): 320 V, nominal cross section: 2.5 mm<sup>2</sup>, number of positions: 19, pitch: 5.08 mm, color: green, contact surface: Tin, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.9 mm



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PHOENIX CONTACT GmbH & Co. KG  
Flachsmarktstr. 8  
32825 Blomberg  
Germany  
Tel. +49 5235 300  
Fax +49 5235 3 41200  
<http://www.phoenixcontact.com>

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