

Printed-circuit board connector - PTSM 0,5/ 4-P-2,5 - 1778858

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PCB connector, nominal current: 6 A, rated voltage (III/2): 160 V, nominal cross section: 0.5 mm², number of positions: 4, pitch: 2.5 mm, connection method: Push-in spring connection, color: black, contact surface: Tin


The figure shows a 3-position version

Your advantages

- ✓ Time saving push-in connection, tools not required
- ✓ Defined contact force ensures that contact remains stable over the long term
- ✓ High current carrying capacity of 6 A in very compact dimensions



Key Commercial Data

Packing unit	250 pc
Minimum order quantity	250 pc
GTIN	 4 046356 530064
GTIN	4046356530064

Technical data

Item properties

Brief article description	Printed-circuit board connector
Plug-in system	COMBICON COMPACT PTSM
Type of contact	Female connector
Range of articles	PTSM 0,5/...-P
Pitch	2.5 mm
Number of positions	4
Connection method	Push-in spring connection
Locking	without
Number of levels	1
Number of connections	4
Number of potentials	4

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Technical data

Electrical parameters

Nominal current	6 A
Nom. voltage	160 V
Rated voltage	100 V
Rated voltage (III/2)	160 V
Rated voltage (II/2)	320 V
Rated surge voltage (III/3)	2.5 kV
Rated surge voltage (III/2)	2.5 kV
Rated surge voltage (II/2)	2.5 kV

Connection capacity

Connection method	Push-in spring connection
pluggable	Yes
Conductor cross section solid	0.14 mm ² ... 0.5 mm ²
Conductor cross section flexible	0.2 mm ² ... 0.5 mm ² (up to 0.75 mm ² supported, at a rated insulation voltage of 32 V at III/2)
Conductor cross section AWG / kcmil	24 ... 20
Conductor cross section flexible, with ferrule without plastic sleeve	0.25 mm ² ... 0.5 mm ²
Conductor cross section, flexible, with ferrule, with plastic sleeve	0.25 mm ² ... 0.34 mm ²
Stripping length	6 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	black (9005)
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]	15 mm
Width [w]	11.1 mm
Height [h]	5 mm
Pitch	2.5 mm
Height (without solder pin)	5 mm

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Packaging information

Type of packaging	packed in cardboard
Pieces per package	250
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	0.14 mm ² / solid / > 10 N
	0.2 mm ² / flexible / > 10 N
	0.5 mm ² / solid / > 20 N
	0.75 mm ² / flexible / > 30 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	10
Insertion strength per pos. approx.	5 N
Withdraw strength per pos. approx.	4 N
Polarization and coding	IEC 60512-13-5:2006-02
Contact holder in insert	IEC 60512-15-1:2008-05
Test force per pos.	20 N

Air clearances and creepage distances

Clearances and creepage distances	IEC 60664-1:2007-04
Specification	IEC 60664-1:2007-04
Minimum clearance - inhomogeneous field (III/3)	1.5 mm

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Air clearances and creepage distances

Minimum clearance - inhomogeneous field (III/2)	1.5 mm
Minimum clearance - inhomogeneous field (II/2)	1.5 mm
Minimum creepage distance value (III/3)	1.8 mm
Minimum creepage distance value (III/2)	0.8 mm
Minimum creepage distance value (II/2)	1.6 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 DC
Test current (maximum cross section)	6 A DC
Temperature cycles	192

Current carrying capacity / derating curves

Caption	Derating curve for: PTSM 0,5/...-P-2,5 with PTSM 0,5/...-HV-2,5-THR R...
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.	5 N
Withdraw strength per pos. approx.	4 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 ₁	3 mΩ
Insertion/withdrawal cycles	10
Contact resistance R ₂	4 mΩ
Impulse withstand voltage at sea level	2.95 kV
Power-frequency withstand voltage	1.39 kV
Insulation resistance, neighboring positions	31 TΩ

Thermal tests (C)

Specification	IEC 60512-5-1:2002-02
Number of positions	8
Conductor cross section	0.5 mm ²
Test current	6 A DC

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Technical data

Thermal tests (C)

Upper limiting temperature requirements <100 °C	Test passed
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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 ³ SO ₂ on 300 dm ³ /40 °C/1 cycle
Impulse withstand voltage at sea level	2.95 kV
Power-frequency withstand voltage	1.39 kV

Environmental and durability tests (E)

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

Standards and Regulations

Connection in acc. with standard	EN-VDE
	CUL
Flammability rating according to UL 94	V0

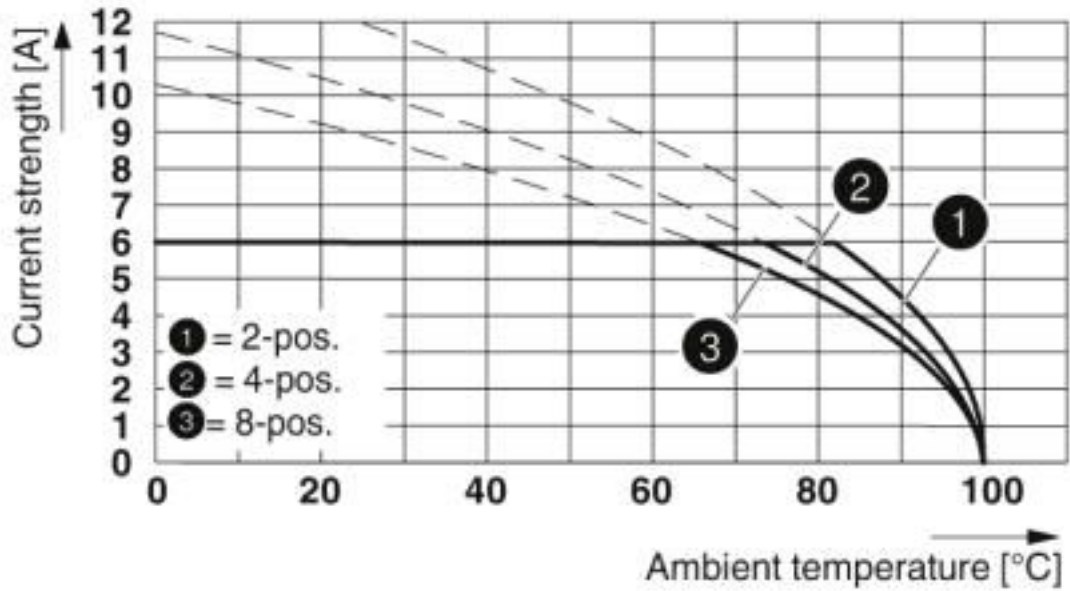
Environmental Product Compliance

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

Drawings

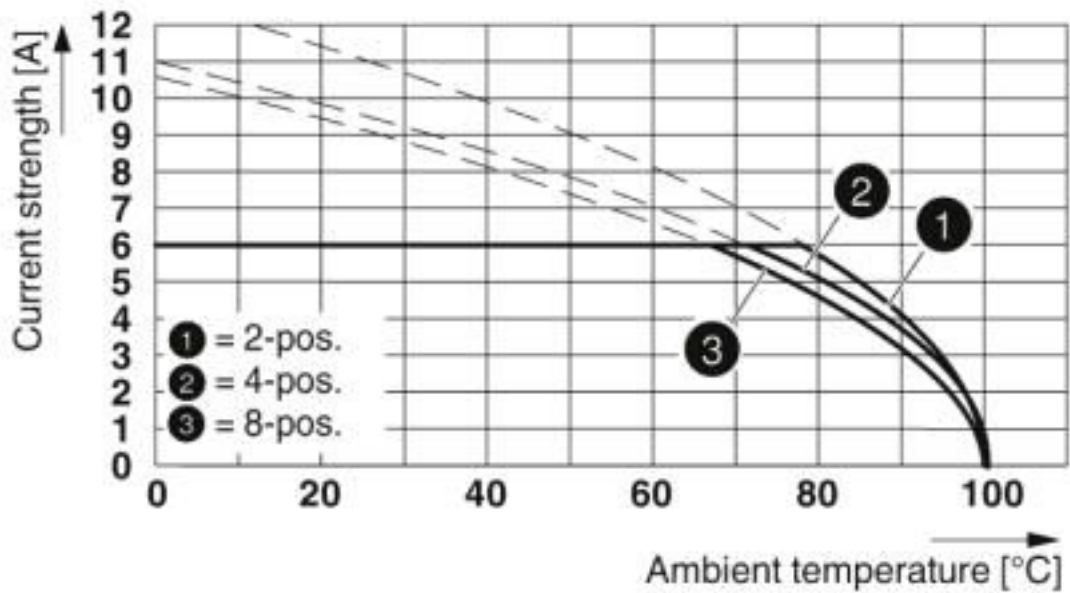
Printed-circuit board connector - PTSM 0,5/ 4-P-2,5 - 1778858

Diagram



Derating curve for: PTSM 0,5/...-P-2,5 with PTSM 0,5/...-HV-2,5-THR R...

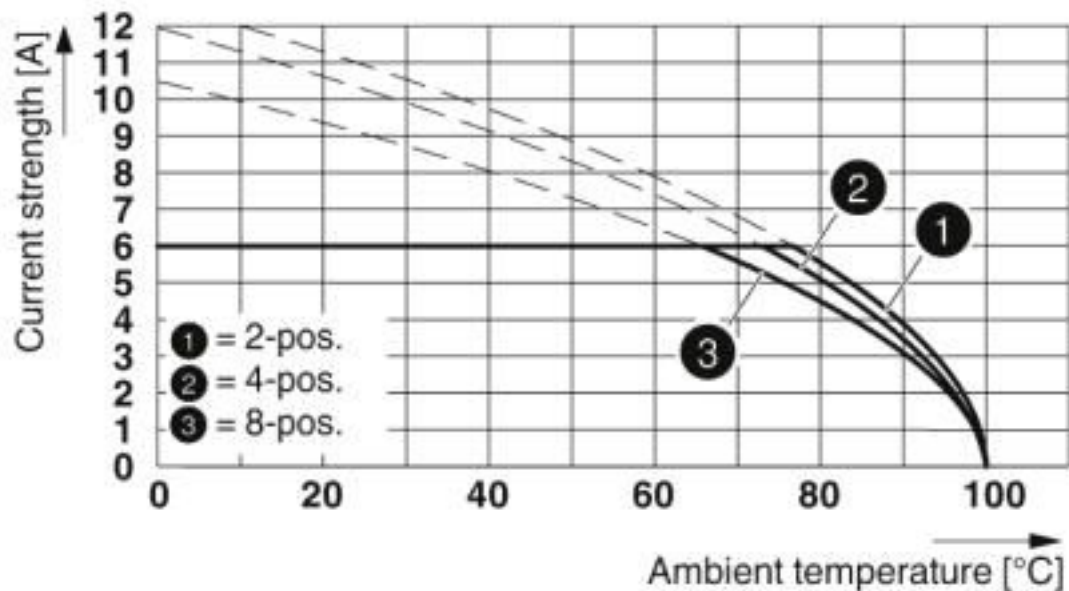
Diagram



Derating curve for: PTSM 0,5/...-P-2,5 with PTSM 0,5/...-HH-2,5-THR R..

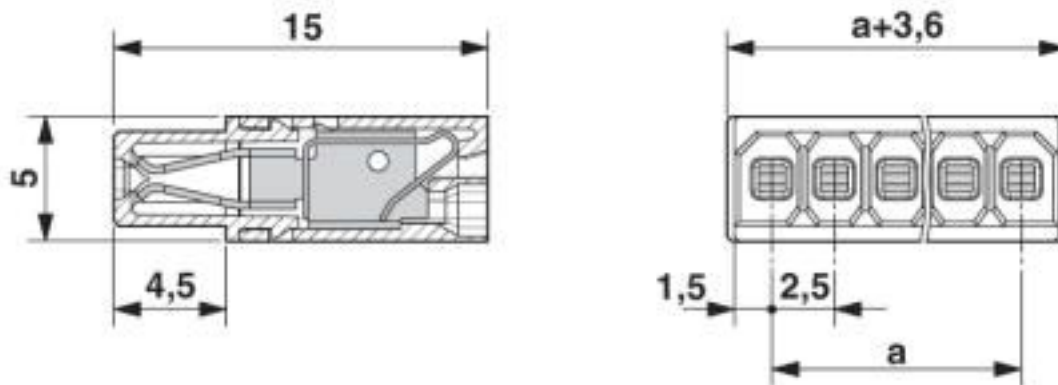
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Diagram



Derating curve for: PTSM 0,5/...-P-2,5 with PTSM 0,5/...-HH-2,5-SMD R..

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
eCl@ss 7.0	27440309
eCl@ss 8.0	27440309

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Classifications

eCl@ss

eCl@ss 9.0	27440309
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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

Approvals

UL Recognized / VDE Zeichengenehmigung / EAC / cULus Recognized

Ex Approvals

Approval details

UL Recognized		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm E118976-20130619
		B
Nominal voltage UN		150 V
Nominal current IN		5 A
mm ² /AWG/kcmil		26-18

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Approvals

VDE Zeichengenehmigung		http://www2.vde.com/de/Institut/Online-Service/VDE-gepruefteProdukte/Seiten/Online-Suche.aspx	40048497
Nominal voltage UN	160 V		
Nominal current IN	6 A		
mm ² /AWG/kcmil	0.14-.5		

EAC		B.01687
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cULus Recognized		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	E60425-20101209
	B		
Nominal voltage UN	150 V		
Nominal current IN	5 A		
mm ² /AWG/kcmil	26-20		

Accessories

Accessories

Cable end sleeve

Ferrule - AI 0,25- 6 BU - 3203040



Ferrule, sleeve length: 6 mm, length: 10.5 mm, color: blue

Ferrule - AI 0,25- 6 YE - 3203024



Ferrule, sleeve length: 6 mm, length: 10.5 mm, color: yellow

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Accessories

Ferrule - AI 0,34- 6 TQ - 3203053



Ferrule, sleeve length: 6 mm, length: 10.5 mm, color: turquoise

Screwdriver tools

Screwdriver - SZS 0,4X2,0 - 1205202



Micro screwdriver, bladed, size: 0.4 x 2.0 x 60 mm, 2-component grip, with non-slip grip and twist cap

Additional products

Printed-circuit board connector - PTSM 0,5/ 4-HV-2,5-THR R32 - 1778573



PCB headers, nominal current: 6 A, rated voltage (III/2): 160 V, nominal cross section: 0.5 mm², number of positions: 4, pitch: 2.5 mm, color: black, contact surface: Tin, mounting: THR soldering, pin layout: Linear pinning, solder pin [P]: 2 mm

Feed-through header - PTSM 0,5/ 4-HH-2,5-THR R32 - 1778641



PCB headers, nominal current: 6 A, rated voltage (III/2): 160 V, nominal cross section: 0.5 mm², number of positions: 4, pitch: 2.5 mm, color: black, contact surface: Tin, mounting: THR soldering, pin layout: Linear pinning, solder pin [P]: 2.1 mm

Feed-through header - PTSM 0,5/ 4-HH-2,5-SMD R32 - 1778780



PCB headers, nominal current: 6 A, rated voltage (III/2): 160 V, nominal cross section: 0.5 mm², number of positions: 4, pitch: 2.5 mm, color: black, contact surface: Tin, mounting: SMD soldering, pin layout: Linear pad geometry, Article with anti-rotation pin

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