

Order No.: 1716971

Type: LPCH 6/ 3+6-STL3-7,62

PCB hybrid connector, Push-in spring connection

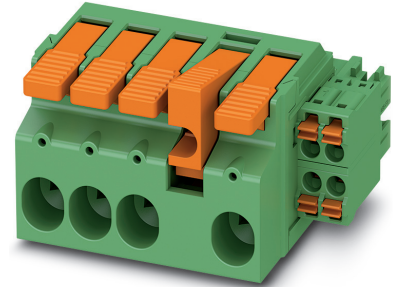


Figure shows a 4+4-pos. version with locking flange at position 4

1 Main features



- | | | | |
|---------------------------|---------------------------|------------------------|---------------------|
| • No. of pos. | 9 | • Nominal current | 41 A |
| • Conductor cross section | 6 mm ² | • Nominal voltage | 1000 V |
| • Color | green (6021) | • Connection direction | 0 ° |
| • Pitch | 7.62 mm | • Type of packaging | packed in cardboard |
| • Connection method | Push-in spring connection | | |

2 Your advantages

- ✓ Tool-free lever principle enables time-saving connection and release of conductors with/without ferrules
- ✓ Clear lever positions provide reliable feedback on opened or closed clamping spaces
- ✓ Defined contact force ensures that contact remains stable over the long term
- ✓ Time-saving push-in connection when lever is closed

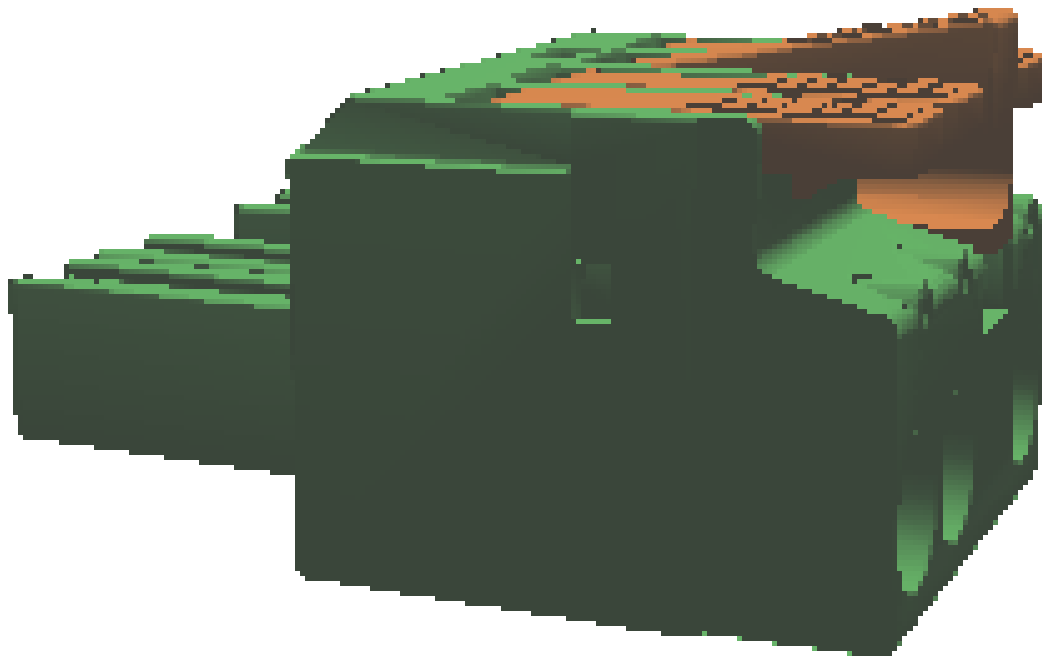


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3 Table of contents

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	Material properties.....	5
7	Dimensions.....	6
8	Series drawing.....	7
9	Packaging information	8
10	Application.....	8
11	General tests	9
12	Mechanical tests.....	9
13	Electrical tests	11
14	Current carrying capacity/derating curves	12
15	Environmental and durability tests	13
16	Classification for connectors.....	13
17	Approvals / Certificates.....	14
18	Commercial Data.....	15
19	Accessories.....	15
20	Combination tests.....	16

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



1716971 LPCH 6/ 3+6-STL3-7,62**5 General Technical Data****5.1 item properties**

Order No.	1716971
Type	LPCH 6/ 3+6-STL3-7,62
Plug-in system	POWER COMBICON 6 Hybrid
Product type	PCB hybrid connector
Type of contact	Female connector
Range of articles	LPCH 6/...STL
Number of positions	9
Number of connections	9
Number of potentials	9
Type of locking	Snap-in locking Self-locking flange

	Power	Signal
Pitch	7.62 mm	3.81 mm
Connection method	Push-in spring connection	Push-in spring connection
Number of levels	1	2
Number of positions	3	6
Number of connections	3	6
Number of potentials	3	6

5.2 Connection capacity

	Power	Signal
Conductor cross section, solid	0.75 mm ² ... 10 mm ²	0.2 mm ² ... 1.5 mm ²
Conductor cross section, flexible	0.75 mm ² ... 6 mm ²	0.2 mm ² ... 1.5 mm ²
Conductor cross section flexible, with ferrule without plastic sleeve	0.75 mm ² ... 6 mm ²	0.25 mm ² ... 1.5 mm ²
Conductor cross section flexible, with ferrule with plastic sleeve	0.75 mm ² ... 6 mm ²	0.25 mm ² ... 1 mm ²
Cylindrical gauge a x b / diameter	4.3 mm x 4.0 mm / 4.0 mm	2.4 mm x 1.5 mm / 1.5 mm
Stripping length	18 mm	10 mm

5.3 Connection capacity AWG

Connection data AWG	Power	Signal
Conductor cross section AWG	18 ... 8	24 ... 16

1716971 LPCH 6/ 3+6-STL3-7,62

6 Material properties**6.1 RoHs/WEEE compliant**

Note	WEEE/RoHS-compliant, free of whiskers according to IEC 60068-2-82/JEDEC JESD 201
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6.2 Material of metal parts

	Power	Signal
Contact material	Cu alloy	Cu alloy
Terminal point surface	Tin (4 - 8 µm Sn)	Tin (4 - 8 µm Sn)
Surface contact area	Tin (4 - 8 µm Sn)	Tin (4 - 8 µm Sn)
Surface characteristics	Tin-plated	hot-dip tin-plated

6.3 Material of plastic parts

	Power	Signal
Insulating material	PA GF	PA
Insulating material group	I	I
CTI according to IEC 60112	600	600
Flammability rating according to UL 94	V0	V0
Color	green (6021)	green (6021)

6.4 Insulation material specifications for actuating element

	Power	Signal
Insulating material	PA GF	PBT
Insulating material group	I	I
CTI according to IEC 60112	600	600
Flammability rating according to UL 94	V0	V0
Color	orange (2003)	orange (2003)

1716971 LPCH 6/ 3+6-STL3-7,62

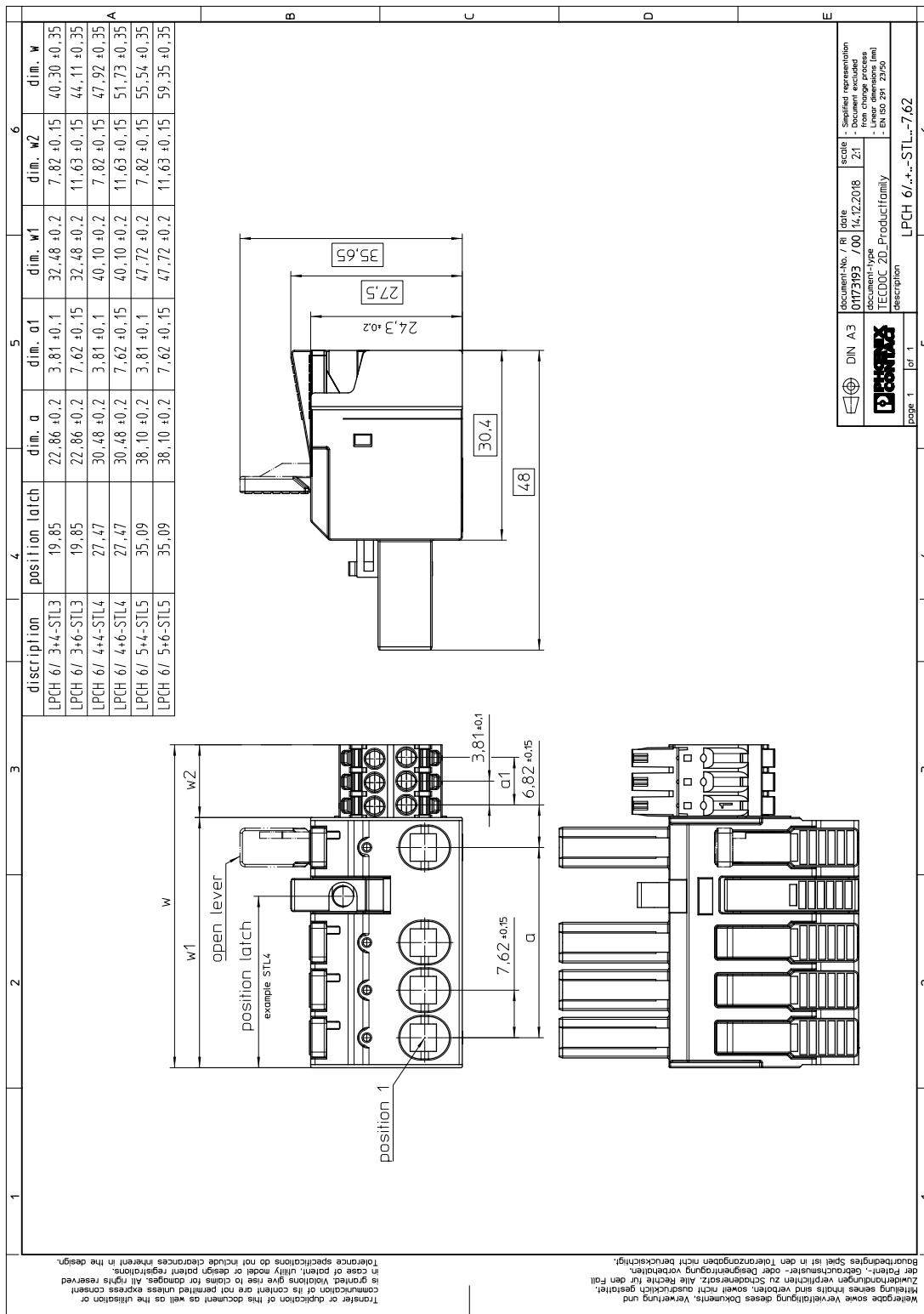
7 Dimensions

7.1 Dimensions for the product

Length	48 mm
Width	44.11 mm
Total height	35.65 mm
Dimension a	22.86 mm

1716971 LPCH 6/ 3+6-STL3-7,62

8 Series drawing



1716971 LPCH 6/ 3+6-STL3-7,62**9 Packaging information**

Type of packaging	packed in cardboard
Pieces per package	25

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

1716971 LPCH 6/ 3+6-STL3-7,62**11 General tests****11.1 Specification**

Specification	IEC 61984
Specification	IEC 60999-1
Brief description	PCB hybrid connector

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	0.75 mm ² / solid / > 30 N
Conductor cross section/conductor type/tractive force actual value	0.75 mm ² / flexible / > 30 N
Conductor cross section/conductor type/tractive force actual value	10 mm ² / solid / > 90 N
Conductor cross section/conductor type/tractive force actual value	6 mm ² / flexible / > 80 N

12.3 Repeated connection and disconnection

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

12.4 Conductor connection

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

12.5 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.	7 N
Withdraw strength per pos. approx.	4 N

1716971 LPCH 6/ 3+6-STL3-7,62

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.	20 N

1716971 LPCH 6/ 3+6-STL3-7,62**13 Electrical tests****13.1 Electrical data**

Rated current / conductor cross section	41 A / 6 mm ²
Rated insulation voltage (III/2)	1000 V
Rated surge voltage (III/2)	8 kV
Contact resistance	0.42 mΩ
Degree of pollution	2

13.2 Air and creepage distances

Component	PCB hybrid 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	800 V	1000 V	1000 V
Rated surge voltage	8 kV	8 kV	6 kV
Degree of pollution	3	2	2
Overvoltage category	III	III	II
Minimum clearance case A (inhomogeneous field)	8 mm	8 mm	5.5 mm
Minimum value of the creepage path requirement in acc. with table	10 mm	5 mm	5 mm

13.3 Electrical function

Specification	IEC 60999-1:1999-11
Result	Test passed
Voltage drop	Voltage drop (U) after the load ≤ 15 mV
Conductor cross section, flexible	0.75 mm ² ... 6 mm ²
Conductor cross section, solid	0.75 mm ² ... 10 mm ²

13.4 Temperature cycles

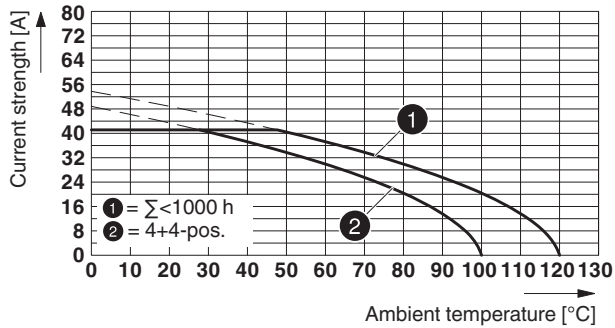
Specification	IEC 60999-1:1999-11
Result	Test passed
Voltage drop	Voltage drop (U) after the load ≤ 22.5 mV or 1.5 x U _{after 24 h} The small value is to be used.
Test current (minimum cross section)	9 A DC
Test current (maximum cross section)	41 A DC
Temperature cycles	192
Conductor cross section, flexible	0.75 mm ² ... 6 mm ²
Conductor cross section, solid	0.75 mm ² ... 10 mm ²

1716971 LPCH 6/ 3+6-STL3-7,62

14 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	6 mm ²

Type: LPCH 6/...+...-STL...-7,62 with PCH 6/...+...-GL...-7,62



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

1716971 LPCH 6/ 3+6-STL3-7,62

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.

15.2 Shock test

Specification	IEC 60068-2-27:2008-02
Result	Test passed
Pulse shape	Semi-sinusoidal
Peak acceleration	30g
Shock duration	18 ms
Number of shocks per direction	3
Test directions	X-, Y- and Z-axis (pos. and neg.)

16 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 - back of hand safety when plugged in
Protective conductor	without PE
Lock	no
Connection method	Screwless terminal points

16.1 Insulation resistance

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

1716971 LPCH 6/ 3+6-STL3-7,62

17 Approvals / Certificates

cULus Recognized 	Voltage [V]	Current [A]	Cross section [AWG]	Cross section [mm ²]
Usegroup B				
Power	600 V	35 A	18 - 8	-
Signal	150 V	6 A	24 - 16	-
Usegroup C				
Power	600 V	35 A	18 - 8	-
Usegroup F				
Power	600 V	35 A	18 - 8	-
Signal	160 V	6 A	24 - 16	-
EAC 				
VDE Zeichengenehmigung 				
Voltage [V]				
Power	630 V	41 A	-	0.75 - 6
Signal	160 V	8 A	-	0.2 - 1.5

1716971 LPCH 6/ 3+6-STL3-7,62**18 Commercial Data**

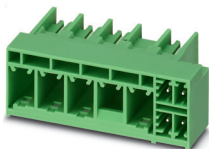
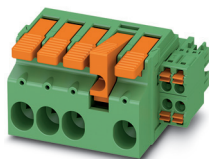
Order No.	1716971
Type	LPCH 6/ 3+6-STL3-7,62
Pieces per package	25
Net weight	30 g
GTIN	4055626513331
	Information that applies locally, see link on page 1
Country of origin	Information that applies locally, see link on page 1

19 Accessories

Description	Order No.	Type
Coding profile, for plugging into the coding ribs of the plug at a later date, insulating material, color: Red	1701967	CP-PC RD
	3200603	Al 6 -18 YE
Crimping pliers, for uninsulated and insulated ferrules, DIN 46228 Part 1 and 4, from 0.14 mm ² ... 6 mm ² , also for TWIN ferrules up to 2 x 4 mm ² , automatic cross section adjustment, lateral insertion, equipped with fall protection	1213144	CRIMPFOX CENTRUS 6S
Stripping tool, for cables and conductors from 0.02 - 10 mm ² , self-adjusting, stripping length of up to 18 mm, cutting capacity of up to 10 mm ² stranded/1.5 mm ² solid, replaceable stripping blade	1212150	WIREFOX 10
	1717120	PCH 6/ 3+6-GL3-7,62

1716971 LPCH 6/ 3+6-STL3-7,62

20 Combination tests

**LPCH 6/...-STL**

IEC 61984

Mechanical tests (A)

Insertion/withdrawal force per position

approx. 7 N / 4 N

Polarization when inserted
Requirement >20 N

Test passed

Contact holder in insert
Requirements >20 N

Test passed

Durability tests (B)Contact resistance R_1 0.42 m Ω

Insertion/withdrawal cycles

25

Contact resistance R_2 0.46 m Ω Rated impulse voltage at sea level
Voltage waveform $\geq (1.2/50 \mu\text{s})$

7.3 kV

Power-frequency withstand voltage
Voltage waveform $\geq (50/60 \text{ Hz})$

3.31 kV

Thermal tests (C)

Tested number of positions

4

Tested conductor cross section

6 mm²

Test current

41 A

Upper limiting temperature
Requirements < 100°C

Test passed

Climatic tests (D)

Test sequence 1: low temperature storage

-40 °C/2 h

Test sequence 2: heat storage

100 °C/168 h

Test sequence 3: noxious gas storage
(ISO 6988)0.2 dm³ SO₂ on 300 dm³/
40 °C/1 cycleRated impulse voltage at sea level
Voltage waveform $\geq (1.2/50 \mu\text{s})$

7.3 kV

Power-frequency withstand voltage
Voltage waveform $\geq (50/60 \text{ Hz})$

3.31 kV

Environmental and endurance tests (E)

Specification

IEC 61984:2008-10

Degree of protection

Back of hand safety with
IP10 access probe