2017-06-01
Product version 02
Document revision 0

Data sheet

Order No.: 1828809

Type: GIC 2,5/ 2-ST-7,62

Plug component, Screw connection with tension sleeve

The figure shows a 10-position version of the product

1 Main features

- Number of positions 2
- Conductor cross section 2.5 mm²
- Color green
- Pitch 7.62 mm
- Connection method Screw connection with tension sleeve
- Nominal current 12 A
- Nominal voltage 630 V
- Connection direction 0 °
- Type of packaging packed in cardboard

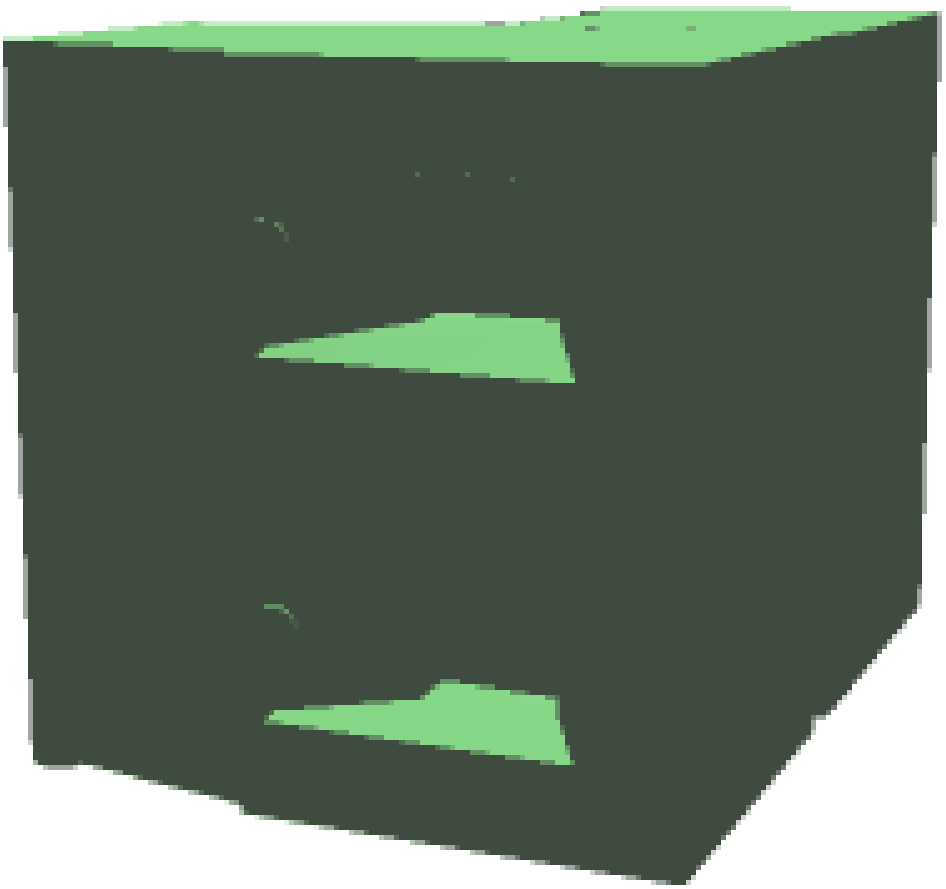
2 Your advantages

- Well-known connection principle allows worldwide use
- Low temperature rise, thanks to maximum contact force
- Larger pitch for increased voltage requirements
- Inverted connector with pin contacts for touch-proof device outputs or free-hanging cable/cable connections

Make sure you always use the latest documentation.
It can be downloaded at: phoenixcontact.net/product/1828809

3 Table of contents

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



5 item properties

Order No.	1828809
Type	GIC 2,5/ 2-ST-7,62
Type of contact	Male connector
Range of articles	GIC 2,5/..-ST
Pitch	7.62 mm
Number of positions	2
Connection method	Screw connection with tension sleeve
Drive form screw head	Slotted
Screw thread	M3
Tightening torque	0.5 Nm ... 0.6 Nm
Locking	without

5.1 Connection capacity

Conductor cross section, solid	0.2 mm² to 2.5 mm²
Conductor cross section, flexible	0.2 mm² to 2.5 mm²
Conductor cross section AWG/kcmil	24 to 12
2 conductors with same cross section, solid	0.2 mm² to 1 mm²
2 conductors with same cross section, stranded	0.2 mm² to 1.5 mm²
Conductor cross section flexible, with ferrule without plastic sleeve	0.25 mm² to 2.5 mm²
Conductor cross section flexible, with ferrule with plastic sleeve	0.25 mm² to 2.5 mm²
2 conductors with same cross section, stranded, with ferrule without plastic sleeve	0.25 mm² to 1 mm²
2 conductors with same cross section, stranded, with TWIN ferrules with plastic sleeve	0.5 mm² to 1 mm²
Cylindrical gauge a x b / diameter	2.8 mm x 2.0 mm / 2.4 mm
Stripping length	7 mm

5.2 Material data

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	Ni 2 µm ... 3 µm Sn 5 µm ... 7 µm
Surface contact area	Ni 2 µm ... 3 µm , Sn 5 µm ... 7 µm
Surface characteristics	Tin-plated

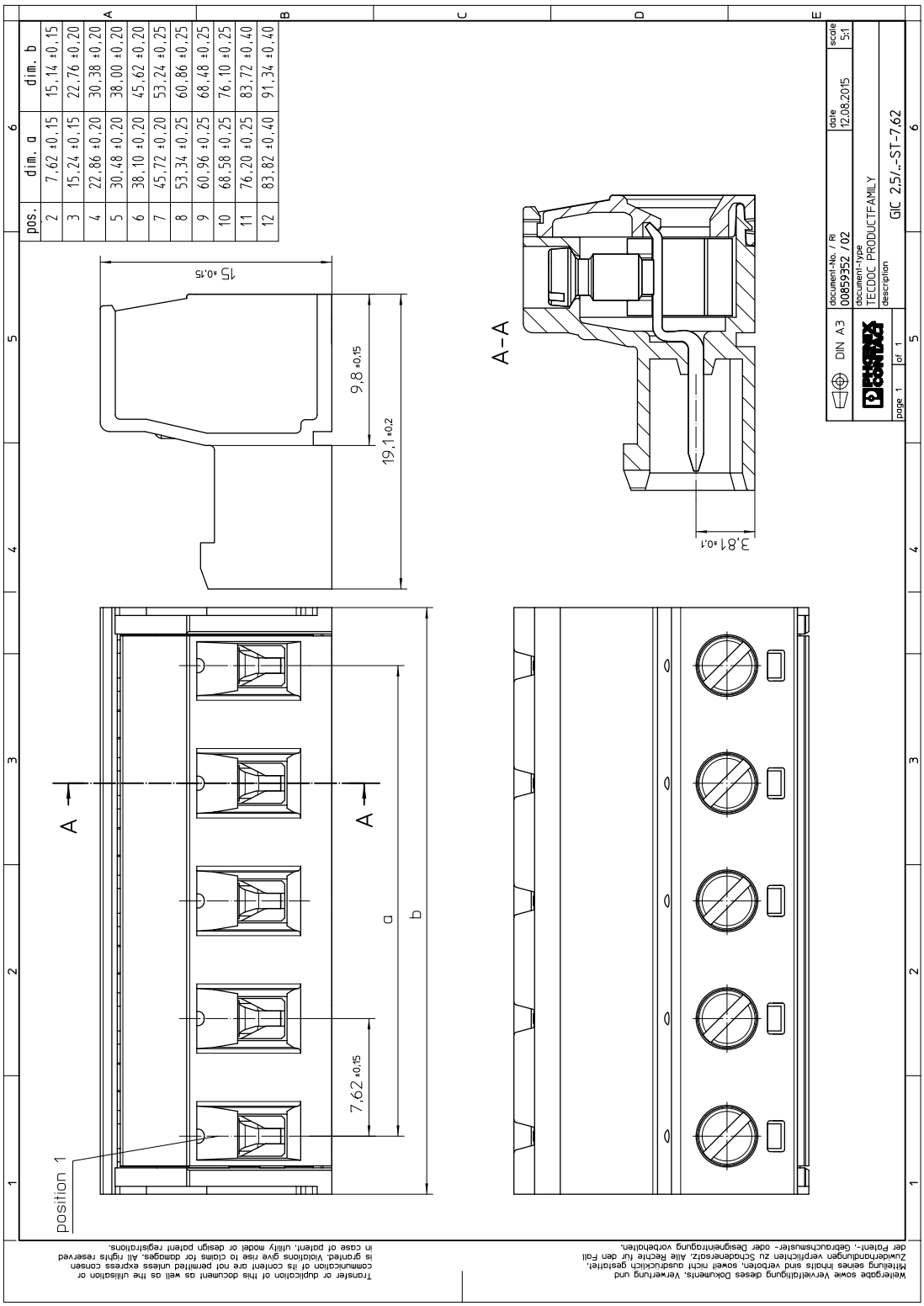
Insulating material data	Housing
Insulating material	PA
CTI according to IEC 60112	600
Flammability rating according to UL 94	V0
Color	green (6021)
Glow wire flammability index GWFI according to EN 60695-2-12	850
Glow wire ignition temperature GWIT according to EN 60695-2-13	775
Temperature for the ball pressure test according to EN 60695-10-2	125 °C

6 Dimensions

6.1 Dimensions for the product

Length	19.1 mm
Width	15.14 mm
Total height	15 mm
Dimension a	7.62 mm

7 Series drawing



8 Packaging information

Type of packaging	packed in cardboard
Pieces per package	50

9 Application

9.1 Temperature limit values

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

10 Mechanical tests

Mechanical test group A	
Specification	IEC 61984:2008-10
Visual test	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.	8 N
Withdraw strength per pos. approx.	6 N
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.	32 N

10.1 Termination and connection method

Specification	IEC 60999-1:1999-11
Check for damage to conductor or loosening	Test passed

10.2 Pull-out test

Termination and connection method: 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 / stranded / > 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 / stranded / > 50 N

11 Electrical tests

11.1 Electrical data

Rated current / conductor cross section	12 A / 2.5 mm²
Rated insulation voltage (III/2)	630 V
Rated surge voltage (III/2)	6 kV
Contact resistance	1.2 mΩ
Degree of pollution	2

11.2 Air and creepage distances

Component	Plug component		
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	400 V	630 V	1000 V
Rated surge voltage	6 kV	6 kV	6 kV
Degree of pollution	3	2	2
Overvoltage category	III	III	II
Minimum clearance case A (inhomogeneous field)	5.5 mm	5.5 mm	5.5 mm
Minimum value of the creepage path requirement in acc. with table	5.5 mm	5.5 mm	5.5 mm
Note on connection cross section	With connected conductor 4 mm² (solid).		

12 Current carrying capacity/derating curves

Specification	IEC 61984:2008-10
Note	Representation based on IEC 60512-5-2:2002-02
Reduction factor	0.8
Number of positions	See diagram
Conductor cross section	2.5 mm²

Type: GIC 2,5/...-ST-7,62 with GIC 2,5/...-G-7,62

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Type: GIC 2,5/...-ST-7,62 with GICV 2,5/...-G-7,62

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13 Environmental and durability tests

13.1 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

14 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
Lock	no
Connection method	Screw terminal points

15 Approvals

CSA				
Use group	B	D		
mm²/AWG/kcmil	28-12	28-12		
Voltage	300 V	300 V		
Current	10 A	10 A		

UL Recognized				
Use group	B	D		
mm²/AWG/kcmil	30-12	30-12		
Voltage	250 V	300 V		
Current	12 A	10 A		

VDE Gutachten mit Fertigungsüberwachung				
mm²/AWG/kcmil	0.2-2.5			
Voltage	400 V			
Current	12 A			

cUL Recognized				
Use group	B	D		
mm²/AWG/kcmil	30-12	30-12		
Voltage	250 V	300 V		
Current	12 A	10 A		

1828809 GIC 2,5/ 2-ST-7,62

IECEE CB Scheme					
mm²/AWG/kcmil	0.2-2.5				
Voltage	400 V				
Current	12 A				

EAC

cULus Recognized

16 Commercial Data

Order No.	1828809
Type	GIC 2,5/ 2-ST-7,62
Pieces per package	50
Net weight	3.852 g
GTIN	4017918050696
	Information that applies locally, see link on page 1
Country of origin	Information that applies locally, see link on page 1

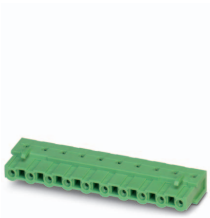
17 corresponding headers

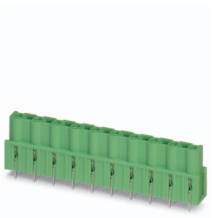
Order No.	Type
1823066	GMSTBP 2,5/ 2-ST-7,62
1832523	GMVSTBR 2,5/ 2-ST-7,62
1828919	GICV 2,5/ 2-G-7,62
1806119	FRONT-GMSTB 2,5/ 2-ST-7,62
1766990	GMSTB 2,5/ 2-ST-7,62
1828676	GIC 2,5/ 2-G-7,62
1832413	GMVSTBW 2,5/ 2-ST-7,62

18 Accessories

Description	Order No.	Type
Coding section, inserted into the recess in the header or the inverted plug, red insulating material	1734401	CR-MSTB
	0804549	SK 7,62/3,8:FORTL.ZAHLEN
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
Keying cap, for forming sections, plugs onto header pin, green insulating material	1755477	MSTB-BL

19 Combination tests





	GIC 2,5/..-ST	**GIC 2,5/..-G**	**GICV 2,5/..-G**		
Specification		IEC 61984	IEC 61984		
Mechanical tests (A)					
Insertion/withdrawal force per position		approx. 8 N / 6 N	approx. 8 N / 6 N		
Polarization when inserted Requirement > 20 N		Test passed	Test passed		
Contact holder in insert Requirements > 20 N		Test passed	Test passed		
Endurance tests (B)					
Contact resistance R_1		1.2 mΩ	1.4 mΩ		
Insertion/withdrawal cycles		25	25		
Contact resistance R_2		1.2 mΩ	1.4 mΩ		
Rated impulse voltage at sea level Voltage waveform ≥ (1.2/50 µs)		7.3 kV	4.8 kV		
Power-frequency withstand voltage Voltage waveform ≥ (50/60 Hz)		3.31 kV	2.21 kV		
Insulation resistance Requirements > 5 MΩ		> 0.2 TΩ	> 0.2 TΩ		
Thermal tests (C)					
Tested number of positions		12	12		
Tested conductor cross section		2.5 mm^2	2.5 mm^2		
Test current		12 A			
Upper limiting temperature Requirements < 100°C		Test passed	Test passed		
Climatic tests (D)					
Test sequence 1: low temperature storage		-40 °C/2 h	-40 °C/2 h		
Test sequence 2: heat storage		100 °C/168 h	100 °C/168 h		
Test sequence 3: noxious gas storage (ISO 6988)		0.2 dm^3 SO_2 on 300 dm^3/ 40 °C/1 cycle	0.2 dm^3 SO_2 on 300 dm^3/ 40 °C/1 cycle		
Rated impulse voltage at sea level Voltage waveform ≥ (1.2/50 µs)		7.3 kV	4.8 kV		
Power-frequency withstand voltage Voltage waveform ≥ (50/60 Hz)		3.31 kV	2.21 kV		
Environmental and endurance tests (E)					
Specification		IEC 61984:2008-10	IEC 61984:2008-10		
Degree of protection		Finger safety with IP20 test finger	Finger safety with IP20 test finger		

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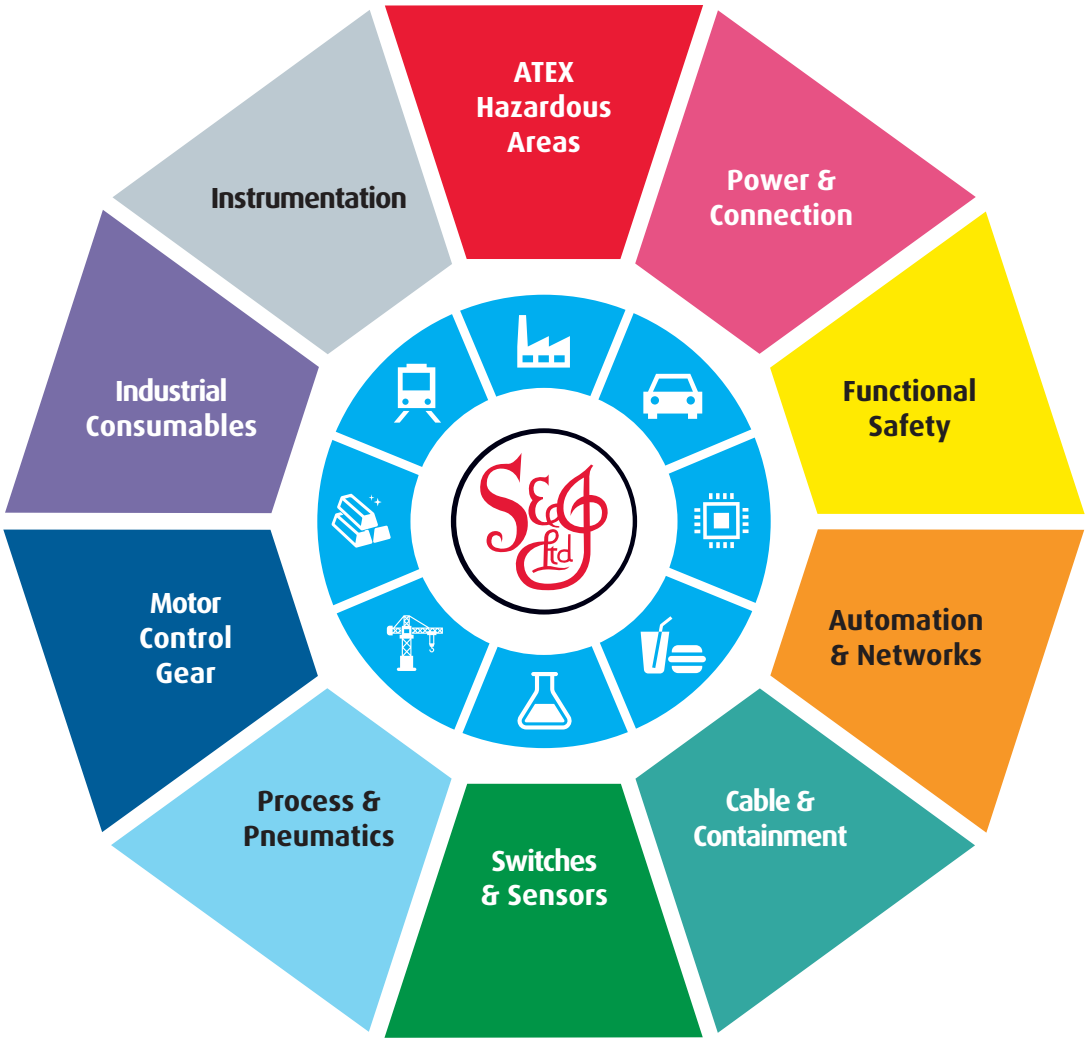

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