

1840871

<https://www.phoenixcontact.com/in/products/1840871>

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M23, PCB hybrid connector, series: SH, straight, shielded: yes, for standard and SPEEDCON interlock, No. of pos.: 4+2+4+PE / 3+N+PE, contact connection type: Pin, Wave soldering

Your advantages

- Reliable transmission of signals, data, and power in a single connector
- 80% faster assembly and 60% less installation space compared to litz wire assemblies
- Cost reduction due to the elimination of additional PCB connectors
- Reduction of PCB complexity and EMC risks
- Elimination of work steps with high error potential

Commercial data

| | |
|--------------------------------------|---------------|
| Item number | 1840871 |
| Packing unit | 20 pc |
| Minimum order quantity | 20 pc |
| Product key | ABRCDX |
| GTIN | 4067923484856 |
| Weight per piece (including packing) | 22.22 g |
| Weight per piece (excluding packing) | 22.22 g |
| Country of origin | DE |

SH-8EPC5-PCB-H2-L4-S-V3 - PCB hybrid connector



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Set consists of

SH-8EPC5-PCB-L4-ABCD-PE-12 - Contact insert

1835953

<https://www.phoenixcontact.com/in/products/1835953>



Contact insert, straight, M23, number of positions: 4+2+4+PE / 3+N+PE, contact connection type: Pin, Wave soldering, series: SH, only suitable for use with the M23 hybrid solder-in connector

SH-0000000H200S - Housing for circular connector

1555725

<https://www.phoenixcontact.com/in/products/1555725>



Housing for M23 Hybrid wave soldering

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SH-FLAT-SEAL-0,5 - Flat gasket

1692442

<https://www.phoenixcontact.com/in/products/1692442>

Sealing ring for M23 hybrid PCB



SH-NUT-M26X1-GLUE - Flat nut

1555723

<https://www.phoenixcontact.com/in/products/1555723>

Flat nut M26 x 1 with screw locking mechanism



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SH-00000-PCB-EXTENDER - Accessories

1555726

<https://www.phoenixcontact.com/in/products/1555726>

Extender to ensure air clearances and creepage distances, only suitable for use in M23 Hybrid



Technical data

Notes

Safety note

Safety note

WARNING: The connectors may not be plugged in or disconnected under load. Ignoring the warning or improper use may damage persons and/or property.

- **WARNING:** Commission properly functioning products only. The products must be regularly inspected for damage. Decommission defective products immediately. Replace damaged products. Repairs are not possible.

- **WARNING:** Only electrically qualified personnel may install and operate the product. They must observe the following safety notes. The qualified personnel must be familiar with the basics of electrical engineering. They must be able to recognize and prevent danger. The relevant symbol on the packaging indicates that only personnel familiar with electrical engineering are allowed to install and operate the product.

- The products are suitable for applications in plant, controller, and electrical device engineering.

- When operating the connectors in outdoor applications, they must be separately protected against environmental influences.

- Assembled products may not be manipulated or improperly opened.

- Only use mating connectors that are specified in the technical data of the standards listed (e.g. the ones listed in the product accessories online at [phoenixcontact.com/products](https://www.phoenixcontact.com/products)).

- When using the product in direct connection with third-party manufacturers, the user is responsible.

- For operating voltages > 50 V AC, conductive connector housings must be grounded

- Ensure that the protective or functional ground has been properly connected.

- VDE 0100/1.97 § 411.1.3.2 and DIN EN 60 204/11.98 § 14.1.3 are applicable when combining several circuits in a cable and/or connector

- Only use tools recommended by Phoenix Contact

- The installation notes/Design In documents online on the download page at [phoenixcontact.com/products](https://www.phoenixcontact.com/products) must be observed for this product.

- Operate the connector only when it is fully plugged in and interlocked.

- Ensure that when laying the cable, the tensile load on the connectors does not exceed the upper limit specified in the standards.

- Observe the minimum bending radius of the cable. Lay the cable without twisting it.

- The connector warms up in normal operation. Depending on the ambient conditions, the surface of the connector can continue to warm up. In this case, the user is responsible for posting warnings (e.g. DIN EN ISO 13732-1:2008-12).

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Product properties

| | |
|--------------|-----------------------------------|
| Product type | Circular connectors (device side) |
| Series | SH |
| Thread type | M23 |

Connector

Insulating body

| | |
|---|---|
| Protection against electric shock | IEC 61984 and VDE 0623 |
| Material (Insulating body) | PA |
| Material (Contact) | CuZn |
| Material (Contact surface) | Au |
| Flammability rating according to UL 94 | V0 |
| Insertion/withdrawal cycles | 100 |
| Connection method | Wave soldering |
| Contact switching type | Pin |
| Application | Hybrid |
| Number of positions | 11 |
| Connection profile | 4+2+4+PE / 3+N+PE |
| Installation height | 2000 m (4000 m at 300 V system voltage in accordance with DIN EN 60664-1) |
| Number Contact (Power contacts) | 5 |
| Diameter Contact (Power contacts) | 2 mm |
| Rated current Contact (Power contacts) | 30 A (for max. connection cross section) |
| Rated voltage Contact (Power contacts) | 630 V AC (Overvoltage category III/3) 850 V DC (Overvoltage category II/3) |
| Rated surge voltage | 6 kV |
| Overvoltage category | III |
| Degree of pollution | 3 |
| Number Contact (Data contacts) | 4 |
| Diameter Contact (Data contacts) | 0.8 mm |
| Rated current Contact (Data contacts) | 3.6 A (for max. connection cross section) |
| Rated voltage Contact (Data contacts) | 50 V (Contact 5 ... 8) |
| Rated surge voltage | 1.5 kV |
| Overvoltage category | II, III |
| Degree of pollution | 3 |
| Number Contact (Signal contacts) | 2 |
| Diameter Contact (Signal contacts) | 1 mm |
| Rated current Contact (Signal contacts) | 8 A (for max. connection cross section) |
| Rated voltage Contact (Signal contacts) | 50 V (Contact 1 and 2) |
| Rated surge voltage | 1.5 kV |
| Overvoltage category | III |
| Degree of pollution | 3 |

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Housing

| | |
|----------------------------|---|
| Order information: | only to be used with item number 1524754 or 1835953 |
| Thread type | M23 |
| Design | straight |
| Type of locking | for standard and SPEEDCON interlock |
| Mounting type | Rear wall/screw mounting (M26 x 1) |
| Assembly note | Central fastening |
| Material (Housing) | GD-Zn |
| Material (Housing surface) | Ni |
| Material (Seal) | FKM |

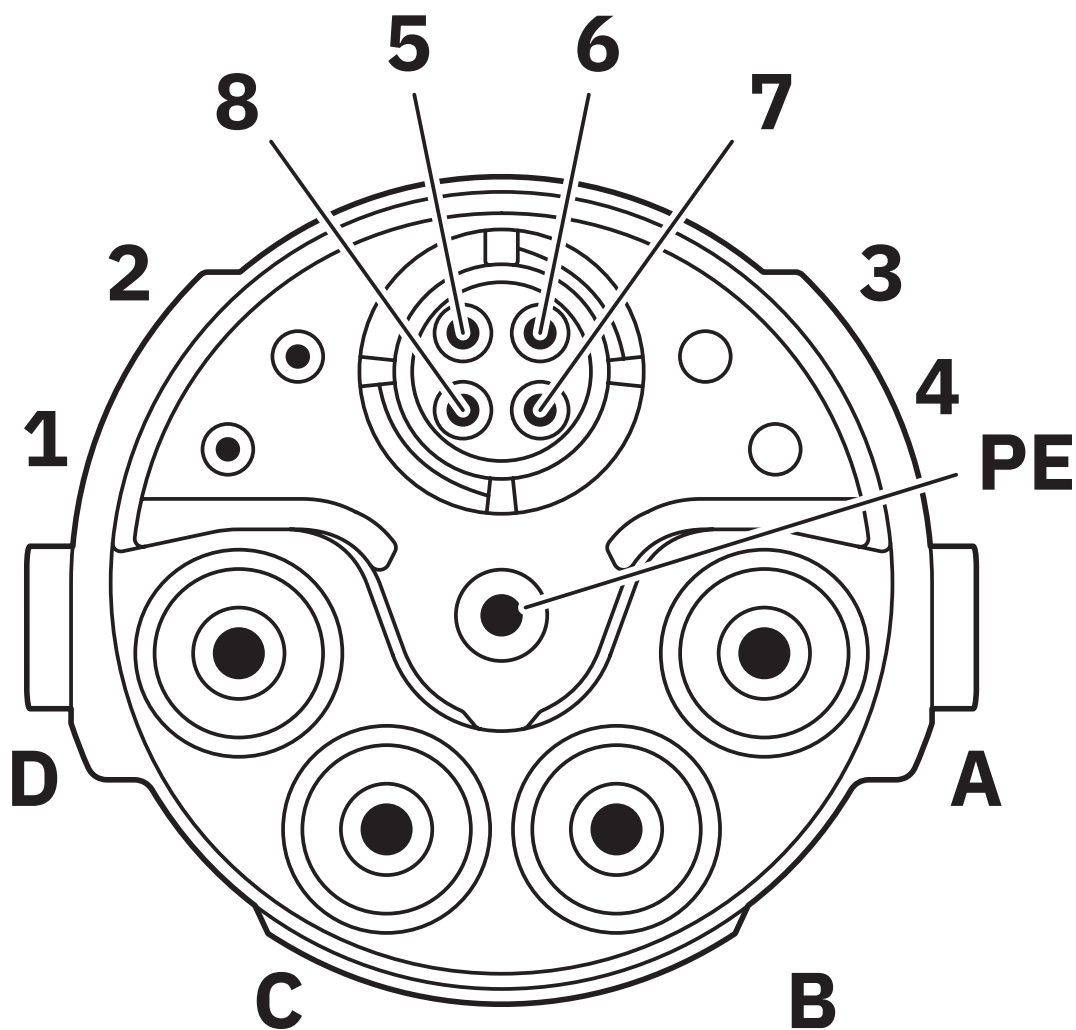
Environmental and real-life conditions

Ambient conditions

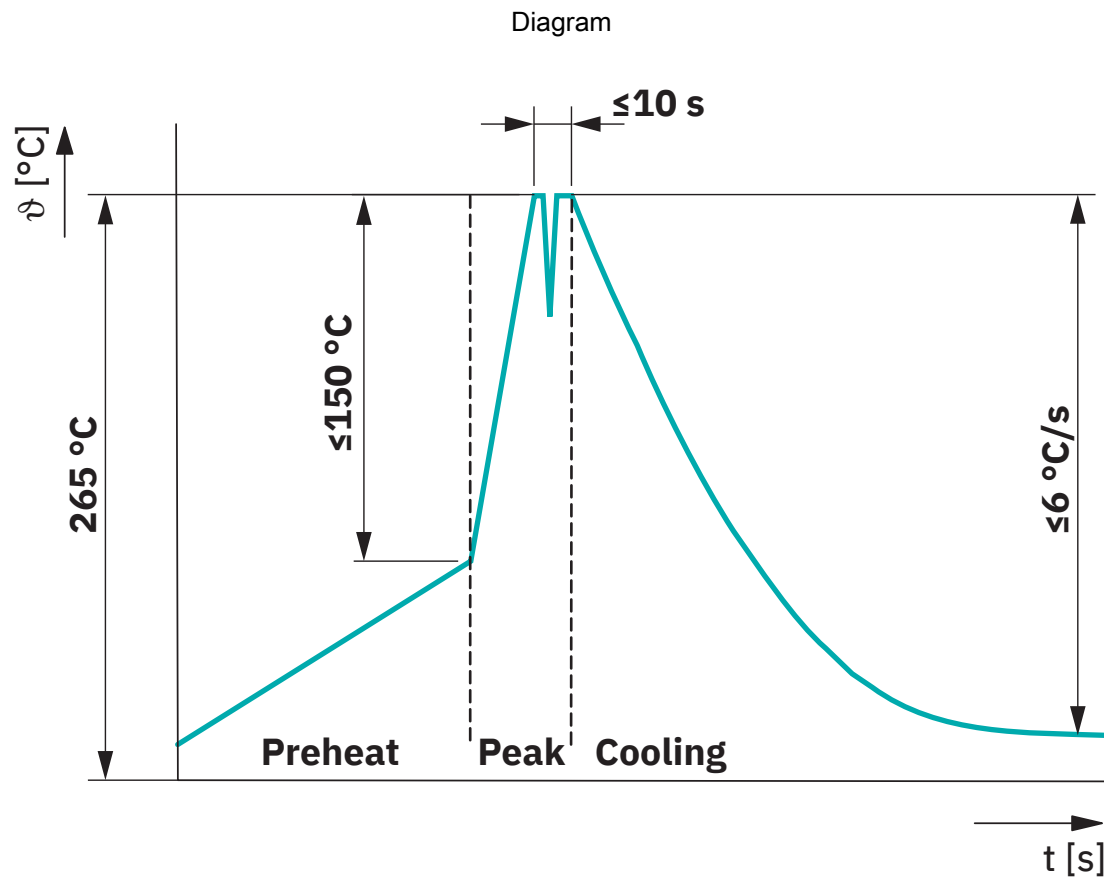
| | |
|---------------------------------|--|
| Degree of protection | IP66 |
| | IP67 |
| | IP68 (2 m / 24 h) |
| Ambient temperature (operation) | -40 °C ... 115 °C (see derating curve) |

Drawings

Schematic diagram

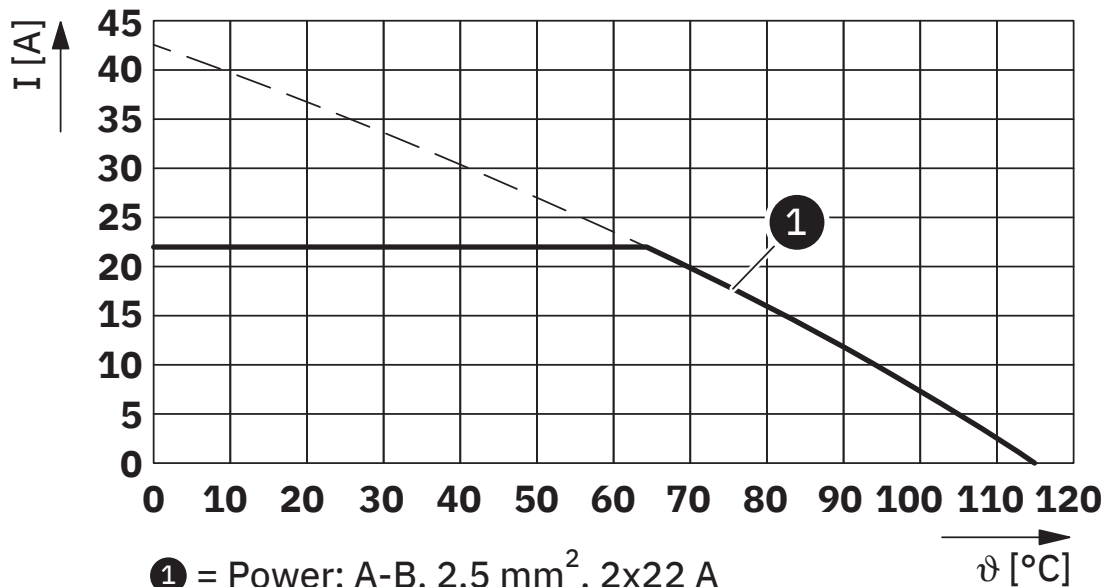


Pin assignment CAT5 pin, partially assembled



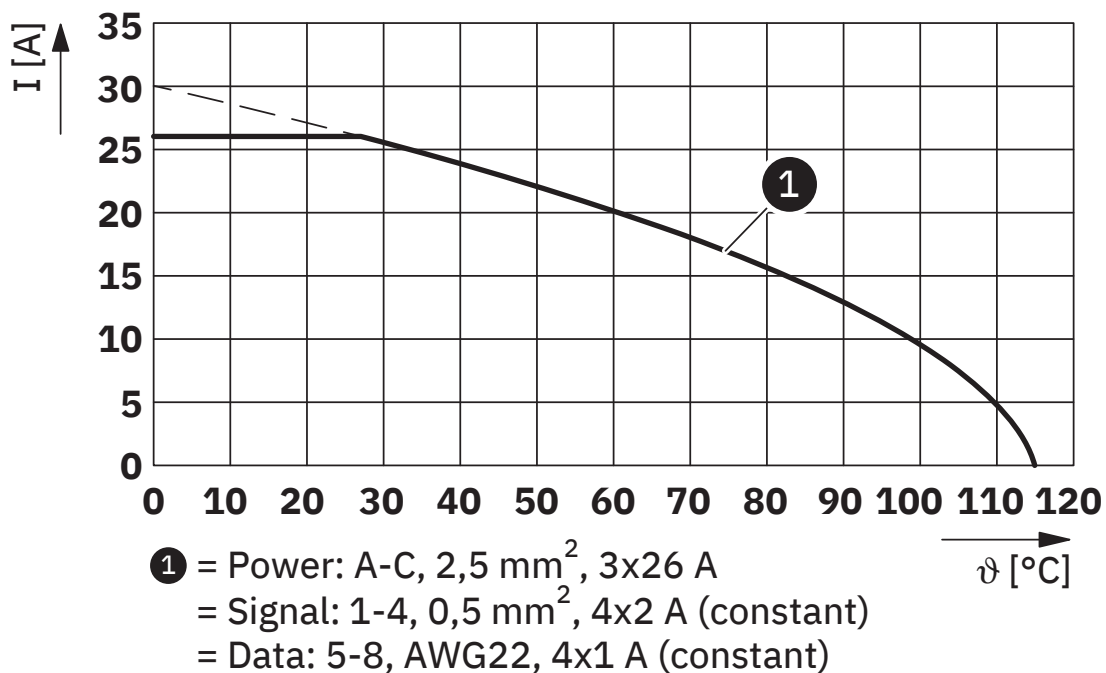
Classification wave soldering profile

Diagram

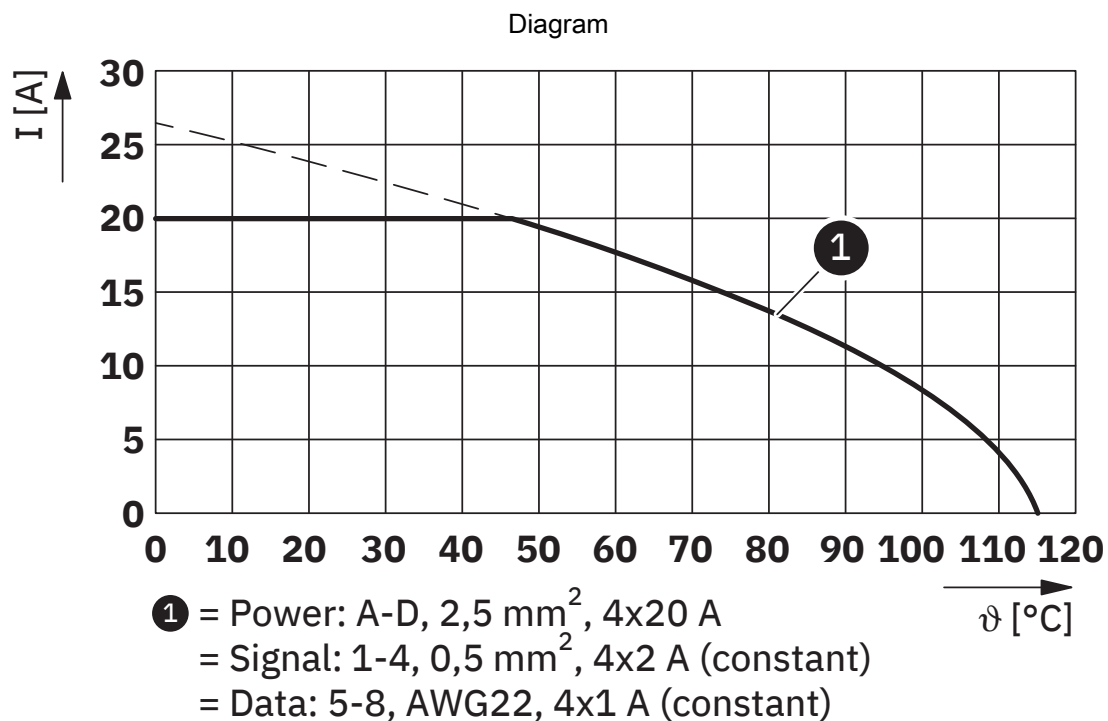


I = current strength, θ = ambient temperature, power contacts A-B: 2.5 mm², 2 x 22 A, power contacts C-D: 2.5 mm², 2 x 13 A (constant), signal contacts 1-4: 0.5 mm², 4 x 2 A (constant), data contacts 5-8: AWG22, 4 x 1 A (constant)

Diagram



I = current strength, θ = ambient temperature, power contacts A-C: 2.5 mm², 3 x 26 A, signal contacts 1-4: 0.5 mm², 4 x 2 A (constant), data contacts 5-8: AWG22, 4 x 1 A (constant)



I = current strength, ϑ = ambient temperature, power contacts A-D: 2.5 mm², 4 x 20 A, signal contacts 1-4: 0.5 mm², 4 x 2 A (constant), data contacts 5-8: AWG22, 4 x 1 A (constant)

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Classifications

ECLASS

| | |
|-------------|----------|
| ECLASS-13.0 | 27440110 |
| ECLASS-15.0 | 27440110 |

ETIM

| | |
|----------|----------|
| ETIM 9.0 | EC003568 |
|----------|----------|

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Environmental product compliance

EU RoHS

| | |
|---|--------------------|
| Fulfills EU RoHS substance requirements | Yes, No exemptions |
|---|--------------------|

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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