

# FP 0,8/ 20-MV 8,65 - SMD male connectors



1154013

<https://www.phoenixcontact.com/us/products/1154013>

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SMD male connector, nominal current: 1.7 A, Test voltage: 500 V AC, number of positions: 20, pitch: 0.8 mm, color: black, contact surface: Gold, contact connection type: Pin, mounting: SMD soldering

## Your advantages

- Gold-plated contacts ensure transfer quality remains stable over the long term
- Reliable mechanical and electrical connections, thanks to the double-sided ScaleX contact system
- Robustness: ScaleX technology for high tolerance compensation and protection of contacts
- Flexible device design: various numbers of positions, designs, and stack heights with high wipe lengths

## Commercial data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 1154013       |
| Packing unit                         | 1 pc          |
| Minimum order quantity               | 250 pc        |
| Sales key                            | AA23          |
| Product key                          | AAWGDE        |
| GTIN                                 | 4063151154516 |
| Weight per piece (including packing) | 1.69 g        |
| Weight per piece (excluding packing) | 1.69 g        |
| Customs tariff number                | 85366930      |
| Country of origin                    | CN            |

# FP 0,8/ 20-MV 8,65 - SMD male connectors



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## Technical data

### Product properties

|                     |                     |
|---------------------|---------------------|
| Product type        | SMD male connector  |
| Product family      | FP 0,8/...-MV 8,65  |
| Number of positions | 20                  |
| Pitch               | 0.8 mm              |
| Number of rows      | 2                   |
| Pin layout          | Linear pad geometry |

### Electrical properties

|                       |                                               |
|-----------------------|-----------------------------------------------|
| Nominal current $I_N$ | 1.7 A IEC 60512-5-2:2002-02 (at 20°C 80-pos.) |
| Degree of pollution   | 3                                             |
| Contact resistance    | 25 mΩ                                         |
| Test voltage          | 500 V AC IEC 60512-4-1:2003                   |

### Mounting

|               |                     |
|---------------|---------------------|
| Mounting type | SMD soldering       |
| Pin layout    | Linear pad geometry |

### Processing notes

|                                  |                  |
|----------------------------------|------------------|
| Process                          | Reflow soldering |
| Moisture Sensitive Level         | MSL 1            |
| Classification temperature $T_c$ | 260 °C           |

## Material specifications

### 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                     | Selective coating                                                                |
| Metal surface contact area (top layer)      | Gold (Au)                                                                        |
| Metal surface contact area (middle layer)   | Nickel (Ni)                                                                      |
| Metal surface soldering area (top layer)    | Tin (Sn)                                                                         |
| Metal surface soldering area (middle layer) | Nickel (Ni)                                                                      |

### Material data - housing

|                                        |              |
|----------------------------------------|--------------|
| Color (Housing)                        | black (9005) |
| Insulating material                    | LCP          |
| Insulating material group              | IIIb         |
| CTI according to IEC 60112             | 150          |
| Flammability rating according to UL 94 | V0           |

## Notes

# FP 0,8/ 20-MV 8,65 - SMD male connectors

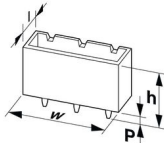


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|                                 |                                                                                                                                                                                                                      |
|---------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Notes on operation              | The permissible voltage during operation depends on the application, taking into consideration the air clearances and creepage distances within the scope of insulation requirements in accordance with IEC 60664-1. |
| Details for soldering processes | The items are suitable for assembly on both sides and for overhead soldering.                                                                                                                                        |

## Dimensions

|                     |                                                                                    |
|---------------------|------------------------------------------------------------------------------------|
| Dimensional drawing |  |
| Pitch               | 0.8 mm                                                                             |
| Width [w]           | 11.9 mm                                                                            |
| Height [h]          | 13.75 mm                                                                           |
| Length [l]          | 6.1 mm                                                                             |
| Installed height    | 13.15 mm                                                                           |

## Application

|                                            |                                                                                           |
|--------------------------------------------|-------------------------------------------------------------------------------------------|
| Contact cover                              | 0.8 mm                                                                                    |
| Center offset                              | ± 0.7 mm in longitudinal and transverse direction                                         |
| Stack height                               | 13.5 mm Tolerance: +1,5 mm (in combination with Range of articles:FP 0,8/...-FV 4,85)     |
|                                            | 16.5 mm Tolerance: +1,5 mm (in combination with Range of articles:FP 0,8/...-FV 7,85)     |
|                                            | 19.5 mm Tolerance: +1,5 mm (in combination with Range of articles:FP 0,8/...-FV-SH 10,85) |
| Wipe length                                | 1.5 mm                                                                                    |
| Angular tolerance                          | ± 5 ° in longitudinal and transverse direction (when plugging in)                         |
|                                            | ± 5 ° in longitudinal and transverse direction (when plugged in)                          |
| Axial offset in X direction (longitudinal) | ± 0.3 mm (Tolerance compensation when plugged in)                                         |
| Axial offset in Y direction (transversal)  | ± 0.3 mm (Tolerance compensation when plugged in)                                         |

## PCB design

|               |              |
|---------------|--------------|
| Pad geometry  | 0.5 x 2.4 mm |
| Hole diameter | 0.75 mm      |

## Electrical tests

### Thermal test | Test group C

|                            |                       |
|----------------------------|-----------------------|
| Specification              | IEC 60512-5-2:2002-02 |
| Tested number of positions | 80                    |

### Insulation resistance

|                                              |                       |
|----------------------------------------------|-----------------------|
| Specification                                | IEC 60512-3-1:2002-02 |
| Insulation resistance, neighboring positions | ≥ 5 GΩ                |

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## Air clearances and creepage distances |

|                                                   |         |
|---------------------------------------------------|---------|
| Insulating material group                         | IIIb    |
| Minimum value for clearance and creepage distance | 0.25 mm |

## Environmental and real-life conditions

### Vibration test

|                        |                                          |
|------------------------|------------------------------------------|
| Specification          | IEC 60068-2-6:2007-12                    |
| Frequency              | 10 - 2000 - 10 Hz                        |
| Sweep speed            | 1 octave/min                             |
| Amplitude              | 1.5 mm (10 Hz ... 58 Hz)                 |
| Sweep speed            | 200 m/s <sup>2</sup> (58 Hz ... 2000 Hz) |
| Test duration per axis | 2.5 h                                    |

### Durability test

|                                              |                                   |
|----------------------------------------------|-----------------------------------|
| Specification                                | IEC 60512-9-1:2010-03 (following) |
| Contact resistance R <sub>1</sub>            | 25 mΩ                             |
| Contact resistance R <sub>2</sub>            | 25 mΩ                             |
| Insertion/withdrawal cycles                  | 500                               |
| Insulation resistance, neighboring positions | ≥ 5 GΩ                            |

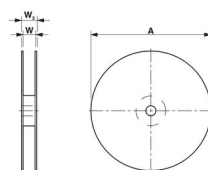
### Shocks

|                 |                                   |
|-----------------|-----------------------------------|
| Specification   | IEC 60068-2-27:2008-02            |
| Pulse shape     | Semi-sinusoidal                   |
| Acceleration    | 490 m/s <sup>2</sup>              |
| Shock duration  | 11 ms                             |
| Test directions | X-, Y- and Z-axis (pos. and neg.) |

### Ambient conditions

|                                         |                   |
|-----------------------------------------|-------------------|
| Ambient temperature (operation)         | -55 °C ... 125 °C |
| Ambient temperature (storage/transport) | -40 °C ... 70 °C  |
| Relative humidity (storage/transport)   | 30 % ... 70 %     |
| Ambient temperature (assembly)          | -5 °C ... 100 °C  |

## Packaging specifications

|                             |                                                                                      |
|-----------------------------|--------------------------------------------------------------------------------------|
| Dimensional drawing         |  |
| Type of packaging           | 32 mm wide tape                                                                      |
| [W] tape width              | 32 mm                                                                                |
| [W2] coil overall dimension | 38.4 mm                                                                              |
| [A] coil diameter           | 330 mm                                                                               |
| Outer packaging type        | Transparent-Bag                                                                      |

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|               |                                          |
|---------------|------------------------------------------|
| ESD level     | (D) electrostatically conductive         |
| Specification | DIN EN 61340-5-1 (VDE 0300-5-1): 2008-07 |

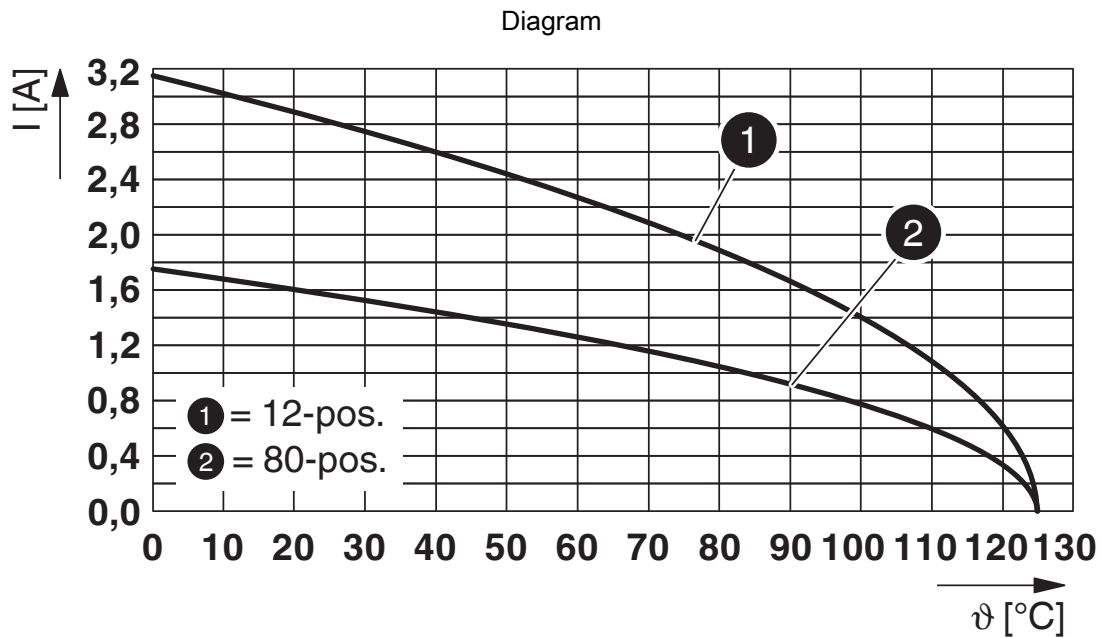
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## Drawings



Type: FP 0,8/...-MV 8,65 with FP 0,8/...-FV 7,85

# FP 0,8/ 20-MV 8,65 - SMD male connectors



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## Approvals

📄 To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1154013>



**cULus Recognized**

Approval ID: E118976-20190703

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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-11.0 | 27460201 |
| ECLASS-12.0 | 27460201 |
| ECLASS-13.0 | 27460201 |

### ETIM

|          |          |
|----------|----------|
| ETIM 9.0 | EC002637 |
|----------|----------|

### UNSPSC

|             |          |
|-------------|----------|
| UNSPSC 21.0 | 39121400 |
|-------------|----------|

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## Environmental product compliance

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

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## Mandatory accessories

### FP 0,8/ 20-FH - SMD female connectors

1104541

<https://www.phoenixcontact.com/us/products/1104541>



SMD female connector, nominal current: 1.7 A, Test voltage: 500 V AC, number of positions: 20, pitch: 0.8 mm, color: black, contact surface: Gold, contact connection type: Socket, mounting: SMD soldering

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### FP 0,8/ 20-FV 10,85 - SMD female connectors

1154075

<https://www.phoenixcontact.com/us/products/1154075>



SMD female connector, nominal current: 1.7 A, Test voltage: 500 V AC, number of positions: 20, pitch: 0.8 mm, color: black, contact surface: Gold, contact connection type: Socket, mounting: SMD soldering

## FP 0,8/ 20-MV 8,65 - SMD male connectors

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## FP 0,8/ 20-FV 4,85 - SMD female connectors

1061660

<https://www.phoenixcontact.com/us/products/1061660>



SMD female connector, nominal current: 1.7 A, Test voltage: 500 V AC, number of positions: 20, pitch: 0.8 mm, color: black, contact surface: Gold, contact connection type: Socket, mounting: SMD soldering

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## FP 0,8/ 20-FV 7,85 - SMD female connectors

1061583

<https://www.phoenixcontact.com/us/products/1061583>



SMD female connector, nominal current: 1.7 A, Test voltage: 500 V AC, number of positions: 20, pitch: 0.8 mm, color: black, contact surface: Gold, contact connection type: Socket, mounting: SMD soldering

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## Accessories

## FP 0,8/ 20-MV 8,65 - SMD male connectors

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## FP 0,8/ 20-FV 4,85 - SMD female connectors

1061660

<https://www.phoenixcontact.com/us/products/1061660>



SMD female connector, nominal current: 1.7 A, Test voltage: 500 V AC, number of positions: 20, pitch: 0.8 mm, color: black, contact surface: Gold, contact connection type: Socket, mounting: SMD soldering

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