

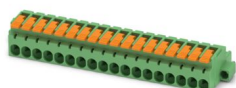
# LPC 2,5/18-STF-5,08 - PCB connector



1110647

<https://www.phoenixcontact.com/us/products/1110647>

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PCB connector, nominal cross section: 2.5 mm<sup>2</sup>, color: green, nominal current: 16 A, rated voltage (III/2): 320 V, contact surface: Sn, contact connection type: Socket, number of rows: 1, number of positions: 18, product range: LPC 2,5/..-STF, pitch: 5.08 mm, connection method: Lever Push-in connection, conductor/PCB connection direction: 0 °, locking clip: - without locking clip, plug-in system: COMBICON MSTB 2,5, locking: Screw locking mechanism, mounting method: Screw flange, type of packaging: packed in cardboard

## 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
- Time-saving push-in connection when lever is closed
- Screwable flange for superior mechanical stability
- Quick and convenient testing using integrated test option

## Commercial data

|                                      |                                |
|--------------------------------------|--------------------------------|
| Item number                          | 1110647                        |
| Packing unit                         | 25 pc                          |
| Minimum order quantity               | 25 pc                          |
| Note                                 | Made to order (non-returnable) |
| Sales key                            | AA03                           |
| Product key                          | AACBAB                         |
| GTIN                                 | 4063151027827                  |
| Weight per piece (including packing) | 35.65 g                        |
| Weight per piece (excluding packing) | 35 g                           |
| Customs tariff number                | 85366990                       |
| Country of origin                    | SK                             |

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## Technical data

### Product properties

|                     |                       |
|---------------------|-----------------------|
| Product type        | PCB connector         |
| Product family      | LPC 2,5/...-STF       |
| Product line        | COMBICON Connectors M |
| Number of positions | 18                    |
| Pitch               | 5.08 mm               |
| Number of rows      | 1                     |

### Electrical properties

#### Properties

|                             |       |
|-----------------------------|-------|
| Nominal current $I_N$       | 16 A  |
| Nominal voltage $U_N$       | 320 V |
| Contact resistance          | 1 mΩ  |
| Rated voltage (III/3)       | 250 V |
| Rated surge voltage (III/3) | 4 kV  |
| Rated voltage (III/2)       | 320 V |
| Rated surge voltage (III/2) | 4 kV  |
| Rated voltage (II/2)        | 630 V |
| Rated surge voltage (II/2)  | 4 kV  |

### Connection data

#### Connection technology

|                         |                   |
|-------------------------|-------------------|
| Connector system        | COMBICON MSTB 2,5 |
| Nominal cross section   | 2.5 mm²           |
| Contact connection type | Socket            |

#### Interlock

|                   |                         |
|-------------------|-------------------------|
| Locking type      | Screw locking mechanism |
| Mounting type     | Screw flange            |
| Tightening torque | 0.3 Nm                  |

#### Conductor connection

|                                                                       |                          |
|-----------------------------------------------------------------------|--------------------------|
| Connection method                                                     | Lever Push-in connection |
| Connection direction of the conductor to plug-in direction            | 0 °                      |
| Conductor/PCB connection direction                                    | 0 °                      |
| Conductor cross-section rigid                                         | 0.2 mm² ... 2.5 mm²      |
| Conductor cross-section flexible                                      | 0.2 mm² ... 2.5 mm²      |
| Conductor cross-section AWG                                           | 26 ... 12                |
| Conductor cross-section flexible, with ferrule without plastic sleeve | 0.25 mm² ... 2.5 mm²     |
| Conductor cross-section, flexible, with ferrule, with plastic sleeve  | 0.25 mm² ... 2.5 mm²     |
| 2 conductors with the same cross section, flexible, with TWIN         | 0.5 mm² ... 1 mm²        |

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|                                    |                          |
|------------------------------------|--------------------------|
| ferrule with plastic sleeve        |                          |
| Cylindrical gauge a x b / diameter | 2.8 mm x 2.0 mm / 2.4 mm |
| Stripping length                   | 10 mm                    |

## Specifications for ferrules without insulating collar

|                                                              |                                                              |
|--------------------------------------------------------------|--------------------------------------------------------------|
| recommended crimping tool                                    | 1212034 CRIMPFOX 6                                           |
| ferrules without insulating collar, according to DIN 46228-1 | Cross section: 0.25 mm <sup>2</sup> ; Length: 7 mm           |
|                                                              | Cross section: 0.34 mm <sup>2</sup> ; Length: 7 mm           |
|                                                              | Cross section: 0.5 mm <sup>2</sup> ; Length: 8 mm ... 10 mm  |
|                                                              | Cross section: 0.75 mm <sup>2</sup> ; Length: 8 mm ... 10 mm |
|                                                              | Cross section: 1 mm <sup>2</sup> ; Length: 8 mm ... 12 mm    |
|                                                              | Cross section: 1.5 mm <sup>2</sup> ; Length: 10 mm ... 12 mm |
|                                                              | Cross section: 2.5 mm <sup>2</sup> ; Length: 10 mm ... 12 mm |

## Specifications for ferrules with insulating collar

|                                                           |                                                               |
|-----------------------------------------------------------|---------------------------------------------------------------|
| recommended crimping tool                                 | 1212034 CRIMPFOX 6                                            |
| ferrules with insulating collar, according to DIN 46228-4 | Cross section: 0.25 mm <sup>2</sup> ; Length: 8 mm ... 10 mm  |
|                                                           | Cross section: 0.34 mm <sup>2</sup> ; Length: 8 mm ... 10 mm  |
|                                                           | Cross section: 0.5 mm <sup>2</sup> ; Length: 8 mm ... 10 mm   |
|                                                           | Cross section: 0.75 mm <sup>2</sup> ; Length: 10 mm ... 12 mm |
|                                                           | Cross section: 1 mm <sup>2</sup> ; Length: 10 mm ... 12 mm    |
|                                                           | Cross section: 1.5 mm <sup>2</sup> ; Length: 10 mm ... 12 mm  |
|                                                           | Cross section: 2.5 mm <sup>2</sup> ; Length: 12 mm            |

## 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                  | 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

|                                                                   |              |
|-------------------------------------------------------------------|--------------|
| Color (Housing)                                                   | green (6021) |
| 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       |

### Material data – actuating element

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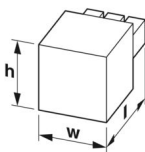


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|                                        |               |
|----------------------------------------|---------------|
| Color (Actuating element)              | orange (2003) |
| Insulating material                    | PA GF         |
| Insulating material group              | I             |
| CTI according to IEC 60112             | 600           |
| Flammability rating according to UL 94 | V0            |

## Dimensions

|                     |                                                                                    |
|---------------------|------------------------------------------------------------------------------------|
| Dimensional drawing |  |
| Pitch               | 5.08 mm                                                                            |
| Width [w]           | 101.62 mm                                                                          |
| Height [h]          | 15.39 mm                                                                           |
| Length [l]          | 27.37 mm                                                                           |

## Mounting

### Flange

|                   |        |
|-------------------|--------|
| Tightening torque | 0.3 Nm |
|-------------------|--------|

## Notes

|                    |                                                                                                                                                                                          |
|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Notes on operation | In accordance with IEC 61984, COMBICON connectors have no switching power (COC). During designated use, they must not be plugged in or disconnected when carrying voltage or under load. |
|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## Mechanical tests

### Conductor connection

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

### Test for conductor damage and slackening

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

### Repeated connection and disconnection

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

### Pull-out test

|                                                                             |                                         |
|-----------------------------------------------------------------------------|-----------------------------------------|
| Specification                                                               | IEC 60999-1:1999-11                     |
| Conductor cross-section/conductor type/tractive force setpoint/actual value | 0.2 mm <sup>2</sup> / solid / > 10 N    |
|                                                                             | 0.2 mm <sup>2</sup> / flexible / > 10 N |
|                                                                             | 2.5 mm <sup>2</sup> / solid / > 50 N    |
|                                                                             | 2.5 mm <sup>2</sup> / flexible / > 50 N |

# LPC 2,5/18-STF-5,08 - PCB connector



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## Insertion and withdrawal forces

|                                     |                        |
|-------------------------------------|------------------------|
| Specification                       | IEC 60512-13-2:2006-02 |
| Result                              | Test passed            |
| No. of cycles                       | 25                     |
| Insertion strength per pos. approx. | 7 N                    |
| Withdraw strength per pos. approx.  | 6 N                    |

## Resistance of inscriptions

|               |                        |
|---------------|------------------------|
| Specification | IEC 60068-2-70:1995-12 |
| Result        | Test passed            |

## Polarization and coding

|               |                        |
|---------------|------------------------|
| Specification | IEC 60512-13-5:2006-02 |
| Result        | Test passed            |

## Visual inspection

|               |                       |
|---------------|-----------------------|
| Specification | IEC 60512-1-1:2002-02 |
| Result        | Test passed           |

## Dimension check

|               |                       |
|---------------|-----------------------|
| Specification | IEC 60512-1-2:2002-02 |
| Result        | Test passed           |

## Environmental and real-life conditions

### Vibration test

|                        |                                          |
|------------------------|------------------------------------------|
| Specification          | IEC 60068-2-6:2007-12                    |
| Frequency              | 10 - 150 - 10 Hz                         |
| Sweep speed            | 1 octave/min                             |
| Amplitude              | 0.35 mm (10 Hz ... 60.1 Hz)              |
| Acceleration           | 50 m/s <sup>2</sup> (60.1 Hz ... 150 Hz) |
| Test duration per axis | 2.5 h                                    |
| Test directions        | X-, Y- and Z-axis                        |

### Durability test

|                                              |                       |
|----------------------------------------------|-----------------------|
| Specification                                | IEC 60512-9-1:2010-03 |
| Impulse withstand voltage at sea level       | 4.8 kV                |
| Contact resistance R <sub>1</sub>            | 1 mΩ                  |
| Contact resistance R <sub>2</sub>            | 1.2 mΩ                |
| Insertion/withdrawal cycles                  | 25                    |
| Insulation resistance, neighboring positions | > 5 MΩ                |

### Climatic test

|                                   |                                                                           |
|-----------------------------------|---------------------------------------------------------------------------|
| Specification                     | ISO 6988:1985-02                                                          |
| Corrosive stress                  | 0.2 dm <sup>3</sup> SO <sub>2</sub> on 300 dm <sup>3</sup> /40 °C/1 cycle |
| Thermal stress                    | 105 °C/168 h                                                              |
| Power-frequency withstand voltage | 2.21 kV                                                                   |

# LPC 2,5/18-STF-5,08 - PCB connector



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## Shocks

|                 |                                   |
|-----------------|-----------------------------------|
| Specification   | IEC 60068-2-27:2008-02            |
| Pulse shape     | Semi-sinusoidal                   |
| Acceleration    | 200 m/s <sup>2</sup>              |
| Shock duration  | 11 ms                             |
| Test directions | X-, Y- and Z-axis (pos. and neg.) |

## Ambient conditions

|                                         |                                                     |
|-----------------------------------------|-----------------------------------------------------|
| Ambient temperature (operation)         | -40 °C ... 105 °C (dependent on the derating curve) |
| Ambient temperature (storage/transport) | -40 °C ... 70 °C                                    |
| Relative humidity (storage/transport)   | 30 % ... 70 %                                       |
| Ambient temperature (assembly)          | -5 °C ... 100 °C                                    |

## Electrical tests

### Thermal test | Test group C

|                            |                       |
|----------------------------|-----------------------|
| Specification              | IEC 60512-5-1:2002-02 |
| Tested number of positions | 20                    |

### Insulation resistance

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

### Temperature cycles

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

### Air clearances and creepage distances |

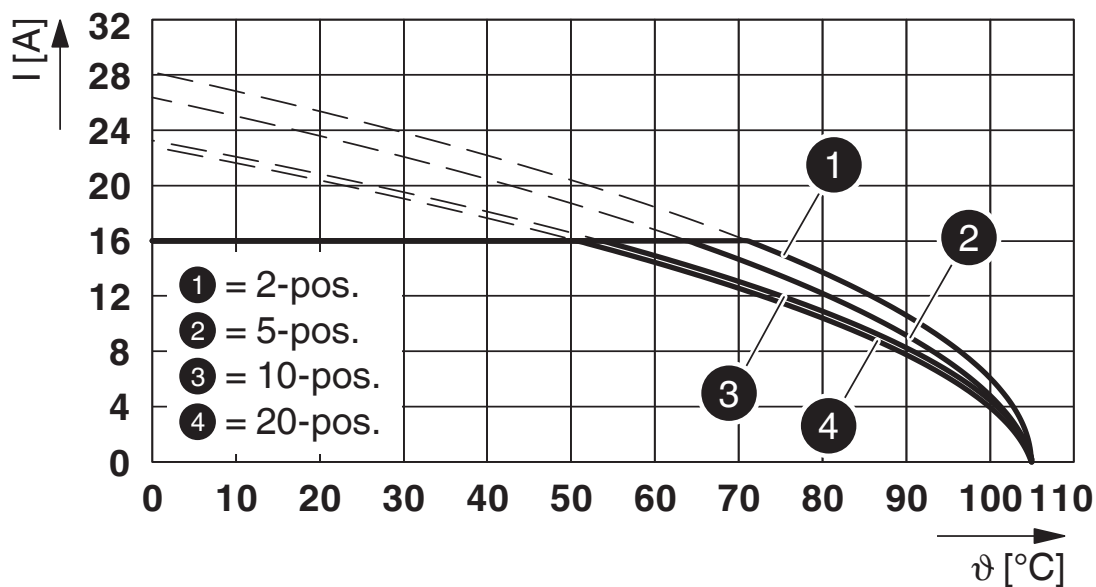
|                                                        |                     |
|--------------------------------------------------------|---------------------|
| Specification                                          | IEC 60664-1:2007-04 |
| Insulating material group                              | I                   |
| Comparative tracking index (IEC 60112)                 | CTI 600             |
| Rated insulation voltage (III/3)                       | 250 V               |
| Rated surge voltage (III/3)                            | 4 kV                |
| minimum clearance value - non-homogenous field (III/3) | 3 mm                |
| minimum creepage distance (III/3)                      | 3.2 mm              |
| Rated insulation voltage (III/2)                       | 320 V               |
| Rated surge voltage (III/2)                            | 4 kV                |
| minimum clearance value - non-homogenous field (III/2) | 3 mm                |
| minimum creepage distance (III/2)                      | 3 mm                |
| Rated insulation voltage (II/2)                        | 630 V               |
| Rated surge voltage (II/2)                             | 4 kV                |
| minimum clearance value - non-homogenous field (II/2)  | 3 mm                |
| minimum creepage distance (II/2)                       | 3.2 mm              |

## Packaging specifications

|                   |                     |
|-------------------|---------------------|
| Type of packaging | packed in cardboard |
|-------------------|---------------------|

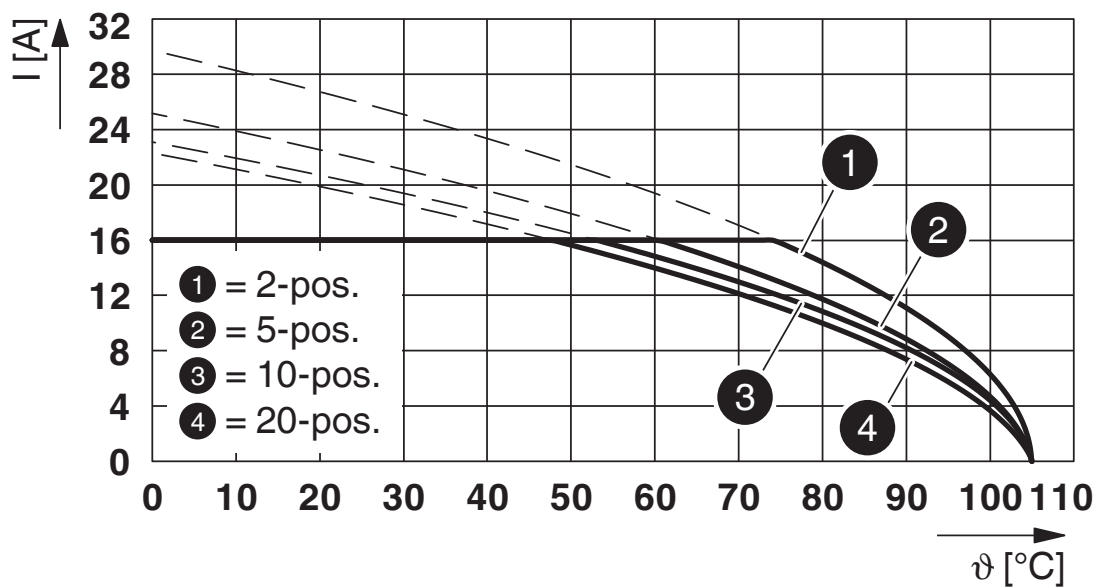
## Drawings

Diagram



Type: LPC 2,5/...-STF-5,08 with CC 2,5/...-GF-5,08 P...THR

Diagram



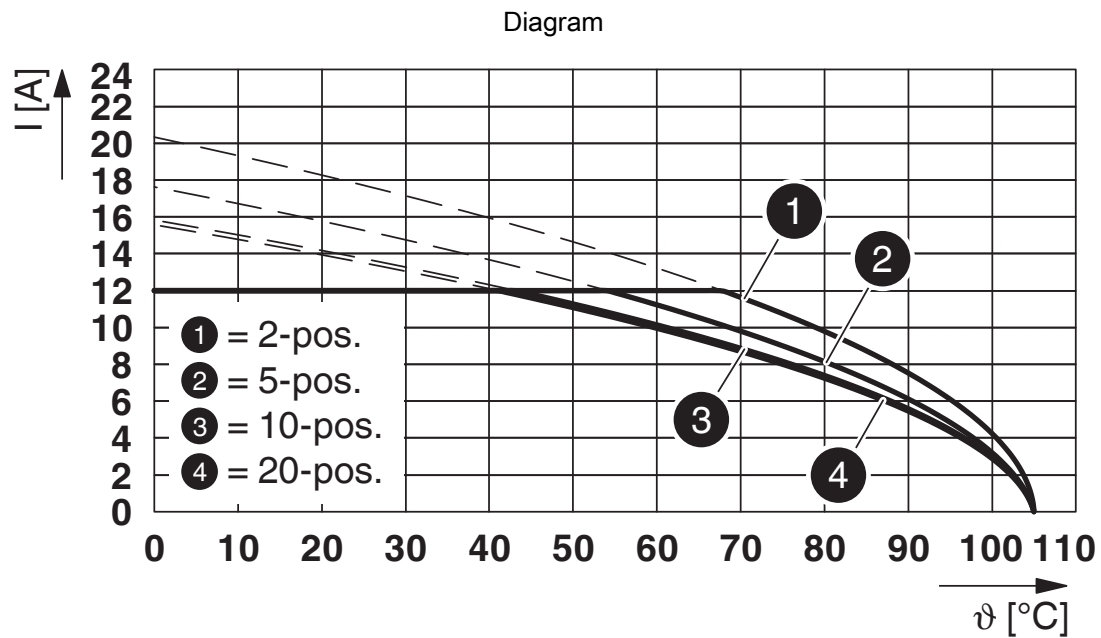
Type: LPC 2,5/...-STF-5,08 with CCV 2,5/...-GF-5,08 P...THR

# LPC 2,5/18-STF-5,08 - PCB connector



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Type: LPC 2,5/...-STF-5,08 with MSTBV 2,5/...-GF-5,08



# LPC 2,5/18-STF-5,08 - PCB connector



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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1110647>

|  <b>VDE Zeichengenehmigung</b><br>Approval ID: 40053722 |                       |                       |                   |                             |
|------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-------------------|-----------------------------|
|                                                                                                                                          | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| keine                                                                                                                                    |                       |                       |                   |                             |
|                                                                                                                                          | 320 V                 | 16 A                  | -                 | 0.2 - 2.5                   |

|  <b>UL Recognized</b><br>Approval ID: E60425-20210715 |                       |                       |                   |                             |
|----------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-------------------|-----------------------------|
|                                                                                                                                        | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| F                                                                                                                                      |                       |                       |                   |                             |
|                                                                                                                                        | 320 V                 | 16 A                  | 26 - 12           | -                           |

|  <b>cULus Recognized</b><br>Approval ID: E60425-20210715 |                       |                       |                   |                             |
|---------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-------------------|-----------------------------|
|                                                                                                                                             | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| B                                                                                                                                           |                       |                       |                   |                             |
|                                                                                                                                             | 300 V                 | 16 A                  | 26 - 12           | -                           |
| D                                                                                                                                           |                       |                       |                   |                             |
|                                                                                                                                             | 300 V                 | 10 A                  | 26 - 12           | -                           |

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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-13.0 | 27460202 |
| ECLASS-15.0 | 27460202 |

### ETIM

|          |          |
|----------|----------|
| ETIM 9.0 | EC002638 |
|----------|----------|

### UNSPSC

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

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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% |
|-------------------------------------|----------------------------|

### EF3.0 Climate Change

|         |               |
|---------|---------------|
| CO2e kg | 1.177 kg CO2e |
|---------|---------------|

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