

# PWO 16-POT - Panel feed-through terminal block



1705653

<https://www.phoenixcontact.com/gb/products/1705653>

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Panel feed-through terminal block, connection method: Push-in spring connection, Cable lug connection, number of positions: 1, load current: 76 A, cross section: 1.5 mm<sup>2</sup> - 16 mm<sup>2</sup>, connection direction of the conductor to plug-in direction: 45 °, width: 12 mm, color: gray

## Your advantages

- Time saving push-in connection, tools not required
- Defined contact force ensures that contact remains stable over the long term
- Tool-free snap-in principle enables easy mounting on the device panel
- Automatic panel thickness compensation enables universal use
- Reliable seal even with low-viscosity molding compounds

## Commercial data

|                                      |                     |
|--------------------------------------|---------------------|
| Item number                          | 1705653             |
| Packing unit                         | 50 pc               |
| Minimum order quantity               | 50 pc               |
| Sales key                            | AA1DEB              |
| Product key                          | AA1DEB              |
| Catalog page                         | Page 604 (C-1-2013) |
| GTIN                                 | 4046356790840       |
| Weight per piece (including packing) | 29.143 g            |
| Weight per piece (excluding packing) | 29.143 g            |
| Customs tariff number                | 85369010            |
| Country of origin                    | CN                  |

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## Technical data

### Product properties

|                       |                                   |
|-----------------------|-----------------------------------|
| Product type          | Panel feed-through terminal block |
| Product family        | PWO 16-POT                        |
| Number of positions   | 1                                 |
| Pitch                 | 12.1 mm                           |
| Number of connections | 2                                 |
| Number of potentials  | 1                                 |

### Insulation characteristics

|                      |     |
|----------------------|-----|
| Overvoltage category | III |
| Degree of pollution  | 3   |

### Electrical properties

#### Properties

|                             |        |
|-----------------------------|--------|
| Nominal current $I_N$       | 76 A   |
| Nominal voltage $U_N$       | 1000 V |
| Rated voltage (III/3)       | 1000 V |
| Rated surge voltage (III/3) | 8 kV   |
| Rated voltage (III/2)       | 1000 V |
| Rated surge voltage (III/2) | 8 kV   |
| Rated voltage (II/2)        | 1000 V |
| Rated surge voltage (II/2)  | 6 kV   |

### Connection data

#### Connection technology

|                       |                    |
|-----------------------|--------------------|
| Connector system      | UW 16 / PW 16      |
| Nominal cross section | 16 mm <sup>2</sup> |

#### Conductor connection exterior

|                                                                                           |                                            |
|-------------------------------------------------------------------------------------------|--------------------------------------------|
| Connection method                                                                         | Push-in spring connection                  |
| Connection direction of the conductor to plug-in direction                                | 45 °                                       |
| Conductor cross section rigid                                                             | 1.5 mm <sup>2</sup> ... 16 mm <sup>2</sup> |
| Conductor cross section flexible                                                          | 1.5 mm <sup>2</sup> ... 16 mm <sup>2</sup> |
| Conductor cross section flexible, with ferrule without plastic sleeve                     | 1.5 mm <sup>2</sup> ... 16 mm <sup>2</sup> |
| Conductor cross section, flexible, with ferrule, with plastic sleeve                      | 1.5 mm <sup>2</sup> ... 16 mm <sup>2</sup> |
| 2 conductors with the same cross section, flexible, with TWIN ferrule with plastic sleeve | 1.5 mm <sup>2</sup> ... 4 mm <sup>2</sup>  |
| Stripping length                                                                          | 18 mm                                      |

#### Conductor connection interior

|                   |                      |
|-------------------|----------------------|
| Connection method | Cable lug connection |
|-------------------|----------------------|

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|                                                            |     |
|------------------------------------------------------------|-----|
| Connection direction of the conductor to plug-in direction | 0 ° |
|------------------------------------------------------------|-----|

## Mounting

### Attachment to feed-through panel

|                   |                              |
|-------------------|------------------------------|
| Tightening torque | 1 Nm (Mounting screw torque) |
| Screw             | M4                           |

## 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 | tin-plated                                                                       |

### Material data - housing

|                                                                   |             |
|-------------------------------------------------------------------|-------------|
| Color (Housing)                                                   | gray (7042) |
| 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      |

## Notes

### Safety note

|             |                                                                                                                                                                                                                |
|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Safety note | • Only electrically qualified personnel may install and operate the product.<br>To recognize and prevent danger, the qualified personnel must be familiar with the basics of electrical engineering.           |
|             | • Observe the technical data provided here and refer to the documents listed under "Downloads". The download area contains important information, such as installation notes, technical drawings, and 3D data. |
|             | • To maintain the nominal voltage, align the cable lugs straight and centered, and cast the terminals on the inside.                                                                                           |
|             | • The cable entry funnel is not safe to touch. Never connect or disconnect the terminal when it is energized. Take appropriate steps to ensure touch protection.                                               |

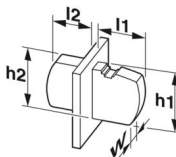
## Dimensions

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|                     |                                                                                    |
|---------------------|------------------------------------------------------------------------------------|
| Dimensional drawing |  |
| Pitch               | 12.1 mm                                                                            |
| Width [w]           | 12 mm                                                                              |

## External dimensions

|             |         |
|-------------|---------|
| Width [w]   | 12 mm   |
| Height [h1] | 44.4 mm |
| Length [l1] | 39.7 mm |

## Internal dimensions

|             |         |
|-------------|---------|
| Width [w]   | 12 mm   |
| Height [h2] | 26 mm   |
| Length [l2] | 23.1 mm |

## Mechanical tests

### Test for conductor damage and slackening

|               |                       |
|---------------|-----------------------|
| Specification | IEC 60947-7-1:2009-04 |
| Result        | Test passed           |

### Pull-out test

|                                                                             |                                         |
|-----------------------------------------------------------------------------|-----------------------------------------|
| Specification                                                               | IEC 60947-7-1:2009-04                   |
| Conductor cross section/conductor type/tractive force setpoint/actual value | 1.5 mm <sup>2</sup> / solid / > 40 N    |
|                                                                             | 1.5 mm <sup>2</sup> / flexible / > 40 N |
|                                                                             | 16 mm <sup>2</sup> / solid / > 100 N    |
|                                                                             | 16 mm <sup>2</sup> / flexible / > 100 N |

## Electrical tests

### Temperature-rise test

|                                   |                                   |
|-----------------------------------|-----------------------------------|
| Specification                     | IEC 60947-7-1:2009-04 (following) |
| Requirement temperature-rise test | Increase in temperature ≤ 45 K    |

### Short-time withstand current

|               |                       |
|---------------|-----------------------|
| Specification | IEC 60947-7-1:2009-04 |
|---------------|-----------------------|

### Air clearances and creepage distances | 1. Insulation coordination

|                                        |                                     |
|----------------------------------------|-------------------------------------|
| Application                            | Internal part molded                |
|                                        | Control cabinet panel 1 mm ... 4 mm |
| Specification                          | IEC 60947-1:2007-06 + A1:2010-12    |
| Insulating material group              | I                                   |
| Comparative tracking index (IEC 60112) | CTI 600                             |
| Rated insulation voltage (III/3)       | 1000 V                              |

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|                                                        |         |
|--------------------------------------------------------|---------|
| Rated surge voltage (III/3)                            | 8 kV    |
| minimum clearance value - non-homogenous field (III/3) | 8 mm    |
| minimum creepage distance (III/3)                      | 12.5 mm |
| Rated insulation voltage (III/2)                       | 1000 V  |
| Rated surge voltage (III/2)                            | 8 kV    |
| minimum clearance value - non-homogenous field (III/2) | 8 mm    |
| minimum creepage distance (III/2)                      | 8 mm    |
| Rated insulation voltage (II/2)                        | 1000 V  |
| Rated surge voltage (II/2)                             | 6 kV    |
| minimum clearance value - non-homogenous field (II/2)  | 5.5 mm  |
| minimum creepage distance (II/2)                       | 5.5 mm  |

## Air clearances and creepage distances | 2. Insulation coordination

|                                                        |                                     |
|--------------------------------------------------------|-------------------------------------|
| Application                                            | Internal part molded                |
|                                                        | Control cabinet panel 5 mm ... 6 mm |
| Specification                                          | IEC 60947-1:2007-06 + A1:2010-12    |
| Insulating material group                              | I                                   |
| Comparative tracking index (IEC 60112)                 | CTI 600                             |
| Rated insulation voltage (III/3)                       | 800 V                               |
| Rated surge voltage (III/3)                            | 8 kV                                |
| minimum clearance value - non-homogenous field (III/3) | 8 mm                                |
| minimum creepage distance (III/3)                      | 10 mm                               |
| Rated insulation voltage (III/2)                       | 1000 V                              |
| Rated surge voltage (III/2)                            | 8 kV                                |
| minimum clearance value - non-homogenous field (III/2) | 8 mm                                |
| minimum creepage distance (III/2)                      | 8 mm                                |
| Rated insulation voltage (II/2)                        | 1000 V                              |
| Rated surge voltage (II/2)                             | 6 kV                                |
| minimum clearance value - non-homogenous field (II/2)  | 5.5 mm                              |
| minimum creepage distance (II/2)                       | 5.5 mm                              |

## Air clearances and creepage distances | 3. Insulation coordination

|                                                        |                                  |
|--------------------------------------------------------|----------------------------------|
| Application                                            | Internal part not molded         |
|                                                        | DP-PWO 16-3 (width: 3 mm)        |
| Specification                                          | IEC 60947-1:2007-06 + A1:2010-12 |
| Insulating material group                              | I                                |
| Comparative tracking index (IEC 60112)                 | CTI 600                          |
| Rated insulation voltage (III/3)                       | 400 V                            |
| Rated surge voltage (III/3)                            | 4 kV                             |
| minimum clearance value - non-homogenous field (III/3) | 3 mm                             |
| minimum creepage distance (III/3)                      | 5 mm                             |
| Rated insulation voltage (III/2)                       | 500 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                             |

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|                                                       |       |
|-------------------------------------------------------|-------|
| Rated insulation voltage (II/2)                       | 800 V |
| Rated surge voltage (II/2)                            | 4 kV  |
| minimum clearance value - non-homogenous field (II/2) | 3 mm  |
| minimum creepage distance (II/2)                      | 4 mm  |

## Air clearances and creepage distances | 4. Insulation coordination

|                                                        |                                  |
|--------------------------------------------------------|----------------------------------|
| Application                                            | Internal part not molded         |
|                                                        | DP-PWO 16-6 (width: 6 mm)        |
| Specification                                          | IEC 60947-1:2007-06 + A1:2010-12 |
| Insulating material group                              | I                                |
| Comparative tracking index (IEC 60112)                 | CTI 600                          |
| Rated insulation voltage (III/3)                       | 800 V                            |
| Rated surge voltage (III/3)                            | 6 kV                             |
| minimum clearance value - non-homogenous field (III/3) | 5.5 mm                           |
| minimum creepage distance (III/3)                      | 10 mm                            |
| Rated insulation voltage (III/2)                       | 800 V                            |
| Rated surge voltage (III/2)                            | 8 kV                             |
| minimum clearance value - non-homogenous field (III/2) | 8 mm                             |
| minimum creepage distance (III/2)                      | 8 mm                             |
| Rated insulation voltage (II/2)                        | 1000 V                           |
| minimum clearance value - non-homogenous field (II/2)  | 0 mm                             |
| minimum creepage distance (II/2)                       | 5 mm                             |

## Air clearances and creepage distances | 5. Insulation coordination

|                                                        |                                     |
|--------------------------------------------------------|-------------------------------------|
| Application                                            | Internal part not molded            |
|                                                        | DP-PWO 16-9 (width: 9 mm)           |
|                                                        | Control cabinet panel 1 mm ... 4 mm |
| Specification                                          | IEC 60947-1:2007-06 + A1:2010-12    |
| Insulating material group                              | I                                   |
| Comparative tracking index (IEC 60112)                 | CTI 600                             |
| Rated insulation voltage (III/3)                       | 1000 V                              |
| Rated surge voltage (III/3)                            | 8 kV                                |
| minimum clearance value - non-homogenous field (III/3) | 8 mm                                |
| minimum creepage distance (III/3)                      | 12.5 mm                             |
| Rated insulation voltage (III/2)                       | 1000 V                              |
| Rated surge voltage (III/2)                            | 8 kV                                |
| minimum clearance value - non-homogenous field (III/2) | 8 mm                                |
| minimum creepage distance (III/2)                      | 8 mm                                |
| Rated insulation voltage (II/2)                        | 1000 V                              |
| Rated surge voltage (II/2)                             | 6 kV                                |
| minimum clearance value - non-homogenous field (II/2)  | 5.5 mm                              |
| minimum creepage distance (II/2)                       | 5.5 mm                              |

## Air clearances and creepage distances | 6. Insulation coordination

|                          |
|--------------------------|
| Internal part not molded |
|--------------------------|

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|                                                        |                                                                  |
|--------------------------------------------------------|------------------------------------------------------------------|
| Application                                            | DP-PWO 16-9 (width: 9 mm)<br>Control cabinet panel 5 mm ... 6 mm |
| Specification                                          | IEC 60947-1:2007-06 + A1:2010-12                                 |
| Insulating material group                              | I                                                                |
| Comparative tracking index (IEC 60112)                 | CTI 600                                                          |
| Rated insulation voltage (III/3)                       | 800 V                                                            |
| Rated surge voltage (III/3)                            | 8 kV                                                             |
| minimum clearance value - non-homogenous field (III/3) | 8 mm                                                             |
| minimum creepage distance (III/3)                      | 10 mm                                                            |
| Rated insulation voltage (III/2)                       | 1000 V                                                           |
| Rated surge voltage (III/2)                            | 8 kV                                                             |
| minimum clearance value - non-homogenous field (III/2) | 8 mm                                                             |
| minimum creepage distance (III/2)                      | 8 mm                                                             |
| Rated insulation voltage (II/2)                        | 1000 V                                                           |
| Rated surge voltage (II/2)                             | 6 kV                                                             |
| minimum clearance value - non-homogenous field (II/2)  | 5.5 mm                                                           |
| minimum creepage distance (II/2)                       | 5.5 mm                                                           |

## Air clearances and creepage distances | 7. Insulation coordination

|                                                        |                                  |
|--------------------------------------------------------|----------------------------------|
| Application                                            | Internal part not molded         |
| Specification                                          | IEC 60947-1:2007-06 + A1:2010-12 |
| Insulating material group                              | I                                |
| Comparative tracking index (IEC 60112)                 | CTI 600                          |
| minimum clearance value - non-homogenous field (III/3) | 0 mm                             |
| minimum creepage distance (III/3)                      | 0 mm                             |
| minimum clearance value - non-homogenous field (III/2) | 0 mm                             |
| minimum creepage distance (III/2)                      | 0 mm                             |
| minimum clearance value - non-homogenous field (II/2)  | 0 mm                             |
| minimum creepage distance (II/2)                       | 0 mm                             |

## 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           | 5g (60.1 Hz ... 150 Hz)     |
| Test duration per axis | 2.5 h                       |
| Test directions        | X-, Y- and Z-axis           |

### Glow-wire test

|                  |                        |
|------------------|------------------------|
| Specification    | IEC 60695-2-11:2000-10 |
| Temperature      | 960 °C                 |
| Time of exposure | 30 s                   |

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## Ambient conditions

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

## Packaging specifications

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



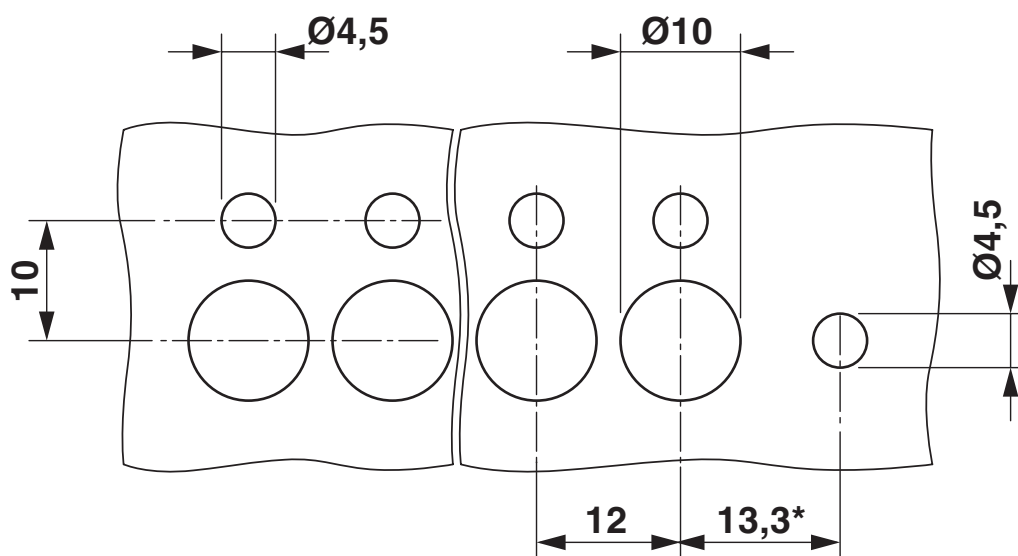
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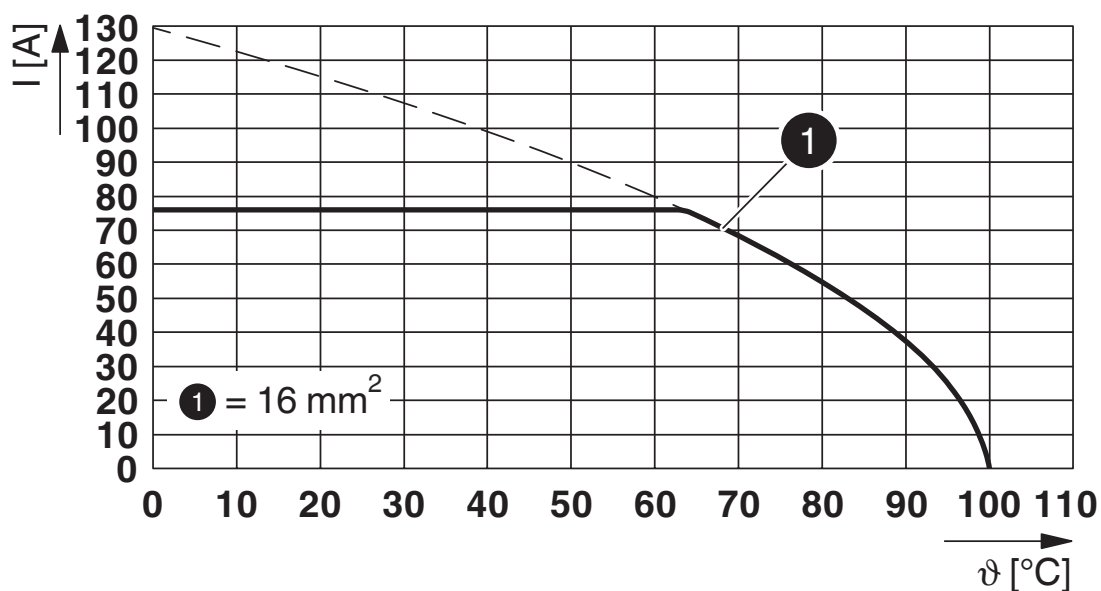
## Drawings

Dimensional drawing



\*Only when using the PWO 16-F flange plate

Diagram



Type: PWO 16-POT(/S)

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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/gb/products/1705653>

|  <b>CSA</b><br>Approval ID: 13631 |                       |                       |                   |                             |
|--------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-------------------|-----------------------------|
|                                                                                                                    | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| Use group C                                                                                                        |                       |                       |                   |                             |
|                                                                                                                    | 600 V                 | 66 A                  | 14 - 4            | -                           |

|  <b>cULus Recognized</b><br>Approval ID: E60425-20100423 |                       |                       |                   |                             |
|-------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-------------------|-----------------------------|
|                                                                                                                                           | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| Use group B                                                                                                                               |                       |                       |                   |                             |
|                                                                                                                                           | 600 V                 | 66 A                  | 14 - 4            | -                           |
| Use group C                                                                                                                               |                       |                       |                   |                             |
|                                                                                                                                           | 600 V                 | 66 A                  | 14 - 4            | -                           |

|  <b>VDE report with production monitoring</b><br>Approval ID: 40039989 |                       |                       |                   |                             |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-------------------|-----------------------------|
|                                                                                                                                                           | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| Reports with production monitoring                                                                                                                        | 1000 V                | 76 A                  | -                 | 1.5 - 16                    |

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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-13.0 | 27141134 |
|-------------|----------|

### ETIM

|          |          |
|----------|----------|
| ETIM 9.0 | EC001283 |
|----------|----------|

### 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                                 | 0.456 kg CO2e                            |

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