

CHARX T1HBI12-1AC80DC200-2,0M1 - Vehicle charging inlet



1210900

<https://www.phoenixcontact.com/us/products/1210900>

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The figure shows a version of the product

CHARX connect universal, AC/DC CCS Typ 1, Vehicle charging inlet, up to 250 A in Boost mode, 200 A permanent, 1000 V DC, 80 A , 250 V AC, Single-core wires connected at one end, length: 2 m, locking actuator: 12 V, 4-pos., Front and rear mounting, M6, housing: black, for charging with alternating current (AC) and with direct current (DC), IEC 62196-2, IEC 62196-3, A protective cap is supplied as standard for the DC and AC contacts.

Product description

Vehicle charging inlet for charging with alternating current (AC) and direct current (DC), compatible with type 1 AC and CCS vehicle charging connectors (EVSE), for installation in electric vehicles (EV).

Your advantages

- Complete product range
- Uniform, space-saving dimensions for the installation space and the screw connection points of all Phoenix Contact vehicle charging inlets
- Developed and produced in accordance with the IATF 16949 automotive standard and ISO 9001
- Integrated interlock during charging
- Manual emergency release of the locking actuator
- Protected and sealed against dirt and water with a high degree of protection

Commercial data

| | |
|--------------------------------------|---------------|
| Item number | 1210900 |
| Packing unit | 1 pc |
| Minimum order quantity | 1 pc |
| Sales key | EM01 |
| Product key | XWCAIB |
| GTIN | 4063151281663 |
| Weight per piece (including packing) | 6,236 g |
| Weight per piece (excluding packing) | 103 g |
| Customs tariff number | 85444290 |
| Country of origin | PL |

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Technical data

Product properties

| | |
|---------------------|-------------------------|
| Product type | Vehicle charging inlet |
| Product family | CHARX connect universal |
| Charging standard | AC/DC CCS Typ 1 |
| Charging mode | Mode 2, 3, 4 |
| Customer variations | On request |

Electrical properties

Charging power and current (AC charging, 1-phase)

| | |
|--------------------------|-------------------|
| Type of charging current | AC single-phase |
| Charging current | 80 A AC (1-phase) |
| Charging power | 20 kW |

Charging power and current (DC charging)

| | |
|--------------------------|----------|
| Type of charging current | DC |
| Charging current | 200 A DC |
| Charging power | 200 kW |
| Rated voltage | 1000 V |

Charging power and current (DC charging in Boost Mode)

| | |
|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Type of charging current | DC Boost Mode |
| Charging current | up to 250 A DC |
| Charging power | up to 250 kW |
| Rated voltage | 1000 V |
| Note | The specifications refer to charging in Boost Mode and are dependent on ambient conditions. For further details, see the packing slip in the download area. |

Pin assignment (Power contacts)

| | |
|-------------------------------|------------------------------------------|
| Note on the connection method | Crimp connection, cannot be disconnected |
| Number | 5 (L1, N, PE, DC+, DC-) |
| Rated voltage | 250 V AC |
| | 1000 V DC |
| Rated current | 80 A AC |
| | 200 A DC |

Pin assignment (Signal contacts)

| | |
|-------------------------------|-----------------------------------------------------------------------------------------------------------------|
| Note on the connection method | Crimp connection, cannot be disconnected |
| Type of signal transmission | Pulse width modulation with modulated Powerline communication in accordance with ISO/IEC 15118 / DIN SPEC 70121 |
| Number | 2 (CP, CS) |
| Rated voltage | 30 V AC |
| Rated current | 2 A |

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| | |
|-----------------------|------------------------------------|
| Coding | 4.7 k Ω (between PE and PP) |
| Insulation resistance | > 200 M Ω |

Locking actuator

| | |
|------------------------------------------|-------------------------------------|
| Locking actuator | 12 V, 4-pos. Top center position |
| Possible power supply range at the motor | 9 V ... 16 V |
| Maximum voltage for locking detection | 12 V |
| Typical motor current for locking | 0.25 A |
| Reverse current of the motor | max. 1.5 A |
| Max. dwell time with reverse current | 1 s |
| Recommended adaptation time | 600 ms |
| Pause time after entry or exit path | 3 s |
| Service life insertion cycles | > 10000 load cycles |
| Lock recognition | available |
| Mechanical emergency release | available |
| Ambient temperature (operation) | -40 °C ... 80 °C |

Temperature sensors (PTC chain)

| | |
|----------------------------|--------------------------------|
| Sensor type | PTC chain |
| Standards/regulations | DIN EN 60738-1 |
| Attachment point | Sensor for the AC contacts |
| Measuring range_resistance | 790 Ω ... 1420 Ω |
| Resistance | max. 1200 Ω \pm 5 K |
| Ambient temperature | -40 °C ... 130 °C (Operation) |

Temperature sensors (Pt 1000)

| | |
|-----------------------|-------------------------------|
| Sensor type | Pt 1000 |
| Standards/regulations | DIN EN 60751 |
| Attachment point | 2 sensors for the DC contacts |

Dimensions

Vehicle charging inlet

| | |
|--------|----------|
| Width | 108 mm |
| Height | 151.2 mm |
| Depth | 122.8 mm |

Bore dimensions

| | |
|--------|----------|
| Width | 117.6 mm |
| Height | 90 mm |
| Depth | 117.6 mm |

Material specifications

| | |
|---------------------|--------------|
| Color (Housing) | black (9005) |
| Color (Mating face) | black (9005) |

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| | |
|----------------------------|---------|
| Material (Housing) | Plastic |
| Material (Contact surface) | Silver |

Cable/line

| | |
|--------------|----------------------------------------|
| Cable length | 2 m |
| Cable type | Single-core wires connected at one end |

Single-core wires for AC

| | |
|-------------------------|------------------------|
| Cable length | 2 m |
| Cable structure | 2 x 16 mm ² |
| Single wire, material | Silicone |
| Single wire, color | OG |
| External cable diameter | 9.90 mm ±0.3 mm |
| Cable resistance | ≤ 1.16 Ω/km |

Single-core wires for DC

| | |
|-------------------------|------------------------|
| Cable length | 2 m |
| Cable structure | 2 x 70 mm ² |
| Single wire, material | Silicone |
| Single wire, color | OG |
| External cable diameter | 17.90 mm ±0.3 mm |
| Cable resistance | ≤ 0.259 Ω/km |

Single-core wire for PE

| | |
|-------------------------|------------------------|
| Cable length | 2 m |
| Cable structure | 1 x 25 mm ² |
| Single wire, material | Silicone |
| Single wire, color | GN/YE |
| External cable diameter | 8.60 mm ±0.1 mm |
| Cable resistance | ≤ 0.743 Ω/km |

Single-core wires for locking actuator

| | |
|-------------------------|----------------------------|
| Cable length | 1.5 m |
| Cable structure | 4 x 0.5 mm ² |
| Single wire, material | PVC |
| Single wire, color | BU/RD, BU/GN, BU/YE, BU/BN |
| External cable diameter | 1.60 mm ±0.20 mm |
| Cable resistance | ≤ 37.1 Ω/m |

Single-core wires for PTC temperature sensors

| | |
|-------------------------|-------------------------|
| Cable length | 1 m |
| Cable structure | 5 x 0,5 mm ² |
| Single wire, color | BN/GY BN/YE/GN |
| External cable diameter | 1.60 mm ±0.20 mm |
| Cable resistance | ≤ 37.1 Ω/m |

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Single-core wires for Pt 1000 temperature sensors

| | |
|-------------------------|-------------------------|
| Cable length | 0.9 m |
| Cable structure | 3 x 0.5 mm ² |
| Single wire, material | PVC |
| Single wire, color | BN GN YE |
| External cable diameter | 1.60 mm ±0.20 mm |
| Cable resistance | ≤ 37.1 Ω/m |

Single-core wires for communication

| | |
|-------------------------|-------------------------|
| Cable length | 1 m |
| Cable structure | 2 x 0.5 mm ² |
| Single wire, material | PVC |
| Single wire, color | BK WH |
| External cable diameter | 1.60 mm ±0.20 mm |
| Cable resistance | ≤ 37.1 Ω/m |

Mechanical properties

Mechanical data

| | |
|-----------------------------|---------|
| Insertion/withdrawal cycles | > 10000 |
| Insertion force | < 100 N |
| Withdrawal force | < 100 N |

Environmental and real-life conditions

Ambient conditions

| | |
|-----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Degree of protection (Vehicle charging inlet) | IP6K9K (plugged in; when plugged in and ready to operate, the degree of protection is only ensued if both plug-in components are original products from Phoenix Contact or suitable standard-compliant products) IP67 (Inner area of vehicle charging inlet) |
| Ambient temperature (operation) | -40 °C ... 40 °C (Max. 60 K heating, current reduction required. Observe the limit value for the DC contact temperature of 90 °C.) |
| Ambient temperature (storage/transport) | -40 °C ... 85 °C |
| Altitude | 4000 m (above sea level) |

Standards and regulations

Standards

| | |
|-----------------------|-----------------------------------------|
| Standards/regulations | IEC 62196-2 IEC 62196-3 SAE J1772 |
|-----------------------|-----------------------------------------|

Mounting

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| | |
|------------------------------------------|-----------------------------------------------------------------------|
| Mounting type | Front and rear mounting (0 to 90 degree frontal inclination possible) |
| Mounting hole diameter | 6.70 mm (ø) |
| Fixing screws | M6 |
| Screws included in the scope of delivery | none |

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Drawings

Dimensional drawing



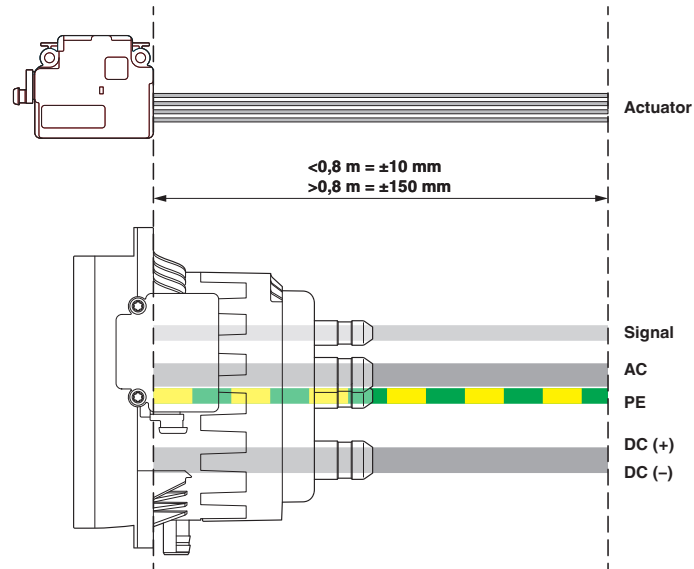
Dimensional drawing

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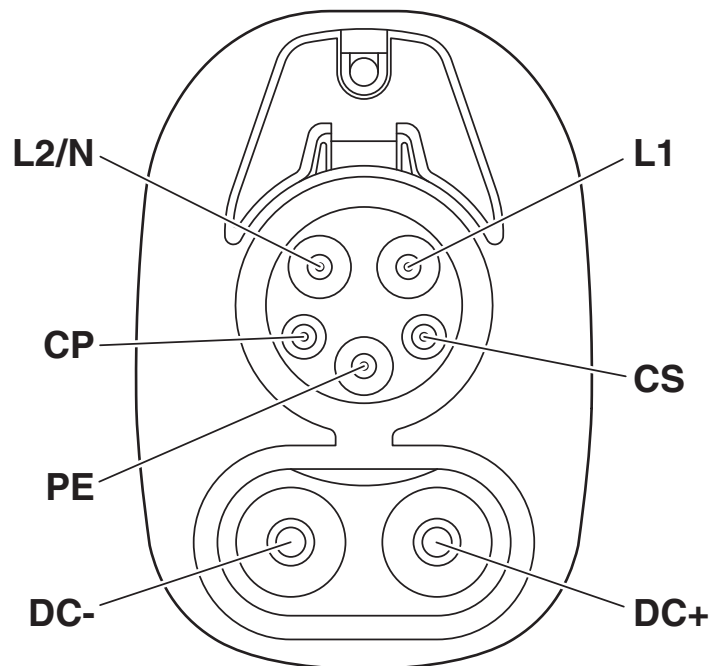
<https://www.phoenixcontact.com/us/products/1210900>

Dimensional drawing



Reference points for measuring the line length

Connection diagram



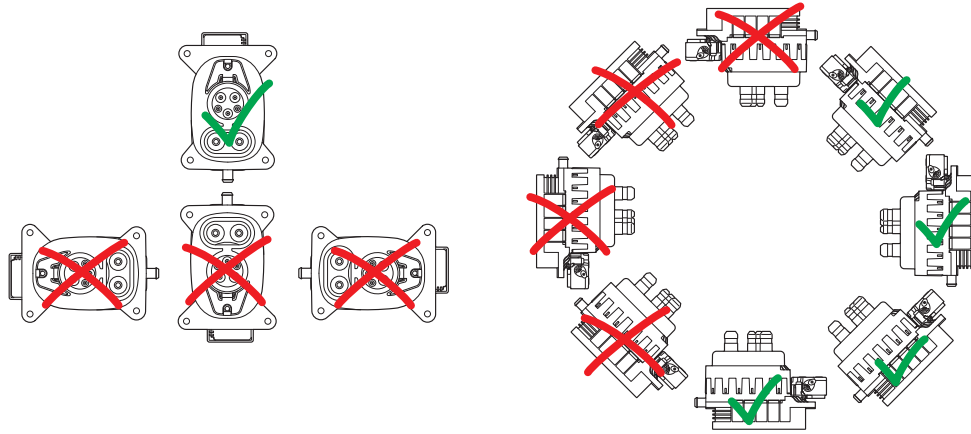
Pin assignment of vehicle charging inlets

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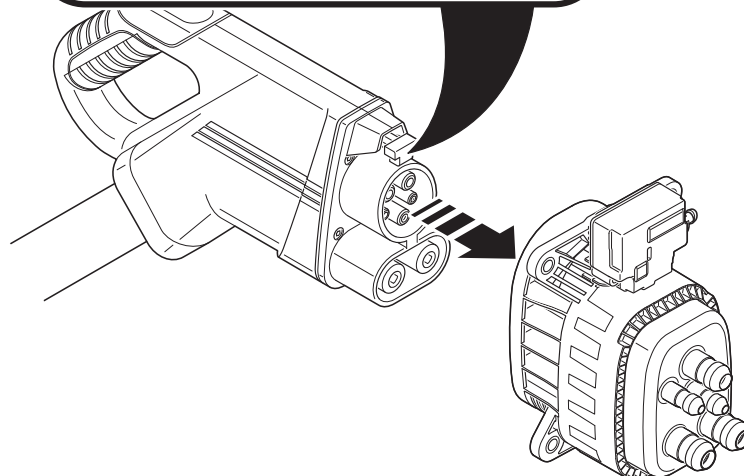
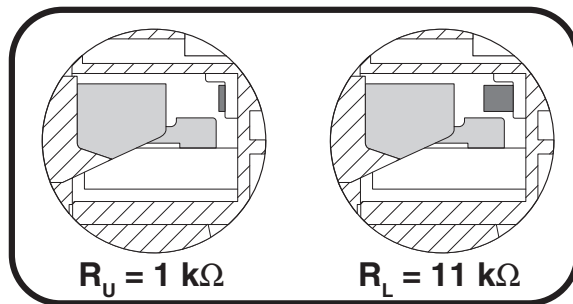
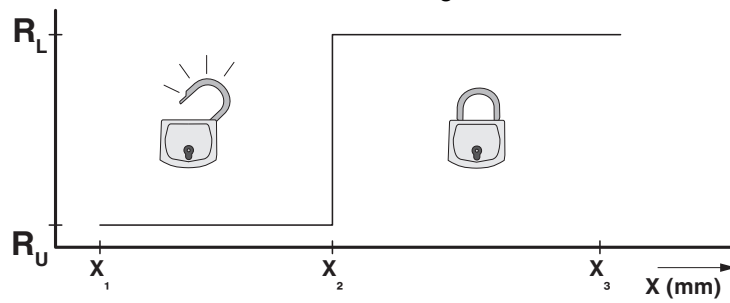
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Connection diagram



Installation positions

Connection diagram



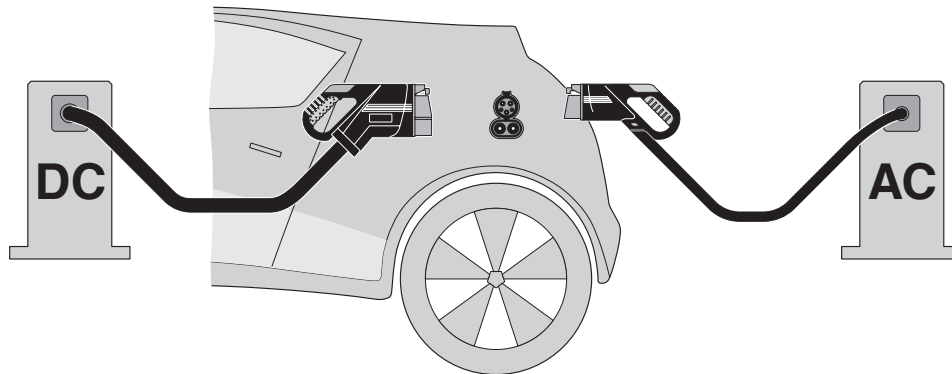
Detection for Vehicle Connector

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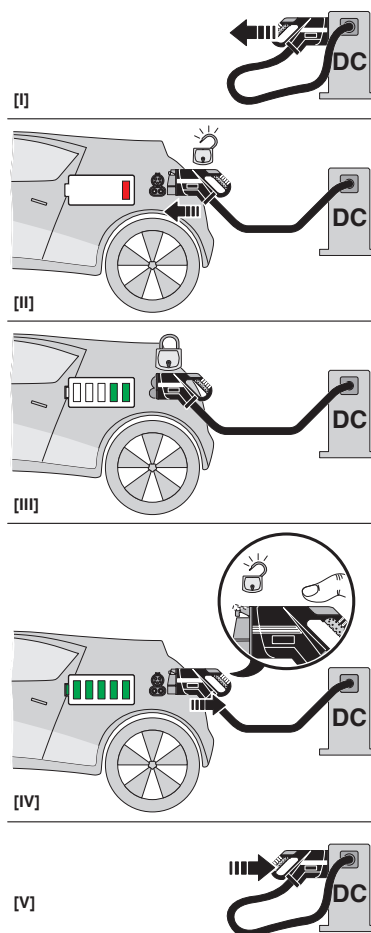
<https://www.phoenixcontact.com/us/products/1210900>

Schematic diagram



The Combined Charging System (CCS) principle - standard-compliant charging system for electric vehicles, which supports both conventional AC charging and fast DC charging. Both Vehicle Connectors fit into the CCS Vehicle Inlet.

Schematic diagram



Operating instructions

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Schematic diagram



Block diagram of the locking actuator

Schematic diagram



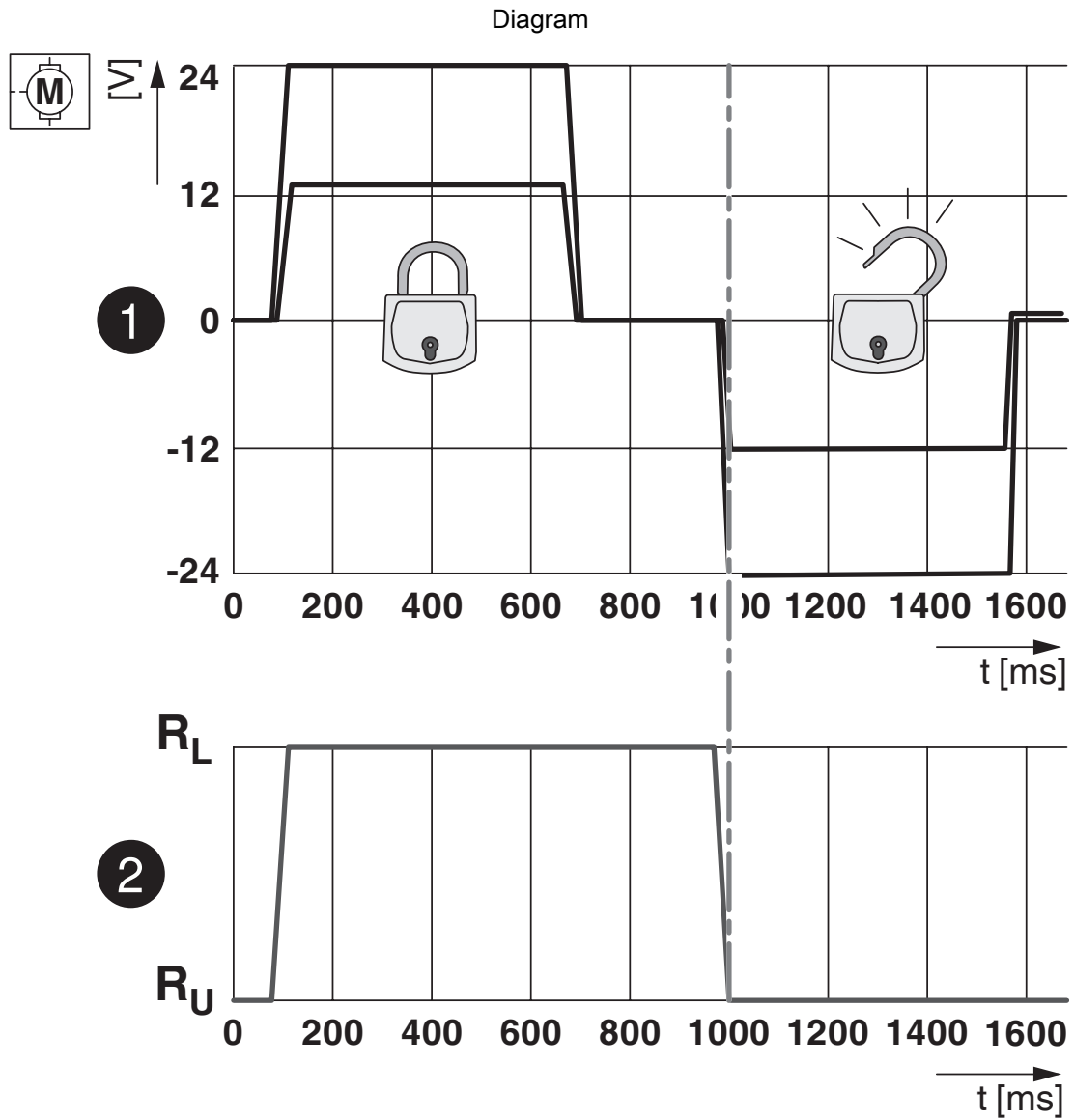
Temperature sensor technology resistance range at AC contacts

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Locking states of the locking actuator

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Diagram



Pt 1000 characteristic curve at an ambient temperature of 25°C for temperature measurement at the DC contacts

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Approvals

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cULus Recognized

Approval ID: E473195-20210730

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Classifications

ECLASS

| | |
|-------------|----------|
| ECLASS-13.0 | 27144706 |
| ECLASS-15.0 | 27144706 |

ETIM

| | |
|-----------|----------|
| ETIM 10.0 | EC002898 |
|-----------|----------|

UNSPSC

| | |
|-------------|----------|
| UNSPSC 21.0 | 39121800 |
|-------------|----------|

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Environmental product compliance

EU RoHS

| | |
|-----------------------------------------|--------------|
| Fulfills EU RoHS substance requirements | Yes |
| Exemption | 6(c), 7(c)-I |

China RoHS

| | |
|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Environment friendly use period (EFUP) | EFUP-50 |
| | An article-related China RoHS declaration table can be found in the download area for the respective article under "Manufacturer declaration". For all articles with EFUP-E, no China RoHS declaration table issued and required. |

EU REACH SVHC

| | |
|-------------------------------------|---------------------------------------------------------------------------------------------------------|
| REACH candidate substance (CAS No.) | 2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (DOTE)(CAS: 15571-58-1) |
| | Lead(CAS: 7439-92-1) |
| | Bis(2-(2-methoxyethoxy)ethyl)ether(CAS: 143-24-8) |
| | 6,6'-di-tert-butyl-2,2'-methylenedi-p-cresol(CAS: 119-47-1) |
| SCIP | 2158dab7-223c-4d48-82d2-a25eaa0dc88f |

EF3.1 Climate Change

| | |
|---------|---------------|
| CO2e kg | 51.39 kg CO2e |
|---------|---------------|

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