

## MPS 5/03 S TN B B D

Weidmüller Interface GmbH &amp; Co. KG

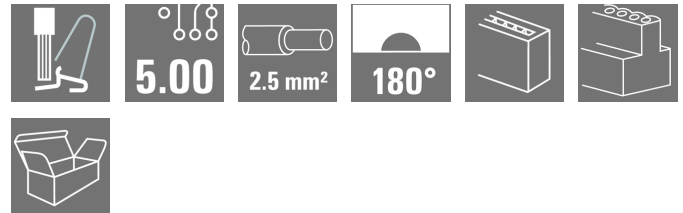
Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

## Product image

SNAP IN 

## OMNIMATE® 4.0 - the next evolution step

OMNIMATE® 4.0 follows the trend of One Cable Technology (OCT). The modular concept enables the fast configuration of hybrid interfaces, which transmit data, signals and energy in a single connector. As a result, you can reduce the cabling effort in a wide variety of applications, simplify maintenance and accelerate automation processes. The unique SNAP IN connection is the backbone and speeds up the wiring process.

## The fastest connection yet

- Fast, safe, and tool-free wiring due to unique SNAP IN connection
- Ready for Robot through "wire ready" delivery with open clamping point
- Optical and acoustic feedback indicates proper wiring

## Create your own configuration

- Flexible configuration and ordering via the Weidmüller Configurator (WMC)
- Dispatch within three days – even for individually configured products
- Automatic offer preparation for the configured product

## Simply configuration of modular hybrid connectors

- Flexible combination options for power, signal and data transmission
- Future-proof Single-Pair Ethernet technology

## General ordering data

|              |                                                                                       |
|--------------|---------------------------------------------------------------------------------------|
| Version      | PCB plug-in connector, female plug, Pitch in mm (P): 5.00 mm, Number of poles: 3, Box |
| Order No.    | <a href="#">2790400000</a>                                                            |
| Type         | MPS 5/03 S TN B B D                                                                   |
| GTIN (EAN)   | 4064675069102                                                                         |
| Qty.         | 114 pc(s).                                                                            |
| Product data | IEC: 400 V / 26.8 A / 0.5 - 4 mm²<br>UL: 300 V / 18.5 A / AWG 20 - AWG 12             |
| Packaging    | Box                                                                                   |

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## Technical data

## Dimensions and weights

|            |         |                 |            |
|------------|---------|-----------------|------------|
| Depth      | 34 mm   | Depth (inches)  | 1.339 inch |
| Height     | 15.5 mm | Height (inches) | 0.61 inch  |
| Width      | 15.8 mm | Width (inches)  | 0.622 inch |
| Net weight | 7.948 g |                 |            |

## Temperatures

|                     |                 |
|---------------------|-----------------|
| Ambient temperature | -50 °C...125 °C |
|---------------------|-----------------|

## System Parameters

|                                              |                         |
|----------------------------------------------|-------------------------|
| Product family                               | OMNIMATE 4.0            |
| Type of connection                           | Field connection        |
| Wire connection method                       | SNAP IN                 |
| Pitch in mm (P)                              | 5 mm                    |
| Pitch in inches (P)                          | 0.197 "                 |
| Conductor outlet direction                   | 180°                    |
| Number of poles                              | 3                       |
| L1 in mm                                     | 10 mm                   |
| L1 in inches                                 | 0.394 "                 |
| Number of rows                               | 1                       |
| Pin series quantity                          | 1                       |
| Touch-safe protection acc. to DIN VDE 57 106 | Safe from finger touch  |
| Touch-safe protection acc. to DIN VDE 0470   | IP 20                   |
| Protection degree                            | IP20                    |
| Volume resistance                            | ≤5 mΩ                   |
| Stripping length                             | 9 mm                    |
| Stripping length tolerance                   | min. 8 mm<br>max. 10 mm |
| Plugging cycles                              | ≥ 25                    |
| Plugging force/pole, max.                    | 8.5 N                   |
| Pulling force/pole, max.                     | 8.5 N                   |

## Material data

|                                  |          |                             |        |
|----------------------------------|----------|-----------------------------|--------|
| Insulating material              | PBT GF   | Colour                      | black  |
| Colour chart (similar)           | RAL 9011 | Insulating material group   | I      |
| Comparative Tracking Index (CTI) | ≥ 600    | UL 94 flammability rating   | V-0    |
| Contact material                 | Cu-alloy | Contact surface             | tinned |
| Storage temperature, min.        | -25 °C   | Storage temperature, max.   | 55 °C  |
| Operating temperature, min.      | -50 °C   | Operating temperature, max. | 100 °C |

## Conductors suitable for connection

|                                                                      |                      |
|----------------------------------------------------------------------|----------------------|
| Clamping range, min.                                                 | 0.34 mm <sup>2</sup> |
| Clamping range, max.                                                 | 4 mm <sup>2</sup>    |
| Solid, min. H05(07) V-U                                              | 0.5 mm <sup>2</sup>  |
| Solid, max. H05(07) V-U                                              | 2.5 mm <sup>2</sup>  |
| Flexible, min. H05(07) V-K                                           | 0.5 mm <sup>2</sup>  |
| Flexible, max. H05(07) V-K                                           | 4 mm <sup>2</sup>    |
| w. plastic collar ferrule, DIN 46228 pt 4, 0.34 mm <sup>2</sup> min. |                      |

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w. plastic collar ferrule, DIN 46228 pt 4, 2.5 mm<sup>2</sup>  
max.w. wire end ferrule, DIN 46228 pt 1, 0.34 mm<sup>2</sup>  
min.w. wire end ferrule, DIN 46228 pt 1, 2.5 mm<sup>2</sup>  
max.

Outer diameter of insulation, max. 4 mm

|                     |                                        |                              |                             |
|---------------------|----------------------------------------|------------------------------|-----------------------------|
| Clampable conductor | Cross-section for conductor connection | nominal                      | 0.34 mm <sup>2</sup>        |
|                     |                                        | Stripping length             | nominal 10 mm               |
|                     | wire end ferrule                       | Recommended wire-end ferrule | <a href="#">H0.34/12 TK</a> |
|                     |                                        |                              |                             |
|                     | Cross-section for conductor connection | nominal                      | 0.5 mm <sup>2</sup>         |
|                     |                                        | Stripping length             | nominal 12 mm               |
|                     | wire end ferrule                       | Recommended wire-end ferrule | <a href="#">H0.5/16 OR</a>  |
|                     |                                        |                              |                             |
|                     |                                        | Stripping length             | nominal 10 mm               |
|                     |                                        | Recommended wire-end ferrule | <a href="#">H0.5/10</a>     |
|                     | Cross-section for conductor connection | nominal                      | 0.75 mm <sup>2</sup>        |
|                     |                                        | Stripping length             | nominal 12 mm               |
|                     | wire end ferrule                       | Recommended wire-end ferrule | <a href="#">H0.75/16 W</a>  |
|                     |                                        |                              |                             |
|                     |                                        | Stripping length             | nominal 10 mm               |
|                     |                                        | Recommended wire-end ferrule | <a href="#">H0.75/10</a>    |
|                     | Cross-section for conductor connection | nominal                      | 1 mm <sup>2</sup>           |
|                     |                                        | Stripping length             | nominal 12 mm               |
|                     | wire end ferrule                       | Recommended wire-end ferrule | <a href="#">H1.0/16 GE</a>  |
|                     |                                        |                              |                             |
|                     |                                        | Stripping length             | nominal 10 mm               |
|                     |                                        | Recommended wire-end ferrule | <a href="#">H1.0/10</a>     |
|                     | Cross-section for conductor connection | nominal                      | 1.5 mm <sup>2</sup>         |
|                     |                                        | Stripping length             | nominal 12 mm               |
|                     | wire end ferrule                       | Recommended wire-end ferrule | <a href="#">H1.5/16 R</a>   |
|                     |                                        |                              |                             |
|                     |                                        | Stripping length             | nominal 10 mm               |
|                     |                                        | Recommended wire-end ferrule | <a href="#">H1.5/10</a>     |
|                     | Cross-section for conductor connection | nominal                      | 2.5 mm <sup>2</sup>         |
|                     |                                        | Stripping length             | nominal 10 mm               |
|                     | wire end ferrule                       | Recommended wire-end ferrule | <a href="#">H2.5/15D BL</a> |
|                     |                                        |                              |                             |
|                     |                                        | Stripping length             | nominal 10 mm               |
|                     |                                        | Recommended wire-end ferrule | <a href="#">H2.5/10</a>     |

Reference text

The outside diameter of the plastic collar should not be larger than the pitch (P). Length of ferrules is to be chosen depending on the product and the rated voltage.

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## Technical data

## Rated data acc. to IEC

|                                                                           |                        |                                                                       |        |
|---------------------------------------------------------------------------|------------------------|-----------------------------------------------------------------------|--------|
| tested acc. to standard                                                   | IEC 60664-1, IEC 61984 | Rated current, min. number of poles (Tu=20°C)                         | 26.8 A |
| Rated current, max. number of poles (Tu=20°C)                             | 19.7 A                 | Rated current, min. number of poles (Tu=40°C)                         | 23.1 A |
| Rated current, max. number of poles (Tu=40°C)                             | 16.9 A                 | Rated voltage for surge voltage class / pollution degree II/2         | 400 V  |
| Rated voltage for surge voltage class / pollution degree III/2            | 320 V                  | Rated voltage for surge voltage class / pollution degree III/3        | 250 V  |
| Rated impulse voltage for surge voltage class/ pollution degree II/2      | 4 kV                   | Rated impulse voltage for surge voltage class/ pollution degree III/2 | 4 kV   |
| Rated impulse voltage for surge voltage class/ contamination degree III/3 | 4 kV                   |                                                                       |        |

## Rated data acc. to UL 1059

|                                       |                                                                                    |                                       |        |
|---------------------------------------|------------------------------------------------------------------------------------|---------------------------------------|--------|
| Institute (cURus)                     |  | Certificate No. (cURus)               | E60693 |
| Rated voltage (Use group B / UL 1059) | 300 V                                                                              | Rated voltage (Use group C / UL 1059) | 150 V  |
| Rated voltage (Use group D / UL 1059) | 300 V                                                                              | Rated current (Use group B / UL 1059) | 18.5 A |
| Rated current (Use group C / UL 1059) | 18.5 A                                                                             | Rated current (Use group D / UL 1059) | 18.5 A |
| Wire cross-section, AWG, min.         | AWG 20                                                                             | Wire cross-section, AWG, max.         | AWG 12 |
| Reference to approval values          | Specifications are maximum values, details - see approval certificate.             |                                       |        |

## Classifications

|             |             |             |             |
|-------------|-------------|-------------|-------------|
| ETIM 6.0    | EC002638    | ETIM 7.0    | EC002638    |
| ETIM 8.0    | EC002638    | ETIM 9.0    | EC002638    |
| ETIM 10.0   | EC002638    | ECLASS 9.0  | 27-44-03-09 |
| ECLASS 9.1  | 27-44-03-09 | ECLASS 10.0 | 27-44-03-09 |
| ECLASS 11.0 | 27-46-02-02 | ECLASS 12.0 | 27-46-02-02 |
| ECLASS 13.0 | 27-46-02-02 | ECLASS 14.0 | 27-46-02-02 |
| ECLASS 15.0 | 27-46-02-02 |             |             |

## Environmental Product Compliance

|                        |                             |
|------------------------|-----------------------------|
| RoHS Compliance Status | Compliant without exemption |
| REACH SVHC             | No SVHC above 0.1 wt%       |

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## Important note

|                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| IPC conformity | Conformity: The products are developed, manufactured and delivered according international recognized standards and norms and comply with the assured properties in the data sheet resp. fulfill decorative properties in accordance with IPC-A-610 "Class 2". Further claims on the products can be evaluated on request.                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Notes          | <ul style="list-style-type: none"> <li>Rated current related to rated cross-section &amp; min. No. of poles.</li> <li>P on drawing = pitch</li> <li>Rated data refer only to the component itself. Clearance and creepage distances to other components are to be designed in accordance with the relevant application standards.</li> <li>Wire end ferrule without plastic collar to DIN 46228/1</li> <li>In accordance with IEC 61984, OMNIMATE-connectors are connectors without breaking capacity (COC). During designated use, connectors are not allowed to be engaged or disengaged when live or under load</li> <li>Long term storage of the product with average temperature of 50 °C and maximum humidity 70%, 36 months</li> </ul> |

## Approvals

Approvals



|                         |                                                                                                                                                                             |
|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Approvals MAMID         | <a href="https://mdcop.weidmueller.com/mediadelivery/rendition/900_319230/-T1z1mm-S800/">https://mdcop.weidmueller.com/mediadelivery/rendition/900_319230/-T1z1mm-S800/</a> |
| UL File Number Search   | UL Website                                                                                                                                                                  |
| Certificate No. (cURus) | E60693                                                                                                                                                                      |

## Downloads

|                                             |                                                                                                                                                                                                                                                    |
|---------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Approval/Certificate/Document of Conformity | <a href="#">CoC_cURus_E60693_MPS_MHS_202207.pdf</a><br><a href="#">Declaration of the Manufacturer</a>                                                                                                                                             |
| Engineering Data                            | <a href="#">CAD data – STEP</a>                                                                                                                                                                                                                    |
| Product Change Notification                 | <a href="#">20210526 Technical change to MPS 5 and MHS 5 H</a><br><a href="#">20210526 Technische Änderung zu MPS 5 und MHS 5 H</a><br><a href="#">20210602 Technical change to MPS 5</a><br><a href="#">20210602 Technische Änderung zu MPS 5</a> |
| Catalogues                                  | <a href="#">Catalogues in PDF-format</a>                                                                                                                                                                                                           |

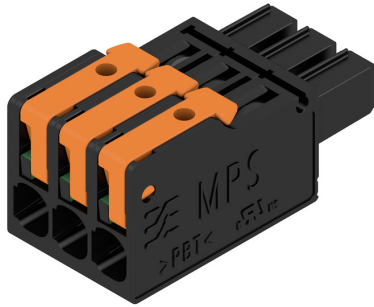
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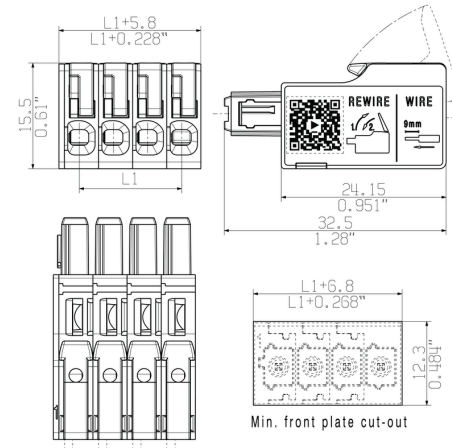
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## Drawings

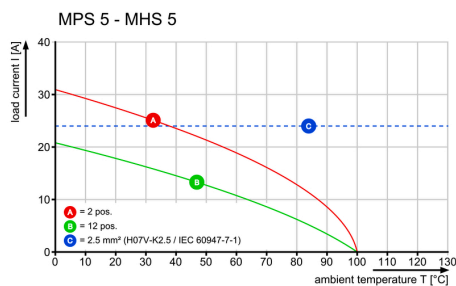
### Product image



### Dimensional drawing



### Derating curve



### Product benefits

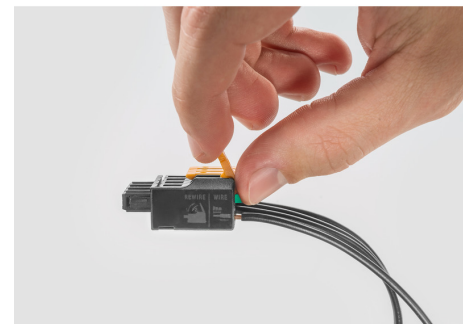


Fastest connection technology SNAP IN

### Product benefits



Acoustic and visual feedback



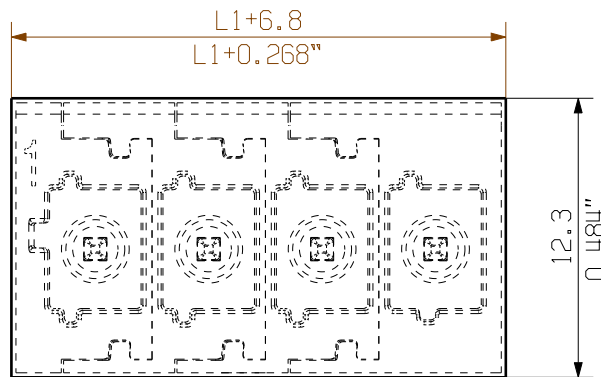
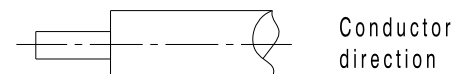
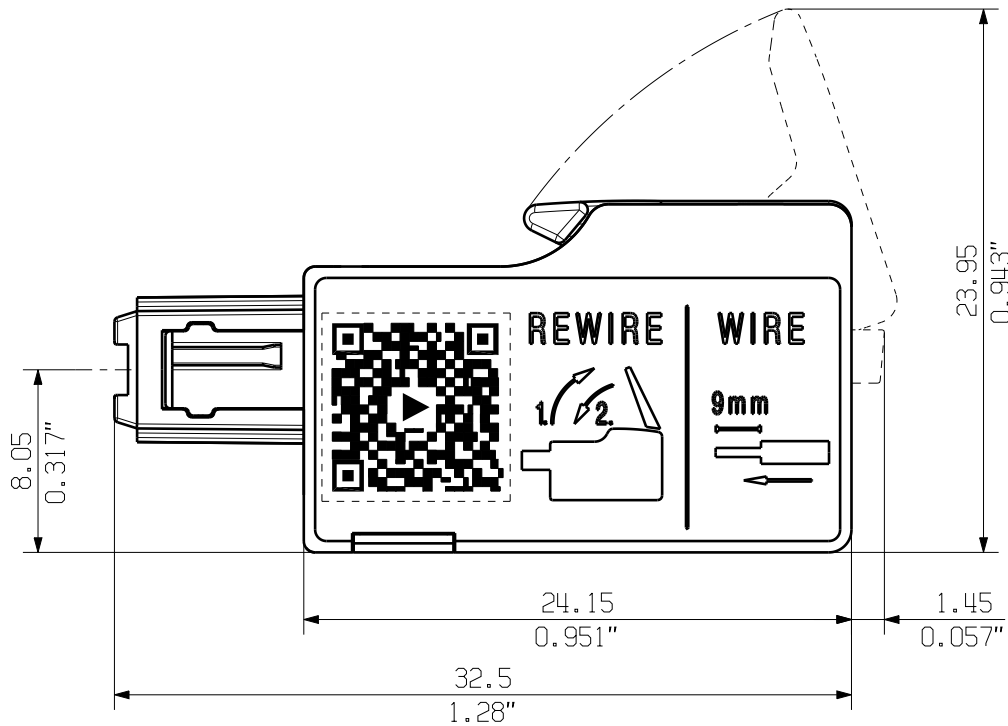
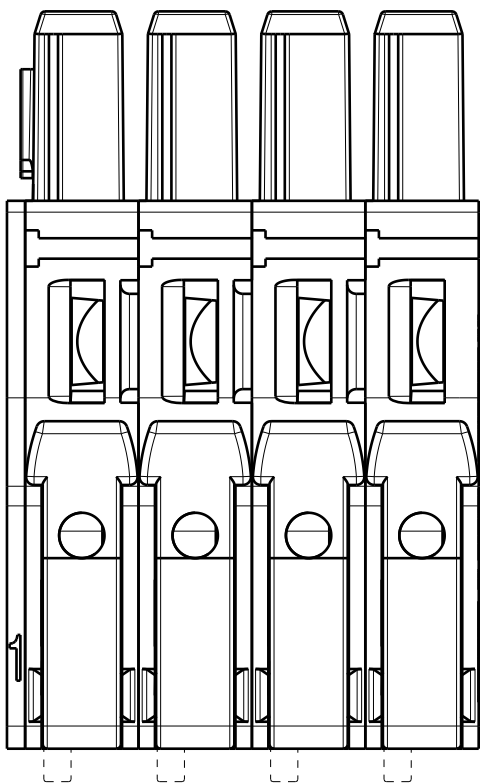
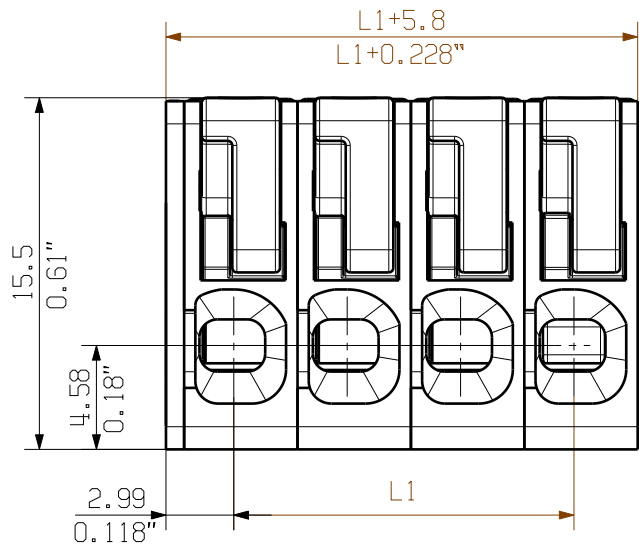
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Dimensions without tolerances are no check dimensions

The English version is binding

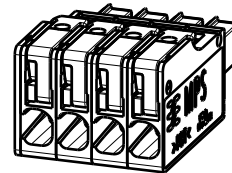
Allgemeinguetliche Kundenzeichnung, aktueller Stand nur auf Anfrage  
General customer drawing, topical version only if required



Min. front plate cut-out

Further dim. & info. see data sheet

General tolerance:  
DIN ISO 2768-mK



M 1/1

|         |         |           |
|---------|---------|-----------|
| 12      | 55.00   | 2.165     |
| 11      | 50.00   | 1.969     |
| 10      | 45.00   | 1.772     |
| 9       | 40.00   | 1.575     |
| 8       | 35.00   | 1.378     |
| 7       | 30.00   | 1.181     |
| 6       | 25.00   | 0.984     |
| 5       | 20.00   | 0.787     |
| 4       | 15.00   | 0.591     |
| 3       | 10.00   | 0.394     |
| 2       | 5.00    | 0.197     |
| n Poles | L1 [mm] | L1 [inch] |

For the mounting of PCBs, it should be noted that the rated data given in the catalogue relates only to the connection elements. The necessary creepage and clearance paths must be observed in connection with the respective applicant in accordance to VDE 0110. The current-carrying capacity and pitch tolerance is to be determined according to DIN IEC 326 part 3 very fine.

Weidmueller connectors are tested to the DIN VDE 0627 standard, and are valid for its field of application. Provided that the connectors are used to the intended purpose, all requirements with respect to the occurring of electrical, mechanical, thermic and corrosive stress will be satisfied.

|                                       |                                |                      |                   |                                                          |                                                              |
|---------------------------------------|--------------------------------|----------------------|-------------------|----------------------------------------------------------|--------------------------------------------------------------|
|                                       | EC00004980<br>P028441          | Prim PLM Part No.: . |                   | Prim ERP Part No.: .                                     |                                                              |
|                                       | First Issue Date<br>07.05.2020 | Max. nos.            | <b>Weidmüller</b> |                                                          | <b>72561</b><br>Drawing no. Issue no.<br>Sheet 5 of 8 sheets |
| Modification                          |                                |                      |                   |                                                          |                                                              |
|                                       | Drawn                          | Date                 | Name              | <b>MPS 5/... TN ...</b><br>BUCHSENSTECKER<br>FEMALE PLUG |                                                              |
|                                       | Responsible                    |                      | Schmitz, Till     |                                                          |                                                              |
|                                       | Approved                       | 24.03.2021           | Sapina, Svetos    |                                                          |                                                              |
| Scale: 3/1 Size: A3 Drawings Assembly |                                |                      |                   | Product file: .                                          |                                                              |