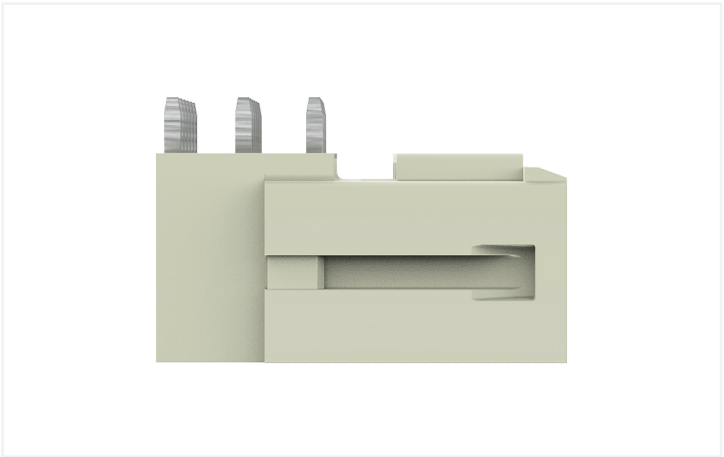
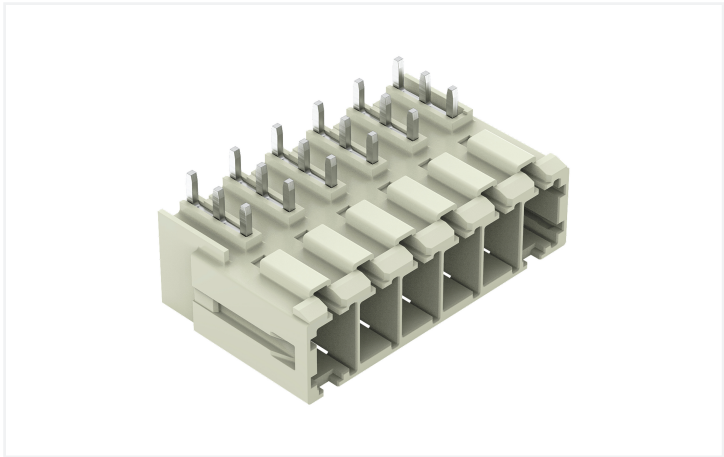


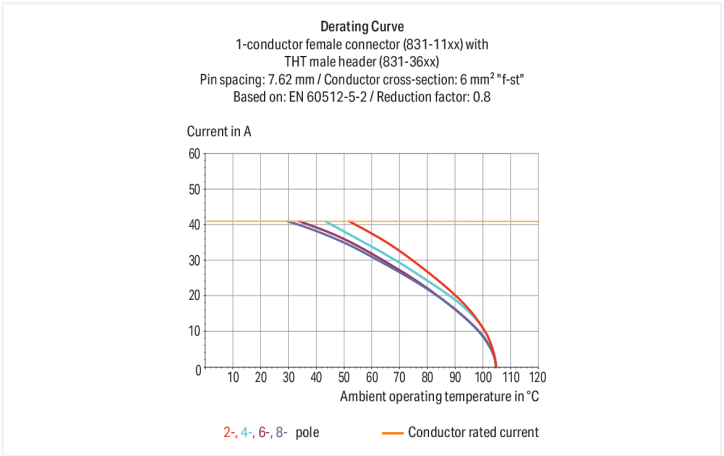
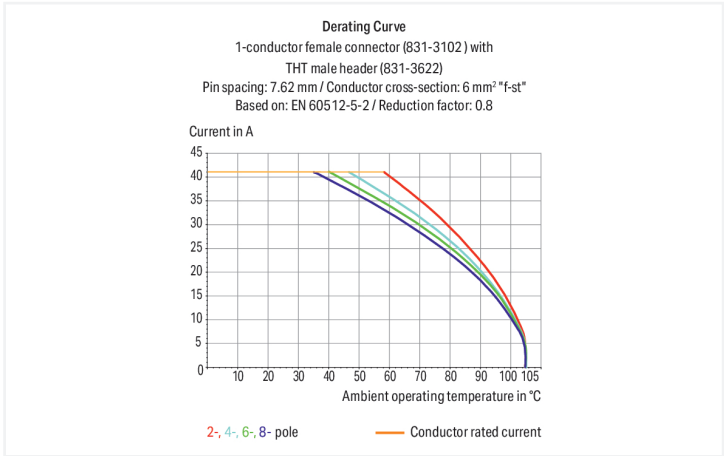
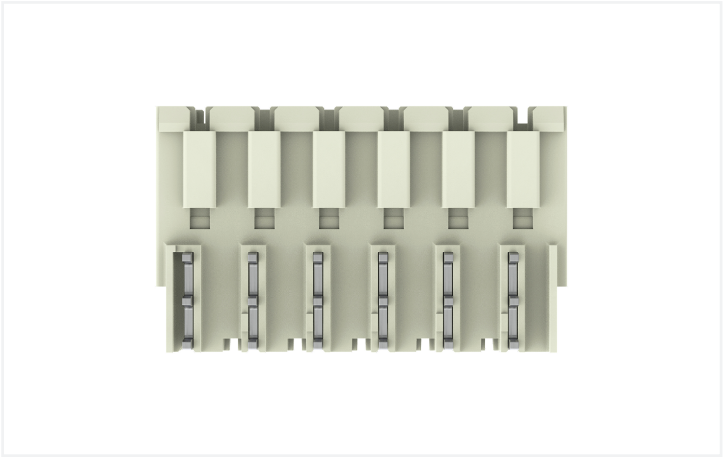
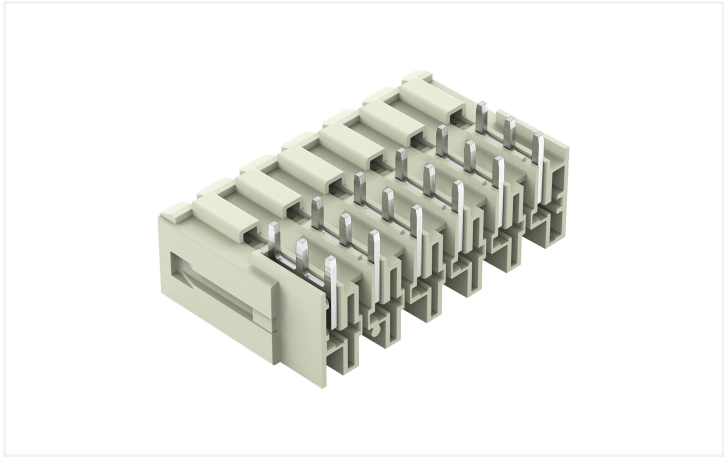
Data Sheet | Item Number: 831-3646

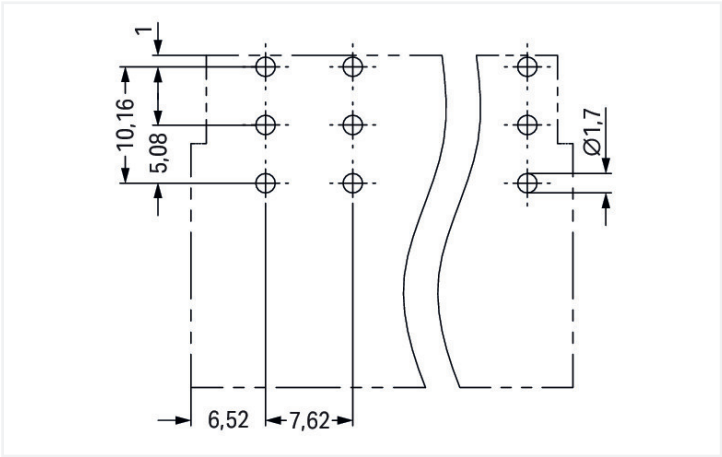
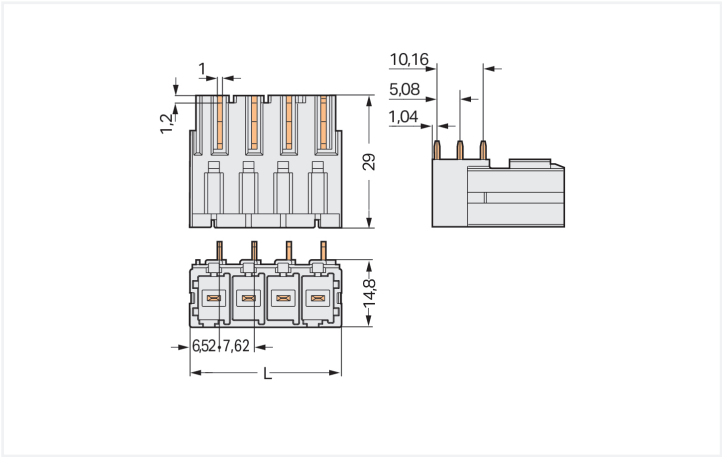
THT male header; 1.0 x 1.2 mm solder pin; angled; 100% protected against mis-  
mating; Pin spacing 7.62 mm; 6-pole; light gray

<https://www.wago.com/831-3646>



Color: ■ light gray





L = (pole no. - 1) x pin spacing + 10,5 mm

Male connector, 831 Series, with 7.62 mm pin spacing

This male connector (item number 831-3646) provides seamless electrical installations.

The contact surface is coated with tin. The pcb connector is designed for THT soldering.

| Notes              |                                                                                                                                                                                                                                                                                                                                                                                                                         |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Safety Information | The MCS – MULTI CONNECTION SYSTEM includes connectors without breaking capacity in accordance with DIN EN 61984. When used as intended, these connectors must not be connected/disconnected when live or under load. When used as intended, these connectors must not be connected/disconnected when live or under load. The circuit design should ensure header pins, which can be touched, are not live when unmated. |
| Variants:          | Other pole numbers<br>Protection against PCB mounting errors<br>Other versions (or variants) can be requested from WAGO Sales or configured at <a href="https://configurator.wago.com/">https://configurator.wago.com/</a> .                                                                                                                                                                                            |

| Electrical data                 |  |                |       |        |
|---------------------------------|--|----------------|-------|--------|
| Ratings per                     |  | IEC/EN 60664-1 |       |        |
| Overtoltage category            |  | III            | III   | II     |
| Pollution degree                |  | 3              | 2     | 2      |
| Nominal voltage                 |  | 500 V          | 630 V | 1000 V |
| Rated impulse withstand voltage |  | 6 kV           | 6 kV  | 6 kV   |
| Rated current                   |  | 41 A           | 41 A  | 41 A   |
| Approvals per                   |  | CSA            |       |        |
| Use group                       |  | B              | C     | D      |
| Rated voltage                   |  | -              | 300 V | 600 V  |
| Rated current                   |  | -              | 41 A  | 5 A    |
| Approvals per                   |  | UL 1059        |       |        |
| Use group                       |  | B              | C     | D      |
| Rated voltage                   |  | -              | 300 V | 600 V  |
| Rated current                   |  | -              | 42 A  | 5 A    |

| Connection Data            |   |              |   |
|----------------------------|---|--------------|---|
| Total number of potentials | 6 | Connection 1 |   |
| Number of connection types | 1 | Pole number  | 6 |
| Number of levels           | 1 |              |   |



| Physical data                        |  |                          |
|--------------------------------------|--|--------------------------|
| Pin spacing                          |  | 7.62 mm / 0.3 inches     |
| Solder pin length                    |  | 4 mm                     |
| Solder pin dimensions                |  | 1 x 1.2 mm               |
| Drilled hole diameter with tolerance |  | 1.7 <sup>(+0.1)</sup> mm |

| Mechanical data          |  |     |
|--------------------------|--|-----|
| Variable coding          |  | Yes |
| Anti-rotation protection |  | Yes |

| Plug-in connection                 |  |                     |
|------------------------------------|--|---------------------|
| Contact type (pluggable connector) |  | Male connector/plug |
| Connector (connection type)        |  | for PCB             |
| Mismating protection               |  | Yes                 |
| Mating direction to the PCB        |  | 180 °               |

| PCB contact                         |  |                                          |
|-------------------------------------|--|------------------------------------------|
| PCB contact                         |  | THT                                      |
| Solder pin arrangement              |  | over the entire male connector (in-line) |
| Number of solder pins per potential |  | 3                                        |

| Material data                      |  |                                                                          |
|------------------------------------|--|--------------------------------------------------------------------------|
| Note (material data)               |  | <a href="#">Information on material specifications can be found here</a> |
| Color                              |  | light gray                                                               |
| Material group                     |  | I                                                                        |
| Insulation material (main housing) |  | Polyamide (PA66)                                                         |
| Flammability class per UL94        |  | V0                                                                       |
| Contact material                   |  | Electrolytic copper (E <sub>Cu</sub> )                                   |
| Contact Plating                    |  | Tin                                                                      |
| Fire load                          |  | 0.268 MJ                                                                 |
| Weight                             |  | 16.8 g                                                                   |

| Environmental requirements                                                                          |                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                       |  |                                                                                          |                                     |                                                                                                     |                                      |                            |                                          |                                              |                                                    |           |                                                  |              |                                               |                        |         |                 |                 |                                                |        |                                                     |        |
|-----------------------------------------------------------------------------------------------------|----------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|--|------------------------------------------------------------------------------------------|-------------------------------------|-----------------------------------------------------------------------------------------------------|--------------------------------------|----------------------------|------------------------------------------|----------------------------------------------|----------------------------------------------------|-----------|--------------------------------------------------|--------------|-----------------------------------------------|------------------------|---------|-----------------|-----------------|------------------------------------------------|--------|-----------------------------------------------------|--------|
| Limit temperature range                                                                             | -60 ... +105 °C                                    | <table><tr><th colspan="2">Environmental Testing</th></tr><tr><td>Test specification:<br/>Railway applications –<br/>Rolling stock –<br/>Electronic equipment</td><td>DIN EN 50155 (VDE 0115-200):2022-06</td></tr><tr><td>Test procedure:<br/>Railway applications –<br/>Rolling stock equipment –<br/>Vibration and shock tests</td><td>DIN EN 61373 (VDE 0115-0106):2011-04</td></tr><tr><td>Spectrum/Mounting location</td><td>Service life test, Category 1, Class A/B</td></tr><tr><td>Functional test with noise-like oscillations</td><td>Test passed according to Section 8 of the standard</td></tr><tr><td>Frequency</td><td>f<sub>1</sub> = 5 Hz to f<sub>2</sub> = 150 Hz</td></tr><tr><td>Acceleration</td><td>0.101g (highest test level used for all axes)</td></tr><tr><td>Test duration per axis</td><td>10 min.</td></tr><tr><td>Test directions</td><td>X, Y and Z axes</td></tr><tr><td>Monitoring of contact faults and interruptions</td><td>Passed</td></tr><tr><td>Voltage drop measurement before and after each axis</td><td>Passed</td></tr></table> | Environmental Testing |  | Test specification:<br>Railway applications –<br>Rolling stock –<br>Electronic equipment | DIN EN 50155 (VDE 0115-200):2022-06 | Test procedure:<br>Railway applications –<br>Rolling stock equipment –<br>Vibration and shock tests | DIN EN 61373 (VDE 0115-0106):2011-04 | Spectrum/Mounting location | Service life test, Category 1, Class A/B | Functional test with noise-like oscillations | Test passed according to Section 8 of the standard | Frequency | f <sub>1</sub> = 5 Hz to f <sub>2</sub> = 150 Hz | Acceleration | 0.101g (highest test level used for all axes) | Test duration per axis | 10 min. | Test directions | X, Y and Z axes | Monitoring of contact faults and interruptions | Passed | Voltage drop measurement before and after each axis | Passed |
| Environmental Testing                                                                               |                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                       |  |                                                                                          |                                     |                                                                                                     |                                      |                            |                                          |                                              |                                                    |           |                                                  |              |                                               |                        |         |                 |                 |                                                |        |                                                     |        |
| Test specification:<br>Railway applications –<br>Rolling stock –<br>Electronic equipment            | DIN EN 50155 (VDE 0115-200):2022-06                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                       |  |                                                                                          |                                     |                                                                                                     |                                      |                            |                                          |                                              |                                                    |           |                                                  |              |                                               |                        |         |                 |                 |                                                |        |                                                     |        |
| Test procedure:<br>Railway applications –<br>Rolling stock equipment –<br>Vibration and shock tests | DIN EN 61373 (VDE 0115-0106):2011-04               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                       |  |                                                                                          |                                     |                                                                                                     |                                      |                            |                                          |                                              |                                                    |           |                                                  |              |                                               |                        |         |                 |                 |                                                |        |                                                     |        |
| Spectrum/Mounting location                                                                          | Service life test, Category 1, Class A/B           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                       |  |                                                                                          |                                     |                                                                                                     |                                      |                            |                                          |                                              |                                                    |           |                                                  |              |                                               |                        |         |                 |                 |                                                |        |                                                     |        |
| Functional test with noise-like oscillations                                                        | Test passed according to Section 8 of the standard |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                       |  |                                                                                          |                                     |                                                                                                     |                                      |                            |                                          |                                              |                                                    |           |                                                  |              |                                               |                        |         |                 |                 |                                                |        |                                                     |        |
| Frequency                                                                                           | f <sub>1</sub> = 5 Hz to f <sub>2</sub> = 150 Hz   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                       |  |                                                                                          |                                     |                                                                                                     |                                      |                            |                                          |                                              |                                                    |           |                                                  |              |                                               |                        |         |                 |                 |                                                |        |                                                     |        |
| Acceleration                                                                                        | 0.101g (highest test level used for all axes)      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                       |  |                                                                                          |                                     |                                                                                                     |                                      |                            |                                          |                                              |                                                    |           |                                                  |              |                                               |                        |         |                 |                 |                                                |        |                                                     |        |
| Test duration per axis                                                                              | 10 min.                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                       |  |                                                                                          |                                     |                                                                                                     |                                      |                            |                                          |                                              |                                                    |           |                                                  |              |                                               |                        |         |                 |                 |                                                |        |                                                     |        |
| Test directions                                                                                     | X, Y and Z axes                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                       |  |                                                                                          |                                     |                                                                                                     |                                      |                            |                                          |                                              |                                                    |           |                                                  |              |                                               |                        |         |                 |                 |                                                |        |                                                     |        |
| Monitoring of contact faults and interruptions                                                      | Passed                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                       |  |                                                                                          |                                     |                                                                                                     |                                      |                            |                                          |                                              |                                                    |           |                                                  |              |                                               |                        |         |                 |                 |                                                |        |                                                     |        |
| Voltage drop measurement before and after each axis                                                 | Passed                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                       |  |                                                                                          |                                     |                                                                                                     |                                      |                            |                                          |                                              |                                                    |           |                                                  |              |                                               |                        |         |                 |                 |                                                |        |                                                     |        |
| Processing temperature                                                                              | -35 ... +60 °C                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                       |  |                                                                                          |                                     |                                                                                                     |                                      |                            |                                          |                                              |                                                    |           |                                                  |              |                                               |                        |         |                 |                 |                                                |        |                                                     |        |



| Environmental Testing                                                           |                                                     |
|---------------------------------------------------------------------------------|-----------------------------------------------------|
| Simulated service life test through increased levels of noise-like oscillations | Test passed according to Section 9 of the standard  |
| Frequency                                                                       | f <sub>1</sub> = 5 Hz to f <sub>2</sub> = 150 Hz    |
| Acceleration                                                                    | 0.572g (highest test level used for all axes)       |
| Test duration per axis                                                          | 5 h                                                 |
| Test directions                                                                 | X, Y and Z axes                                     |
| Extended testing: Monitoring of contact faults and interruptions                | Passed                                              |
| Extended testing: Voltage drop measurement before and after each axis           | Passed                                              |
| Shock test                                                                      | Test passed according to Section 10 of the standard |
| Shock pulse form                                                                | Half sine                                           |
| Acceleration                                                                    | 5g (highest test level used for all axes)           |
| Shock duration                                                                  | 30 ms                                               |
| Number of shocks (per axis)                                                     | 3 pos. und 3 neg.                                   |
| Test directions                                                                 | X, Y and Z axes                                     |
| Extended testing: Monitoring of contact faults and interruptions                | Passed                                              |
| Extended testing: Voltage drop measurement before and after each axis           | Passed                                              |
| Vibration and shock stress for rolling stock equipment                          | Passed                                              |

| Commercial data       |               |
|-----------------------|---------------|
| PU (SPU)              | 24 pcs        |
| Packaging type        | Box           |
| Country of origin     | DE            |
| GTIN                  | 4066966134940 |
| Customs tariff number | 85366930000   |

| Product Classification |                      |
|------------------------|----------------------|
| UNSPSC                 | 39121409             |
| ETIM 9.0               | EC002637             |
| ETIM 10.0              | EC002637             |
| ECCN                   | NO US CLASSIFICATION |

| Environmental Product Compliance |                         |
|----------------------------------|-------------------------|
| RoHS Compliance Status           | Compliant, No Exemption |

Approvals / Certificates

| General approvals                                                                  |           |                  | Declarations of conformity and manufacturer's declarations                          |          |                  |
|------------------------------------------------------------------------------------|-----------|------------------|-------------------------------------------------------------------------------------|----------|------------------|
|  |           |                  |  |          |                  |
| Approval                                                                           | Standard  | Certificate Name | Approval                                                                            | Standard | Certificate Name |
| CB<br>DEKRA Certification B.V.                                                     | IEC 61984 | NL-61360/M1      | Railway<br>WAGO GmbH & Co. KG                                                       | -        | Railway Ready    |
| KEMA/KEUR<br>DEKRA Certification B.V.                                              | EN 61984  | 71-116057        |                                                                                     |          |                  |
| UR<br>Underwriters Laboratories Inc.                                               | UL 1059   | UL-US-2426356-0  |                                                                                     |          |                  |

Approvals for marine applications



| Approval              | Standard  | Certificate Name |
|-----------------------|-----------|------------------|
| LR<br>Lloyds Register | IEC 61984 | 96/20035 (E5)    |

Downloads

Environmental Product Compliance

| Compliance Search                            |
|----------------------------------------------|
| Environmental Product<br>Compliance 831-3646 |



Documentation

| Additional Information |
|------------------------|
| Technical Section      |
| 03.04.2019             |
| pdf<br>2027.26 KB      |



CAD/CAE-Data

| CAD data                 |
|--------------------------|
| 2D/3D Models<br>831-3646 |



| CAE data                 |
|--------------------------|
| ZUKEN Portal<br>831-3646 |



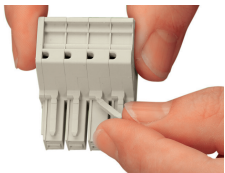
PCB Design

|                                                         |
|---------------------------------------------------------|
| Symbol and Footprint<br>via SamacSys<br>831-3646        |
| Symbol and Footprint<br>via Ultra Librarian<br>831-3646 |

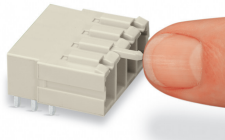


Installation Notes

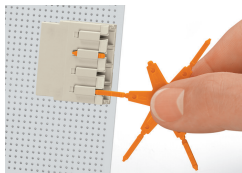
Coding



Break or cut off coding pin from female connector.



Insert coding pin into male header (break first) until it engages.



Coding a THT male header by inserting a coding pin.

Subject to changes. Please also observe the further product documentation!

Current addresses can be found at: [www.wago.com](https://www.wago.com)