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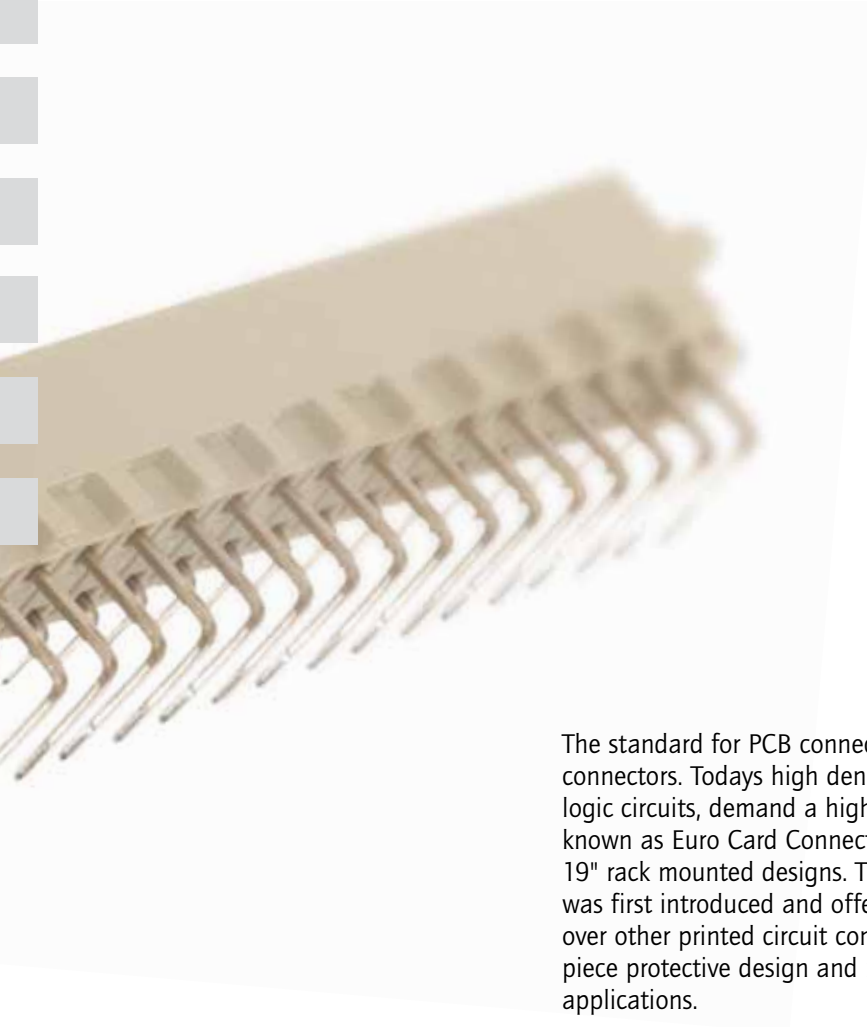
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Смоленск (4812)29-41-54  
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Тверь (4822)63-31-35  
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Тула (4872)74-02-29  
Тюмень (3452)66-21-18  
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Единый адрес: [ccn@nt-rt.ru](mailto:ccn@nt-rt.ru) | <http://www.conec.nt-rt.ru>

## SECTION 4

# CONNECTORS DIN EN 60603-2

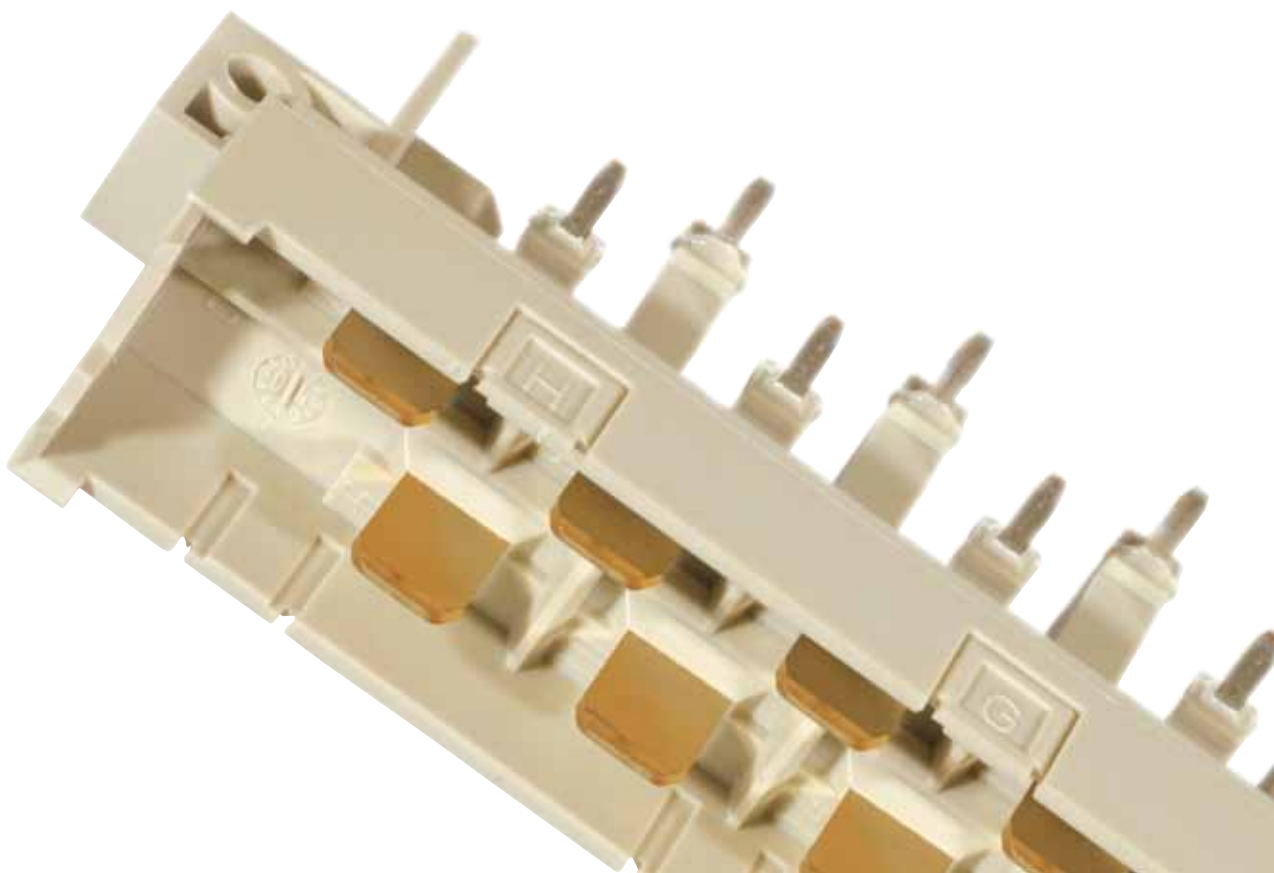


The standard for PCB connectors has been set by the DIN EN 60603-2 two piece connectors. Today's high density packing applications, combined with high speed logic circuits, demand a high reliability interconnection system. The series is also known as Euro Card Connectors, gained popularity due to the similarity with 19" rack mounted designs. The product family has grown over the years since it was first introduced and offers significant improvements in performance and design over other printed circuit connectors. High contact density, low mating force, two piece protective design and many contact termination styles offer unlimited design applications.



CONEC manufactures a wide range of products; series B, C, R, D, E, F, G, H and half size types are also available. Termination methods include: PCB direct soldering, solder eyelet, wire wrap, crimp, faston terminals and screw terminals.

In addition, we manufacture custom products or variations to existing designs with short design cycle and turn around.



# TECHNICAL DATA

| Materials                            |   | Type<br>B, B/2  | Type<br>C, C/2 | Type<br>R, R/2 | Type<br>D                              | Type<br>E   |
|--------------------------------------|---|---|----------------|----------------|--|---|
| Insulator                            |   | PBT GF  |                |                |  |   |
| Flammability                         |   | UL 94 V-0   |                |                |  |   |
| Contacts                             |   | Copper alloy  |                |                |  |   |
| Contact plating                      |   | gold over nickel  |                |                |  |   |
| Creepage distance                    | contact-ground<br>contact-contact                     | ≥ 1.2 mm  |                |                | ≥ 3 mm                                 |   |
| Clearance distance                   | contact-ground<br>contact-contact                     | ≥ 1.2 mm  |                |                | ≥ 3 mm                                 |   |
| Initial contact resistance           |   | ≤ 20 mΩ   |                |                | ≤ 15 mΩ                                |   |
| Initial insulation resistance        | Quality class 1<br>Quality class 2<br>Quality class 3 | ≥ 10 <sup>12</sup> Ω<br>≥ 10 <sup>12</sup> Ω<br>≥ 10 <sup>11</sup> Ω            |                |                |  |   |
| Working voltage                      |   | 250 V<br>depending on insulation coordination (refer to DIN VDE 0110/IEC 664-1) |                |                | 125 V                                  |   |
| Working current                      | + 20 °C<br>+ 70 °C<br>+ 100 °C                        | 2 A<br>1 A<br>0.5 A   |                |                | 5.5 A<br>4 A<br>2.5 A                  |   |
| Working temperature                  |   | -55 °C to +125 °C   |                |                |  |   |
| Insulation group                     |   | A   |                |                | C                                      |   |
| Test voltage V.r.m.s.                | contact-ground<br>contact-contact                     | 1550 V<br>1000 V  |                |                | 1550 V<br>1550 V                       |   |
| Insertion and withdrawal forces max. |   | 16 positions 15 N<br>96 positions 90 N  |                |                | 16 positions 20 N<br>32 positions 40 N | 16 positions 20 N<br>32 positions 40 N<br>48 positions 60 N |
| Quality class 3                      |   | 50 cycles   |                |                |  |   |
| Quality class 2                      |   | 400 cycles  |                |                |  |   |
| Quality class 1                      |   | 500 cycles  |                |                |  |   |

Technical alterations are subjects to change without notice.

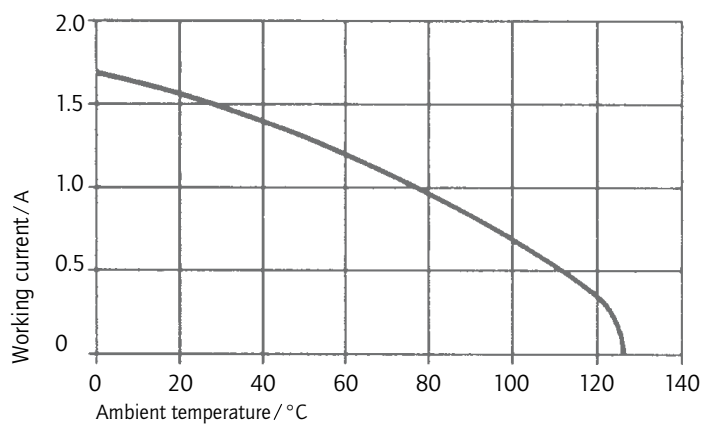
# TECHNICAL DATA

| Materials  |                 | Type F                                 | Type G             | Type H                                 | Mixed version   |          |
|--|-----------------|--|--------------------|--|---|----------|
| Insulator  |                 | PBT GF                                 | PBT GF             | PC (Polycarbonat)                      |   |          |
| Flammability   |                 | UL94 V-0                               | UL94 V-0           | UL94 V-1                               |   |          |
| Contacts   |                 | Copper alloy                           |                    |  |   |          |
| Contact Plating  |                 | gold over nickel                       |                    | silver                                 | gold over nickel  | silver   |
| Creepage distance  | contact-ground  | ≥ 1.6 mm                               | ≥ 1.6 mm (f+z)     | ≥ 4.5 mm                               | ≥ 1.6 mm  | ≥ 4.5 mm |
|  | contact-contact |  |                    |  |   |          |
| Clearance distance   | contact-ground  | ≥ 3 mm                                 | ≥ 3 mm             | ≥ 8 mm                                 | ≥ 3 mm  | ≥ 8 mm   |
|  | contact-contact |  | ≥ 1.9 mm (f+z)     |  |   |          |
| Initial contact resistance   |                 | ≤ 15 mΩ                                |                    |  |   | ≤ 8 mΩ   |
| Initial insulation resistance  | Quality class 1 | ≥ 10 <sup>12</sup> Ω                   |                    |  |   |          |
|  | Quality class 2 | ≥ 10 <sup>12</sup> Ω                   |                    |  |   |          |
|  | Quality class 3 | ≥ 10 <sup>11</sup> Ω                   |                    |  |   |          |
| Working voltage  |                 | 125 V                                  | 500 V              | 125 V                                  | 500 V   |          |
| depending on insulation coordination (refer to DIN VDE 0110 / IEC 664-1) |                 |  |                    |  |   |          |
| Working current  | + 20 °C         | 5.5 A                                  | 15 A               | 5.5 A                                  | 15 A  |          |
|  | + 70 °C         | 4 A                                    | 12 A               | 4 A                                    | 12 A  |          |
|  | + 100 °C        | 2.5 A                                  | 8 A                | 2.5 A                                  | 8 A   |          |
| Working temperature  |                 | -55 °C to +125 °C                      |                    |  |   |          |
| Insulation group   |                 | C                                      |                    |  |   |          |
| Test voltage V.r.m.s.  | contact-ground  | 2550 V                                 | 2500 V             | 3100 V                                 | 1550 V  | 3100 V   |
|  | contact-contact | 1550 V                                 | 1550 V             | 3100 V                                 | 1550 V  | 3100 V   |
| Insertion and withdrawal forces max.                                     |                 | 32 positions 50 N<br>48 positions 75 N | 64 positions 100 N | 11 positions 80 N<br>15 positions 90 N | 16+7 positions 67 N<br>24+7 positions 79 N<br>36+7 positions 96 N |          |
| Quality class 3  |                 | 50 cycles                              |                    |  |   |          |
| Quality class 2  |                 | 400 cycles                             |                    | 500 cycles                             |   |          |
| Quality class 1  |                 | 500 cycles                             |                    |  |   |          |

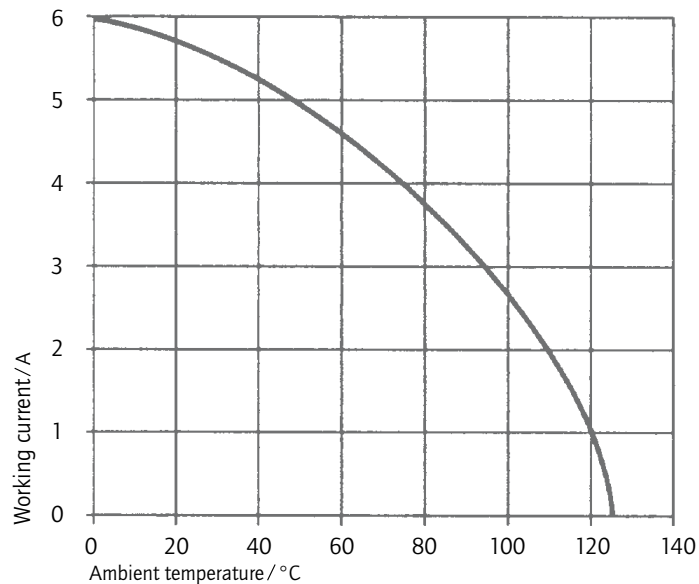
Technical alterations are subjects to change without notice.

# DERATING DIAGRAMS

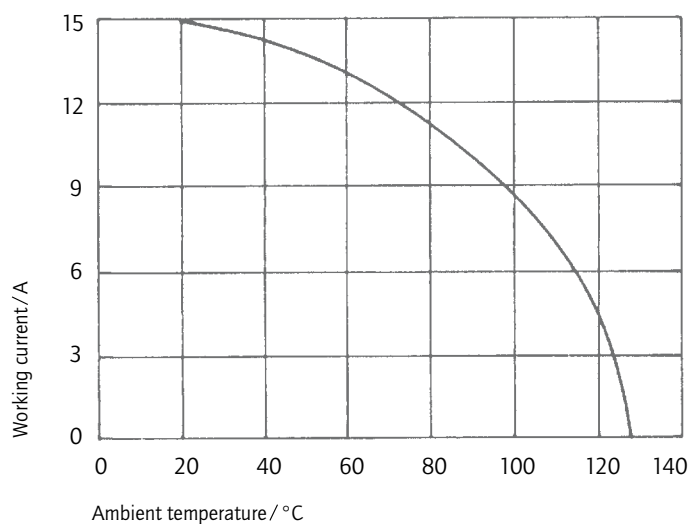
Types B, C, R



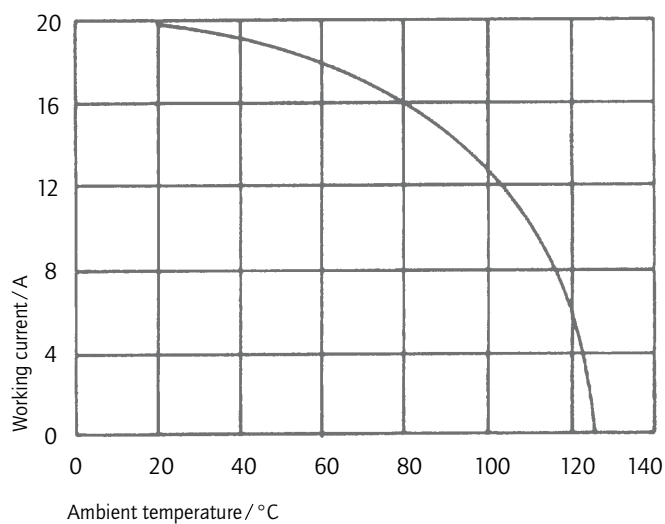
Types D, E, F, G



Type H 15



Type H 11

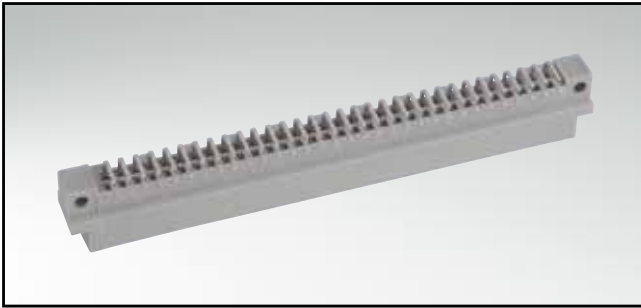


## CONVERSION TABLE

| $\mu\text{m}$<br>1/1000 mm | $\mu\text{inch}$<br>1/1000 inch | mm    | inch | mm    | inch | mm    | inch  | mm    | inch  | mm     | inch  |
|----------------------------|---------------------------------|-------|------|-------|------|-------|-------|-------|-------|--------|-------|
| 0,10                       | 4                               | 3,30  | .130 | 10,16 | .400 | 19,50 | .768  | 30,90 | 1.217 | 49,50  | 1.949 |
| 0,20                       | 8                               | 3,40  | .134 | 10,26 | .402 | 19,70 | .776  | 31,00 | 1.220 | 49,90  | 1.965 |
| 0,25                       | 10                              | 3,50  | .138 | 10,36 | .406 | 19,80 | .780  | 31,20 | 1.228 | 50,10  | 1.972 |
| 0,30                       | 12                              | 3,60  | .142 | 10,56 | .413 | 19,90 | .783  | 31,50 | 1.240 | 50,30  | 1.980 |
| 0,50                       | 20                              | 3,70  | .146 | 10,66 | .417 | 20,00 | .787  | 31,70 | 1.248 | 50,50  | 1.988 |
| 0,70                       | 28                              | 3,80  | .150 | 10,76 | .421 | 20,10 | .791  | 32,00 | 1.260 | 50,70  | 1.996 |
| 0,75                       | 30                              | 3,81  | .150 | 11,00 | .433 | 20,30 | .799  | 32,20 | 1.268 | 50,80  | 2.000 |
| 0,80                       | 32                              | 3,90  | .154 | 11,20 | .441 | 20,32 | .800  | 32,30 | 1.272 | 51,40  | 2.024 |
| 1,00                       | 39                              | 4,00  | .158 | 11,40 | .449 | 20,50 | .807  | 32,50 | 1.280 | 51,50  | 2.028 |
| 1,27                       | 50                              | 4,10  | .161 | 11,50 | .453 | 21,00 | .827  | 32,80 | 1.291 | 52,00  | 2.047 |
| 2,00                       | 79                              | 4,20  | .165 | 11,60 | .457 | 21,10 | .831  | 33,00 | 1.299 | 52,30  | 2.059 |
| 2,50                       | 98                              | 4,30  | .169 | 11,90 | .469 | 21,70 | .854  | 33,10 | 1.303 | 52,80  | 2.079 |
| 3,00                       | 118                             | 4,50  | .177 | 12,00 | .472 | 22,00 | .866  | 33,30 | 1.311 | 53,00  | 2.087 |
| 4,00                       | 157                             | 4,70  | .185 | 12,20 | .480 | 22,10 | .870  | 33,80 | 1.331 | 53,20  | 2.095 |
| 5,00                       | 197                             | 4,90  | .193 | 12,30 | .484 | 22,20 | .874  | 34,00 | 1.339 | 53,80  | 2.118 |
|                            |                                 | 5,00  | .197 | 12,40 | .488 | 22,30 | .878  | 34,20 | 1.346 | 54,00  | 2.126 |
|                            |                                 | 5,08  | .200 | 12,50 | .492 | 22,40 | .882  | 34,40 | 1.354 | 54,20  | 2.134 |
| 0,10                       | .004                            | 5,10  | .201 | 12,70 | .500 | 22,50 | .886  | 35,00 | 1.378 | 54,90  | 2.161 |
| 0,20                       | .008                            | 5,20  | .205 | 12,90 | .508 | 22,60 | .890  | 35,40 | 1.394 | 55,00  | 2.165 |
| 0,25                       | .012                            | 5,30  | .209 | 13,00 | .512 | 22,80 | .898  | 35,50 | 1.398 | 55,40  | 2.181 |
| 0,35                       | .014                            | 5,40  | .213 | 13,10 | .516 | 22,86 | .900  | 35,56 | 1.400 | 55,70  | 2.193 |
| 0,40                       | .016                            | 5,40  | .213 | 13,20 | .520 | 22,90 | .902  | 35,60 | 1.402 | 56,60  | 2.228 |
| 0,45                       | .018                            | 5,50  | .217 | 13,50 | .532 | 23,00 | .906  | 36,00 | 1.417 | 57,40  | 2.260 |
| 0,50                       | .020                            | 5,60  | .220 | 13,60 | .535 | 23,10 | .909  | 36,50 | 1.437 | 57,80  | 2.276 |
| 0,55                       | .022                            | 5,70  | .224 | 13,70 | .539 | 23,30 | .917  | 36,60 | 1.441 | 57,90  | 2.280 |
| 0,60                       | .024                            | 5,80  | .228 | 13,90 | .547 | 23,50 | .925  | 36,70 | 1.445 | 58,42  | 2.300 |
| 0,64                       | .025                            | 6,00  | .236 | 14,00 | .551 | 24,00 | .945  | 37,00 | 1.457 | 59,00  | 2.323 |
| 0,65                       | .026                            | 6,10  | .240 | 14,30 | .563 | 24,30 | .957  | 37,30 | 1.469 | 59,20  | 2.331 |
| 0,70                       | .028                            | 6,40  | .252 | 14,40 | .567 | 24,60 | .969  | 37,50 | 1.476 | 59,80  | 2.354 |
| 0,75                       | .030                            | 6,50  | .256 | 14,50 | .571 | 24,90 | .980  | 37,60 | 1.480 | 59,90  | 2.358 |
| 0,80                       | .032                            | 6,60  | .260 | 14,70 | .579 | 25,00 | .984  | 37,70 | 1.484 | 60,00  | 2.362 |
| 0,85                       | .034                            | 6,70  | .264 | 14,80 | .583 | 25,10 | .998  | 37,90 | 1.492 | 60,96  | 2.400 |
| 0,90                       | .035                            | 6,80  | .268 | 14,90 | .587 | 25,40 | 1.000 | 38,00 | 1.496 | 61,10  | 2.406 |
| 1,00                       | .039                            | 6,90  | .272 | 14,98 | .590 | 25,60 | 1.008 | 38,10 | 1.500 | 62,00  | 2.441 |
| 1,20                       | .047                            | 7,00  | .276 | 15,00 | .591 | 25,90 | 1.020 | 39,00 | 1.535 | 63,00  | 2.480 |
| 1,25                       | .049                            | 7,10  | .280 | 15,20 | .598 | 26,00 | 1.024 | 39,20 | 1.543 | 63,50  | 2.500 |
| 1,27                       | .050                            | 7,20  | .283 | 15,24 | .600 | 26,30 | 1.035 | 39,30 | 1.547 | 64,00  | 2.520 |
| 1,30                       | .051                            | 7,40  | .291 | 15,40 | .606 | 26,60 | 1.047 | 39,90 | 1.571 | 65,00  | 2.560 |
| 1,35                       | .053                            | 7,50  | .295 | 15,50 | .610 | 26,70 | 1.051 | 40,00 | 1.575 | 67,00  | 2.638 |
| 1,40                       | .055                            | 7,60  | .299 | 15,60 | .614 | 27,00 | 1.063 | 40,30 | 1.587 | 68,00  | 2.677 |
| 1,45                       | .057                            | 7,62  | .300 | 15,90 | .626 | 27,20 | 1.071 | 40,40 | 1.591 | 69,00  | 2.717 |
| 1,50                       | .059                            | 7,70  | .303 | 16,00 | .630 | 27,40 | 1.079 | 40,60 | 1.598 | 70,00  | 2.756 |
| 1,60                       | .063                            | 7,80  | .307 | 16,20 | .638 | 27,50 | 1.093 | 41,00 | 1.614 | 71,00  | 2.795 |
| 1,70                       | .067                            | 7,98  | .314 | 16,50 | .650 | 27,90 | 1.098 | 41,60 | 1.638 | 74,00  | 2.913 |
| 1,80                       | .071                            | 8,00  | .315 | 16,60 | .654 | 27,94 | 1.100 | 42,70 | 1.681 | 75,00  | 2.953 |
| 1,85                       | .073                            | 8,18  | .318 | 16,80 | .661 | 28,00 | 1.102 | 43,18 | 1.700 | 76,20  | 3.000 |
| 1,90                       | .075                            | 8,20  | .323 | 17,00 | .669 | 28,20 | 1.110 | 44,20 | 1.740 | 77,00  | 3.032 |
| 2,00                       | .079                            | 8,30  | .327 | 17,20 | .677 | 28,50 | 1.122 | 44,80 | 1.764 | 78,74  | 3.100 |
| 2,10                       | .083                            | 8,40  | .331 | 17,30 | .681 | 28,70 | 1.130 | 45,80 | 1.803 | 80,00  | 3.150 |
| 2,20                       | .087                            | 8,50  | .335 | 17,50 | .689 | 29,00 | 1.142 | 46,30 | 1.823 | 81,28  | 3.200 |
| 2,30                       | .091                            | 8,60  | .339 | 17,60 | .693 | 29,20 | 1.150 | 46,70 | 1.839 | 84,00  | 3.307 |
| 2,40                       | .095                            | 8,90  | .350 | 17,70 | .697 | 29,40 | 1.158 | 47,00 | 1.850 | 85,00  | 3.346 |
| 2,50                       | .098                            | 9,00  | .354 | 17,78 | .700 | 29,50 | 1.161 | 47,20 | 1.858 | 86,36  | 3.400 |
| 2,54                       | .100                            | 9,10  | .358 | 17,80 | .701 | 29,70 | 1.169 | 47,30 | 1.862 | 88,90  | 3.500 |
| 2,60                       | .102                            | 9,20  | .362 | 17,90 | .705 | 29,90 | 1.177 | 47,50 | 1.870 | 90,00  | 3.543 |
| 2,70                       | .106                            | 9,30  | .366 | 18,00 | .709 | 30,00 | 1.181 | 47,80 | 1.882 | 91,44  | 3.600 |
| 2,80                       | .110                            | 9,40  | .370 | 18,10 | .713 | 30,20 | 1.189 | 48,00 | 1.890 | 94,00  | 3.701 |
| 2,84                       | .112                            | 9,50  | .374 | 18,30 | .721 | 30,40 | 1.197 | 48,10 | 1.894 | 95,00  | 3.740 |
| 2,90                       | .114                            | 9,60  | .378 | 18,60 | .732 | 30,48 | 1.200 | 48,26 | 1.900 | 100,00 | 3.937 |
| 3,00                       | .118                            | 9,70  | .382 | 19,00 | .748 | 30,50 | 1.201 | 48,80 | 1.921 | 110,00 | 4.331 |
| 3,10                       | .122                            | 9,90  | .390 | 19,20 | .756 | 30,80 | 1.213 | 49,10 | 1.933 | 120,00 | 4.724 |
| 3,20                       | .126                            | 10,00 | .395 |       |      |       |       |       |       |        |       |

# TYPE B

Male connector – straight and angled – 32 and 64 positions

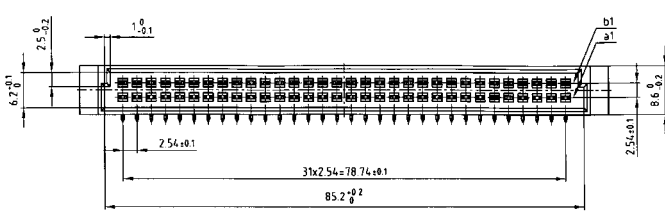


RoHS compliant

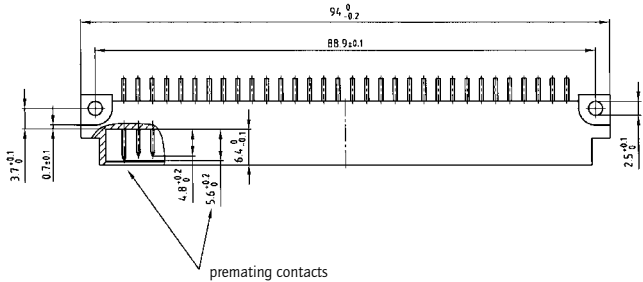
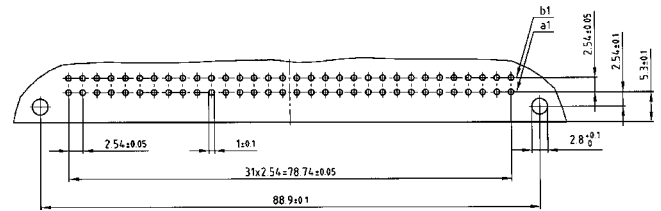
### DESCRIPTION

- Solder pin
- Quality class 3 (also available in quality class 2 or 1)
- Premating contacts in row "a" und "b" available
- Special assembly on request

### PRODUCT DRAWING



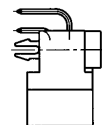
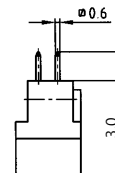
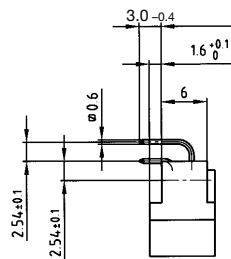
### PCB-hole pattern



Solder pin angled

Solder pin straight

Solder pin angled with clip



### ORDER DATA

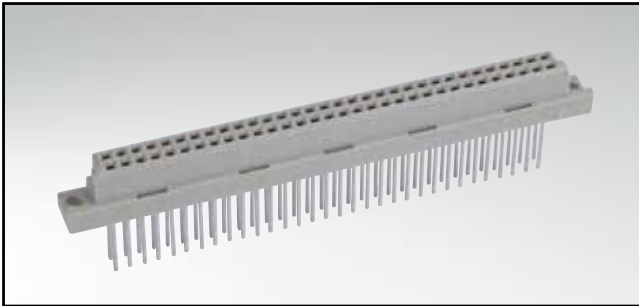
(Dim. = mm)

| No. of Pos. | Row | • = contact, + = no contact |   |   |   |   |               | Solder pin angled | Solder pin straight | Solder pin angled with clip |
|-------------|-----|-----------------------------|---|---|---|---|---------------|-------------------|---------------------|-----------------------------|
|             |     | Pos.. 1                     | 2 | 3 | 4 | 5 | ...           |                   |                     |                             |
| 32          | b   | +                           | + | + | + | + | 121 A 10019 X | 121 A 10049 X     | 121 A 20819 X       |                             |
|             | a   | •                           | • | • | • | • |               |                   |                     |                             |
| 32          | b   | +                           | • | + | • | + | 121 A 10029 X | 121 A 10059 X     | 121 A 20829 X       |                             |
|             | a   | +                           | • | + | • | + |               |                   |                     |                             |
| 64          | b   | •                           | • | • | • | • | 121 A 10039 X | 121 A 10069 X     | 121 A 20839 X       |                             |
|             | a   | •                           | • | • | • | • |               |                   |                     |                             |

Clip for hole diameter 2.8 + 0.1 mm, PCB thickness = 1.6 mm

# TYPE B

## Female connector – straight and angled – 32 and 64 positions



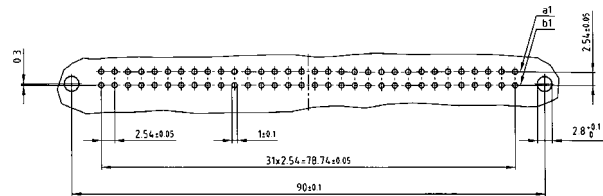
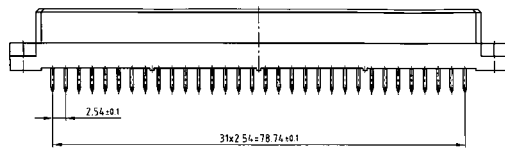
RoHS compliant

### DESCRIPTION

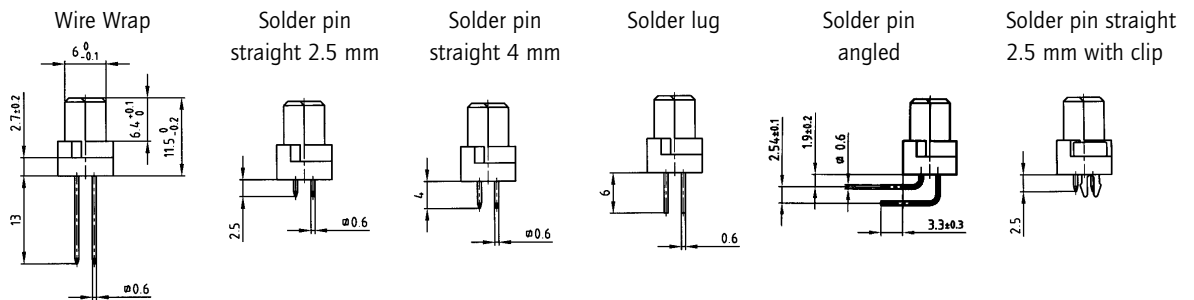
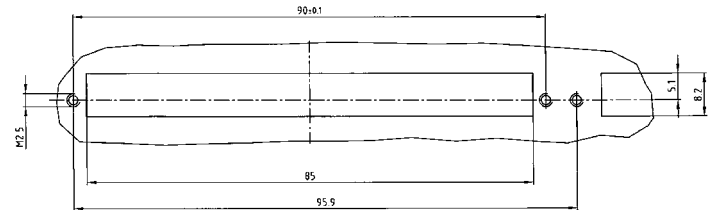
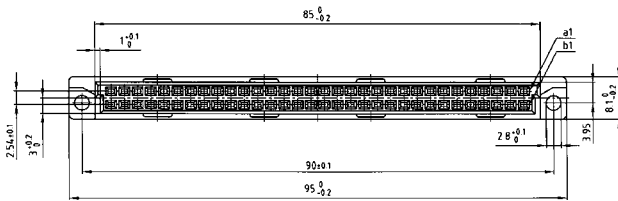
- Solder pin, solder lug and wire wrap
- Quality class 3 (also available in quality class 2 or 1)
- Special assembly on request

### PRODUCT DRAWING

PCB-hole pattern



Panel cutout



### ORDER DATA

(Dim. = mm)

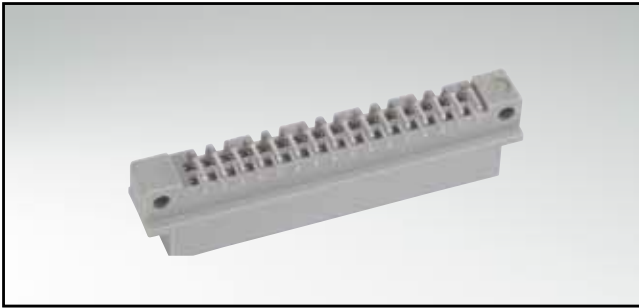
| No. of Pos. | Row | • = contact, + = no contact |   |   |   |   | Wire Wrap     | Solder pin straight 2.5 mm | Solder pin straight 4 mm | Solder lug    | Solder pin angled | Solder pin straight 2.5 mm with clip |
|-------------|-----|-----------------------------|---|---|---|---|---------------|----------------------------|--------------------------|---------------|-------------------|--------------------------------------|
|             |     | Pos.                        | 1 | 2 | 3 | 4 |               |                            |                          |               |                   |                                      |
| 32          | a   | •                           | • | • | • | • | 122 A 10019 X | 122 A 10049 X              | 122 A 10079 X            | 122 A 10109 X | 122 A 10139 X     | 122 A 13189 X                        |
|             | b   | +                           | + | + | + | + |               |                            |                          |               |                   |                                      |
| 32          | a   | +                           | • | + | • | + | •             | 122 A 10029 X              | 122 A 10059 X            | 122 A 10089 X | 122 A 10119 X     | 122 A 13199 X                        |
|             | b   | +                           | • | + | • | + | •             |                            |                          |               |                   |                                      |
| 64          | a   | •                           | • | • | • | • | •             | 122 A 10039 X              | 122 A 10069 X            | 122 A 10099 X | 122 A 10129 X     | 122 A 13209 X                        |
|             | b   | •                           | • | • | • | • | •             |                            |                          |               |                   |                                      |

Clip for hole diameter 2.8 + 0.1 mm, PCB thickness = 1.6 mm



# TYPE B/2

Male connector – straight and angled – 16 and 32 positions

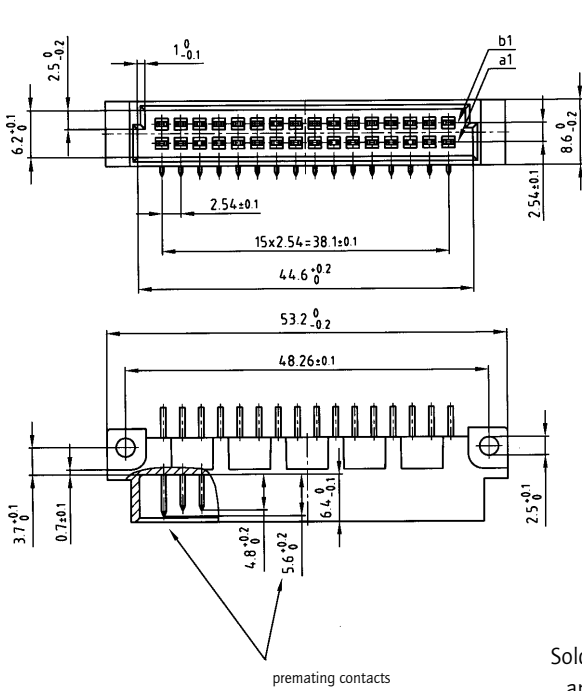


RoHS compliant

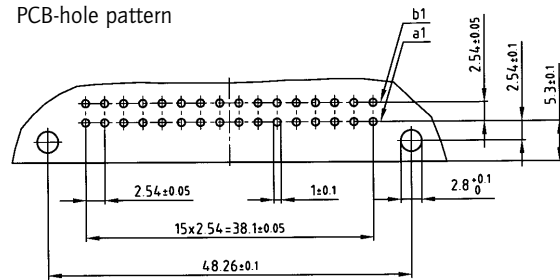
### DESCRIPTION

- Solder pin
- Quality class 3 (also available in quality class 2 or 1)
- Premating contacts in row "a" und "b" available
- Special assembly on request

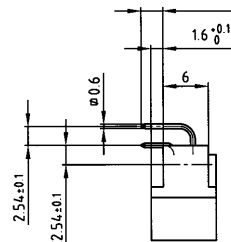
### PRODUCT DRAWING



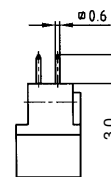
### PCB-hole pattern



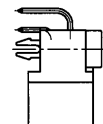
Solder pin angled



Solder pin straight



Solder pin angled with clip



### ORDER DATA

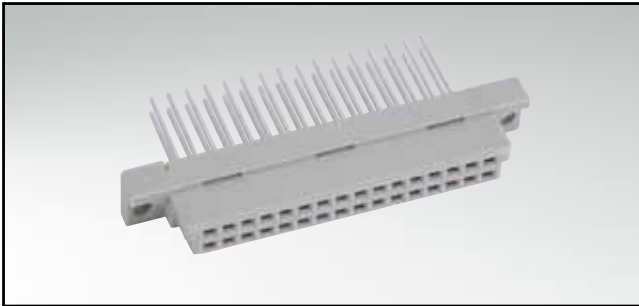
(Dim. = mm)

| No. of Pos. | Row | • = contact, + = no contact |   |   |   |   |     | Solder pin angled | Solder pin straight | Solder pin angled with clip |
|-------------|-----|-----------------------------|---|---|---|---|-----|-------------------|---------------------|-----------------------------|
|             |     | Pos. 1                      | 2 | 3 | 4 | 5 | ... |                   |                     |                             |
| 16          | b   | •                           | • | • | • | • | •   | 121 A 10259 X     | 121 A 10289 X       | 121 A 20849 X               |
|             | a   | +                           | + | + | + | + | +   |                   |                     |                             |
| 16          | b   | +                           | • | + | • | + | •   | 121 A 10269 X     | 121 A 10299 X       | 121 A 20859 X               |
|             | a   | +                           | • | + | • | + | •   |                   |                     |                             |
| 32          | b   | •                           | • | • | • | • | •   | 121 A 10279 X     | 121 A 10309 X       | 121 A 20869 X               |
|             | a   | •                           | • | • | • | • | •   |                   |                     |                             |

Clip for hole diameter 2.8 + 0.1 mm, PCB thickness = 1.6 mm

# TYPE B/2

## Female connector – straight and angled – 16 and 32 positions

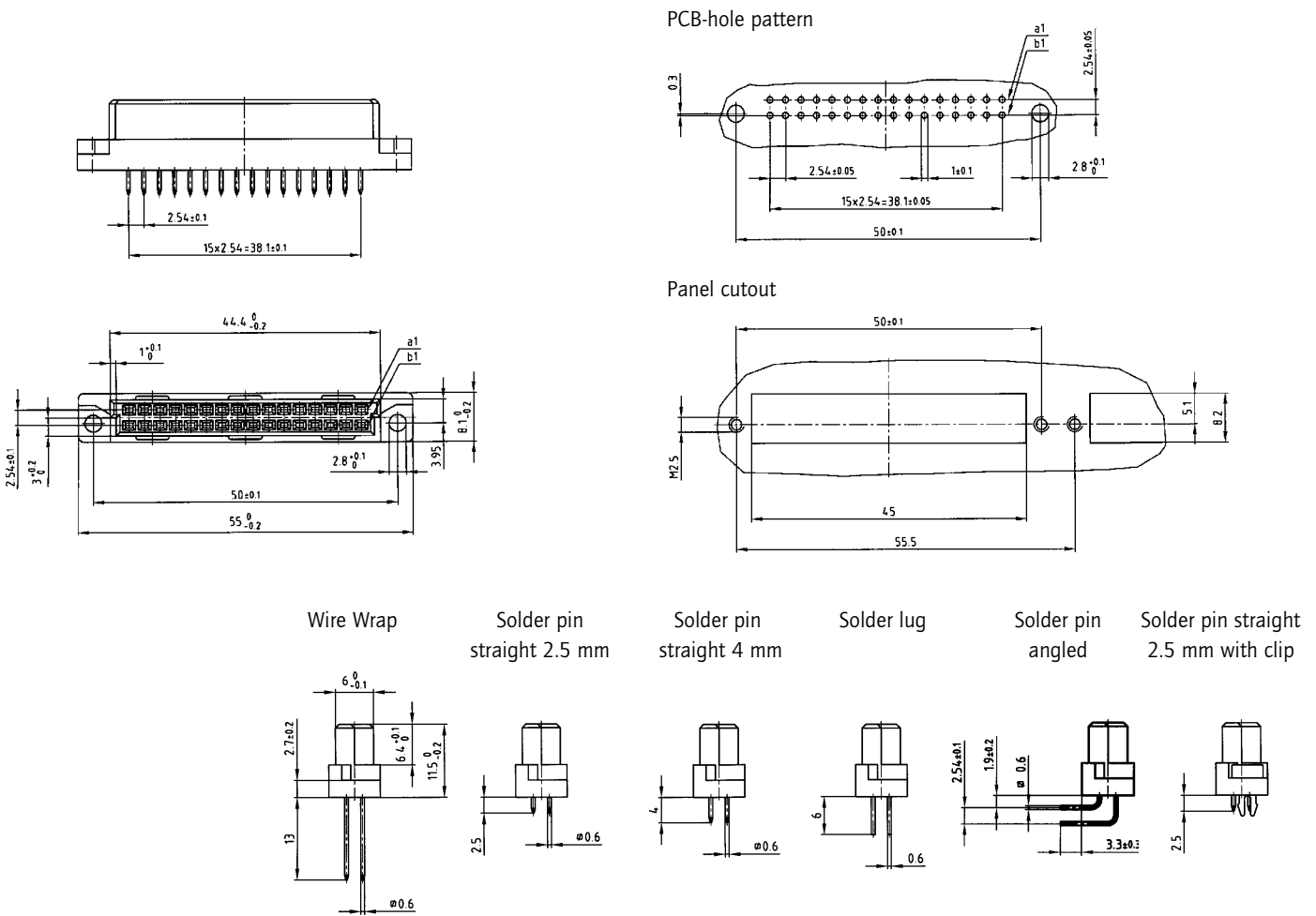


RoHS compliant

### DESCRIPTION

- Solder pin, solder lug and wire wrap
- Quality class 3 (also available in quality class 2 or 1)
- Special assembly on request

### PRODUCT DRAWING



(Dim. = mm)

### ORDER DATA

| No. of Pos. | Row | • = contact, + = no contact |   |   |   |       | Wire Wrap     | Solder pin straight 2.5 mm | Solder pin straight 4 mm | Solder lug    | Solder pin angled | Solder pin straight 2.5 mm with clip |
|-------------|-----|-----------------------------|---|---|---|-------|---------------|----------------------------|--------------------------|---------------|-------------------|--------------------------------------|
|             |     | Pos. 1                      | 2 | 3 | 4 | 5 ... |               |                            |                          |               |                   |                                      |
| 16          | a   | •                           | • | • | • | •     | 122 A 10419 X | 122 A 10449 X              | 122 A 10479 X            | 122 A 10509 X | 122 A 10539 X     | 122 A 13219 X                        |
|             | b   | +                           | + | + | + | +     |               |                            |                          |               |                   |                                      |
| 16          | a   | +                           | • | + | • | +     | 122 A 10429 X | 122 A 10459 X              | 122 A 10489 X            | 122 A 10519 X | 122 A 10549 X     | 122 A 13229 X                        |
|             | b   | +                           | • | + | • | +     |               |                            |                          |               |                   |                                      |
| 32          | a   | •                           | • | • | • | •     | 122 A 10439 X | 122 A 10469 X              | 122 A 10499 X            | 122 A 10529 X | 122 A 10559 X     | 122 A 13239 X                        |
|             | b   | •                           | • | • | • | •     |               |                            |                          |               |                   |                                      |

Clip for hole diameter 2.8 + 0.1 mm, PCB thickness = 1.6 mm

# TYPE C

Male connector – straight and angled – 32, 64 and 96 positions

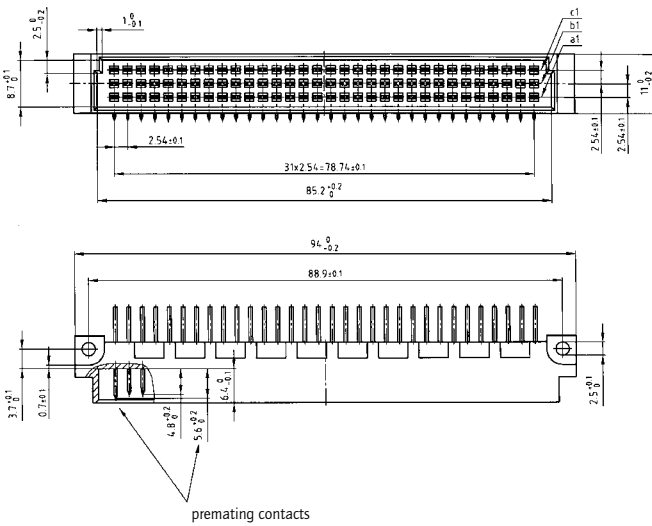


RoHS compliant

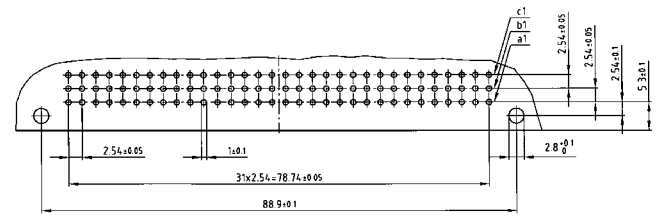
### DESCRIPTION

- Solder pin
- Quality class 3 (also available in quality class 2 or 1)
- Premating contacts in row "a", "b" and "c" available
- Special assembly on request

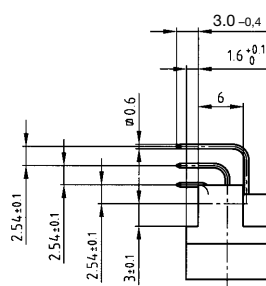
### PRODUCT DRAWING



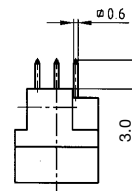
### PCB-hole pattern



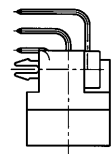
Solder pin angled



Solder pin straight



Solder pin angled with clip



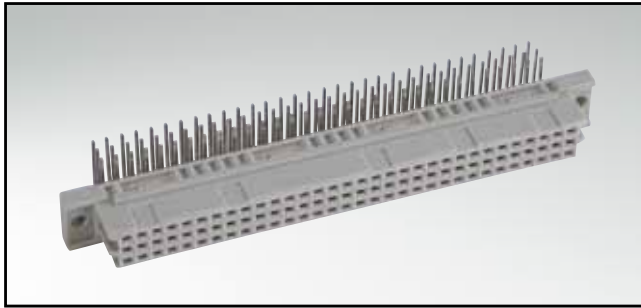
### ORDER DATA

| No. of Pos. | Row | • = contact, + = no contact |   |   |   |   |   | Solder pin angled | Solder pin straight | Solder pin angled with clip |
|-------------|-----|-----------------------------|---|---|---|---|---|-------------------|---------------------|-----------------------------|
|             |     | Pos.                        | 1 | 2 | 3 | 4 | 5 |                   |                     |                             |
| 32          | c   |                             | + | + | + | + | + | 121 A 10109 X     | 121 A 10159 X       | 121 A 20879 X               |
|             | b   |                             | + | + | + | + | + |                   |                     |                             |
|             | a   |                             | • | • | • | • | • |                   |                     |                             |
| 32          | c   |                             | + | • | + | • | + | 121 A 10119 X     | 121 A 10169 X       | 121 A 20889 X               |
|             | b   |                             | + | + | + | + | + |                   |                     |                             |
|             | a   |                             | + | • | + | • | + |                   |                     |                             |
| 64          | c   |                             | • | • | • | • | • | 121 A 10139 X     | 121 A 10189 X       | 121 A 20909 X               |
|             | b   |                             | + | + | + | + | + |                   |                     |                             |
|             | a   |                             | • | • | • | • | • |                   |                     |                             |
| 96          | c   |                             | • | • | • | • | • | 121 A 10149 X     | 121 A 10199 X       | 121 A 20919 X               |
|             | b   |                             | • | • | • | • | • |                   |                     |                             |
|             | a   |                             | • | • | • | • | • |                   |                     |                             |

Clip for hole diameter 2.8 + 0.1 mm, PCB thickness = 1.6 mm

# TYPE C

## Female connector – straight and angled – 32, 64 and 96 positions



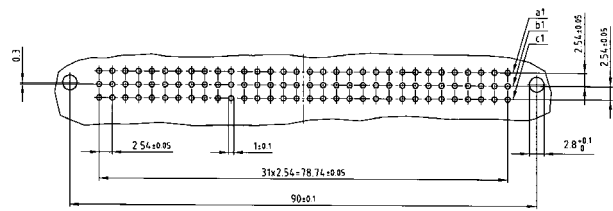
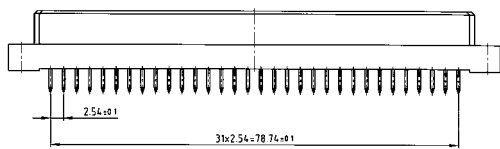
RoHS compliant

### DESCRIPTION

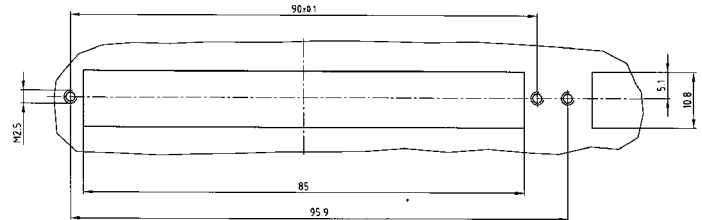
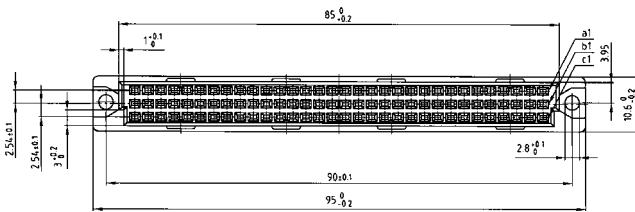
- Solder pin, solder lug and wire wrap
- Quality class 3 (also available in quality class 2 or 1)
- Special assembly on request

### PRODUCT DRAWING

PCB-hole pattern



Panel cutout



Wire Wrap

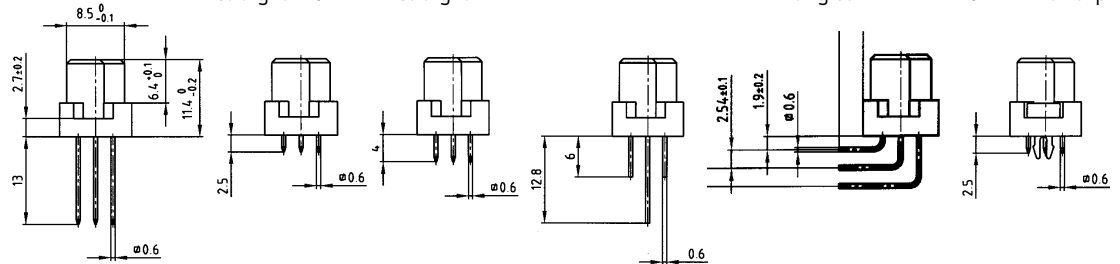
Solder pin straight 2.5 mm

Solder pin straight 4 mm

Solder lug

Solder pin angled

Solder pin straight 2.5 mm with clip



### ORDER DATA

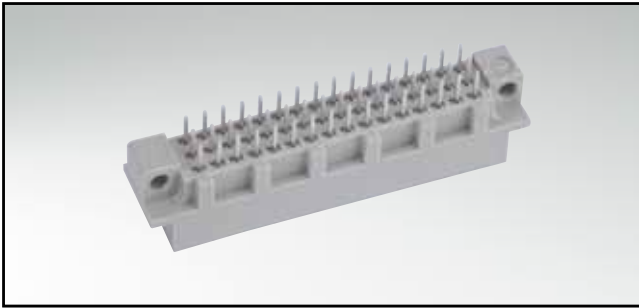
(Dim. = mm)

| No. of Pos. | Row | • = contact, + = no contact |   |   |   |   | Wire Wrap     | Solder pin straight 2.5 mm | Solder pin straight 4 mm | Solder lug    | Solder pin angled | Solder pin straight 2,5 mm with clip |
|-------------|-----|-----------------------------|---|---|---|---|---------------|----------------------------|--------------------------|---------------|-------------------|--------------------------------------|
|             |     | Pos. 1                      | 2 | 3 | 4 | 5 |               |                            |                          |               |                   |                                      |
| 32          | a   | •                           | • | • | • | • | 122 A 10169 X | 122 A 10219 X              | 122 A 10269 X            | 122 A 10319 X | 122 A 10369 X     | 122 A 13249 X                        |
|             | b   | +                           | + | + | + | + |               |                            |                          |               |                   |                                      |
|             | c   | +                           | + | + | + | + |               |                            |                          |               |                   |                                      |
| 32          | a   | +                           | • | • | • | • | 122 A 10179 X | 122 A 10229 X              | 122 A 10279 X            | 122 A 10329 X | 122 A 10379 X     | 122 A 13259 X                        |
|             | b   | +                           | + | + | + | + |               |                            |                          |               |                   |                                      |
|             | c   | +                           | • | • | • | • |               |                            |                          |               |                   |                                      |
| 64          | a   | •                           | • | • | • | • | 122 A 10199 X | 122 A 10249 X              | 122 A 10299 X            | 122 A 10349 X | 122 A 10399 X     | 122 A 13279 X                        |
|             | b   | +                           | + | + | + | + |               |                            |                          |               |                   |                                      |
|             | c   | •                           | • | • | • | • |               |                            |                          |               |                   |                                      |
| 96          | a   | •                           | • | • | • | • | 122 A 10209 X | 122 A 10259 X              | 122 A 10309 X            | 122 A 10359 X | 122 A 10409 X     | 122 A 13289 X                        |
|             | b   | •                           | • | • | • | • |               |                            |                          |               |                   |                                      |
|             | c   | •                           | • | • | • | • |               |                            |                          |               |                   |                                      |

Clip for hole diameter 2.8 + 0.1 mm, PCB thickness = 1.6 mm

# TYPE C/2

Male connector – straight and angled – 16, 32 and 48 positions

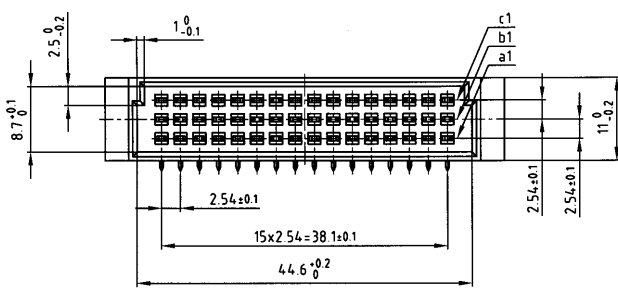


RoHS compliant

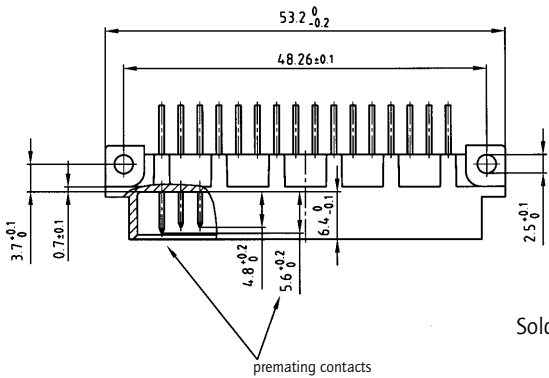
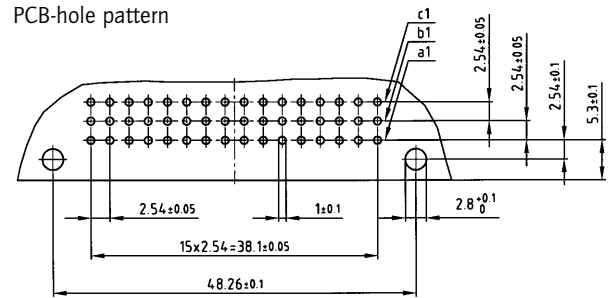
### DESCRIPTION

- Solder pin
- Quality class 3 (also available in quality class 2 or 1)
- Premating contacts in row "a", "b" and "c" available
- Special assembly on request

### PRODUCT DRAWING



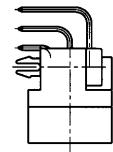
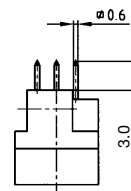
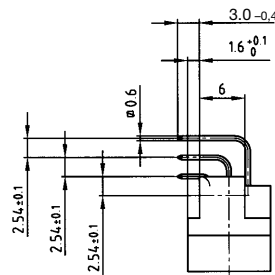
### PCB-hole pattern



Solder pin angled

Solder pin straight

Solder pin angled with clip



(Dim. = mm)

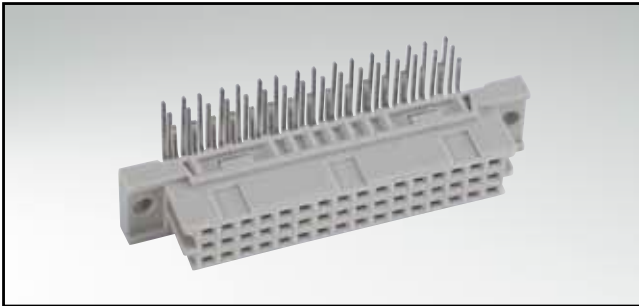
### ORDER DATA

| No. of Pos. | Row | • = contact, + = no contact |   |   |   |   |   | Solder pin angled | Solder pin straight | Solder pin angled with clip |
|-------------|-----|-----------------------------|---|---|---|---|---|-------------------|---------------------|-----------------------------|
|             |     | Pos.                        | 1 | 2 | 3 | 4 | 5 |                   |                     |                             |
| 16          | c   |                             | + | + | + | + | + | 121 A 10349 X     | 121 A 10399 X       | 121 A 20929 X               |
|             | b   |                             | + | + | + | + | + |                   |                     |                             |
|             | a   |                             | • | • | • | • | • |                   |                     |                             |
| 16          | c   |                             | + | • | + | • | + | 121 A 10359 X     | 121 A 10409 X       | 121 A 20939 X               |
|             | b   |                             | + | + | + | + | + |                   |                     |                             |
|             | a   |                             | + | • | + | • | + |                   |                     |                             |
| 32          | c   |                             | • | • | • | • | • | 121 A 10379 X     | 121 A 10429 X       | 121 A 20959 X               |
|             | b   |                             | + | + | + | + | + |                   |                     |                             |
|             | a   |                             | • | • | • | • | • |                   |                     |                             |
| 48          | c   |                             | • | • | • | • | • | 121 A 10389 X     | 121 A 10439 X       | 121 A 20969 X               |
|             | b   |                             | • | • | • | • | • |                   |                     |                             |
|             | a   |                             | • | • | • | • | • |                   |                     |                             |

Clip for hole diameter 2.8 + 0.1 mm, PCB thickness = 1.6 mm

# TYPE C/2

Female connector – straight and angled – 16, 32 and 48 positions



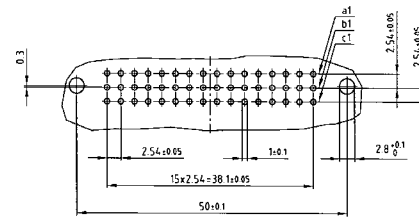
RoHS compliant

### DESCRIPTION

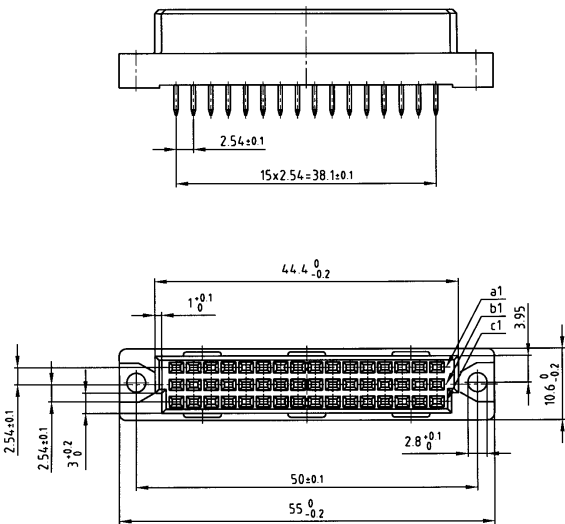
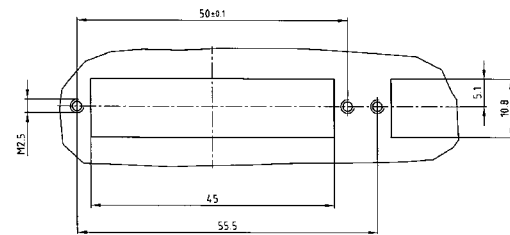
- Solder pin, solder lug and wire wrap
- Quality class 3 (also available in quality class 2 or 1)
- Special assembly on request

### PRODUCT DRAWING

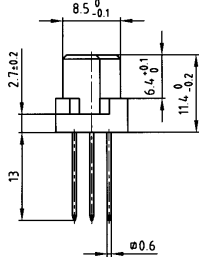
PCB-hole pattern



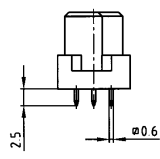
Panel cutout



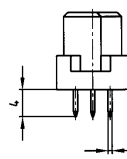
Wire Wrap



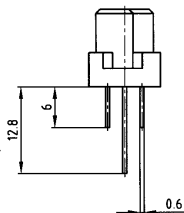
Solder pin straight 2.5 mm



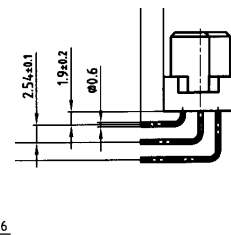
Solder pin straight 4 mm



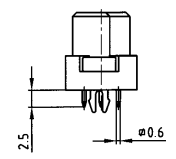
Solder lug



Solder pin angled



Solder pin straight 2.5 mm with clip



### ORDER DATA

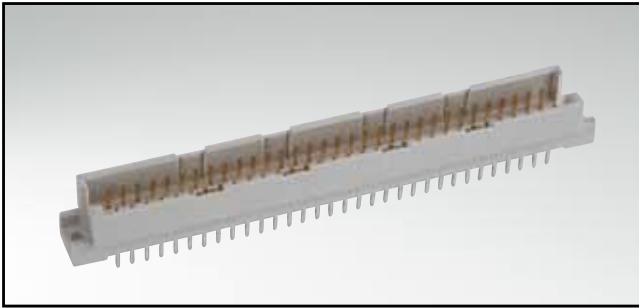
(Dim. = mm)

| No. of Pos. | Row | • = contact, + = no contact |   |   |   |   | Wire Wrap     | Solder pin straight 2.5 mm | Solder pin straight 4 mm | Solder lug    | Solder pin angled | Solder pin straight 2,5 mm with clip |
|-------------|-----|-----------------------------|---|---|---|---|---------------|----------------------------|--------------------------|---------------|-------------------|--------------------------------------|
|             |     | Pos.                        | 1 | 2 | 3 | 4 |               |                            |                          |               |                   |                                      |
| 16          | a   |                             | • | • | • | • |               |                            |                          |               |                   |                                      |
|             | b   | +                           | + | + | + | + | 122 A 10579 X | 122 A 10629 X              | 122 A 10679 X            | 122 A 10729 X | 122 A 10779 X     | 122 A 13299 X                        |
|             | c   | +                           | + | + | + | + |               |                            |                          |               |                   |                                      |
| 16          | a   |                             | • | • | • | • |               |                            |                          |               |                   |                                      |
|             | b   | +                           | + | + | + | + | 122 A 10589 X | 122 A 10639 X              | 122 A 10689 X            | 122 A 10739 X | 122 A 10789 X     | 122 A 13309 X                        |
|             | c   | +                           | • | • | • | • |               |                            |                          |               |                   |                                      |
| 32          | a   |                             | • | • | • | • |               |                            |                          |               |                   |                                      |
|             | b   | +                           | + | + | + | + | 122 A 10609 X | 122 A 10659 X              | 122 A 10709 X            | 122 A 10759 X | 122 A 10809 X     | 122 A 13329 X                        |
|             | c   |                             | • | • | • | • |               |                            |                          |               |                   |                                      |
| 48          | a   |                             | • | • | • | • |               |                            |                          |               |                   |                                      |
|             | b   |                             | • | • | • | • | 122 A 10619 X | 122 A 10669 X              | 122 A 10719 X            | 122 A 10769 X | 122 A 10819 X     | 122 A 13339 X                        |
|             | c   |                             | • | • | • | • |               |                            |                          |               |                   |                                      |

Clip for hole diameter 2.8 + 0.1 mm, PCB thickness = 1.6 mm

# TYPE R

Male connector – straight – 32, 64 and 96 positions

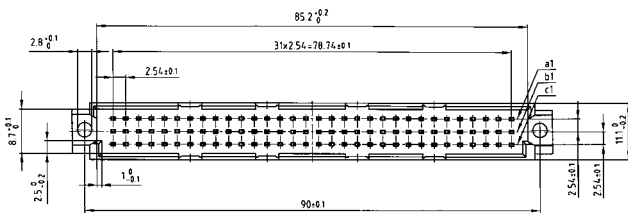


RoHS compliant

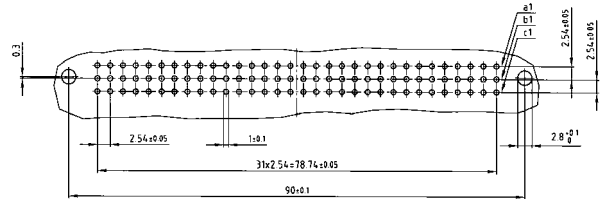
### DESCRIPTION

- Solder pin and wire wrap
- Quality class 3 (also available in quality class 2 or 1)

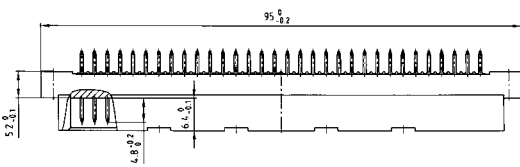
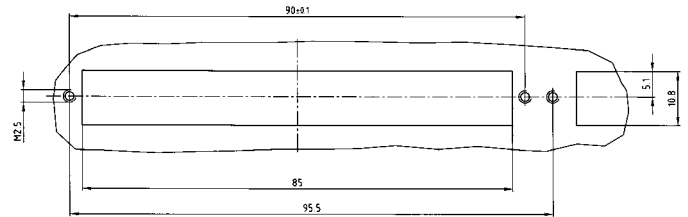
### PRODUCT DRAWING



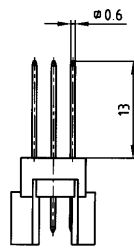
PCB-hole pattern



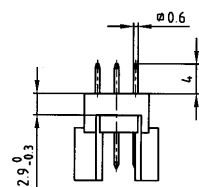
Panel cutout



Wire Wrap



Solder pin straight



### ORDER DATA

(Dim. = mm)

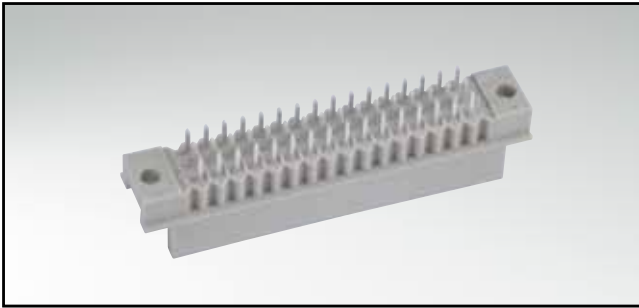
| No. of Pos. | Row | • = contact, + = no contact |   |   |   |   | Wire Wrap     | Solder pin straight |   |
|-------------|-----|-----------------------------|---|---|---|---|---------------|---------------------|---|
|             |     | Pos.                        | 1 | 2 | 3 | 4 |               |                     | 5 |
| 32          | a   |                             | + | • | + | • | 121 A 10509 X | 121 A 10549 X       |   |
|             | b   |                             | + | + | + | + |               |                     | + |
|             | c   |                             | + | • | + | • |               |                     | + |
| 64          | a   |                             | • | • | • | • | 121 A 10519 X | 121 A 10559 X       |   |
|             | b   |                             | + | + | + | + |               |                     | + |
|             | c   |                             | • | • | • | • |               |                     | • |
| 96          | a   |                             | • | • | • | • | 121 A 10529 X | 121 A 10569 X       |   |
|             | b   |                             | • | • | • | • |               |                     | • |
|             | c   |                             | • | • | • | • |               |                     | • |





# TYPE R/2

## Male connector – straight – 32 and 48 positions

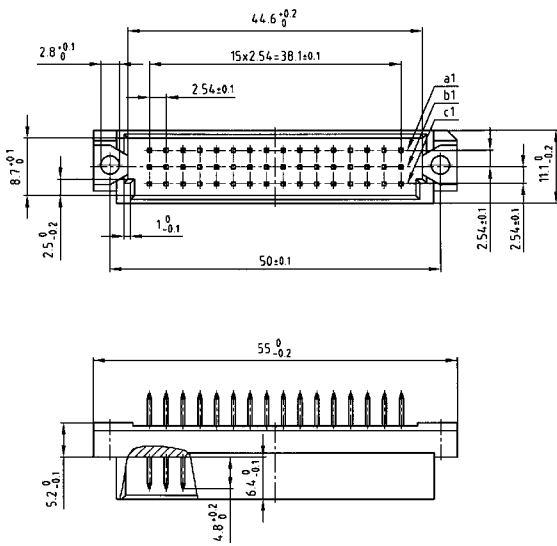


RoHS compliant

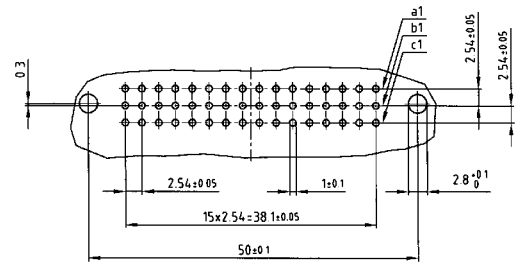
### DESCRIPTION

- Solder pin and wire wrap
- Quality class 3 (also available in quality class 2 or 1)

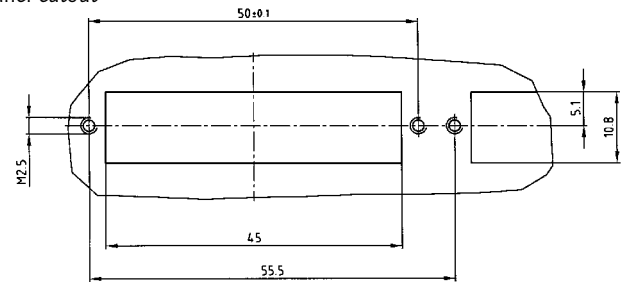
### PRODUCT DRAWING



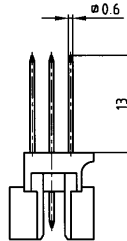
### PCB-hole pattern



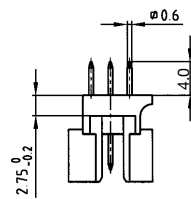
### Panel cutout



### Wire Wrap



### Solder pin straight



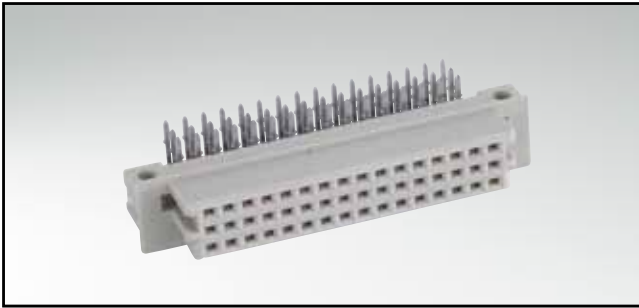
### ORDER DATA

(Dim. = mm)

| No. of Pos. | Row | • = contact, + = no contact |   |   |   |   |   | Wire Wrap     | Solder pin straight |
|-------------|-----|-----------------------------|---|---|---|---|---|---------------|---------------------|
|             |     | Pos.                        | 1 | 2 | 3 | 4 | 5 |               |                     |
| 32          | a   |                             | • | • | • | • | • | 121 A 10589 X | 121 A 10619 X       |
|             | b   | +                           | + | + | + | + | + |               |                     |
|             | c   | •                           | • | • | • | • | • |               |                     |
| 48          | a   |                             | • | • | • | • | • | 121 A 10599 X | 121 A 10629 X       |
|             | b   |                             | • | • | • | • | • |               |                     |
|             | c   |                             | • | • | • | • | • |               |                     |

# TYPE R/2

Female connector – angled – 32 and 48 positions



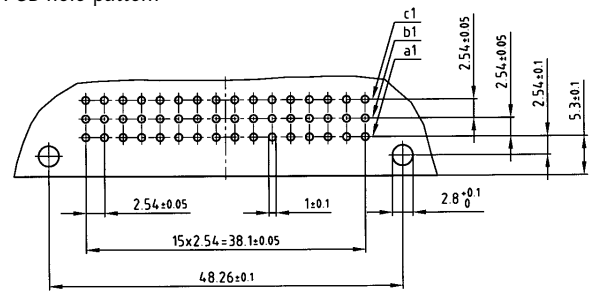
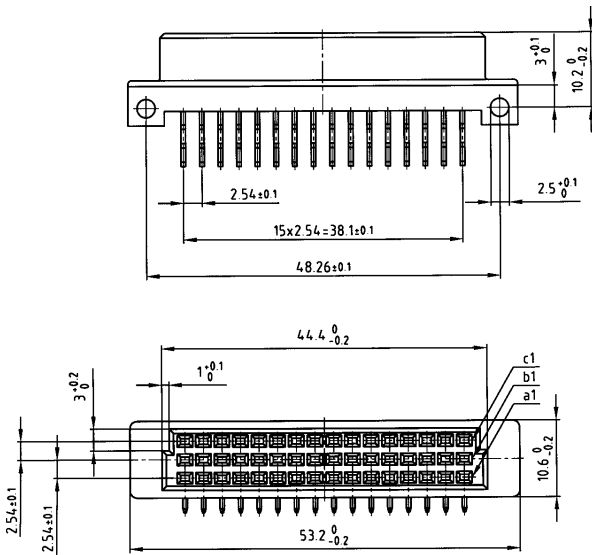
RoHS compliant

**DESCRIPTION**

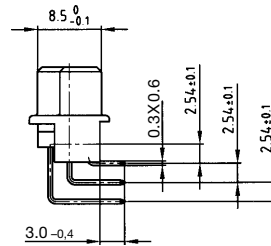
- Solder pin
- Quality class 3 (also available in quality class 2 or 1)

**PRODUCT DRAWING**

PCB-hole pattern



Solder pin angled



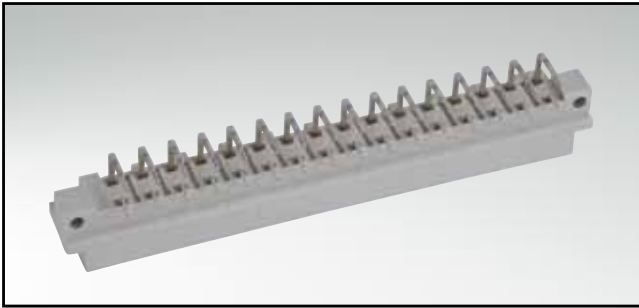
(Dim. = mm)

**ORDER DATA**

| No. of Pos. | Row | • = contact, + = no contact |   |   |   |   |   | Solder pin angled |
|-------------|-----|-----------------------------|---|---|---|---|---|-------------------|
|             |     | Pos.                        | 1 | 2 | 3 | 4 | 5 |                   |
| 32          | c   |                             | • | • | • | • | • | 122 A 10879 X     |
|             | b   | +                           | + | + | + | + | + |                   |
|             | a   | •                           | • | • | • | • | • |                   |
| 48          | c   |                             | • | • | • | • | • | 122 A 10889 X     |
|             | b   |                             | • | • | • | • | • |                   |
|             | a   |                             | • | • | • | • | • |                   |

# TYPE D

Male connector – straight and angled – 16 and 32 positions

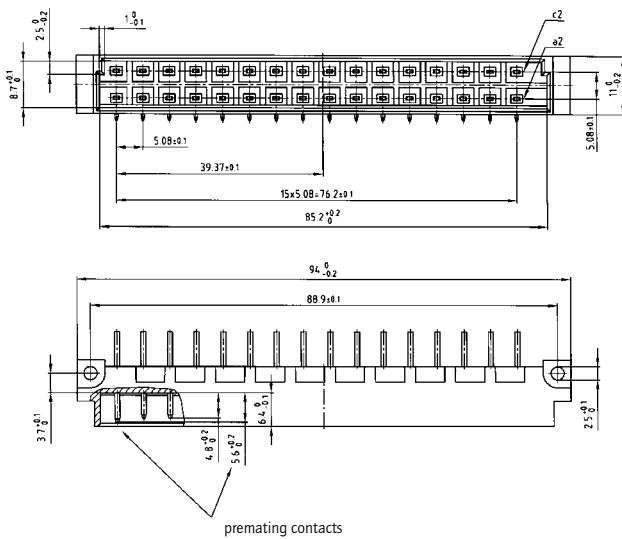


RoHS compliant

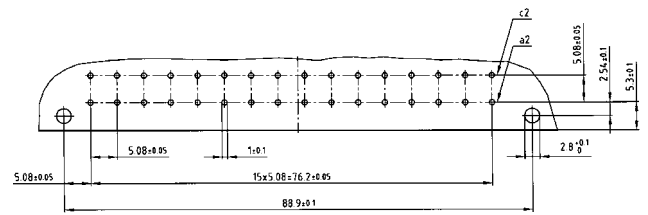
### DESCRIPTION

- Solder pin
- Quality class 3 (also available in quality class 2 or 1)
- pre-mating contacts in row "a" available
- Special assembly on request

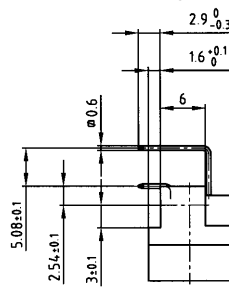
### PRODUCT DRAWING



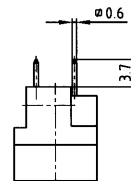
### PCB-hole pattern



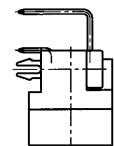
Solder pin angled



Solder pin straight



Solder pin angled with clip



### ORDER DATA

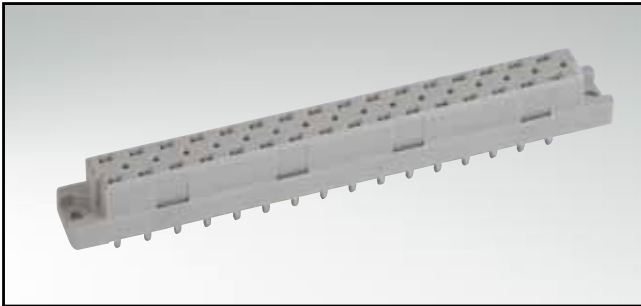
(Dim. = mm)

| No. of Pos. | Row | • = contact, + = no contact |   |   |   | Solder pin angled | Solder pin straight | Solder pin angled with clip |
|-------------|-----|-----------------------------|---|---|---|-------------------|---------------------|-----------------------------|
|             |     | Pos.                        | 2 | 4 | 6 |                   |                     |                             |
| 16          | c   |                             | • | + | • | 121 A 10639 X     | 121 A 10659 X       | 121 A 20979 X               |
|             | a   |                             | • | + | • |                   |                     |                             |
| 32          | c   |                             | • | • | • | 121 A 10649 X     | 121 A 10669 X       | 121 A 20989 X               |
|             | a   |                             | • | • | • |                   |                     |                             |

Clip for hole diameter 2.8 + 0.1 mm, PCB thickness = 1.6 mm

# TYPE D

## Female connector – straight – 16 and 32 positions

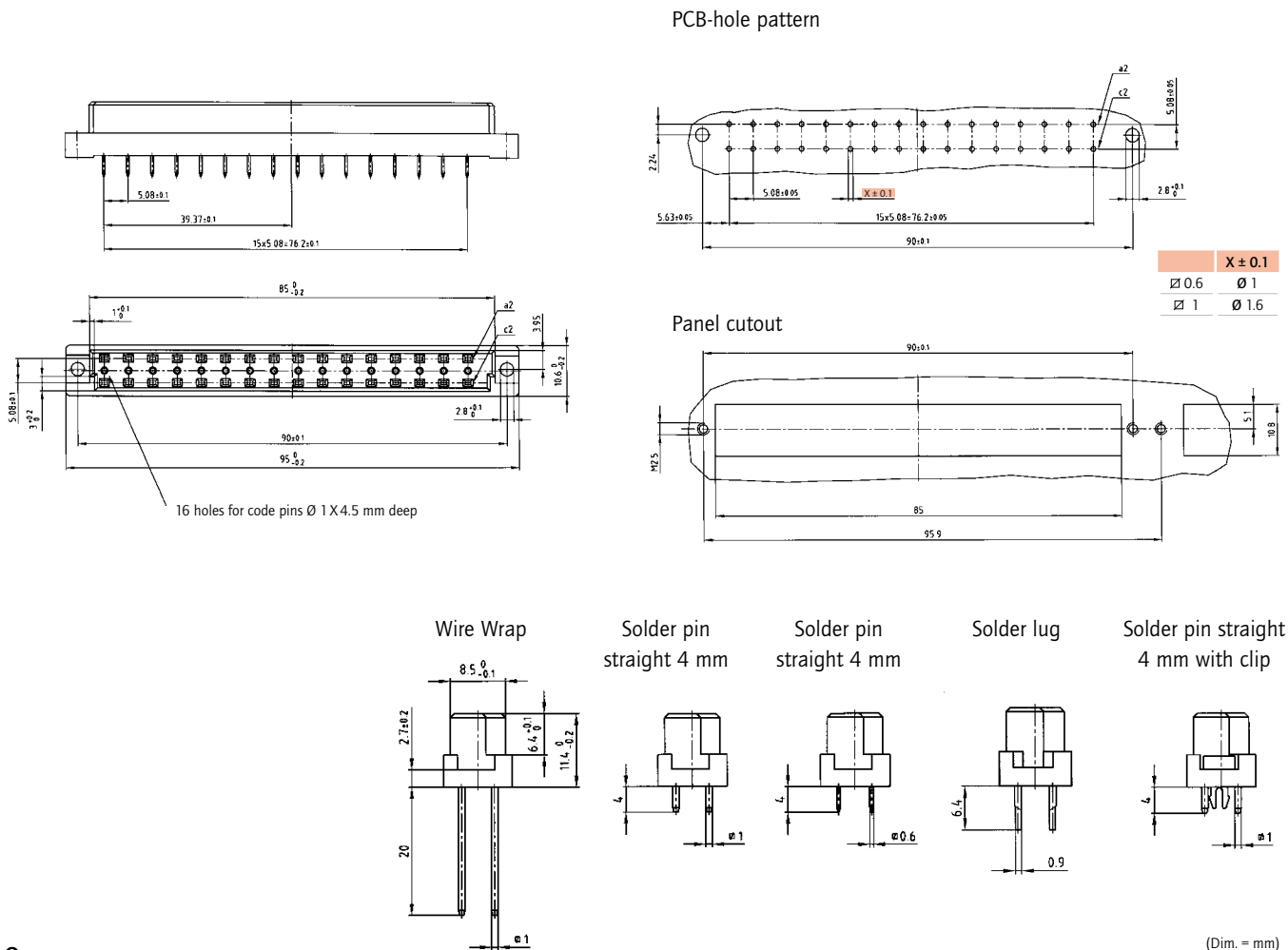


RoHS compliant

### DESCRIPTION

- Solder pin, wire wrap and solder lug
- Quality class 3 (also available in quality class 2 or 1)
- Special assembly on request

### PRODUCT DRAWING



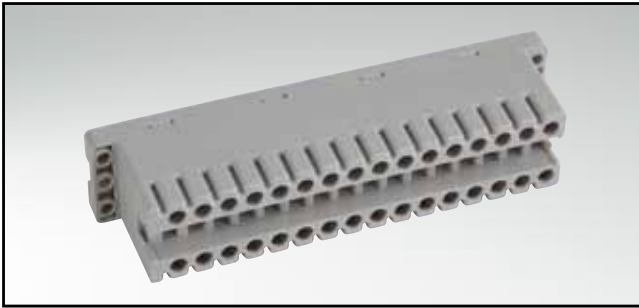
### ORDER DATA

| No. of Pos. | Row | • = contact, + = no contact |   |   |   | Wire Wrap | Solder pin straight 4.0 mm $\varnothing 1$ mm | Solder pin straight 4.0 mm $\varnothing 0.6$ mm | Solder lug    | Solder pin straight 4mm $\varnothing 1$ mm w. clip |               |
|-------------|-----|-----------------------------|---|---|---|-----------|---|---|---------------|--|---------------|
|             |     | Pos.                        | 2 | 4 | 6 |           |   |   |               |  | ...           |
| 16          | a   |                             | • | + | • | +         | 122 A 10919 X                                 | 122 A 10939 X                                   | 122 A 13079 X | 122 A 10959 X                                      | 122 A 13349 X |
|             | c   |                             | • | + | • | +         |   |   |               |  |               |
| 32          | a   |                             | • | • | • | •         | 122 A 10929 X                                 | 122 A 10949 X                                   | 122 A 13089 X | 122 A 10969 X                                      | 122 A 13359 X |
|             | c   |                             | • | • | • | •         |   |   |               |  |               |

Clip for hole diameter  $2.8 \pm 0.1$  mm, PCB thickness = 1.6 mm

# TYPE D WITH SCREW TERMINATION

Female connector – straight – 32 positions

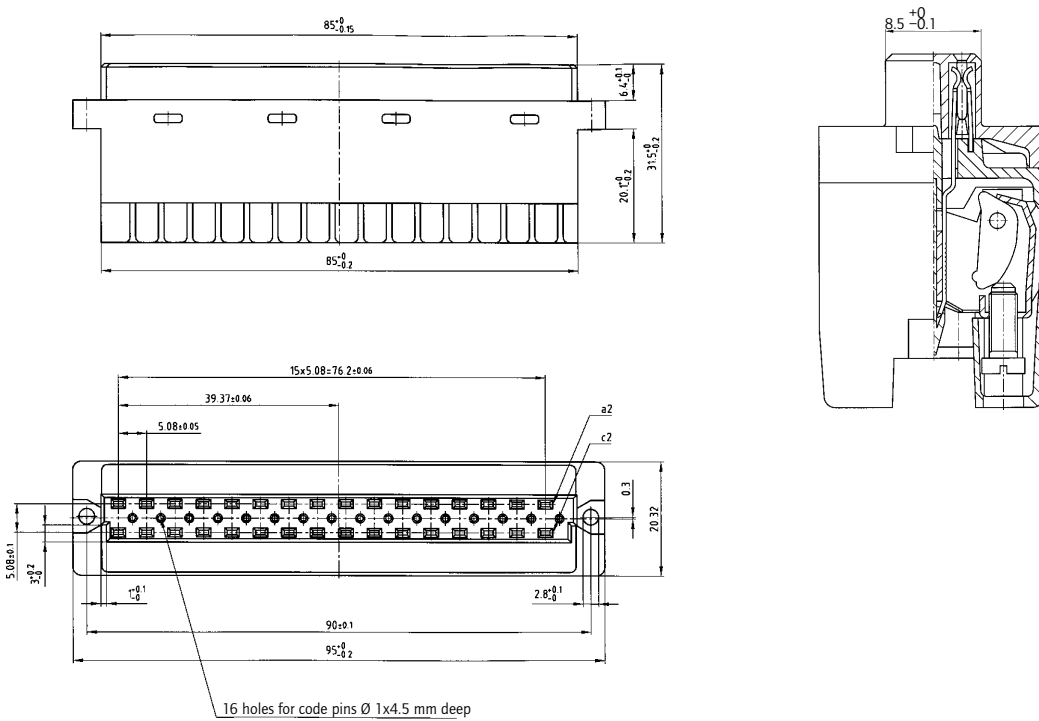


RoHS compliant

### TECHNICAL DATA

|                        |                 |
|------------------------|-----------------|
| Conductor size:        | AWG 24 to 16    |
| Operating voltage:     | 6 A             |
| Rated voltage:         | 300 / 250 V~    |
| Insulator:             | PBT GF grey     |
| Operating temperature: | -55°C to +120°C |
| Flammability:          | UL 94 V-0       |
| Material:              | Copper alloy    |
| Contact plating:       | Quality class 2 |
| Screw connection:      | Steel           |

### PRODUCT DRAWING



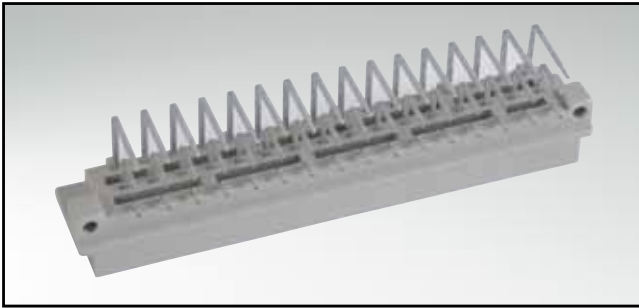
### ORDER DATA

(Dim. = mm)

| No. of Pos. | Row    | Female connector | Latches with strain relief angled | Latches without strain relief straight |
|-------------|--------|------------------|-----------------------------------|--|
| 32          | c<br>a | 122 B 13029 X    | 12-500600                         | 12-500590                              |

# TYPE E

## Male connector – angled – 32 and 48 positions

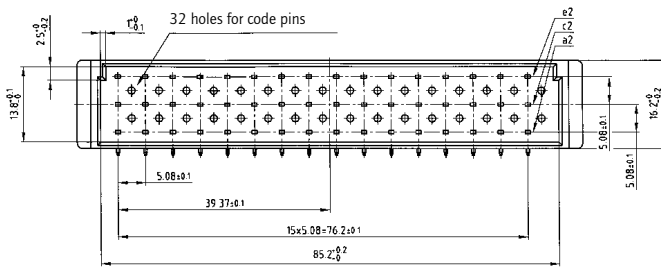


RoHS compliant

### DESCRIPTION

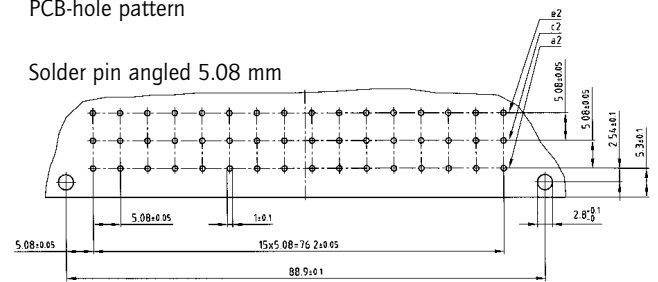
- Solder pin
- Quality class 3 (also available in quality class 2 or 1)

### PRODUCT DRAWING

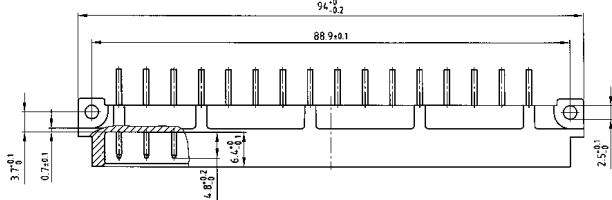
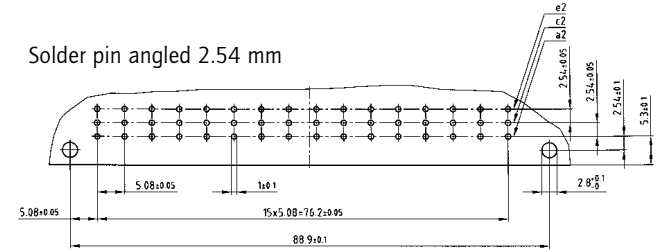


### PCB-hole pattern

#### Solder pin angled 5.08 mm

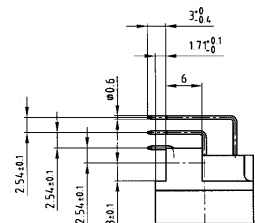
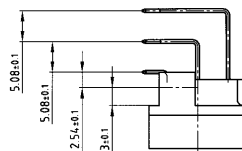


#### Solder pin angled 2.54 mm



Solder pin angled contact spacing 5.08 mm

Solder pin angled contact spacing 2.54 mm



### ORDER DATA

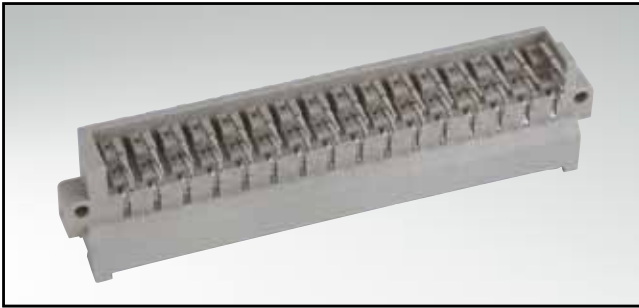
(Dim. = mm)

| No. of Pos. | Row | • = contact, + = no contact |   |   |       | Solder pin angled contact spacing 5.08 mm | Solder pin angled contact spacing 2.54 mm |
|-------------|-----|-----------------------------|---|---|-------|---|---|
|             |     | Pos.                        | 2 | 4 | 6 ... |   |   |
| 32          | e   |                             | + | + | +     | 121 A 20789 X                             | 121 A 20779 X                             |
|             | c   |                             | • | • | •     |   |   |
|             | a   |                             | • | • | •     |   |   |
| 32          | e   |                             | • | • | •     | 121 A 20809 X                             | 121 A 20799 X                             |
|             | c   |                             | + | + | +     |   |   |
|             | a   |                             | • | • | •     |   |   |
| 48          | e   |                             | • | • | •     | 121 A 10859 X                             | 121 A 10849 X                             |
|             | c   |                             | • | • | •     |   |   |
|             | a   |                             | • | • | •     |   |   |



# TYPE F

Male connector – straight and angled – 32 and 48 positions

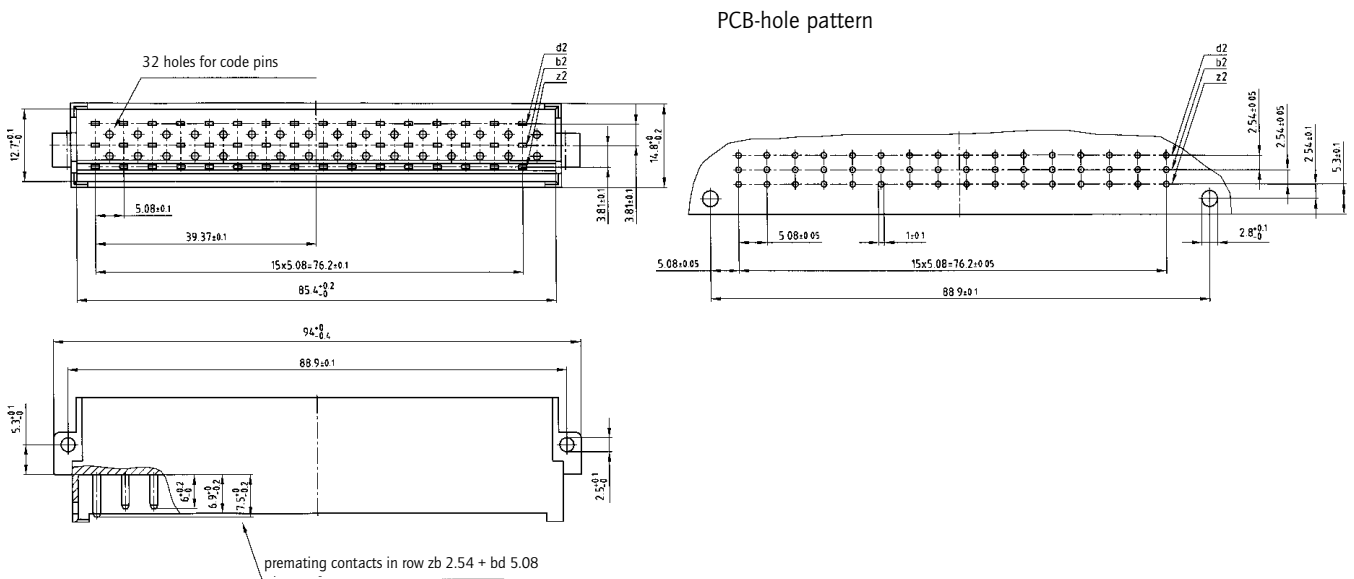


RoHS compliant

### DESCRIPTION

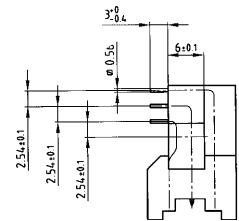
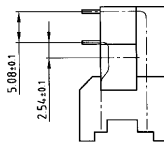
- Solder pin
- Quality class 3 (also available in quality class 2 or 1)
- Premating contacts in row "z", "b" and "d" available
- Special assembly on request

### PRODUCT DRAWING



Solder pin angled contact spacing 5.08 mm

Solder pin angled contact spacing 2.54 mm



### ORDER DATA

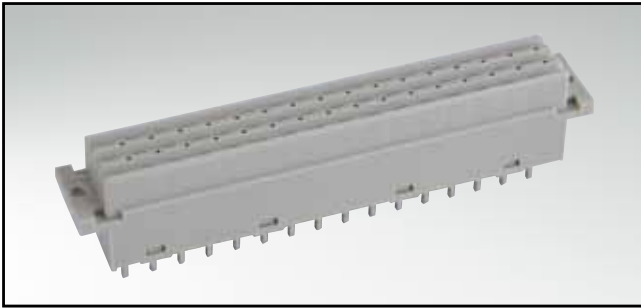
(Dim. = mm)

| No. of Pos. | Row | • = contact, + = no contact |   |   |   | Contact spacing | Solder pin angled |
|-------------|-----|-----------------------------|---|---|---|-----------------|-------------------|
|             |     | Pos.                        | 2 | 4 | 6 |                 |                   |
| 32          | d   |                             | + | + | + | 2.54 mm         | 121 A 10699 X     |
|             | b   |                             | • | • | • |                 |                   |
|             | z   |                             | • | • | • |                 |                   |
| 32          | d   |                             | • | • | • | 5.08 mm         | 121 A 10709 X     |
|             | b   |                             | + | + | + |                 |                   |
|             | z   |                             | • | • | • |                 |                   |
| 48          | d   |                             | • | • | • | 2.54 mm         | 121 A 10719 X     |
|             | b   |                             | • | • | • |                 |                   |
|             | z   |                             | • | • | • |                 |                   |



# TYPE F

## Female connector – straight – 32 and 48 positions

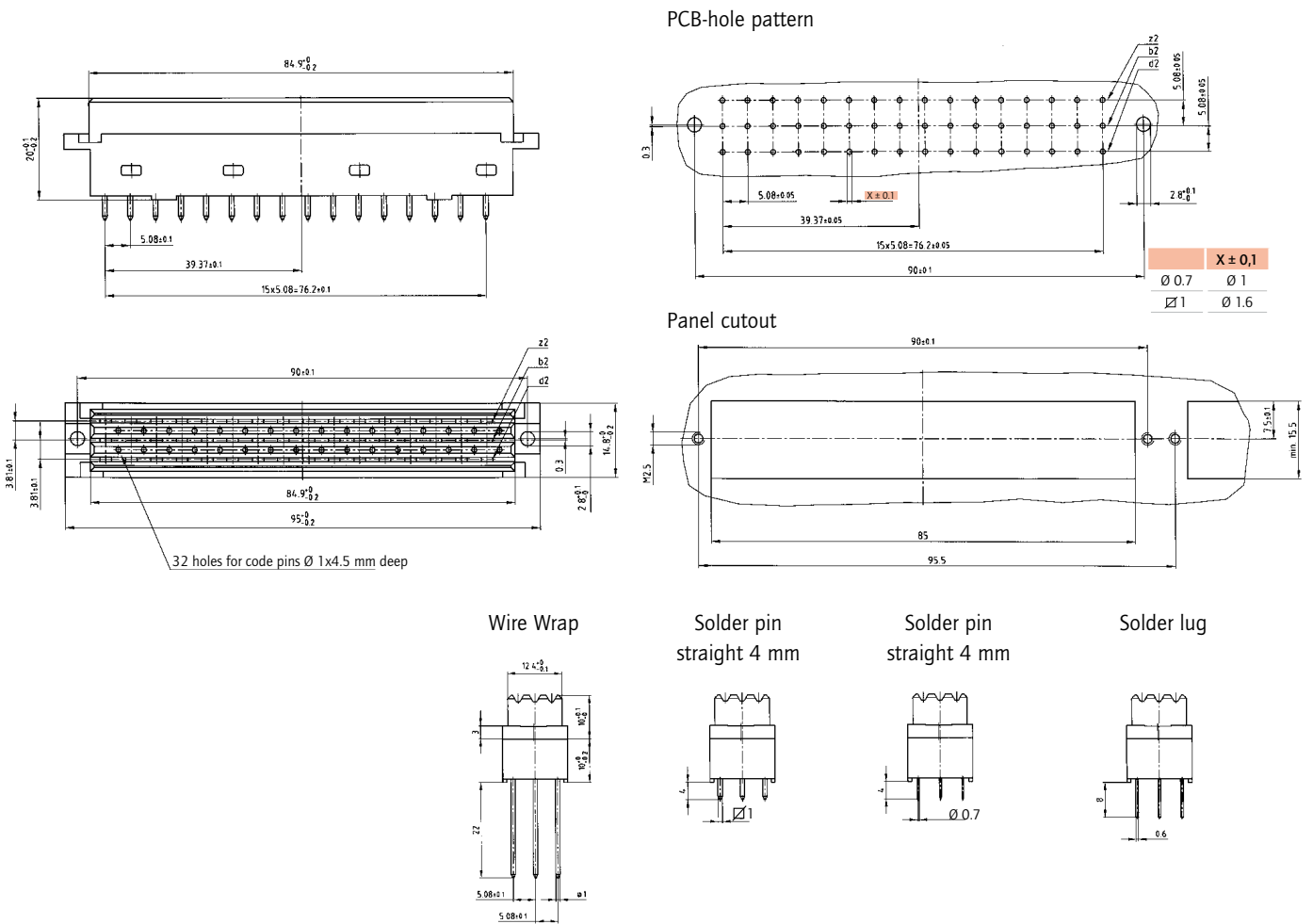


RoHS compliant

### DESCRIPTION

- Solder pin, wire wrap and solder lug
- Quality class 3 (also available in quality class 2 or 1)
- Special assembly on request

### PRODUCT DRAWING



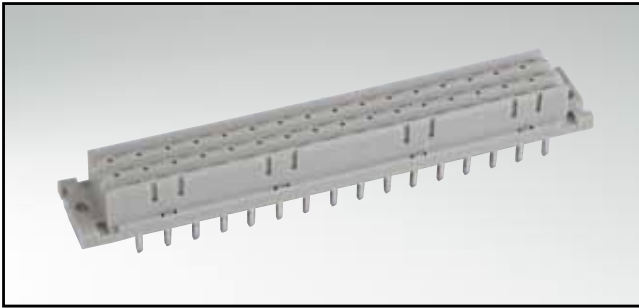
### ORDER DATA

(Dim. = mm)

| No. of Pos. | Row | • = contact, + = no contact |   |   |   | Wire Wrap | Solder pin straight $\varnothing 1$ mm | Solder pin straight $\varnothing 0.7$ mm | Solder lug |
|-------------|-----|-----------------------------|---|---|---|-----------|--|--|------------|
|             |     | Pos.                        | 2 | 4 | 6 |           |  |  |            |
| 32          | z   |                             | • | • | • | •         |  |  |            |
|             | b   |                             | • | • | • | •         |  |  |            |
|             | d   |                             | + | + | + | +         |  |  |            |
| 32          | z   |                             | • | • | • | •         |  |  |            |
|             | b   |                             | + | + | + | +         |  |  |            |
|             | d   |                             | • | • | • | •         |  |  |            |
| 48          | z   |                             | • | • | • | •         |  |  |            |
|             | b   |                             | • | • | • | •         |  |  |            |
|             | d   |                             | • | • | • | •         |  |  |            |

# LOW PROFILE TYPE F

Female connector – straight – 32 and 48 positions

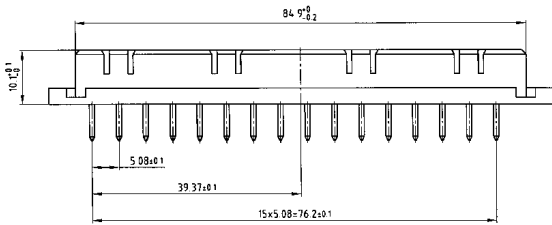


RoHS compliant

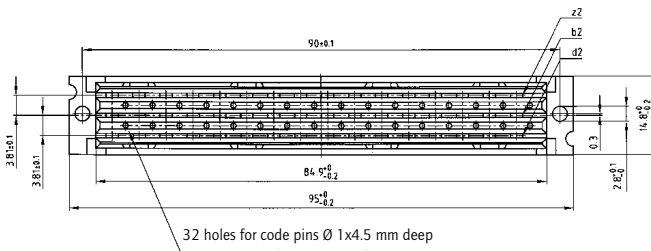
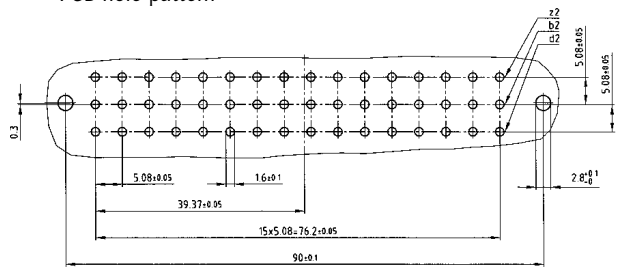
**DESCRIPTION**

- Solder pin
- Quality class 2 (other quality classes on request)

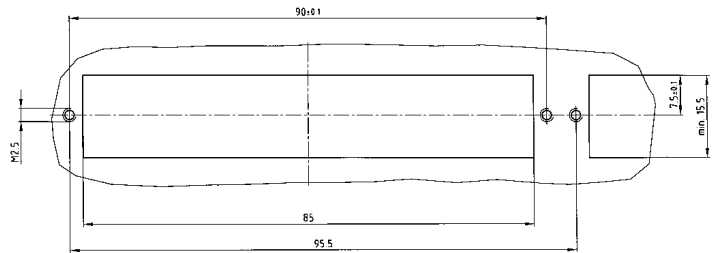
**PRODUCT DRAWING**



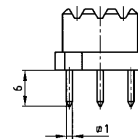
PCB-hole pattern



Panel cutout



Solder pin straight



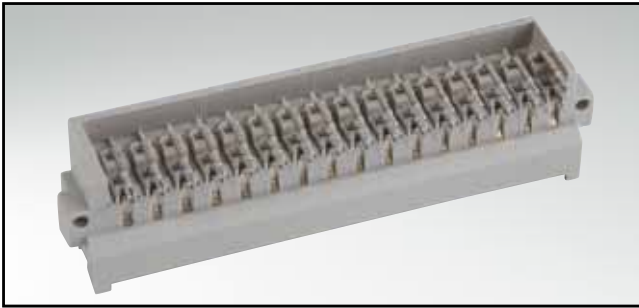
**ORDER DATA**

(Dim. = mm)

| No. of Pos. | Row | • = contact, + = no contact |   |   |   | Solder pin straight |
|-------------|-----|-----------------------------|---|---|---|---------------------|
|             |     | Pos.                        | 2 | 4 | 6 |                     |
| 32          | z   | •                           | • | • | • | 122 B 11739 X       |
|             | b   | •                           | • | • | • |                     |
|             | d   | +                           | + | + | + |                     |
| 32          | z   | •                           | • | • | • | 122 B 11749 X       |
|             | b   | +                           | + | + | + |                     |
|             | d   | •                           | • | • | • |                     |
| 48          | z   | •                           | • | • | • | 122 B 11759 X       |
|             | b   | •                           | • | • | • |                     |
|             | d   | •                           | • | • | • |                     |

# TYPE G

## Male connector – angled – 64 positions

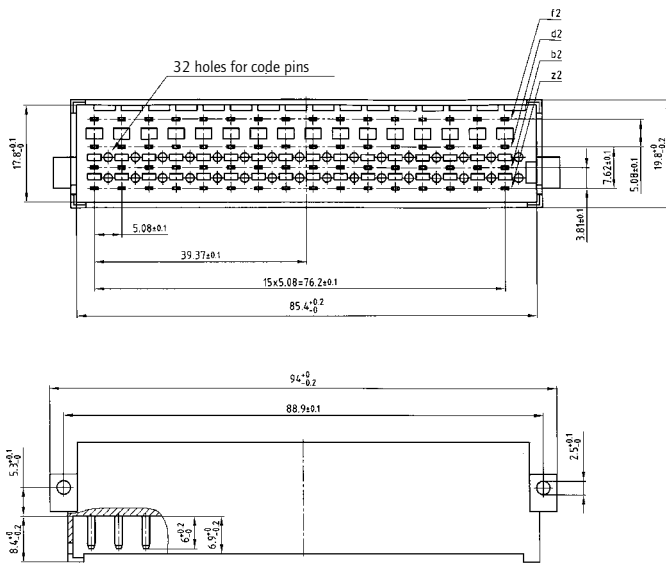


RoHS compliant

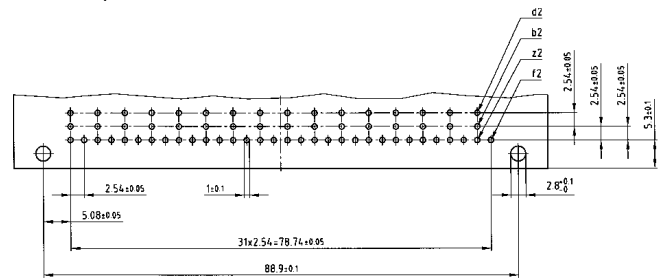
### DESCRIPTION

- Solder pin
- Quality class 3 (also available in quality class 2 or 1)
- Premating contacts in row "z", "b" and "d" available
- Special assembly on request

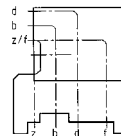
### PRODUCT DRAWING



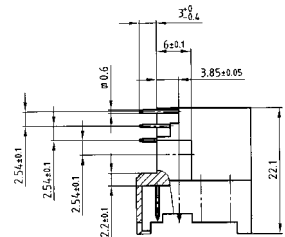
### PCB-hole pattern



### Solder pin angled Cross section



### Solder pin angled



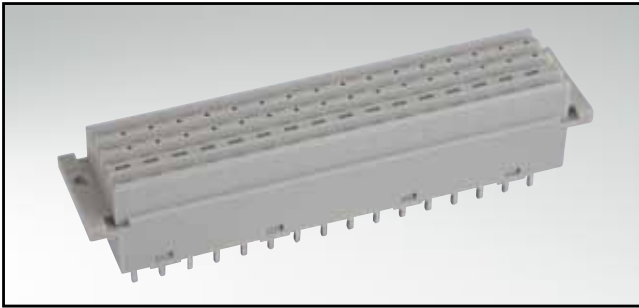
### ORDER DATA

(Dim. = mm)

| No. of Pos. | Row | Solder pin angled |
|-------------|-----|-------------------|
| 64          | f   | 121 A 10789 X     |
|             | d   |                   |
|             | b   |                   |
|             | z   |                   |

# TYPE G

## Female connector – straight – 64 positions

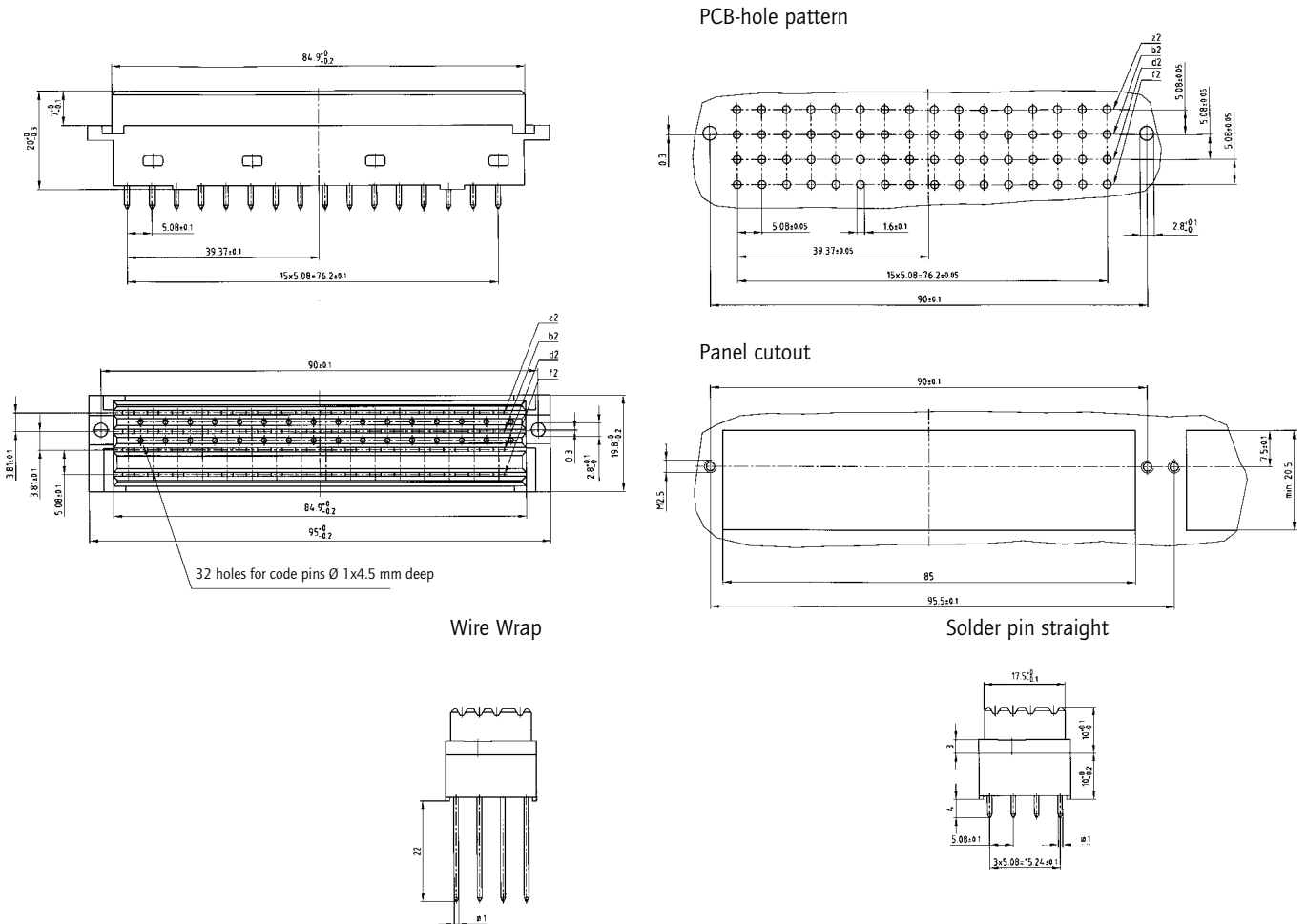


RoHS compliant

### DESCRIPTION

- Solder pin and wire wrap
- Quality class 3 (also available in quality class 2 or 1)

### PRODUCT DRAWING



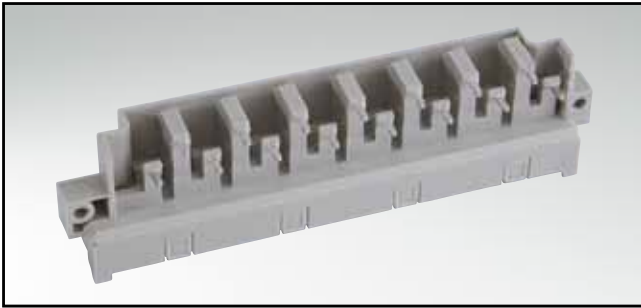
### ORDER DATA

(Dim. = mm)

| No. of Pos. | Row              | Wire Wrap     | Solder pin straight |
|-------------|------------------|---------------|---------------------|
| 64          | z<br>b<br>d<br>f | 122 A 11129 X | 122 A 11139 X       |

# TYPE H

## Male connector – angled – 15 positions

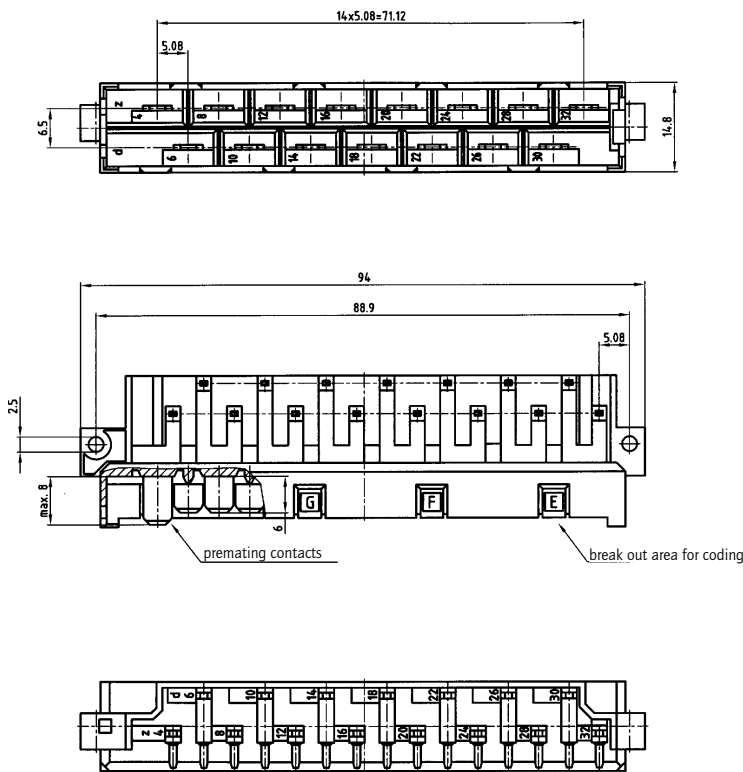


RoHS compliant

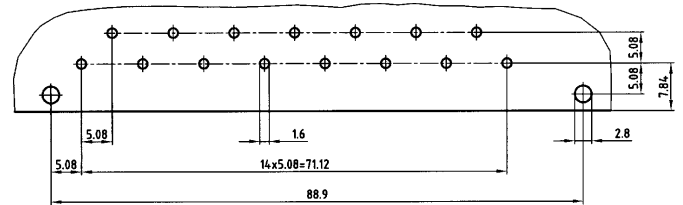
### DESCRIPTION

- Solder pin
- With breakout area for coding
- Contact plating: silver
- Premating contacts in row "z" available

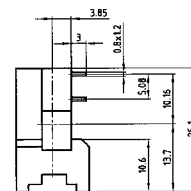
### PRODUCT DRAWING



### PCB-hole pattern



### Solder pin angled



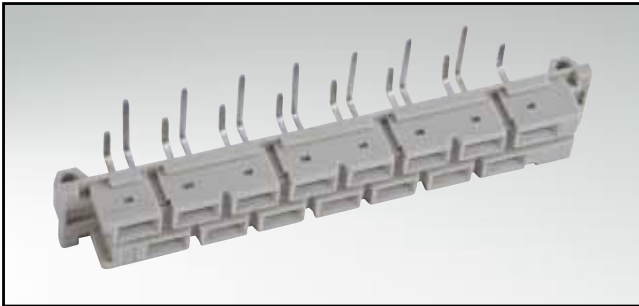
(Dim. = mm)

### ORDER DATA

| No. of Pos. | Premating contacts | Solder pin angled |
|-------------|--------------------|-------------------|
| 15          |                    | 121 E 21119 X     |
| 14 + 1      | z 32               | 121 E 21109 X     |
| 13 + 2      | z 4 + 32           | 121 E 21129 X     |

# TYPE H

## Female connector – straight and angled – 15 positions

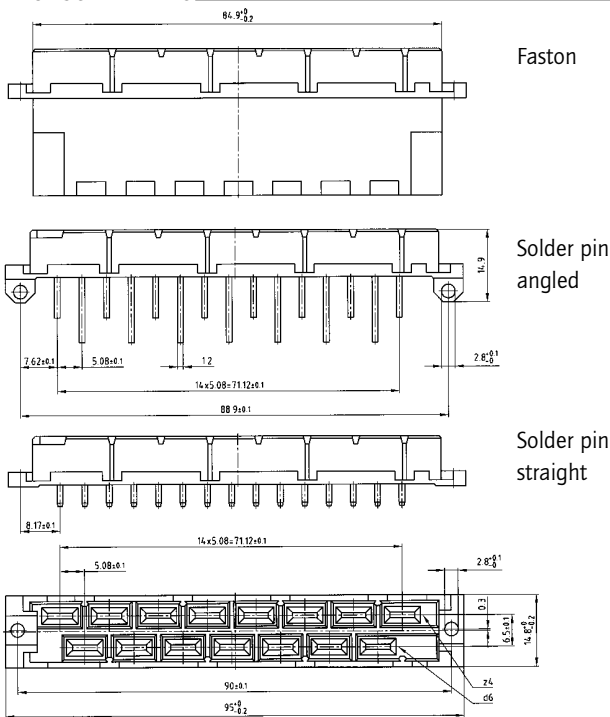


RoHS compliant

### DESCRIPTION

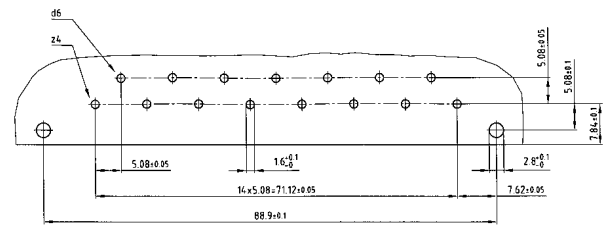
- Solder pin, solder lug, Faston- and screw termination
- With breakout area for coding
- Contact plating: silver

### PRODUCT DRAWING

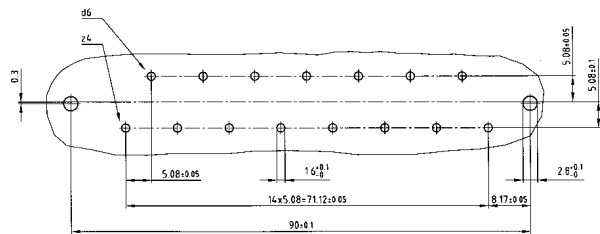


### PCB-hole pattern

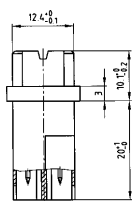
#### Solder pin angled 5.08 mm



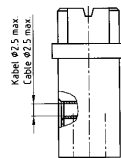
#### Solder pin straight 10.16 mm



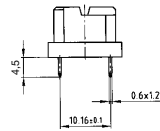
#### Faston



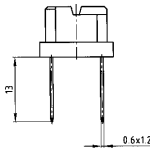
#### Screwed connection



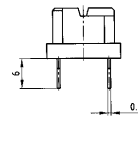
#### Solder pin straight 4.5 mm



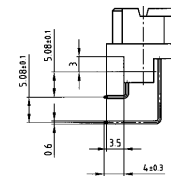
#### Solder pin straight 13 mm



#### Solder lug



#### Solder pin angled



#### Coding piece



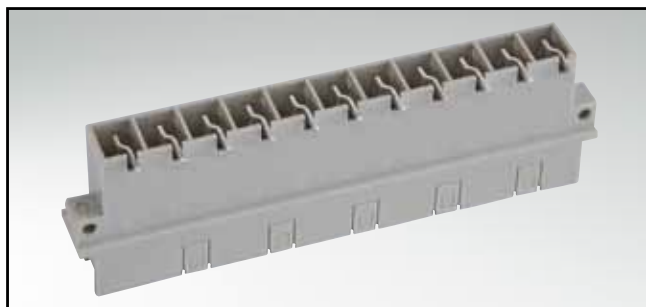
(Dim. = mm)

### ORDER DATA

| No. of Pos. | Faston        | Screwed connection | Solder pin straight 4.5 mm | Solder pin straight 13 mm | Solder lug    | Solder pin angled | Coding piece  |
|-------------|---------------|--------------------|----------------------------|---------------------------|---------------|-------------------|---------------|
| 15          | 122 E 11609 X | 122 E 11619 X      | 122 E 11629 X              | 122 E 11639 X             | 122 E 11649 X | 122 E 11659 X     | 120 X 10019 X |

# TYPE H

## Male connector – angled – 11 positions

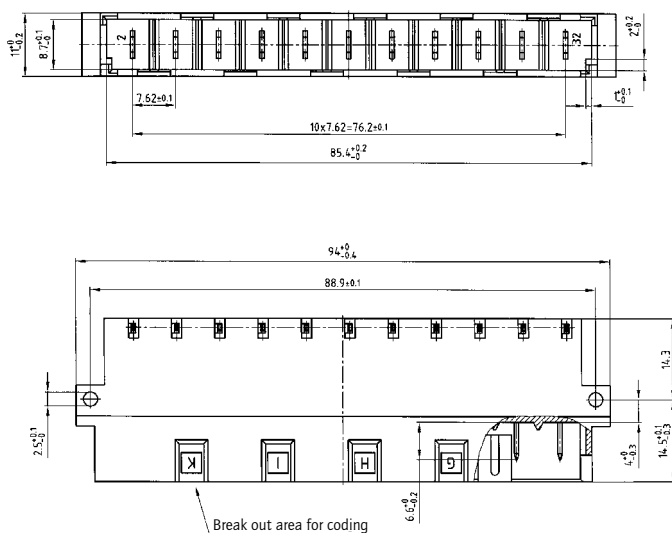


RoHS compliant

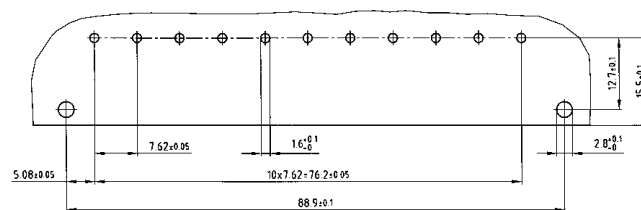
### DESCRIPTION

- Solder pin
- With breakout area for coding
- Contact plating: silver
- Premating contacts in row "z" available

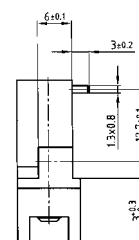
### PRODUCT DRAWING



### PCB-hole pattern



### Solder pin angled



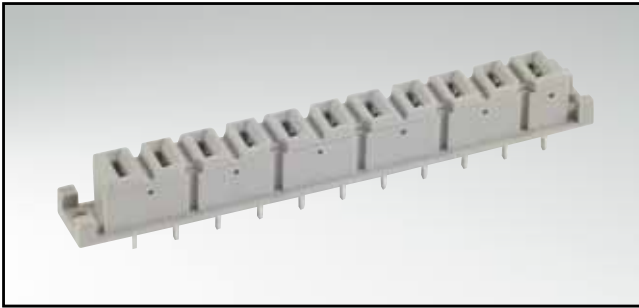
(Dim. = mm)

### ORDER DATA

| No. of Pos. | Premating contact | Solder pin angled |
|-------------|-------------------|-------------------|
| 11          |                   | 121 E 10949 X     |
| 10+1        | z 32              | 121 E 10959 X     |

# TYPE H

## Female connector – straight – 11 positions

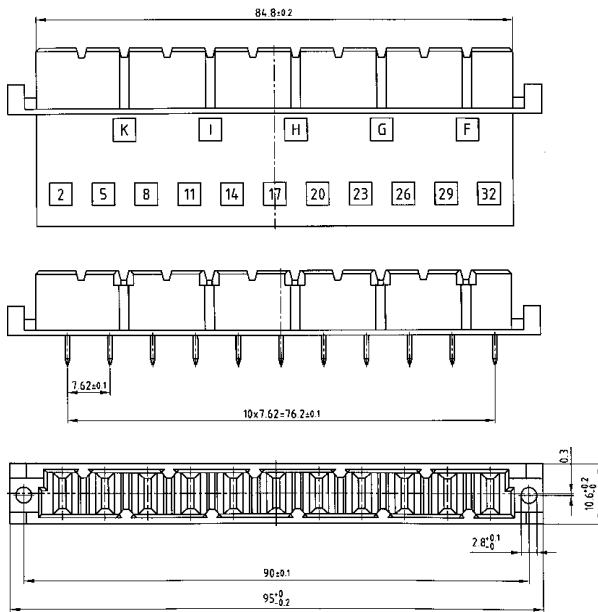


RoHS compliant

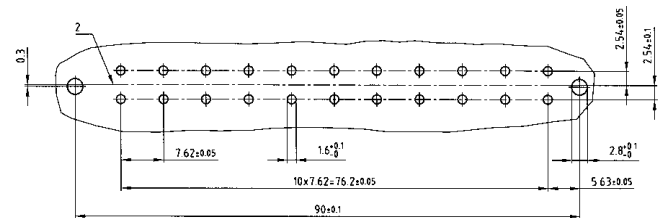
### DESCRIPTION

- Solder pin and faston
- With coding area
- Contact plating: silver

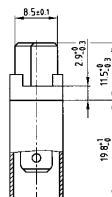
### PRODUCT DRAWING



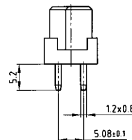
### PCB-hole pattern



Faston



Solder pin straight



Coding piece



### ORDER DATA

(Dim. = mm)

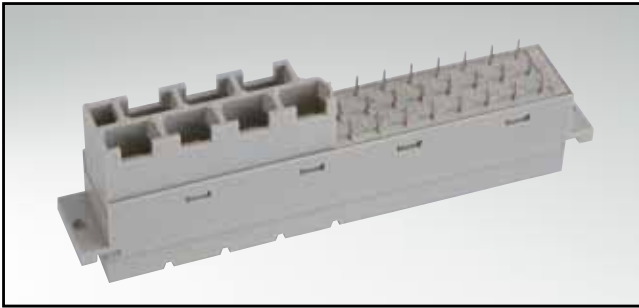
| No. of Pos. | Faston        | Solder pin straight | Coding piece  |
|-------------|---------------|---------------------|---------------|
| 11          | 122 E 11709 X | 122 E 11719 X       | 120 X 10019 X |





# TYPE F+H (MIXED CONNECTOR)

Female connector – straight – 24+7 positions



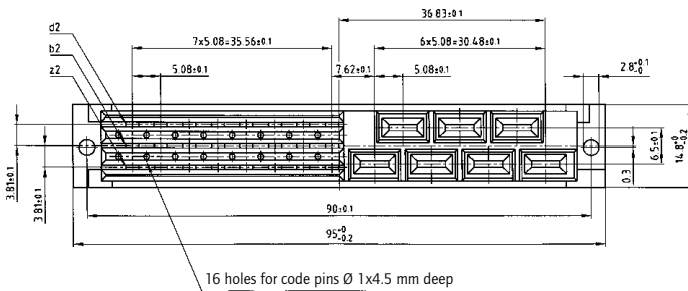
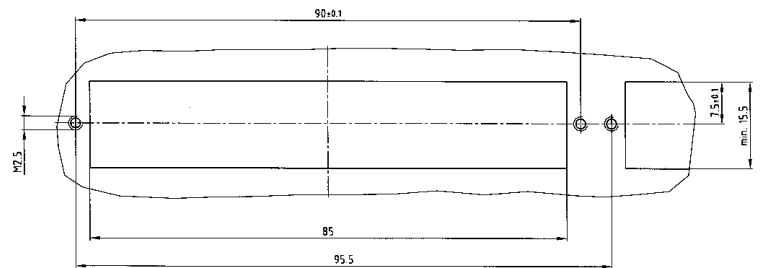
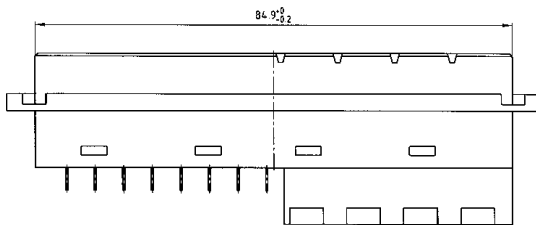
RoHS compliant

## DESCRIPTION

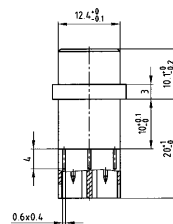
- Solder pin und Faston
- Quality class 2

## PRODUCT DRAWING

### Panel cutout



### Solder pin / Faston



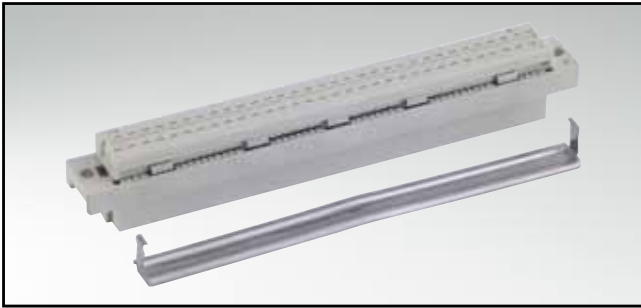
## ORDER DATA

(Dim. = mm)

| No. of Pos. | Solder pin / Faston |
|-------------|---------------------|
| 24+7        | 122 B 11159 X       |

# TYPE C

## Female connector – Insulation displacement termination (IDC) – 64 positions

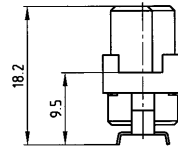
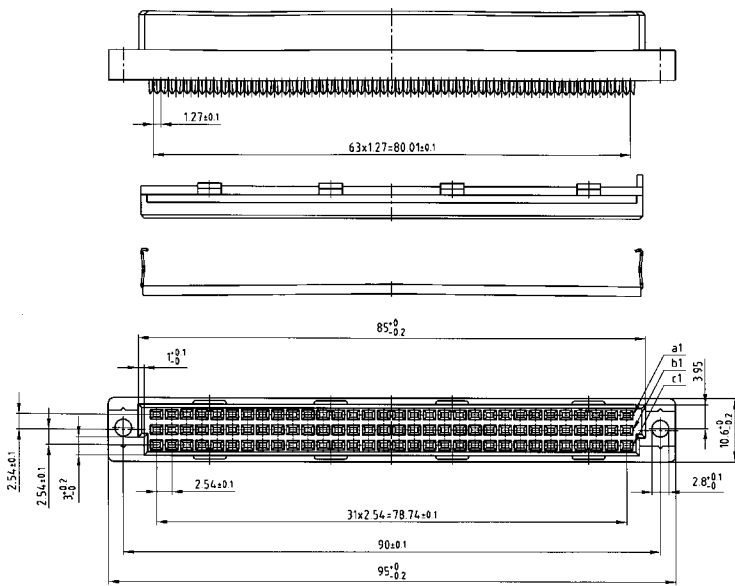


### DESCRIPTION

- Ribbon cable termination
- Strain relief need to be ordered separately
- Quality class 3 (also available in quality class 2 or 1)

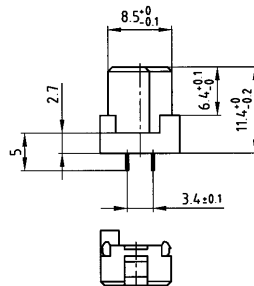
### PRODUCT DRAWING

Female connector with strain relief



Female connector without strain relief

Strain relief



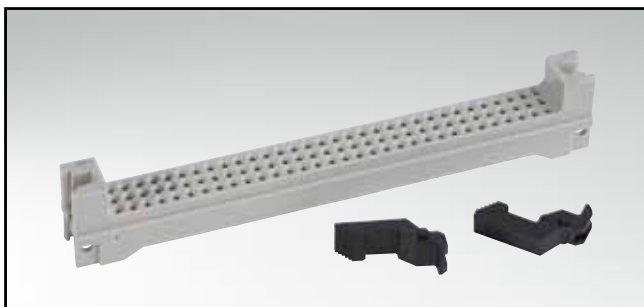
### ORDER DATA

(Dim. = mm)

| No. of Pos. | • = contact, + = no contact |   |   |   |   | Female connector without strain relief | Strain relief |   |
|-------------|-----------------------------|---|---|---|---|--|---------------|---|
|             | Pos.                        | 1 | 2 | 3 | 4 |  |               | 5 |
| 64          | a                           | • | • | • | • | 122 A 11699 X                          | 120 X 10169 X |   |
|             | b                           | + | + | + | + |  |               | + |
|             | c                           | • | • | • | • |  |               | • |

# INTERCONNECTION HOUSING

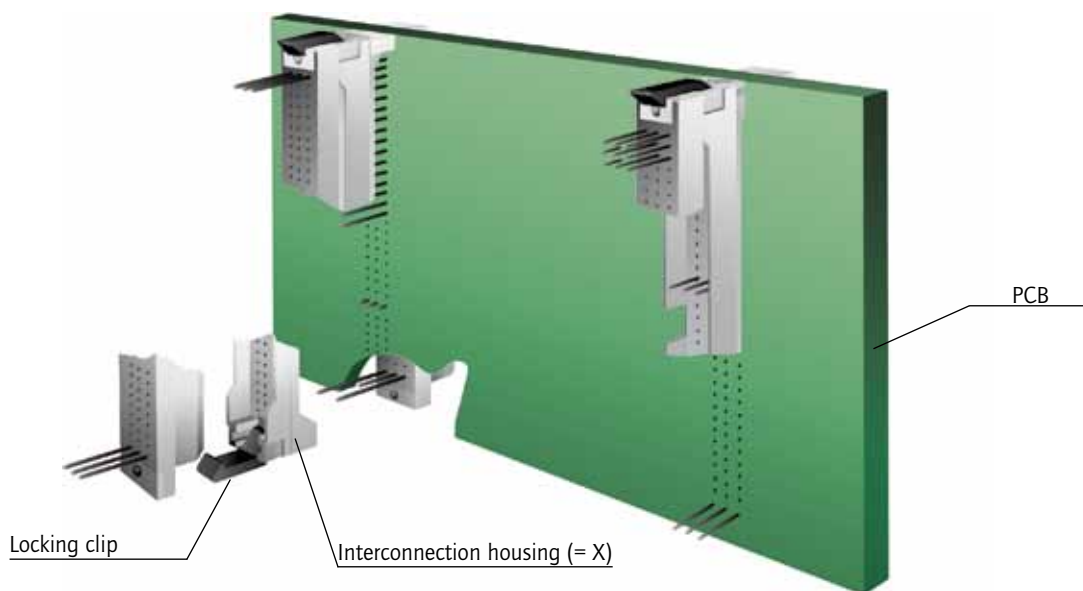
Housing and locking clips for type C and R



**DESCRIPTION**

- Usable for female connectors type C and R
- Locking-clips to secure and to unlock the female connector
- For PCB which a thickness from 3.2 to 3.6 mm and a pin length of 13 or 17 mm

**PRODUCT DRAWING**



**ORDER DATA**

(Dim. = mm)

| No. of Pos. | X (mm) | Interconnection housing | LOCKING CLIPS |               |
|-------------|--------|-------------------------|---------------|---------------|
|             |        |                         | Type C        | Type R        |
| 96          | 4.6    | 120 X 10089 X           | 120 X 10129 X | 120 X 10149 X |
| 96          | 8.6    | 120 X 10099 X           | 120 X 10129 X | 120 X 10149 X |
| 96          | 9.3    | 120 X 10109 X           | 120 X 10129 X | 120 X 10149 X |
| 96          | 10.0   | 120 X 10119 X           | 120 X 10129 X | 120 X 10149 X |

# PLUG-IN FRAME

Frame for printed circuit boards (PCB)

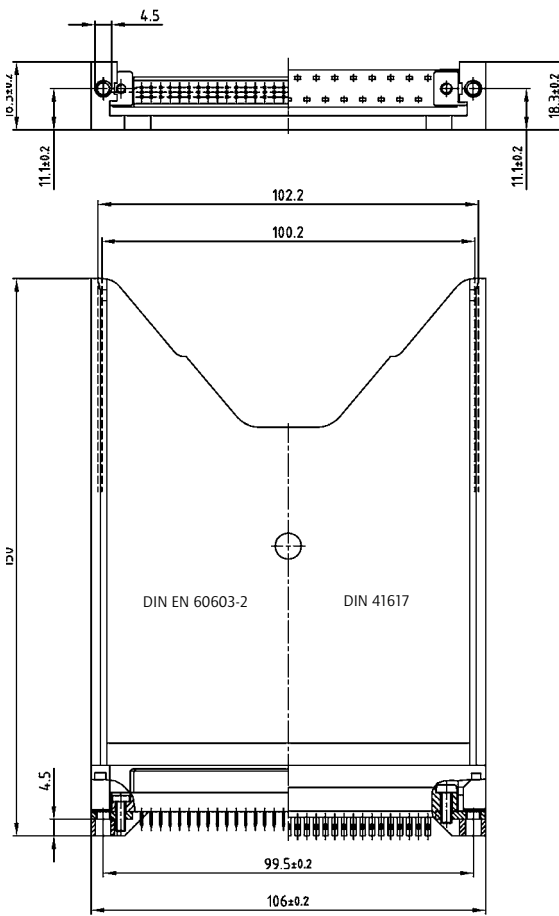


RoHS compliant

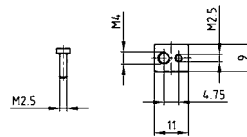
### DESCRIPTION

- For DIN EN 60603-2 and DIN 41617 connectors
- For PCB width 100 mm and 102 mm
- Material: polycarbonat, grey
- Other colours on request
- Mounting set needs to be ordered separately

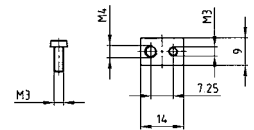
### PRODUCT DRAWING



Mounting set for  
DIN EN 60603-2



Mounting set for  
DIN 41617



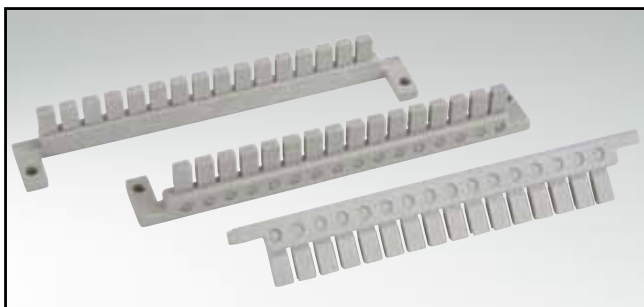
### ORDER DATA

(Dim. = mm)

| PLUG-IN FRAME |               | MOUNTING SET FOR |               |
|---------------|---------------|------------------|---------------|
| grey - 100 mm | grey - 102 mm | DIN EN 60603-2   | DIN 41617     |
| 120 X 10029 X | 120 X 10039 X | 120 X 10059 X    | 120 X 10049 X |

# CODING STRIPS

For connectors DIN EN 60603-2 (DIN 41612)



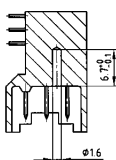
RoHS compliant

### DESCRIPTION

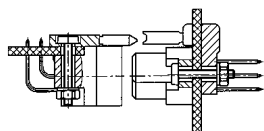
- Mounting style:
  - inside the enclosure (mounting bar)
  - on printed circuit board (PCB)
- Optional coding by removing the segments

### PRODUCT DRAWING

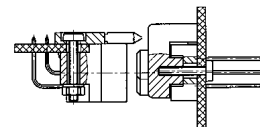
Type D, E, F



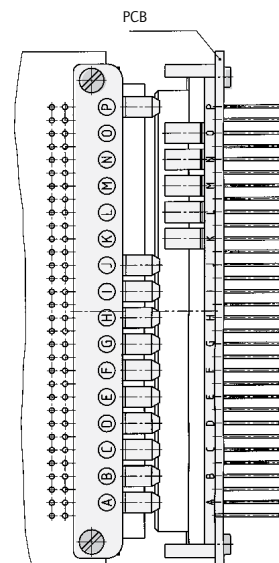
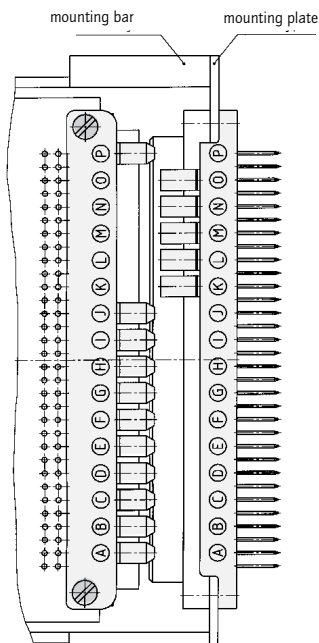
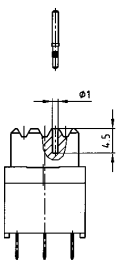
Type R, H



Type C, R, D



Coding pin



(Dim. = mm)

### ORDER DATA

| CODING PIN    | CODING STRIPS FOR                 |                |                        |
|---------------|-----------------------------------|----------------|------------------------|
|               | Female connector (mounting plate) | Male connector | Female connector (PCB) |
| 120 X 10319 X | 120 X 10379 X                     | 120 X 10359 X  | 120 X 10369 X          |

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Архангельск (8182)63-90-72  
 Астана (7172)727-132  
 Астрахань (8512)99-46-04  
 Барнаул (3852)73-04-60  
 Белгород (4722)40-23-64  
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 Волгоград (844)278-03-48  
 Вологда (8172)26-41-59  
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 Ставрополь (8652)20-65-13

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 Томск (3822)98-41-53  
 Тула (4872)74-02-29  
 Тюмень (3452)66-21-18  
 Ульяновск (8422)24-23-59  
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