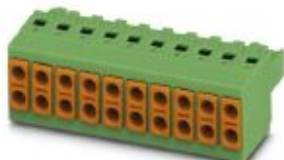


# Printed-circuit board connector - TVFKCL 1,5/ 2-ST GY7035 MQ - 1005750

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PCB connector, nominal current: 10 A, rated voltage (III/2): 320 V, nominal cross section: 1.5 mm<sup>2</sup>, number of positions: 2, pitch: 5 mm, connection method: Push-in spring connection, color: light gray, contact surface: Tin



The figure shows a 10-position version of the product

## Your advantages

- ✓ Time saving push-in connection, tools not required
- ✓ Potentials can be easily looped through – ideal for BUS applications
- ✓ Intuitive use through colour coded actuation lever
- ✓ Can be combined with the MSTB 2,5 range
- ✓ Quick and convenient testing using integrated test option



## Key Commercial Data

|                        |               |
|------------------------|---------------|
| Packing unit           | 50 pc         |
| Minimum order quantity | 50 pc         |
| GTIN                   |               |
| GTIN                   | 4055626476711 |

## Technical data

### Item properties

|                           |                                 |
|---------------------------|---------------------------------|
| Brief article description | Printed-circuit board connector |
| Plug-in system            | CLASSIC COMBICON                |
| Type of contact           | Female connector                |
| Range of articles         | TVFKC 1,5/..-ST                 |
| Pitch                     | 5 mm                            |
| Number of positions       | 2                               |
| Connection method         | Push-in spring connection       |
| Number of levels          | 1                               |

# Printed-circuit board connector - TVFKCL 1,5/ 2-ST GY7035 MQ - 1005750

## Technical data

### Item properties

|                       |   |
|-----------------------|---|
| Number of connections | 4 |
| Number of potentials  | 2 |

### Electrical parameters

|                             |       |
|-----------------------------|-------|
| Nominal current             | 10 A  |
| Nom. voltage                | 320 V |
| Rated voltage               | 250 V |
| Rated voltage (III/2)       | 320 V |
| Rated voltage (II/2)        | 630 V |
| Rated surge voltage (III/3) | 4 kV  |
| Rated surge voltage (III/2) | 4 kV  |
| Rated surge voltage (II/2)  | 4 kV  |

### Connection capacity

|   |  |
|---|--|
| Connection method   | Push-in spring connection  |
| pluggable   | Yes  |
| Conductor cross section solid   | 0.2 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>                                  |
| Conductor cross section flexible                                      | 0.2 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>                                  |
| Conductor cross section AWG / kcmil                                   | 24 ... 16  |
| Conductor cross section flexible, with ferrule without plastic sleeve | 0.25 mm <sup>2</sup> ... 1.5 mm <sup>2</sup> (only together with CRIMPFOX 6) |
| Conductor cross section, flexible, with ferrule, with plastic sleeve  | 0.25 mm <sup>2</sup> ... 1.5 mm <sup>2</sup> (only together with CRIMPFOX 6) |
| Cylindrical gauge a x b / diameter                                    | 2.4 mm x 1.5 mm / 1.9 mm   |
| Stripping length  | 8 mm   |

### Material data - contact

|  |   |
|--|---|
| Note                                     | WEEE/RoHS-compliant, free of whiskers according to IEC 60068-2-82/ JEDEC JESD 201 |
| Contact material                         | Cu alloy  |
| Surface characteristics                  | hot-dip tin-plated  |
| Metal surface terminal point (top layer) | Tin (4 - 8 µm Sn)   |
| Metal surface contact area (top layer)   | Tin (4 - 8 µm Sn)   |

### Material data - housing

|   |                   |
|---|-------------------|
| Housing color   | light gray (7035) |
| Insulating material   | PA                |
| Insulating material group   | I                 |
| CTI according to IEC 60112  | 600               |
| Flammability rating according to UL 94                            | V0                |
| Glow wire flammability index GWFI according to EN 60695-2-12      | 850               |
| Glow wire ignition temperature GWIT according to EN 60695-2-13    | 775               |
| Temperature for the ball pressure test according to EN 60695-10-2 | 125 °C            |

### Material data – actuating element

# Printed-circuit board connector - TVFKCL 1,5/ 2-ST GY7035 MQ - 1005750

## Technical data

### Material data – actuating element

|  |     |
|--|-----|
| Insulating material                    | PA  |
| CTI according to IEC 60112             | 600 |
| Flammability rating according to UL 94 | V0  |

### Dimensions for the product

|                             |         |
|-----------------------------|---------|
| Length [ l ]                | 23.3 mm |
| Width [ w ]                 | 10 mm   |
| Height [ h ]                | 15 mm   |
| Pitch                       | 5 mm    |
| Height (without solder pin) | 15 mm   |

### Packaging information

|                            |                     |
|----------------------------|---------------------|
| Type of packaging          | packed in cardboard |
| Pieces per package         | 50                  |
| Denomination packing units | Pcs.                |

### General product information

|      |  |
|------|--|
| Note | In accordance with IEC 61984, COMBICON connectors have no switching power (COC). During designated use, they must not be plugged in or disconnected when carrying voltage or under load. |
|------|--|

### Ambient conditions

|   |   |
|---|---|
| Ambient temperature (storage/transport) | -40 °C ... 70 °C                                    |
| Ambient temperature (assembly)          | -5 °C ... 100 °C                                    |
| Ambient temperature (operation)         | -40 °C ... 100 °C (dependent on the derating curve) |

### Termination and connection method

|  |                     |
|--|---------------------|
| Test result                              | Test passed         |
| Test – repeated connection and release   | IEC 60999-1:1999-11 |
|  | Test passed         |
| Test for conductor damage and slackening | IEC 60999-1:1999-11 |
|  | Test passed         |

### Pull-out test

|  |   |
|--|---|
| Pull-out test  | IEC 60999-1:1999-11                     |
|  | Test passed                             |
| Conductor cross section / conductor type / tensile force | 0.2 mm <sup>2</sup> / solid / > 10 N    |
|  | 0.2 mm <sup>2</sup> / flexible / > 10 N |
|  | 1.5 mm <sup>2</sup> / solid / > 40 N    |
|  | 1.5 mm <sup>2</sup> / flexible / > 40 N |

### Mechanical tests according to standard

|                    |                     |
|--------------------|---------------------|
| Test specification | IEC 61984           |
| Visual inspection  | IEC 60512-1:2001-01 |

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## Technical data

### Mechanical tests according to standard

|                                     |                                    |
|-------------------------------------|------------------------------------|
| Dimension check                     | IEC 60512-1:2001-01                |
| Resistance of inscriptions          | IEC 60068-2-70:1995-12             |
| Insertion and withdrawal force      | IEC 60512-7:1993-08                |
| No. of cycles                       | 25                                 |
| Insertion strength per pos. approx. | 8 N                                |
| Withdraw strength per pos. approx.  | 6 N                                |
| Polarization and coding             | IEC 60512-7:1993-08 (Polarization) |
| Contact holder in insert            | IEC 60512-8:1993-01                |
| Test force per pos.                 | 24 N                               |

### Air clearances and creepage distances

|   |                     |
|---|---------------------|
| Clearances and creepage distances               | IEC 60664-1:2007-04 |
| Specification                                   | IEC 60664-1:2007-04 |
| Minimum clearance - inhomogeneous field (III/3) | 3 mm                |
| Minimum clearance - inhomogeneous field (III/2) | 3 mm                |
| Minimum clearance - inhomogeneous field (II/2)  | 3 mm                |
| Minimum creepage distance value (III/3)         | 3.2 mm              |
| Minimum creepage distance value (III/2)         | 3 mm                |
| Minimum creepage distance value (II/2)          | 3.2 mm              |

### Electrical tests - Function

|               |                     |
|---------------|---------------------|
| Specification | IEC 60999-1:1999-11 |
|---------------|---------------------|

### Temperature cycles

|                                      |                     |
|--------------------------------------|---------------------|
| Specification                        | IEC 60999-1:1999-11 |
| Test current (minimum cross section) | 4 A                 |
| Test current (maximum cross section) | 10 A                |
| Temperature cycles                   | 192                 |

### Current carrying capacity / derating curves

|                  |   |
|------------------|---|
| Caption          | Type: TVFKC 1,5/...-ST with MSTBO 2,5/...-G1(L/R) |
| Reduction factor | 0.8   |
| Note             | Representation based on IEC 60512-5-2:2002-02     |
|                  | For number of positions, see diagram              |

### Mechanical tests (A)

|  |             |
|--|-------------|
| Test specification                           | IEC 61984   |
| Insertion strength per pos. approx.          | 8 N         |
| Withdraw strength per pos. approx.           | 6 N         |
| Polarization when inserted requirement >20 N | Test passed |
| Contact holder in insert requirements >20 N  | Test passed |

### Durability tests (B)

# Printed-circuit board connector - TVFKCL 1,5/ 2-ST GY7035 MQ - 1005750

## Technical data

### Durability tests (B)

|  |                     |
|--|---------------------|
| Specification                                | IEC 60512-5:1992-08 |
| Contact resistance R <sub>1</sub>            | 1.8 mΩ              |
| Insertion/withdrawal cycles                  | 50                  |
| Contact resistance R <sub>2</sub>            | 2.5 mΩ              |
| Impulse withstand voltage at sea level       | 4.8 kV              |
| Power-frequency withstand voltage            | 2.21 kV             |
| Insulation resistance, neighboring positions | > 10 TΩ             |

### Thermal tests (C)

|   |                       |
|---|-----------------------|
| Specification                                   | IEC 60512-5-1:2002-02 |
| Number of positions                             | 4                     |
| Conductor cross section                         | 1.5 mm <sup>2</sup>   |
| Test current                                    | 10 A                  |
| Upper limiting temperature requirements <100 °C | Test passed           |

### Climatic tests (D)

|  |                   |
|--|-------------------|
| Specification                          | ISO 6988:1985-02  |
| Cold stress                            | -40 °C/2 h        |
| Thermal stress                         | 100 °C/168 h      |
| Corrosive stress                       | KFW 0.2 S/1 cycle |
| Impulse withstand voltage at sea level | 4.8 kV            |
| Power-frequency withstand voltage      | 2.21 kV           |

### Environmental and durability tests (E)

|                                       |                                     |
|---------------------------------------|-------------------------------------|
| Result, degree of protection, IP code | Finger safety with IP20 test finger |
|---------------------------------------|-------------------------------------|

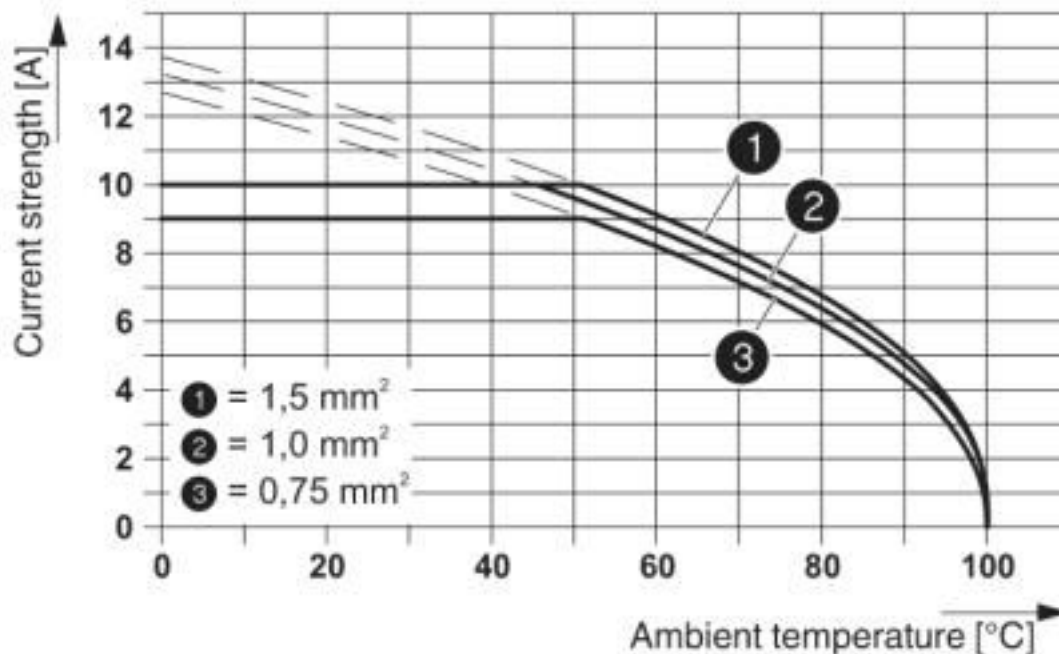
### Environmental Product Compliance

|            |   |
|------------|---|
| China RoHS | Environmentally friendly use period: unlimited = EFUP-e |
|            | No hazardous substances above threshold values          |

## Drawings

# Printed-circuit board connector - TVFKCL 1,5/ 2-ST GY7035 MQ - 1005750

Diagram



Type: TVFKC 1,5/...-ST with MSTBO 2,5/...-G1(L/R)

## Classifications

eCl@ss

|               |          |
|---------------|----------|
| eCl@ss 10.0.1 | 27440309 |
| eCl@ss 4.0    | 27260700 |
| eCl@ss 4.1    | 27260700 |
| eCl@ss 5.0    | 27260700 |
| eCl@ss 5.1    | 27260700 |
| eCl@ss 6.0    | 27260700 |
| eCl@ss 7.0    | 27440309 |
| eCl@ss 8.0    | 27440309 |
| eCl@ss 9.0    | 27440309 |

ETIM

|          |          |
|----------|----------|
| ETIM 5.0 | EC002638 |
| ETIM 6.0 | EC002638 |
| ETIM 7.0 | EC002638 |

## Approvals

Approvals

# Printed-circuit board connector - TVFKCL 1,5/ 2-ST GY7035 MQ - 1005750

## Approvals

Approvals

EAC / cULus Recognized

Ex Approvals

## Approval details

|     |  |         |
|-----|--|---------|
| EAC |  | B.01687 |
|-----|--|---------|

|                            |       |   |                 |
|----------------------------|-------|---|-----------------|
| cULus Recognized           |       | <a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a> | E60425-19931012 |
|                            | B     | D   |                 |
| Nominal voltage UN         | 300 V | 300 V   |                 |
| Nominal current IN         | 8 A   | 8 A   |                 |
| mm <sup>2</sup> /AWG/kcmil | 24-16 | 24-16   |                 |

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