

### **Accessories Miniature Relay PT**

- Easy replacement of relays on a densely packed DIN rail
- No reduction of protection class or creepage/clearance with plastic retainer
- Plug-in indicator- and protection modules
- Retainer clip with ejection function for relays of 29 mm height

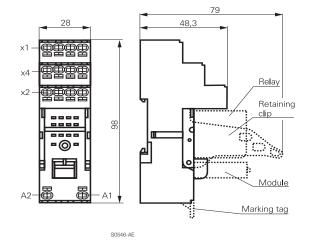


#### Premium socket with screwless terminals for DIN rail mounting

PT 78 74P Premium socket, logical terminal arrangement, 4 pole PT 78 72P Premium socket, logical terminal arrangement, 2 pole

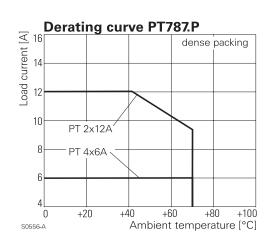
- PT 2/4 pole 12/6 A
- Screwless Clamps
- Mounting of solid wires without tool
- Double Clamps per terminal
- Jumper links for interconnection
- Open coil circuit for active modules
- Logical terminal arrangement





#### Approvals

| Technical data                          | 2-pole                | 4-pole                |  |
|---|-----------------------|-----------------------|--|
| Rated voltage/Max. switching voltage AC | 240/400VAC            | 240 VAC               |  |
| Rated current                           | 12 A                  | 6 A                   |  |
| Limiting continuous current             | see derat             | ing curve             |  |
| Dielectric strength                     |                       |                       |  |
| coil contact circuit                    | 2500 V <sub>rms</sub> | 2500 V <sub>rms</sub> |  |
| open contact circuit                    | 1200 V <sub>rms</sub> | 1200 V <sub>rms</sub> |  |
| adjacent contact circuits               | 2500 V <sub>rms</sub> | 2000 V <sub>rms</sub> |  |
| Clearance / creepage                    |                       |                       |  |
| coil contact circuit                    | ≥ 4/4 mm              | ≥ 4/4 mm              |  |
| adjacent contact circuits               | ≥ 3.5/9.5 mm          | ≥ 1.8/3.5 mm          |  |
| Material group of insulation parts      | Illa                  |                       |  |
| Flammability class UL 94                | V-0                   |                       |  |
| Insulation to IEC 60664-1               |                       |                       |  |
| Type of insulation coil-contact circuit | ba                    | sic                   |  |
| open contact circuit                    | funct                 | tional                |  |
| adjacent contact circ                   | uits ba               | sic                   |  |
| Rated insulation voltage                | 25                    | 0 V 0                 |  |
| Pollution degree                        | 2                     | 1)                    |  |
| Rated voltage system                    | 230 /                 | 400 V                 |  |
| Overvoltage category                    | I                     | 11                    |  |



1) with inserted relay pollution degree 1 in region of contact pins / socket inlets.

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 Technical data (continued)
 2-pole
 4-pole

 Material compliance: EU RoHS/ELV, China RoHS, REACH, Halogen content refer to the Product Compliance Support Center at www.te.com/customersupport/rohssupportcenter

| Ambient temperature range                     |                             |
|---|-----------------------------|
| for mounting/handling                         | -25+70°C                    |
| in operation                                  | -40+70°C                    |
| Terminals                                     | screwless                   |
| Wire strip length                             | 12 mm                       |
| Wire cross section                            |                             |
| solid wire                                    | 1x0.75/1/1.5mm <sup>2</sup> |
|   | 2x0.75/1mm <sup>2</sup>     |
| with stand. isolation (no oversize isolation) | 2x1.5mm <sup>2</sup>        |
| stranded wire                                 |                             |
| without bootlace crimp                        | 1x0.75/1/1.5mm <sup>2</sup> |
|   | 2x0.75/1mm <sup>2</sup>     |
| without bootlace crimp with stand. isolation  | 2x1.5mm <sup>2</sup>        |
| with bootlace crimp                           | 1x0.75/1mm <sup>2</sup>     |
|   | 2x0.75mm <sup>2</sup>       |
| with bootlace crimp without isolation         | 1x1.5mm <sup>2</sup>        |
| or min 18 mm long                             |                             |
|   |                             |

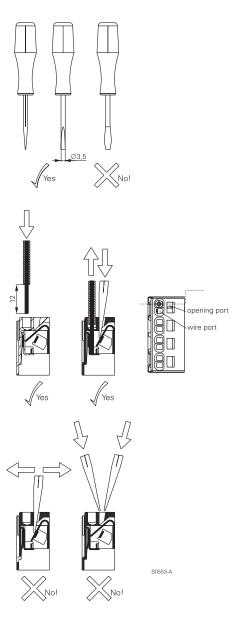
For stranded wires with braids 0.05 mm or smaller the use of bootlace crimps is recommended. When using stranded wires without bootlace crimp the clamp must be opened during insertion.

| Insertion cycles           | A (10)             |  |  |
|----------------------------|--------------------|--|--|
| Max. Insertion Force total | 100 N              |  |  |
| Mounting distance          | ≥ 0, dense packing |  |  |
| Weight                     | 44 g 60 g          |  |  |
| Packaging unit             | 10 pcs             |  |  |

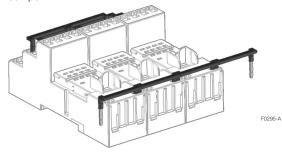
| Socket with screwless terminals for DIN rail mounting |  |             |  |
|---|--|-------------|--|
| Туре  |  | Part Number |  |
| PT 7872P  | Premium socket,                        |             |  |
|   | logical terminal arrangement           |             |  |
|   | Socket with screwless terminals 2 pole | 1860100-1   |  |
| PT 7874P  | Premium socket,                        |             |  |
|   | logical terminal arrangement           |             |  |
|   | Socket with scewless terminals 4 pole  | 1860000-1   |  |
|   |  |             |  |

| Accessories for PT 78 72P, PT 78 74P |                            |             |  |
|--------------------------------------|----------------------------|-------------|--|
| Туре                                 |                            | Part Number |  |
| PT 17 021                            | Plastic retaining clip,    |             |  |
|                                      | relay height 29 mm         | 2-1415526-1 |  |
| PT 28 800                            | Metal retaining clip PT,   |             |  |
|                                      | relay height 29 mm         | 5-1419111-9 |  |
| PT 17 040                            | Marking tag                | 6-1415037-1 |  |
| PT 17 0P1                            | Jumper link, max load 12 A | 1860214-1   |  |

## How to use, Precautions



Jumper link



When connecting more than 2 poles with staggered jumper bars the lower bars need to be stripped and shortened to an appropriate length to enable correct fitting.

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2

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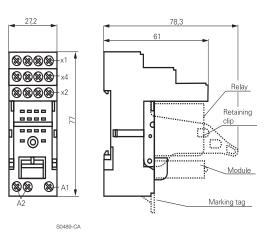
**General Purpose Relays Accessories** 

### Accessories Miniature Relay PT (Continued)

#### DIN-rail socket with screw type terminals PT78722/PT78742

- Socket with logical arrangement of control/load terminals
- High quality rising clamp terminals
- Captive combination terminal screws
- Second A2 for easier looping
- Jumper bars for interconnection





Approvals VDE Cert. No. 40009108, cULus E135149

| - · · · · ·                             | <b>0</b> I            | 4 1                   |
|---|-----------------------|-----------------------|
| Technical data                          | 2-pole                | 4-pole                |
| Rated voltage/Max. switching voltage AC | 240/400VAC            | 240 VAC               |
| Rated current                           | 12 A                  | 6 A                   |
| Limiting continuous current             | see derat             | ing curve             |
| Dielectric strength                     |                       |                       |
| coil contact circuit                    | 2500 V <sub>rms</sub> | 2500 V <sub>rms</sub> |
| open contact circuit                    | 1200 V <sub>rms</sub> | 1200 V <sub>rms</sub> |
| adjacent contact circuits               | 2500 V <sub>rms</sub> | 2000 V <sub>rms</sub> |
| Clearance / creepage                    |                       |                       |
| coil contact circuit                    | ≥ 4/4 mm              | ≥ 4/4 mm              |
| adjacent contact circuits               | ≥ 3.5/9.5 mm          | ≥ 1.8/3.5 mm          |
| Material group of insulation parts      |                       | la                    |
| Flammability class UL 94                | V                     | -0                    |
| Insulation to IEC 60664-1               |                       |                       |
| Type of insulation coil-contact circuit | ba                    | sic                   |
| open contact circuit                    | funct                 | tional                |
| adjacent contact circ                   | uits ba               | sic                   |
| Rated insulation voltage                | 25                    | 0 V 0                 |
| Pollution degree                        | 2                     | 1)                    |
| Rated voltage system                    | 230 /                 | 400 V                 |
| Overvoltage category                    |                       |                       |

Material compliance: EU RoHS/ELV, China RoHS, REACH, Halogen content refer to the Product Compliance Support Center at www.te.com/customersupport/rohssupportcenter

| Ambient temperature range             | -40+70°C                |  |
|---------------------------------------|-------------------------|--|
| Terminals                             | screw                   |  |
| Terminals screw torque acc. IEC 61984 | 0.5 Nm                  |  |
| max.                                  | 0.7 Nm                  |  |
| Terminal Screw size                   | M3                      |  |
| Wire strip length                     | 8 mm                    |  |
| Wire cross section                    |                         |  |
| single wire                           | 2 x 2.5 mm <sup>2</sup> |  |
| fine wire                             | 2 x 2.5 mm <sup>2</sup> |  |
| with bootlace crimp (DIN 46228/1)     | 2 x 1.5 mm <sup>2</sup> |  |
| Insertion cycles                      | A (10)                  |  |
| Max. Insertion Force total            | 100 N                   |  |
| Mounting distance                     | ≥ 0, dense packing      |  |
| Weight                                | 44 g 60 g               |  |
|                                       |                         |  |

**Derating curve** \_oad current [A] 16 dense packing 14 12 10 PT78722 8 PT78742 6 4 0 +20 +40 +60 +80 +100 Ambient temperature [°C] S0494-C

1) with inserted relay pollution degree 1 in region of contact pin/socket inlets

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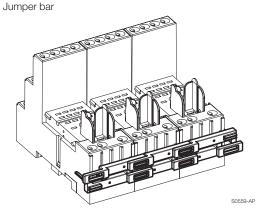
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# DIN-rail socket with screw type terminals, In/Out arrangement

| Туре      |   | Part Number |
|-----------|---|-------------|
| PT 78 722 | DIN-rail socket with screw type terminals | З,          |
|           | In/Out arrangement 2 pole                 | 1415526-1   |
| PT 78 742 | DIN-rail socket with screw type terminals | З,          |
|           | In/Out arrangement 4 pole                 | 1-1415526-1 |

| Accessori | es for PT 78 722, PT 78 742          |             |
|-----------|--------------------------------------|-------------|
| Туре      |                                      | Part Number |
| PT 17 021 | Plastic retaining clip,              |             |
|           | relay height 29 mm                   | 2-1415526-1 |
| PT 28 800 | Metal retaining clip PT,             |             |
|           | relay height 29 mm                   | 5-1419111-9 |
| PT 17 040 | Marking tag                          | 6-1415037-1 |
| PT 17 0R6 | Jumper bar, max load 12A             |             |
|           | for connection of up to 6 PT sockets | 1860517-5   |
|           |                                      |             |



**Derating curve** 

dense packing

PT78720 + PT 2-pole ∕ PT78730 + PT 3-pole ⁄ PT78740/741 + PT 4-pole

+60

+40

+80

Ambient temperature [°C]

+100

 $\leq$ 

Load current

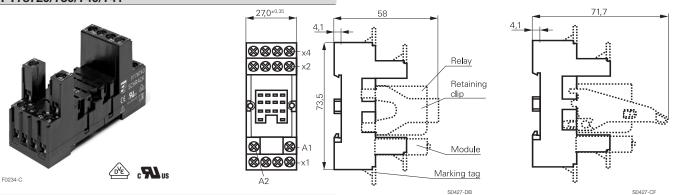
12 10

0

S0522-B

+20

#### PT DIN-rail socket with screw type terminals PT78720/730/740/741



### Approvals

VDE Cert. No. 40009108, cULus E135149

|                                    | - ·                   |                       |                       |
|------------------------------------|-----------------------|-----------------------|-----------------------|
| Technical data                     | 2-pole                | 3-pole                | 4-pole                |
| Rated voltage/Max. switching volt  | age AC                | 240/400VAC            |                       |
| Rated current                      | 12 A                  | 10 A                  | 6 A                   |
| Limiting continuous current        | SE                    | e derating cur        | ve                    |
| Dielectric strength                |                       |                       |                       |
| coil-contact circuit               | 2500 V <sub>rms</sub> | 2500 V <sub>rms</sub> | 2500 V <sub>rms</sub> |
| open contact circuit               | 1200 V <sub>rms</sub> | 1200 V <sub>rms</sub> | 1200 V <sub>rms</sub> |
| adjacent contact circuits          | 2500 V <sub>rms</sub> | 2500 V <sub>rms</sub> | 2000 V <sub>rms</sub> |
| Clearance / creepage               |                       |                       |                       |
| coil-contact circuit               | ≥ 4/4 mm              | ≥ 4/4 mm              | ≥ 4/4 mm              |
| adjacent contact circuits          | ≥3.5/9.5mm            | ≥2.6/3.5mm            | ≥1.8/3.5mm            |
| Material group of insulation parts |                       | Illa                  |                       |
| Flammability class UL 94           |                       | V-0                   |                       |
| Insulation to IEC 60664-1          |                       |                       |                       |
| Type of insulation                 |                       |                       |                       |
| coil-contact circuit               | basic                 | basic                 | basic                 |
| open contact circuit               | functional            | functional            | functional            |
| adjacent contact circuits          | basic                 | basic                 | functional            |
| Rated insulation voltage           |                       | 250 V                 |                       |
| Pollution degree                   |                       | 2                     |                       |
| Rated voltage system               |                       | 230 / 400 V           |                       |
| Overvoltage category               |                       |                       |                       |
| Material compliance: EU RoHS/El    | _V, China RoH         | S, REACH, Ha          | alogen content        |
| refer to t                         | he Product Co         | ompliance Sup         | port Center at        |
| www.te                             | .com/custome          | ersupport/rohs        | supportcenter         |

Ambient temperature range

4

-40...+70°C

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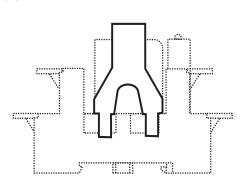
| Technical data (continued)           | 2-pole | e 3-pole 4              | 4-pole |
|--------------------------------------|--------|-------------------------|--------|
| Terminals                            |        | screw                   |        |
| Terminal screw torque acc. IEC 61984 | 4      | 0.5 Nm                  |        |
| max.                                 |        | 0.7 Nm                  |        |
| Terminal Screw size                  |        | M3                      |        |
| Wire strip lenght                    |        | 8 mm                    |        |
| Wire cross section                   |        |                         |        |
| single wire                          |        | 2 x 2.5 mm <sup>2</sup> |        |
| fine wire                            |        | 2 x 2.5 mm <sup>2</sup> |        |
| with bootlace crimp (DIN 46228/1)    |        | 2 x 1.5 mm <sup>2</sup> |        |
| Insertion cycles                     |        | A (10)                  |        |
| Max. Insertion Force total           |        | 100 N                   |        |
| Mounting distance                    |        | ≥ 0, dense packing      |        |
| Weight                               | 41 g   | 48 g                    | 55 g   |
| Packaging unit                       |        | 10 pcs                  |        |

| Туре      |  | Part Number |
|-----------|--|-------------|
| PT 78 720 | DIN-rail socket with screw type terminals, |             |
|           | 2 pole                                     | 6-1415034-1 |
| PT 78 730 | DIN-rail socket with screw type terminal   | s,          |
|           | 3 pole                                     | 9-1415071-1 |
| PT 78 740 | DIN-rail socket with screw type terminals, |             |
|           | 4 pole                                     | 4-1415033-1 |
| PT 78 741 | DIN-rail socket with screw type terminals, |             |
|           | 4 pole, package with                       |             |
|           | protection diode module A1+, A2-           | 5-1415034-1 |
|           |  |             |

### Accessories for PT 78 720, PT 78 730, PT 78 740, PT 78 741

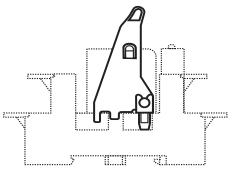
| Туре      |  | Part Number |
|-----------|--|-------------|
| PT 17 016 | Plastic retaining clip PT,             |             |
|           | relay height 29 mm                     | 5-1415037-1 |
| PT 17 024 | Plastic retaining clip PT with ejectir | ng func.,   |
|           | relay height 29 mm                     | 1816124-1   |
| PT 28 800 | Metal retaining clip PT,               |             |
|           | relay height 29 mm                     | 5-1419111-9 |
| PT 17 040 | Marking tag                            | 6-1415037-1 |
| PT 17 0R6 | Jumper bar, max load 12A               |             |

PT17 016



S0427-CH

PT17 024



S0427-CI

#### Marking tags

- White marking area 28 x 6 mm
- Snaps on socket in up to 4 positions



#### LED- and Protection Modules for PT 78 72P, PT 78 74P, PT 78 722, PT 78 742, PT 78 720, PT 78 730, PT 78 740

Easy insertion of module into the socket Wiring in parallel to the coil

| Туре              |      |                             | Part Number |
|-------------------|------|-----------------------------|-------------|
| <b>PTM T0 0A0</b> | EM09 | Protection diode            | 9-1415036-1 |
|                   |      | (standard, A1+,A2-)         |             |
| PTM T0 0L0        | EM01 | Protection diode (A1-, A2+) | 1415037-1   |
| PTM U0 524        | EM02 | RC-network 660 VAC          | 1-1415037-1 |
| PTM U0 730        | EM03 | RC-network 110230 VAC       | 2-1415037-1 |
| PTM V0 524        | EM04 | Varistor 24 VAC             | 3-1415037-1 |
| PTM V0 615        | EM13 | Varistor 115 VAC            | 6-1415365-1 |
| PTM V0 730        | EM05 | Varistor 230 VAC            | 4-1415037-1 |
| PTM D0 730        | EM31 | Residual current bypass     | 1415037-2   |
|                   |      | RC 110230 VAC               |             |
| PTM R0 730        | EM29 | Residual current bypass     | 1-1415539-2 |
|                   |      | resistor 110230 VAC         |             |





#### LED

| PTM L0 024 | EM18 | red LED 624 VDC w.          | 5-1415036-1 |
|------------|------|-----------------------------|-------------|
|            |      | prot. diode (std, A1+, A2-) |             |
| PTM G0 024 | EM12 | green LED 624 VDC w.        | 2-1415036-1 |
|            |      | prot. diode (std, A1+, A2-) |             |
| PTM L1 024 | EM08 | red LED 624 VDC w.          | 8-1415036-1 |
|            |      | prot. diode (A1-, A2+)      |             |
| PTM L0 060 | EM16 | red LED 2460 VDC w.         | 5-1415539-3 |
|            |      | prot. diode (std, A1+, A2-) |             |
| PTM G0 060 | EM25 | green LED 2460 VDC w.       | 7-1415539-7 |
|            |      | prot. diode (std, A1+, A2-) |             |
| PTM L0 110 | EM19 | red LED 60110 VDC w.        | 2-1415392-1 |
|            |      | prot. diode (A1+, A2-)      |             |
| PTM G0 110 | EM26 | green LED 60…110 VDC w.     | 1-1415539-7 |
|            |      | prot. diode (A1+, A2-)      |             |
| PTM L0 220 | EM27 | red LED 110220 VDC w.       | 1-1415539-4 |
|            |      | prot. diode (A1+, A2-)      |             |
| PTM G0 220 | EM28 | green LED 110220 VDC w.     | 1-1415539-6 |
|            |      | prot. diode (A1+, A2-)      |             |
| PTM L0 524 | EM07 | red LED 624 VDC/VAC         | 6-1415036-1 |
| PTM G0 524 | EM11 | green LED 624 VDC/VAC       | 3-1415036-1 |
| PTM L0 560 | EM14 | red LED 2460 VDC/VAC        | 1-1415539-3 |
| PTM G0 560 | EM30 | green LED 2460 VDC/VAC      | 1-1415539-5 |
| PTM L0 730 | EM06 | red LED 110230 VAC          | 7-1415036-1 |
| PTM G0 730 | EM10 | green LED 110230 VAC        | 4-1415036-1 |
|            |      |                             |             |

#### **Relay Packages**

Complete packages consisting of a relay mounted on a socket: see Relay Package PT



### PT sockets for PCB mount and with solder terminals

PT 78 600, socket with solder terminals, 4-pole



PT 78 602, PT 78 603, PT 78604, socket with PCB terminals, 2-, 3- and 4-pole



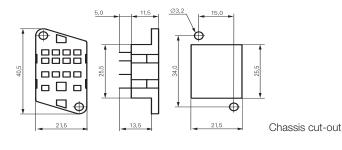
PT 78 601, socket with solder terminals, 4-pole



| Technical data                     | 2-pole                | 3-pole                | 4-pole                |
|------------------------------------|-----------------------|-----------------------|-----------------------|
| Rated voltage/max. switching volt  | age AC                | 240/400VAC            |                       |
| Rated current                      | 12 A                  | 10 A                  | 6 A                   |
| Dielectric strength                |                       |                       |                       |
| coil-contact circuit               | 2500 V <sub>rms</sub> | 2500 V <sub>rms</sub> | 2500 V <sub>rms</sub> |
| open contact circuit               | 1200 V <sub>rms</sub> | 1200 V <sub>rms</sub> | 1200 V <sub>rms</sub> |
| adjacent contact circuits          | 2500 V <sub>rms</sub> | 2500 V <sub>rms</sub> | 2000 V <sub>rms</sub> |
| Clearance / creepage               |                       |                       |                       |
| coil-contact circuit               | ≥ 4/4 mm              | ≥ 4/4 mm              | ≥ 4/4 mm              |
| adjacent contact circuits          | ≥3.5/9.5mm            | ≥2.6/3.5mm            | ≥1.8/3.5mm            |
| Material group of insulation parts |                       | Illa                  |                       |
| Insulation to IEC 60664-1          |                       |                       |                       |
| Type of insulation                 |                       |                       |                       |
| coil-contact circuit               | basic                 | basic                 | basic                 |
| open contact circuit               | functional            | functional            | functional            |
| adjacent contact circuits          | basic                 | basic                 | functional            |
| Rated insulation voltage           |                       | 250 V                 |                       |
| Pollution degree                   |                       | 2                     |                       |
| Rated voltage system               |                       | 230 / 400 V           |                       |
| Overvoltage category               |                       |                       |                       |
| Material compliance: EU RoHS/EI    | V, China RoH          | S, REACH, Ha          | logen content         |

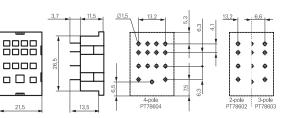
Material compliance: EU RoHS/ELV, China RoHS, REACH, Halogen content refer to the Product Compliance Support Center at www.te.com/customersupport/rohssupportcenter

| Ambient temperature range            |              | -40+80°C        |      |
|--------------------------------------|--------------|-----------------|------|
| Terminals                            |              | b, solder termi | nals |
| Insertion cycles                     | A (10)       |                 |      |
| Max. Insertion Force total 100 N     |              |                 |      |
| Mounting distance ≥ 0, dense packing |              | king            |      |
| Resistance to soldering heat         | 270°C / 10 s |                 |      |
| Weight                               | 6 g          | 7 g             | 7 g  |
| Packaging unit                       | 25 pcs       |                 |      |

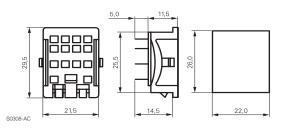


S0308-AA

29,5



S0308-BB



Chassis cut-out

Accessories for PT 78 600, PT 78 601, PT 78 602, PT 78 603, PT 78 604

| Туре      |                          | Part Number |
|-----------|--------------------------|-------------|
| PT 28 802 | Metal retaining clip PT, |             |
|           | relay height 29 mm       | 1393162-1   |

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