

# PT 6-FE - Feed-through terminal block



1077085

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Feed-through terminal block, nom. voltage: 1000 V, nominal current: 41 A, number of connections: 2, connection method: Push-in connection, Rated cross section: 6 mm<sup>2</sup>, cross section: 0.5 mm<sup>2</sup> - 10 mm<sup>2</sup>, mounting type: NS 35/7,5, NS 35/15, color: black/yellow

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## Your advantages

- The Push-in connection terminal blocks are characterized by the system features of the CLIPLINE complete system and by easy and tool-free wiring of conductors with ferrules or solid conductors
- In addition to the testing option in the double function shaft, all terminal blocks provide an additional test pick-off
- The compact design and front connection enable wiring in a confined space
- Tested for railway applications

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## Technical data

### Product properties

|                       |                             |
|-----------------------|-----------------------------|
| Product type          | Feed-through terminal block |
| Area of application   | Railway industry            |
|                       | Machine building            |
|                       | Plant engineering           |
| Number of connections | 2                           |
| Number of rows        | 1                           |
| Potentials            | 1                           |

### Insulation characteristics

|                      |     |
|----------------------|-----|
| Overvoltage category | III |
| Degree of pollution  | 3   |

### Electrical properties

|                                                 |        |
|-------------------------------------------------|--------|
| Rated surge voltage                             | 8 kV   |
| Maximum power dissipation for nominal condition | 1.31 W |

### Connection data

|                                                                                           |                                                                                                                       |
|-------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|
| Number of connections per level                                                           | 2                                                                                                                     |
| Nominal cross section                                                                     | 6 mm <sup>2</sup>                                                                                                     |
| Stripping length                                                                          | 10 mm ... 12 mm                                                                                                       |
| Internal cylindrical gage                                                                 | A5                                                                                                                    |
| Connection in acc. with standard                                                          | IEC 60947-7-1                                                                                                         |
| Conductor cross section rigid                                                             | 0.5 mm <sup>2</sup> ... 10 mm <sup>2</sup>                                                                            |
| Cross section AWG                                                                         | 20 ... 8 (converted acc. to IEC)                                                                                      |
| Conductor cross section flexible                                                          | 0.5 mm <sup>2</sup> ... 10 mm <sup>2</sup>                                                                            |
| Conductor cross section, flexible [AWG]                                                   | 20 ... 8 (converted acc. to IEC)                                                                                      |
| Conductor cross-section flexible (ferrule without plastic sleeve)                         | 0.5 mm <sup>2</sup> ... 6 mm <sup>2</sup>                                                                             |
| Flexible conductor cross section (ferrule with plastic sleeve)                            | 0.5 mm <sup>2</sup> ... 6 mm <sup>2</sup>                                                                             |
| 2 conductors with the same cross section, flexible, with TWIN ferrule with plastic sleeve | 0.5 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> When using TWIN ferrules, we recommend a minimum ferrule length of 13 mm. |
| Nominal current                                                                           | 41 A                                                                                                                  |
| Maximum load current                                                                      | 52 A (with 10 mm <sup>2</sup> conductor cross section, rigid)                                                         |
| Nominal voltage                                                                           | 1000 V                                                                                                                |
| Nominal cross section                                                                     | 6 mm <sup>2</sup>                                                                                                     |

### Connection cross sections directly pluggable

|                                                                   |                                          |
|-------------------------------------------------------------------|------------------------------------------|
| Conductor cross section rigid                                     | 1 mm <sup>2</sup> ... 10 mm <sup>2</sup> |
| Conductor cross-section flexible (ferrule without plastic sleeve) | 1 mm <sup>2</sup> ... 6 mm <sup>2</sup>  |
| Flexible conductor cross section (ferrule with plastic sleeve)    | 1 mm <sup>2</sup> ... 6 mm <sup>2</sup>  |

### Ex data

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## Rated data (ATEX/IECEX)

|                                                                          |                                     |
|--------------------------------------------------------------------------|-------------------------------------|
| Identification                                                           | Ex II 2 GD Ex eb IIC Gb             |
| Operating temperature range                                              | -60 °C ... 110 °C                   |
| Ex-certified accessories                                                 | 3212044 D-PT 6                      |
|                                                                          | 3024481 ATP-ST 6                    |
|                                                                          | 1204520 SZF 2-0,8X4,0               |
|                                                                          | 3022276 CLIPFIX 35-5                |
|                                                                          | 3022218 CLIPFIX 35                  |
| List of bridges                                                          | Plug-in bridge / FBS 2-8 / 3030284  |
|                                                                          | Plug-in bridge / FBS 3-8 / 3030297  |
|                                                                          | Plug-in bridge / FBS 4-8 / 3030307  |
|                                                                          | Plug-in bridge / FBS 5-8 / 3030310  |
|                                                                          | Plug-in bridge / FBS 6-8 / 3032470  |
|                                                                          | Plug-in bridge / FBS 10-8 / 3030323 |
| Bridge data                                                              | 35 A / 6 mm²                        |
| Ex temperature increase                                                  | 40 K (36.5 A/6 mm²)                 |
| Rated voltage                                                            | 550 V                               |
| for bridging with bridge                                                 | 550 V                               |
| - At bridging between non-adjacent terminal blocks                       | 275 V                               |
| - At bridging between non-adjacent terminal blocks via PE terminal block | 275 V                               |
| - At cut-to-length bridging                                              | 220 V                               |
| - At cut-to-length bridging with cover                                   | 275 V                               |
| - At cut-to-length bridging with partition plate                         | 550 V                               |
| Rated insulation voltage                                                 | 500 V                               |
| output                                                                   | (Permanent)                         |

## Ex level General

|                      |         |
|----------------------|---------|
| Rated current        | 36.5 A  |
| Maximum load current | 46 A    |
| Contact resistance   | 0.48 mΩ |

## Ex connection data General

|                              |                    |
|------------------------------|--------------------|
| Nominal cross section        | 6 mm²              |
| Rated cross section AWG      | 10                 |
| Connection capacity rigid    | 0.5 mm² ... 10 mm² |
| Connection capacity AWG      | 20 ... 8           |
| Connection capacity flexible | 0.5 mm² ... 6 mm²  |
| Connection capacity AWG      | 20 ... 10          |

## Dimensions

|                 |         |
|-----------------|---------|
| Width           | 8.2 mm  |
| End cover width | 2.2 mm  |
| Height          | 57.7 mm |
| Depth           | 42.2 mm |

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|                    |         |
|--------------------|---------|
| Depth on NS 35/7,5 | 43.5 mm |
| Depth on NS 35/15  | 51 mm   |

## Material specifications

|                                                                         |              |
|-------------------------------------------------------------------------|--------------|
| Color                                                                   | black/yellow |
| Flammability rating according to UL 94                                  | V0           |
| Insulating material group                                               | I            |
| Insulating material                                                     | PA           |
| Static insulating material application in cold                          | -60 °C       |
| Temperature index of insulation material (DIN EN 60216-1 (VDE 0304-21)) | 125 °C       |
| Relative insulation material temperature index (Elec., UL 746 B)        | 130 °C       |
| Fire protection for rail vehicles (DIN EN 45545-2) R22                  | HL 1 - HL 3  |
| Fire protection for rail vehicles (DIN EN 45545-2) R23                  | HL 1 - HL 3  |
| Fire protection for rail vehicles (DIN EN 45545-2) R24                  | HL 1 - HL 3  |
| Fire protection for rail vehicles (DIN EN 45545-2) R26                  | HL 1 - HL 3  |
| Calorimetric heat release NFPA 130 (ASTM E 1354)                        | 27,5 MJ/kg   |
| Surface flammability NFPA 130 (ASTM E 162)                              | passed       |
| Specific optical density of smoke NFPA 130 (ASTM E 662)                 | passed       |
| Smoke gas toxicity NFPA 130 (SMP 800C)                                  | passed       |

## Electrical tests

### Surge voltage test

|                       |             |
|-----------------------|-------------|
| Test voltage setpoint | 9.8 kV      |
| Result                | Test passed |

### Temperature-rise test

|                                                |                                     |
|------------------------------------------------|-------------------------------------|
| Requirement temperature-rise test              | Increase in temperature $\leq$ 45 K |
| Result                                         | Test passed                         |
| Short-time withstand current 6 mm <sup>2</sup> | 0.72 kA                             |
| Result                                         | Test passed                         |

### Power-frequency withstand voltage

|                       |             |
|-----------------------|-------------|
| Test voltage setpoint | 2.2 kV      |
| Result                | Test passed |

## Mechanical properties

### Mechanical data

|                 |     |
|-----------------|-----|
| Open side panel | Yes |
|-----------------|-----|

## Mechanical tests

### Mechanical strength

|        |             |
|--------|-------------|
| Result | Test passed |
|--------|-------------|

### Attachment on the carrier

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|                         |             |
|-------------------------|-------------|
| DIN rail/fixing support | NS 35       |
| Test force setpoint     | 5 N         |
| Result                  | Test passed |

## Test for conductor damage and slackening

|                                |                              |
|--------------------------------|------------------------------|
| Rotation speed                 | 10 rpm                       |
| Revolutions                    | 135                          |
| Conductor cross section/weight | 0.5 mm <sup>2</sup> / 0.3 kg |
|                                | 6 mm <sup>2</sup> / 1.4 kg   |
|                                | 10 mm <sup>2</sup> / 2 kg    |
| Result                         | Test passed                  |

## Environmental and real-life conditions

### Aging

|                    |             |
|--------------------|-------------|
| Temperature cycles | 192         |
| Result             | Test passed |

### Needle-flame test

|                  |             |
|------------------|-------------|
| Time of exposure | 30 s        |
| Result           | Test passed |

### Oscillation/broadband noise

|                        |                                                |
|------------------------|------------------------------------------------|
| Specification          | DIN EN 50155 (VDE 0115-200):2008-03            |
| Spectrum               | Service life test category 2, bogie-mounted    |
| Frequency              | $f_1 = 5 \text{ Hz}$ to $f_2 = 250 \text{ Hz}$ |
| ASD level              | 6.12 (m/s <sup>2</sup> ) <sup>2</sup> /Hz      |
| Acceleration           | 3.12g                                          |
| Test duration per axis | 5 h                                            |
| Test directions        | X-, Y- and Z-axis                              |
| Result                 | Test passed                                    |

### Shocks

|                                |                                     |
|--------------------------------|-------------------------------------|
| Specification                  | DIN EN 50155 (VDE 0115-200):2008-03 |
| Pulse shape                    | Half-sine                           |
| Acceleration                   | 30g                                 |
| Shock duration                 | 18 ms                               |
| Number of shocks per direction | 3                                   |
| Test directions                | X-, Y- and Z-axis (pos. and neg.)   |
| Result                         | Test passed                         |

### Ambient conditions

|                                         |                                                                                                                              |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------------------|
| Ambient temperature (operation)         | -60 °C ... 110 °C (Operating temperature range incl. self-heating; for max. short-term operating temperature, see RTI Elec.) |
| Ambient temperature (storage/transport) | -25 °C ... 60 °C (for a short time, no longer than 24 h, -60°C to +70°C)                                                     |
| Ambient temperature (assembly)          | -5 °C ... 70 °C                                                                                                              |

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|                                          |                 |
|------------------------------------------|-----------------|
| Ambient temperature (actuation)          | -5 °C ... 70 °C |
| Permissible humidity (operation)         | 20 % ... 90 %   |
| Permissible humidity (storage/transport) | 30 % ... 70 %   |

## Standards and regulations

|                                  |               |
|----------------------------------|---------------|
| Connection in acc. with standard | IEC 60947-7-1 |
|----------------------------------|---------------|

## Mounting

|               |           |
|---------------|-----------|
| Mounting type | NS 35/7,5 |
|               | NS 35/15  |

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