

# Knife disconnect terminal block - PT 2,5-TWIN-MTB - 3210170

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Knife disconnect terminal block, nom. voltage: 400 V, nominal current: 16 A, connection method: Push-in connection, cross section: 0.14 mm<sup>2</sup> - 4 mm<sup>2</sup>, AWG: 26 - 12, length: 81.9 mm, width: 5.2 mm, color: gray, mounting: NS 35/7,5, NS 35/15

## 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
- ✓ The compact design and front connection enable wiring in a confined space
- ✓ In addition to the testing facility in the double function shaft, all terminal blocks provide an additional test connection
- ✓ Tested for railway applications



## Key Commercial Data

Packing unit	50 pc
GTIN	
GTIN	4046356693745

## Technical data

### General

Number of levels	1
Number of connections	3
Potentials	1
Nominal cross section	2.5 mm <sup>2</sup>
Color	gray
Insulating material	PA
Flammability rating according to UL 94	V0
Area of application	Railway industry
	Machine building
	Plant engineering
Rated surge voltage	6 kV
Degree of pollution	3

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## Technical data

### General

Overvoltage category	III
Insulating material group	I
Maximum power dissipation for nominal condition	0.77 W
Designation	Level 1 above 1+2 below 1
Maximum load current	16 A (with 4 mm <sup>2</sup> conductor cross section, rigid)
Nominal current I <sub>N</sub>	16 A
Nominal voltage U <sub>N</sub>	400 V
Open side panel	Yes
Shock protection test specification	DIN EN 50274 (VDE 0660-514):2002-11
Back of the hand protection	guaranteed
Finger protection	guaranteed
Result of surge voltage test	Test passed
Surge voltage test setpoint	7.3 kV
Result of power-frequency withstand voltage test	Test passed
Power frequency withstand voltage setpoint	1.89 kV
Result of the test for mechanical stability of terminal points (5 x conductor connection)	Test passed
Result of bending test	Test passed
Bending test rotation speed	10 rpm
Bending test turns	135
Bending test conductor cross section/weight	0.14 mm <sup>2</sup> / 0.2 kg
	2.5 mm <sup>2</sup> / 0.7 kg
	4 mm <sup>2</sup> / 0.9 kg
Tensile test result	Test passed
Conductor cross section tensile test	0.14 mm <sup>2</sup>
Tractive force setpoint	10 N
Conductor cross section tensile test	2.5 mm <sup>2</sup>
Tractive force setpoint	50 N
Conductor cross section tensile test	4 mm <sup>2</sup>
Tractive force setpoint	60 N
Result of tight fit on support	Test passed
Tight fit on carrier	NS 35
Setpoint	1 N
Result of voltage-drop test	Test passed
Result of temperature-rise test	Test passed
Short circuit stability result	Test passed
Conductor cross section short circuit testing	1.5 mm <sup>2</sup>
Short-time current	0.18 kA
Conductor cross section short circuit testing	2.5 mm <sup>2</sup>
Short-time current	0.3 kA
Result of thermal test	Test passed

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## Technical data

### General

Ageing test for screwless modular terminal block temperature cycles	192
Proof of thermal characteristics (needle flame) effective duration	30 s
Result of aging test	Test passed
Oscillation, broadband noise test result	Test passed
Test specification, oscillation, broadband noise	DIN EN 50155 (VDE 0115-200):2018-05
Test spectrum	Service life test category 2, bogie-mounted
Test frequency	$f_1 = 5 \text{ Hz}$ to $f_2 = 250 \text{ Hz}$
ASD level	$6.12 \text{ (m/s}^2\text{)}^2\text{/Hz}$
Acceleration	3.12 g
Test duration per axis	5 h
Test directions	X-, Y- and Z-axis
Shock test result	Test passed
Test specification, shock test	DIN EN 50155 (VDE 0115-200):2018-05
Shock form	Half-sine
Acceleration	30g
Shock duration	18 ms
Number of shocks per direction	3
Test directions	X-, Y- and Z-axis (pos. and neg.)
Relative insulation material temperature index (Elec., UL 746 B)	130 °C
Temperature index of insulation material (DIN EN 60216-1 (VDE 0304-21))	130 °C
Static insulating material application in cold	-60 °C
Behavior in fire for rail vehicles (DIN 5510-2)	Test passed
Flame test method (DIN EN 60695-11-10)	V0
Oxygen index (DIN EN ISO 4589-2)	>32 %
NF F16-101, NF F10-102 Class I	2
NF F16-101, NF F10-102 Class F	2
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
Calorimetric heat release NFPA 130 (ASTM E 1354)	28 MJ/kg
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

### Dimensions

Width	5.2 mm
End cover width	2.2 mm
Length	81.9 mm
Height	35.2 mm

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## Technical data

### Dimensions

Height NS 35/7,5	36.7 mm
Height NS 35/15	44.2 mm

### Connection data

Connection	1 level
Connection method	Push-in connection
Stripping length	8 mm ... 10 mm
Connection in acc. with standard	IEC 60947-7-1
Conductor cross section solid min.	0.14 mm <sup>2</sup>
Conductor cross section solid max.	4 mm <sup>2</sup>
Conductor cross section AWG min.	26
Conductor cross section AWG max.	12
Conductor cross section flexible min.	0.14 mm <sup>2</sup>
Conductor cross section flexible max.	4 mm <sup>2</sup>
Min. AWG conductor cross section, flexible	26
Max. AWG conductor cross section, flexible	14
Conductor cross section flexible, with ferrule without plastic sleeve min.	0.14 mm <sup>2</sup>
Conductor cross section flexible, with ferrule without plastic sleeve max.	2.5 mm <sup>2</sup>
Conductor cross section flexible, with ferrule with plastic sleeve min.	0.14 mm <sup>2</sup>
Conductor cross section flexible, with ferrule with plastic sleeve max.	2.5 mm <sup>2</sup>
2 conductors with same cross section, stranded, TWIN ferrules with plastic sleeve, max.	0.5 mm <sup>2</sup>
Internal cylindrical gage	A3

### Standards and Regulations

Connection in acc. with standard	CSA
	IEC 60947-7-1
Flammability rating according to UL 94	V0
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

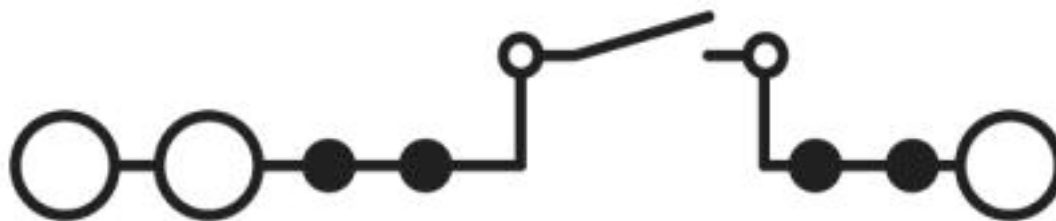
### Environmental Product Compliance

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

## Drawings

# Knife disconnect terminal block - PT 2,5-TWIN-MTB - 3210170

Circuit diagram



## Approvals

### Approvals

#### Approvals

BV / LR / UL Recognized / cUL Recognized / IECCE CB Scheme / VDE Zeichengenehmigung / EAC / CSA / RS / DNV GL / cULus Recognized

#### Ex Approvals

### Approval details

BV		<a href="http://www.veristar.com/portal/veristarinfo/generalinfo/approved/approvedProducts/equipmentAndMaterials">http://www.veristar.com/portal/veristarinfo/generalinfo/approved/approvedProducts/equipmentAndMaterials</a>	25278/B0 BV
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LR		<a href="http://www.lr.org/en">http://www.lr.org/en</a>	14/20056
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UL 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>	FILE E 60425
	B	C	D
Nominal voltage UN	300 V	300 V	600 V
Nominal current IN	20 A	20 A	5 A
mm <sup>2</sup> /AWG/kcmil	26-12	26-12	26-12

cUL 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>	FILE E 60425
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Nominal voltage UN	300 V	300 V	600 V
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## Approvals

IECEE CB Scheme		<a href="http://www.iecee.org/">http://www.iecee.org/</a>	DE1-61292
Nominal voltage UN	400 V		
Nominal current IN	16 A		
mm <sup>2</sup> /AWG/kcmil	2.5		

VDE Zeichengenehmigung		<a href="http://www2.vde.com/de/Institut/Online-Service/VDE-gepruefteProdukte/Seiten/Online-Suche.aspx">http://www2.vde.com/de/Institut/Online-Service/VDE-gepruefteProdukte/Seiten/Online-Suche.aspx</a>	40037618
Nominal voltage UN	400 V		
Nominal current IN	16 A		
mm <sup>2</sup> /AWG/kcmil	0.2-2.5		

EAC			RU C- DE.AI30.B.01102
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CSA		<a href="http://www.csagroup.org/services-industries/product-listing/">http://www.csagroup.org/services-industries/product-listing/</a>	13631
	B	C	D
Nominal voltage UN	300 V	300 V	600 V
Nominal current IN	20 A	20 A	5 A
mm <sup>2</sup> /AWG/kcmil	26-12	26-12	26-12

RS		<a href="http://www.rs-head.spb.ru/en/index.php">http://www.rs-head.spb.ru/en/index.php</a>	17.00013.272
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DNV GL		<a href="https://approvalfinder.dnvgl.com/">https://approvalfinder.dnvgl.com/</a>	TAE00003JE
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cULus Recognized			
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