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Protective conductor double-level terminal block, connection method: Spring-cage connection, cross section: 0.08 mm² - 4 mm², AWG: 28 - 12, width: 5.2 mm, color: gray, mounting type: NS 35/7,5, NS 35/15

#### Why buy this product

- These mixed versions combine the advantages of double-level feed-through terminal blocks and ground terminal blocks of the same shape
- The PE/L and PE/N types feature ground conductor contact with the DIN rail in the lower level, while the upper level is designed as a feed-through level



### **Key Commercial Data**

Packing unit	1 STK	
GTIN	4 017918 848675	
GTIN	4017918848675	
Weight per Piece (excluding packing)	14.308 g	
Custom tariff number	85369010	
Country of origin	Germany	

#### Technical data

#### General

Number of levels	2
Number of connections	4
Nominal cross section	2.5 mm²
Color	gray
Insulating material	PA



### Technical data

#### General

Flammability rating according to UL 94	V0	
Rated surge voltage	6 kV	
Degree of pollution	3	
Overvoltage category	III	
Insulating material group	1	
Maximum power dissipation for nominal condition	0.77 W (the value is multiplied when connecting multiple levels)	
Connection in acc. with standard	IEC 60947-7-1/IEC 60947-7-2	
Nominal current I <sub>N</sub>	22 A	
Maximum load current	32 A (with 4 mm² conductor cross section)	
Nominal voltage U <sub>N</sub>	500 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	
Checking the mechanical stability of terminal points (5 x conductor connection)	Test passed	
Result of bending test	Test passed	
Bending test conductor cross section/weight	0.08 mm² / 0.1 kg	
	2.5 mm² / 0.7 kg	
	4 mm² / 0.9 kg	
Tensile test result	Test passed	
Conductor cross section tensile test	0.08 mm²	
Tractive force setpoint	5 N	
Conductor cross section tensile test	2.5 mm²	
Tractive force setpoint	50 N	
Conductor cross section tensile test	4 mm²	
Tractive force setpoint	60 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	2.5 mm²	
Short-time current	0.3 kA	



### Technical data

#### General

Result of aging test	Test passed	
Ageing test for screwless modular terminal block temperature cycles	192	
Result of thermal test	Test passed	
Proof of thermal characteristics (needle flame) effective duration	30 s	
Oscillation, broadband noise test result	Test passed	
Test specification, oscillation, broadband noise	DIN EN 50155 (VDE 0115-200):2008-03	
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 (m/s²)²/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):2008-03	
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))	125 °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)	27,5 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	



### Technical data

#### Dimensions

Width	5.2 mm
Length	67.5 mm
Height NS 35/7,5	47.5 mm
Height NS 35/15	55 mm

#### Connection data

Note	Please observe the current carrying capacity of the DIN rails.	
Connection method	Spring-cage connection	
Conductor cross section solid min.	0.08 mm²	
Conductor cross section solid max.	4 mm <sup>2</sup>	
Conductor cross section flexible min.	0.08 mm²	
Conductor cross section flexible max.	2.5 mm²	
Conductor cross section AWG min.	28	
Conductor cross section AWG max.	12	
Conductor cross section flexible, with ferrule without plastic sleeve min.	0.14 mm²	
Conductor cross section flexible, with ferrule without plastic sleeve max.	2.5 mm²	
Conductor cross section flexible, with ferrule with plastic sleeve min.	0.14 mm²	
Conductor cross section flexible, with ferrule with plastic sleeve max.	2.5 mm²	
2 conductors with same cross section, stranded, TWIN ferrules with plastic sleeve, max.	0.5 mm²	
Stripping length	10 mm	
Internal cylindrical gage	A3	

### Standards and Regulations

Connection in acc. with standard	CSA	
	IEC 60947-7-1/IEC 60947-7-2	
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



### Circuit diagram



### Classifications

#### eCl@ss

eCl@ss 4.0	27141121
eCl@ss 4.1	27141121
eCl@ss 5.0	27141120
eCl@ss 5.1	27141120
eCl@ss 6.0	27141120
eCl@ss 7.0	27141120
eCl@ss 8.0	27141141
eCl@ss 9.0	27141141

#### **ETIM**

ETIM 2.0	EC000901
ETIM 3.0	EC000901
ETIM 4.0	EC000901
ETIM 5.0	EC000901
ETIM 6.0	EC000901

#### **UNSPSC**

UNSPSC 6.01	30211811
UNSPSC 7.0901	39121410
UNSPSC 11	39121410
UNSPSC 12.01	39121410
UNSPSC 13.2	39121410

### Approvals

#### Approvals

Approvals

CSA / UL Recognized / VDE Gutachten mit Fertigungsüberwachung / cUL Recognized / EAC / EAC / cULus Recognized

Ex Approvals



### Approvals

#### Approval details

CSA <b>(P</b> )	http://www.csagroup.org/services-indus	stries/product-listing/ 13631
	В	С
mm²/AWG/kcmil	28-12	28-12
Nominal current IN	20 A	20 A
Nominal voltage UN	300 V	300 V

UL Recognized	http://database.ul.com/cgi-bin/XYV/template/L	ISEXT/1FRAME/index.htm FILE E 60425
	В	С
mm²/AWG/kcmil	28-12	28-12
Nominal current IN	20 A	20 A
Nominal voltage UN	300 V	300 V

VDE Gutachten mit Fertigungsüberwachung	VDE	http://www.vde.com/en/Institute/OnlineService/ VDE-approved-products/Pages/Online-Search.aspx		40010330
mm²/AWG/kcmil			0.2-2.5	

cUL Recognized	http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm FILE E 6	
	В	С
mm²/AWG/kcmil	28-12	28-12
Nominal current IN	20 A	20 A
Nominal voltage UN	300 V	300 V

EAC	EAC		EAC-Zulassung
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#### Approvals

EAC

EHC

7500651.22.01.00246

cULus Recognized



http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm

#### Accessories

Accessories

DIN rail

DIN rail perforated - NS 35/7,5 PERF 2000MM - 0801733



DIN rail perforated, Standard profile, width: 35 mm, height: 7.5 mm, In acc. with EN 60715: 2001, material: Steel, galvanized, passivated with a thick layer, length: 2000 mm

DIN rail, unperforated - NS 35/7,5 UNPERF 2000MM - 0801681



DIN rail, unperforated, Standard profile, width: 35 mm, height: 7.5 mm, In acc. with EN 60715: 2001, material: Steel, galvanized, passivated with a thick layer, length: 2000 mm

DIN rail perforated - NS 35/7,5 WH PERF 2000MM - 1204119



DIN rail perforated, Standard profile, width: 35 mm, height: 7.5 mm, In acc. with EN 60715: 2001, material: Steel, Galvanized, white passivated, length: 2000 mm



#### Accessories

DIN rail, unperforated - NS 35/7,5 WH UNPERF 2000MM - 1204122



DIN rail, unperforated, Standard profile, width: 35 mm, height: 7.5 mm, In acc. with EN 60715: 2001, material: Steel, Galvanized, white passivated, length: 2000 mm

DIN rail, unperforated - NS 35/7,5 AL UNPERF 2000MM - 0801704

DIN rail, unperforated, Standard profile, width: 35 mm, height: 7.5 mm, In acc. with EN 60715: 2001, material: Aluminum, uncoated, length: 2000 mm

DIN rail perforated - NS 35/7,5 ZN PERF 2000MM - 1206421



DIN rail perforated, Standard profile, width: 35 mm, height: 7.5 mm, In acc. with EN 60715: 2001, material: Steel, galvanized, length: 2000 mm

DIN rail, unperforated - NS 35/7,5 ZN UNPERF 2000MM - 1206434



DIN rail, unperforated, Standard profile, width: 35 mm, height: 7.5 mm, In acc. with EN 60715: 2001, material: Steel, galvanized, length: 2000 mm

DIN rail, unperforated - NS 35/7,5 CU UNPERF 2000MM - 0801762



DIN rail, unperforated, Standard profile, width: 35 mm, height: 7.5 mm, In acc. with EN 60715: 2001, material: Copper, uncoated, length: 2000 mm



#### Accessories

End cap - NS 35/7,5 CAP - 1206560

DIN rail end piece, for DIN rail NS 35/7.5



#### Documentation

Mounting material - ST-IL - 3039900

Operating decal for the ST terminal block



#### End block

End clamp - E/AL-NS 35 - 1201662



End clamp, for end support of UKH 50 to UKH 240, is pushed onto DIN rail NS 35 and fixed with 2 screws, width: 10 mm, color: aluminum

#### End cover

End cover - D-STTB 2,5 - 3030459



End cover, length: 67.5 mm, width: 2.2 mm, height: 47.5 mm, color: gray

#### Filler plug



#### Accessories

Filler plugs - CEC 2,5 - 3062757



Cover for conductor shaft, 10-pos., for spring cage terminal blocks (ST) and terminal blocks with push-in technology (PT) with a width of 5.2 mm

#### Insulating sleeve

Insulating sleeve - ISH 2,5/0,2 - 3002843



Insulating sleeve, color: white

Insulating sleeve - ISH 2,5/0,5 - 3002856



Insulating sleeve, color: gray

Insulating sleeve - ISH 2,5/1,0 - 3002869



Insulating sleeve, color: black

Jumper



#### Accessories

Plug-in bridge - FBS 2-5 - 3030161



Plug-in bridge, pitch: 5.2 mm, length: 22.7 mm, width: 9 mm, number of positions: 2, color: red

Plug-in bridge - FBS 3-5 - 3030174



Plug-in bridge, pitch: 5.2 mm, length: 22.7 mm, width: 14.2 mm, number of positions: 3, color: red

Plug-in bridge - FBS 4-5 - 3030187



Plug-in bridge, pitch: 5.2 mm, length: 22.7 mm, width: 19.4 mm, number of positions: 4, color: red

Plug-in bridge - FBS 5-5 - 3030190



Plug-in bridge, pitch: 5.2 mm, length: 22.7 mm, width: 24.6 mm, number of positions: 5, color: red

Plug-in bridge - FBS 10-5 - 3030213



Plug-in bridge, pitch: 5.2 mm, length: 22.7 mm, width: 50.6 mm, number of positions: 10, color: red



#### Accessories

Plug-in bridge - FBS 20-5 - 3030226



Plug-in bridge, pitch: 5.2 mm, number of positions: 20, color: red

Plug-in bridge - FBS 50-5 - 3038930



Plug-in bridge, pitch: 5.2 mm, number of positions: 50, color: red

Plug-in bridge - FBSR 2-5 - 3033702



Plug-in bridge, pitch: 5.2 mm, number of positions: 2, color: red

Plug-in bridge - FBSR 3-5 - 3001591



Plug-in bridge, pitch: 5.2 mm, number of positions: 3, color: red

Plug-in bridge - FBSR 4-5 - 3001592



Plug-in bridge, pitch: 5.2 mm, number of positions: 4, color: red



#### Accessories

Plug-in bridge - FBSR 5-5 - 3001593



Plug-in bridge, pitch: 5.2 mm, number of positions: 5, color: red

Plug-in bridge - FBSR 10-5 - 3033710



Plug-in bridge, pitch: 5.2 mm, number of positions: 10, color: red

Plug-in bridge - FBS 2-5 BU - 3036877



Plug-in bridge, pitch: 5.2 mm, number of positions: 2, color: blue

Plug-in bridge - FBS 3-5 BU - 3036880



Plug-in bridge, pitch: 5.2 mm, number of positions: 3, color: blue

Plug-in bridge - FBS 4-5 BU - 3036893



Plug-in bridge, pitch: 5.2 mm, number of positions: 4, color: blue



#### Accessories

Plug-in bridge - FBS 5-5 BU - 3036903



Plug-in bridge, pitch: 5.2 mm, number of positions: 5, color: blue

Plug-in bridge - FBS 10-5 BU - 3036916



Plug-in bridge, pitch: 5.2 mm, number of positions: 10, color: blue

Plug-in bridge - FBS 20-5 BU - 3036929



Plug-in bridge, pitch: 5.2 mm, number of positions: 20, color: blue

Plug-in bridge - FBS 50-5 BU - 3032114



Plug-in bridge, pitch: 5.2 mm, number of positions: 50, color: blue

#### Labeled terminal marker

Warning cover - WST 2,5 - 3030941



Warning cover, 5-pos., for terminal width: 5.2 mm



### Accessories

Zack Marker strip, flat - ZBF 5 CUS - 0825025



Zack Marker strip, flat, can be ordered: Strip, white, labeled according to customer specifications, mounting type: snap into flat marker groove, for terminal block width: 5 mm, lettering field size: 5.15 x 5.15 mm

Zack Marker strip, flat - ZBF 5,LGS:FORTL.ZAHLEN - 0808671



Zack Marker strip, flat, Strip, white, labeled, printed horizontally: Consecutive numbers 1 - 10, 11 - 20, etc. up to 491 - 500, mounting type: snap into flat marker groove, for terminal block width: 5 mm, lettering field size: 5.15 x 5.15 mm

Zack Marker strip, flat - ZBF 5,QR:FORTL.ZAHLEN - 0808697



Zack Marker strip, flat, Strip, white, labeled, Printed vertically: Consecutive numbers 1 - 10, 11 - 20, etc. up to 91 - 100, mounting type: snap into flat marker groove, for terminal block width: 5 mm, lettering field size: 5.15 x 5.15 mm

Zack Marker strip, flat - ZBF 5,LGS:GERADE ZAHLEN - 0810821



Zack Marker strip, flat, Strip, white, labeled, printed horizontally: Consecutive numbers 2 - 20, 22 - 40, etc. up to 82 - 100, mounting type: snap into flat marker groove, for terminal block width: 5 mm, lettering field size: 5.15 x 5.15 mm

Zack Marker strip, flat - ZBF 5,LGS:UNGERADE ZAHLEN - 0810863



Zack Marker strip, flat, Strip, white, labeled, printed horizontally: Odd numbers 1 - 19, 21 - 39, etc. up to 81 - 99, mounting type: snap into flat marker groove, for terminal block width: 5 mm, lettering field size: 5.15 x 5.15 mm



#### Accessories

Marker for terminal blocks - UC-TMF 5 CUS - 0824638



Marker for terminal blocks, can be ordered: by sheet, white, labeled according to customer specifications, mounting type: snap into flat marker groove, for terminal block width: 5.2 mm, lettering field size: 4.6 x 5.1 mm

Marker for terminal blocks - UCT-TMF 5 CUS - 0829658



Marker for terminal blocks, can be ordered: by sheet, white, labeled according to customer specifications, mounting type: snap into flat marker groove, for terminal block width: 5.2 mm, lettering field size: 4.4 x 4.7 mm

#### Marker carriers

Marker carriers - STP 5-2 - 0800967



Double marker carrier, snaps onto the double-level spring-cage terminal block STTB 2,5, STTB 4, PTTB 2,5, PTTB 4 can be marked with UC-TM 5, ZB 5 or UC-TMF 5, ZBF 5

#### Partition plate

Partition plate - ATP-STTB 4 - 3030747



Partition plate, length: 88.7 mm, width: 2 mm, height: 53 mm, color: gray



#### Accessories

Spacer plate - DP PS-5 - 3036725



Spacer plate, length: 22.4 mm, width: 5.2 mm, height: 29 mm, number of positions: 1, color: red

#### Screwdriver tools

Screwdriver - SZF 1-0,6X3,5 - 1204517



Actuation tool, for ST terminal blocks, also suitable for use as a bladed screwdriver, size:  $0.6 \times 3.5 \times 100$  mm, 2-component grip, with non-slip grip

Screwdriver - ST-BW - 1207608



Actuation tool, for all 2.5 mm<sup>2</sup> - 4.0 mm<sup>2</sup> spring-cages

### Terminal marking

Zack Marker strip, flat - ZBF 5:UNBEDRUCKT - 0808642



Zack Marker strip, flat, Strip, white, unlabeled, can be labeled with: CMS-P1-PLOTTER, PLOTMARK, mounting type: snap into flat marker groove, for terminal block width: 5 mm, lettering field size: 5.1 x 5.2 mm



#### Accessories

Marker for terminal blocks - UC-TMF 5 - 0818153



Marker for terminal blocks, Sheet, white, unlabeled, can be labeled with: BLUEMARK CLED, BLUEMARK LED, CMS-P1-PLOTTER, PLOTMARK, mounting type: snap into flat marker groove, for terminal block width: 5.2 mm, lettering field size: 4.6 x 5.1 mm

Marker for terminal blocks - UCT-TMF 5 - 0828744



Marker for terminal blocks, Sheet, white, unlabeled, can be labeled with: THERMOMARK PRIME, THERMOMARK CARD, BLUEMARK CLED, BLUEMARK LED, TOPMARK LASER, mounting type: snap into flat marker groove, for terminal block width: 5.2 mm, lettering field size: 4.4 x 4.7 mm

#### Test plug terminal block

Test plugs - PS-5 - 3030983



Test plugs, color: red

Test plugs - PS-5/2,3MM RD - 3038723



Test plugs, color: red

Test socket



#### Accessories

Test adapter - PAI-4-FIX-5/6 BU - 3035975



4 mm test adapter, for terminal blocks with 5.2 mm and 6.2 mm pitch

Test adapter - PAI-4-FIX-5/6 OG - 3035974



4 mm test adapter, for terminal blocks with 5.2 mm and 6.2 mm pitch

Test adapter - PAI-4-FIX-5/6 YE - 3035977



4 mm test adapter, for terminal blocks with 5.2 mm and 6.2 mm pitch

Test adapter - PAI-4-FIX-5/6 RD - 3035976



4 mm test adapter, for terminal blocks with 5.2 mm and 6.2 mm pitch

Test adapter - PAI-4-FIX-5/6 GN - 3035978



4 mm test adapter, for terminal blocks with 5.2 mm and 6.2 mm pitch



#### Accessories

Test adapter - PAI-4-FIX-5/6 BK - 3035980



4 mm test adapter, for terminal blocks with 5.2 mm and 6.2 mm pitch

Test adapter - PAI-4-FIX-5/6 GY - 3035982



4 mm test adapter, for terminal blocks with 5.2 mm and 6.2 mm pitch

Test adapter - PAI-4-FIX-5/6 VT - 3035979



4 mm test adapter, for terminal blocks with 5.2 mm and 6.2 mm pitch

Test adapter - PAI-4-FIX-5/6 BN - 3035981



4 mm test adapter, for terminal blocks with 5.2 mm and 6.2 mm pitch

Test adapter - PAI-4-FIX-5/6 WH - 3035983



4 mm test adapter, for terminal blocks with 5.2 mm and 6.2 mm pitch



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