

## Bolt connection terminal block - RBO 16-HC - 3247989

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Bolt connection terminal block, nom. voltage: 1500 V, nominal current: 520 A, connection method: Bolt connection, number of connections: 2, number of positions: 1, cross section: 25 mm<sup>2</sup> - 300 mm<sup>2</sup>, width: 54.8 mm, color: gray, mounting type: NS 35/7,5, NS 35/15, direct screw connection

### Your advantages

- Tested for railway applications



### Key Commercial Data

Packing unit	1 pc
Minimum order quantity	5 pc
GTIN	 4 046356 725163
GTIN	4046356725163
Weight per Piece (excluding packing)	648.000 g
Custom tariff number	85369010
Country of origin	China

### Technical data

#### General

Number of positions	1
Number of levels	1
Number of connections	2
Potentials	1
Nominal cross section	300 mm <sup>2</sup>
Color	gray
Insulating material	PA
Flammability rating according to UL 94	V0

## Bolt connection terminal block - RBO 16-HC - 3247989

### Technical data

#### General

Area of application	Railway industry
	Machine building
	Plant engineering
Rated surge voltage	8 kV
Degree of pollution	3
Overvoltage category	III
Insulating material group	I
Maximum power dissipation for nominal condition	16.22 W
Designation	Level 1 above 1 below 1
Maximum load current	520 A (At a conductor cross section of 300 mm <sup>2</sup> )
Nominal current I <sub>N</sub>	520 A
Nominal voltage U <sub>N</sub>	1500 V
Open side panel	No
Shock protection test specification	DIN EN 50274 (VDE 0660-514):2002-11
Back of the hand protection	guaranteed
Finger protection	guaranteed
Note regarding shock protection	Touch proofness is effective only if the ring cable lug is insulated with a shrink sleeve and does not extend beyond the cover.
Result of surge voltage test	Test passed
Surge voltage test setpoint	12 kV
Result of power-frequency withstand voltage test	Test passed
Power frequency withstand voltage setpoint	2.2 kV
Result of the test for mechanical stability of terminal points (5 x conductor connection)	Test passed
Result of tight fit on support	Test passed
Tight fit on carrier	NS 35
Setpoint	20 N
Result of voltage-drop test	Test passed
Requirements, voltage drop	≤ 3.2 mV
Result of temperature-rise test	Test passed
Short circuit stability result	Test passed
Conductor cross section short circuit testing	300 mm <sup>2</sup>
Short-time current	36 kA
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 1, class B, body mounted

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### Technical data

#### General

Test frequency	$f_1 = 5 \text{ Hz}$ to $f_2 = 150 \text{ Hz}$
ASD level	$1.857 \text{ (m/s}^2\text{)}^2\text{/Hz}$
Acceleration	0,8 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	5g
Shock duration	30 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	54.8 mm
Length	283.5 mm
Height NS 35/7,5	91.8 mm
Height NS 35/15	99.3 mm
Pitch	54.8 mm

#### Connection data

Note	Connection bolts
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### Technical data

#### Connection data

Connection	1 level
Connection method	Bolt connection
Screw thread	M16
Tightening torque, min	25 Nm
Tightening torque max	35 Nm
Connection in acc. with standard	IEC 60947-7-1
Conductor cross section solid min.	25 mm <sup>2</sup>
Conductor cross section solid max.	300 mm <sup>2</sup>
Conductor cross section flexible min.	25 mm <sup>2</sup>
Conductor cross section flexible max.	300 mm <sup>2</sup>
Min. AWG conductor cross section, flexible	4
Max. AWG conductor cross section, flexible	600
Conductor cross section flexible, with ferrule with plastic sleeve min.	25 mm <sup>2</sup>
Conductor cross section flexible, with ferrule with plastic sleeve max.	300 mm <sup>2</sup>
Cable lug connection according to standard	DIN 46234
Min. cross section for cable lug connection	25 mm <sup>2</sup>
Max. cross section for cable lug connection	240 mm <sup>2</sup>
Hole diameter, min.	17 mm
Cable lug width, max.	38 mm
Bolt diameter	16 mm
Screw thread	M16
Tightening torque, min	25 Nm
Tightening torque max	35 Nm
Cable lug connection according to standard	DIN 46235
Min. cross section for cable lug connection	50 mm <sup>2</sup>
Max. cross section for cable lug connection	300 mm <sup>2</sup>
Hole diameter, min.	17 mm
Cable lug width, max.	48 mm
Bolt diameter	16 mm
Screw thread	M16
Tightening torque, min	25 Nm
Tightening torque max	35 Nm

#### 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

## Bolt connection terminal block - RBO 16-HC - 3247989

### Technical data

#### Standards and Regulations

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

### Classifications

#### eCl@ss

eCl@ss 4.0	27141120
eCl@ss 4.1	27141120
eCl@ss 5.0	27141120
eCl@ss 5.1	27141100
eCl@ss 6.0	27141100
eCl@ss 7.0	27141120
eCl@ss 8.0	27141120
eCl@ss 9.0	27141120

#### ETIM

ETIM 3.0	EC000897
ETIM 4.0	EC000897
ETIM 5.0	EC000897
ETIM 6.0	EC000897
ETIM 7.0	EC000897

#### UNSPSC

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

### Approvals

#### Approvals

# Bolt connection terminal block - RBO 16-HC - 3247989

## Approvals


Approvals


CSA / UL Recognized / EAC / EAC

Ex Approvals

IECEX / ATEX / EAC Ex

## Approval details

CSA		<a href="http://www.csagroup.org/services-industries/product-listing/">http://www.csagroup.org/services-industries/product-listing/</a>	13631
		C	
Nominal voltage UN	1000 V		
Nominal current IN	540 A		
mm <sup>2</sup> /AWG/kcmil	4-1000		

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
Nominal voltage UN	1000 V	600 V	600 V
Nominal current IN	540 A	540 A	540 A
mm <sup>2</sup> /AWG/kcmil	4-1000	4-1000	4-1000

EAC		EAC-Zulassung
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EAC		RU C- DE.A*30.B.01742
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## Accessories

Accessories

Bridge

## Bolt connection terminal block - RBO 16-HC - 3247989

### Accessories

Connection rail - RBO 16-VS 3 - 3244698



Connection rail, number of positions: 3, color: silver

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Connection rail - RBO 16-VS 2 - 3244685



Connection rail, number of positions: 2, color: silver

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### Cover profile

Covering hood - HC-RBO 16 - 3247996



Covering hood, length: 164 mm, width: 54.8 mm, height: 33 mm, color: gray

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### DIN rail

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



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

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



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

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### Accessories

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



DIN rail perforated, Standard profile, width: 35 mm, height: 7.5 mm, acc. to EN 60715, material: Steel, Galvanized, white passivated, length: 2000 mm, color: silver

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



DIN rail, unperforated, Standard profile, width: 35 mm, height: 7.5 mm, acc. to EN 60715, material: Steel, Galvanized, white passivated, length: 2000 mm, color: silver

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



DIN rail, unperforated, Standard profile, width: 35 mm, height: 7.5 mm, acc. to EN 60715, material: Aluminum, uncoated, length: 2000 mm, color: silver

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



DIN rail perforated, Standard profile, width: 35 mm, height: 7.5 mm, acc. to EN 60715, material: Steel, galvanized, length: 2000 mm, color: silver

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



DIN rail, unperforated, Standard profile, width: 35 mm, height: 7.5 mm, acc. to EN 60715, material: Steel, galvanized, length: 2000 mm, color: silver

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## Bolt connection terminal block - RBO 16-HC - 3247989

### Accessories

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



DIN rail, unperforated, Standard profile, width: 35 mm, height: 7.5 mm, acc. to EN 60715, material: Copper, uncoated, length: 2000 mm, color: copper-colored

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



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

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DIN rail perforated - NS 35/15 PERF 2000MM - 1201730



DIN rail perforated, Standard profile, width: 35 mm, height: 15 mm, similar to EN 60715, material: Steel, galvanized, passivated with a thick layer, length: 2000 mm, color: silver

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DIN rail, unperforated - NS 35/15 UNPERF 2000MM - 1201714



DIN rail, unperforated, Standard profile, width: 35 mm, height: 15 mm, similar to EN 60715, material: Steel, galvanized, passivated with a thick layer, length: 2000 mm, color: silver

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DIN rail perforated - NS 35/15 WH PERF 2000MM - 0806602



DIN rail perforated, Standard profile, width: 35 mm, height: 15 mm, similar to EN 60715, material: Steel, Galvanized, white passivated, length: 2000 mm, color: silver

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## Bolt connection terminal block - RBO 16-HC - 3247989

### Accessories

DIN rail, unperforated - NS 35/15 WH UNPERF 2000MM - 1204135



DIN rail, unperforated, Standard profile, width: 35 mm, height: 15 mm, similar to EN 60715, material: Steel, Galvanized, white passivated, length: 2000 mm, color: silver

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DIN rail, unperforated - NS 35/15 AL UNPERF 2000MM - 1201756



DIN rail, unperforated, Standard profile, width: 35 mm, height: 15 mm, similar to EN 60715, material: Aluminum, uncoated, length: 2000 mm, color: silver

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DIN rail perforated - NS 35/15 ZN PERF 2000MM - 1206599



DIN rail perforated, Standard profile, width: 35 mm, height: 15 mm, similar to EN 60715, material: Steel, galvanized, length: 2000 mm, color: silver

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DIN rail, unperforated - NS 35/15 ZN UNPERF 2000MM - 1206586



DIN rail, unperforated, Standard profile, width: 35 mm, height: 15 mm, similar to EN 60715, material: Steel, galvanized, length: 2000 mm, color: silver

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DIN rail, unperforated - NS 35/15 CU UNPERF 2000MM - 1201895



DIN rail, unperforated, Standard profile, width: 35 mm, height: 15 mm, similar to EN 60715, material: Copper, uncoated, length: 2000 mm, color: copper-colored

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## Bolt connection terminal block - RBO 16-HC - 3247989

### Accessories

End cap - NS 35/15 CAP - 1206573



DIN rail end piece, for DIN rail NS 35/15

DIN rail, unperforated - NS 35/15-2,3 UNPERF 2000MM - 1201798



DIN rail, unperforated, Standard profile 2.3 mm, width: 35 mm, height: 15 mm, acc. to EN 60715, material: Steel, galvanized, passivated with a thick layer, length: 2000 mm, color: silver

### End block

End clamp - E/NS 35 N - 0800886



End clamp, width: 9.5 mm, color: gray

### Insulating sleeve

Insulating sleeve - PS-IH WH - 0311566



Insulating sleeve, color: white

Insulating sleeve - PS-IH RD - 0311579



Insulating sleeve, color: red

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### Accessories

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Insulating sleeve - PS-IH BU - 0311582



Insulating sleeve, color: blue

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Insulating sleeve - PS-IH YE - 0311595



Insulating sleeve, color: yellow

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Insulating sleeve - PS-IH GN - 0311605



Insulating sleeve, color: green

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Insulating sleeve - PS-IH GY - 0311621



Insulating sleeve, color: gray

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Insulating sleeve - PS-IH BK - 0311634



Insulating sleeve, color: black

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## Bolt connection terminal block - RBO 16-HC - 3247989

### Accessories

Insulating sleeve - PS-IH VT - 0311618



Insulating sleeve, color: violet

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### Labeled device marker

Label - EML (51X25)R YE /RBO8 - 0801353



Label, yellow/black, labeled, can be labeled with: THERMOMARK ROLL 2.0, THERMOMARK ROLL, THERMOMARK ROLL X1, THERMOMARK ROLLMASTER 300/600, THERMOMARK X1.2: Lightning flash, mounting type: adhesive, lettering field size: 51 x 25 mm

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### Labeled terminal marker

Zack marker strip - ZB 10 CUS - 0824941



Zack marker strip, can be ordered: Strip, white, labeled according to customer specifications, mounting type: snap into tall marker groove, for terminal block width: 10.2 mm, lettering field size: 10.15 x 10.5 mm

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Zack marker strip - ZB10,LGS:FORTL.ZAHLEN - 1053014



Zack marker strip, Strip, white, labeled, can be labeled with: CMS-P1-PLOTTER, printed horizontally: consecutive numbers 1 ... 10, 11 ... 20, etc. up to 991 ... 1000, mounting type: snap into tall marker groove, for terminal block width: 10.2 mm, lettering field size: 10.15 x 10.5 mm

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Zack marker strip - ZB10,QR:FORTL.ZAHLEN - 1053027



Zack marker strip, Strip, white, labeled, can be labeled with: CMS-P1-PLOTTER, Printed vertically: consecutive numbers 1 ... 10, 11 ... 20, etc. up to 991 ... 1000, mounting type: snap into tall marker groove, for terminal block width: 10.2 mm, lettering field size: 10.15 x 10.5 mm

## Bolt connection terminal block - RBO 16-HC - 3247989

### Accessories

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#### Marker for terminal blocks - ZB10,LGS:L1-N,PE - 1053412



Marker for terminal blocks, Strip, white, labeled, can be labeled with: CMS-P1-PLOTTER, Horizontal: L1, L2, L3, N, PE, L1, L2, L3, N, PE, mounting type: snap into tall marker groove, for terminal block width: 10.2 mm, lettering field size: 10.15 x 10.5 mm

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#### Marker for terminal blocks - ZB10,LGS:U-N - 1053438



Marker for terminal blocks, Strip, white, labeled, can be labeled with: CMS-P1-PLOTTER, Horizontal: U, V, W, N, GND, U, V, W, N, GND, mounting type: snap into tall marker groove, for terminal block width: 10.2 mm, lettering field size: 10.15 x 10.5 mm

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#### Marker for terminal blocks - UC-TM 10 CUS - 0824605



Marker for terminal blocks, can be ordered: by sheet, white, labeled according to customer specifications, mounting type: snap into tall marker groove, for terminal block width: 10.2 mm, lettering field size: 9.6 x 10.5 mm

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#### Marker for terminal blocks - UCT-TM 10 CUS - 0829623



Marker for terminal blocks, can be ordered: by sheet, white, labeled according to customer specifications, mounting type: snap into tall marker groove, for terminal block width: 10.2 mm, lettering field size: 8.9 x 9.6 mm

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#### Zack Marker strip, flat - ZBF10 CUS - 0825031



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: 10 mm, lettering field size: 5.15 x 10 mm

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## Bolt connection terminal block - RBO 16-HC - 3247989

### Accessories

Zack Marker strip, flat - ZBF10,LGS:FORTL.ZAHLEN - 0810009



Zack Marker strip, flat, Strip, white, labeled, printed horizontally: consecutive numbers 1 ... 10, 11 ... 20, etc. up to 991 ... 1000, mounting type: snap into flat marker groove, for terminal block width: 10 mm, lettering field size: 5.15 x 10 mm

Zack Marker strip, flat - ZBF10,QR:FORTL.ZAHLEN - 0810025



Zack Marker strip, flat, Strip, white, labeled, Printed vertically: consecutive numbers 1 ... 10, 11 ... 20, etc. up to 991 ... 1000, mounting type: snap into flat marker groove, for terminal block width: 10 mm, lettering field size: 5.15 x 10 mm

Marker for terminal blocks - UC-TMF 10 CUS - 0824662



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: 10.2 mm, lettering field size: 9.6 x 5.1 mm

Marker for terminal blocks - UCT-TMF 10 CUS - 0829679



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: 10.2 mm, lettering field size: 9.4 x 4.7 mm

### Marker carriers

Terminal strip marker carrier - KLM 3-L - 0814788



Terminal strip marker carrier, height-adjustable, for end brackets CLIPFIX 15, CLIPFIX 35 and CLIPFIX 35-5, can be labeled with BMK...20 x 8 labels, or directly with the M-PEN or X-PEN

## Bolt connection terminal block - RBO 16-HC - 3247989

### Accessories

#### Planning and marking software

Software - CLIP-PROJECT ADVANCED - 5146040



Multilingual software for convenient configuration of Phoenix Contact products on standard DIN rails.

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Software - CLIP-PROJECT PROFESSIONAL - 5146053



Multilingual software for terminal strip configuration. A marking module enables the professional marking of markers and labels for identifying terminal blocks, conductors and cables, and devices.

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#### Terminal marking

Zack marker strip - ZB 10:UNBEDRUCKT - 1053001



Zack marker strip, Strip, white, unlabeled, can be labeled with: PLOTMARK, CMS-P1-PLOTTER, mounting type: snap into tall marker groove, for terminal block width: 10.2 mm, lettering field size: 10.5 x 10.15 mm

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Marker for terminal blocks - UC-TM 10 - 0818069



Marker for terminal blocks, Sheet, white, unlabeled, can be labeled with: BLUEMARK ID COLOR, BLUEMARK ID, BLUEMARK CLED, PLOTMARK, CMS-P1-PLOTTER, mounting type: snap into tall marker groove, for terminal block width: 10.2 mm, lettering field size: 9.6 x 10.5 mm

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Marker for terminal blocks - UCT-TM 10 - 0829142



Marker for terminal blocks, Sheet, white, unlabeled, can be labeled with: TOPMARK NEO, TOPMARK LASER, BLUEMARK ID COLOR, BLUEMARK ID, BLUEMARK CLED, THERMOMARK PRIME, THERMOMARK CARD 2.0, THERMOMARK CARD, mounting type: snap into tall marker groove, for terminal block width: 10.2 mm, lettering field size: 8.9 x 9.6 mm

## Bolt connection terminal block - RBO 16-HC - 3247989

### Accessories

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#### Zack Marker strip, flat - ZBF10:UNBEDRUCKT - 0809997



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: 10 mm, lettering field size: 5.15 x 10 mm

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#### Marker for terminal blocks - UC-TMF 10 - 0818124



Marker for terminal blocks, Sheet, white, unlabeled, can be labeled with: BLUEMARK ID COLOR, BLUEMARK ID, BLUEMARK CLED, PLOTMARK, CMS-P1-PLOTTER, mounting type: snap into flat marker groove, for terminal block width: 10.2 mm, lettering field size: 9.6 x 5.1 mm

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#### Marker for terminal blocks - UCT-TMF 10 - 0829204



Marker for terminal blocks, Sheet, white, unlabeled, can be labeled with: TOPMARK NEO, TOPMARK LASER, BLUEMARK ID COLOR, BLUEMARK ID, BLUEMARK CLED, THERMOMARK PRIME, THERMOMARK CARD 2.0, THERMOMARK CARD, mounting type: snap into flat marker groove, for terminal block width: 10.2 mm, lettering field size: 9.4 x 4.7 mm

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#### Test plug terminal block

##### Test plugs - PS-MT - 0311647



Test plugs, color: silver

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#### Warning label printed

## Bolt connection terminal block - RBO 16-HC - 3247989

### Accessories

Warning label - PML-W101 (25X25) - 0830433



Warning label, Sheet, yellow/black, labeled: Lightning flash, mounting type: adhesive, diameter: 0 mm, lettering field size: 25 x 25 mm