

## 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, 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

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### 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
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
Ambient temperature (operation)	-60 °C ... 85 °C
Ambient temperature (storage/transport)	-25 °C ... 55 °C (For a short time, not exceeding 24 h, -60 to +70 °C)
Permissible humidity (storage/transport)	30 % ... 70 %
Ambient temperature (assembly)	-5 °C ... 70 °C
Ambient temperature (actuation)	-5 °C ... 70 °C
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
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
Result of temperature-rise test	Test passed
Requirement temperature-rise test	Increase in temperature ≤ 45 K
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

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### Technical data

#### General

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
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
Surface flammability NFPA 130 (ASTM E 162)	passed
Specific optical density of smoke NFPA 130 (ASTM E 662)	passed
Calorimetric heat release NFPA 130 (ASTM E 1354)	28 MJ/kg
Smoke gas toxicity NFPA 130 (SMP 800C)	passed
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

Connection	1 level
Connection method	Bolt connection

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### Technical data

#### Connection data

Stripping length	The stripping length depends on the specification provided by the cable lug manufacturer.
Connection in acc. with standard	IEC 60947-7-1
Cable lug connection according to standard	DIN 46234:1980-03
Min. cross section for cable lug connection	25 mm <sup>2</sup>
Max. cross section for cable lug connection	240 mm <sup>2</sup>
AWG min	4
AWG max	500 kcmil
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 46235:1983-07
Min. cross section for cable lug connection	50 mm <sup>2</sup>
Max. cross section for cable lug connection	300 mm <sup>2</sup>
AWG min	0
AWG max	500 kcmil
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

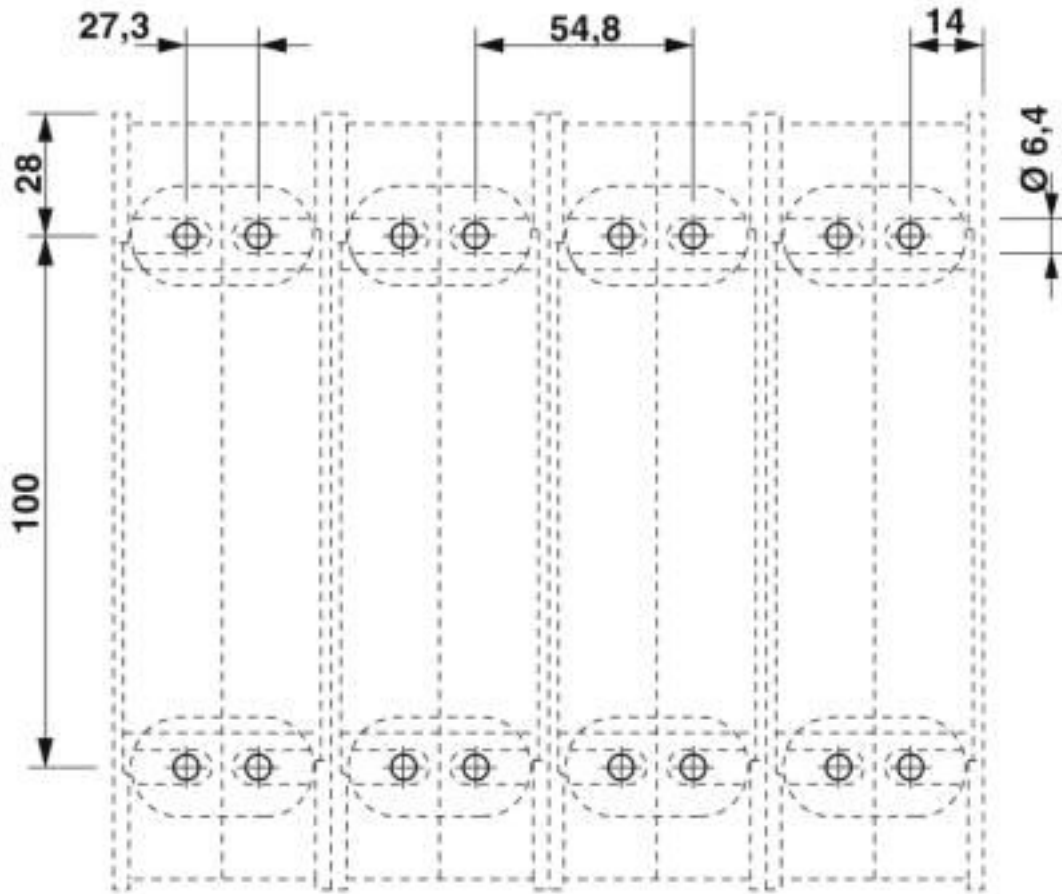
#### Environmental Product Compliance

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

### Drawings

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

Dimensional drawing



Circuit diagram



## Classifications

eCl@ss

eCl@ss 10.0.1	27141120
eCl@ss 4.0	27141100
eCl@ss 4.1	27141100
eCl@ss 5.0	27141100
eCl@ss 5.1	27141100

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

### Classifications

#### eCl@ss

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
UNSPSC 18.0	39121410
UNSPSC 19.0	39121410
UNSPSC 20.0	39121410
UNSPSC 21.0	39121410

### Approvals

#### Approvals

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Approvals

CSA / UL Recognized / EAC

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Ex Approvals

IECEX / ATEX / EAC Ex

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#### Approval details

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

## Approvals

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		
mm²/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
mm²/AWG/kcmil	4-1000	4-1000	4-1000

EAC		RU C- DE.BL08.B.00540
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## Accessories

### Accessories

#### Bridge

Connection rail - RBO 16-VS 3 - 3244698



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

Connection rail - RBO 16-VS 2 - 3244685



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

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

### Accessories

#### 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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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



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

### Accessories

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

### Accessories

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

### Accessories

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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End cap - NS 35/15 CAP - 1206573



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

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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

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End block

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

### Accessories

End clamp - E/NS 35 N - 0800886



End clamp, width: 9.5 mm, color: gray

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### Insulating sleeve

Insulating sleeve - PS-IH WH - 0311566



Insulating sleeve, color: white

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Insulating sleeve - PS-IH RD - 0311579



Insulating sleeve, color: red

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

### Accessories

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

### Accessories

#### 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, Number of individual labels: 10

##### 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 91 ... 100, mounting type: snap into tall marker groove, for terminal block width: 10.2 mm, lettering field size: 10.15 x 10.5 mm, Number of individual labels: 10

##### 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 91 ... 100, mounting type: snap into tall marker groove, for terminal block width: 10.2 mm, lettering field size: 10.15 x 10.5 mm, Number of individual labels: 10

##### 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, Number of individual labels: 10

##### 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, Number of individual labels: 10

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

### Accessories

#### 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, Number of individual labels: 48

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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, Number of individual labels: 36

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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, Number of individual labels: 10

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#### 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 91 ... 100, mounting type: snap into flat marker groove, for terminal block width: 10 mm, lettering field size: 5.15 x 10 mm, Number of individual labels: 10

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#### 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 91 ... 100, mounting type: snap into flat marker groove, for terminal block width: 10 mm, lettering field size: 5.15 x 10 mm, Number of individual labels: 10

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

### Accessories

#### 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, Number of individual labels: 48

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#### 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, Number of individual labels: 36

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### 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

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### 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.



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

### Accessories

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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, Number of individual labels: 10

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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, Number of individual labels: 48

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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, Number of individual labels: 36

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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, Number of individual labels: 10

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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, Number of individual labels: 48

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

### Accessories

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, Number of individual labels: 36

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### Test plug terminal block

Test plugs - PS-MT - 0311647



Test plugs, color: silver

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### Warning label printed

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, Number of individual labels: 25