

High-current terminal block - PTPOWER 35 - 3212064

Please be informed that the data shown in this PDF Document is generated from our Online Catalog. Please find the complete data in the user's documentation. Our General Terms of Use for Downloads are valid (<http://phoenixcontact.com/download>)



High-current terminal block, nom. voltage: 1000 V, nominal current: 125 A, connection method: Power-Turn connection, number of connections: 2, cross section: 2.5 mm² - 35 mm², AWG: 12 - 2, width: 16 mm, color: gray, mounting type: NS 35/15

Your advantages

- ✓ Quick and easy connection is now also possible for large conductors with the high-current terminal block
- ✓ 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 facility in the double function shaft, all terminal blocks provide an additional test connection
- ✓ The compact design and front connection enable wiring in a confined space

COMPLETE

Key Commercial Data

Packing unit	1 pc
Minimum order quantity	10 pc
GTIN	 4 046356 726016
GTIN	4046356726016
Weight per Piece (excluding packing)	86.000 g
Custom tariff number	85369010
Country of origin	Poland

Technical data

General

Number of levels	1
Number of connections	2
Potentials	1
Nominal cross section	35 mm ²

High-current terminal block - PTPOWER 35 - 3212064

Technical data

General

Color	gray
Insulating material	PA
Flammability rating according to UL 94	V0
Rated surge voltage	8 kV
Degree of pollution	3
Overvoltage category	III
Insulating material group	I
Maximum power dissipation for nominal condition	4.06 W
Maximum load current	125 A (with 35 mm ² conductor cross section)
Nominal current I _N	125 A
Nominal voltage U _N	1000 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
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 bending test	Test passed
Bending test rotation speed	10 rpm
Bending test turns	135
Bending test conductor cross section/weight	2.5 mm ² / 0.7 kg
	35 mm ² / 6.8 kg
Tensile test result	Test passed
Result of tight fit on support	Test passed
Tight fit on carrier	NS 35
Setpoint	10 N
Result of voltage-drop test	Test passed
Result of temperature-rise test	Test passed
Requirement temperature-rise test	Increase in temperature ≤ 45 K

High-current terminal block - PTPOWER 35 - 3212064

Technical data

General

Short circuit stability result	Test passed
Conductor cross section short circuit testing	35 mm ²
Short-time current	4.2 kA
Result of thermal test	Test passed
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):2008-03
Test spectrum	Service life test category 2, bogie-mounted
Test frequency	f ₁ = 5 Hz to f ₂ = 250 Hz
ASD level	6.12 (m/s ²) 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
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)	27,5 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	16 mm
Length	91.6 mm

High-current terminal block - PTPOWER 35 - 3212064

Technical data

Dimensions

Height NS 35/7,5	69.8 mm
Height NS 35/15	77.3 mm

Connection data

Connection	1 level
Connection method	Power-Turn connection
Stripping length	25 mm
Conductor cross section solid min.	2.5 mm ²
Conductor cross section solid max.	35 mm ²
Conductor cross section AWG min.	12
Conductor cross section AWG max.	2
Conductor cross section flexible min.	2.5 mm ²
Conductor cross section flexible max.	35 mm ²
Min. AWG conductor cross section, flexible	12
Max. AWG conductor cross section, flexible	2
Conductor cross section flexible, with ferrule without plastic sleeve min.	2.5 mm ²
Conductor cross section flexible, with ferrule without plastic sleeve max.	35 mm ²
Conductor cross section flexible, with ferrule with plastic sleeve min.	2.5 mm ²
Conductor cross section flexible, with ferrule with plastic sleeve max.	35 mm ²
Connection cross sections directly pluggable	2.5 mm ² 35 mm ² 12 2
Conductor cross section solid min.	2.5 mm ²
Conductor cross section solid max.	35 mm ²
Conductor cross section flexible, with ferrule without plastic sleeve min.	2.5 mm ²
Conductor cross section flexible, with ferrule without plastic sleeve max.	35 mm ²
Conductor cross section flexible, with ferrule with plastic sleeve min.	2.5 mm ²
Conductor cross section flexible, with ferrule with plastic sleeve max.	35 mm ²

Standards and Regulations

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

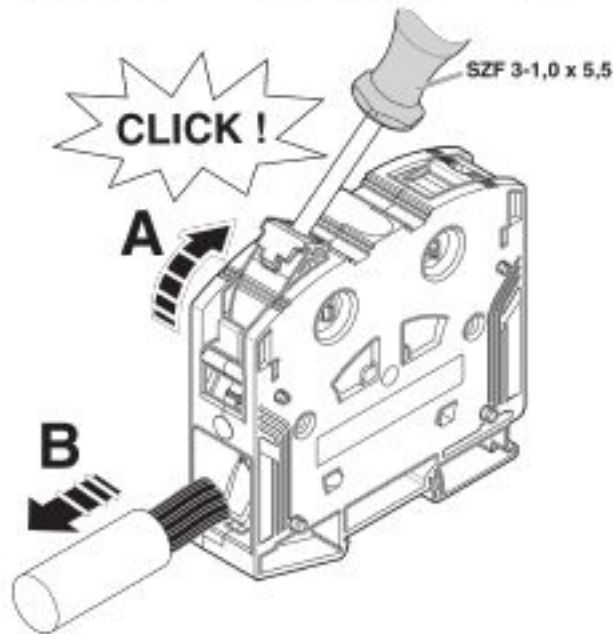
High-current terminal block - PTPOWER 35 - 3212064

Schematic diagram

PTPOWER



AGK 10-PTPOWER	0,5 mm ² ... 16 mm ²	18 mm
PTPOWER 35	2,5 mm ² ... 35 mm ²	25 mm
PTPOWER 50	0,5 mm ² ... 50 mm ²	32 mm
PTPOWER 95	0,5 mm ² ... 95 mm ²	40 mm
PTPOWER 185	0,5 mm ² ... 185 mm ²	40 mm



Circuit diagram



Classifications

eCl@ss

eCl@ss 10.0.1

27141120

High-current terminal block - PTPOWER 35 - 3212064

Classifications

eCl@ss

eCl@ss 4.0	27141100
eCl@ss 4.1	27141100
eCl@ss 5.0	27141100
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
UNSPSC 18.0	39121410
UNSPSC 19.0	39121410
UNSPSC 20.0	39121410
UNSPSC 21.0	39121410

Approvals

Approvals

Approvals

DNV GL / CSA / UL Recognized / cUL Recognized / EAC / EAC / EAC / cULus Recognized

Ex Approvals

Approval details


High-current terminal block - PTPOWER 35 - 3212064


Approvals

DNV GL		https://approvalfinder.dnvgl.com/	TAE0000029
--------	---	---	------------


CSA		http://www.csagroup.org/services-industries/product-listing/	13631
	B	C	
Nominal voltage UN	600 V	1000 V	
Nominal current IN	115 A	115 A	
mm ² /AWG/kcmil	14-2	14-2	

UL Recognized		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 60425
---------------	---	---	--------------

cUL Recognized		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 60425
	C		
Nominal voltage UN	1000 V		
Nominal current IN	115 A		
mm ² /AWG/kcmil	14-2		

EAC		RU C- DE.A*30.B.01742
-----	---	--------------------------

EAC		RU C- DE.AI30.B.01102
-----	---	--------------------------

EAC		RU C- DE.BL08.B.00644
-----	---	--------------------------

High-current terminal block - PTPOWER 35 - 3212064

Approvals

cULus Recognized



Accessories

Accessories

Cable end sleeve

Ferrule - A 10 -25 - 1090628



Ferrule, length: 25 mm, color: silver

Ferrule - A 16 -25 - 1090632



Ferrule, length: 25 mm, color: silver

Ferrule - A 25 -25 - 1090634



Ferrule, length: 25 mm, color: silver

Ferrule - AI 35 -25 RD - 3200713



Ferrule, sleeve length: 25 mm, length: 39 mm, color: red

Crimping tool

High-current terminal block - PTPOWER 35 - 3212064

Accessories

Crimping pliers - CRIMPFOX CENTRUS 6S - 1213144



Crimping pliers, for uninsulated and insulated ferrules, DIN 46228 Part 1 and 4, from 0.14 mm² ... 6 mm², also for TWIN ferrules up to 2 x 4 mm², automatic cross section adjustment, lateral insertion, equipped with fall protection

Crimping pliers - CRIMPFOX CENTRUS 10S - 1213154



Crimping pliers, for uninsulated and insulated ferrules, DIN 46228 Part 1 and 4, from 0.14 mm² ... 10 mm², also for TWIN ferrules up to 2 x 4 mm², automatic cross section adjustment, lateral insertion, equipped with fall protection

Crimping pliers - CRIMPFOX CENTRUS 6H - 1213146



Crimping pliers, for uninsulated and insulated ferrules, DIN 46228 Part 1 and 4, from 0.14 mm² ... 6 mm², also for TWIN ferrules up to 2 x 4 mm², automatic cross section adjustment, lateral insertion, equipped with fall protection

Crimping pliers - CRIMPFOX CENTRUS 10H - 1213156



Crimping pliers, for uninsulated and insulated ferrules, DIN 46228 Part 1 and 4, from 0.14 mm² ... 10 mm², also for TWIN ferrules up to 2 x 4 mm², automatic cross section adjustment, lateral insertion, equipped with fall protection

Crimping pliers - CRIMPFOX 10S - 1212045



Crimping pliers, for ferrules without insulating collar according to DIN 46228 Part 1 and ferrules with insulating collar according to DIN 46228 Part 4, 0.14 mm² ... 10 mm², unlockable pressure lock, lateral entry

High-current terminal block - PTPOWER 35 - 3212064

Accessories

Crimping pliers - CRIMPFOX 6H - 1212046



Crimping pliers, for ferrules without insulating collar according to DIN 46228 Part 1 and ferrules with insulating collar according to DIN 46228 Part 4, 0.14 mm² ... 6 mm², unlockable pressure lock, lateral entry

Crimping pliers - CRIMPFOX 2,5-M - 1212719



Crimping pliers, for ferrules without insulating collar according to DIN 46228 Part 1 and ferrules with insulating collar according to DIN 46228 Part 4, 0.25 mm² ... 2.5 mm², lateral entry, trapezoidal crimp

Crimping pliers - CRIMPFOX 6-M - 1212720



Crimping pliers, for ferrules without insulating collar according to DIN 46228 Part 1 and ferrules with insulating collar according to DIN 46228 Part 4, 0.25 mm² ... 6.0 mm², lateral entry, trapezoidal crimp

Crimping pliers - CRIMPFOX 6 - 1212034



Crimping pliers, for ferrules without insulating collar according to DIN 46228 Part 1 and ferrules with insulating collar according to DIN 46228 Part 4, 0.25 mm² ... 6.0 mm², lateral entry, trapezoidal crimp

Crimping pliers - CRIMPFOX 6T - 1212037



Crimping pliers, for ferrules without insulating collar according to DIN 46228 Part 1 and ferrules with insulating collar according to DIN 46228 Part 4, 0.25 mm² ... 6 mm², lateral entry, trapezoidal crimp

High-current terminal block - PTPOWER 35 - 3212064

Accessories

Crimping pliers - CRIMPFOX 6T-F - 1212038



Crimping pliers, for ferrules without insulating collar according to DIN 46228 Part 1 and ferrules with insulating collar according to DIN 46228 Part 4, 0.25 mm² ... 6 mm², front entry, trapezoidal crimp

Crimping pliers - CRIMPFOX 6S-F - 1212043



Crimping pliers, for ferrules without insulating collar according to DIN 46228 Part 1 and ferrules with insulating collar according to DIN 46228 Part 4, 0.5 mm² ... 6 mm², front entry, square crimp

Crimping pliers - CRIMPFOX 10 - 1212721



Crimping pliers, for ferrules without insulating collar according to DIN 46228 Part 1 and ferrules with insulating collar according to DIN 46228 Part 4, 4 mm² ... 10 mm², lateral entry, trapezoidal crimp

Crimping pliers - CRIMPFOX 25R - 1212039



Crimping pliers, for ferrules without insulating collar according to DIN 46228 Part 1 and ferrules with insulating collar according to DIN 46228 Part 4, 10 mm² ... 25 mm², lateral entry, WM crimp

Crimping pliers - CRIMPFOX 50R - 1212041



Crimping pliers, for ferrules without insulating collar according to DIN 46228 Part 1 and ferrules with insulating collar according to DIN 46228 Part 4, 35 mm² ... 50 mm², lateral entry, WM crimp

High-current terminal block - PTPOWER 35 - 3212064

Accessories

Crimping pliers - CRIMPFOX-M - 1212072



Basic pliers, for accommodating dies for a wide range of type of contacts

DIN rail

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

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

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

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

High-current terminal block - PTPOWER 35 - 3212064

Accessories

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

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

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

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

End cap - NS 35/15 CAP - 1206573



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

Documentation

High-current terminal block - PTPOWER 35 - 3212064

Accessories

Mounting material - PTPOWER-IL - 1180891



Operating decal for the PTPOWER

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

Jumper

Plug-in bridge - FBS 2-16 - 3005963



Plug-in bridge, pitch: 16 mm, length: 43.7 mm, width: 25.9 mm, number of positions: 2, color: red

Labeled terminal marker

Zack marker strip - ZB 16 CUS - 0827463



Zack marker strip, can be ordered: Strip, white, labeled according to customer specifications, mounting type: snap into tall marker groove, for terminal block width: 16 mm, lettering field size: 10.5 x 16 mm, Number of individual labels: 5

High-current terminal block - PTPOWER 35 - 3212064

Accessories

Zack marker strip - ZB 16,LGS:L1-N,PE - 0827462



Zack marker strip, Strip, white, labeled, printed horizontally: L1, L2, L3, N, PE, mounting type: snap into tall marker groove, for terminal block width: 16.3 mm, lettering field size: 10.5 x 16.25 mm, Number of individual labels: 5

Marker for terminal blocks - UC-TM 16 CUS - 0824621



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: 16 mm, lettering field size: 15.45 x 10.5 mm, Number of individual labels: 32

Marker for terminal blocks - UCT-TM 16 CUS - 0829637



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: 16 mm, lettering field size: 14.8 x 9.6 mm, Number of individual labels: 18

Zack Marker strip, flat - ZBF 16 CUS - 0827465



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: 16 mm, lettering field size: 5.15 x 16 mm, Number of individual labels: 5

Marker for terminal blocks - UC-TMF 16 CUS - 0824678



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: 16 mm, lettering field size: 15.45 x 5.1 mm, Number of individual labels: 32

High-current terminal block - PTPOWER 35 - 3212064

Accessories

Marker for terminal blocks - UCT-TMF 16 CUS - 0829693



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: 16 mm, lettering field size: 15.2 x 4.7 mm, Number of individual labels: 24

Planning and marking software

Software - CLIP-PROJECT ADVANCED - 5146040



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

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.

Reducing bridge

Reducing bridge - RB PTPOWER 35-ST(2,5/4) - 3030900



Reducing bridge, for bridging of PTPOWER 35 to ST or PT ..N terminal blocks with nominal cross section of 2.5 mm² and 4 mm², pitch: 10.8 mm, length: 4.8 mm, width: 17.8 mm, number of positions: 2, color: red

Reducing bridge - RB PTPOWER 35-ST 16 - 3032170



Reducing bridge, For bridging PTPOWER 35 to ST 16... or PT 16 N terminal blocks, pitch: 14.5 mm, length: 5 mm, width: 22.9 mm, number of positions: 2, color: red

High-current terminal block - PTPOWER 35 - 3212064

Accessories

Screwdriver tools

Screwdriver - SZF 3-1,0X5,5 - 1206612



Actuation tool, for ST terminal blocks, also suitable for use as a bladed screwdriver, size: 1.0 x 5.5 x 150 mm, 2-component grip, with non-slip grip

Terminal marking

Marker for terminal blocks - TMT (EX9,5)R - 0828295



Marker for terminal blocks, Roll, white, unlabeled, can be labeled with: THERMOMARK ROLL 2.0, THERMOMARK ROLL, THERMOMARK ROLL X1, THERMOMARK ROLLMASTER 300/600, THERMOMARK X1.2, mounting type: snap into universal marker groove, snap into tall marker groove, for terminal block width: 50000 mm, lettering field size: 9.5 x 50000 mm, Number of individual labels: 1

Marker for terminal blocks - US-TM 100 - 0829255



Marker for terminal blocks, Card, white, unlabeled, can be labeled with: BLUEMARK ID COLOR, BLUEMARK ID, THERMOMARK PRIME, THERMOMARK CARD 2.0, THERMOMARK CARD, mounting type: snap into universal marker groove, lettering field size: 104 x 9.8 mm, Number of individual labels: 13

Zack marker strip - ZB 16:UNPRINTED - 0827461



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: 16 mm, lettering field size: 16 x 10.5 mm, Number of individual labels: 50

High-current terminal block - PTPOWER 35 - 3212064

Accessories

Marker for terminal blocks - UC-TM 16 - 0819217



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: 16 mm, lettering field size: 15.45 x 10.5 mm, Number of individual labels: 32

Marker for terminal blocks - UCT-TM 16 - 0829146



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: 16 mm, lettering field size: 14.8 x 9.6 mm, Number of individual labels: 18

Zack Marker strip, flat - ZBF 16:UNPRINTED - 0827464



Zack Marker strip, flat, Strip, white, unlabeled, can be labeled with: PLOTMARK, CMS-P1-PLOTTER, mounting type: snap into flat marker groove, for terminal block width: 16 mm, lettering field size: 16.25 x 10.5 mm, Number of individual labels: 50

Marker for terminal blocks - UC-TMF 16 - 0819262



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: 16 mm, lettering field size: 15.45 x 5.1 mm, Number of individual labels: 32

Marker for terminal blocks - UCT-TMF 16 - 0829218



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: 16 mm, lettering field size: 15.2 x 4.7 mm, Number of individual labels: 24

Test socket

High-current terminal block - PTPOWER 35 - 3212064

Accessories

Test adapter - PAI-ST 35/1000MM - 3029994



Test adapter, color: red

Warning label printed

Cover - CEC PTPOWER 35/50 - 1056086



Cover, yellow, labeled: Lightning flash, mounting type: plug in