

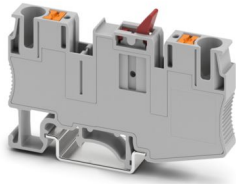
# PT 6-MTL KNIFE-RD - Knife-disconnect terminal block



1020177

<https://www.phoenixcontact.com/us/products/1020177>

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 documentation. Our general terms of use for downloads are valid.



Knife-disconnect terminal block, nom. voltage: 500 V, nominal current: 20 A, connection method: Push-in connection, Rated cross section: 6 mm<sup>2</sup>, cross section: 0.5 mm<sup>2</sup> - 10 mm<sup>2</sup>, mounting: NS 35/7,5, NS 35/15, NS 32, color: gray

## Your advantages

- Time-saving conductor connection thanks to tool-free direct-connection technology
- Convenient plugging with lower insertion force
- High conductor pull-out forces due to the spring design
- Vibration-resistant and maintenance-free conductor connection
- Full flexibility thanks to the standardized CLIPLINE complete bridging, marking, and testing accessories
- Convenient separation of circuits with the implemented lever-type disconnect knives
- Optimized for manual and automated wiring

## Commercial data

Item number	1020177
Packing unit	50 pc
Minimum order quantity	50 pc
Sales key	BE22
Product key	BE2231
GTIN	4055626507781
Weight per piece (including packing)	20.54 g
Weight per piece (excluding packing)	20.54 g
Customs tariff number	85369010
Country of origin	CN

## Technical data

### Product properties

Product type	Disconnect terminal block
Number of connections	2
Number of rows	1
Potentials	1

### Insulation characteristics

Overvoltage category	III
Degree of pollution	3

### Electrical properties

Rated surge voltage	6 kV
Maximum power dissipation for nominal condition	1.31 W

### Connection data

Number of connections per level	2
Nominal cross section	6 mm <sup>2</sup>
Connection method	Push-in connection
Stripping length	10 mm ... 12 mm
Internal cylindrical gage	A5
Connection in acc. with standard	IEC 60947-7-1
Conductor cross-section rigid	0.5 mm <sup>2</sup> ... 10 mm <sup>2</sup>
Cross section AWG	20 ... 8 (converted acc. to IEC)
Conductor cross-section flexible	0.5 mm <sup>2</sup> ... 10 mm <sup>2</sup>
Conductor cross-section, flexible [AWG]	20 ... 8 (converted acc. to IEC)
Conductor cross-section flexible ultrasound-compressed	0.34 mm <sup>2</sup> ... 10 mm <sup>2</sup>
Conductor cross-section, flexible [AWG] ultrasound-compressed	22 ... 8 (converted acc. to IEC)
Conductor cross-section flexible (ferrule without plastic sleeve)	0.5 mm <sup>2</sup> ... 6 mm <sup>2</sup>
Flexible conductor cross-section (ferrule with plastic sleeve)	0.5 mm <sup>2</sup> ... 6 mm <sup>2</sup>
2 conductors with the same cross section, flexible, with TWIN ferrule with plastic sleeve	0.5 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> When using TWIN ferrules, we recommend a minimum ferrule length of 13 mm.
Nominal cross section	6 mm <sup>2</sup>
Nominal current	20 A
Maximum load current	20 A (with 10 mm <sup>2</sup> conductor cross-section, rigid)
Nominal voltage	500 V

### Connection cross sections directly pluggable

Conductor cross-section rigid	1 mm <sup>2</sup> ... 10 mm <sup>2</sup>
Conductor cross-section flexible (ferrule without plastic sleeve)	1 mm <sup>2</sup> ... 6 mm <sup>2</sup>
Flexible conductor cross-section (ferrule with plastic sleeve)	1 mm <sup>2</sup> ... 6 mm <sup>2</sup>

### Dimensions

Width	8.2 mm
-------	--------

# PT 6-MTL KNIFE-RD - Knife-disconnect terminal block



1020177

<https://www.phoenixcontact.com/us/products/1020177>

Height	74.1 mm
Depth	43.8 mm
Depth on NS 35/7,5	43.7 mm
Depth on NS 35/15	51.2 mm

## Material specifications

Color	gray (RAL 7042)
Flammability rating according to UL 94	V0
Insulating material group	I
Insulating material	PA
Static insulating material application in cold	-60 °C
Temperature index of insulation material (DIN EN 60216-1 (VDE 0304-21))	130 °C
Relative insulation material temperature index (Elec., UL 746 B)	130 °C
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
Calorimetric heat release NFPA 130 (ASTM E 1354)	28 MJ/kg
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

## Electrical tests

### Surge voltage test

Test voltage setpoint	7.3 kV
Result	Test passed

### Temperature-rise test

Requirement temperature-rise test	Increase in temperature $\leq$ 45 K
Result	Test passed
Result	Test passed

### Power-frequency withstand voltage

Test voltage setpoint	1.89 kV
Result	Test passed

## Mechanical properties

### Mechanical data

Open side panel	No
-----------------	----

## Mechanical tests

### Mechanical strength

Result	Test passed
--------	-------------

1020177

<https://www.phoenixcontact.com/us/products/1020177>

## Attachment on the carrier

DIN rail/fixing support	NS 32/NS 35
Test force setpoint	5 N
Result	Test passed

## Test for conductor damage and slackening

Rotation speed	10 rpm
Revolutions	135
Conductor cross-section/weight	0.5 mm <sup>2</sup> / 0.3 kg
	6 mm <sup>2</sup> / 1.4 kg
	10 mm <sup>2</sup> / 2 kg
Result	Test passed

## Environmental and real-life conditions

### Aging

Temperature cycles	192
Result	Test passed

### Needle-flame test

Time of exposure	30 s
Result	Test passed

### Oscillation/broadband noise

Specification	DIN EN 50155 (VDE 0115-200):2008-03
Spectrum	Long life test category 1, class B, body mounted
Frequency	$f_1 = 5 \text{ Hz}$ to $f_2 = 150 \text{ Hz}$
ASD level	0.964 (m/s <sup>2</sup> )/Hz
Acceleration	0.58g
Test duration per axis	5 h
Test directions	X-, Y- and Z-axis
Result	Test passed

### Shocks

Specification	DIN EN 50155 (VDE 0115-200):2008-03
Pulse shape	Half-sine
Acceleration	5g
Shock duration	30 ms
Number of shocks per direction	3
Test directions	X-, Y- and Z-axis (pos. and neg.)
Result	Test passed

### Ambient conditions

Ambient temperature (operation)	-60 °C ... 110 °C (Operating temperature range incl. self-heating; for max. short-term operating temperature, see RTI Elec.)
Ambient temperature (storage/transport)	-25 °C ... 60 °C (for a short time, not exceeding 24 h, -60 °C to +70 °C)

# PT 6-MTL KNIFE-RD - Knife-disconnect terminal block



1020177

<https://www.phoenixcontact.com/us/products/1020177>

Ambient temperature (assembly)	-5 °C ... 70 °C
Ambient temperature (actuation)	-5 °C ... 70 °C
Permissible humidity (operation)	20 % ... 90 %
Permissible humidity (storage/transport)	30 % ... 70 %

## Standards and regulations

Connection in acc. with standard	IEC 60947-7-1
----------------------------------	---------------

## Mounting

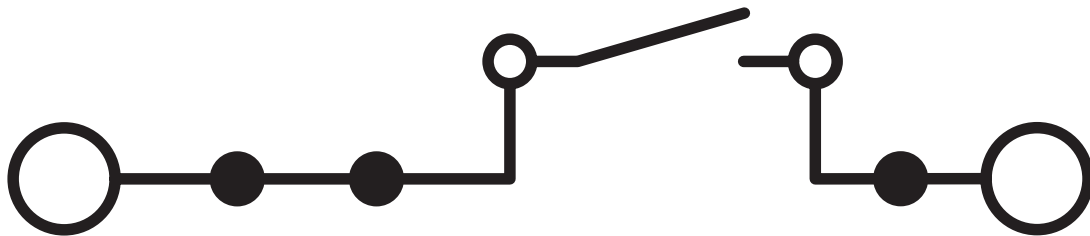
Mounting type	NS 35/7,5
	NS 35/15
	NS 32

1020177

<https://www.phoenixcontact.com/us/products/1020177>

## Drawings

Circuit diagram



# PT 6-MTL KNIFE-RD - Knife-disconnect terminal block



1020177

<https://www.phoenixcontact.com/us/products/1020177>

## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1020177>



**EAC**

Approval ID: RU C-DE.BL08.B.00644



**cULus Recognized**

Approval ID: E60425

	Nominal voltage $U_N$	Nominal current $I_N$	Cross section AWG	Cross section $\text{mm}^2$
B				
	300 V	20 A	20 - 8	-
C				
	300 V	20 A	20 - 8	-
D				
	600 V	5 A	20 - 8	-



**EAC**

Approval ID: KZ7500651131219505

# PT 6-MTL KNIFE-RD - Knife-disconnect terminal block



1020177

<https://www.phoenixcontact.com/us/products/1020177>

## Classifications

### ECLASS

ECLASS-13.0	27250108
ECLASS-15.0	27250108

### ETIM

ETIM 10.0	EC000902
-----------	----------

### UNSPSC

UNSPSC 21.0	39121400
-------------	----------

1020177

<https://www.phoenixcontact.com/us/products/1020177>

## Environmental product compliance

### EU RoHS

Fulfills EU RoHS substance requirements	Yes, No exemptions
---	--------------------

### China RoHS

Environment friendly use period (EFUP)	EFUP-E
	No hazardous substances above the limits

### EU REACH SVHC

REACH candidate substance (CAS No.)	No substance above 0.1 wt%
-------------------------------------	----------------------------

### EF3.1 Climate Change

CO2e kg	0.273 kg CO2e
---------	---------------

Phoenix Contact 2026 © - all rights reserved  
<https://www.phoenixcontact.com>

Phoenix Contact USA  
586 Fulling Mill Road  
Middletown, PA 17057, United States  
(+717) 944-1300  
[info@phoenixcon.com](mailto:info@phoenixcon.com)