

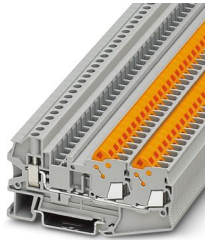
# QTCU 2,5-TWIN - Feed-through terminal block



3050303

<https://www.phoenixcontact.com/us/products/3050303>

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Feed-through terminal block, nom. voltage: 800 V, nominal current: 24 A, connection method: Quick connection, Rated cross section: 2.5 mm<sup>2</sup>, cross section: 0.5 mm<sup>2</sup> - 2.5 mm<sup>2</sup>, connection method: Screw connection, Rated cross section: 2.5 mm<sup>2</sup>, cross section: 0.14 mm<sup>2</sup> - 6 mm<sup>2</sup>, mounting: NS 35/7,5, NS 35/15, color: gray

## Your advantages

- The hybrid versions combine the advantages of the different connection technologies
- The time-saving QUICKON fast connection is used on the control cabinet side
- The screw connection is used on the connection side

## Commercial data

Item number	3050303
Packing unit	50 pc
Minimum order quantity	50 pc
Sales key	BE03
Product key	BE3112
GTIN	4046356056144
Weight per piece (including packing)	14.812 g
Weight per piece (excluding packing)	14.604 g
Customs tariff number	85369010
Country of origin	CN

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## Technical data

### Product properties

Product type	Hybrid terminal block
Number of connections	3
Number of rows	1
Potentials	1

### Insulation characteristics

Overvoltage category	III
Degree of pollution	3

### Electrical properties

Rated surge voltage	8 kV
Maximum power dissipation for nominal condition	0.77 W

### Connection data

Type of additional hybrid connection	Web reference for UT
Number of connections per level	3
Frequency of connections with the same cross section	100
Nominal cross section	2.5 mm <sup>2</sup>
Connection method	Quick connection
Material wire insulation	PVC / PE
Connection in acc. with standard	IEC 60947-7-1
Conductor cross-section rigid	0.5 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
Cross section AWG	20 ... 14 (converted acc. to IEC)
Conductor cross-section flexible	0.5 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
Conductor cross-section, flexible [AWG]	20 ... 14 (converted acc. to IEC)
Nominal cross section	2.5 mm <sup>2</sup>
Nominal current	24 A
Maximum load current	24 A (with a 2.5 mm <sup>2</sup> conductor cross-section)
Nominal voltage	800 V
Connection method	Screw connection
Screw thread	M3
Tightening torque	0.6 ... 0.8 Nm
Stripping length	9 mm
Connection in acc. with standard	IEC 60947-7-1
Conductor cross-section rigid	0.14 mm <sup>2</sup> ... 6 mm <sup>2</sup>
Cross section AWG	26 ... 10 (converted acc. to IEC)
Conductor cross-section flexible	0.14 mm <sup>2</sup> ... 4 mm <sup>2</sup>
Conductor cross-section flexible (ferrule without plastic sleeve)	0.14 mm <sup>2</sup> ... 4 mm <sup>2</sup>
Flexible conductor cross-section (ferrule with plastic sleeve)	0.14 mm <sup>2</sup> ... 4 mm <sup>2</sup>
2 conductors with same cross section, rigid	0.14 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
2 conductors with same cross section, flexible	0.14 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>

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2 conductors with same cross section, flexible, with ferrule without plastic sleeve	0.14 mm <sup>2</sup> ... 1.5 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>
Nominal cross section	2.5 mm <sup>2</sup>
Nominal current	24 A
Maximum load current	24 A (with 2.5 mm <sup>2</sup> conductor connection cross section)
Nominal voltage	800 V

## Ex data

### Rated data (ATEX/IECEx)

Identification	Ⓔ II 2 GD Ex eb IIC Gb
Operating temperature range	-45 °C ... 90 °C
Ex-certified accessories	3050510 D-QTCU 2,5 TWIN 3206212 ATP-QTC TWIN 1204517 SZF 1-0,6X3,5 3022276 CLIPFIX 35-5 3022218 CLIPFIX 35
List of bridges	Plug-in bridge / FBS 2-6 / 3030336 Plug-in bridge / FBS 3-6 / 3030242 Plug-in bridge / FBS 4-6 / 3030255 Plug-in bridge / FBS 5-6 / 3030349 Plug-in bridge / FBS 10-6 / 3030271 Plug-in bridge / FBS 20-6 / 3030365
Bridge data	22.5 A / 2.5 mm <sup>2</sup>
Ex temperature increase	40 K (25.1 A / 2.5 mm <sup>2</sup> )
for bridging with bridge	550 V
- At bridging between non-adjacent terminal blocks	275 V
- At cut-to-length bridging with cover	220 V
- At cut-to-length bridging with partition plate	275 V
Rated insulation voltage	500 V
output	(Permanent)

### Ex level General

Rated voltage	550 V
Rated current	22.5 A
Maximum load current	22.5 A
Contact resistance	0.7 mΩ

### Ex connection data Fast connection

Nominal cross section	2.5 mm <sup>2</sup>
Rated cross section AWG	14
Connection capacity rigid	0.5 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
Connection capacity AWG	20 ... 14
Connection capacity flexible	0.5 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>

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Connection capacity AWG	20 ... 14
Frequency of connections with the same cross section	100

## Ex connection data Screw connection

Stripping length	9 mm
Torque range	0.6 Nm ... 0.8 Nm
Nominal cross section	2.5 mm <sup>2</sup>
Rated cross section AWG	14
Connection capacity rigid	0.14 mm <sup>2</sup> ... 6 mm <sup>2</sup>
Connection capacity AWG	26 ... 10
Connection capacity flexible	0.14 mm <sup>2</sup> ... 4 mm <sup>2</sup>
Connection capacity AWG	26 ... 12
2 conductors with same cross section, solid	0.14 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
2 conductors with the same cross-section AWG rigid	26 ... 16
2 conductors with same cross section, stranded	0.14 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
2 conductors with the same cross-section AWG flexible	26 ... 16

## Dimensions

Width	6.2 mm
End cover width	2.2 mm
Height	82.5 mm
Depth on NS 35/7,5	42.8 mm
Depth on NS 35/15	50.3 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
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
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

## Cable/line

Wire diameter incl. insulation	3.8 mm
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## Electrical tests

Surge voltage test

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Test voltage setpoint	9.8 kV
Result	Test passed

## Temperature-rise test

Requirement temperature-rise test	Increase in temperature $\leq 45$ K
Result	Test passed
Short-time withstand current 2.5 mm <sup>2</sup>	0.3 kA
Result	Test passed

## Power-frequency withstand voltage

Test voltage setpoint	2 kV
Result	Test passed

## Mechanical properties

### Mechanical data

Open side panel	Yes
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## Mechanical tests

### Mechanical strength

Result	Test passed
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### Attachment on the carrier

DIN rail/fixing support	NS 35
Test force setpoint	1 N
Result	Test passed

### Test for conductor damage and slackening

Rotation speed	10 rpm
Revolutions	135
Conductor cross-section/weight	0.2 mm <sup>2</sup> / 0.2 kg
	4 mm <sup>2</sup> / 0.9 kg
	6 mm <sup>2</sup> / 1.4 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

### Ambient conditions

Ambient temperature (operation)	-60 °C ... 110 °C (Operating temperature range incl. self-heating; for max. short-term operating temperature, see RTI Elec.)
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Ambient temperature (storage/transport)	-25 °C ... 60 °C (for a short time, not exceeding 24 h, -60 °C to +70 °C)
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
	IEC 60947-7-1

## Mounting

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

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## Drawings

Circuit diagram



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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/3050303>

### DNV

Approval ID: TAE000014H



### cULus Recognized

Approval ID: E60425

	Nominal voltage $U_N$	Nominal current $I_N$	Cross section AWG	Cross section $\text{mm}^2$
<b>B</b>				
Screw connection	600 V	15 A	26 - 10	-
Fast connection	600 V	15 A	20 - 14	-
<b>C</b>				
Screw connection	600 V	15 A	26 - 10	-
Fast connection	600 V	15 A	20 - 14	-



### NK

Approval ID: 09 ME 139

### ABS

Approval ID: 22-2196825-PDA



### IECEx

Approval ID: IECExKIWA19.0011U



### ATEX

Approval ID: KIWA19ATEX0019U



### CCC

Approval ID: 2020322313000625



### UKCA-EX

Approval ID: CSAE 22UKEX1429U



### EAC Ex

Approval ID: KZ 7500525010101950

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## Classifications

### ECLASS

ECLASS-13.0

27250201

### ETIM

ETIM 9.0

EC000897

### UNSPSC

UNSPSC 21.0

39121400

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## Environmental product compliance

### EU RoHS

Fulfills EU RoHS substance requirements	Yes
Exemption	6(c)

### China RoHS

Environment friendly use period (EFUP)	EFUP-50
	An article-related China RoHS declaration table can be found in the download area for the respective article under "Manufacturer declaration". For all articles with EFUP-E, no China RoHS declaration table issued and required.

### EU REACH SVHC

REACH candidate substance (CAS No.)	Lead(CAS: 7439-92-1)
SCIP	71046a16-01b9-4f96-b9b5-119a10b0d12a

### EF3.1 Climate Change

CO2e kg	0.072 kg CO2e
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