

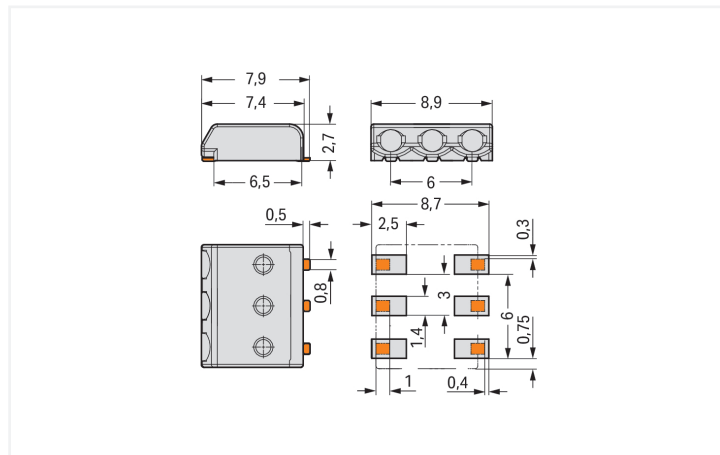
Data Sheet | Item Number: 2059-303/998-403

SMD PCB terminal block; 0.5 mm²; Pin spacing 3 mm; 3-pole; PUSH WIRE®; in tape-and-reel packaging; white

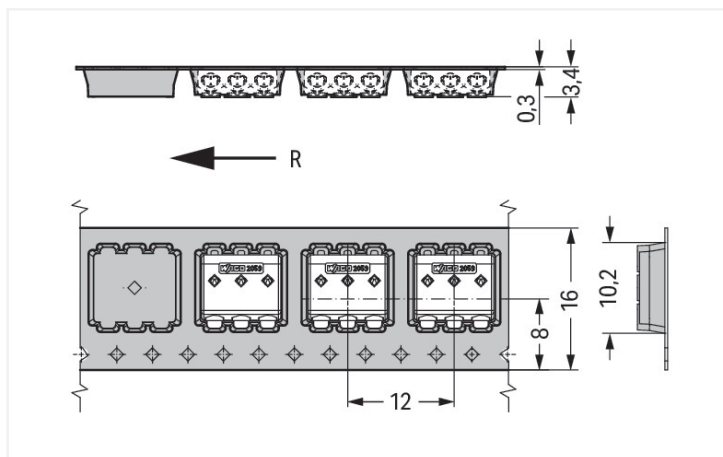
<https://www.wago.com/2059-303/998-403>



Color: ■ white



Dimensions in mm
L = (pole no. x pin spacing) – 0.1 mm



Dimensions in mm
R = feed direction

PCB terminal block, 2059 Series, 0° conductor entry to board

Our PCB terminal block (item number 2059-303/998-403) makes connecting wires quick and easy. It is a universal connector that can be used almost anywhere, for example, as a pluggable PCB connector, panel feedthrough header, connector for rail-mount terminal blocks, or a floating connector for different mounting methods. Strip lengths must be between 4 and 5.5 mm when connecting conductors to this PCB terminal block. Featuring one conductor terminal along with PUSH WIRE®, this connector outperforms the competition. Our PUSH WIRE® connection offers a simple and reliable method for connecting solid conductors. Dimensions: (8.9 x 2.7 x 7.9) mm (width x height x depth). This PCB terminal block is suitable for conductor cross sections ranging from 0.14 mm² to 0.34 mm² on one side and for conductor cross sections ranging from 0.5 mm² to 0.5 mm² on the other side.

The contact surface is coated with tin. This PCB terminal block is operated with an operating tool. SMD is used to solder the PCB terminal block. The conductor is designed to be inserted into the board at a 0° angle..

The 2059 Series SMD PCB Terminal Block is the smallest 2.7 mm terminal block with an insulated plastic housing in the portfolio. The white housing is perfect for use in LED lights and provides minimal shadowing thanks to its small design with rounded corners. WAGO's 2059 Series design is accented by a clean look and characteristic round hole for the operating tool for disconnecting conductors. Thanks to the slim design, terminal blocks can be arranged side-by-side without pole loss and without limitation. The slightly slanted shape of the terminal block front with the balcony-like projection of the underside not only allows a good view from above of the conductor entry hole, it also enables quick and easy insertion of solid conductors.

Notes	
Note	Application notes: Suitable for lead-free, reflow-soldering profiles per DIN EN 61760-1 and IEC 60068-2-58 up to max. 260°C peak temperature. Due to application-specific variables (component configuration and orientation, type of soldering machine, solder paste), trial runs are recommended to ensure product and process compatibility under actual manufacturing conditions. Depending on reflow soldering temperatures and times, color deviations may occur. These deviations will have no impact on functionality.
Recommendation	Recommendation for stencil: 150 µm material thickness; Pattern layout identical to solder pad layout

Electrical data			
Ratings per	IEC/EN 60664-1		
Overvoltage category	III	III	II
Pollution degree	3	2	2
Nominal voltage	63 V	160 V	320 V
Rated impulse withstand voltage	2.5 kV	2.5 kV	2.5 kV
Rated current	3 A	3 A	3 A

Approvals per	UL 1977
Rated voltage	250 V
Rated current	3 A

Connection Data	
Clamping units	3
Total number of potentials	3
Number of connection types	1
Number of levels	1

Connection 1	
Connection technology	PUSH WIRE®
Actuation type	Operating tool
Solid conductor	0.14 ... 0.34 mm² / 26 ... 22 AWG
Note (conductor cross-section)	For conductors (26 AWG) that are not rigid enough, the clamping unit must be opened using an operating tool.
Strip length	4 ... 5.5 mm / 0.16 ... 0.22 inches
Conductor connection direction to PCB	0 °
Pole number	3

Connection 2	
Solid conductor	0.5 mm² / 20 AWG
Note (conductor cross-section)	No reconnection of smaller conductor cross-sections (0.5 mm²/20 AWG)
Strip length	6 ... 7.5 mm / 0.24 ... 0.3 inches

Physical data	
Pin spacing	3 mm / 0.118 inches
Width	8.9 mm / 0.35 inches
Height	2.7 mm / 0.106 inches
Depth	7.9 mm / 0.311 inches
Reel diameter of tape-and-reel packaging	330 mm
Tape width	16 mm



PCB contact		
PCB contact		SMD
Solder pin arrangement		over the entire terminal strip (in-line)
Number of solder pins per potential		2

Material data		
Note (material data)		Information on material specifications can be found here
Color		white
Material group		I
Insulation material (main housing)		Polyphthalamide (PPA GF)
Flammability class per UL94		V0
Contact material		Copper alloy
Contact Plating		Tin
Fire load		0.002 MJ
Weight		0.2 g

Environmental requirements		
Limit temperature range	-60 ... +105 °C	
		Environmental Testing
		Test specification: Railway applications – Rolling stock – Electronic equipment
		DIN EN 50155 (VDE 0115-200):2022-06
		Test procedure: Railway applications – Rolling stock equipment – Vibration and shock tests
		DIN EN 61373 (VDE 0115-0106):2011-04
		Spectrum/Mounting location
		Service life test, Category 1, Class A/B
		Functional test with noise-like oscillations
		Test passed according to Section 8 of the standard
		Frequency
		f ₁ = 5 Hz to f ₂ = 150 Hz
		Acceleration
		0.101g (highest test level used for all axes)
		Test duration per axis
		10 min.
		Test directions
		X, Y and Z axes
		Monitoring of contact faults and interruptions
		Passed
		Voltage drop measurement before and after each axis
		Passed
		Simulated service life test through increased levels of noise-like oscillations
		Test passed according to Section 9 of the standard
		Frequency
		f ₁ = 5 Hz to f ₂ = 150 Hz
		Acceleration
		0.572g (highest test level used for all axes)
		Test duration per axis
		5 h
		Test directions
		X, Y and Z axes
		Extended testing: Monitoring of contact faults and interruptions
		Passed
		Extended testing: Voltage drop measurement before and after each axis
		Passed
		Shock test
		Test passed according to Section 10 of the standard
		Shock pulse form
		Half sine
		Acceleration
		5g (highest test level used for all axes)
		Shock duration
		30 ms
		Number of shocks (per axis)
		3 pos. und 3 neg.
		Test directions
		X, Y and Z axes
		Extended testing: Monitoring of contact faults and interruptions
		Passed
		Extended testing: Voltage drop measurement before and after each axis
		Passed

Environmental Testing

Vibration and shock stress for rolling stock equipment

Passed

Commercial data

Product Group	33 (SMT Terminal)
PU (SPU)	21000 (1750) pcs
Packaging type	Box
Country of origin	CH
GTIN	4055143082693
Customs tariff number	85369010000

Product Classification

UNSPSC	39121409
eCl@ss 10.0	27-14-11-06
eCl@ss 9.0	27-14-11-06
ETIM 9.0	EC001284
ETIM 10.0	EC001284
ECCN	NO US CLASSIFICATION

Environmental Product Compliance

RoHS Compliance Status	Compliant, No Exemption
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Approvals / Certificates

General approvals			Declarations of conformity and manufacturer's declarations		
  					
Approval	Standard	Certificate Name	Approval	Standard	Certificate Name
CCA DEKRA Certification B.V.	EN 60947	NTR NL-7819	Railway WAGO GmbH & Co. KG	-	Z00004395.000
CCA DEKRA Certification B.V.	EN 60947	71-111131			
CCA DEKRA Certification B.V.	EN 60838	NTR NL-7720			
KEMA/KEUR DEKRA Certification B.V.	EN 60838	71-106226			
UL Underwriters Laboratories Inc.	UL 1977	E45171			



Downloads

Environmental Product Compliance

Compliance Search

Environmental Product Compliance
2059-303/998-403

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Documentation

Additional Information

Technical Section

03.04.2019

pdf
2027.26 KB

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CAD/CAE-Data

CAD data

2D/3D Models
2059-303/998-403

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CAE data

ZUKEN Portal
2059-303/998-403

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PCB Design

Symbol and Footprint via SamacSys
2059-303/998-403

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Symbol and Footprint via Ultra Librarian
2059-303/998-403

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1 Compatible Products

1.1 Optional Accessories

1.1.1 Board-to-board link

1.1.1.1 Board-to-board link



Item No.: 2059-903
Board-to-Board Link; Pin spacing 3 mm; 3-pole; Length: 15.3 mm; white



Item No.: 2059-903/018-000
Board-to-Board Link; Pin spacing 3 mm; 3-pole; Length: 17.5 mm; white



Item No.: 2059-903/021-000
Board-to-Board Link; Pin spacing 3 mm; 3-pole; Length: 20.5 mm; white

1.1.2 Tool

1.1.2.1 Operating tool



Item No.: 206-859
Operating tool; for 2059 Series; multi-coloured



Item No.: 2059-189
Operating tool; made of insulating material; for 2059 Series

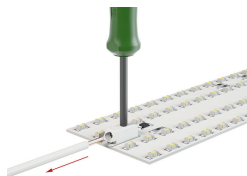
Installation Notes

Conductor termination



Insert solid conductors via push-in termination.

Conductor termination



Easy conductor removal, e.g., via operating tool (Item No. 206-859) or "twist & pull" (max. 10 x, no reconnection of smaller conductors possible)