

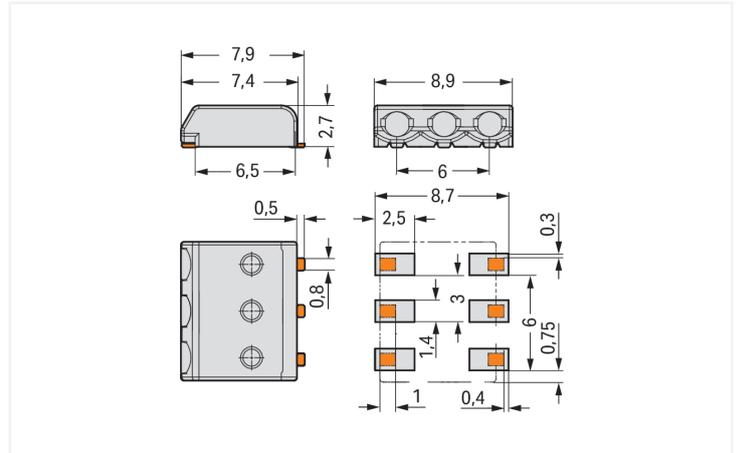
Data Sheet | Item Number: 2059-303/998-403

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>

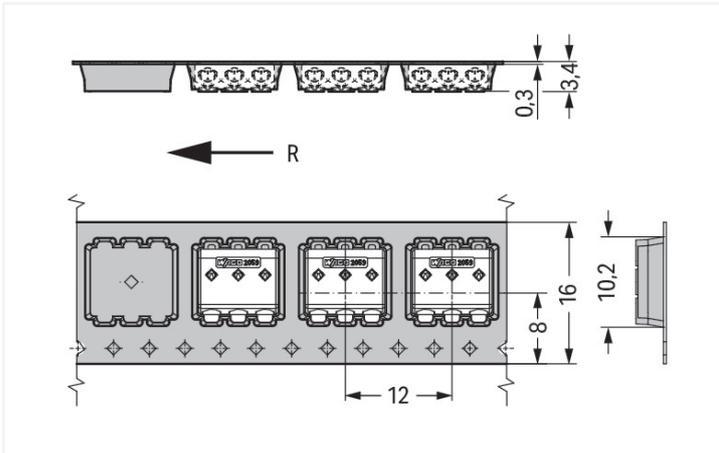


Color: ■ white



Dimensions in mm

L = (pole no. x pin spacing) – 0.1 mm



Dimensions in mm

R = feed direction

PCB terminal block, 2059 Series, white

This PCB terminal block (item number 2059-303/998-403) is designed to connect conductors quickly and easily. It is a universal connector that can be used almost anywhere, e.g., as a pluggable PCB connector, panel feedthrough header, connector for rail-mount terminal blocks, or a floating connector for different mounting methods. Rated current and voltage are key factors to consider when choosing a PCB terminal block, as they indicate possible applications and uses. This product has a rated voltage of 160 V and a rated current of 3 A. Strip lengths must be between 4 mm and 5.5 mm when connecting conductors to this PCB terminal block. This product incorporates one conductor terminal and utilizes PUSH WIRE®. Our PUSH WIRE® connection is the simple and reliable method for connecting solid conductors. The dimensions are 8.9 x 2.7 x 7.9 mm (width x height x depth). Depending on the type of conductor, this PCB terminal block is designed for conductor cross sections ranging from 0.14 mm² to 0.34 mm² on one side and for conductor cross sections from 0.5 mm² to 0.5 mm² on the other side. Up to three potentials / three poles can be connected to this terminal strip using three clamping points on one level. The white housing is made of polyphthalamide (PPA GF) for insulation and the contacts are made of copper alloy. The contact surface is coated with tin. This PCB terminal block is operated with an operating tool. The PCB terminal block is designed for SMD soldering. Insert the conductor into the board at an angle of 0°.

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			Approvals per	UL 1977
	III	III	II		
Overvoltage category	III	III	II	Rated voltage	250 V
Pollution degree	3	2	2	Rated current	3 A
Nominal voltage	63 V	160 V	320 V		
Rated surge voltage	2.5 kV	2.5 kV	2.5 kV		
Rated current	3 A	3 A	3 A		

Connection data

Clamping units	3	Connection 1	
Total number of potentials	3	Connection technology	PUSH WIRE®
Number of connection types	1	Actuation type	Operating tool
Number of levels	1	Solid conductor	0.14 ... 0.34 mm ² / 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 mm ² / 20 AWG
Note (conductor cross-section)	No reconnection of smaller conductor cross-sections (0.5 mm ² /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	0.004 MJ
Weight	0.2 g

Environmental requirements

Limit temperature range	-60 ... +105 °C
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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	$f_1 = 5 \text{ Hz}$ to $f_2 = 150 \text{ Hz}$
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	$f_1 = 5 \text{ Hz}$ to $f_2 = 150 \text{ Hz}$
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

Environmental Testing

Extended testing: Voltage drop measurement before and after each axis	Passed
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 8.0	EC001284
ECCN	NO US CLASSIFICATION

Environmental Product Compliance

RoHS Compliance Status	Compliant, No Exemption
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Approvals / Certificates

General approvals



Approval	Standard	Certificate Name
CCA DEKRA Certification B.V.	EN 60947	NTR NL-7819
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

Declarations of conformity and manufacturer's declarations



Approval	Standard	Certificate Name
Railway WAGO GmbH & Co. KG	-	Z00004395.000

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	↓

CAE data	↓
ZUKEN Portal 2059-303/998-403	↓

PCB Design

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

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; multico-
loured



Item No.: 2059-189
Operating tool; made of insulating materi-
al; 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)