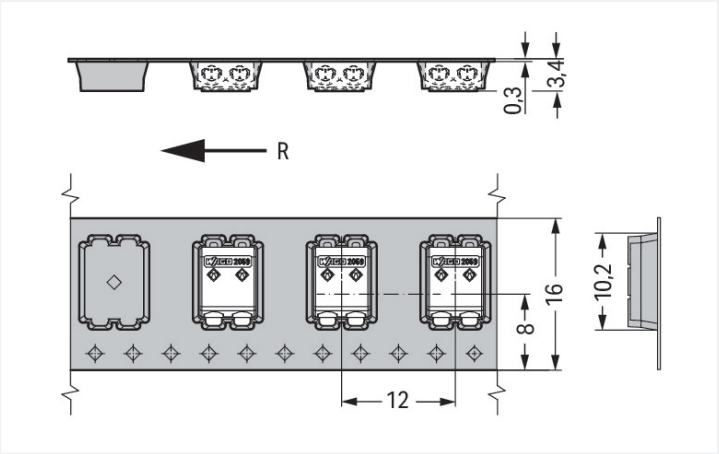
Data Sheet | Item Number: 2059-302/998-403

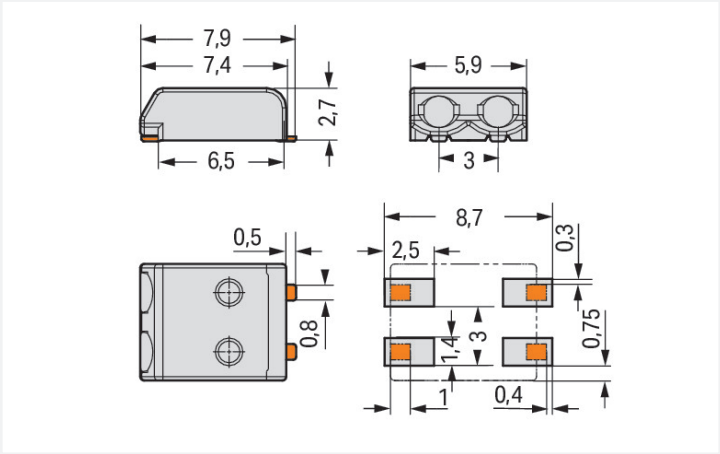
SMD PCB terminal block; 0.5 mm²; Pin spacing 3 mm; 2-pole; PUSH WIRE®; in tape-and-reel packaging; white

https://www.wago.com/2059-302/998-403

Color: white



Dimensions in mm
R = feed direction



Dimensions in mm

PCB terminal block, 2059 Series, with 3 mm pin spacing

Connecting conductors is quick and easy with this PCB terminal block (item number 2059-302/998-403). You can count on tried and tested safety with these PCB terminal blocks, perfect for a wide range of applications when designing your devices. This PCB terminal block has a rated voltage of 160 V and can handle currents up to 3 A. Ensure that the strip lengths are between 4 mm and 5.5 mm when connecting conductors to this PCB terminal block. This product features one conductor terminal and utilizes PUSH WIRE®. Our PUSH WIRE® connection is the quick and easy method for connecting solid conductors. Dimensions: 5.9 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. Up to two potentials / two poles can be connected to this terminal strip using two clamping points on one level. The contacts are made of copper alloy and the white housing is made of polyphthalamide (PPA GF) for insulation. 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. The conductor is designed to be inserted 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		
Overvoltage category	III	III	II
Pollution degree	3	2	2
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

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

Connection data

Clamping units	2
Total number of potentials	2
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	2

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	5.9 mm / 0.232 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 (Environmental Conditions)

Test specification Railway applications – Rolling stock – Electronic equipment	DIN EN 50155 (VDE 0115-200):2022-06
Test procedure Railway applications – Rolling stock equipment – Shock and vibration tests	DIN EN 61373 (VDE 0115-0106):2011-04
Spectrum/Installation location	Service life test, Category 1, Class A/B
Function test with noise-like vibration	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 for contact faults/interruptions	Passed
Voltage drop measurement before and after each axis	Passed
Simulated service life test through increased levels of noise-like vibration	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 test scope: Monitoring for contact faults/interruptions	Passed
Extended test scope: Voltage drop measurement before and after each axis	Passed
Shock test	Test passed according to Section 10 of the standard
Shock 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 test scope: Monitoring for contact faults/interruptions	Passed
Extended test scope: 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	4055143082686
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

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
2059-302/998-403

Documentation

Additional Information

Technical Section	03.04.2019	pdf 2027.26 KB

CAD/CAE-Data

CAD data

2D/3D Models
2059-302/998-403

CAE data

ZUKEN Portal
2059-302/998-403

PCB Design

Symbol and Footprint
via SamacSys
2059-302/998-403

Symbol and Footprint
via Ultra Librarian
2059-302/998-403

1 Compatible Products

1.1 Optional Accessories

1.1.1 Board-to-board link

1.1.1.1 Board-to-board link

Item No.: 2059-902
Board-to-Board Link; Pin spacing 3 mm; 2-pole; Length: 15.3 mm; white

Item No.: 2059-902/018-000
Board-to-Board Link; Pin spacing 3 mm; 2-pole; Length: 17.5 mm; white

Item No.: 2059-902/021-000
Board-to-Board Link; Pin spacing 3 mm; 2-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; multicoloured

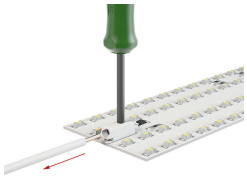
Item No.: 2059-189
Operating tool; made of insulating material; for 2059 Series

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)