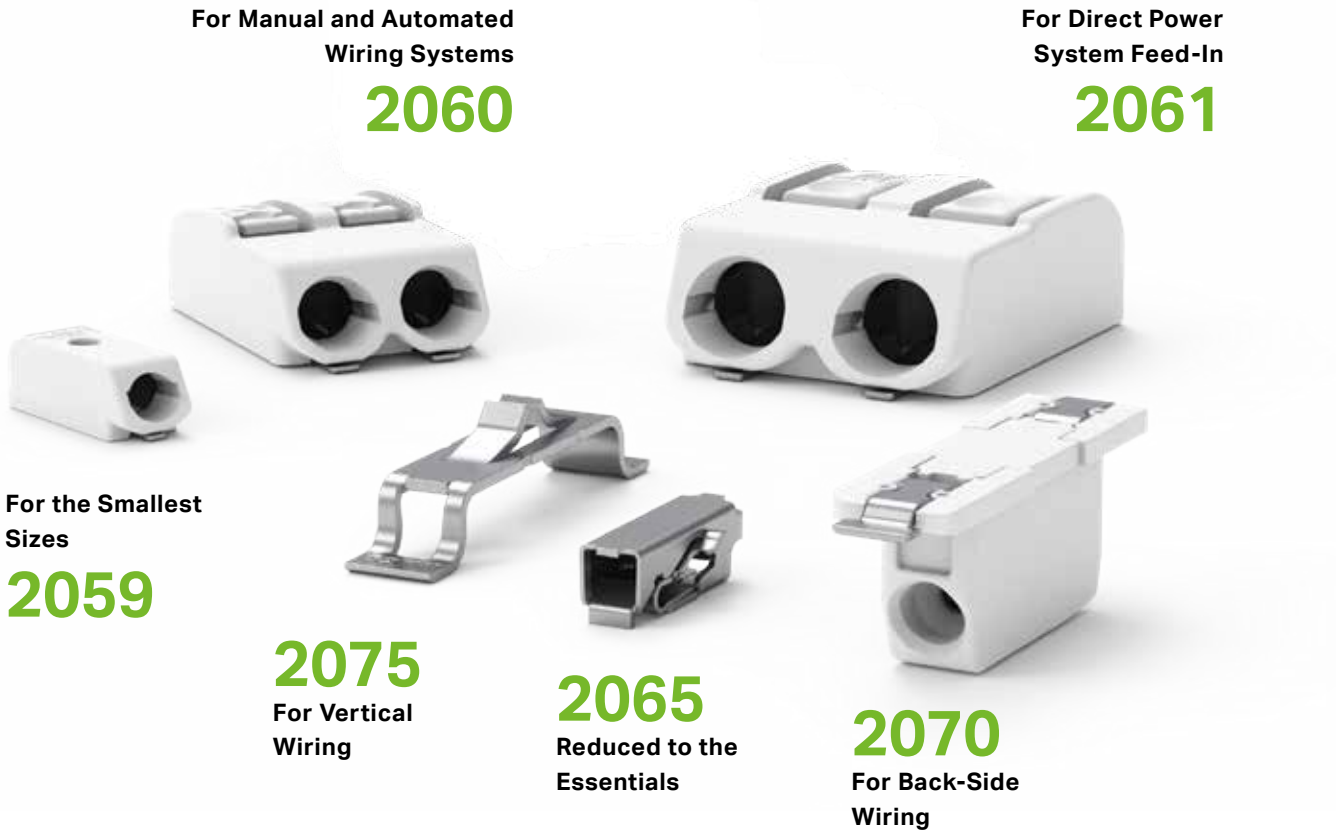
WAGO SMD PCB Terminal Blocks

We Connect Your Light



SMD PCB Terminal Blocks

A compact and low-profile PCB connection is required for optimal uniform light distribution that minimizes shadowing. WAGO's SMD PCB terminal blocks, with their combination of a flat design and wide application scope, fully satisfy these demands. Furthermore, 1-, 2- and 3-pole terminal blocks (2059, 2060 and 2061 Series) can be assembled without pole loss, providing total flexibility with just a few models. All surface-mount PCB terminal blocks come in tape-and-reel packaging for full integration into an automated assembly process.

Applications

The numerous advantages of WAGO's SMD line of PCB terminal blocks allow them to support a wide range of applications. From the newest generation of ultra-flat LED drivers via compact, conventionally wired LED spotlights, right up to automatically (front- or back-side) wired, recessed ceiling luminaires, WAGO's SMD PCB terminal blocks provide the perfect connection between driver and module. The terminal blocks accommodate a broad range of conductors and carry major international approvals making them highly versatile for worldwide applications.

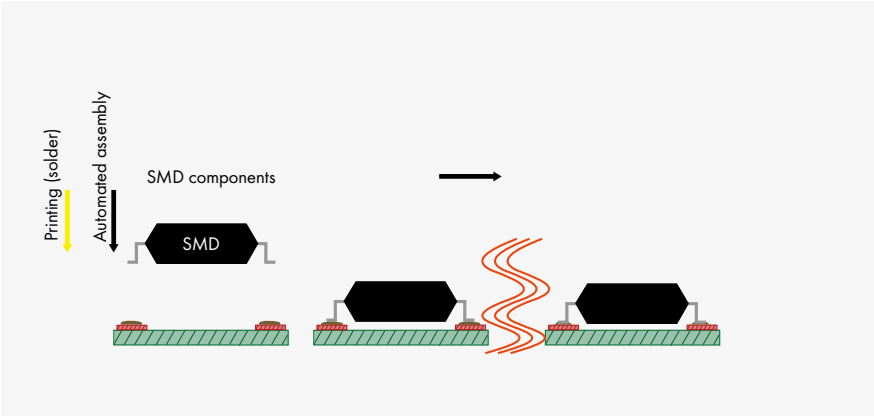
Your Benefits:

- Low profiles minimize on-board LED shadowing
- Push-in termination of solid conductors
- Terminal strips of different lengths can be assembled without pole loss, reducing the number of variants and lowering production costs
- Available in 1- to 3-pole configurations
- Delivery in tape-and-reel packaging for full integration into SMT soldering process
- Lower costs via automated pick-and-place assembly

Surface-Mount Technology

Surface-Mount Technology (SMT) means soldering electronic components directly onto PCB surface pads without drilling holes.
The basic SMT process consists of applying solder paste to the PCB via solder dispensing equipment, screen or stencil printing. SMT assembly is performed using fully automated placement machines. Surface-mount components are soldered to the board in convection or vapor phase ovens.

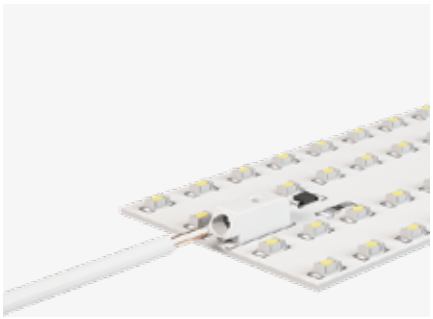
Reflow Soldering Process



2059 Series

For the Smallest Sizes

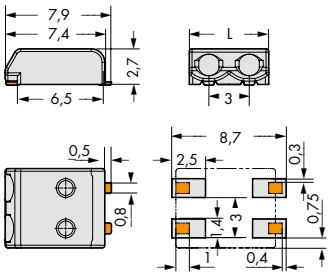
- Low profile: just 2.7 mm
- Pin spacing: 3 mm
- Conductor range: 26 … 20 AWG (0.14 … 0.5 mm²), solid
- Push-in termination of solid conductors
- Easy conductor removal via operating tool
- Available in 1–3 pole variants
- Side-by-side assembly without pole loss
- Available in tape-and-reel packaging



Insert solid conductors via push-in termination.

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

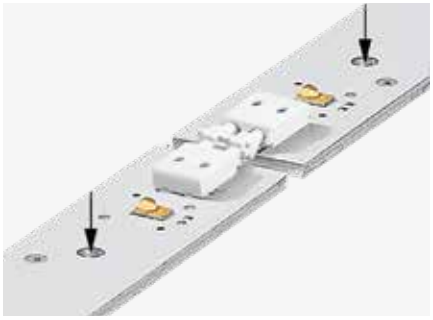
2059 Series, Pin Spacing: 3 mm					
Pin spacing	3 mm / 0.118 inch			Conductor Data	
Ratings per	IEC/EN 60664-1			Connection technology	PUSH WIRE®
Overvoltage category	III	III	II	Conductor cross-section: solid	0.14 … 0.34 mm²
Pollution degree	3	2	2	AWG	26 … 22 “sol.”
Rated voltage	63 V	160 V	320 V	Strip length	4 … 5.5 mm / 0.16 … 0.22 inch
Rated surge voltage	2.5 kV	2.5 kV	2.5 kV		
Rated current	3 A	3 A	3 A		
Approvals per	UL 1977			Conductor cross-section: solid	0.5 mm²
Rated voltage (1-pole)	600 V			AWG	20 “sol.”
Rated voltage (2 or more poles)	250 V			Strip length	6 … 7.5 mm / 0.24 … 0.3 inch
Nominal current UL	3 A			Note (conductor cross-section)	No reconnection of smaller conductor cross-sections
Approvals per	UL 1059				
Use group	B	C	D		
Rated voltage (1-pole)	600 V	600 V	600 V		
Rated voltage (2 or more poles)	150 V	–	–		
Nominal current UL	5 A	5 A	5 A		
Pole No.	Item No.			PU	
SMD PCB terminal blocks in tape-and-reel packaging, white					Reel diameter: 330 mm
1	2059-301/998-403			31800 (12 x 2650)	
2	2059-302/998-403			21000 (12 x 1750)	
3	2059-303/998-403			21000 (12 x 1750)	



L = (pole no. x pin spacing) – 0.1 mm

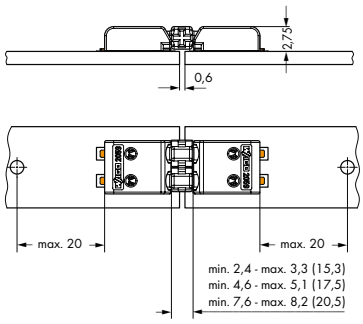
Insert a board-to-board link into the terminal block.

Assembly: Place PCBs on a flat surface and connect terminal blocks on adjoining PCBs via board-to-board link.
Disassembly: Pull PCBs apart (max. 10 mating cycles).



The PCBs must be secured.

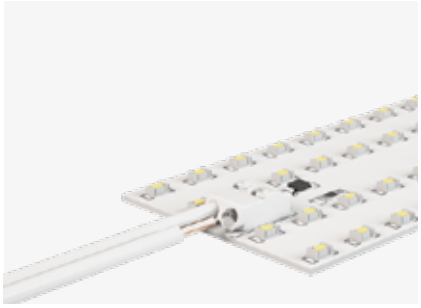
2059 Series, Board-to-Board Link								
Pin spacing	3 mm / 0.118 inch			Pole No.	Item No.			PU
					Pin length: 15.3 mm	Pin length: 17.5 mm	Pin length: 20.5 mm	
Ratings per	IEC/EN 60664-1			1	2059-901	2059-901/018-000	2059-901/021-000	1500
Overvoltage category	III	III	II	2	2059-902	2059-902/018-000	2059-902/021-000	500
Pollution degree	3	2	2	3	2059-903	2059-902/018-000	2059-902/021-000	375
Rated voltage	63 V	160 V	320 V	4	2059-904	2059-904/018-000	2059-904/021-000	250
Rated surge voltage	2.5 kV	2.5 kV	2.5 kV					
Rated current	3 A	3 A	3 A					



2060 Series

For Manual and Automated Wiring Systems

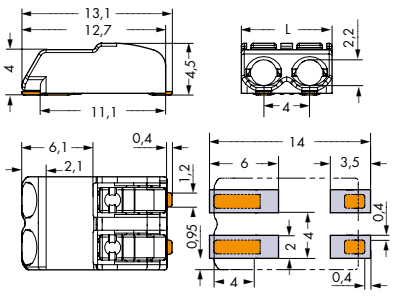
- Low profile: 4.5 mm
- Pin spacing: 4 mm
- Terminate conductors from 0.2 to 0.75 mm² (24 ... 18 AWG)
- Push-in termination of solid conductors
- Push-button for easy connection and disconnection of all conductor types
- Available in 1–3 pole variants
- Side-by-side assembly without pole loss
- Available in tape-and-reel packaging



Insert solid conductors via push-in termination.

Insert/remove fine-stranded conductors by lightly pressing on push-button, e.g., via optional operating tool (Item No. 206-860).

2060 Series, Pin Spacing: 4 mm					
Pin spacing	4 mm / 0.157 inch			**Conductor Data**	
Ratings per	IEC/EN 60664-1			**Connection technology**	Push-in CAGE CLAMP®
Overvoltage category	III	III	II	**Conductor cross-section: solid**	0.2 ... 0.75 mm²
Pollution degree	3	2	2	**Conductor cross-section: fine-stranded**	0.2 ... 0.75 mm²
Rated voltage	63 V	160 V	320 V	**Conductor cross-section: fine-stranded**	0.25 ... 0.34 mm² (with insulated ferrule)
Rated surge voltage	2.5 kV	2.5 kV	2.5 kV	**Conductor cross-section: fine-stranded**	0.25 ... 0.34 mm² (with uninsulated ferrule)
Rated current	9 A	9 A	9 A	**AWG**	24 ... 18
Approvals per	UL 1977			**Strip length**	7 ... 9 mm / 0.28 ... 0.35 inch
Rated voltage (1-pole)	600 V				
Rated voltage (2 or more poles)	320 V				
Nominal current UL	9 A				
Pole No.	**Item No.**			**PU**	
SMD PCB terminal blocks with push-buttons in tape-and-reel packaging, white					**Reel diameter: 330 mm**
1	2060-451/998-404			13500 (9 x 1500)	
2	2060-452/998-404			9000 (9 x 1000)	
3	2060-453/998-404			6750 (9 x 750)	



L = (pole no. x pin spacing) – 0.1 mm

Pin Spacing: 8 mm

The 2-pole SMD PCB terminal block with 8 mm pin spacing has been added to WAGO's portfolio, providing higher rated voltages up to 630 V/6 kV/2 in LED and industrial applications.

Board-to-Board Link

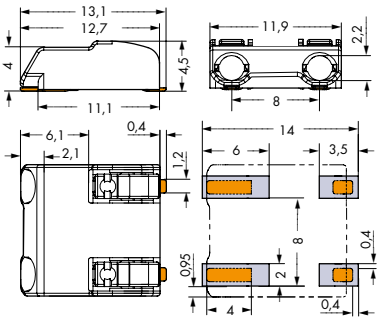
Besides standard wiring, several LED modules can be easily assembled into a single string using board-to-board links. This minimizes labor (no manual wiring) and materials needed for connecting LED modules.
WAGO's 2060 Series THR PCB

THR and Wave Soldering

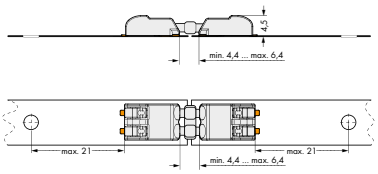
Terminal Blocks with soldering pins are ideal for both THR and wave soldering. The 2060 THR Series is available in both white and black housings.
Additional information at:
www.wago.com/2060

Assembly: Place PCBs on a flat surface and connect terminal blocks on adjoining PCBs via board-to-board link.
Disassembly: Pull PCBs apart (max. 10 mating cycles). The PCBs must be secured.

2060 Series, Pin Spacing: 8 mm					
Pin spacing	8 mm / 0.314 inch			Conductor Data	
Ratings per	IEC/EN 60664-1			Connection technology	Push-in CAGE CLAMP®
Overvoltage category	III	III	II	Conductor cross-section: solid	0.2 … 0.75 mm²
Pollution degree	3	2	2	Conductor cross-section: fine-stranded	0.2 … 0.75 mm²
Rated voltage	400 V	630 V	1000 V	Conductor cross-section: fine-stranded	0.25 … 0.34 mm² (with insulated ferrule)
Rated surge voltage	6 kV	6 kV	6 kV	Conductor cross-section: fine-stranded	0.25 … 0.34 mm² (with uninsulated ferrule)
Rated current	9 A	9 A	9 A	AWG	24 … 18
Approvals per	UL 1977			Strip length	7 … 9 mm / 0.28 … 0.35 inch
Rated voltage	600 V				
Nominal current UL	9 A				
Pole No.	Item No.			PU	
SMD PCB terminal blocks with push-buttons in tape-and-reel packaging, white					Reel diameter: 330 mm
2	2060-852/998-404			6750 (9 x 750)	



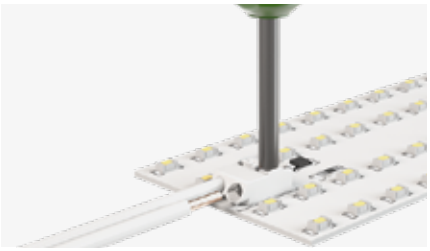
2060 Series, Board-to-Board Link						
Pin spacing	4 mm / 0.157 inch			Pole No.	Item No.	PU
Ratings per	IEC/EN 60664-1			1	2060-951/028-000	1500
Overvoltage category	III	III	II	2	2060-952/028-000	500
Pollution degree	3	2	2	3	2060-953/028-000	375
Rated voltage	63 V	160 V	320 V			
Rated surge voltage	2.5 kV	2.5 kV	2.5 kV			
Rated current	9 A	9 A	9 A			



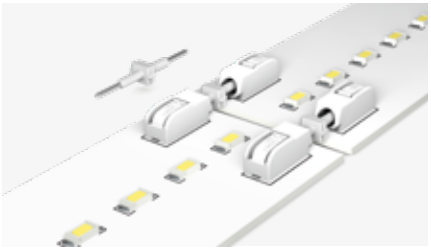
2061 Series

For Direct Power System Feed-In

- Low profile: 5.6 mm
- Pin spacing: 6 mm
- Conductor range: 0.5 … 1.5 mm² (20 … 16 AWG)
- Push-in termination of solid conductors
- Push-button for easy connection and disconnection of all conductor types
- Ideal for automated wiring systems
- 300 V UL 1059
- Available in 1–3 pole variants
- Side-by-side assembly without pole loss
- Available in tape-and-reel packaging



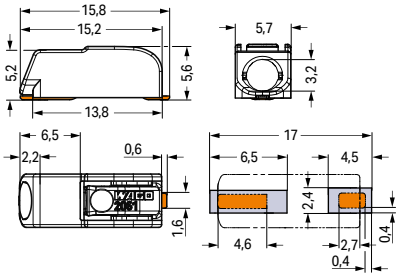
Insert/remove fine-stranded conductors by lightly pressing on push-button, e.g., via optional operating tool (Item No. 206-866).



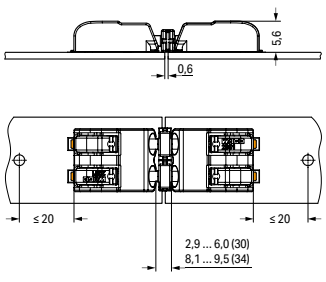
Assembly: Place PCBs on a flat surface and connect terminal blocks on adjoining PCBs via board-to-board links (2061-901). Disassembly: Pull PCBs apart (max. 10 mating cycles). The PCBs must be secured.

The 2061 Series is also available as a THR variant with solder pins in both white and black housings.

2061 Series, Pin Spacing: 6 mm					
Pin spacing	6 mm / 0.24 inch			Conductor Data	
Ratings per	IEC/EN 60664-1			Connection technology	Push-in CAGE CLAMP®
Overvoltage category	III	III	II	Conductor cross-section: solid	0.5 … 1.5 mm²
Pollution degree	3	2	2	Conductor cross-section: fine-stranded	0.5 … 1.5 mm²
Rated voltage	250 V	320 V	630 V	Conductor cross-section: fine-stranded	0.5 … 0.75 mm² (with insulated ferrule)
Rated surge voltage	4 kV	4 kV	4 kV	Conductor cross-section: fine-stranded	0.5 … 0.75 mm² (with uninsulated ferrule)
Rated current	17.5 A	17.5 A	17.5 A	AWG	20 … 16
Approvals per	UL 1059			Strip length	7 … 10 mm / 0.28 … 0.39 inch
Use group	B	C	D		
Rated voltage (1-pole)	600 V	600 V	600 V		
Nominal current UL (1-pole)	10 A	10 A	10 A		
Rated voltage (2 or more poles)	300 V	–	300 V		
Nominal current UL (2-pole)	10 A	–	10 A		
Pole No.	**Item No.**			**PU**	
SMD PCB terminal blocks with push-buttons in tape-and-reel packaging, white					**Reel diameter: 330 mm**
1	2061-601/998-404			8100 (9 x 900)	
2	2061-602/998-404			6300 (9 x 700)	
3	2061-603/998-404			4050 (9 x 450)	
Board-to-Board Link	**Pin length: 30 mm**	**Pin length: 34 mm**			
1	2061-901	2061-901/034-000		700	
2	2061-902	2061-902/034-000		300	
3	2061-903	2061-903/034-000		200	
4	2061-904	2061-904/034-000		100	



L = (pole no. x pin spacing) – 0.3 mm

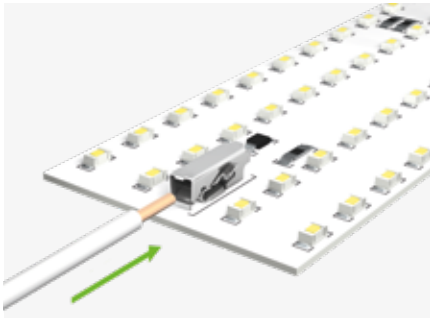


The installation of the board-to-board links is identical with both 2059 and 2060 Series.

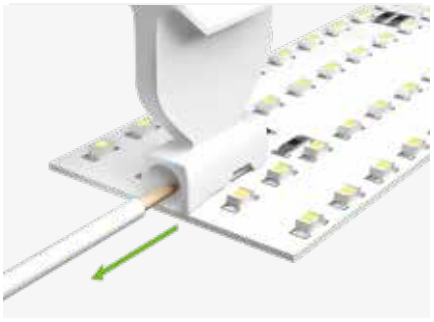
2065 Series

Reduced to the Essentials

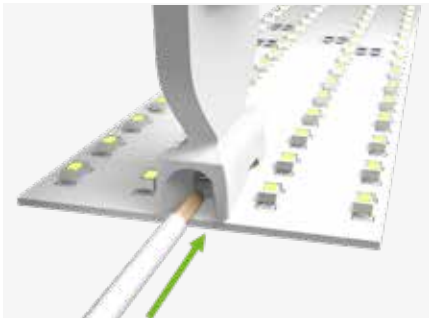
- Maximum conductor range, minimum installation space: 0.2 ... 0.75 mm²
- Compact design minimizes on-board LED shadowing
- Low profile of just 2.7 mm provides uniform light distribution
- A reliable alternative to wire soldering



Insert solid conductors via push-in termination.



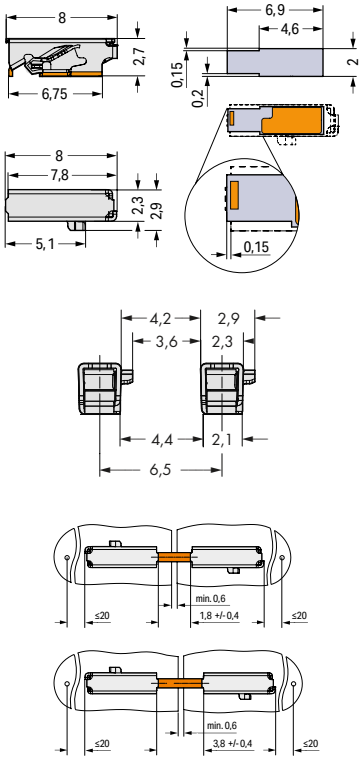
Insert fine-stranded conductors – and remove all conductor types – via operating tool (Item No. 2065-189).



The operating tool's funneled conductor entry securely guides the conductor into the terminal block.

2065 Series					
Technical Data				**Conductor Data**	
Ratings per	IEC/EN 60664-1			**Connection technology**	Push-in CAGE CLAMP®
Overvoltage category	III	III	II	**Conductor cross-section: solid**	0.2 ... 0.75 mm²
Pollution degree	3	2	2	**Conductor cross-section: fine-stranded**	0.2 ... 0.75 mm²
Rated voltage*	320 V	320 V	630 V		
Rated surge voltage	4 kV	4 kV	4 kV		
Rated current	9 A	9 A	9 A		
Approvals per	UL 1977			**AWG**	24 ... 18
Rated current	600 V			**Strip length**	7.5 mm / 0.3 inch (min.)
Nominal current UL	9 A				
Pole No.	**Item No.**			**PU**	
SMD PCB terminal blocks with push-buttons in tape-and-reel packaging					**Reel diameter: 330 mm**
1	2065-100/998-403			31800 (12x 2650)	
Board-to-Board Link				**Pin length:**	
1	2065-131			15.6 mm	1500
1	2065-133			17.6 mm	1500

*Rated voltage for 6.5 mm pin spacing
Any layout deviation must meet the insulation coordination safety standards (EN/IEC 60664-1) or end device standard requirements.

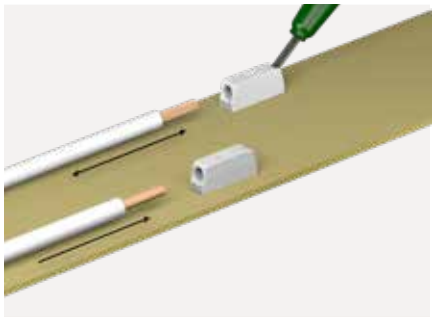


NOTE: Terminal block without insulation housing!
Protection against accidental contact must be provided at voltages higher than low voltages (e.g., SELV/PELV) for the relevant application.

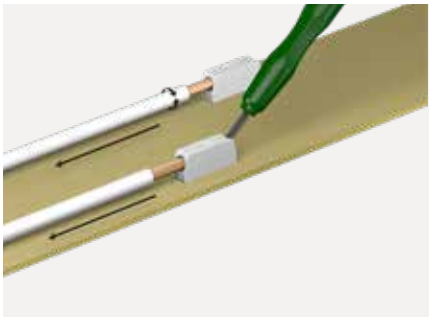
2070 Series

For Back-Side Wiring of LED Modules

- Shift wiring to the back of the LED modules
- Low profile of just 1.1 mm on top of the PCB minimizes shadowing
- Easy pick-and-place assembly and minimum shadowing via optional cover
- Optional marking of the clamping point helps prevent wiring errors
- Clearance and creepage distances for use up to 500 V per EN 60598-1
- For Manual and Automated Wiring Systems



Insert fine-stranded conductors and remove all conductor types via operating tool. Solid conductors can also be terminated by simply pushing them in.

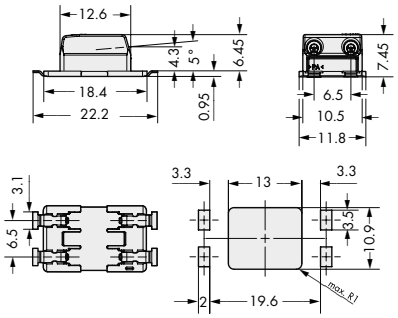


Use an operating tool (Item No. 2070-400) or simply “twist and pull” to remove solid conductors.

Shift wiring to the back of the LED modules via 2070 Series SMD PCB Terminal Blocks.

2070 Series					
Technical Data				**Conductor Data**	
Ratings per	IEC/EN 60664-1			**Connection technology**	Push-in CAGE CLAMP®
Overvoltage category	III	III	II	**Conductor cross-section: solid**	0.2 … 0.75 mm²
Pollution degree	3	2	2	**Conductor cross-section: fine-stranded**	0.2 … 0.75 mm²
Rated voltage*	320 V	320 V	630 V		
Rated surge voltage	4 kV	4 kV	4 kV		
Rated current	9 A	9 A	9 A		
				AWG	24 … 18
				Strip length	8.5 … 10 mm / 0.3 inch
Pole No.	**Item No.**			**PU**	
Through-board SMD PCB terminal blocks with cover					**Reel diameter: 330 mm**
1	2070-461/998-406			4770 (954)	
2	2070-462/998-406			2385 (477)	
3	2070-463/998-406			1590 (318)	

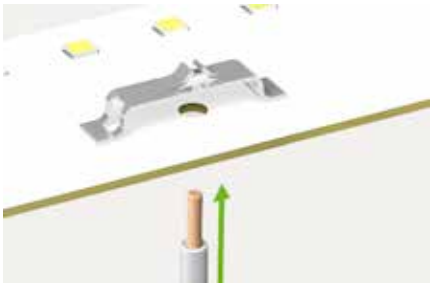
Note: Go to our online shop to find more variants without cover and with pole marking.
Reel diameter: 381 mm (available upon request)



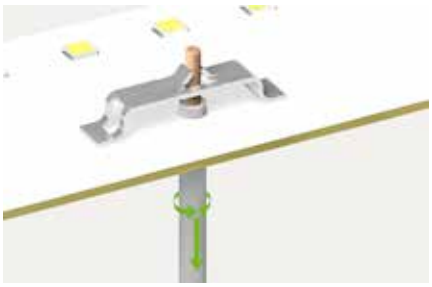
2075 Series

For Vertical Wiring

- Wiring performed on the back of the LED module simplifies lighting manufacturing
- Low profile minimizes on-board LED shadowing
- Compact design provides uniform light distribution
- An economical alternative to wire soldering
- Supports both manual and automated wiring systems



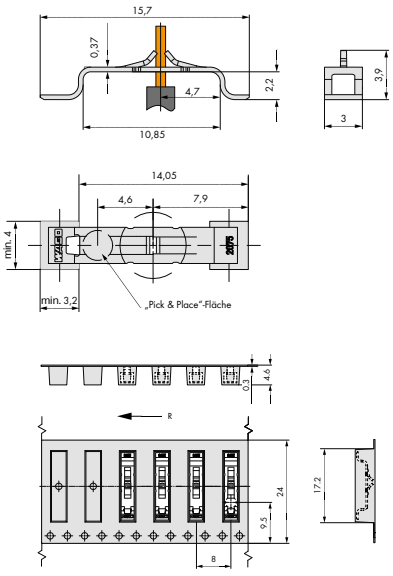
Insert solid conductors via push-in termination.



Simply twist and pull to remove conductors – no tools required.

2075 Series				
Technical Data			**Conductor Data**	
Ratings per	IEC/EN 60664-1		**Connection technology**	PUSH WIRE®
Overvoltage category	I I I	I I	**Conductor cross-section: solid**	0.34 ... 0.75 mm²
Pollution degree	3	2	**AWG**	20 ... 18
Rated voltage*	200 V	500 V	**Strip length**	3.65 mm / 0.14 inch (min.)
Rated surge voltage	4 kV	4 kV		
Rated current	9 A	9 A		
Pole No.	**Item No.**		**PU**	
Through-board SMD PCB terminal block in tape-and-reel packaging				**Reel diameter: 330 mm**
1		2075-381/997-404	18000 (2000) pcs	

*Rated voltage for 7 mm pin spacing
Layout must meet the insulation coordination safety standards (EN/IEC 60664-1) or end device standard requirements.



NOTE: Terminal block without insulation housing!
Protection against accidental contact must be provided at voltages higher than low voltages (e.g., SELV/PELV) for the relevant application.

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