

**SMD Terminal Blocks**

**with Push-Buttons**



**WAGO®**  
INNOVATIVE CONNECTIONS

# SMD Terminal Blocks

## Small is Big

WAGO's new SMD Terminal Blocks provide push-button termination for conductors 0.2–0.75 mm<sup>2</sup>/AWG 24–18 (2060 Series) and 0.5–1.5 mm<sup>2</sup>/AWG 20–16 (2061 Series), making them ideal for PCB-based LED lighting and industrial electronics. Both 2060 and 2061 Series are available as 1-, 2- and 3-pole variants, in light gray or black, and with 4/6 mm pin spacing. Proven CAGE CLAMP® S Spring

Pressure Connection Technology provides push-in termination of solid and ferruled conductors. Integrated push-buttons simplify termination of fine-stranded conductors and removal of all conductor types. WAGO's 2060 Series Board-to-Board Link easily in-lines several LED modules into a single string. Featuring 8 mm pin spacing, 2060 Series is ideal for higher rated voltages up to 630 V.



### Benefits:

- A height of just 4.5 or 5.6 mm prevents on-board LED shadowing
- Push-in termination of solid and ferruled conductors via CAGE CLAMP® S connection
- Easy handling via side-entry wiring and top-of-unit actuation
- Terminal strips of different lengths can be assembled side-by-side without pole loss, allowing for a reduced number of variants and lower production costs
- Delivery in tape-and-reel packaging for full integration into SMT soldering process
- Potential for significant savings via automated pick-and-place assembly
- Available in 1–3 pole configurations
- Nominal current: up to 9 A or 12 A
- Rated voltage: up to 630 V IEC



### Applications:

The 2060 and 2061 Series' many advantages allow them to support a wide range of applications. From compact, conventionally wired LED spotlights up to industrially wired, recessed ceiling luminaires, WAGO's new SMD Terminal Blocks are the perfect connection between driver and module. The terminal blocks accommodate a broad range of conductors making them highly versatile for worldwide applications.

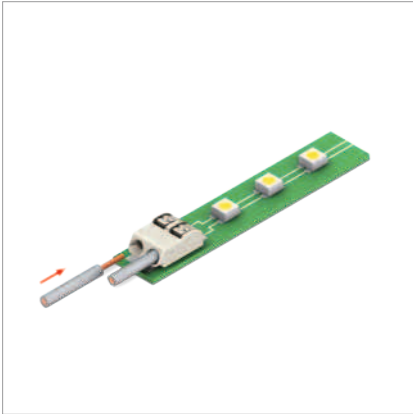
The 2061 Series also provides direct LED module supply via extended conductor sizes up to 1.5 mm<sup>2</sup> (AWG 16). Furthermore, 2061 Series sets new standards for compact wiring applications in measuring and control technology.

**Conclusion:** WAGO's 2060 and 2061 Series are the industry's most compact and easy-to-use SMD terminal blocks for wiring industrial electronics and LED modules.



# Handling

## 2060 Series



Inserting solid conductors via push-in termination.



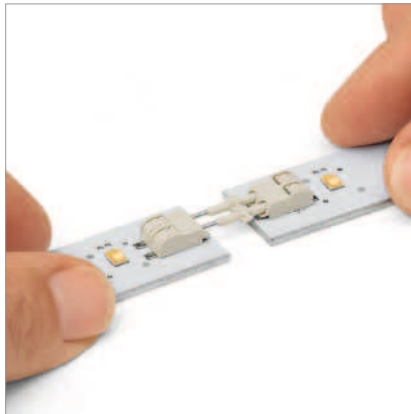
Inserting/removing fine-stranded conductors by lightly pressing on push-button (e.g., using a 233-335 operating tool or a ball point pen).



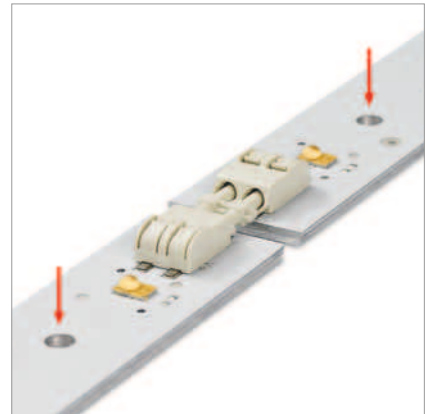
## Board-to-Board Link



Inserting board-to-board link into 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 connections/disconnections).



The PCBs must be secured (see figure above).

## 2061 Series\*



Inserting solid conductors via push-in termination.



Inserting/removing fine-stranded conductors by lightly pressing on push-button (e.g., using a 233-335 operating tool or a ball point pen).

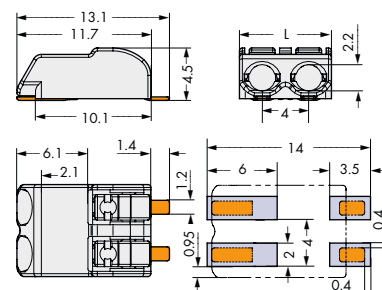


\*2061 Series will be available in Summer 2013.

# Technical Data

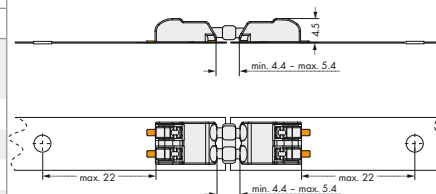
## 2060 Series, 4 mm Pin Spacing

| Pin Spacing                                                                   | 4 mm / 0.157 in. |        |                            | Conductor Data                |                                               |
|-------------------------------------------------------------------------------|------------------|--------|----------------------------|-------------------------------|-----------------------------------------------|
| Ratings per                                                                   | IEC/EN 60664-1   |        |                            | Connection technology         | CAGE CLAMP® S                                 |
| Overvoltage category                                                          | III              | III    | II                         | Conductor size: solid         | 0.2 – 0.75 mm²                                |
| Pollution degree                                                              | 3                | 2      | 2                          | Conductor size: fine-stranded | 0.2 – 0.75 mm²                                |
| Rated voltage                                                                 | 63 V             | 160 V  | 320 V                      | Conductor size: fine-stranded | 0.25 – 0.34 mm²<br>(with insulated ferrule)   |
| Rated surge voltage                                                           | 2.5 kV           | 2.5 kV | 2.5 kV                     |                               | 0.25 – 0.34 mm²<br>(with insulated ferrule)   |
| Nominal current                                                               | 9 A              | 9 A    | 9 A                        | Conductor size: fine-stranded | 0.25 – 0.34 mm²<br>(with uninsulated ferrule) |
| Approvals per                                                                 | UL 1977          |        |                            |                               |                                               |
| Rated voltage, 1-pole                                                         | 600 V            |        |                            | AWG                           | 24 – 18                                       |
| Rated voltage, 2 or more poles                                                | 250 V            |        |                            |                               |                                               |
| Nominal current UL                                                            | 9 A              |        |                            |                               |                                               |
| Pole No.                                                                      | Item No.         |        | Pack. Unit/Pieces per Reel |                               |                                               |
| SMD terminal blocks with push-buttons in tape-and-reel packaging, light gray* |                  |        |                            |                               | Reel diameter: 330 mm                         |
| 1                                                                             | 2060-401/998-404 |        | 1500                       |                               |                                               |
| 2                                                                             | 2060-402/998-404 |        | 1000                       |                               |                                               |
| 3                                                                             | 2060-403/998-404 |        | 750                        |                               |                                               |



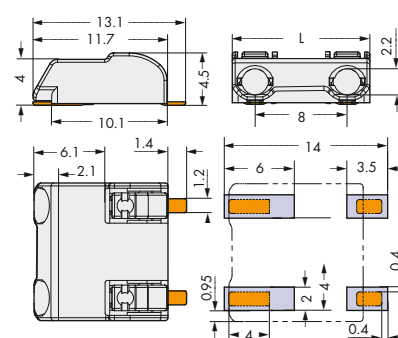
## 2060 Series, Board-to-Board Link

| Pin Spacing          | 4 mm / 0.157 in. |        |        | Pole No.                                                      | Item No. | Pack. Unit |
|----------------------|------------------|--------|--------|---------------------------------------------------------------|----------|------------|
| Ratings per          | IEC/EN 60664-1   |        |        | Board-to-board link for SMD terminal blocks with push-buttons |          |            |
| Overvoltage category | III              | III    | II     | 1                                                             | 2060-901 | 1500       |
| Pollution degree     | 3                | 2      | 2      | 2                                                             | 2060-902 | 500        |
| Rated voltage        | 63 V             | 160 V  | 320 V  | 3                                                             | 2060-903 | 375        |
| Rated surge voltage  | 2.5 kV           | 2.5 kV | 2.5 kV |                                                               |          |            |
| Nominal current      | 9 A              | 9 A    | 9 A    |                                                               |          |            |



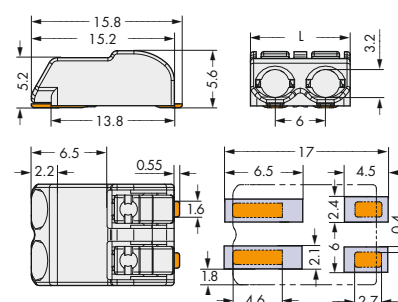
## 2060 Series, 8 mm Pin Spacing

| Pin Spacing                                                                   | 8 mm / 0.314 in. |       |        | Conductor Data                |                                               |
|-------------------------------------------------------------------------------|------------------|-------|--------|-------------------------------|-----------------------------------------------|
| Ratings per                                                                   | IEC/EN 60664-1   |       |        | Connection technology         | CAGE CLAMP® S                                 |
| Overvoltage category                                                          | III              | III   | II     | Conductor size: solid         | 0.2 – 0.75 mm²                                |
| Pollution degree                                                              | 3                | 2     | 2      | Conductor size: fine-stranded | 0.2 – 0.75 mm²                                |
| Rated voltage                                                                 | 400 V            | 630 V | 1000 V | Conductor size: fine-stranded | 0.25 – 0.34 mm²<br>(with insulated ferrule)   |
| Rated surge voltage                                                           | 6 kV             | 6 kV  | 6 kV   |                               |                                               |
| Nominal current                                                               | 9 A              | 9 A   | 9 A    | Conductor size: fine-stranded | 0.25 – 0.34 mm²<br>(with uninsulated ferrule) |
| Approvals per                                                                 | UL 1977          |       |        |                               |                                               |
| Rated voltage                                                                 | 600 V            |       |        | AWG                           | 24 – 18                                       |
| Nominal current UL                                                            | 9 A              |       |        |                               |                                               |
| Pole No.                                                                      | Item No.         |       |        | Pack. Unit/Pieces per Reel    |                                               |
| SMD terminal blocks with push-buttons in tape-and-reel packaging, light gray* |                  |       |        |                               |                                               |
| 2                                                                             | 2060-802/998-404 |       |        | 750                           | Reel diameter: 330 mm                         |



## 2061 Series, 6 mm Pin Spacing

| Pin Spacing                                                                   |                  | 6 mm / 0.24 in. |       | Conductor Data                |                       |
|-------------------------------------------------------------------------------|------------------|-----------------|-------|-------------------------------|-----------------------|
| Ratings per                                                                   | IEC/EN 60664-1   |                 |       | Connection technology         | CAGE CLAMP® S         |
| Overvoltage category                                                          | III              | III             | II    | Conductor size: solid         | 0.5 – 1.5 mm²         |
| Pollution degree                                                              | 3                | 2               | 2     | Conductor size: fine-stranded | 0.5 – 1.5 mm²         |
| Rated voltage                                                                 | 250 V            | 320 V           | 630 V | AWG                           | 20 – 16               |
| Rated surge voltage                                                           | 4 kV             | 4 kV            | 4 kV  |                               |                       |
| Nominal current                                                               | 12 A             | 12 A            | 12 A  |                               |                       |
| Pole No.                                                                      | Item No.         |                 |       |                               |                       |
| SMD terminal blocks with push-buttons in tape-and-reel packaging, light gray* |                  |                 |       |                               | Reel diameter: 330 mm |
| 1                                                                             | 2061-601/998-404 |                 |       |                               |                       |
| 2                                                                             | 2061-602/998-404 |                 |       |                               |                       |
| 3                                                                             | 2061-603/998-404 |                 |       |                               |                       |



\*Depending on reflow soldering temperatures and times, color deviations may occur for light gray connectors. These deviations will have no impact on functionality.

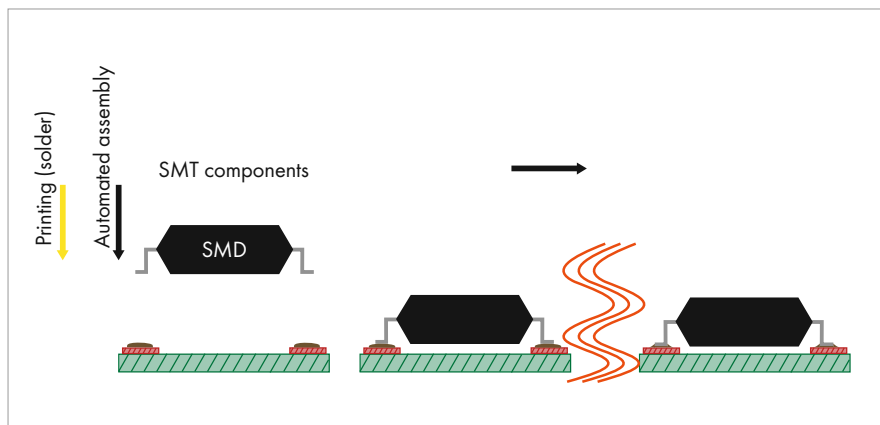
# Surface Mount Technology

## SMT

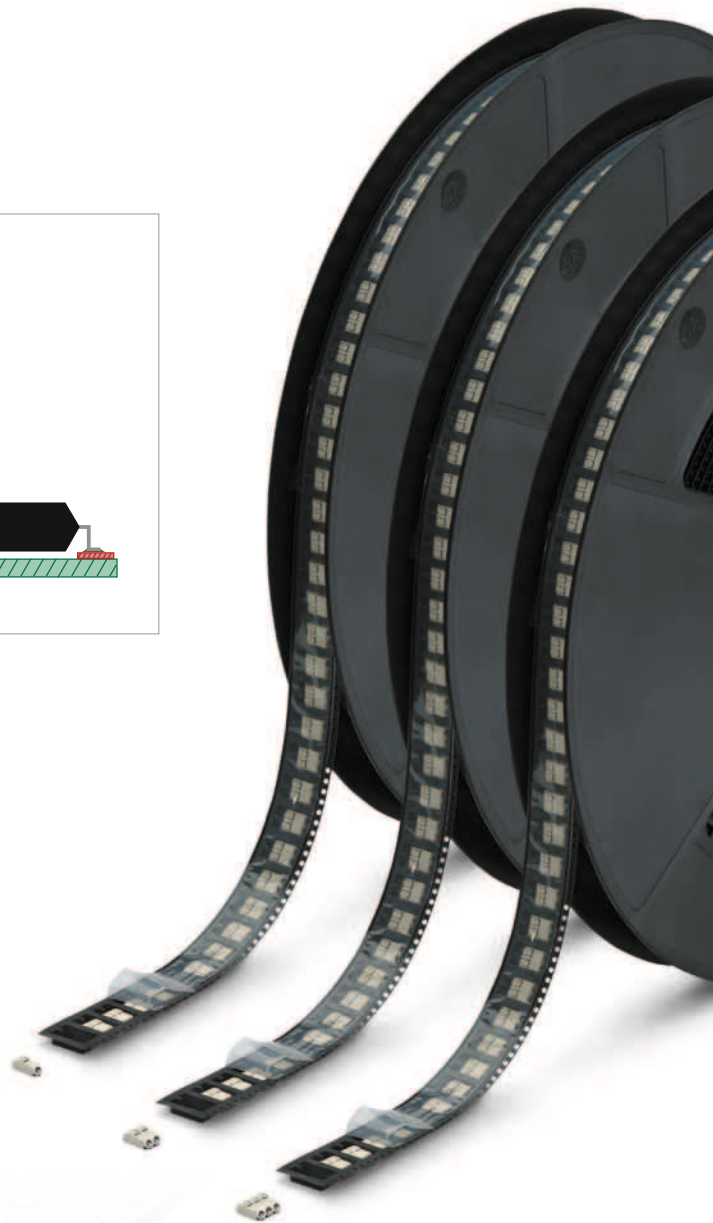
Surface Mount Technology (SMT) means soldering electronic components directly onto PCB surface pads without drilling holes. The basic SMT process consists of applying solder paste to the PCB via solder dispensing equipment, screen or stencil printing. SMT assembly is performed using fully automated placement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

The SMD components are soldered to the board in infrared, convection or vapor phase ovens.

### Reflow Soldering Process:



### Application Examples:





To the video

[www.wago.com/2060](http://www.wago.com/2060)



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