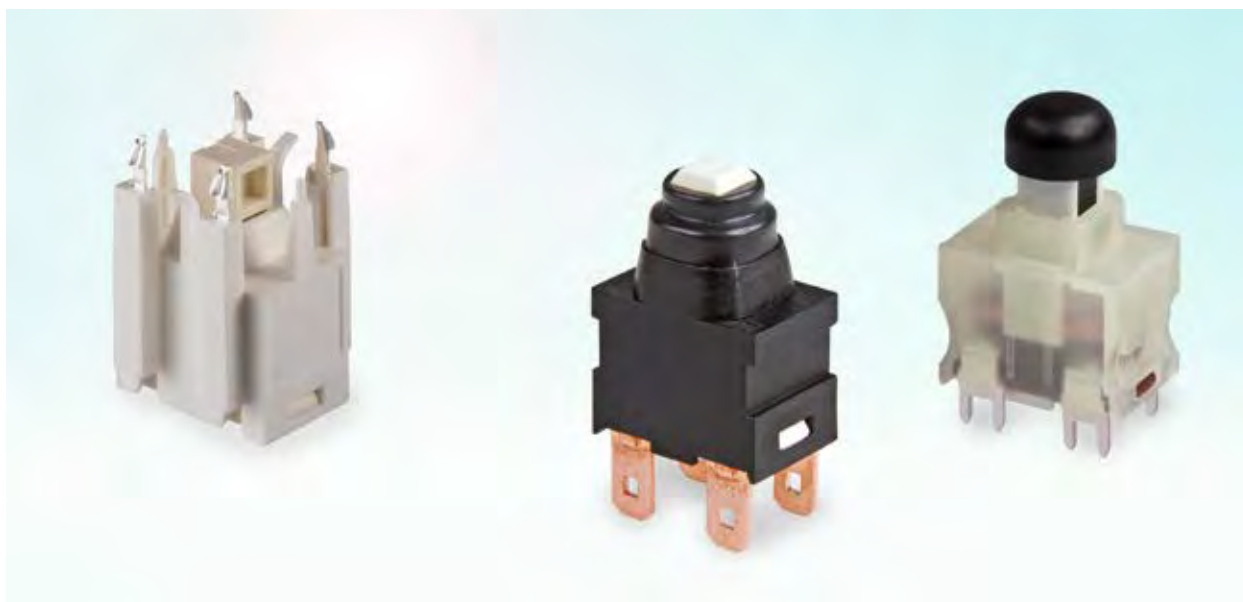


## ➔ SERIES 1680 - SINGLE AND DOUBLE-POLE PUSHBUTTON SWITCHES

TO 16 (4) A / 12 (12) A 250 V AC







### PRODUCT FEATURES

- ➔ Million times proven double lifting contact system with at least 100 000 mechanical switching cycles
- ➔ High electrical rating up to 16 A
- ➔ High mechanical load capacity up to 750 N (for foot actuation)
- ➔ Great variety
- ➔ Variable housing and pushbutton form with holders
- ➔ With pole separating wall (basic type 1689)

### ON REQUEST


- ➔ Special plastics
- ➔ Other terminal variants
- ➔ Customized actuators and housing contours
- ➔ Cable assembly
- ➔ Behind PCB mountable variants

|                                                       |                                                                                                                                                                                                                                                                                                                                                                           |
|-------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Mechanical life endurance</b>                      | 10E4                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Contact resistance (new condition)</b>             | < 100 mOhm (1 A 12 V DC)                                                                                                                                                                                                                                                                                                                                                  |
| <b>Insulation resistance (new condition)</b>          | > 100 MOhm (500 V DC)                                                                                                                                                                                                                                                                                                                                                     |
| <b>Proof tracking</b>                                 | 250 PTI                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Protection type</b>                                | IP 40                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Ambient temperature</b>                            | terminal side -20 °C ... +100 °C ... +105 °C ... +125 °C (product-dependent)<br>actuating side -20 °C ... +55 °C                                                                                                                                                                                                                                                          |
| <b>Flammability</b>                                   | UL 94 (actuator: V-0, socket: V-1, housing: V-2)<br>UL 94 V-0 (product-dependent)                                                                                                                                                                                                                                                                                         |
| <b>Glow wire test temperature</b>                     | 850 °C                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Material</b>                                       | actuator<br>PBTP / PA / PA (product-dependent)<br>housing<br>PA / PA glass fiber-reinforced / PA C3U /<br>PA Latamid glass fiber-reinforced (product-dependent)<br>terminals<br>silver plated / tinned / copper bare (product-dependent)                                                                                                                                  |
| <b>Plug force of the terminals</b>                    | ≤ 80 N                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Approval marks</b>                                 |  /  /  /  (product-dependent) |
| <b>Suitable for appliances of protection class II</b> |                                                                                                                                                                                                                                                                                                                                                                           |



# SERIES 1680 - SINGLE AND DOUBLE-POLE PUSHBUTTON SWITCHES

TO 16 (4) A / 12 (12) A 250 V AC




























| <br>single-pole | 8 (8) A 250 V AC 1E4   | 16 (4) A 250 V AC 1E4 | 12 (12) A 250 V AC 5E4 | 12 (12) A 250 V AC 1E4 | 12 (8) A 250 V AC 1E4 | 10 (8) A 250 V AC 5E4 | 16 A 125 - 250 V AC | 12 A 125 - 250 V AC 1/2 HP | 5 A 125 V AC L | Terminal type | Terminal description | Contact distance (mm) | Contact material | Operating force (N) | Free position (FP) max. (mm) | Operating position (OP) (mm) | Permissible total travel position (TP) (mm) | EN 60335 cap. 30 conform "G" | Miscellaneous           | Actuator description | Stock version |
|--------------------------------------------------------------------------------------------------|------------------------|-----------------------|------------------------|------------------------|-----------------------|-----------------------|---------------------|----------------------------|----------------|---------------|----------------------|-----------------------|------------------|---------------------|------------------------------|------------------------------|---------------------------------------------|------------------------------|-------------------------|----------------------|---------------|
|                                                                                                  | ON / OFF switch (SPST) |                       |                        |                        |                       |                       |                     |                            |                |               |                      |                       |                  |                     |                              |                              |                                             |                              |                         |                      |               |
| 1681.2102                                                                                        |                        |                       | ○                      |                        |                       |                       |                     | ○                          |                |               | vertical             | ≥ 3                   | Ag               | 7.0 ± 2.5           | 26.5                         | 23.8                         | 22.2                                        | ○                            | resting pin             |                      |               |
| 1681.3104                                                                                        |                        |                       | ○                      |                        |                       |                       |                     | ○                          |                |               | 4.8 horizontal       | ≥ 3                   | Ag               | 7.0 ± 2.5           | 26.5                         | 23.8                         | 22.2                                        | ○                            |                         |                      |               |
| 1681.4403                                                                                        |                        |                       | ○                      |                        |                       |                       |                     | ○                          |                |               | horizontal           | ≥ 3                   | Ag               | 7.0 ± 2.5           | 24                           | 21.3                         | 19.7                                        | ○                            | resting pin             |                      |               |
| 1681.4431                                                                                        |                        |                       | ○                      |                        |                       | ○                     |                     | ○                          |                |               | 5.3 long horizontal  | ≥ 3                   | Ag               | 7.0 ± 2.5           | 24                           | 21.3                         | 19.8                                        |                              | flange on the end faces |                      |               |
| 1681.1101                                                                                        |                        |                       |                        |                        | ○                     | ○                     |                     | ○                          |                |               | 4.8 vertical         | ≥ 3                   | Ag               | 7.0 ± 2.5           | 26.5                         | 23.8                         | 22.2                                        |                              |                         |                      | ○             |
| 1681.1702                                                                                        |                        |                       |                        |                        | ○                     | ○                     |                     | ○                          |                |               | 4.8 vertical         | ≥ 3                   | Ag               | 7.0 ± 2.5           | 24                           | 21.3                         | 19.7                                        | ○                            |                         |                      |               |
| 1681.3101                                                                                        |                        |                       |                        |                        | ○                     | ○                     |                     | ○                          |                |               | 4.8 horizontal       | ≥ 3                   | Ag               | 7.0 ± 2.5           | 26.5                         | 23.8                         | 22.2                                        |                              |                         |                      |               |
| 1681.3701                                                                                        |                        |                       |                        |                        | ○                     | ○                     |                     | ○                          |                |               | 4.8 horizontal       | ≥ 3                   | Ag               | 7.0 ± 2.5           | 24                           | 21.3                         | 19.7                                        |                              |                         |                      |               |
| 1681.4402                                                                                        |                        |                       |                        |                        | ○                     | ○                     |                     | ○                          |                |               | horizontal           | ≥ 3                   | Ag               | 7.0 ± 2.5           | 24                           | 21.3                         | 19.7                                        |                              | rest pin                |                      |               |
| 1681.4701                                                                                        |                        |                       |                        |                        | ○                     | ○                     |                     | ○                          |                |               | horizontal           | ≥ 3                   | Ag               | 7.0 ± 2.5           | 24                           | 21.3                         | 19.7                                        |                              | resting pin             |                      |               |
| 1681.5701                                                                                        |                        |                       |                        |                        |                       |                       |                     |                            |                |               |                      | ≥ 3                   | Ag               | 7.0 ± 2.5           | 24                           | 21.3                         | 19.7                                        |                              |                         |                      |               |
| Normally closed contact (SPNC)                                                                   |                        |                       |                        |                        |                       |                       |                     |                            |                |               |                      |                       |                  |                     |                              |                              |                                             |                              |                         |                      |               |
| 1681.9408                                                                                        |                        |                       | ○                      |                        |                       | ○                     |                     |                            |                |               | horizontal           | ≥ 3                   | Ag               | 6.5 ± 1.5           | 26.85                        | 29.4                         | 22.8                                        |                              | resting pin             |                      |               |
| Normally open contact (SPNO)                                                                     |                        |                       |                        |                        |                       |                       |                     |                            |                |               |                      |                       |                  |                     |                              |                              |                                             |                              |                         |                      |               |
| 1681.1354                                                                                        |                        |                       |                        |                        | ○                     | ○                     |                     | ○                          |                |               | 4.8 vertical         | ≥ 3                   | Au               | 7.0 ± 2.5           | 24                           | ≤ 21.3                       | 19.7                                        | ○                            | special housing contour |                      |               |
| 1681.3501                                                                                        |                        |                       |                        |                        | ○                     | ○                     |                     | ○                          |                |               | 4.8 horizontal       | ≥ 3                   | Ag               | 7.0 ± 2.5           | 24                           | 21.3                         | 19.7                                        |                              |                         |                      |               |

ROCKER SWITCHES  
 PUSHBUTTON SWITCHES  
 TOGGLE SWITCHES  
 SLIDE SWITCHES  
 ROTARY SWITCHES  
 FOOT SWITCHES  
 TACT AND KEY SWITCHES  
 MICRO-SIGNAL SWITCHES  
 SMIP-ACTION SWITCHES  
 MICRO-SIGNAL SWITCHES  
 SENSORS  
 ECO  
 PUSH N'DRIVE



# SERIES 1680 - SINGLE AND DOUBLE-POLE PUSHBUTTON SWITCHES

TO 16 (4) A / 12 (12) A 250 V AC

| <br>double-pole | 8 (8) A 250 V AC 1E4   | 16 (4) A 250 V AC 1E4 | 12 (12) A 250 V AC 5E4 | 12 (12) A 250 V AC 1E4 | 12 (8) A 250 V AC 1E4 | 10 (8) A 250 V AC 5E4 | 16 A 125 - 250 V AC | 12 A 125 - 250 V AC - 1/2 HP | 5 A 125 V AC L | Terminal type                                                                       | Terminal description | Contact distance (mm) | Contact material | Operating force (N) | Free position (FP) max. (mm) | Operating position (OP) (mm) | Permissible total travel position (TP) (mm) | EN 60335 cap. 30 conform "G" | Miscellaneous           | Actuator description                                                                  | Stock version |
|--------------------------------------------------------------------------------------------------|------------------------|-----------------------|------------------------|------------------------|-----------------------|-----------------------|---------------------|------------------------------|----------------|-------------------------------------------------------------------------------------|----------------------|-----------------------|------------------|---------------------|------------------------------|------------------------------|---------------------------------------------|------------------------------|-------------------------|---------------------------------------------------------------------------------------|---------------|
|                                                                                                  | ON / OFF switch (DPST) |                       |                        |                        |                       |                       |                     |                              |                |                                                                                     |                      |                       |                  |                     |                              |                              |                                             |                              |                         |                                                                                       |               |
| 1682.7704                                                                                        | ○                      |                       |                        |                        |                       | ○                     |                     |                              |                |    | 6.3 vertical         | ≥ 3                   | Ag               | 9.0 ± 3             | 24                           | 21.3                         | 19.7                                        | ○                            |                         |    |               |
| 1689.3803                                                                                        | ○                      |                       | ○                      |                        | ○                     | ○                     | ○                   |                              |                |    | 4.8 horizontal       | ≥ 3                   | Ag               | 9.0 ± 3             | 24                           | ≤ 20.95                      | 19.7                                        | ○                            | special housing contour |    |               |
| 1682.1101                                                                                        |                        |                       |                        |                        | ○                     | ○                     | ○                   |                              |                |    | 4.8 vertical         | ≥ 3                   | Ag               | 9.0 ± 3             | 26.5                         | 23.8                         | 22.2                                        |                              |                         |    |               |
| 1682.1702                                                                                        |                        |                       |                        |                        | ○                     | ○                     | ○                   |                              |                |    | 4.8 vertical         | ≥ 3                   | Ag               | 9.0 ± 3             | 24                           | 21.3                         | 19.7                                        | ○                            |                         |    |               |
| 1682.2701                                                                                        |                        |                       |                        |                        | ○                     | ○                     | ○                   |                              |                |    | vertical             | ≥ 3                   | Ag               | 9.0 ± 3             | 24                           | 21.3                         | 19.7                                        |                              |                         |    |               |
| 1682.3101                                                                                        |                        |                       |                        |                        | ○                     | ○                     | ○                   |                              |                |    | 4.8 horizontal       | ≥ 3                   | Ag               | 9.0 ± 3             | 26.5                         | 23.8                         | 22.2                                        |                              |                         |    |               |
| 1682.3702                                                                                        |                        |                       |                        |                        | ○                     | ○                     | ○                   |                              |                |  | 4.8 horizontal       | ≥ 3                   | Ag               | 9.0 ± 3             | 24                           | 23.8                         | 22.2                                        | ○                            |                         |  |               |
| 1682.6101                                                                                        |                        |                       |                        |                        | ○                     | ○                     | ○                   |                              |                |  | 180° angled          | ≥ 3                   | Ag               | 9.0 ± 3             | 24                           | 21.3                         | 19.8                                        | ○                            |                         |  |               |
| 1682.6401                                                                                        | ○                      |                       |                        |                        |                       |                       |                     |                              |                |  | 180° angled          | ≥ 3                   | Ag               | 10 ± 3              | 0.4 ± 0.3                    | 2.3 ± 0.3                    | 3.9 ± 0.3                                   | ○                            |                         |  |               |
| Normally open contact (DPNO)                                                                     |                        |                       |                        |                        |                       |                       |                     |                              |                |                                                                                     |                      |                       |                  |                     |                              |                              |                                             |                              |                         |                                                                                       |               |
| 1689.4202                                                                                        |                        | ○                     |                        |                        | ○                     | ○                     | ○                   |                              |                |  | horizontal           | ≥ 3                   | Ag               | 9.0 ± 3             | 24                           | ≤ 20.95                      | 19.7                                        | ○                            | rest pin                |  |               |
| 1682.1201                                                                                        |                        |                       |                        |                        | ○                     | ○                     | ○                   |                              |                |  | 4.8 vertical         | ≥ 3                   | Ag               | 9.0 ± 3             | 26.5                         | 23.8                         | 22.2                                        |                              |                         |  |               |
| 1682.1902                                                                                        |                        |                       |                        |                        | ○                     | ○                     | ○                   | ○                            |                |  | 4.8 vertical         | ≥ 3                   | Ag               | 9.0 ± 3             | 28.8                         | 26.1                         | 24.5                                        |                              | with cap 205.021.011    |  |               |
| 1682.3201                                                                                        |                        |                       |                        |                        | ○                     | ○                     | ○                   |                              |                |  | 4.8 horizontal       | ≥ 3                   | Ag               | 9.0 ± 3             | 26.5                         | 23.8                         | 22.2                                        |                              |                         |  |               |

ROCKERSWITCHES

PUSHBUTTON SWITCHES

TOGGLE SWITCHES

SLIDE SWITCHES

ROTARY SWITCHES

FOOT SWITCHES

TACT AND KEY SWITCHES

SWAP-ACTION SWITCHES

MICRO-SIGNAL SWITCHES

SENSORS

ECO

PUSH'N'DRIVE

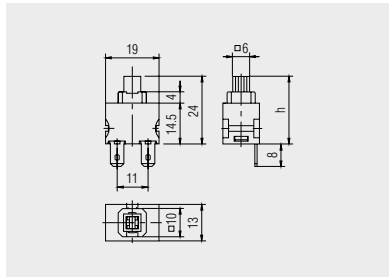


# SERIES 1680 - SINGLE AND DOUBLE-POLE PUSHBUTTON SWITCHES

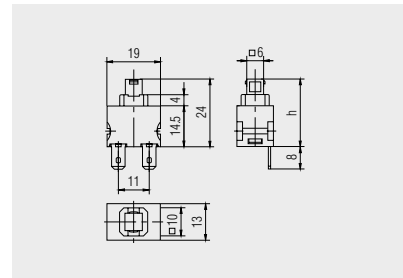
TO 16 (4) A / 12 (12) A 250 V AC



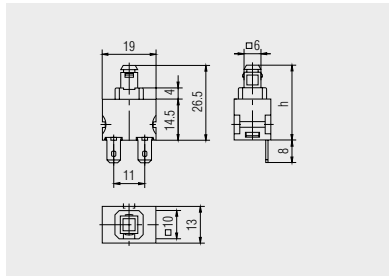
Basic type 1681  
single-pole



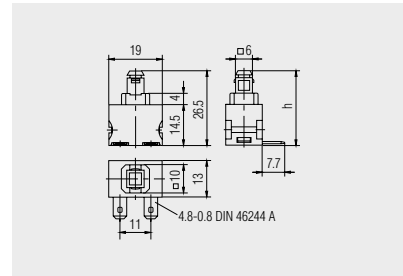
Quick-connect terminal 4.8 x 0.8  
vertical  
(actuator with holder for different caps)



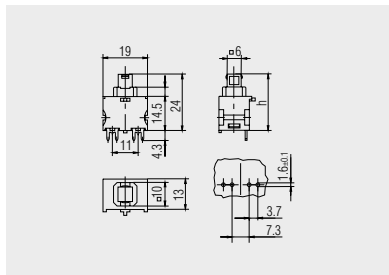
Quick-connect terminal 4.8 x 0.8  
vertical (shortened actuator)



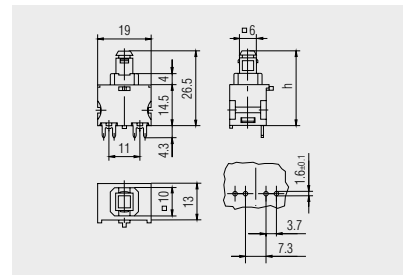
Quick-connect terminal 4.8 x 0.8  
vertical (standard actuator)



Quick-connect terminal 4.8 x 0.8  
horizontal (standard actuator)



PCB terminal vertical



PCB terminal vertical  
(standard actuator)

ROCKER SWITCHES  
PUSHBUTTON SWITCHES  
TOGGLE SWITCHES  
SLIDE SWITCHES  
ROTARY SWITCHES  
FOOT SWITCHES  
TACT AND KEY SWITCHES  
SNAP-ACTION SWITCHES  
MICRO-SIGNAL SWITCHES  
SENSORS  
ECO  
PUSH-N-DRIIVE

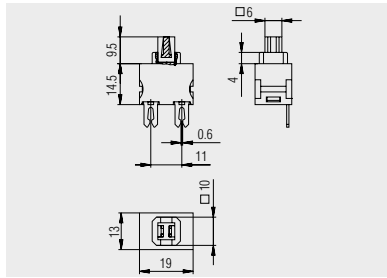


# SERIES 1680 - SINGLE AND DOUBLE-POLE PUSHBUTTON SWITCHES

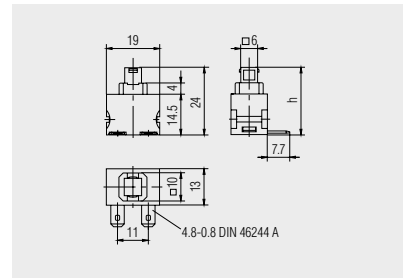
TO 16 (4) A / 12 (12) A 250 V AC



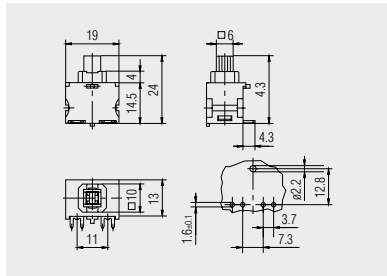
Basic type 1681  
single-pole



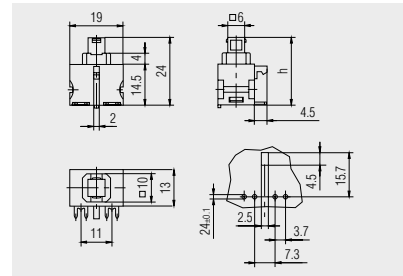
Cut terminal  
(actuator with holder for different caps)



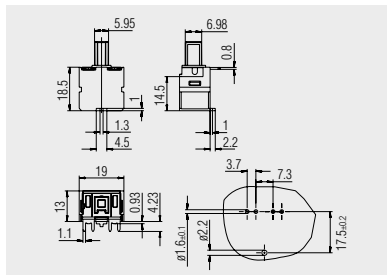
Quick-connect terminal 4.8 x 0.8  
horizontal (shortened actuator)



PCB terminal horizontal  
(actuator with holder for different caps)



PCB terminal horizontal  
(shortened actuator)



PCB terminal horizontal  
1681.9408  
normally closed contact SPNC  
(actuator with holder for different caps)

ROCKERSWITCHES

PUSHBUTTON SWITCHES

TOGGLE SWITCHES

SLIDE SWITCHES

ROTARY SWITCHES

FOOT SWITCHES

TACT AND KEY SWITCHES

SWAP-ACTION SWITCHES

MICRO-SIGNAL SWITCHES

SENSORS

ECO

PUSH'N'DRIVE

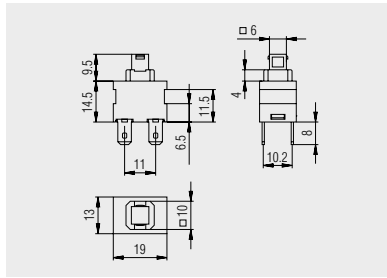


# SERIES 1680 - SINGLE AND DOUBLE-POLE PUSHBUTTON SWITCHES

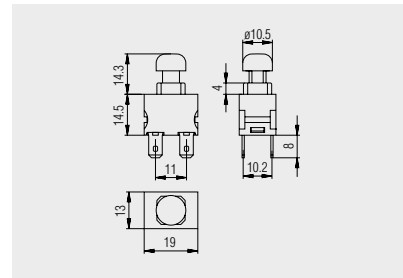
TO 16 (4) A / 12 (12) A 250 V AC



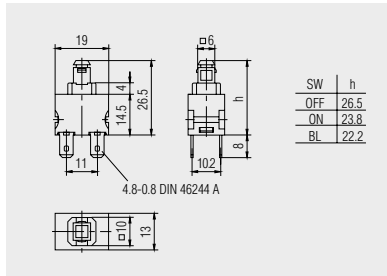
Basic types 1682 and 1689 double-pole



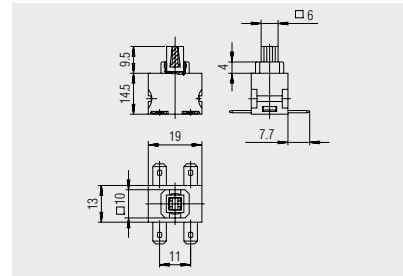
Quick-connect terminal 4.8 x 0.8 vertical (shortened actuator)



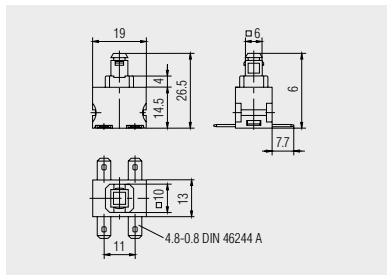
Quick-connect terminal 4.8 x 0.8 vertical (with mounted cap)



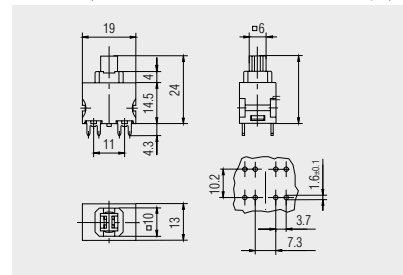
Quick-connect terminal 4.8 x 0.8 vertical (standard actuator)



Quick-connect terminal 4.8 x 0.8 horizontal (actuator with holder for different caps)



Quick-connect terminal 4.8 x 0.8 horizontal (standard actuator)



PCB terminal vertical (actuator with holder for different caps)

ROCKER SWITCHES

PUSHBUTTON SWITCHES

TOGGLE SWITCHES

SLIDE SWITCHES

ROTARY SWITCHES

FOOT SWITCHES

TACT AND KEY SWITCHES

SNMP-ACTION SWITCHES

MICRO-SIGNAL SWITCHES

SENSORS

ECO

PUSH 'N' DRIVE

1

2

3

4

A

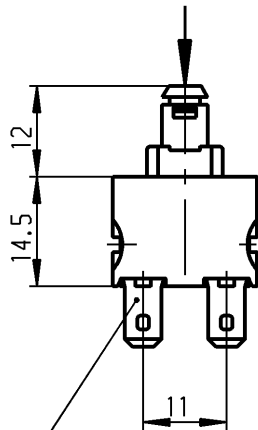
B

C

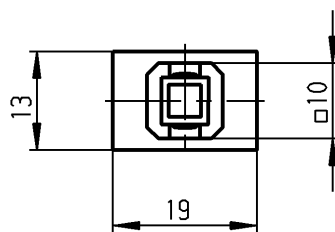
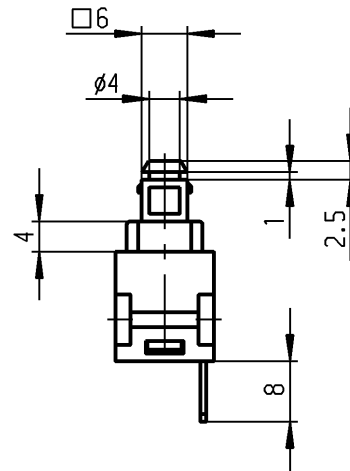
D

E

operating force  
Betätigungskraft  $F=7N \pm 2.5N$



plug in / Flachstecker  
ähnL. DIN 46 244-A 4.8-0.8



Marking  
Aufschrift



168..

12(8)/250~ T100/55

10(8)/250 ~ 5E4



12A 125 - 250 VAC

1/2 HP 125-250 VAC

R 97

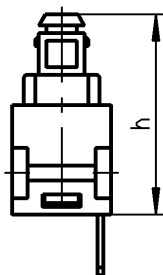
date code of manufacture:

year / week

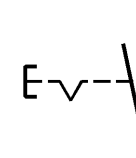
acc. to DIN EN 60062

Herstelljahr/-woche

nach DIN EN 60062



| operating position | Schaltstellung | h    |
|--------------------|----------------|------|
| OFF                | AUS            | 26.5 |
| ON                 | EIN            | 23.8 |
| block              | Block          | 22.2 |



SPST

suitable for appliances of class II

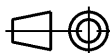
Ausschalter 1-polig

Für Geräte der Klasse II geeignet

Allgemeintoleranzen/UNTOLERANCED DIMENSIONS

| Für Längen und Radien FOR LENGTHS AND RADII. | Abmaße in mm für Nennmaßbereich in mm ALL DIMENSIONS ARE IN MILLIMETRES |                |           |
|----------------------------------------------|-------------------------------------------------------------------------|----------------|-----------|
|                                              | bis/UP TO                                                               | über/OVER      | über/OVER |
|                                              | 6                                                                       | 6 bis/UP TO 30 | 30        |
| ±                                            | 0.2                                                                     | 0.4            |           |

PROJECTION



Pause COPY

Blatt SHEET

Original

DIN

A4

Maßstab

SCALE

1:1

0 10 20 30 mm

Zeichn./DRAWING NO.

K

1681.1101

Appliance Switch  
Geräteschalter

gez./DRAWN BY 28.04.92 mej

gepr./CHECKED BY

Ersatz für/REPLACEMENT OF

**MARQUARDT**

Marquardt GmbH, D-78604 Rietheim-Weilheim

Schutzvermerk  
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|-------------|-------------------|---------------|-----|---------------|-------------------|
| d           | 22973             | 22.09.94      | Sb  | i             |                   |
| c           | 22526             | 02.11.93      | Sb  | h             |                   |
| b           | 22365             | 13.08.93      | mej | g             | 34660             |
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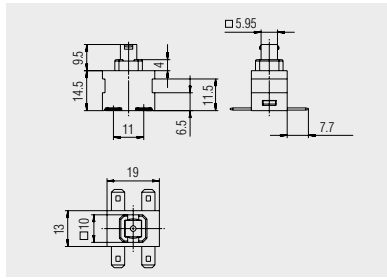


# SERIES 1680 - SINGLE AND DOUBLE-POLE PUSHBUTTON SWITCHES

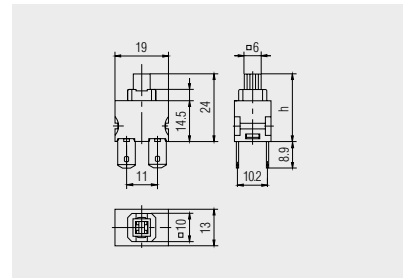
TO 16 (4) A / 12 (12) A 250 V AC



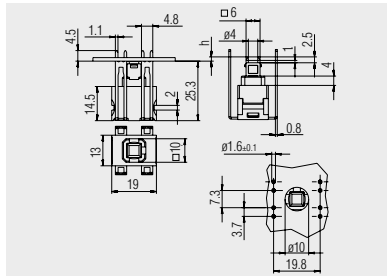
Basic types 1682 and 1689 double-pole



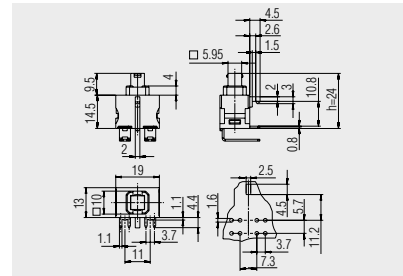
Quick-connect terminal 4.8 x 0.8 horizontal (shortened actuator without cut-out)



Quick-connect terminal 6.3 vertical (actuator with holder for different caps)



PCB terminal 180° angled (shortened actuator)



PCB terminal horizontal (shortened actuator without cut-out)

ROCKERSWITCHES

PUSHBUTTON SWITCHES

TOGGLE SWITCHES

SLIDE SWITCHES

ROTARY SWITCHES

FOOT SWITCHES

TACT AND KEY SWITCHES

SWAP-ACTION SWITCHES

MICRO-SIGNAL SWITCHES

SENSORS

ECO

PUSH'N'DRIVE