

➔ SERIES 1683 - SINGLE AND DOUBLE-POLE PUSHBUTTON SWITCHES

TO 16 A 250 V AC



PRODUCT FEATURES

- ➔ Million times proven, double lifting contact system
- ➔ High electrical rating up to 16 A
- ➔ High rating with 100 000 mechanical switching cycles
- ➔ Illuminated and non-illuminated variants

ON REQUEST


- ➔ Other colors
- ➔ Printing
- ➔ Other lamp variants
- ➔ Snap-on customized actuators
- ➔ Other terminal variants (e.g. 6.3 x 0.8 mm)
- ➔ Cable assembly
- ➔ Variant with dust and water protection


| | |
|--|---|
| Mechanical life endurance | 10E4 |
| Operating force | approx. 8 N (basic type 1683) approx. 12 N |
| Contact resistance (new condition) | < 100 mOhm (1 A 12 V DC) |
| Insulation resistance (new condition) | > 100 MOhm (500 V DC) |
| Proof tracking | 250 PTI |
| Ambient temperature | terminal side -20 °C ... +100 °C actuating side -20 °C ... +55 °C |
| Flammability | UL 94 (actuator: V-0, socket: V-1, housing: V-2) UL 94 V-0 |
| Glow wire test temperature | 850 °C |
| Actuator | IP 40 IP 65 and IP 67 (product- dependent) |
| Material actuator housing | PC / EPDM / PA Latamid PA / PA glass fiber-reinforced / PA C3U / PA Latamid glass fiber-reinforced |
| Plug force of the terminals | ≤ 80 N |
| Approval marks | |
| Suitable for appliances of protection class II | |



SERIES 1683 - SINGLE AND DOUBLE-POLE PUSHBUTTON SWITCHES

TO 16 A 250 V AC

|  single-pole | | Lighting voltage (V) | Actuator color / printing | 16 (4) A 250 V AC 1E4 | 12 (8) A 250 V AC 1E4 | 10 (8) A 250 V AC 5E4 | 12 A 125 - 250 V AC 1/2 HP | Terminal type | Terminal description | Contact distance (mm) | Contact material | Free position (FP) max. (mm) | Operating position (OP) (mm) | Permissible total travel position (TP) (mm) | Actuator | Miscellaneous | Stock version |
|--|-----|----------------------|---------------------------|-----------------------|-----------------------|-----------------------|----------------------------|---------------|----------------------|-----------------------|------------------|------------------------------|------------------------------|---|-----------------|------------------------------|-----------------------|
| ON / OFF switch (SPST) | | | | | | | | | | | | | | | | | |
| 1686.1101 | 230 | | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | | 4.8 | ≥ 3 | Ag | 23.9 | 20.85 | 19.7 | IP 40 | | |
| 1686.8104 | 230 | | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | | 4.8 | ≥ 3 | Ag | 28 | 25 | 23.8 | IP 65 and IP 67 | | |
| 1683.1101 | | | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | | 4.8 | ≥ 3 | Ag | 23.9 | 20.85 | 19.7 | IP 40 | | |
| 1683.8101 | | | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | | 4.8 | ≥ 3 | Ag | 28 | 25 | 23.8 | IP 65 and IP 67 | | |
| Normally open contact (SPNO) | | | | | | | | | | | | | | | | | |
| 1686.6155 | 24 | | <input type="radio"/> | | | | | | 4.8 / 2 x 2.8 | ≥ 3 | Au | 23.9 | 20.85 | 19.7 | IP 40 | lamp terminal (2.8) external | |
| 1683.1201 | | | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | | 4.8 | ≥ 3 | Ag | 23.9 | 20.85 | 19.7 | IP 40 | | <input type="radio"/> |
| 1683.1802 | | | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | | 4.8 | ≥ 3 | Ag | 23.5 | 20.45 | 19.3 | IP 40 | | |

|  double-pole | | Lighting voltage (V) | Actuator color / printing | 16 (4) A 250 V AC 1E4 | 12 (8) A 250 V AC 1E4 | 10 (8) A 250 V AC 5E4 | 12 A 125 - 250 V AC 1/2 HP | Terminal type | Terminal description | Contact distance (mm) | Contact material | Free position (FP) max. (mm) | Operating position (OP) (mm) | Permissible total travel position (TP) (mm) | Actuator | Miscellaneous | Stock version |
|--|-----|----------------------|---------------------------|-----------------------|-----------------------|-----------------------|----------------------------|---------------|----------------------|-----------------------|------------------|------------------------------|------------------------------|---|-----------------|------------------|-----------------------|
| ON / OFF switch (DPST) | | | | | | | | | | | | | | | | | |
| 1687.1104 | 230 | | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | | 4.8 | ≥ 3 | Ag | 23.9 | 20.85 | 19.7 | IP 40 | | <input type="radio"/> |
| 1684.1101 | | | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | | 4.8 | ≥ 3 | Ag | 23.9 | 20.85 | 19.7 | IP 40 | | |
| 1684.1701 | | | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | | 4.8 | ≥ 3 | Ag | 23.5 | 20.45 | 19.3 | IP 40 | snap-on actuator | |
| 1684.1801 | | | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | | 4.8 | ≥ 3 | Ag | 23.5 | 20.45 | 19.3 | IP 40 | | |
| Normally open contact (SPNO) | | | | | | | | | | | | | | | | | |
| 1684.8202 | | | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | | 4.8 | ≥ 3 | Ag | 28 | 25 | 23.8 | IP 65 and IP 67 | | |

ROCKERSWITCHES

PUSHBUTTON SWITCHES

TOGGLE SWITCHES

SLIDE SWITCHES

ROTARY SWITCHES

FOOT SWITCHES

TACT AND KEY SWITCHES

SNAP-ACTION SWITCHES

MICRO-SIGNAL SWITCHES

SENSORS

ECO

PUSH'DRIVE

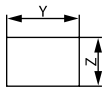


SERIES 1683 - SINGLE AND DOUBLE-POLE PUSHBUTTON SWITCHES

TO 16 A 250 V AC

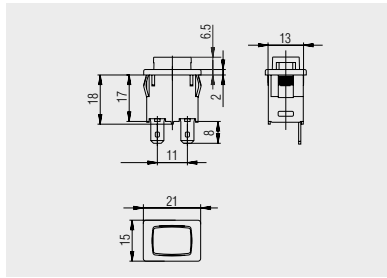


Basic type 1683
single-pole
non-illuminated

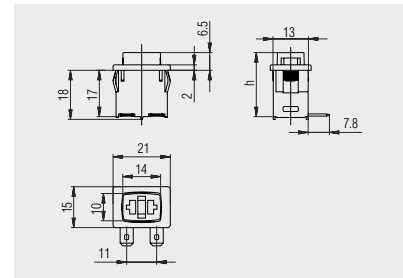


X = Wall thickness

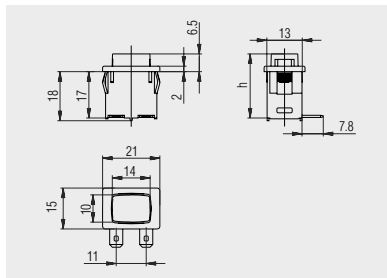
| x | y | z |
|---------------|----------------------|----------------------|
| 0.75 ... 1.25 | 19.2 ^{-0.1} | 12.9 ^{+0.1} |
| 1.25 ... 2 | 19.4 ^{-0.1} | 12.9 ^{+0.1} |
| 2 ... 3 | 19.8 ^{-0.1} | 12.9 ^{+0.1} |



Quick-connect terminal 4.8 x 0.8



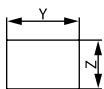
Quick-connect terminal 4.8 x 0.8
horizontal



Quick-connect terminal 4.8 x 0.8
horizontal

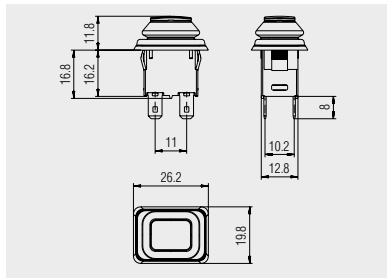


Basic types 1683, 1684,
1686 and 1687
single and double-pole
illuminated / non-illuminated



X = Wall thickness

| x | y | z |
|-------------|----------------------|----------------------|
| 1.0 ... 2.0 | 19.8 ^{-0.1} | 12.9 ^{+0.1} |



Quick-connect terminal 4.8 x 0.8
1686.8101 and 1683.8104 with
bellows for IP 65/IP 67

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TACT AND KEY SWITCHES

SNAP-ACTION SWITCHES

MICRO-SIGNAL SWITCHES

SENSORS

ECO

PUSH 'N' DRIVE

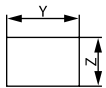


SERIES 1683 - SINGLE AND DOUBLE-POLE PUSHBUTTON SWITCHES

TO 16 A 250 V AC

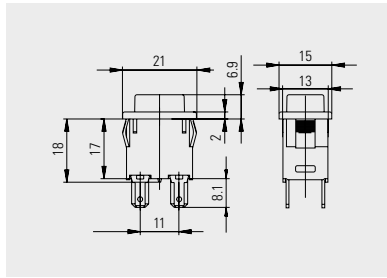


Basic types 1683, 1684, 1686 and 1687
single and double-pole
illuminated / non-illuminated

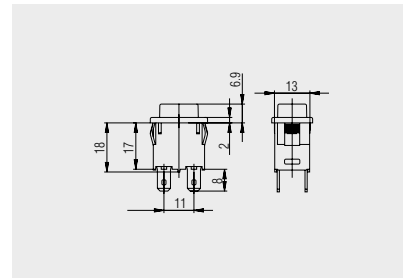


X = Wall thickness

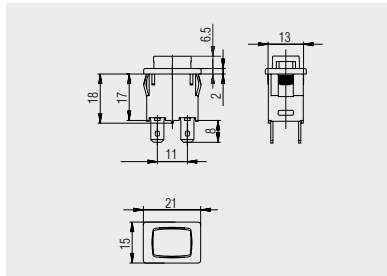
| x | y | z |
|---------------|----------------------|----------------------|
| 0.75 ... 1.25 | 19.2 ^{-0.1} | 12.9 ^{+0.1} |
| 1.25 ... 2 | 19.4 ^{-0.1} | 12.9 ^{+0.1} |
| 2 ... 3 | 19.8 ^{-0.1} | 12.9 ^{+0.1} |



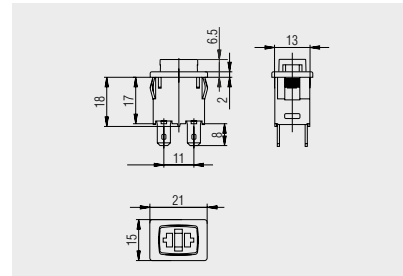
Quick-connect terminal 4.8 x 0.8
/ 2 x 2.8 x 0.8 with external lamp
1686.6155



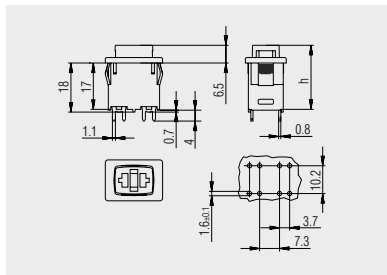
Quick-connect terminal 4.8 x 0.8
1684.1101, 1684.1104, 1684.1201,
basic types 1687 and 1686



Quick-connect terminal 4.8 x 0.8
basic type 1684



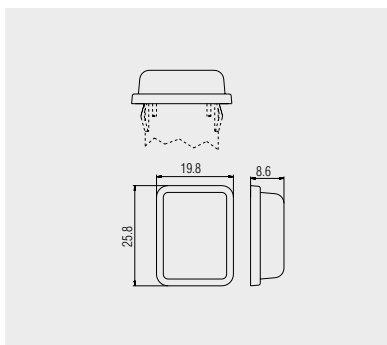
Quick-connect terminal 4.8 x 0.8
basic type 1684



PCB terminal vertical
1684.2701



Protection cap
203.701.011



Transparent PVC-protection cap for
dust and water protection from the
actuation side

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PUSHBUTTON SWITCHES

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SLIDE SWITCHES

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FOOT SWITCHES

TACT AND KEY SWITCHES

SNAP-ACTION SWITCHES

MICRO-SIGNAL SWITCHES

SENSORS

ECO

PUSH'N'DRIVE

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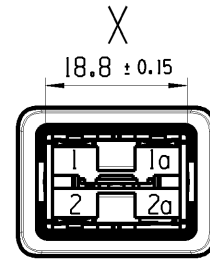
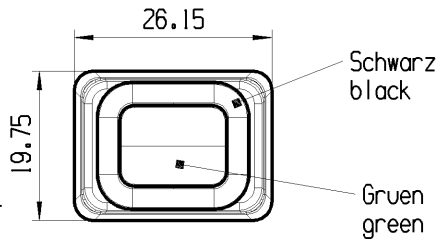
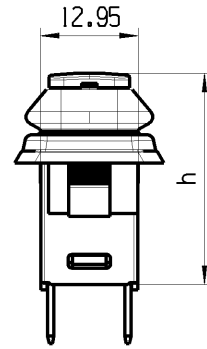
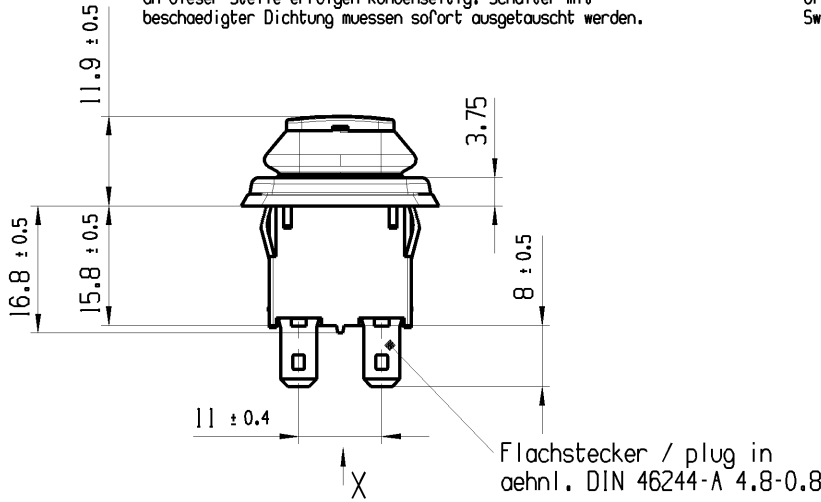
VERTRAULICH

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| | | | |
|---|---|---|--|
| 1 | 2 | 3 | 4 |
| Empfohlener Ausschnitt fuer Rastbefestigung (Grat gegenueber Bestueckungsseite) recommended cut-out for snap-in fixing (ledge opposite to snap-in direction) | Wanddicke wall thickness 1 to / bis 2 | Ausschnittlaenge length of cut-out 19.8 ^{-0.1} | Ausschnittbreite width of cut-out 12.9 ^{+0.1} |

Die in unseren Unterlagen angegebene IP Schutzklasse bezieht sich auf die Betaetigungsseite des Schalters, wenn dieser in das Kundengerat eingebaut ist. Die Abdichtung zwischen Schalter und Kundengerat kann ueber die umlaufende Dichtlippe der Dichtung erfolgen. Die Montage in das Kundengerat und die Pruefung auf Dichtheit an dieser Stelle erfolgen kundenseitig. Schalter mit beschaedigter Dichtung muessen sofort ausgetauscht werden.

The IP-protection class mentioned in our documents refers to the actuating side of the switch when mounted into the customer appliance. The sealing between switch and customer appliance is realized through the surrounding sealing lip of the seal. The mounting into the customer appliance and the testing of the tightness have to be effected by the customer. Switches with damaged seal have to be replaced immediately.

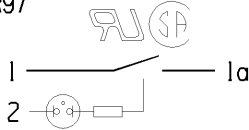


Aufschrift
Marking

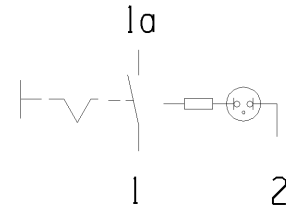
168..
16(4)/250
12(8)/250
10(8)/250
T100/55

| Schaltstellung | operating position | h |
|----------------|--------------------|------|
| AUS | OFF | 28 |
| EIN | ON | 25 |
| Block | block | 23.8 |

12A 125-250V AC
1/2 HP 125-250V AC
R97



Herstellort /-jahr /-woche
nach DIN EN 60062
code of manufacture:
place / year / week
acc. to DIN EN 60062



Ausschalter 1-Polig

Fuer Gerate der Klasse II geeignet
IP65, IP67 (vertiefter Einbau empfohlen)
Glimmlampe mit RV fuer 230V

SPST

suitable for appliance of Class II
IP65, IP67 (deepen mounting advised)
neon lamp with RV for 230V AC

| | | | | | | | | | | |
|--|--------------------|--|---|---|---------------|--|------------------------------|----------------------|---------------------|-------|
| fuer Form und Lage FOR SHAPE AND LOC. | ☉ = | Allgemeintoleranzen UNTOLERANCED DIMENSIONS | | | | Pause COPY | Blatt SHEET 01 | TYP | Zeichn./DRAWING NO. | Index |
| fuer Winkel FOR ANGLE ± 2 | | PROJEKTION | Abmasse und Nennmassbereiche Angaben in mm | Laenge LENGTH | Radial RADII | Original Din A4 | Masstab SCALE 1:1 30mm | K | 16868104 | |
| | | | ALL DIMENSIONS ARE IN MILLIMETRES | 0-6 ± 0.15 ± 0.2 >6-15 ± 0.2 ± 0.3 >15-30 ± 0.25 ± 0.5 >30-70 ± 0.4 >70-120 ± 0.6 ± 10% >120-200 ± 1 | | | | | GERAETESCHALTER | |
| | | | | | | | | | appliance switch | |
| | | | | | | | | | | |
| Ausg. ISSUE | Aenderung REVISION | gez. DRAWN BY | Ausg. ISSUE | Aenderung REVISION | gez. DRAWN BY | Ersatz fuer/REPLACEMENT OF | | MARQUARDT | | |
| 66445 | 06/14/10 | YUK | | | | CAD: NX v6.0 gez./DRAWN BY 06/14/10 YUK gepr./CHECKED BY | | | | |