RACON 12

General data

RACON short-travel keyswitches offer an extremely high switching reliability while needing very little space. They can be arranged as single keys, in rows or key blocks.
When arranged under an overlay, RACON keyswitches should be combined with plungers.

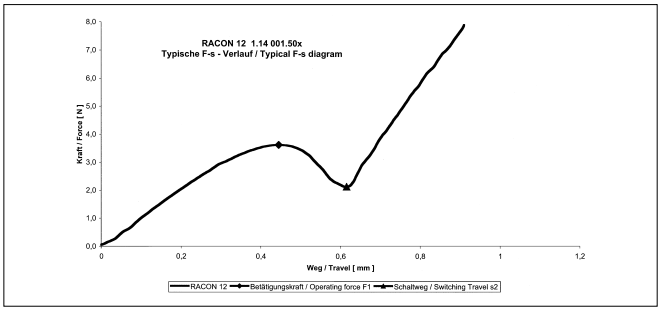
The features at a glance:
- Suitable for the most common soldering methods
  - Wave soldering bath for print versions
  - Reflow soldering (SMD)
  - Manual soldering
- SMD version suitable for processing with an automatic SMD assembly machine

Technical data

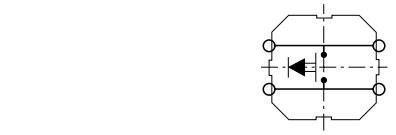
Dimensions	
Recommended key grid	see order block
Key grid max.	see order block
Length of housing	12 mm
Width of housing	12 mm
Overall height	see order block
Mechanical design	
Mounting	soldering
Terminals	see order block
Contact system	snap-action contact
Contact arrangement	1 NO
Contact materials	Au
Illumination	no
Mechanical characteristics	
Operating force	$3.6^{+/-0.7}$ N
Switching travel	$0.61^{+/-0.1}$ mm
Robustness min.	100 N
Electrical characteristics	
Rated voltage min.	0.02 V
Rated voltage max.	42 V
Rated current min.	0.01 mA
Rated current max.	100 mA
Rated power max. (ohmic load)	1 W
Contact resistance when new max.	100 mΩ
Insulation resistance	10^9 Ω
Bouncing time max.	5 ms
Other specifications	
Ambient temp. operating min.	-40 °C
Ambient temp. operating max.	+80 °C
Resistance to constant environment	according to IEC 600 68-2-3 and 2-30
Resistance at variable environment	according to IEC 600 68-2-14 and 2-33
Operating life at R_T = 23° C and test force = 1,5 x rated force	1000000
Solderability / solder heat resistance PCB version	DIN IEC 600 68-2-20
Solderability / solder heat resistance SMD version	EN 61760-1 and DIN IEC 600-68-2-58
Flammability of materials	UL 94 HB
Packing	see order block
Produkt code	see order block

Stock items are marked by **bold printed** order numbers.

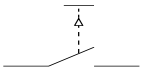
Typical force/travel diagram RACON 12



Circuit Diagram RACON 12

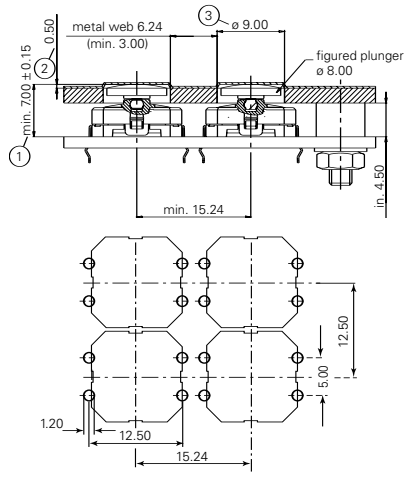


Switching symbols acc. to IEC 617 form X
(twice interrupting)



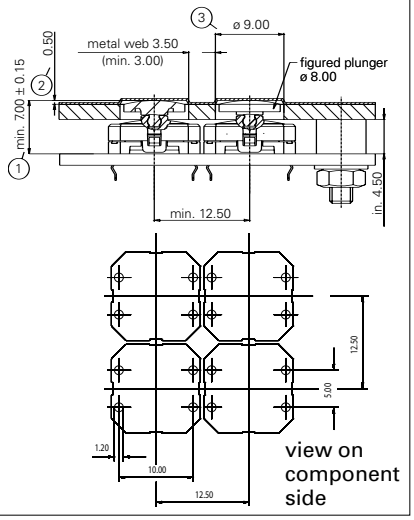
RACON 12, Typical system assembly with plunger under overlay

Solder terminal for PCB, outward



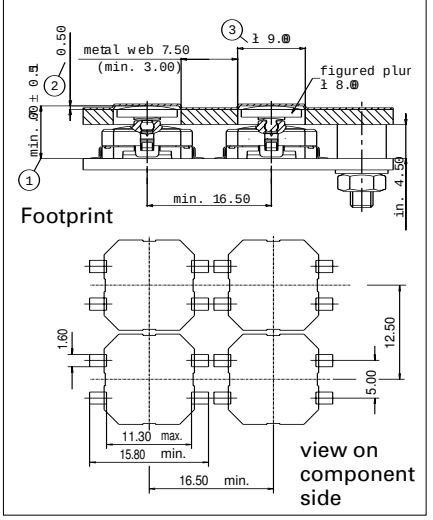
view on component side

Solder terminal for PCB, inward



view on component side

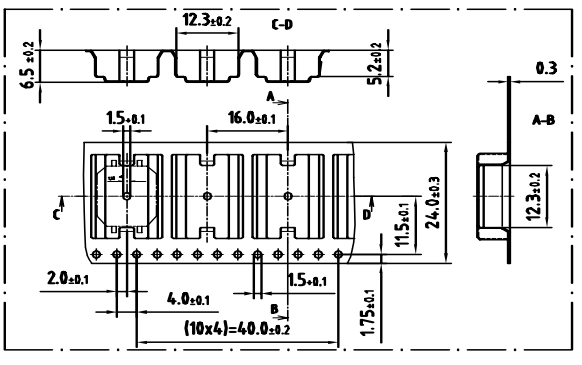
SMD gullwing (Z) terminal



view on component side

Explanation
① Overall height = RACON + plunger
② Recommended area embossing 0.35 mm at glue spacer thickness of 0.15 mm
③ Front panel cut out = plunger diameter + 1 mm

RACON 12, SMD-terminal, tape and reel drawing

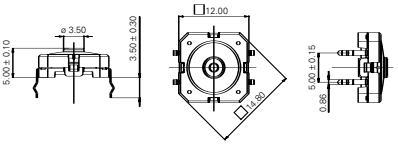


Accessories RACON 12

Description	Photo	Order no.	Page
Square plunger for membrane data entry system		**5.46.001.057/0209**	4 - 21
Plunger for membrane data entry system		**5.46.167.042/0209**	4 - 20
Plunger for membrane data entry system		**5.46.167.090/0209**	4 - 20
Plunger for membrane data entry system		**5.46.169.042/0209**	4 - 20

For other plungers, refer to the chapter „RACON special accessories“; for keycaps, refer to the chapter „RK 90“.

RACON 12, solder terminals for PCB, outward



Terminals	Contact arrangement	Product code	Packing	Recommended key grid	Key grid max.	Order no.
solder terminal for PCB, outward	1 NO	A1	45 pieces per tube	15.24 x 15.24 mm	12.5 x 15.24 mm	**1.14.001.501/0000**

Technical data see page 4 - 10

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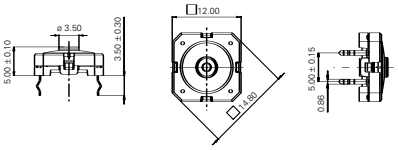
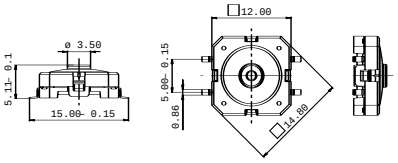
RACON 12, solder terminals for PCB, inward



Terminals	Contact arrangement	Product code	Packing	Recommended key grid	Key grid max.	Order no.
solder terminal for PCB, inward	1 NO	B1	45 pieces per tube	15.24 x 15.24 mm	12.5 x 12.5 mm	**1.14.001.502/0000**

Technical data see page 4 - 10

RACON 12, SMD gullwing (Z) terminals



Terminals	Contact arrangement	Product code	Packing	Recommended key grid	Key grid max.	Order no.
SMD Gullwing (Z) terminals	1 NO	C1	750 pieces tape and reel	15.24 x 16.5 mm	12.5 x 16.5 mm	**1.14.001.503/0000**

Technical data see page 4 - 10

Stock items are marked by **bold printed** order numbers.