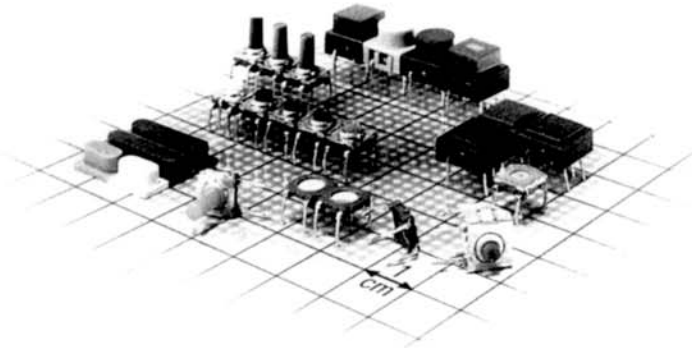


# KSA General Characteristics

# 2

SWITCHES & KNOBS



### Mechanical and environment characteristics of main KS types

All mechanical, electrical and environmental characteristics of main KS types on the following pages are included in the 2 following tables.

**Note:** KSA, KSB, KSF, KSL are the basic models,  
 - with suffix 3N or 5N they are available with 3 Newtons [300 grams] or 5 Newtons [500 grams] actuation force,  
 - with suffix V means vertical mounting.

Data	Type	KSA	KSA 3N	KSA 5N	KSB KSD	KSB 3N	KSF	KSF 3N	KSF 5N	KSL	KSL 3N	KSL 5N	KSAV	KSLV	KSI	KSJ
Actuator color silver contact version		White <sup>2)</sup> Green	Blue	Yellow	-	-	-	-	-	Dark grey	Blue	Yellow	White	Dark grey	Red	-
Actuator color gold contact version		Red	Dark grey	Orange	-	-	-	-	-	Red	Light grey	Orange	Red	Red	Red	-
Travel mm [inch]		0.3 <sup>±0.04</sup> [.0118]	0.4 <sup>±0.04</sup> [.0157]	0.5 <sup>±0.04</sup> [.0197]	0.2 <sup>±0.01</sup> [.00787]	0.2 <sup>±0.01</sup> [.00787]	0.3 <sup>±0.04</sup> [.0118]	0.4 <sup>±0.04</sup> [.0157]	0.5 <sup>±0.04</sup> [.0197]	0.3 <sup>±0.04</sup> [.0118]	0.4 <sup>±0.04</sup> [.0157]	0.5 <sup>±0.04</sup> [.0197]	0.3 <sup>±0.04</sup> [.0118]	0.3 <sup>±0.04</sup> [.0118]	1.1 <sup>±0.2</sup> [.0433]	0.4 <sup>±0.15</sup> [.0157]
Operating force N [grams] ± 25%		1.3 [130]	3 <sup>1)</sup> [300]	5 <sup>1)</sup> [500]	1.6 [160]	3 [300]	1.6 [160]	3 <sup>1)</sup> [300]	5 <sup>1)</sup> [500]	1.3 [130]	3 <sup>1)</sup> [300]	5 <sup>1)</sup> [500]	1.3 [130]	1.3 [130]	3 [300]	1 [100] 3 [300]
Max. actuation force N [grams]		40 [4000]	40 [4000]	75 [7500]	40 [4000]	40 [4000]	40 [4000]	40 [4000]	75 [7500]	40 [4000]	40 [4000]	75 [7500]	40 [4000]	40 [4000]	40 [4000]	40 [4000]
Operating life with actuation force = 2 time nominal force		5×10 <sup>5</sup> or 10 <sup>6</sup> <sup>2)</sup>	10 <sup>5</sup>	10 <sup>5</sup>	10 <sup>5</sup>	10 <sup>5</sup>	5×10 <sup>5</sup> <sup>2)</sup>	10 <sup>5</sup>	10 <sup>5</sup>	5×10 <sup>5</sup> <sup>2)</sup>	10 <sup>5</sup>	10 <sup>5</sup>	5×10 <sup>5</sup> <sup>2)</sup>	5×10 <sup>5</sup>	10 <sup>5</sup>	10 <sup>5</sup>
M = Manual insertion A = Automatic insertion		M A	M A	M A	M A	M A	M A	M A	M A	M A	M A	M A	M A	M A	M A	M A
AG = Silver contacts AU = Gold contacts		AG AU	AG AU	AG AU	AG AU <sup>4)</sup>	AG AU	AG AU	AG AU	AG AU	AG AU	AG AU	AG AU	AG AU	AG AU	AG AU	AG AU
Storage temperature Silver version °C		-40 to +90	-40 to +90	-40 to +90	-40 to +90	-40 to +90	-40 to +90	-40 to +90	-40 to +90	-40 to +90	-40 to +90	-40 to +90	-40 to +90	-40 to +90	-55 to +90	-55 to +90
Gold version °C		-55 to +125	-55 to +125	-55 to +125	-55 to +125	-40 to +90	-55 to +125	-55 to +125	-55 to +125	-55 to +125	-55 to +125	-55 to +125	-55 to +125	-55 to +125	-50 to +125	-55 to +125
Operating temperature Silver version °C		-40 to +90	-40 to +90	-40 to +90	-40 to +90	-40 to +90	-40 to +90	-40 to +90	-40 to +90	-40 to +90	-40 to +90	-40 to +90	-40 to +90	-40 to +90	-40 to +90	-40 to +90
Gold version °C		-40 to +125	-40 to +125	-40 to +125	-40 to +125	-40 to +125	-40 to +125	-40 to +125	-40 to +125	-40 to +125	-40 to +125	-40 to +125	-40 to +125	-40 to +125	-40 to +125	-40 to +125
SO <sub>2</sub> and H <sub>2</sub> S protected X = Yes 0 = No		X	X	X	0	0	X	X	X	X	X	X	X	X	X	X
Flux tight		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Flux tight washing without thermal shock		X	X	X	0	0	X	X	X	X	X	X	X	X	X	X
Flux tight washing with thermal shock		X	X	X	0	0	X	X	X	X	X	X	X	X	X	X

<sup>1)</sup> In gold version nominal force is 0.3N [30 grams] higher than in silver version and 0.6N [60 grams] for the 5N [500 grams] versions.

<sup>2)</sup> Basic models KSA, KSF, KSL on request, can be delivered for 1 million operations in silver version, in gold version they are automatically supplied with 1 million operations.

<sup>3)</sup> White for 500 k operations, green for 1 million operations.

<sup>4)</sup> KSD not available in gold contacts.