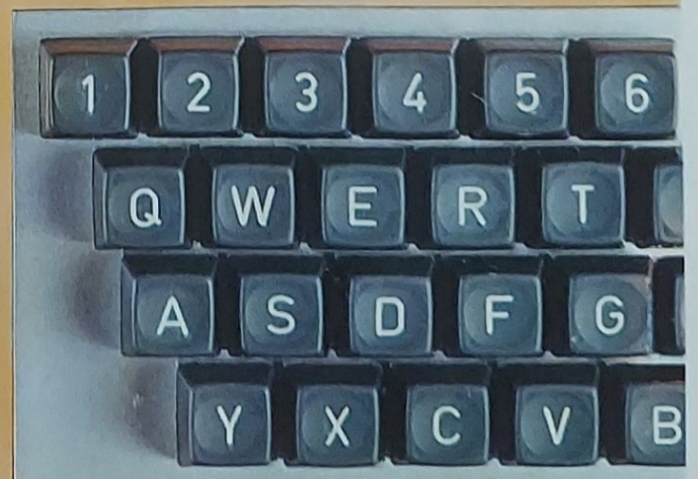
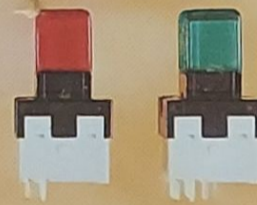
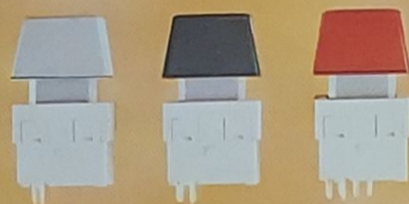


MARQUARDT

Keyboard Switches



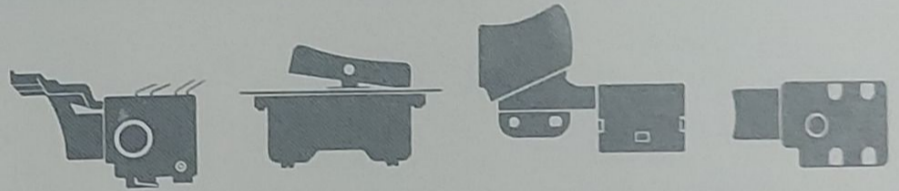


MARQUARDT SWITCHES

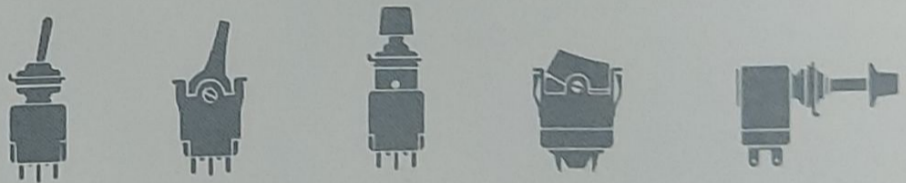
Range of products



Appliance Switches



Miniature Switches



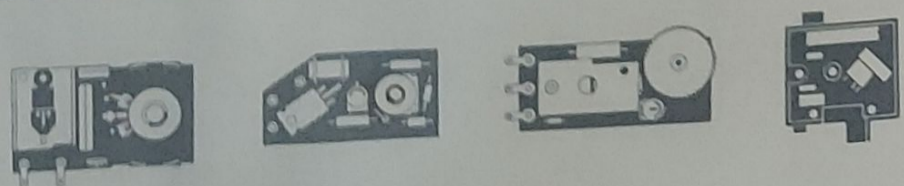
Microswitches



Keyboard Switches



Solid State Control Units



CATALOG OF KEYBOARD SWITCHES

Edition 1978/79

Our manufacturing program is divided into five product groups – see summary on opposite page. The present catalog covers keyboard switches. Special catalogs are available for the other product groups.

In order to illustrate our range of keyboard switches as clearly as possible in this catalog we have indicated only the basic types and their most important dimensions as well as some of the possible variations of the basic type. Please contact us for drawings with details of tolerances and further data.

The use of our switches depends on many additional factors, which are not mentioned in this catalog. We would prefer to advise you by personal contact.

Reference numbers and description			Page
Basic type	6400	Keyboard with click	4...6
Basic type	6200	Keyboard with Reed contact	7
Basic type	6100 and 6120	Keyboards with click	8...9
Accessory parts		Key-button, Incandescent lamp etc.	10...11

Basic type 6400 without lettering



Single pole normally open with click

Voltage max 28 V
 Rating max 100 mA
 Contact resistance max 100 mΩ
 Insulation resistance > 10⁸ Ω
 Contact bounce max 5 ms
 Working temperature -20...+80 °C
 Life endurance 500.000 operations
 at 10 mA/12 V

Actuating force about 0,70 N
 Total travel 1,6 mm
 Contacts made of Au
 Key button and socket made of thermoplastic
 Terminals tinned soldering-pins for printed circuits
 Snap in fixing
 Recommended cut-out
 Spacing 19 mm resp. 16 mm: □ 13,55 mm
 Spacing 13/16 mm: 10,9 x 13,55 mm
 Thickness of material 1,0 ... 1,2 mm
 Fixing frames for keyboards
 see accessory parts page 11

Key
 with transparent button (removable)
 with and without colored insertion

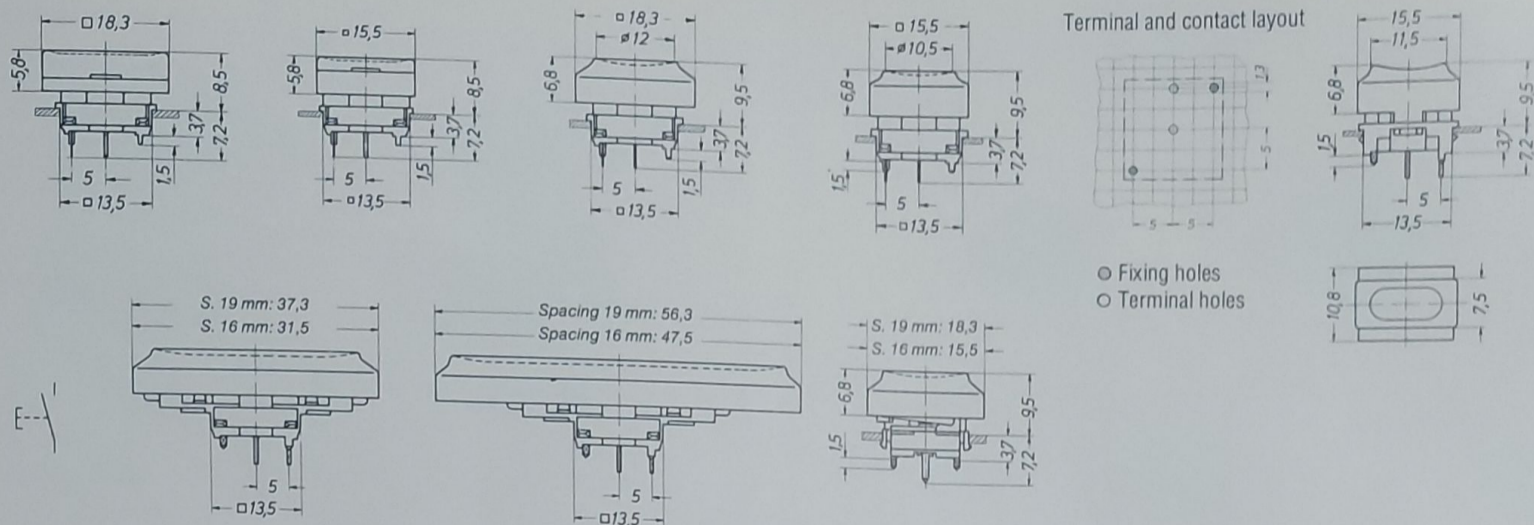


Spacing 19 mm



Spacing 16 mm

		color of button		color of button		
		grey	dark-grey	grey	dark-grey	
Reference number	with insertion	white	6402.0101	6402.0111	6403.0101	6403.0111
		red	6402.0102	6402.0112	6403.0102	6403.0112
		yellow	6402.0103	6402.0113	6403.0103	6403.0113
		green	6402.0104	6402.0114	6403.0104	6403.0114
		orange	6402.0105	6402.0115	6403.0105	6403.0115
	without insertion	6402.0100	6402.0110	6403.0100	6403.0110	



Spacing 19 mm

Spacing 16 mm

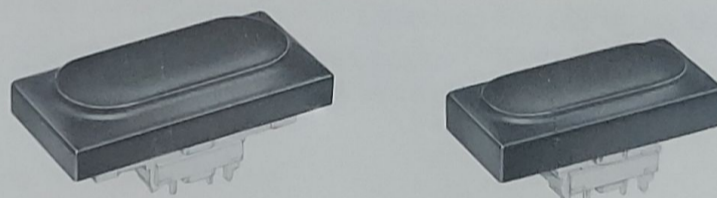
Spacing 13/16 mm

Reference number

color of button

grey	6400.0001	6401.0001	6450.0001
dark-grey	6400.0003	6401.0003	6450.0003
anthracite	6400.0005	6401.0005	6450.0005
red	6400.0006	6401.0006	6450.0006
yellow	6400.0007	6401.0007	6450.0007
green	6400.0008	6401.0008	6450.0008
blue	6400.0009	6401.0009	6450.0009

Key twofold



Spacing 19 mm

Spacing 16 mm

Reference number

color of button

grey	6404.2001	6405.2001
dark-grey	6404.2003	6405.2003
anthracite	6404.2005	6405.2005
red	6404.2006	6405.2006
yellow	6404.2007	6405.2007
green	6404.2008	6405.2008
blue	6404.2009	6405.2009

Key threefold

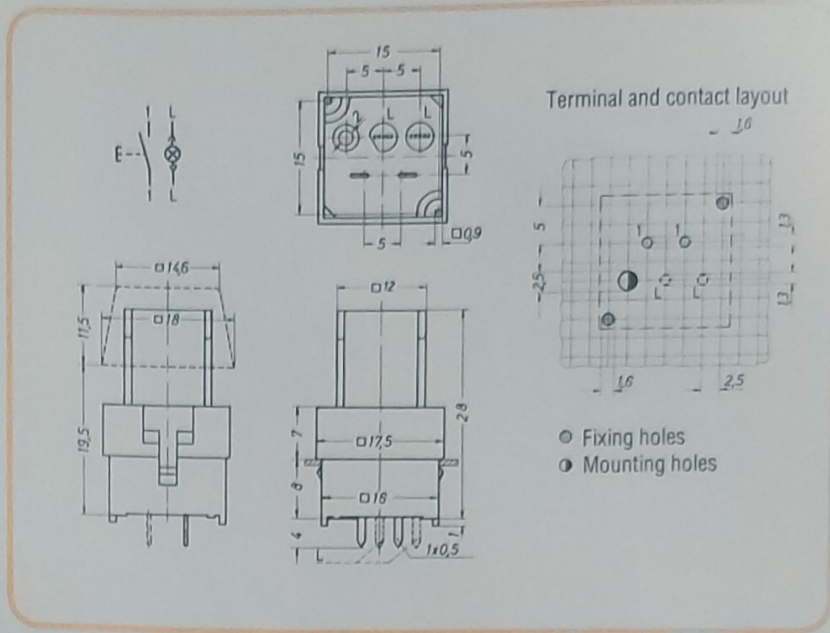
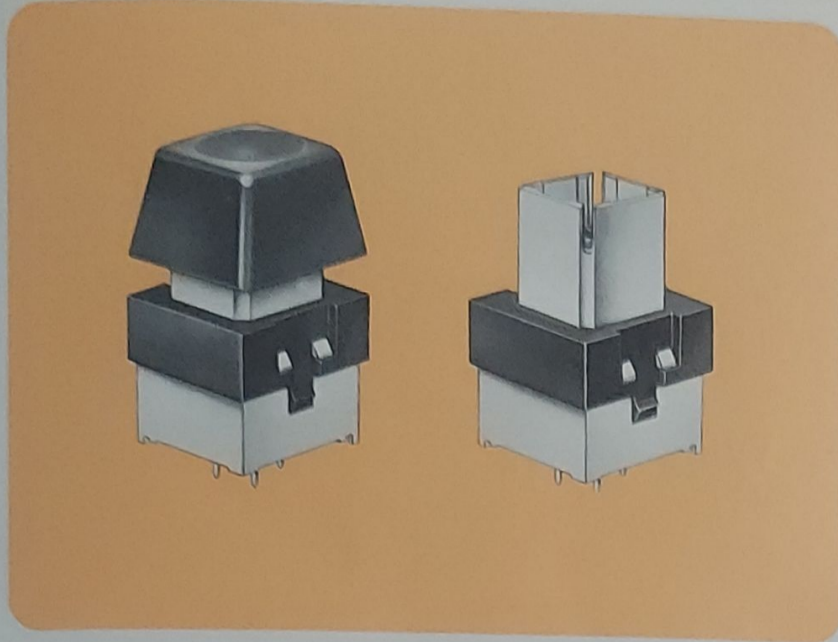


Reference number

color of button

grey	6404.3001	6405.3001
dark-grey	6404.3003	6405.3003
anthracite	6404.3005	6405.3005
red	6404.3006	6405.3006
yellow	6404.3007	6405.3007
green	6404.3008	6405.3008
blue	6404.3009	6405.3009

Basic type 6200



Single pole normally open with reed contact

Electrical rating max 8 W

Voltage max 100 V

Rating max 250 mA

Contact resistance max 150 mΩ

Insulating resistance > 10⁸ Ω

Contact bounce max 5 ms

Working temperature - 20...+80 °C

Life endurance 10.000.000 operations
5 W resistive load

Actuating force about 0,85 N

Total travel 4,0 mm

Key plunger and housing made of thermoplastic

Terminals tinned soldering-pins for printed circuits

Snap in fixing

Recommended cut-out □ 16,05 mm

Spacing 19 mm

Thickness of material 1,0 ... 1,2 mm

T 1¹/₄ BI PIN type lamp interchangeable

Burning time about 25.000 hours (without shock load)
see page 11

Fixing frame for keyboards
see page 11

Delivery will be made without key buttons

Reference numbers for key buttons
see accessory parts page 10 and 11



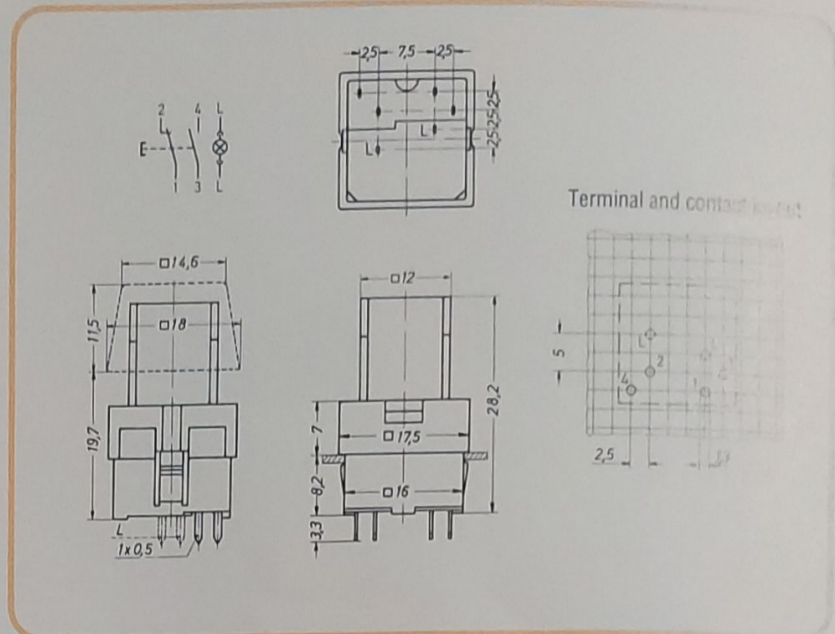
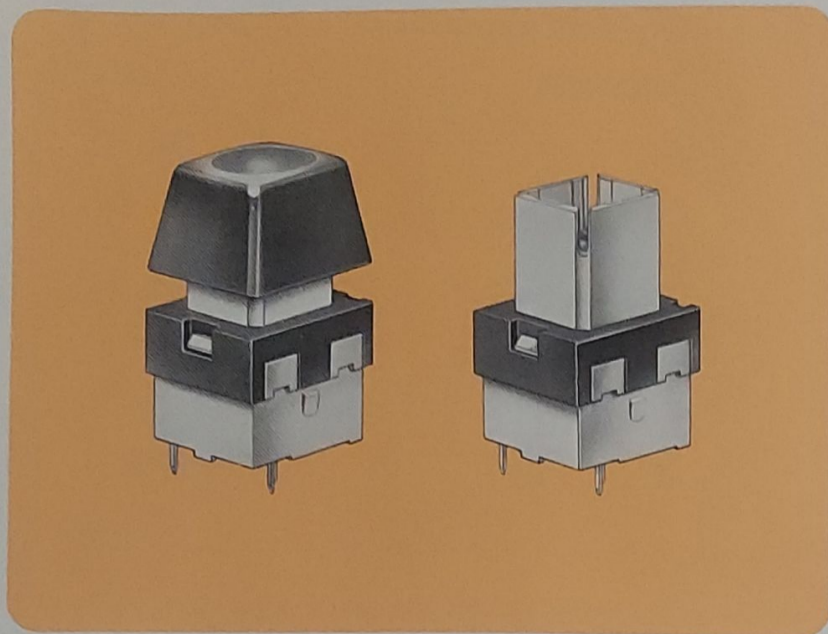
NO momentary



NO locking

Ref. number	without lamp-connections	6200.0101	6202.0101
Ref. number	with lamp-connections	6201.0101	6203.0101
	with lamp 5 V/60 mA	6201.0103	6203.0103
	with lamp 12 V/40 mA	6201.0104	6203.0104
	with lamp 24 V/35 mA	6201.0106	6203.0106
	without incandescent lamp		

Basic type 6100



Single pole normally open or changeover with snap action and click

Voltage max 28 V

Rating max 100 mA

Contact resistance max 100 mΩ

Insulation resistance > 10⁸ Ω

Contact bounce max 5 ms

Working temperature -20...+80 °C

Life endurance 500.000 operations
10 mA/12 V

Fixing frames for keyboards
see accessory parts page 11

Actuating force about 1,20 N

Total travel 4,0 mm

Contacts made of Au

Key plunger and housing made of thermoplastic

Terminals tinned soldering pins for printed circuits

Snap in fixing

Recommended cut-out □ 16,05 mm

Spacing 19 mm

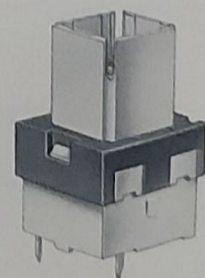
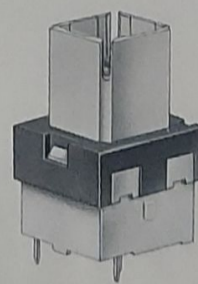
Thickness of material 1,0 ... 1,2 mm

Indicator lamp T 5,5 K interchangeable

Burning time about 4.000 hours (without shock load)
see accessory parts page 11

Delivery will be made without key buttons

Reference numbers for key buttons
see accessory parts page 10 and 11



Normally open

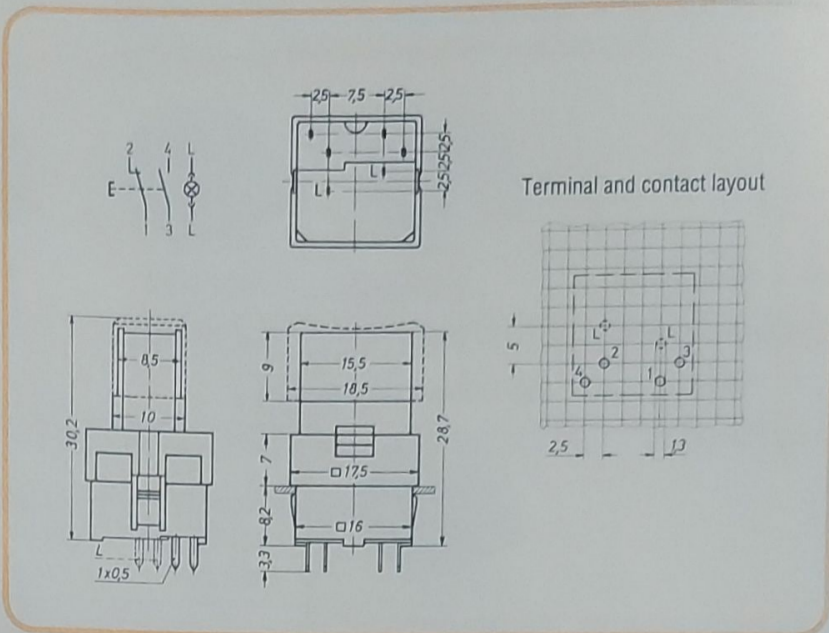
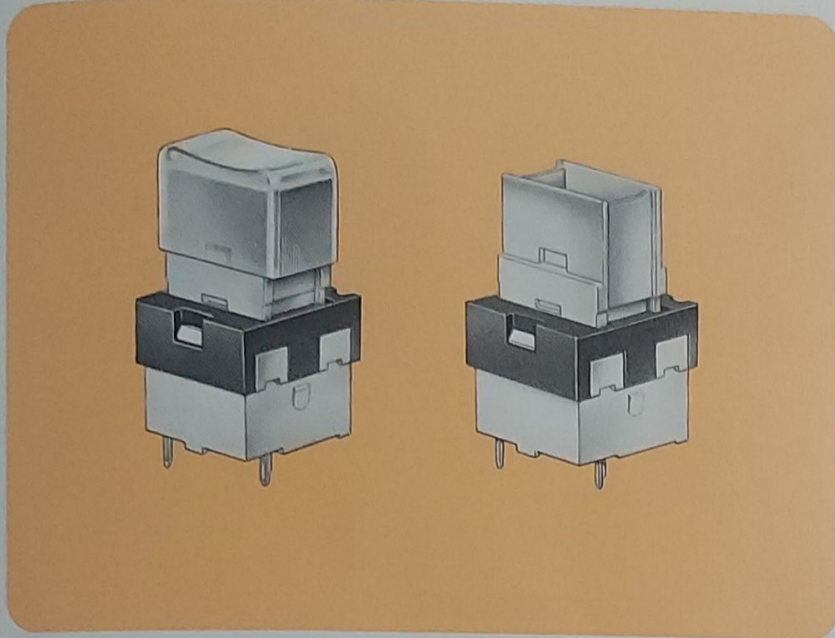
Changeover momentary

Normally open locking

Changeover locking

Ref. number	without lamp connections	6100.0101	6100.0201	6102.0101	6102.0201
Ref. number	with lamp 6 V/40 mA	6101.0101		6103.0101	
	with lamp 12 V/40 mA	6101.0102		6103.0102	
	with lamp 24 V/40 mA	6101.0103		6103.0103	
	without incandescent lamp	6101.0106	6101.0206	6103.0106	6103.0206

Basic type 6120



Single pole normally open or changeover with snap action and click

Voltage max 28 V

Rating max 100 mA

Contact resistance max 100 mΩ

Insulation resistance > 10⁸ Ω

Contact bounce max 5 ms

Working temperature -20...+80 °C

Life endurance 500.000 operations
10 mA/12 V

Fixing frames for keyboards
see accessory parts page 11

Actuating force about 1,20 N

Total travel 4,0 mm

Contacts made of Au

Key plunger and housing made of thermoplastic

Terminals tinned soldering pins for printed circuits

Snap in fixing

Recommended cut-out □ 16,05 mm

Spacing 19 mm

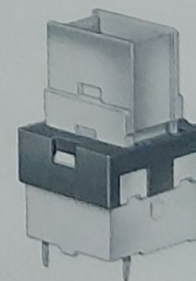
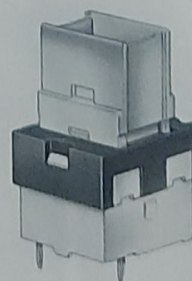
Thickness of material 1,0 ... 1,2 mm

Indicator lamp T 5,5 K interchangeable

Burning time about 4.000 hours (without shock load)
see accessory parts page 11

Delivery will be made without key buttons

Reference numbers for key buttons
see accessory parts page 11



Normally open
momentary

Changeover

Normally open
locking

Changeover

Ref. number	without lamp connections	6120.0101	6120.0201	6122.0101	6122.0201
Ref. number	with lamp 6 V/40 mA	6121.0101		6123.0101	
	with lamp 12 V/40 mA	6121.0102		6123.0102	
	with lamp 24 V/40 mA	6121.0103		6123.0103	
	without incandescent lamp	6121.0106	6121.0206	6123.0106	6123.0206

Accessory parts

for basic type 6100 and 6200:
key button without symbol

Col. of key button						
Reference number	800 000 011	800 000 021	800 000 031	800 000 041	800 000 051	800 000 061







key button with symbols



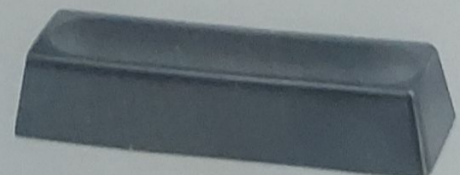
The complete reference number consists of three figure groups, for example 800 001 013
 Group 1: Basic type number of key button
 Group 2 + 3: Number for symbol and color of button
 Example: Symbol »1«, button color grey = reference number 800 001 013

Basic type number 800 - - - - - We ask you to determine the 9 digit reference number according to the above method

Following symbols are available – button color grey or dark-grey, symbol white:

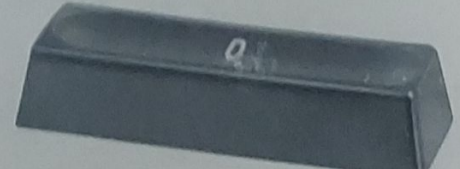
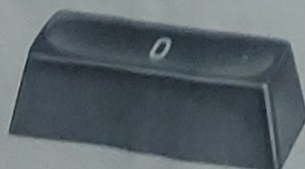
Part of ref. number														
button color grey	001 013	002 013	003 013	004 013	005 013	006 013	007 013	008 013	009 013	010 013	015 013	031 013	032 013	033 013
dark-grey	001 033	002 033	003 033	004 033	005 033	006 033	007 033	008 033	009 033	010 033	015 033	031 033	032 033	033 033
Part of ref. number														
button color grey	034 013	035 013	036 013	037 013	038 013	039 013	051 013	052 013	053 013	054 013	055 013	056 013	057 013	
dark-grey	034 033	035 033	036 033	037 033	038 033	039 033	051 033	052 033	053 033	054 033	055 033	056 033	057 033	
Part of ref. number														
button color grey	058 013	059 013	060 013	061 013	062 013	063 013	064 013	065 013	066 013	067 013	068 013	069 013	070 013	071 013
dark-grey	058 033	059 033	060 033	061 033	062 033	063 033	064 033	065 033	066 033	067 033	068 033	069 033	070 033	071 033
Part of ref. number														
button color grey	072 013	073 013	074 013	075 013	076 013	101 013	102 013	103 013	104 013	105 013	106 013	107 013	108 013	
dark-grey	072 033	073 033	074 033	075 033	076 033	101 033	102 033	103 033	104 033	105 033	106 033	107 033	108 033	
Part of ref. number														
button color grey	109 013	110 013	111 013	112 013	113 013	114 013	115 013	116 013	117 013	118 013	119 013	120 013	121 013	
dark-grey	109 033	110 033	111 033	112 033	113 033	114 033	115 033	116 033	117 033	118 033	119 033	120 033	121 033	

Key button two- or threefold, without symbols



Button color	grey	mid-grey	dark-grey	grey	mid-grey	dark-grey
Reference number	810 000 011	810 000 021	810 000 031	810 200 011	810 200 021	810 200 031

Key button two- or threefold, with symbols



Button color	grey	mid-grey	dark-grey	grey	mid-grey	dark-grey
Reference number	810 010 013	810 010 023	810 010 033	810 210 013	810 210 023	810 210 033

Valid for all key buttons on this page: additional colors are available



for basic type 6100 and 6200:

Key button in three parts for keyboards with and without indicator lamp



comprising of a transparent cap
insert colored
button grey



color of insert

white

red

yellow

green

Reference number

for completely assembled key button

805 000 043

805 000 063

805 000 073

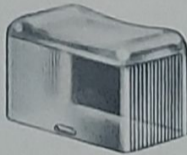
805 000 083

for basic type 6120:

Key button in two parts for keyboards with and without indicator lamp

transparent cap

insert colored



completely assembled
not possible therefore
two different reference
numbers



Color of insert

white

red

yellow

green

Reference number

203 029 011

Reference number

236 000 041

236 000 061

236 000 071

236 000 081

for basic type 6100 and 6120:

incandescent lamp T 5,5 K



6 V/40 mA

12 V/40 mA

24 V/40 mA

Reference number

435 007 011

435 007 021

435 007 031

for basic type 6200:

incandescent lamp BI PIN T 1 1/4



5 V/60 mA

12 V/40 mA

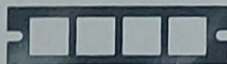
24 V/35 mA

435 003 011

435 003 031

435 003 041

Fixing frames for keyboards (protective brown finish)



Outside dimensions Spacing 19 mm 92 x 25
Outside dimensions Spacing 16 mm 80 x 22

92 x 44
80 x 38

92 x 63
80 x 54

92 x 82
80 x 70

for basic type 6100, 6120 and 6200 (Spacing 19 mm):

Reference number

218 007 011

218 008 011

218 005 011

218 012 011

for basic type 6400 and 6402 (Spacing 19 mm):

Reference number

218 007 021

218 008 021

218 005 021

218 012 021

for basic type 6401 and 6403 (Spacing 16 mm):

Reference number

218 011 011

218 010 011

218 009 011

218 013 011

Further models on demand

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