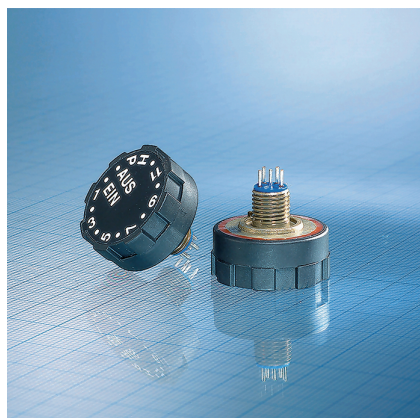


Knob Code Switch SK20



Complete code switch integrated in the operating knob.

- No space required for the switch function inside the electronic equipment.
- Watertight against front panel, therefore especially suited for applications under severe conditions.
- Optional 10, 12 or 16 switching positions.
- BCD, BC or hexadecimal code. Others on request.
- Knob colour black. Different knob colours, designs and inscriptions on request.
- Advantages of front panel mounting: Complete switch sealed according to protection class IP 64 (standard version). Special design: protection class IP 67, tight up to 0,2 bar, 10s.

1.0 Construction

1.1 Number of wafers max.	1 wafer
1.2 Switching combinations per wafer	Code 51, BCD
Design D, detent angle 36°	
Design E, detent angle 30°	Code 41, Binary
Design H, detent angle 22,5°	Code 61, Hexadecimal
1.3 Contacts	Soldering pins
1.4 Mounting	Central mounting

2.0 Electrical Data

2.1 Switching power max.	1,5 VA/W
2.2 Switching voltage max.	15 V $\approx$
2.3 Switching current max.	100 mA
2.4 Rest current max. at θ u 20°C	0,6 A
2.5 Test voltage at 50 Hz	100 V
2.6 Life expectancy	without electrical load $\geq$ 50 000 cycles
	with max power $\geq$ 20 000 cycles
2.7 Contact resistance	initial value $\leq$ 100 m Ω
	after life expectancy $\leq$ 300 m Ω
2.8 Insulation resistance	$\geq$ 10 ¹⁰ Ω

3.0 Mechanical Data

3.1 Stops	Fixed or without stop
3.2 Operating torque	8 Ncm
3.3 Stop strength	50 Ncm
3.4 Vibratory strength	10 g, 10–500 Hz
3.5 Shock strength	50 g
3.6 Dust protection	Sealed wafers
3.7 Cleaning*	Complete immersion in ultrasonic bath
3.8 Waterproofing	Standard version Acc. to protection class IP 64, DIN 40050
	Special version IP 67, dip proof up to 0,2 bar

*With known agents such as Freon, Arklone etc.

4.0 Other Data

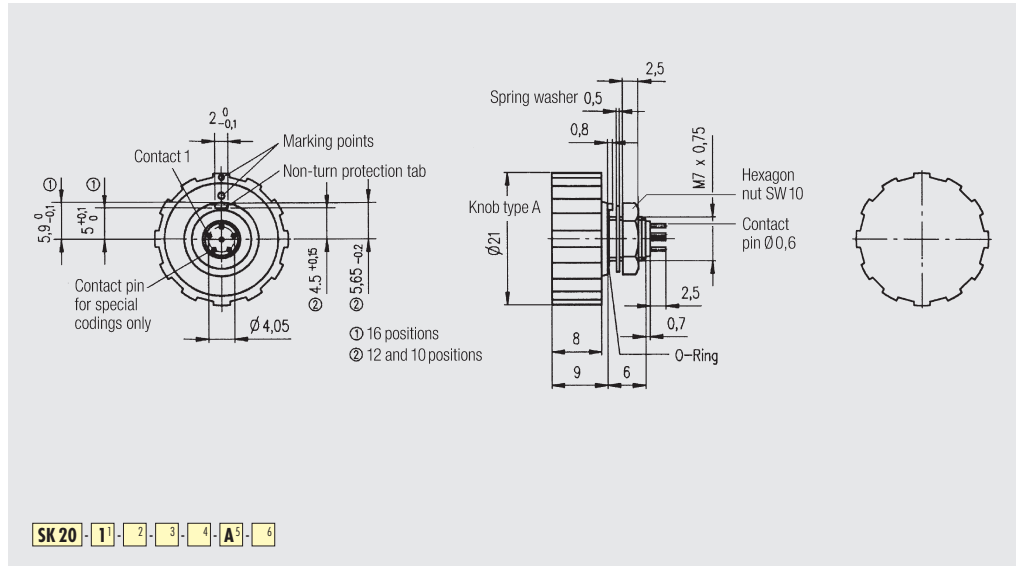
4.1 Contact material	Au
4.2 Insulating material Wafers	PBTP, Polybutylenterephthalate; Code PB
4.3 Soldering time and temperature max.	5 s at 260°C

Ordering Codes

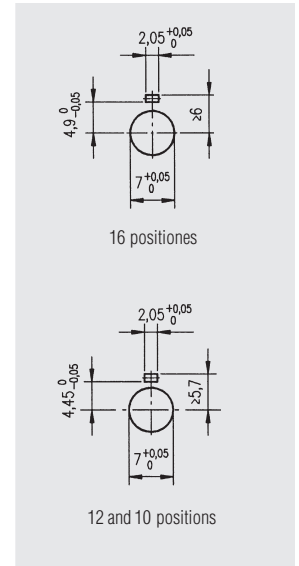
Designation of type	SK 20
1. Number of banks	1
2. Code	41, 51, 61 or 64
3. Distribution over 360°	10, 12 or 16
4. Switching limit	00 = without stop (limit to XX positions)
5. Knob version	A or B
6. Special version	WD = IP 67

The bold-typed data in the yellow order blocks remain unchanged.
Blanks need to be completed according to the ordering details on the previous page.

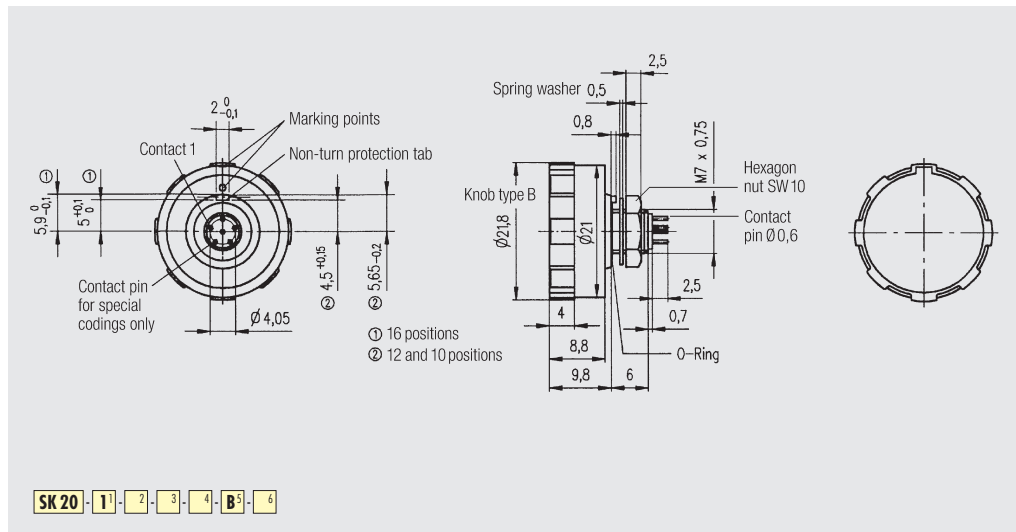
Dimensional Drawings · Dimensions in mm



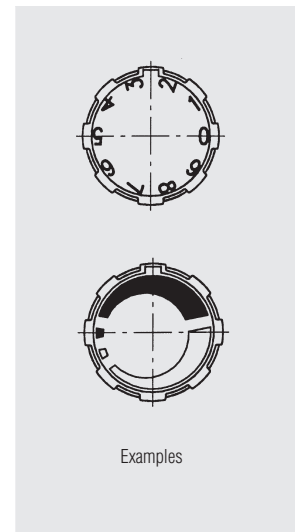
SK 20 · Knob version A



SK 20 · Mounting layouts



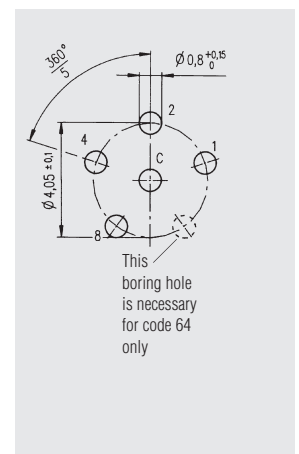
SK 20 · Knob version B



SK 20 · Knob lettering

41 <table><tr><td></td><td colspan="4">C connected with</td></tr><tr><td></td><td>1</td><td>2</td><td>4</td><td>8</td></tr><tr><td>0</td><td></td><td></td><td></td><td></td></tr><tr><td>1</td><td>●</td><td></td><td></td><td></td></tr><tr><td>2</td><td></td><td>●</td><td></td><td></td></tr><tr><td>3</td><td>●</td><td>●</td><td></td><td></td></tr><tr><td>4</td><td></td><td></td><td>●</td><td></td></tr><tr><td>5</td><td>●</td><td></td><td>●</td><td></td></tr><tr><td>6</td><td></td><td>●</td><td>●</td><td></td></tr><tr><td>7</td><td>●</td><td>●</td><td>●</td><td></td></tr><tr><td>8</td><td></td><td></td><td></td><td>●</td></tr><tr><td>9</td><td>●</td><td></td><td></td><td>●</td></tr><tr><td>10</td><td></td><td>●</td><td></td><td>●</td></tr><tr><td>11</td><td>●</td><td>●</td><td></td><td>●</td></tr><tr><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td></tr></table> Code 41 Binary		C connected with					1	2	4	8	0					1	●				2		●			3	●	●			4			●		5	●		●		6		●	●		7	●	●	●		8				●	9	●			●	10		●		●	11	●	●		●																51 <table><tr><td></td><td colspan="4">C connected with</td></tr><tr><td></td><td>1</td><td>2</td><td>4</td><td>8</td></tr><tr><td>0</td><td></td><td></td><td></td><td></td></tr><tr><td>1</td><td>●</td><td></td><td></td><td></td></tr><tr><td>2</td><td></td><td>●</td><td></td><td></td></tr><tr><td>3</td><td>●</td><td>●</td><td></td><td></td></tr><tr><td>4</td><td></td><td></td><td>●</td><td></td></tr><tr><td>5</td><td>●</td><td></td><td>●</td><td></td></tr><tr><td>6</td><td></td><td>●</td><td>●</td><td></td></tr><tr><td>7</td><td>●</td><td>●</td><td>●</td><td></td></tr><tr><td>8</td><td></td><td></td><td></td><td>●</td></tr><tr><td>9</td><td>●</td><td></td><td></td><td>●</td></tr><tr><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td></tr></table> Code 51 BCD Complement		C connected with					1	2	4	8	0					1	●				2		●			3	●	●			4			●		5	●		●		6		●	●		7	●	●	●		8				●	9	●			●																					61 <table><tr><td></td><td colspan="4">C connected with</td></tr><tr><td></td><td>1</td><td>2</td><td>4</td><td>8</td></tr><tr><td>0</td><td></td><td></td><td></td><td></td></tr><tr><td>1</td><td>●</td><td></td><td></td><td></td></tr><tr><td>2</td><td></td><td>●</td><td></td><td></td></tr><tr><td>3</td><td>●</td><td>●</td><td></td><td></td></tr><tr><td>4</td><td></td><td></td><td>●</td><td></td></tr><tr><td>5</td><td>●</td><td></td><td>●</td><td></td></tr><tr><td>6</td><td></td><td>●</td><td>●</td><td></td></tr><tr><td>7</td><td>●</td><td>●</td><td>●</td><td></td></tr><tr><td>8</td><td></td><td></td><td></td><td>●</td></tr><tr><td>9</td><td>●</td><td></td><td></td><td>●</td></tr><tr><td>A</td><td>●</td><td>●</td><td></td><td></td></tr><tr><td>B</td><td></td><td>●</td><td>●</td><td></td></tr><tr><td>C</td><td>●</td><td></td><td>●</td><td></td></tr><tr><td>D</td><td></td><td>●</td><td></td><td>●</td></tr><tr><td>E</td><td>●</td><td>●</td><td></td><td></td></tr><tr><td>F</td><td></td><td></td><td>●</td><td>●</td></tr></table> Code 61 Hexa- decimal		C connected with					1	2	4	8	0					1	●				2		●			3	●	●			4			●		5	●		●		6		●	●		7	●	●	●		8				●	9	●			●	A	●	●			B		●	●		C	●		●		D		●		●	E	●	●			F			●	●	64 <table><tr><td></td><td colspan="5">C connected with</td></tr><tr><td></td><td>1</td><td>2</td><td>4</td><td>8</td><td>R</td></tr><tr><td>0</td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>1</td><td>●</td><td></td><td></td><td></td><td></td></tr><tr><td>2</td><td></td><td>●</td><td></td><td></td><td></td></tr><tr><td>3</td><td>●</td><td>●</td><td></td><td></td><td></td></tr><tr><td>4</td><td></td><td></td><td>●</td><td></td><td></td></tr><tr><td>5</td><td>●</td><td></td><td>●</td><td></td><td></td></tr><tr><td>6</td><td></td><td>●</td><td>●</td><td></td><td></td></tr><tr><td>7</td><td>●</td><td>●</td><td>●</td><td></td><td></td></tr><tr><td>8</td><td></td><td></td><td></td><td>●</td><td></td></tr><tr><td>9</td><td>●</td><td></td><td></td><td>●</td><td></td></tr><tr><td>A</td><td>●</td><td>●</td><td></td><td></td><td></td></tr><tr><td>B</td><td></td><td>●</td><td>●</td><td></td><td></td></tr><tr><td>C</td><td>●</td><td></td><td>●</td><td></td><td></td></tr><tr><td>D</td><td></td><td>●</td><td></td><td>●</td><td></td></tr><tr><td>E</td><td>●</td><td>●</td><td></td><td></td><td></td></tr><tr><td>F</td><td></td><td></td><td>●</td><td>●</td><td></td></tr></table> Code 64 Hexa- decimal- with switch-on contact		C connected with						1	2	4	8	R	0						1	●					2		●				3	●	●				4			●			5	●		●			6		●	●			7	●	●	●			8				●		9	●			●		A	●	●				B		●	●			C	●		●			D		●		●		E	●	●				F			●	●	
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SK 20 · Codes. Special codes on request



SK 20 · Hole location diagram