

Maintenance Switches for
EMC-compliant Connection

Maintenance Switches for

EMC-compliant connection

Maintenance Switches and Safety Switches
according to IEC 60204 and VDE 0113
for EMC-compliant connection of
frequency regulated motors

CONTENT

Please choose the suitable Maintenance Switch due to the power data of your projected drive from the table below.

Nominal Ratings:		3 pole	6 pole
Thermal Current I_{the}	Motor Rating AC-23B/A, 3x400V	Page	Page
20 A	5,5 kW	3	-
25 A	7,5 kW	4	10
32 A	11 kW	4	10
40 A	15 kW	5	11
63 A	22 kW	5	11
80 A	30 kW	6	12
100 A	37 kW	6	12
125 A	45 kW	7	13
160 A	55 kW	7	13
200 A	75 kW	-	14
250 A	90 kW	8	-
275 A	132 kW	-	14
315 A	110 kW	8	-
315 A	132 kW	9	-
UPGRADE KIT		15	
Sales Contact		16	

Note:

Maintenance Switches for EMC-compliant connection of FU-regulated drives are available either with shield clips (KS- and KL-enclosure) or with clips mounted on DIN-rails (STM-enclosure). These clips are used to continue the cable shield circuit through the enclosure.

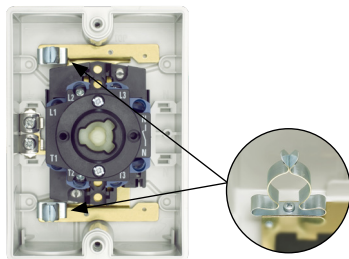
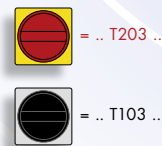
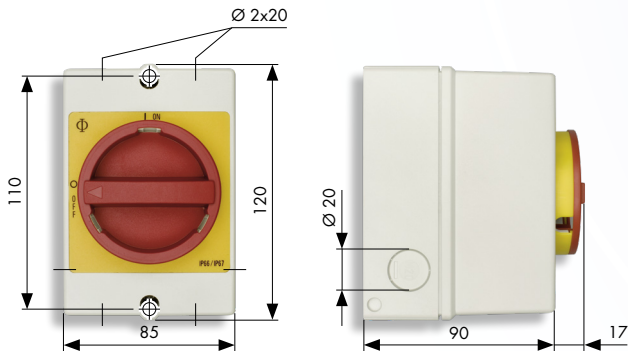
The configuration of the Maintenance Switch between FU and motor allows the use as Disconnector up to 400 Hz and as Load Switch at frequencies from 40 Hz to 100 Hz.

Each Maintenance Switch has as standard 2 auxiliary contacts, 1 NC and 1 NO. Via the NO (20 ms leading) the FU can be switched off before the main contacts of the switch open.

For the rating of the switch please note that the motor may have approx. 10 % higher charging rate due to the higher loss in FU-operation e.g. a motor with 7,5 kW rating the motor current has to be determined with 16,7 A instead of 15,2 A.

20 A / 5,5 kW ➔ KG10

Maintenance Switches for
EMC-compliant connection



Connection diagram	Recommended tightening torque for terminal screws	
<pre> PE L1 L2 L3 13 21 PE T1 T2 T3 14 22 </pre>	KG10	0,8 Nm
External-Ø shield	Insulation stripping length	
9 – 11		

Contact development: 3 pole with auxiliary contacts 1NC/1NO (leading off)

General Data

Switch Disconnectors according to EN 60947-3 and VDE 0660 part 107

Ambient temperature (enclosed): 35 °C during 24 hours with peaks up to 40 °C

Equipment

Plastic enclosure, protection IP 66/67, knock-outs

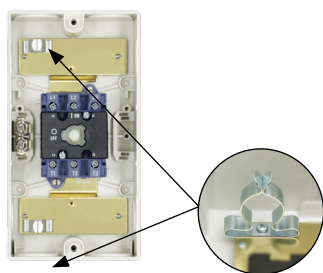
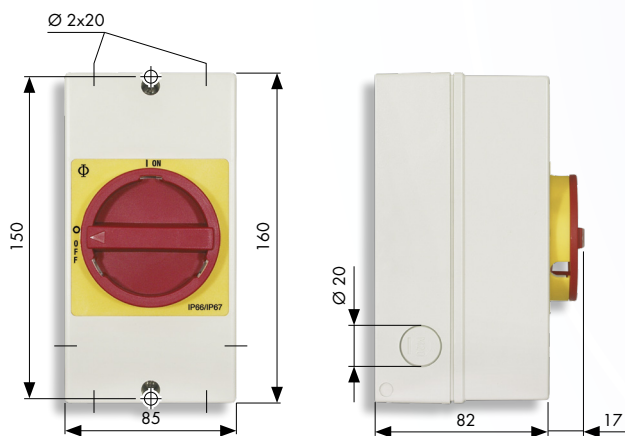
Handle in the OFF-position lockable with padlocks, special safety interlocked covers with enclosure

With shield clips for use to continue the cable shield circuit through the enclosure

Rated Data / Order Number

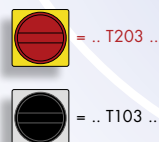
Thermal Current I_{the}	Utilization Category AC-23 B/A, 3x400 V	Breaking Capacity 3x400 V	Color Handle / Backing	Order Number
20 A	5,5 kW	120 A		KG10 T203/D-A076 KS51V
				KG10 T103/D-A050 KS51V

25 A / 7,5 kW ➔ **KG20**
32 A / 11 kW ➔ **KG32**



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Maintenance Switches and Safety Switches
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frequency regulated motors



Connection diagram		Recommended tightening torque for terminal screws	
PE	L1 L2 L3 13 21	KG20 KG32	1,25 Nm 1,25 Nm
PE	T1 T2 T3 14 22		
External-Ø shield		Insulation stripping length	
12 – 16			

Contact development: 3 pole with auxiliary contacts 1NC/1NO (leading off)

General Data

Switch Disconnectors according to EN 60947-3 and VDE 0660 part 107

Ambient temperature (enclosed): 35 °C during 24 hours with peaks up to 40 °C

Equipment

Plastic enclosure, protection IP 66/67, knock-outs

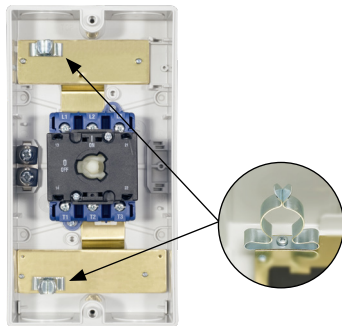
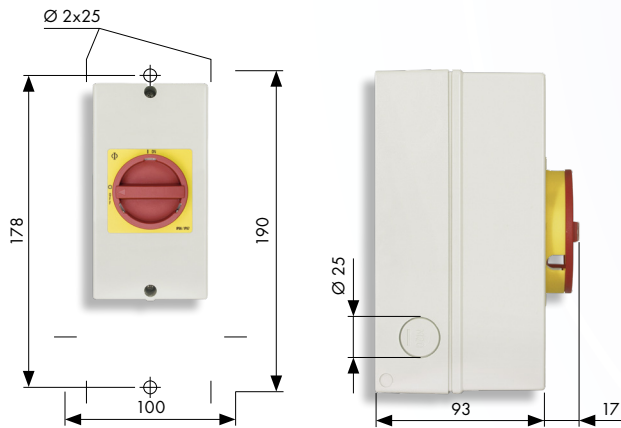
Handle in the OFF-position lockable with padlocks, special safety interlocked covers with enclosure

With shield clips for use to continue the cable shield circuit through the enclosure

Rated Data / Order Number

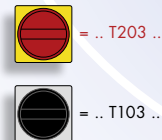
Thermal Current I_{the}	Utilization Category AC-23 B/A, 3x400 V	Breaking Capacity 3x400 V	Color Handle / Backing	Order Number
25 A	7,5 kW	180 A		KG20 T203/D-A159 KL51V
				KG20 T103/D-A126 KL51V
32 A	11 kW	220 A		KG32 T203/D-A117 KL51V
				KG32 T103/D-A061 KL51V

40 A / 15 kW ➔ KG41
63 A / 22 kW ➔ KG64



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 frequency regulated motors



Connection diagram	Recommended tightening torque for terminal screws	
PE L1 L2 L3 13 21 PE T1 T2 T3 14 22	KG41 KG64	1,80 Nm 1,80 Nm
External-Ø shield	Insulation stripping length	
12 – 16		

Contact development: 3 pole with auxiliary contacts 1NC/1NO (leading off)

General Data

Switch Disconnectors according to EN 60947-3 and VDE 0660 part 107

Ambient temperature (enclosed): 35 °C during 24 hours with peaks up to 40 °C

Equipment

Plastic enclosure, protection IP 66/67, knock-outs

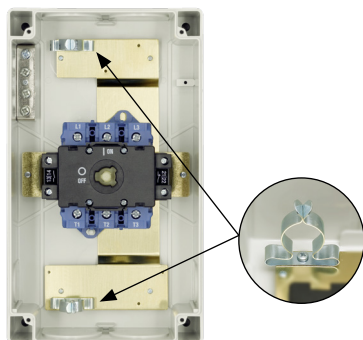
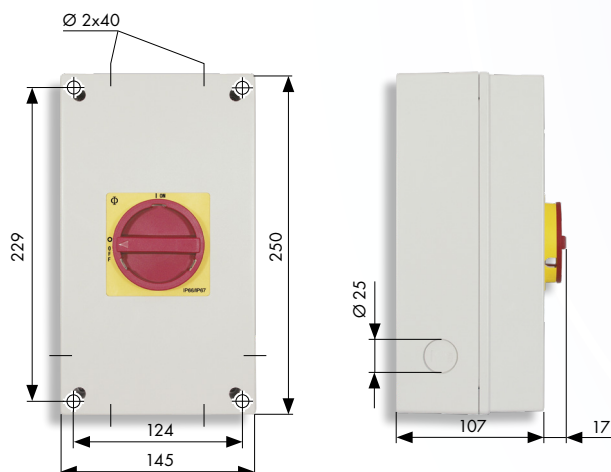
Handle in the OFF-position lockable with padlocks, special safety interlocked covers with enclosure

With shield clips for use to continue the cable shield circuit through the enclosure

Rated Data / Order Number

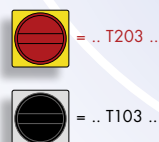
Thermal Current I_{the}	Utilization Category AC-23 B/A, 3x400 V	Breaking Capacity 3x400 V	Color Handle / Backing	Order Number
40 A	15 kW	300 A		KG41 T203/D-A145 KL11V
				KG41 T103/D-A087 KL11V
63 A	22 kW	350 A		KG64 T203/D-A173 KL11V
				KG64 T103/D-A103 KL11V

80 A / 30 kW ➔ *KG80*
100 A / 37 kW ➔ *KG100*



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Connection diagram	Recommended tightening torque for terminal screws	
<pre> PE L1 L2 L3 13 21 PE T1 T2 T3 14 22 </pre>	KG80 KG100	3,00 Nm 3,00 Nm
External-Ø shield	Insulation stripping length	
23 – 29		

Contact development: 3 pole with auxiliary contacts 1NC/1NO (leading off)

General Data

Switch Disconnectors according to EN 60947-3 and VDE 0660 part 107

Ambient temperature (enclosed): 35 °C during 24 hours with peaks up to 40 °C

Equipment

Plastic enclosure, protection IP 66/67, knock-outs

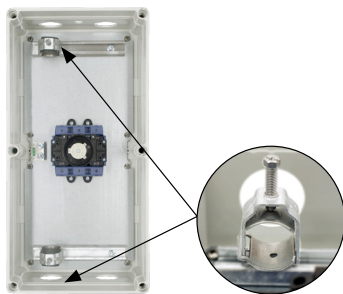
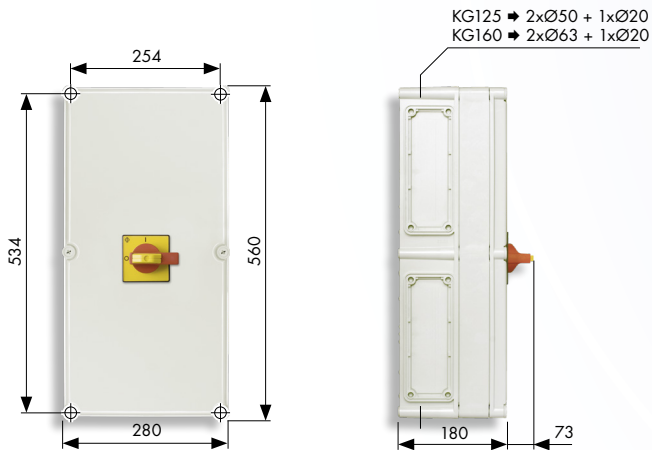
Handle in the OFF-position lockable with padlocks, special safety interlocked covers with enclosure

With shield clips for use to continue the cable shield circuit through the enclosure

Rated Data / Order Number

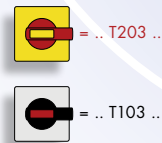
Thermal Current I_{the}	Utilization Category AC-23 B/A, 3x400 V	Breaking Capacity 3x400 V	Color Handle / Backing	Order Number
80 A	30 kW	560 A		<i>KG80 T203/D-A108 KL71V</i>
				<i>KG80 T103/D-A061 KL71V</i>
100 A	37 kW	650 A		<i>KG100 T203/D-A120 KL71V</i>
				<i>KG100 T103/D-A068 KL71V</i>

125 A / 45 kW ➔ KG125
160 A / 55 kW ➔ KG160



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Connection diagram		Recommended tightening torque for terminal screws	
<div><div>PE</div><div><div></div><div></div></div></div> <div><div>L1</div><div><div></div><div></div></div></div> <div><div>L2</div><div><div></div><div></div></div></div> <div><div>L3</div><div><div></div><div></div></div></div> <div><div>13</div><div><div></div><div></div></div></div> <div><div>21</div><div><div></div><div></div></div></div> <div><div>PE</div><div><div></div><div></div></div></div> <div><div>T1</div><div><div></div><div></div></div></div> <div><div>T2</div><div><div></div><div></div></div></div> <div><div>T3</div><div><div></div><div></div></div></div> <div><div>14</div><div><div></div><div></div></div></div> <div><div>22</div><div><div></div><div></div></div></div>	<div>KG125</div> <div>KG160</div>	<div>14 Nm</div> <div>14 Nm</div>	
External-Ø shield		Insulation stripping length	
34 – 40			

Contact development: 3 pole with auxiliary contacts 1NC/1NO (leading off)

General Data

Switch Disconnectors according to EN 60947-3 and VDE 0660 part 107

Ambient temperature (enclosed): 35 °C during 24 hours with peaks up to 40 °C

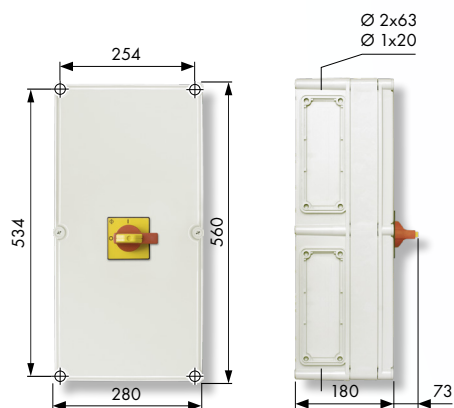
Equipment

Plastic enclosure, protection IP 66/67, Handle in the OFF-position lockable with padlocks, special safety interlocked covers with enclosure with on DIN-rails mounted clips for use to continue the cable shield circuit through the enclosure

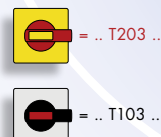
Rated Data / Order Number

Thermal Current I_{the}	Utilization Category AC-23 B/A, 3x400 V	Breaking Capacity 3x400 V	Color Handle / Backing	Order Number
125 A	45 kW	750 A		KG125 T203/D-A082 STM
				KG125 T103/D-A070 STM
160 A	55 kW	850 A		KG160 T203/D-A077 STM
				KG160 T103/D-A066 STM

250 A / 90 kW ➔ *KG250*
315 A / 110 kW ➔ *KG315*

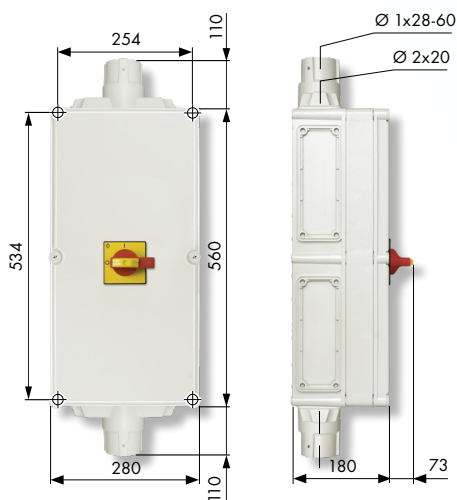


KG250




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KG315

Connection diagram		Recommended tightening torque for terminal screws	
PE	L1 L2 L3 13 21	KG250 KG315	16 Nm 16 Nm
PE	T1 T2 T3 14 22		
External-Ø shield		Insulation stripping length	
KG250	34 – 40		
KG315	46 – 52		

Contact development: 3 pole with auxiliary contacts 1NC/1NO (leading off)

General Data

Switch Disconnectors according to EN 60947-3 and VDE 0660 part 107

Ambient temperature (enclosed): 35 °C during 24 hours with peaks up to 40 °C

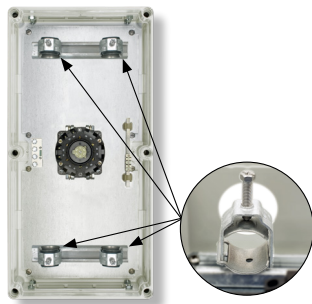
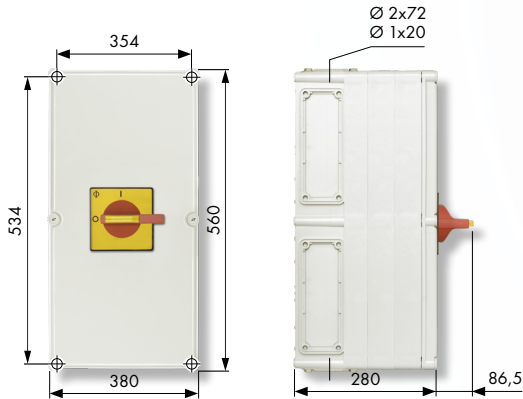
Equipment

Plastic enclosure, protection IP 66/67, Handle in the OFF-position lockable with padlocks, special safety interlocked covers with enclosure with on DIN-rails mounted clips for use to continue the cable shield circuit through the enclosure

Rated Data / Order Number

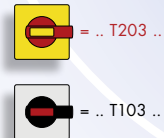
Thermal Current I_{the}	Utilization Category AC-23 B/A, 3x400 V	Breaking Capacity 3x400 V	Color Handle / Backing	Order Number
250 A	90 kW	1380 A		<i>KG250 T203/D-A075 STM</i>
				<i>KG250 T103/D-A073 STM</i>
315 A	110 kW	1650 A		<i>KG315 T203/D-A034 STM</i>
				<i>KG315 T103/D-W043 STM</i>

315 A / 132 kW ➔ C316



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Connection diagram		Recommended tightening torque for terminal screws	
<pre> PE L1 L2 L3 103 101 PE T1 T2 T3 104 102 </pre>		C316	14 Nm
External-Ø shield		Connecting bolts	
C316	46 – 52	M12	

Contact development: 3 pole with auxiliary contacts 1NC/1NO (leading off)

General Data

Switch Disconnectors according to EN 60947-3 and VDE 0660 part 107

Ambient temperature (enclosed): 35 °C during 24 hours with peaks up to 40 °C

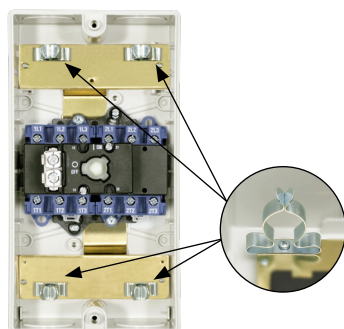
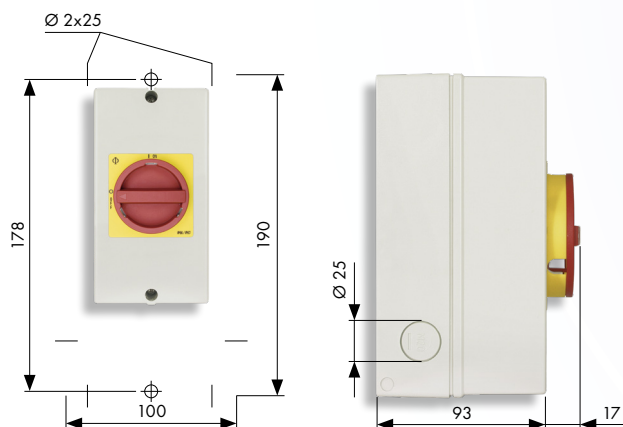
Equipment

Plastic enclosure, protection IP 66/67, Handle in the OFF-position lockable with padlocks, special safety interlocked covers with enclosure with on DIN-rails mounted clips for use to continue the cable shield circuit through the enclosure

Rated Data / Order Number

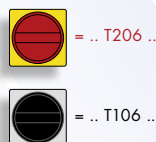
Thermal Current I_{the}	Utilization Category AC-23 B/A, 3x400 V	Breaking Capacity 3x400 V	Color Handle / Backing	Order Number
315 A	132 kW	2000 A		C316 T203/D-A037 STM
				C316 T103/D-A025 STM

25 A / 7,5 kW ➔ KG20B
32 A / 11 kW ➔ KG32B



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Connection diagram		Recommended tightening torque for terminal screws	
PE	1L1	KG20B	1,25 Nm
1L2	1L3		
2L1	2L2	KG32B	1,25 Nm
2L3	13		
21	22		
PE	1T1		
1T2	1T3		
2T1	2T2		
2T3	14		
	22		
External-Ø shield		Insulation stripping length	
12 – 16			

Contact development: 6 pole with auxiliary contacts 1NC/1NO (leading off)

General Data

Switch Disconnectors according to EN 60947-3 and VDE 0660 part 107

Ambient temperature (enclosed): 35 °C during 24 hours with peaks up to 40 °C

Equipment

Plastic enclosure, protection IP 66/67, knock-outs

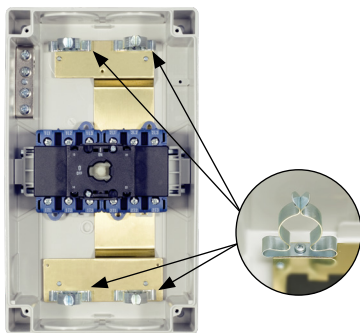
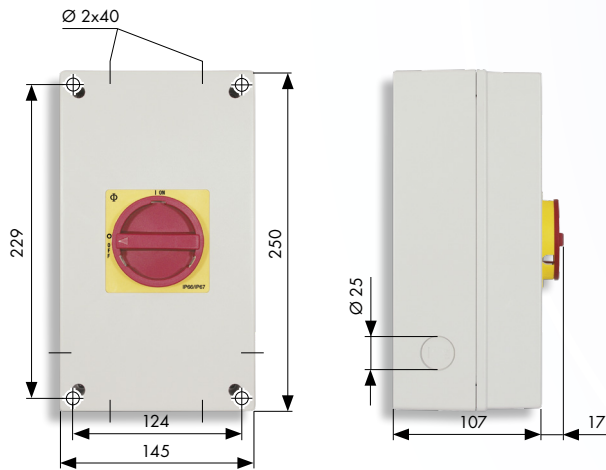
Handle in the OFF-position lockable with padlocks, special safety interlocked covers with enclosure

With shield clips for use to continue the cable shield circuit through the enclosure

Rated Data / Order Number

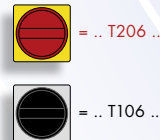
Thermal Current I_{the}	Utilization Category AC-23 B/A, 3x400 V	Breaking Capacity 3x400 V	Color Handle / Backing	Order Number
25 A	7,5 kW	180 A		KG20B T206/D-A059 KL11V
				KG20B T106/D-A046 KL11V
32 A	11 kW	220 A		KG32B T206/D-A054 KL11V
				KG32B T106/D-A040 KL11V

40 A / 15 kW ➔ *KG41B*
63 A / 22 kW ➔ *KG64B*



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Connection diagram		Recommended tightening torque for terminal screws	
PE	1L1	1L2	1L3
PE	1T1	1T2	1T3
2L1	2L2	2L3	13
2T1	2T2	2T3	14
21	22		
External-Ø shield		Insulation stripping length	
23 – 29			

Contact development: 6 pole with auxiliary contacts 1NC/1NO (leading off)

General Data

Switch Disconnectors according to EN 60947-3 and VDE 0660 part 107
 Ambient temperature (enclosed): 35 °C during 24 hours with peaks up to 40 °C

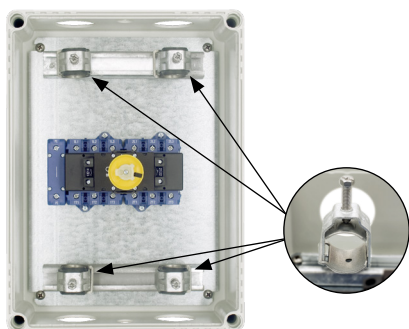
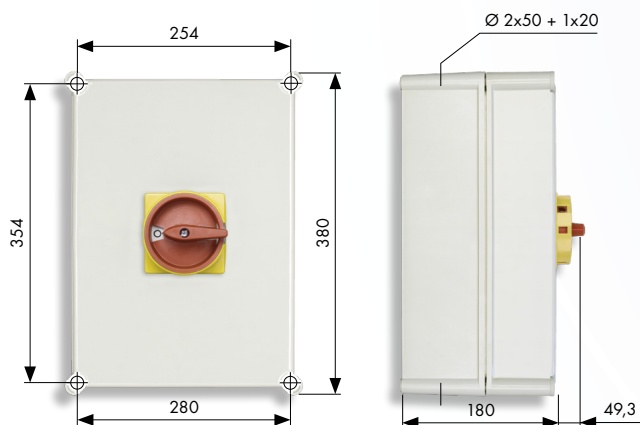
Equipment

Plastic enclosure, protection IP 66/67, knock-outs
 Handle in the OFF-position lockable with padlocks, special safety interlocked covers with enclosure
 With shield clips for use to continue the cable shield circuit through the enclosure

Rated Data / Order Number

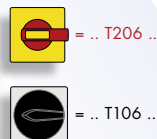
Thermal Current I_{the}	Utilization Category AC-23 B/A, 3x400 V	Breaking Capacity 3x400 V	Color Handle / Backing	Order Number
40 A	15 kW	300 A		<i>KG41B T206/D-A052 KL71V</i>
				<i>KG41B T106/D-A032 KL71V</i>
63 A	22 kW	350 A		<i>KG64B T206/D-A066 KL71V</i>
				<i>KG64B T106/D-A038 KL71V</i>

80 A / 30 kW ➔ KG80C
100 A / 37 kW ➔ KG100C



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Connection diagram	Recommended tightening torque for terminal screws	
<pre> PE 1L1 1L2 1L3 2L1 2L2 2L3 13 21 PE 1T1 1T2 1T3 2T1 2T2 2T3 14 22 </pre>	KG80C KG100C	3 Nm 3 Nm
External-Ø shield	Insulation stripping length	
28 – 34		

Contact development: 6 pole with auxiliary contacts 1NC/1NO (leading off)

General Data

Switch Disconnectors according to EN 60947-3 and VDE 0660 part 107

Ambient temperature (enclosed): 35 °C during 24 hours with peaks up to 40 °C

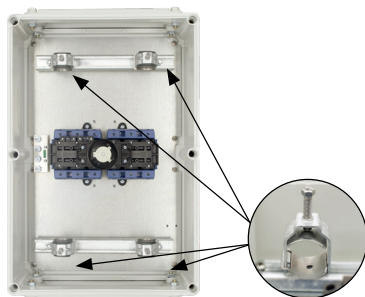
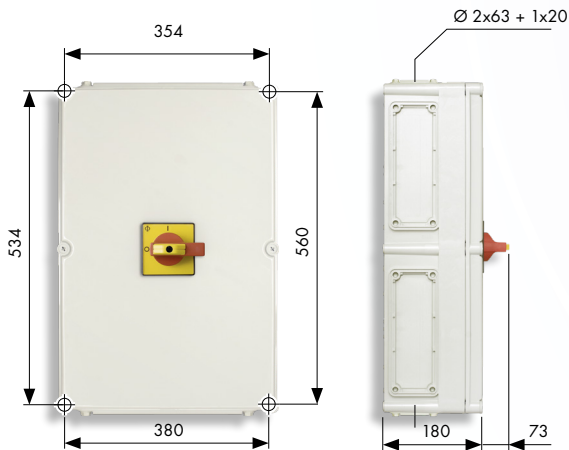
Equipment

Plastic enclosure, protection IP 66/67, Handle in the OFF-position lockable with padlocks, special safety interlocked covers with enclosure with on DIN-rails mounted clips for use to continue the cable shield circuit through the enclosure

Rated Data / Order Number

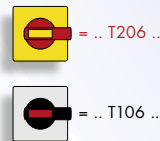
Thermal Current I_{the}	Utilization Category AC-23 B/A, 3x400 V	Breaking Capacity 3x400 V	Color Handle / Backing	Order Number
80 A	30 kW	560 A		KG80C T206/D-A070 STM
				KG80C T106/D-A055 STM
100 A	37 kW	650 A		KG100C T206/D-A060 STM
				KG100C T106/D-A049 STM

125 A / 45 kW ➔ KG125
160 A / 55 kW ➔ KG160



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Connection diagram	Recommended tightening torque for terminal screws	
PE 1L1 1L2 1L3 2L1 2L2 2L3 13 21 PE 1T1 1T2 1T3 2T1 2T2 2T3 14 22	KG125	14 Nm
	KG160	14 Nm
External-Ø shield	Insulation stripping length	
34 – 40		

Contact development: 6 pole with auxiliary contacts 1NC/1NO (leading off)

General Data

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Equipment

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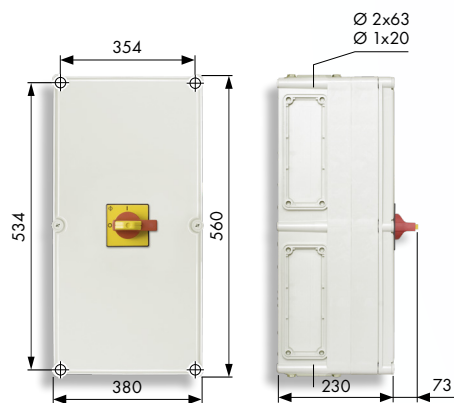
Rated Data / Order Number

Thermal Current I_{the}	Utilization Category AC-23 B/A, 3x400 V	Breaking Capacity 3x400 V	Color Handle / Backing	Order Number
125 A	45 kW	750 A		KG125 T206/D-A020 STM
				KG125 T106/D-A031 STM
160 A	55 kW	850 A		KG160 T206/D-A040 STM
				KG160 T106/D-A024 STM

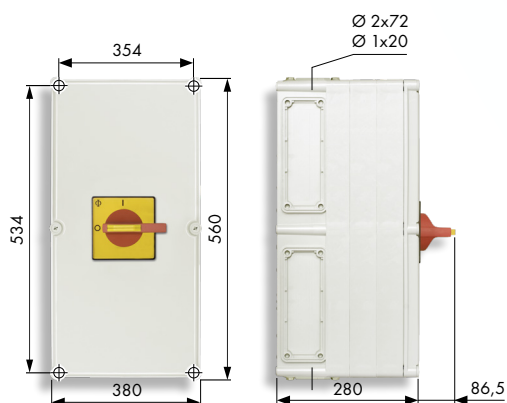
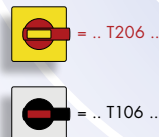
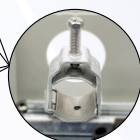
200 A / 75 kW ➔ C200-4
275 A / 132 kW ➔ C316

Maintenance Switches for **EMC-compliant connection**

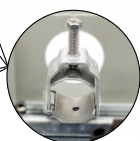
Maintenance Switches and Safety Switches
 according to IEC 60204 and VDE 0113
 for EMC-compliant connection of
 frequency regulated motors



C200-4



C316



Connection diagram		Recommended tightening torque for terminal screws	
		C200-4	8 Nm
		C316	14 Nm
External-Ø shield		Connecting bolts	
C200-4	34 – 40	C200-4	M8
C316	46 – 52	C316	M12

Contact development: 6 pole with auxiliary contacts 1NC/1NO (leading off)

General Data

Switch Disconnectors according to EN 60947-3 and VDE 0660 part 107

Ambient temperature (enclosed): 35 °C during 24 hours with peaks up to 40 °C

Equipment

Plastic enclosure, protection IP 66/67, Handle in the OFF-position lockable with padlocks, special safety interlocked covers with enclosure with on DIN-rails mounted clips for use to continue the cable shield circuit through the enclosure

Rated Data / Order Number

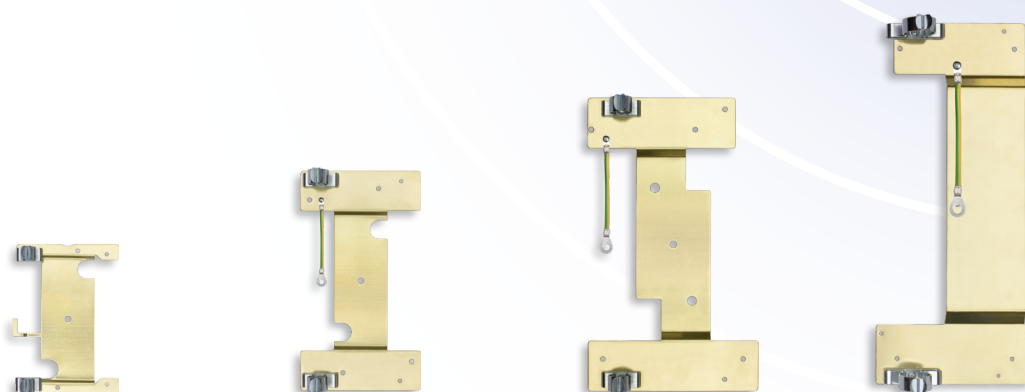
Thermal Current I_{the}	Utilization Category AC-23 B/A, 3x400 V	Breaking Capacity 3x400 V	Color Handle / Backing	Order Number
200 A	75 kW	1300 A		C200-4 T206/D-A001 STM
				C200-4 T106/D-A001 STM
275 A	132 kW	2000 A		C316 T206/D-A050 STM
				C316 T106/D-A033 STM

UPGRADE KIT

Maintenance Switches for

EMC-compliant connection

Shield wheeling kits



Standard KS- KL-Enclosure				
Dimensions enclosure	85 x 120	85 x 160	100 x 190	145 x 250
External-Ø shield	9 – 11	12 – 16	12 – 16	23 – 29
Order Number	SOE T400 MA	KOB T400 MA	KIB T400 MA	K2B T400 MA

Shielding clamp suitable for double side connecting. Scope of delivery: panel sheet, 2 shielding clamps, mounting screws

Shield wheeling kit available for 3 pole switches up to KG100.... And 6 pole switches up to KG64. All relevant catalogue listed repair switches can be upgraded with shield wheeling kits. The switch body has to be demounted first before mounting the shield wheeling.

Shielding clamp (separate)



External-Ø shield	9 – 11	12 – 16	23 – 29
Order Number	KIB T400 KB	KIB T400 KC	KIB T400 KE



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