



Sample image

Datasheet

Article number: 70000182

Designation: KG10.T103/D-A050.KS51V

Description: Switchgear

IEC 60947-3 EN 60947-3, VDE 0660 Teil 107					
Rated insulation voltage Ui					
Voltage (V) AC / DC					
690 AC					
Rated impulse withstand voltage Uimp					
Voltage (kV)		Overvoltage category	Pollution degree	Supply system	Function
4 II			3	Valid for lines with grounded common neutral termination	Switch / Switch disconnector
Rated uninterrupted current Iu/Ith					
Current (A)		Ambient temperature (°C)		Peak temperature (°C)	additional requirements
20		50		55	Ambient temperature +50°C during 24 hours with peaks up to +55°C
Conventional enclosed thermal current Ithe					
Current (A)		Ambient temperature (°C)	Peak temperature (°C)	Additional requirements	No. of stages (from - to) Mounting
20		35	40	Ambient temperature +35°C during 24 hours with peaks up to +40°C	-- --
Rated operational current Ie					
Utilization category				Voltage (V)	Current (A)
AC-15				220 - 240	6
AC-15				380 - 440	4
AC-20A				690	20
AC-21A				20 - 690	20
AC-22A				220 - 500	20
AC-22A				660 - 690	16
Rated operational power					
Utilization category		Voltage (V)	No. of phases	No. of poles	Power (kW)
AC-3		220 - 240	3	3	2,20
AC-3		380 - 440	3	3	3,70
AC-3		500 - 500	3	3	3,70
AC-3		660 - 690	3	3	3,70
AC-3		220 - 240	1	2	1,10
AC-3		380 - 440	1	2	1,50
AC-23A		220 - 240	3	3	3
AC-23A		380 - 440	3	3	5,50
AC-23A		500 - 500	3	3	5,50
AC-23A		660 - 690	3	3	5,50
AC-23A		220 - 240	1	2	1,50
AC-23A		380 - 440	1	2	2,20
Max Fuse Rating IEC					
Fuse characteristic			No. of Fuses		Current (A)
gG			1		20
Tested AC and DC values					
Utilization category / Time constant		No. of contacts in series	Off or change-over switch	Voltage (V) AC / DC	Current (A)
DC-13		1	ON - OFF	24 DC	3
DC-13		1	ON - OFF	48 DC	1,70
DC-13		1	ON - OFF	60 DC	1,40
DC-13		1	ON - OFF	110 DC	0,70
DC-13		1	ON - OFF	220 DC	0,15
DC-13		2	ON - OFF	24 DC	6
DC-13		2	ON - OFF	48 DC	3
DC-13		2	ON - OFF	96 DC	1,70
DC-13		2	ON - OFF	120 DC	1,40
DC-13		2	ON - OFF	220 DC	0,70
DC-13		2	ON - OFF	440 DC	0,15
DC-21A		1	ON - OFF	24 DC	16
DC-21A		1	ON - OFF	48 DC	14
DC-21A		1	ON - OFF	60 DC	13
DC-21A		1	ON - OFF	110 DC	6
DC-21A		1	ON - OFF	220 DC	0,90
DC-21A		2	ON - OFF	48 DC	16

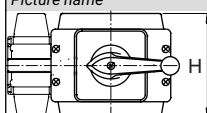
Tested AC and DC values

Utilization category / Time constant	No. of contacts in series	Off or change-over switch	Voltage (V)	AC / DC	Current (A)
DC-21A	2	ON - OFF	96	DC	14
DC-21A	2	ON - OFF	120	DC	13
DC-21A	2	ON - OFF	220	DC	6
DC-21A	2	ON - OFF	440	DC	0,90
DC-21A	3	ON - OFF	72	DC	16
DC-21A	3	ON - OFF	144	DC	14
DC-21A	3	ON - OFF	180	DC	13
DC-21A	3	ON - OFF	330	DC	6
DC-21A	3	ON - OFF	660	DC	0,90
DC-21A	4	ON - OFF	96	DC	16
DC-21A	4	ON - OFF	192	DC	14
DC-21A	4	ON - OFF	240	DC	13
DC-21A	4	ON - OFF	440	DC	6
DC-21A	5	ON - OFF	120	DC	16
DC-21A	5	ON - OFF	240	DC	14
DC-21A	5	ON - OFF	300	DC	13
DC-21A	5	ON - OFF	550	DC	6
DC-21A	6	ON - OFF	144	DC	16
DC-21A	6	ON - OFF	288	DC	14
DC-21A	6	ON - OFF	360	DC	13
DC-21A	6	ON - OFF	660	DC	6
DC-22A	1	ON - OFF	24	DC	14
DC-22A	1	ON - OFF	48	DC	13
DC-22A	1	ON - OFF	60	DC	12
DC-22A	1	ON - OFF	110	DC	1,90
DC-22A	1	ON - OFF	220	DC	0,30
DC-22A	2	ON - OFF	48	DC	14
DC-22A	2	ON - OFF	96	DC	13
DC-22A	2	ON - OFF	120	DC	12
DC-22A	2	ON - OFF	220	DC	1,90
DC-22A	2	ON - OFF	440	DC	0,30
DC-22A	3	ON - OFF	72	DC	14
DC-22A	3	ON - OFF	144	DC	13
DC-22A	3	ON - OFF	180	DC	12
DC-22A	3	ON - OFF	330	DC	1,90
DC-22A	3	ON - OFF	660	DC	0,30
DC-22A	4	ON - OFF	96	DC	14
DC-22A	4	ON - OFF	192	DC	13
DC-22A	4	ON - OFF	240	DC	12
DC-22A	4	ON - OFF	440	DC	1,90
DC-22A	5	ON - OFF	120	DC	14
DC-22A	5	ON - OFF	240	DC	13
DC-22A	5	ON - OFF	300	DC	12
DC-22A	5	ON - OFF	550	DC	1,90
DC-22A	6	ON - OFF	144	DC	14
DC-22A	6	ON - OFF	288	DC	13
DC-22A	6	ON - OFF	360	DC	12
DC-22A	6	ON - OFF	660	DC	1,90
DC-23A	1	ON - OFF	24	DC	13
DC-23A	1	ON - OFF	48	DC	12
DC-23A	1	ON - OFF	60	DC	10
DC-23A	1	ON - OFF	110	DC	1,50
DC-23A	1	ON - OFF	220	DC	0,20
DC-23A	2	ON - OFF	48	DC	13
DC-23A	2	ON - OFF	96	DC	12
DC-23A	2	ON - OFF	120	DC	10
DC-23A	2	ON - OFF	220	DC	1,50
DC-23A	2	ON - OFF	440	DC	0,20
DC-23A	3	ON - OFF	72	DC	13
DC-23A	3	ON - OFF	144	DC	12
DC-23A	3	ON - OFF	180	DC	10
DC-23A	3	ON - OFF	330	DC	1,50
DC-23A	3	ON - OFF	660	DC	0,20
DC-23A	4	ON - OFF	96	DC	13
DC-23A	4	ON - OFF	192	DC	12
DC-23A	4	ON - OFF	240	DC	10
DC-23A	4	ON - OFF	440	DC	1,50
DC-23A	5	ON - OFF	120	DC	13
DC-23A	5	ON - OFF	240	DC	12
DC-23A	5	ON - OFF	300	DC	10
DC-23A	5	ON - OFF	550	DC	1,50
DC-23A	6	ON - OFF	144	DC	13
DC-23A	6	ON - OFF	288	DC	12
DC-23A	6	ON - OFF	360	DC	10
DC-23A	6	ON - OFF	660	DC	1,50

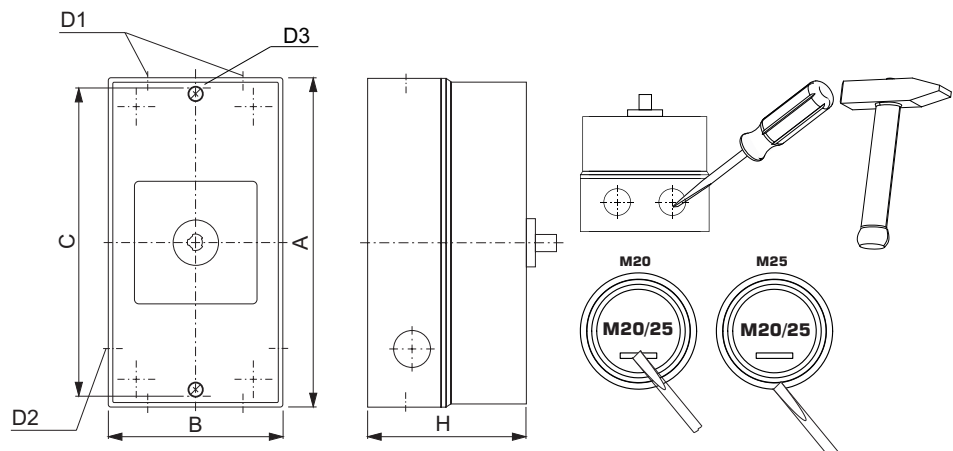
Rated conditional short-circuit current

Current (kA)	Text	cut-off current I_c (kA)	Durchlassenergie I^2t (kA ² s)
2	–	1,45	1,95

Rated breaking capacity						
Voltage (V)		Current (A)		Utilization category / UL (DOL)		
220 - 240		120		--		
380 - 440		120		--		
660 - 690		80		--		
Rated short-circuit making capacity Icm						
Current (A)						
450						
UL60947-4-1 , UL508						
Nominal Voltage						
Voltage (V)		AC / DC				
300		AC				
Rated insulation voltage Ui						
Voltage (V)		AC / DC				
300		AC				
Rated thermal current						
Current (A)		Ambient temperature (°C)		Additional Text		
20		0 - 40		--		
Horsepower rating						
Across-the-Line Motor Starting		Voltage (V)	No. of phases	No. of poles	Power (HP)	Ambient temperature [°C]
DOL		110 - 120	1	2	0,50	40
DOL		220 - 240	1	2	1	40
DOL		277 - 277	1	2	1	40
DOL		110 - 120	3	3	1	40
DOL		220 - 240	3	3	2	40
Pilot duty rating code						
Duty Code						
A300						
SCCR / Max. fuse rating						
Conditions of acceptability						
These devices are suitable for use on circuits capable of delivering not more than 5kA rms symmetrical amperes, 300V ac max. when protected by Class J fuses.						
Temp. rating of wire						
Temperature rating (°C)		Current (A)		Text		
60 - 75				-- Use copper wire only		
Connecting instructions						
Markings						
Break all lines.						
For use on a flat surface of a type 1 enclosure.						
General Use						
AC / DC	Voltage (V)	Current (A)	No. of phases	No. of poles	No. of contacts in series	
AC	277	20	1	1	1	
AC	300	20	1	2	1	
AC	300	20	3	3	1	
Suitable as Motor disconnect						
Yes/No		MOTOR-DISCONNECT-UL/CSA Text				
Y		--				
General Information						
Text						
- The operating handle and position indicating means to be used with these manual motor controllers should be provided from the manufacturer, or the operating handle and position indicating means to be used should have been previously evaluated in combination with the manual motor controllers.						
- When intended for use as a motor disconnect the device shall be provided with a method of being locked in the OFF-position.						
CSA						
Nominal Voltage						
Voltage (V)		AC / DC				
300		AC				
Rated insulation voltage Ui						
Voltage (V)		AC / DC				
300		AC				
Rated thermal current						
Current (A)		Ambient temperature (°C)		Additional Text		
20		0 - 40		--		
Horsepower rating						
Across-the-Line Motor Starting		Voltage (V)	No. of phases	No. of poles	Power (HP)	Ambient temperature [°C]
DOL		110 - 120	1	2	0,50	40
DOL		220 - 240	1	2	1	40
DOL		277 - 277	1	2	1	40
DOL		110 - 120	3	3	1	40
DOL		220 - 240	3	3	2	40
Pilot duty rating code						
Duty Code						
A300						
Temp. rating of wire						
Temperature rating (°C)		Current (A)		Text		
75				-- --		
General Use						
AC / DC	Voltage (V)	Current (A)	No. of phases	No. of poles	No. of contacts in series	
AC	277	20	1	1	1	
AC	277	20	3	3	1	

Suitable as Motor disconnect									
Yes/No					MOTOR-DISCONNECT-UL/CSA Text				
Y					SUITABLE FOR MOTOR DISCONNECT.				
MASTER DATA									
Max. number of stages									
					number of stages	Modul			
					7	FL			
Switch Measures									
Picture name	B	F	H	H1	H2	H3			
	–	–	50	–	–	–			
GENERAL TECHNICAL INFORMATION									
Minimal ratings (voltage/current)									
Voltage (V)		Current (mA)	Environment conditions		Environment conditions 2		Environment conditions 3		
24		5	Ambient air must be free of particular contamination with sulfur and/or sulfurous components such as H2S etc.		In case extraordinary contamination with dust is expected an adequate dust protection is required.		–		
Rated short-time withstand current Icw									
					Time (s)	Current (A)			
					1	130			
Size of conductor									
composition of conductor	Min. / Max. value		No. of conductor per terminal		Cross section (mm²) or (AWG/kcmil)		Material of the wire		
solid wire	Min.		1		0.5mm²		Copper		
solid wire	Min.		2		0.5mm²		Copper		
flexible wire	Min.		1		0.75mm²		Copper		
flexible wire	Min.		2		0.75mm²		Copper		
flexible wire	Max.		1		AWG 12		Copper		
flexible wire	Max.		1		2.5mm²		Copper		
Single-core or stranded wire	Max.		1		AWG 12		Copper		
Single-core or stranded wire	Max.		1		2.5mm²		Copper		
flexible wire with ferrule according to DIN 46228	Max.		1		2.5mm²		Copper		
flexible wire with ferrule according to DIN 46228	Min.		1		0.5mm²		Copper		
flexible wire with ferrule according to DIN 46228	Min.		2		0.5mm²		Copper		
Stripping length									
					Length (mm)	–			
					8				
Recommended screw driver									
Type of screw driver					Value				
Cross Screwdriver					PH1				
Slot screwdriver according to DIN 5264					0,8x4				
Tightening torque of screws									
					tightening torque (Nm)	tightening torque (lb-in)			
					0,60	5			
Power loss per pole									
					Power (W)				
					0,90				
Mechanical life									
No. of operating cycles		Ambient temperature (°C)			Number of stages		Limitations		
200000		-5 - 55					Valid for manual operation. Valid for switches without optional extras. The value refers to the mechanics of the device, for lifetime of the electrical contacts please refer to "electrical life – values". One operating cycle means 0-1-0.		
Electrical life (B10-Value)									
Utilization category	cos(φ)	Time constant (ms)	Voltage (V)	Current (A)	No. of operations	number of series contacts	AC/DC	No. of phases	No. of poles
–	0,59	–	122	10	150000	1 AC		1	1
–	0,59	–	220	10	90000	1 AC		1	1
–	0,59	–	220	15	50000	1 AC		1	1
–	0,64	–	220	20	30000	1 AC		1	1
AC-3	–	–	440	8	100000	1 AC		3	3
AC-23	–	–	440	11,50	50000	1 AC		3	3
AC-3	–	–	690	4,60	100000	1 AC		3	3
AC-23	–	–	690	6,70	100000	1 AC		3	3
AC-22	–	–	690	20	40000	1 AC		3	3
–	–	55	110	1	50000	1 DC		1	1
–	–	55	110	1,50	25000	1 DC		1	1
Degree of protection									
IP - Code switch terminal									
IP10									
Conditions during transport and storing									
Minimum temperature (°C)					Maximum temperature (°C) additional requirements				
-40					85 In case of temperatures below -5°C no shock load permissible				
General Information									
Text									
- Do not lubricate or treat contacts.									

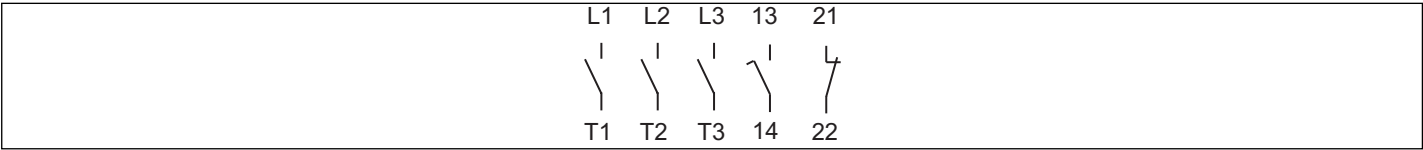
General Information	
Text	
- Switches may only be mounted, connected and set into operation by qualified persons according to the accepted rules of technology. - Use copper wire only. Do not coat the wire end with tin. - Terminals with factory fitted jumper links are tightened during production. Take care during installation to ensure factory fitted links are not lost by undoing both sides of linked terminals. After wiring, all terminal screws must be tightened to recommended torque specifications. - After installation of the switches the spacings between the terminals must be sufficient to fulfill the requirement of the applicable standards.	
Creepage distance	
	Distance (mm)
	9,50
Clearance	
	Distance (mm)
	6,35
Distance of stages	
	Distance (mm)
	9,50
Operating temperature	
	Min. Temperature [°C]
	-5
	Max. Temperature [°C]
	55
Waste Electrical & Electronic Equipment (WEEE)	
Picture name	Description
	Do not throw in the trash as care must be taken to ensure environmentally sound disposal and recycling. Please either use an environmentally friendly waste disposal company; return to the supplier for disposal, or return direct to the manufacturer, Kraus & Naimer. You can find local Kraus & Naimer offices at www.krausnaimer.com
Proposition 65	
Picture name	Description
	WARNING: This product can expose you to chemicals including nickel and lead, which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov .
Classification Contact: Rigid contact bridge	
Classification Contact Mat: Silver	
Classification Terminal: Screw terminal	

Mounting-KS51V	
	
IP - Code front side	IP66, IP67, IP69k
Stages	2,00 - 4,00
A	H 121,00 mm
B	H 86,00 mm
C	H 110,00 mm
D1	Ø 4,00 x M20/M25
D2	Ø 2,00 x M20
D3	Ø 4,20 mm
H	H 90,00 mm



Wiring diagram

KG10.T30311.KS51V



Switch program

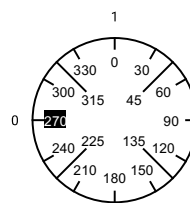
KG10.T30311.KS51V



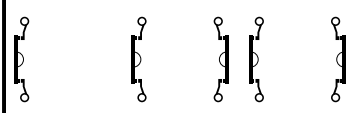
Kraus & Naimer

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Face Plate



Marking plate: S0D H043 91E



Switching Angle	90	2	4	6	8	10	12	14	16	18	20	22	24
Total switching Angle	90	L2		L1	L3	13	21						

0	270												
	285												
	300												
	315												
	330												
	345												
1	0												
	15												
	30												
	45												
	60												
	75												
	90												
	105												
	120												
	135												
	150												
	165												
	180												
	195												
	210												
	225												
	240												
	255												

Version: 7

Face plate

S1.F656/C10.V9

