



#### Sample image

### **Datasheet**

Article number: 70022632

Designation: KG20.T103/NL-EXBC.\*KNBOX

Description: Switch

IEC 60947-3 EN 60947 Rated insulation voltage Ui	-3, VDE 0000 Tell 107	1					
Rated insulation voltage of			Voltage (V) AC / D	IC .			
			690 AC				
Rated uninterrupted current lu							
Current (A)	Ambient temperature (°C)	Peak temperatu	re (°C) additional re				
25	50		55 Ambient ter	nperature +50°C	during 24 hours v	vith peaks up to +55°C	
Rated operational current le				1/a	Itana (II)		Current /
Utilization category AC-32A					Itage (V) 20 - 400		Current (
Rated operational power					20 - 400		
Utilization category		Voltage (V)	N	lo. of phases		No. of poles	Power (kV
AC-3		220 - 240		, 3		3	,
AC-3		380 - 440		3		3	5,5
AC-3		660 - 690		3		3	5,5
AC-23A		220 - 240		3		3	5,5
AC-23A		380 - 440		3		3	7,5
AC-23A		660 - 690		3		3	7,5
Max Fuse Rating IEC							
Fuse characteristic					No. of Fu	ises	Current (
gG							
UL60947-4-1, UL508							
Nominal Voltage							
			Voltage (V) AC / D	C			
			600 AC				
Rated insulation voltage Ui							
				-			
			Voltage (V) AC / D	C			
Dated the sweet assurant			Voltage (V) AC / D 600 AC	OC .			
Rated thermal current	Curre	ent (A)	600 AC		ture (°C) Additio	inal Toyt	
Rated thermal current	Curre	ent (A) 25	600 AC	Ambient tempera		nal Text	
	Curre	ent (A) 25	600 AC			nal Text	
Horsepower rating	Curre		600 AC			nal Text Power (HP)	Ambient temperature [*
Horsepower rating Across-the-Line Motor Starting	Curre		600 AC	Ambient tempera	0 - 40		
Horsepower rating Across-the-Line Motor Starting DOL	Curre		600 AC  Voltage (V)	Ambient tempera	0 - 40 No. of poles	Power (HP)	
Horsepower rating Across-the-Line Motor Starting DOL DOL DOL	Curre		Voltage (V) 110 - 120 220 - 240 277 - 277	Ambient tempera  No. of phases	0 - 40  No. of poles  2  2  2	Power (HP) 1 3 3	
Horsepower rating Across-the-Line Motor Starting DOL DOL DOL DOL DOL	Curre		Voltage (V) 110 - 120 220 - 240 277 - 277 415 - 415	Ambient tempera  No. of phases 1 1 1 1	0 - 40  No. of poles 2 2 2 2 2	Power (HP) 1 3 3 5	2 2 2
Horsepower rating Across-the-Line Motor Starting DOL DOL DOL DOL DOL	Curre		Voltage (V) 110 - 120 220 - 240 277 - 277 415 - 415 440 - 480	Ambient tempera  No. of phases 1 1 1 1	No. of poles 2 2 2 2 2 2	Power (HP)  1  3  3  5	4
Horsepower rating Across-the-Line Motor Starting DOL DOL DOL DOL DOL DOL DOL DOL	Curre		Voltage (V) 110 - 120 220 - 240 277 - 277 415 - 415 440 - 480 550 - 600	Ambient tempera  No. of phases 1 1 1 1 1	0 - 40  No. of poles 2 2 2 2 2 2 2 2 2	Power (HP) 1 3 3 5 5 5	4 4 4 4
Horsepower rating Across-the-Line Motor Starting DOL	Curre		Voltage (V) 110 - 120 220 - 240 277 - 277 415 - 415 440 - 480 550 - 600 110 - 120	Ambient tempera  No. of phases 1 1 1 1 1 3	0 - 40  No. of poles 2 2 2 2 2 2 2 3	Power (HP)  1 3 3 5 5 5 2	4 4 4 4 4
Horsepower rating Across-the-Line Motor Starting DOL	Curre		Voltage (V) 110 - 120 220 - 240 277 - 277 415 - 415 440 - 480 550 - 600 110 - 120 200 - 240	Ambient tempera  No. of phases 1 1 1 1 3 3	0 - 40 - 2 No. of poles 2 2 2 2 2 2 2 2 2 3 3	Power (HP)  1  3  3  5  5  2  7,50	4 4 4 4 4 4
Horsepower rating Across-the-Line Motor Starting DOL	Curre		Voltage (V) 110 - 120 220 - 240 277 - 277 415 - 415 440 - 480 550 - 600 110 - 120 200 - 240 415 - 415	No. of phases  1  1  1  1  3  3 3	0 - 40 - 2 No. of poles 2 2 2 2 2 2 2 2 3 3 3	Power (HP)  1 3 3 5 5 5 2 7,50 10	Ambient temperature [*( 4 4 4 4 4 4 4 4 4
Horsepower rating Across-the-Line Motor Starting DOL	Curre		Voltage (V) 110 - 120 220 - 240 277 - 277 415 - 415 440 - 480 550 - 600 110 - 120 200 - 240 415 - 415 440 - 480	No. of phases  1 1 1 1 1 3 3 3 3 3	0 - 40 -  No. of poles 2 2 2 2 2 2 3 3 3 3 3	Power (HP)  1 3 3 5 5 5 2 7,50 10 15	4 4 4 4 4 4 4 4
Horsepower rating Across-the-Line Motor Starting DOL	Curre		Voltage (V) 110 - 120 220 - 240 277 - 277 415 - 415 440 - 480 550 - 600 110 - 120 200 - 240 415 - 415	No. of phases  1  1  1  1  3  3 3	0 - 40 - 2 No. of poles 2 2 2 2 2 2 2 2 3 3 3	Power (HP)  1 3 3 5 5 5 2 7,50 10	2 2 2 4 2 2 4 4 4 4 4 4 4 4 4 4 4 4 4 4
Horsepower rating Across-the-Line Motor Starting DOL	Curre		Voltage (V) 110 - 120 220 - 240 277 - 277 415 - 415 440 - 480 550 - 600 110 - 120 200 - 240 415 - 415 440 - 480	No. of phases  1 1 1 1 1 3 3 3 3 3	0 - 40 -  No. of poles 2 2 2 2 2 2 3 3 3 3 3	Power (HP)  1 3 3 5 5 5 2 7,50 10 15	
Horsepower rating Across-the-Line Motor Starting DOL	Curre		Voltage (V) 110 - 120 220 - 240 277 - 277 415 - 415 440 - 480 550 - 600 110 - 120 200 - 240 415 - 415 440 - 480	No. of phases  1 1 1 1 1 3 3 3 3 3	0 - 40 -  No. of poles 2 2 2 2 2 2 3 3 3 3 3	Power (HP)  1 3 3 5 5 5 2 7,50 10 15	
Horsepower rating Across-the-Line Motor Starting DOL	Curre		Voltage (V) 110 - 120 220 - 240 277 - 277 415 - 415 440 - 480 550 - 600 110 - 120 200 - 240 415 - 415 440 - 480	No. of phases  1 1 1 1 1 3 3 3 3 3	0 - 40 -  No. of poles 2 2 2 2 2 2 3 3 3 3 3	Power (HP)  1 3 3 5 5 5 2 7,50 10 15	
Horsepower rating Across-the-Line Motor Starting DOL	Curre		Voltage (V) 110 - 120 220 - 240 277 - 277 415 - 415 440 - 480 550 - 600 110 - 120 200 - 240 415 - 415 440 - 480	No. of phases  1 1 1 1 1 3 3 3 3 3	0 - 40 -  No. of poles 2 2 2 2 2 2 3 3 3 3 3	Power (HP)  1 3 3 5 5 5 2 7,50 10 15	
Horsepower rating Across-the-Line Motor Starting DOL		25	Voltage (V) 110 - 120 220 - 240 277 - 277 415 - 415 440 - 480 550 - 600 110 - 120 200 - 240 415 - 415 440 - 480 550 - 600	No. of phases  1 1 1 1 3 3 3 3 3	0 - 40 - 2 No. of poles 2 2 2 2 2 2 2 3 3 3 3 3	Power (HP)  1 3 3 5 5 5 2 7,50 10 15 20	
Horsepower rating Across-the-Line Motor Starting DOL	on circuits capable of deliveri	ng not more than 10kA rms	Voltage (V) 110 - 120 220 - 240 277 - 277 415 - 415 440 - 480 550 - 600 110 - 120 200 - 240 415 - 415 440 - 480 550 - 600	No. of phases  1 1 1 1 3 3 3 3 3	0 - 40  No. of poles  2 2 2 2 2 3 3 3 3 3 3 when protected	Power (HP)  1 3 3 5 5 5 2 7,50 10 15 20	
Horsepower rating Across-the-Line Motor Starting DOL	on circuits capable of deliveri	ng not more than 10kA rms	Voltage (V) 110 - 120 220 - 240 277 - 277 415 - 415 440 - 480 550 - 600 110 - 120 200 - 240 415 - 415 440 - 480 550 - 600	No. of phases  1 1 1 1 3 3 3 3 3	0 - 40  No. of poles  2 2 2 2 2 3 3 3 3 3 3 when protected	Power (HP)  1 3 3 5 5 5 2 7,50 10 15 20	
Horsepower rating Across-the-Line Motor Starting DOL	on circuits capable of deliveri pable of delivering not more t Temperature ratin	ng not more than 10kA rms han 65000 rms symmetrical	Voltage (V) 110 - 120 220 - 240 277 - 277 415 - 415 440 - 480 550 - 600 110 - 120 200 - 240 415 - 415 440 - 480 550 - 600	No. of phases  1 1 1 1 3 3 3 3 3 res, 600V ac max.	No. of poles  2 2 2 2 2 2 3 3 3 3 3 3 when protected eted by 40A Class	Power (HP)  1 3 3 5 5 5 2 7,50 10 15 20	
Horsepower rating Across-the-Line Motor Starting DOL	on circuits capable of deliveri pable of delivering not more t Temperature ratin	ng not more than 10kA rms han 65000 rms symmetrical	Voltage (V) 110 - 120 220 - 240 277 - 277 415 - 415 440 - 480 550 - 600 110 - 120 200 - 240 415 - 415 440 - 480 550 - 600	No. of phases  1 1 1 1 3 3 3 3 3 res, 600V ac max.	0 - 40  No. of poles 2 2 2 2 2 2 3 3 3 3 3 3 3 when protected	Power (HP)  1 3 3 5 5 5 2 7,50 10 15 20	2 2 2 4 2 2 4 4 4 4 4 4 4 4 4 4 4 4 4 4
Horsepower rating Across-the-Line Motor Starting DOL	on circuits capable of deliveri pable of delivering not more t Temperature ratin 6	ng not more than 10kA rms han 65000 rms symmetrical ig (°C) 10 - 75	Voltage (V) 110 - 120 220 - 240 277 - 277 415 - 415 440 - 480 550 - 600 110 - 120 200 - 240 415 - 415 440 - 480 550 - 600	No. of phases  1 1 1 1 3 3 3 3 3 7res, 600V ac max., when protec	No. of poles  2 2 2 2 2 2 3 3 3 3 3 3 when protected eted by 40A Class	Power (HP)  1 3 3 5 5 5 2 7,50 10 15 20	4 4 4 4 4 4 4
Horsepower rating Across-the-Line Motor Starting DOL	on circuits capable of deliveri pable of delivering not more t Temperature ratin 6	ng not more than 10kA rms han 65000 rms symmetrical	Voltage (V) 110 - 120 220 - 240 277 - 277 415 - 415 440 - 480 550 - 600 110 - 120 200 - 240 415 - 415 440 - 480 550 - 600 symmetrical amper	No. of phases  1 1 1 1 3 3 3 3 3 7res, 600V ac max., when protec	No. of poles  2 2 2 2 2 2 3 3 3 3 3 3 when protected eted by 40A Class	Power (HP)  1 3 3 5 5 5 2 7,50 10 15 20	4 4 4 4 4 4



General Use							
AC / DC Voltage (V)	Current (A)	No. of phases	No. of pole				No. of contacts in se
AC 600 General Information	25	3		3			
Text							
- The operating handle and position in	ndicating means to be u	ised with these manual mo	otor controllers shou	ald be provided from	m the manufactu	rer, or the operating	handle and position indicating me
to be used should have been previou				·			,
- When intended for use as a motor d	isconnector the device	shall be provided with a m	ethod of being locke	ed in the OFF-positi	on.		
CSA							
Nominal Voltage							
			Voltage (V) AC / E	OC .			
Rated insulation voltage Ui			600 AC				
race modulation voltage of			Voltage (V) AC / L	OC .			
			600 AC				
Rated thermal current		. (4)			(22)		
	Curre	nt (A) 25		Ambient temperat	0 - 40	nai l'ext	
Horsepower rating		25			0 40		
Across-the-Line Motor Starting			Voltage (V)	No. of phases	No. of poles	Power (HP)	Ambient temperature
DOL			110 - 120	1	2	1	
DOL			220 - 240	1	2	3	
DOL DOL			277 - 277 415 - 415	1	2 2	3 5	
DOL			440 - 480	1	2	5	
DOL			550 - 600	1	2	5	
DOL			110 - 120	3	3	2	
DOL			220 - 240	3	3	7,50	
DOL			415 - 415	3	3	10	
DOL			440 - 480	3	3	15	
DOL Pilot duty rating code			550 - 600	3	3	20	
Duty Code							
A600							
Temp. rating of wire							
	Temperature rating			Cui	rent (A) Text		
General Use		75					
AC / DC Voltage (V)	Current (A)	No. of phases	No. of pole	es			No. of contacts in se
AC 277	25	1		1			ito. er semaste m ee
AC 600	25	1		2			
AC 600	25	3		3			
GENERAL TECHNICAL INFO	RMATION						
Tightening torque of screws							
		tightening	torque (Nm) 1,25				tightening torque (Il
Stripping length			1,23				
рр. 3 . 3.			Length (mm) -				
			9 STRIP	PINGLENGTH			
Size of conductor					0	(2)	
composition of conductor	Min. /	Max. value	No. of co	nductor per termin	Cross section al (AWG/kcmil)	(mm²) or	Material of the wire
flexible wire	Max.				1 AWG 10		Copper
flexible wire	Max.				1 4mm²		Copper
Single-core or stranded wire	Max.				1 6mm²		Copper
Single-core or stranded wire	Max.				1 AWG 10		Copper
flexible wire with sleeve  Approbations	Max.				1 4mm²		Copper
Specification							Mari
EAC							E
EAC							
							C
CE marking							
							I
UK Directives							Ĺ
201 202 211 11							
CSA C.22.2 No.14							
							(6
GB/T14048.3							GB/T
Recommended screw driver							
Type of screw driver			Value				
Cross Screwdriver	E 4		PH2				
Slot screwdriver according to DIN 526 General Information	U4		0,8x4				
Text							
- EMC Note: This device is suitable fo	r use in environment A	and B.					
	. 110 iii ciii ii ciii A						



#### General Information

#### Text

- Do not lubricate or treat contacts.
- 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.

#### 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

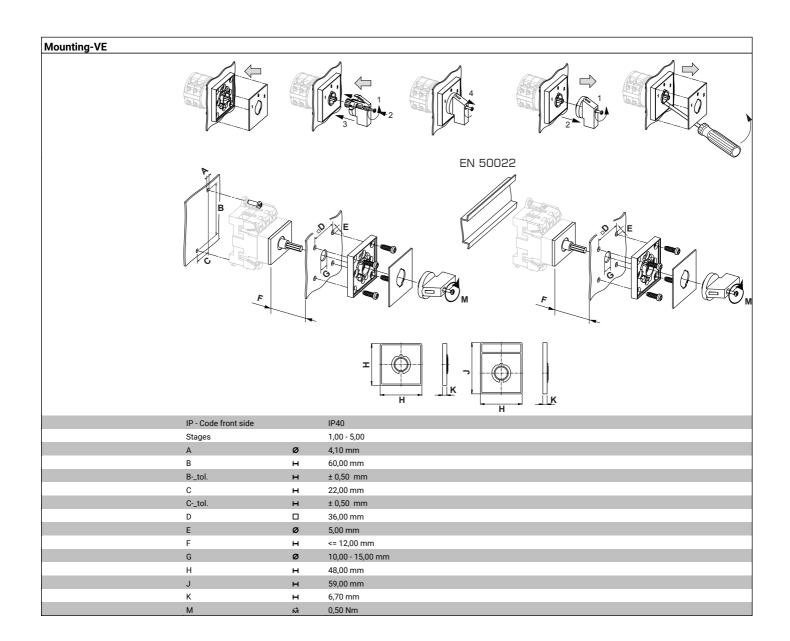
Description

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





## Wiring diagram KG20A.T303.VE

L1 L2 L3
T1 T2 T3

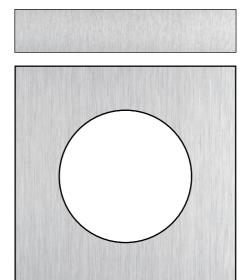


## Switch program KG20A.T303.VE

Traus & Nai		aimer KG20A		0A	T303			Page	Page 1 of 1	
Face Plate										
1 0		L1 1	L2 3	L3 5	7	9	11	13	15	
0 (270 90 )			\1	\ <sup>1</sup>						
180			)	)						
Switching Angle 90  Total switching Angle 90	_	2 T1	4 T2	6 T3	8	10	12	14	16	
0	270		12	10						
4	0									
1	0									
	90									
	180									



## Face plate S1.F991/A00.P2B





# AUXILIARY CONTACTS (cam operated) for switch type KG20 - KG100C and KH(R)16 - KH(R)25B

Designation: K0.M510A/2CA-B

**Number of contacts:** "2" 2 auxiliary contacts **Operation of contacts:** "C" 1 auxiliary contact closed in pos. 1 and 1 auxiliary contact closed in

pos. 0 (NO/NC)

**Type of version:** "A" 1. auxiliary contact module **Type of mounting:** "-B" for type of mounting VE,

VE2, silver contacts

IEC 60947-3 EN 60947	7-3, VDE 0660 Teil 1	07			
Nominal Voltage			14 14 40 40 40		
			Voltage (V) AC / DC		
			500 AC		
B. 4. d	. //al.		690 AC		
Rated uninterrupted current In Current (A)	Ambient temperature (°C	Peak temperatur	e (°C) additional requirements		
10	Ambient temperature ( C		60 Ambient temperature +55°C dur	ring 24 hours with pool	ko un to 160°C
16	5 5		60 Ambient temperature +55°C dur		
Rated operational current le	<u> </u>	5	60 Ambient temperature +55 C dui	ing 24 nours with pear	ks up to +00 C
Utilization category			Volta	ge (V)	Current (A)
AC-15				ye (v) ) - 240	2,50
AC-15				) - 440	1,50
AC-15			360	500	1,30
AC-21A				500	10
				550	10
UL60947-4-1, UL508					
Nominal Voltage					
			Voltage (V) AC / DC		
			600 AC		
Rated insulation voltage Ui					
			Voltage (V) AC / DC		
			600 AC		
Rated thermal current	•	(4)		(00) 4 1 1111 1 1 1	
	Ci	ırrent (A)		re (°C) Additional Text	
Dilat data astimus and		10		0 - 40	
Pilot duty rating code  Duty Code					
A600					
General Use					
AC / DC Voltag	e (V) Current (A)	No. of phases	No. of poles		No. of contacts in series
AC / DC VOITAG	600 Current (A)	No. or priases	1		No. or contacts in series
			'		!
GENERAL TECHNICAL	. INFORMATION				
Tightening torque of screws					
		tightening t	orque (Nm)		tightening torque (lb-in)
			0,60		5
Stripping length					
		L	ength (mm)		
			6 STRIPPINGLENGTH		
Size of conductor					
composition of conductor	A.	in. / Max. value	No. of conductor per terminal	Cross section (mm²)	or Material of the wire
solid wire		in. / Max. value in.	•	(AWG/KCMII) 0.5mm²	
solid wire		in. in.		0.5mm²	Copper
flexible wire	***			0.5mm <sup>2</sup> 0.75mm <sup>2</sup>	Copper
		in. :			Copper
flexible wire		in.		0.75mm²	Copper
flexible wire		ax.		AWG 16	Copper
flexible wire	•••	ax.		1.5mm²	Copper
Single-core or stranded wire	M	ax.	2	AWG 14	Copper



Size of conductor				
composition of conductor	Min. / Max. value	No. of conductor per terminal	Cross section (mm²) or (AWG/kcmil)	Material of the wire
Single-core or stranded wire	Max.	2	1.5mm²	Copper
flexible wire with ferrule according to DIN 46228	Max.	2	1mm²	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
Recommended screw driver				
Type of screw driver		Value		
Cross Screwdriver		PH1		
Slot screwdriver according to DIN 5264		0,6x3,5		
General Information				
Text				
- Do not lubricate or treat contacts.				
- Switches may only be mounted, connected and set	into operation by qualified persons accordin	g to the accepted rules of tech	inology.	
- Use copper wire only. Do not coat the wire end with			3,	
13 21	••••			
\				
14 22				