## ENERGY AND AUTOMATION

LIMIT SWITCH, K SERIES, TOP ROLLER PUSH PLUNGER, 1 BOTTOM CABLE ENTRY. DIMENSIONS TO EN 50047, PLASTIC BODY, CONTACTS 2NO SLOW ACTION. PLASTIC ROLLER



**KBB1L20** 

Product designation	Top roller push plunger
Product type designation	KBB
General characteristics	
Material	

Roller         Plastic           Contact Characteristics         2NO Slow action           Type of contact         2NO Slow action           Thermal current lth         A         10           IEC/EN 60947-5-1 designation         A 6800 Q300           Rated insulation voltage Ui         V         690           Rated insulation voltage Uimp         kV         6           Insulation class         II         10 gG/SC QUICK FUSE           Switching speed         min m/s         0.5           max         m/s         1.5           IEC Conventional free air thermal current lth         A         10           Resistance per pole (average value)         mQ         <10           Mechanical features         Uccking bayonet insert         0           Operating torque         N         5           Ibin         7         1.1           Tightening torque (Max)         Switch fixing         Nm         2.5           Ibin         7         2.1         1.1           Contact terminals         Nm         0.8         1.5           Ibin         7         1.1         1.1           Tightening torque (Max)         Ibin         7         1.6			Housing		Polymer thermoplastic
Type of contact         2NO Slow action           Thermal current th         A         10           IEC/EN 60947-5-1 designation         A600 0300           Rated insulation voltage Ui         V         690           Rated insulation voltage Ui         V         690           Rated insulation voltage Ui         V         690           Short-circuit protection with fuse         Class/A         10 gG/SC QUICK FUSE           Switching speed         min         m/s         1.5           IEC Conventional free air thermal current Ith         A         10           Resistance per pole (average value)         mQ         <10			Roller		-
Thermal current lth         A         10           IEC/EN 60947-5-1 designation         A600 Q300           Rated insulation voltage Ui         V         690           Rated insulation voltage Uimp         kV         6           Insulation class         II         I           Short-circuit protection with fuse         Class/A         10 gG/SC           Switching speed         min         m/s         0.5           max         m/s         1.5         IEC Conventional free air thermal current Ith         A         10           Restaincal features         max         m/s         1.5         IEC Conventional free air thermal current Ith         A         10           Resistance per pole (average value)         mΩ         <10	Contact characteristic	S			
IEC/EN 60947-5-1 designation       A600 Q300         Rated insulation voltage Ui       V       690         Rated insulation voltage Ui       V       690         Rated impulse withstand voltage Uimp       kV       6         Insulation class       II       10         Short-circuit protection with fuse       Class/A       10 gG/SC QUICK FUSE         Switching speed       min       m/s       0.5         IEC Conventional free air thermal current lth       A       10         Resistance per pole (average value)       mQ       10         Mechanical features       Locking bayonet insert       0         Operating head fixing       Locking bayonet insert       11         Tightening torque (Max)       Switch fixing       Nm       2.5         Ibin       22.1       Contact terminals       Nm       0.8         Body lid screw fixing       Nm       0.8       10         Rescition       Nm       0.8       10       16         IEC       Max       16       16       16         IEC       min       16       16       14	Type of contact				2NO Slow action
Rated insulation voltage Ui         V         690           Rated impulse withstand voltage Uimp         kV         6           Insulation class         II         10 gG/SC           Short-circuit protection with fuse         Class/A         10 gG/SC           Switching speed         min         m/s         1.5           IEC Conventional free air thermal current Ith         A         10           Resistance per pole (average value)         mΩ         <10	Thermal current Ith			А	10
Rated impulse withstand voltage Uimp         kV         6           Insulation class         II           Short-circuit protection with fuse         Class/A         10 gG/SC QUICK FUSE           Switching speed         min         m/s         0.5           IEC Conventional free air thermal current Ith         A         10           Resistance per pole (average value)         mΩ         <10	IEC/EN 60947-5-1 de	signation			A600 Q300
Insulation class II Short-circuit protection with fuse Class/A 10 gG/SC QUICK FUSE Switching speed No. 5 max m/s 1.5 IEC Conventional free air thermal current Ith A 10 Resistance per pole (average value) mΩ <10 Mechanical features Operating head fixing Locking bayonet insert Operating torque N 5 Ib 1.1 Tightening torque (Max) Switch fixing Nm 2.5 Ibin 22.1 Contact terminals Nm 0.8 Ibin 7 Body lid screw fixing Nm 0.8 Ibin 7 Conductor section AWG/Kcmil IEC nmin mm² 16 min mm² 10 2	Rated insulation voltage	ge Ui		V	690
Short-circuit protection with fuse       Class/A       10 gG/SC QUICK FUSE         Switching speed       min       m/s       0.5         IEC Conventional free air thermal current lth       A       10         Resistance per pole (average value)       mQ       <10		nd voltage Uimp		kV	6
Sindication protection with ruse     Class/A     QUICK FUSE       Switching speed     min     m/s     0.5       max     m/s     1.5       IEC Conventional free air thermal current lth     A     10       Resistance per pole (average value)     mΩ     <10	Insulation class				II
min     m/s     0.5       max     m/s     1.5       IEC Conventional free air thermal current lth     A     10       Resistance per pole (average value)     mΩ     <10	Short-circuit protectior	n with fuse		Class/A	
max       m/s       1.5         IEC Conventional free air thermal current lth       A       10         Resistance per pole (average value)       mQ       <10	Switching speed				
IEC Conventional free air thermal current lth       A       10         Resistance per pole (average value)       mΩ       <10			min	m/s	0.5
Resistance per pole (average value)       mΩ       <10			max	m/s	1.5
Mechanical features       Locking bayonet insert         Operating head fixing       N       5         Operating torque       N       5         Tightening torque (Max)       Switch fixing       Nm       2.5         Switch fixing       Nm       2.5       Ibin       22.1         Contact terminals       Nm       0.8       Ibin       7         Body lid screw fixing       Nm       0.8       Ibin       7         Conductor section       AWG/Kcmil       min       16       max       14         IEC       min       min       mm²       1or 2	IEC Conventional free	air thermal current Ith			10
Operating head fixing       Locking bayonet insert         Operating torque       N       5         Ib       1.1         Tightening torque (Max)       Switch fixing       Nm       2.5         Ibin       22.1       Ibin       22.1         Contact terminals       Nm       0.8         Ibin       7       Ibin       7         Body lid screw fixing       Nm       0.8         Ibin       7       Ibin       7         Conductor section       AWG/Kcmil       min       16         IEC       min       14       12		average value)		mΩ	<10
Operating nead nxing         insert           Operating torque         N         5           Ib         1.1           Tightening torque (Max)         Switch fixing         Nm         2.5           Ibin         22.1         Ibin         22.1           Contact terminals         Nm         0.8           Ibin         7         Ibin         7           Body lid screw fixing         Nm         0.8           Ibin         7         Ibin         7           Conductor section         AWG/Kcmil         min         16           IEC         min         min         14	Mechanical features				
N         5           Ib         1.1           Tightening torque (Max)         Switch fixing           Switch fixing         Nm         2.5           Ibin         22.1           Contact terminals         Nm         0.8           Ibin         7           Body lid screw fixing         Nm         0.8           Ibin         7           Conductor section         Nm         0.8           AWG/Kcmil         min         16           IEC         min         14	Operating head fixing				
Ib         1.1           Tightening torque (Max)         Switch fixing         Nm         2.5           Ibin         22.1         22.1           Contact terminals         Nm         0.8           Ibin         7         3           Body lid screw fixing         Nm         0.8           Ibin         7         3           Conductor section         Nm         16           AWG/Kcmil         14         14           IEC         min         mm         10 r 2	Operating torque				
Tightening torque (Max)       Switch fixing       Nm       2.5         Ibin       22.1       Ibin       22.1         Contact terminals       Nm       0.8         Ibin       7       Ibin       7         Body lid screw fixing       Nm       0.8         Ibin       7       Ibin       7         Conductor section       AWG/Kcmil       Information       16         IEC       min       14         IEC       min       mm²       1 or 2					
Switch fixing Nm 2.5 Ibin 22.1 Contact terminals Nm 0.8 Ibin 7 Body lid screw fixing Nm 0.8 Ibin 7 Conductor section AWG/Kcmil Min 16 max 14 IEC min mm² 10r 2				lb	1.1
Nm         2.5           bin         22.1           Contact terminals         Nm         0.8           Ibin         7           Body lid screw fixing         Nm         0.8           Ibin         7           Conductor section         AWG/Kcmil         Ibin           AWG/Kcmil         min         16           IEC         min         14	Tightening torque (Max				
Ibin       22.1         Contact terminals       Nm       0.8         Ibin       7         Body lid screw fixing       Nm       0.8         Ibin       7         Conductor section       Nm       0.8         AWG/Kcmil       min       7         IEC       min       16         min       14         IEC       min       mm²		Switch fixing			
Contact terminals       Nm       0.8         Ibin       7         Body lid screw fixing       Nm       0.8         Ibin       7         Conductor section       AWG/Kcmil       7         AWG/Kcmil       16         IEC       min       14					
Nm       0.8         Ibin       7         Body lid screw fixing       Nm       0.8         Ibin       7         Conductor section       AWG/Kcmil       7         AWG/Kcmil       16       14         IEC       min       mm²       1 or 2				lbin	22.1
Ibin     7       Body lid screw fixing     Nm     0.8       Ibin     7       Conductor section     AWG/Kcmil     16       min     16       IEC     14		Contact terminals		N.L.	
Body lid screw fixing       Nm       0.8         Ibin       7         Conductor section       AWG/Kcmil       Ibin         AWG/Kcmil       min       16         IEC       min       14         IEC       min       mm²					
Nm     0.8       Ibin     7       Conductor section     AWG/Kcmil		De de lid e group finie e		IDIN	/
Ibin     7       Conductor section     AWG/Kcmil       min     16       max     14       IEC     min     mm²		Body lid screw fixing		Nim	0.0
Conductor section          AWG/Kcmil       min       16					
AWG/Kcmil min 16 max 14 IEC min mm <sup>2</sup> 1or 2	Conductor coction			IDIT	1
min 16 max 14 IEC min mm <sup>2</sup> 1or 2		AWG/Kcmil			
IEC min mm <sup>2</sup> 1or 2			min		16
IEC min mm <sup>2</sup> 1or 2					
min mm <sup>2</sup> 1 or 2		IEC	IIIdA		17
			min	mm²	1or 2
			max	mm²	2.5

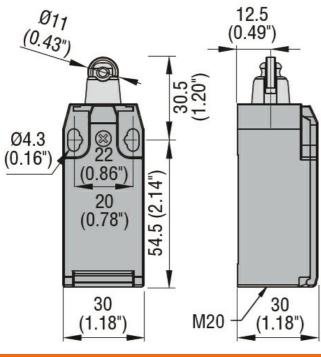
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Cable connection				Self-releasing screw terminal
Cable entry				M20 on the bottom
Operations				20110111
Mechanical life			cycles	<1000000
Mechanical operation			cycles/h	3600
Ambient conditions				
Temperature				
	Operating temperature			
		min	°C	-25
		max	°C	+70
	Storage temperature			
		min	°C	-40
		max	°C	+70
Resistance & Protectio	n			
P degree				
		Terminals		IP20
		Body housing		IP65
Pollution degree				3

Dimensions



Wiring diagrams

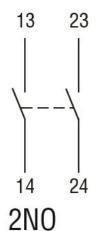
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## Slow action



Certifications and co	mpliance	
Compliance		
	CSA C22.2 n° 14	
	EN 50047	
	IEC/EN 60204-1	
	IEC/EN 60947-1	
	IEC/EN 60947-5-1	
	UL508	
Certificates		
	<u>CCC</u>	
	cULus	
	EAC	
ETIM classification		
ETIM 8.0		EC000030 - End switch