BREMAS

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ISO 9001 Certified Quality System

#### Cod. CA0160008B95RL6

# Standard and Approvals

- Switch according to IEC/EN 60947-3
- Certified UL60947-4-1A and CAN/CSA C22.2 No. 60947-4-1-07
- Suitable as Manual Motor Controller





# Technical characteristics: Enclosure

- IP65 Protection degree
- ABS enclosure double insulation
- · Earth terminal
- 2xM20 knock-outs on two sides
- 4xPg16 on one side and on the base of the enclosure

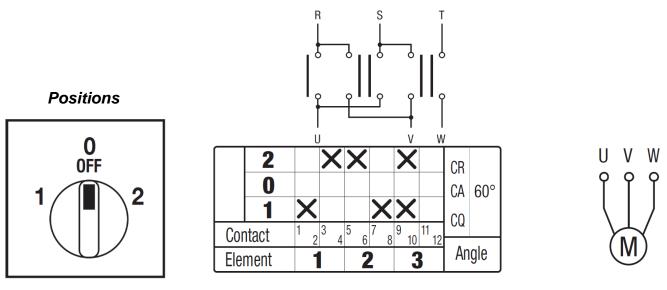
### Technical characteristics: Body

- Reversing switch 3 pole
- Rated operational current le: 16A (AC-21A)
- Rated thermal current Ith: 20A
- Rated insulation voltage Ui: 690V
- Switching angle: 90°
- Class V2 self-extinguishing thermoplastic housing
- Assembled with metal shaft and threaded stud bolts to ensure maximum operating reliability
- Positive opening double break contacts, silver alloy made.

### Technical characteristics: Knob

 Yellow plate 67x67mm and red padlockable knob (max. 3 padlocks)

#### Electrical diagram and function



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#### Dimensions

n° 2 M20

measures in mm (in)

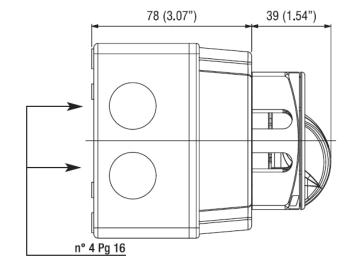
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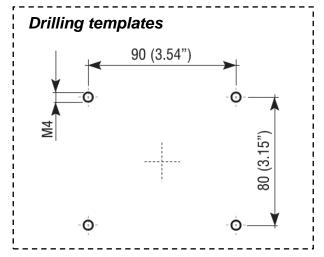
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("YLE) 96 n° 2 M20



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Technical data IEC 047 2 EN 60047 2				
Technical data IEC 947-3 EN 60947-3		116	V	600
Rated insulation voltage		Ui	v	690
Rated operating voltage Rated impulse withstand voltage			kV	690
		Uimp		
Rated thermal current for open switch		lth	A	20
Rated thermal current for enclosed switch		Ithe	A	20
Rated operation frequency Power dissipation for each pole			Hz	50/60
			W	0,5
Rated operating current				
AC-21A Switching resistive loads, including moderate overloads		le	A	16
AC-22A Switching of mixed resistive and inductive loads, including moderate overloads		le	A	16
AC-20A Connecting and disconnecting under no loads conditions				-
Rated operating power				
AC-23A Switching of motor loads or other highly inductive loads 3 phase - 3 pole		230V	Kw (A)	4 (14)
		400V	Kw (A)	7,5 (14)
		500V	Kw (A)	-
AC 334 Cuitabing of motor loads or other bights industrie loads 1 above - 2 note	690V	Kw (A)	-	
AC-23A Switching of motor loads or other highly inductive loads 1 phase - 2 pole	110V	Kw (A)	1,1 (12)	
	230V	Kw (A)	2,2 (14)	
AC-3 Squirrel cage motors: starting, swtiching off motors during running 3 phase - 3 pole	230V	Kw (A)	3,7 (12)	
	400V	Kw (A)	5,5 (10)	
	500V	Kw (A)	-	
	690V	Kw (A)	-	
AC-3 Squirrel cage motors: starting, swtiching off motors during running 1 phase - 2 pole		110V	Kw (A)	0,75 (9)
	230V	Kw (A)	1,5 (8)	
		400V	Kw (A)	-
AC-4 Squirrel cage motors: starting, pluggign, inching		230V	Kw (A)	-
	400V	Kw (A)	-	
AC-15 Control of a.c electromagnetic loads		230V	A	6
		400V	A	4
Rated breaking capability in AC-23A (cos φ=0,45)		230V	A	112
		400V	A	112
Short circuit protection				
Rated short time withstand current		lcw	A	240
Rated short-circuit make capacity		Icm	A	-
Rated conditional short-circuit current		-	kA	4
Rated conditional short-circuit current With fuses class gG				
Rated conditional short-circuit current		-	kA A	4
Rated conditional short-circuit current With fuses class gG		-	kA	4
Rated conditional short-circuit current With fuses class gG Technical data UL/CSA		- 500V	kA A	4 20
Rated conditional short-circuit current With fuses class gG Technical data UL/CSA Rated operating voltage		- 500V Ue	kA A UL/CSA V	4 20 600/-
Rated conditional short-circuit current With fuses class gG Technical data UL/CSA Rated operating voltage General use current		- 500V Ue	kA A UL/CSA V UL/CSA A	4 20 600/- 16
Rated conditional short-circuit current With fuses class gG Technical data UL/CSA Rated operating voltage General use current Short circuit rating @600Vac		- 500V Ue	kA A UL/CSA V UL/CSA A Arms	4 20 600/- 16 5000
Rated conditional short-circuit current With fuses class gG Technical data UL/CSA Rated operating voltage General use current Short circuit rating @600Vac Fuse size (Class RKS, 600Vac, 200kA A.I.C.)		- 500V Ue	kA A UL/CSA V UL/CSA A Arms	4 20 600/- 16 5000
Rated conditional short-circuit current With fuses class gG Technical data UL/CSA Rated operating voltage General use current Short circuit rating @600Vac Fuse size (Class RK5, 600Vac, 200kA A.I.C.) Rated operating power		- 500V Ue Ie	kA A UL/CSA V UL/CSA A Arms A	4 20 600/- 16 5000 25 (30)
Rated conditional short-circuit current With fuses class gG Technical data UL/CSA Rated operating voltage General use current Short circuit rating @600Vac Fuse size (Class RK5, 600Vac, 200kA A.I.C.) Rated operating power		- 500V Ue Ie 	kA A UL/CSA V UL/CSA A Arms A Hp (A)	4 20 600/- 16 5000 25 (30) 1 (16)
Rated conditional short-circuit current With fuses class gG Technical data UL/CSA Rated operating voltage General use current Short circuit rating @600Vac Fuse size (Class RK5, 600Vac, 200KA A.I.C.) Rated operating power 1 phase - 2 pole		- 500V Ue Ie 	kA A UL/CSA V UL/CSA A Arms A Hp (A) Hp (A)	4 20 600/- 16 5000 25 (30) 25 (30) 1 (16) 2 (12)
Rated conditional short-circuit current With fuses class gG Technical data UL/CSA Rated operating voltage General use current Short circuit rating @600Vac Fuse size (Class RK5, 600Vac, 200KA A.I.C.) Rated operating power 1 phase - 2 pole		- 500V Ue le 	kA A UL/CSA V UL/CSA A Arms A Hp (A) Hp (A) Hp (A)	4 20 600/- 16 5000 25 (30) 1 (16) 2 (12) 2 (7,8)
Rated conditional short-circuit current With fuses class gG Technical data UL/CSA Rated operating voltage General use current Short circuit rating @600Vac Fuse size (Class RKS, 600Vac, 200kA A.I.C.) Rated operating power 1 phase - 2 pole			kA A UL/CSA V UL/CSA A Arms A Hp (A) Hp (A) Hp (A)	4 20 600/- 16 5000 25 (30) 1 (16) 2 (12) 2 (7,8) 3 (9,6)
Rated conditional short-circuit current With fuses class gG Technical data UL/CSA Rated operating voltage General use current Short circuit rating @600Vac Fuse size (Class RKS, 600Vac, 200kA A.I.C.) Rated operating power 1 phase - 2 pole			kA A UL/CSA V UL/CSA A Arms A Hp (A) Hp (A) Hp (A) Hp (A) Hp (A)	4 20 600/- 16 5000 25 (30) 1 (16) 2 (12) 2 (7,8) 3 (9,6) 7,5 (11)
Rated conditional short-circuit current         With fuses class gG         Technical data UL/CSA         Rated operating voltage         General use current         Short circuit rating @600Vac         Fuse size (Class RK5, 600Vac, 200kA A.I.C.)         Rated operating power         1 phase - 2 pole         3 phase - 3 pole			kA A UL/CSA V UL/CSA A Arms A Hp (A) Hp (A) Hp (A) Hp (A) Hp (A)	4 20 600/- 16 5000 25 (30) 1 (16) 2 (12) 2 (7,8) 3 (9,6) 7,5 (11)
Rated conditional short-circuit current         With fuses class gG         Technical data UL/CSA         Rated operating voltage         General use current         Short circuit rating @600Vac         Fuse size (Class RK5, 600Vac, 200kA A.I.C.)         Rated operating power         1 phase - 2 pole         3 phase - 3 pole         Mechanical characteristics			кА А UL/CSA V UL/CSA A Arms A Hp (A) Hp (A) Hp (A) Hp (A) Hp (A) Hp (A)	4 20 600/- 16 5000 25(30) 1(16) 2(12) 2(7,8) 3(9,6) 7,5(11) 7,5(9)
Rated conditional short-circuit current         With fuses class gG         Technical data UL/CSA         Rated operating voltage         General use current         Short circuit rating @600Vac         Fuse size (Class RK5, 600Vac, 200kA A.I.C.)         Rated operating power         1 phase - 2 pole         3 phase - 3 pole         Mechanical characteristics         Panel thickness			кА А UL/CSA V UL/CSA A Arms A А Hp (A) Hp (A) Hp (A) Hp (A) Hp (A) Hp (A) Hp (A) Hp (A)	4 20 600/- 16 5000 25(30) 1(16) 2(12) 2(7,8) 3(9,6) 7,5(11) 7,5(9) 4
Rated conditional short-circuit current         With fuses class gG         Technical data UL/CSA         Rated operating voltage         General use current         Short circuit rating @600Vac         Fuse size (Class RK5, 600Vac, 200kA A.I.C.)         Rated operating power         1 phase - 2 pole         3 phase - 3 pole         Mechanical characteristics         Panel thickness			кА А UL/CSA V UL/CSA A Arms A Hp (A) Hp (A)	4 20 600/- 16 5000 25 (30) 1 (16) 2 (12) 2 (7,8) 3 (9,6) 7,5 (11) 7,5 (9) - - - - - - - - - - - - -
Rated conditional short-circuit current         With fuses class gG         Technical data UL/CSA         Rated operating voltage         General use current         Short circuit rating @600Vac         Fuse size (class RK5, 600Vac, 200kA A.I.C.)         Rated operating power         1 phase - 2 pole         3 phase - 3 pole         Mechanical characteristics         Panel thickness         Mechanical life	With flexible wires		кА А UL/CSA V UL/CSA A Arms A Hp (A) Hp (A)	4 20 600/- 16 5000 25 (30) 1 (16) 2 (12) 2 (7,8) 3 (9,6) 7,5 (11) 7,5 (9) - - - - - - - - - - - - -
Rated conditional short-circuit current         With fuses class gG         Technical data UL/CSA         Rated operating voltage         General use current         Short circuit rating @600Vac         Fuse size (Class RK5, 600Vac, 200kA A.I.C.)         Rated operating power         1 phase - 2 pole         3 phase - 3 pole         Mechanical characteristics         Panel thickness         Mechanical life         Connection according to IEC 9471-1 and EN 50947-1	With flexible wires		kA A UL/CSA V UL/CSA A Arms A Hp (A) Hp (C) Hp (C)	4 20 600/- 16 5000 25 (30) 25 (30) 7 1 (16) 2 (12) 2 (7,8) 3 (9,6) 7,5 (11) 7,5 (9) 4 2 120
Rated conditional short-circuit current         With fuses class gG         Technical data UL/CSA         Rated operating voltage         General use current         Short circuit rating @600Vac         Fuse size (Class RK5, 600Vac, 200kA A.I.C.)         Rated operating power         1 phase - 2 pole         3 phase - 3 pole         Mechanical characteristics         Panel thickness         Mechanical life         Connection according to IEC 9471-1 and EN 50947-1	With flexible wires		кА А UL/CSA V UL/CSA A Arms A Hp (A) Hp (A) Hp (A) Hp (A) Hp (A) Hp (A) Hp (A) Mp (A) Hp (A) Cycles x 10 <sup>6</sup> Cycles/hr	4 20 600/- 16 5000 25 (30) 1 (16) 2 (12) 2 (7,8) 3 (9,6) 7,5 (11) 7,5 (9) 4 2 120 4 2 120
Rated conditional short-circuit current         With fuses class gG         Technical data UL/CSA         Rated operating voltage         General use current         Short circuit rating @600Vac         Fuse size (Class RK5, 600Vac, 200kA A.I.C.)         Rated operating power         1 phase - 2 pole         3 phase - 3 pole         Mechanical characteristics         Panel thickness         Mechanical life         Connection according to IEC 9471-1 and EN 50947-1			kA A UL/CSA V UL/CSA A Arms A Hp (A) Hp (A) Hp (A) Hp (A) Hp (A) Hp (A) Hp (A) Mp (A) Cycles x 10 <sup>6</sup> Cycles x 10 <sup>6</sup>	4 20 600/- 16 5000 25 (30) 1 (16) 2 (12) 2 (7,8) 3 (9,6) 7,5 (11) 7,5 (9) 4 2 120 2x1,5-4 16-10
Rated conditional short-circuit current         With fuses class gG         Technical data UL/CSA         Rated operating voltage         General use current         Short circuit rating @600Vac         Fuse size (Class RKS, 600Vac, 200kA A.I.C.)         Rated operating power         1 phase - 2 pole         3 phase - 3 pole         Mechanical characteristics         Panel thickness         Mechanical life         Connection according to IEC 9471-1 and EN 50947-1         Connection terminal screw dimensions			кА А UL/CSA V UL/CSA A Arms A A Hp (A) Hp (A) Hp (A) Hp (A) Hp (A) Hp (A) Hp (A) Hp (A) Cycles x 10 <sup>6</sup> Cycles/hr	4 20 600/- 16 5000 25(30) 1(16) 2(12) 2(7,8) 3(9,6) 7,5(11) 7,5(9) 4 2 120 2x1,5-4 16-10 2x1,5-6
Rated conditional short-circuit current         With fuses class gG         Technical data UL/CSA         Rated operating voltage         General use current         Short circuit rating @600Vac         Fuse size (Class RK5, 600Vac, 200kA A.I.C.)         Rated operating power         1 phase - 2 pole         3 phase - 3 pole         Mechanical characteristics         Panel thickness         Mechanical life         Connection according to IEC 9471-1 and EN 50947-1         Connecting capability			kA A UL/CSA V UL/CSA A Arms A A Hp (A) Hp (A) Hp (A) Hp (A) Hp (A) Hp (A) Hp (A) Cycles x 10 <sup>6</sup> Cycles/hr Cycles/hr Mm <sup>2</sup> AWG mm <sup>2</sup> Type	4 20 600/- 16 5000 25(30) 1(16) 2(12) 2(7,8) 3(9,6) 7,5(11) 7,5(9) 4 4 2 120 2x1,5-4 16-10 2x1,5-6 M3,5
Rated conditional short-circuit current         With fuses class gG         Technical data UL/CSA         Rated operating voltage         General use current         Short circuit rating @600Vac         Fuse size (Class RKS, 600Vac, 200kA A.I.C.)         Rated operating power         1 phase - 2 pole         3 phase - 3 pole         Mechanical characteristics         Panel thickness         Mechanical life         Connection according to IEC 9471-1 and EN 50947-1         Connection terminal screw dimensions         Screw tightening torque			kA A UL/CSA V UL/CSA A Arms A A Hp (A) Hp (A) Hp (A) Hp (A) Hp (A) Hp (A) Hp (A) Cycles x 10 <sup>6</sup> Cycles/hr Cycles/hr Mm <sup>2</sup> AWG mm <sup>2</sup> Type	4 20 600/- 16 5000 25(30) 1(16) 2(12) 2(7,8) 3(9,6) 7,5(11) 7,5(9) 4 4 2 120 2x1,5-4 16-10 2x1,5-6 M3,5
Rated conditional short-circuit current         With fuses class gG         Technical data UL/CSA         Rated operating voltage         General use current         Short circuit rating @600Vac         Fuse size (Class RK5, 600Vac, 200kA A.I.C.)         Rated operating power         1 phase - 2 pole         3 phase - 3 pole         Mechanical characteristics         Panel thickness         Mechanical life         Connection according to IEC 9471-1 and EN 50947-1         Connection terminal screw dimensions         Screw tightening torque         Protection degree IEC 529 EN 60529			kA A UL/CSA V UL/CSA A Arms A Hp (A) Hp (A) Hp (A) Hp (A) Hp (A) Hp (A) Hp (A) Mp (A) Cycles x 10 <sup>6</sup> Cycles x 10 <sup>6</sup> Cycles/hr Cycles/hr	4 20 600/- 16 5000 25 (30) 1 (16) 2 (12) 2 (7,8) 3 (9,6) 7,5 (11) 7,5 (9) 4 2 120 2x1,5-4 16-10 2x1,5-6 M3,5 1
Rated conditional short-circuit current         With fuses class gG         Technical data UL/CSA         Rated operating voltage         General use current         Short circuit rating @600Vac         Fuse size (Class RKS, 600Vac, 200kA A.I.C.)         Rated operating power         1 phase - 2 pole         3 phase - 3 pole         Mechanical characteristics         Panel thickness         Mechanical life         Connection according to IEC 9471-1 and EN 50947-1         Connection cargability         Connection degree IEC 529 EN 60529         Terminals			kA A UL/CSA V UL/CSA A Arms A Hp (A) Hp (A) Hp (A) Hp (A) Hp (A) Hp (A) Hp (A) Mp (A) Cycles x 10 <sup>6</sup> Cycles x 10 <sup>6</sup> Cycles/hr Cycles/hr	4 20 600/- 16 5000 25 (30) 1 (16) 2 (12) 2 (7,8) 3 (9,6) 7,5 (11) 7,5 (9) 4 2 120 2x1,5-4 16-10 2x1,5-6 M3,5 1
Rated conditional short-circuit current         With fuses class gG         Technical data UL/CSA         Rated operating voltage         General use current         Short circuit rating @600Vac         Fuse size (Class RK5, 600Vac, 200kA A.I.C.)         Rated operating power         1 phase - 2 pole         3 phase - 3 pole         Mechanical characteristics         Panel thickness         Mechanical life         Connection according to IEC 9471-1 and EN 50947-1         Connection grapability         Connection degree IEC 529 EN 60529         Terminals         Ambient conditions			kA A UL/CSA V UL/CSA A Arms A Hp (A) Hp (A) Hp (A) Hp (A) Hp (A) Hp (A) Hp (A) Cycles x 10 <sup>6</sup> Cycles x 10 <sup>6</sup> Cycles/hr Cycles/hr	4 20 600/- 16 5000 25(30) 1 (16) 2 (12) 2 (7,8) 3 (9,6) 7,5 (11) 7,5 (9) 4 2 2 (7,8) 3 (9,6) 7,5 (11) 7,5 (9) 2 4 2 2 2 2 2 2 3 (9,6) 7,5 (11) 7,5 (9) 2 2 2 2 2 3 (9,6) 7,5 (11) 7,5 (9) 2 4 1 2 0 0 0 0 0 0 0 0 0 0 0 0 0
Rated conditional short-circuit current         With fuses class gG         Technical data UL/CSA         Rated operating voltage         General use current         Short circuit rating @600Vac         Fuse size (Class RK5, 600Vac, 200kA A.I.C.)         Rated operating power         1 phase - 2 pole         3 phase - 3 pole         Mechanical characteristics         Panel thickness         Mechanical life         Connection according to IEC 9471-1 and EN 50947-1         Connection terminal screw dimensions         Screw tightening torque         Protection degree IEC 529 EN 60529         Terminals         Ambient conditions         Operating ambient temperature			kA A UL/CSA V UL/CSA A Arms A A Hp (A) Hp (A) Hp (A) Hp (A) Hp (A) Hp (A) Hp (A) Mp (A) Cycles x 10 <sup>6</sup> Cycles/hr Cycles/hr Cycles/hr Mm <sup>2</sup> AWG mm <sup>2</sup> AWG mm <sup>2</sup> IP	4 20 600/- 16 5000 25(30) 1(16) 2(12) 2(7,8) 3(9,6) 7,5(11) 7,5(9) 4 2 120 2 2 x1,5-4 16-10 2x1,5-6 M3,5 1 00 -25 ÷ +55
Rated conditional short-circuit current   With fuses class gG   Technical data UL/CSA   Rated operating voltage   General use current   Short circuit rating @600Vac   Fuse size (Class RK5, 600Vac, 200kA A.I.C.)   Rated operating power   1 phase - 2 pole   3 phase - 3 pole     Mechanical characteristics   Panel thickness   Mechanical life   Connection according to IEC 9471-1 and EN 50947-1   Connection terminal screw dimensions   Screw tightening torque   Protection degree IEC 529 EN 60529   Terminals   Ambient conditions   Operating ambient temperature   Storage ambient temperature			kA A UL/CSA V UL/CSA A Arms A A Hp (A) Hp (A) Hp (A) Hp (A) Hp (A) Hp (A) Hp (A) Mp (A) Cycles x 10 <sup>6</sup> Cycles/hr Cycles/hr Cycles/hr Mm <sup>2</sup> AWG mm <sup>2</sup> AWG mm <sup>2</sup> IP	4 20 600/- 16 5000 25 (30) 1 (16) 2 (12) 2 (7,8) 3 (9,6) 7,5 (11) 7,5 (11) 7,5 (9) 4 2 2 (12,7,8) 3 (9,6) 7,5 (11) 7,5 (9) 2 2 (12,7,8) 3 (9,6) 7,5 (11) 7,5 (9) 2 2 2 2 2 2 2 3 (1,6) 7,5 (11) 7,5 (11) 7,5 (9) 2 2 2 2 2 2 2 3 (1,6) 7,5 (11) 7,5 (11) 7,5 (11) 7,5 (11) 7,5 (11) 2 2 2 2 2 2 2 2 2 2 2 3 (9,6) 1 2 2 2 2 2 2 2 2 2 2 2 2 2

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