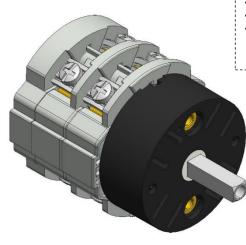
BREMAS

Bremas Ersce SpA Via castellazzo 9 - 20040 Cambiago (MI) Tel +39 02 95651611 Fax +39 02 95651639 www.bremas.eu info@bremas.it

ISO 9001 Certified Quality System

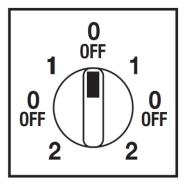
Cod. CA0160011PL2



(Image is purely indicative)



Positions



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

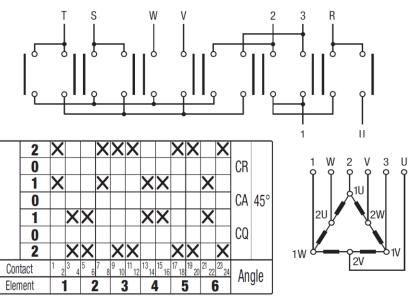
Technical characteristics: Body

- Reversing switch Pole changing
- IP00 Protection degree
- Rated operational current le: 16A (AC-21A)
- Rated thermal current Ith: 20A
- Rated insulation voltage Ui: 690V
- Rear mounting
- Fixing with 2 screw at 28mm vertical
- Switching angle: 45°
- 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

- Transparent plate 75,5x75,5mm and black knob
- Fixing with 2 screws at 28mm vertical
- IP 40 Protection degree

Electrical diagram and function



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Dimensions

<u>8</u> [0.315]

E

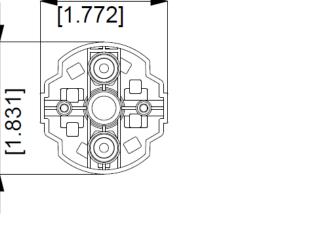


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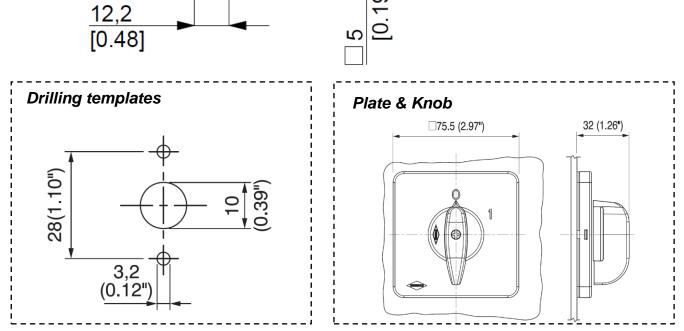
measures in mm (in)

Cod. CA0160011PL2



45

* Sporgenza / Ledge 15,00mm L Lunghezza / Length 97,70mm



0.197

S

46.5

16,5 [0.65]

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 Bremas Ersce SpA

 Via castellazzo 9 - 20040 Cambiago (MI)

 Tel +39 02 95651611

 Fax +39 02 95651639

 www.bremas.eu

 info@bremas.it

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Technical data IEC 947-3 EN 60947-3				
Rated insulation voltage		Ui	v	690
Rated operating voltage		Ue	v	690
Rated upper a ling voltage		Uimp	kV	6
Rated thermal current for open switch		Ith	A	20
Rated thermal current for enclosed switch		Ithe	A	20
Rated operation frequency		inte	Hz	50/60
Power dissipation for each pole			w	0,5
Rated operating current			**	0,5
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)	-
	690V	Kw (A)	-	
AC-23A Switching of motor loads or other highly inductive loads 1 phase - 2 pole AC-3 Squirrel cage motors: starting, swtiching off motors during running 3 phase - 3 pole	110V	Kw (A)	1,1 (12)	
	230V	Kw (A)	2,2 (14)	
	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)
AC-4 Squirrel cage motors: starting, pluggign, inching AC-15 Control of a.c electromagnetic loads	230V	Kw (A)	1,5 (8)	
	400V	Kw (A)	-	
	230V	Kw (A)	-	
	400V	Kw (A)	-	
	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	А	-
Rated short-circuit make capacity Rated conditional short-circuit current		Icm -	A kA	- 4
Rated short-circuit make capacity Rated sonditional short-circuit current With fuses class gG		Icm	А	-
Rated short-circuit make capacity Rated conditional short-circuit current		Icm -	A kA A	- 4
Rated short-circuit make capacity Rated sonditional short-circuit current With fuses class gG		Icm -	A kA	- 4
Rated short-circuit make capacity Rated short-circuit current With fuses class gG Technical data UL/CSA		Icm - 500V	A kA A	4 20
Rated short-circuit make capacity Rated short-circuit current With fuses class gG Technical data UL/CSA Rated operating voltage		Icm - 500V Ue	A kA A UL/CSA V	- 4 20 600/-
Rated short-circuit make capacity Rated short-circuit current With fuses class gG Technical data UL/CSA Rated operating voltage General use current		Icm - 500V Ue	A kA A UL/CSA V UL/CSA A	- 4 20 600/- 16
Rated short-circuit make capacity Rated short-circuit current With fuses class gG Technical data UL/CSA Rated operating voltage General use current Short circuit rating @600Vac		Icm - 500V Ue	A kA A UL/CSA V UL/CSA A Arms	- 4 20 600/- 16 5000
Rated short-circuit make capacity Rated 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.)		Icm - 500V Ue	A kA A UL/CSA V UL/CSA A Arms	- 4 20 600/- 16 5000
Rated short-circuit make capacity Rated 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		Icm - 500V Ue Ie	A kA A UL/CSA V UL/CSA A Arms A	- 4 20 600/- 16 5000 25 (30)
Rated short-circuit make capacity Rated 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		1cm - 500V Ue 1e 	A kA A UL/CSA V UL/CSA A Arms A Hp (A)	- 4 20 600/- 16 5000 25 (30) 21 (16)
Rated short-circuit make capacity 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		Icm 	A kA A UL/CSA V UL/CSA A Arms A A Hp (A) Hp (A)	- 4 20 6600/- 16 55000 25 (30) 1 (16) 2 (12)
Rated short-circuit make capacity 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		Icm 	A kA A UL/CSA V UL/CSA A Arms A Hp (A) Hp (A) Hp (A)	- 4 20 6600/- 16 55000 25 (30) 25 (30) 1 (16) 2 (12) 2 (7,8)
Rated short-circuit make capacity 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		Icm - 500V Ue Ie Ie 120V 240V 240V 200V 240V	А 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 short-circuit make capacity Rated conditional short-circuit current With fuses class gG Technical data UJ/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		Icm 	А kA A UL/CSA V UL/CSA A Arms A Hp (A) Hp (A) Hp (A) Hp (A)	- 4 20 600/- 16 5000 25 (30) 25 (30) 2 (12) 2 (12) 2 (7,8) 3 (9,6) 7,5 (11)
Rated short-circuit make capacity 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		Icm 	А kA A UL/CSA V UL/CSA A Arms A Hp (A) Hp (A) Hp (A) Hp (A)	- 4 20 600/- 16 5000 25 (30) 25 (30) 2 (12) 2 (12) 2 (7,8) 3 (9,6) 7,5 (11)
Rated short-circuit make capacity 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		Icm - 500V Ue Ie - - - - - - - - - - - - - - - - - -	А kA A 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(30) 2(7,8) 3(9,6) 7,5(11) 7,5(9)
Rated short-circuit make capacity 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		Icm - 500V Ue Ie - - - - - - - - - - - - - - - - - -	А kA A UL/CSA V UL/CSA A Arms A 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 short-circuit make capacity 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		Icm - 500V Ue Ie - - - - - - - - - - - - - - - - - -	A kA A UL/CSA V UL/CSA A Arms A A Hp (A) Hp (A)	- 4 20 6600/- 16 55000 25 (30) 1 (16) 2 (12) 2 (7,8) 3 (9,6) 7,5 (11) 7,5 (11) 7,5 (11) 7,5 (1) 7,5 (1) 7,5 (1)
Rated short-circuit make capacity 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	Icm - 500V Ue Ie - - - - - - - - - - - - - - - - - -	A kA A UL/CSA V UL/CSA A Arms A A Hp (A) Hp (A)	- 4 20 6600/- 16 55000 25 (30) 1 (16) 2 (12) 2 (7,8) 3 (9,6) 7,5 (11) 7,5 (11) 7,5 (11) 7,5 (1) 7,5 (1) 7,5 (1)
Rated short-circuit make capacity 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	Icm 	А kA A UL/CSA V UL/CSA A Arms A Hp (A) Hp (A)	- 4 20 600/- 16 5000 25 (30) 2 (12) 2 (12) 2 (7,8) 3 (9,6) 7,5 (11) 7,5 (9) 4 2 4 2 2
Rated short-circuit make capacity 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	Icm 	А kA A UL/CSA V UL/CSA V UL/CSA A Arms A Hp (A) Hp (- 4 20 600/- 16 5000 25 (30) 25 (30) 2 (12) 2 (12) 2 (7,8) 3 (9,6) 7,5 (11) 7,5 (9) 4 4 2 120 2 (12) 2 (12)
Rated short-circuit make capacity 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		Icm - 500V Ue Ie 120V 240V 240V 240V 600V Max	А 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 ⁶ Cycles x 10 ⁶ Cycles x 10 ⁶	- 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 4 2 120 2 4 2 120 2 2x1,5-4
Rated short-circuit make capacity Rated conditional short-circuit current With fuses class gG Technical data UJ/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		Icm - 500V Ue Ie 120V 240V 240V 240V 600V Max	А 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) 2(7,8) 3(9,6) 7,5(11) 7,5(9) 4 4 2 2 120 4 2 120 2x1,5:4 16-10
Rated short-circuit make capacity 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		Icm - 500V Ue Ie 120V 240V 240V 240V 600V Max	А kA A 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) 4 2 120 4 2 2 x1,5-4 16-10 2 x1,5-6 M3,5
Rated short-circuit make capacity 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		Icm - 500V Ue Ie 120V 240V 240V 240V 600V Max	А kA A UL/CSA V UL/CSA V UL/CSA A Arms A Hp (A) Hp (A) Hp (A) Hp (A) Hp (A) Hp (A) Hp (A) Hp (A) Cycles x 10 ⁶ Cycles/hr mm ² AWG mm ² Type Nm	- 4 20 600/- 16 5000 25 (30) 25 (30) 2 (12) 2 (12) 2 (7,8) 3 (9,6) 7,5 (11) 7,5 (9) 4 2 2 x1,5-4 16-10 2 x1,5-6 M3,5 1
Rated short-circuit make capacity Rated conditional short-circuit current With fuses class gG Technical data UJ/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		Icm - 500V Ue Ie 120V 240V 240V 240V 600V Max	А kA A 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) 4 2 4 2 2 x1,5-(9) 2 2 x1,5-4 16-10 2 x1,5-6 M3,5
Rated short-circuit make capacity Rated conditional short-circuit current With fuses class gG Technical data UJ/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 cacording to IEC 9471-1 and EN 50947-1 Connection terminal screw dimensions Screw tightening torque Protection degree IEC 522 EN 60529 Terminals Ambient conditions		Icm - 500V Ue Ie 120V 240V 240V 240V 600V Max	А kA A 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) 4 2 4 2 2 120 2 4 2 2 120 2 4 2 120 2 4 3(9,6) 7,5(11) 7,5(9) 2 4 2 2 120 2 4 0 2 2 1,5-4 16 10 2 2 1,5-6 M3,5 10 2 2 1,5-6 M3,5 10 2 2 10 0 2 10 0 0 2 10 0 0 0 0 0 0 0
Rated short-circuit make capacity Rated conditional short-circuit current With fuses class gG Technical data UJ/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		Icm - 500V Ue Ie 120V 240V 240V 240V 600V Max	А 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) 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 4 2 120 7,5(11) 7,5(9) 4 2 x1,5-6 M3,5 1 1 00 00 -25 ± +55
Rated short-circuit make capacity Rated conditional short-circuit current With fuses class gG Technical data UJ/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 522 EN 60529 Terminals Ambient conditions Operating ambient temperature		Icm - 500V Ue Ie 120V 240V 240V 240V 600V Max	А kA A 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) 4 2 (7,8) 3 (9,6) 7,5 (11) 7,5 (9) 2 (12) 2 (
Rated short-circuit make capacity 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, 500Vac, 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		Icm - 500V Ue Ie 120V 240V 240V 240V 600V Max	А 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) 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 4 2 120 7,5(11) 7,5(9) 4 2 x1,5-6 M3,5 1 1 00 00 -25 ± +55

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