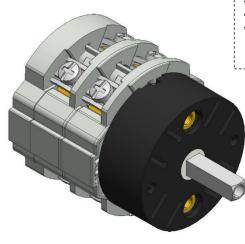
BREMAS

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ISO 9001 Certified Quality System

Cod. CA0160002PL2



(Image is purely indicative)



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

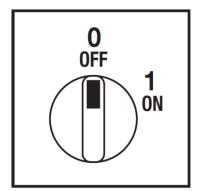


- ON-OFF swtch 2 pole
- IP00 Protection degree
- Rated operational current le: 16A
- Rated thermal current Ith: 20A
- Rated insulation voltage Ui: 690V
- Rear mounting
- Fixing with 2 screw at 28mm vertical
- Switching angle: 60°
- Class V2 self-extinguishing thermoplastic housing
- Assembled with metal shaft and threaded stud bolts to ensure maximum operating reliability
- Positive opening double break contacts, silver alloy made.

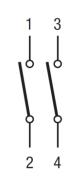
Technical characteristics: Knob

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

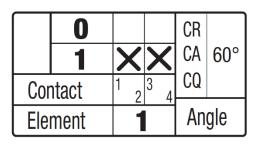
Positions



Electrical diagram



Electrical function



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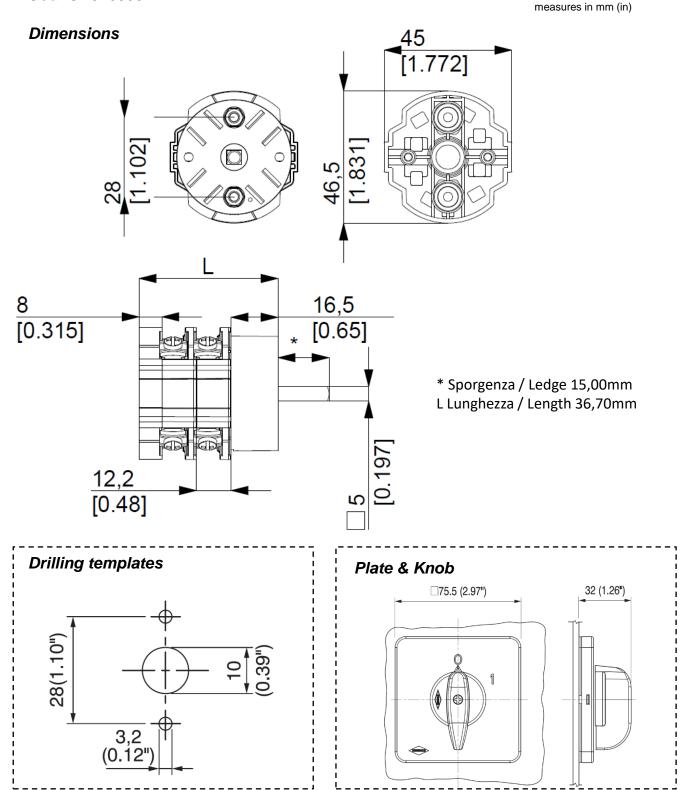




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Technical data IEC 947-3 EN 60947-3				
Technical data IEC 947-3 EN 60947-3 Rated insulation voltage		Ui	v	690
Rated insulation voltage Rated operating voltage		Ue	v	690
Rated operating voltage Rated impulse withstand voltage		Uimp	kV	6
Rated Impulse withstand Voltage		Ith	A	20
Rated thermal current for enclosed switch		Ithe	A	20
Rated operation frequency		ittle	Hz	50/60
Power dissipation for each pole			W	0,5
Rated operating current			vv	0,5
		le.		16
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		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	Α	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
		lcw lcm	A A	240
Rated short time withstand current				
Rated short time withstand current Rated short-circuit make capacity		lcm	А	-
Rated short time withstand current Rated short-circuit make capacity Rated conditional short-circuit current		Icm -	A kA	- 4
Rated short-time withstand current Rated short-circuit make capacity Rated conditional short-circuit current With fuses class gG		Icm -	A kA	- 4
Rated short-time withstand current Rated short-circuit make capacity Rated conditional short-circuit current With fuses class gG Technical data UL/CSA		Icm - 500V	A kA A	- 4 20
Rated short-time withstand current Rated short-circuit make capacity Rated conditional short-circuit current With fuses class gG Technical data UL/CSA Rated operating voltage		lcm - 500V Ue	A kA A UL/CSA V	- 4 20 600/-
Rated short time withstand current Rated short-circuit make capacity Rated conditional short-circuit current With fuses class gG Technical data UL/CSA Rated operating voltage General use current		lcm - 500V Ue	A kA A UL/CSA V UL/CSA A	- 4 20 600/- 16
Rated short time withstand current 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		lcm - 500V Ue	A kA A UL/CSA V UL/CSA A Arms	- 4 20 600/- 16 5000
Rated short time withstand current 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.)		lcm - 500V Ue	A kA A UL/CSA V UL/CSA A Arms	- 4 20 600/- 16 5000
Rated short-time withstand current 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		Icm - 500V Ue Ie	A kA A UL/CSA V UL/CSA A Arms A	- 4 20 600/- 16 5000 25 (30)
Rated short-time withstand current 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		Icm 	A kA A UL/CSA V UL/CSA A Arms A Hp (A)	- 4 20 600/- 16 5000 25 (30) 1 (16)
Rated short-time withstand current 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)	- 4 20 600/- 16 5000 25(30) 25(30) 1(16) 2(12)
Rated short-time withstand current 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 	Α 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-time withstand current 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)	- 4 20 600/- 16 5000 25(30) 1(16) 2(12) 2(7,8)
Rated short-time withstand current 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 	Α 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) 1 (16) 2 (12) 2 (7,8) 3 (9,6) 7,5 (11)
Rated short-time withstand current 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 	Α 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) 1 (16) 2 (12) 2 (7,8) 3 (9,6) 7,5 (11)
Rated short time withstand current 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 	Α 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 (12) 2 (7,8) 3 (9,6) 7,5 (11) 7,5 (9)
Rated short-time withstand current Rated short-circuit make capacity Rated conditional short-circuit current With fuses class g6 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 	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-time withstand current Rated short-circuit make capacity Rated conditional short-circuit current With fuses class g6 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 	А kA A UL/CSA V UL/CSA A Arms 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(11) 7,5(9) - - - - - - - - - -
Rated short-time withstand current 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 	А kA A UL/CSA V UL/CSA A Arms 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(11) 7,5(9) - - - - - - - - - -
Rated short-time withstand current Rated short-circuit make capacity Rated conditional short-circuit current With fuses class gG Technical data UI/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 (A) Hp (A) Hp (A) Hp (A) Hp (A) Hp (A) Cycles x 10 ⁶ 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 4 2 2 7,5 (11) 7,5 (9)
Rated short-time withstand current Rated short-circuit make capacity Rated conditional short-circuit current With fuses class gG Technical data UI/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 	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) 25 (30) 25 (30) 2 (7,8) 3 (9,6) 7,5 (11) 7,5 (9) 4 4 2 120 4 2 120 2x1,5-4 16-10
Rated short-time withstand current Rated short-circuit make capacity Rated conditional short-circuit current With fuses class gG Technical data UI/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 With solid wires	Icm 	A kA A UL/CSA V UL/CSA A Arms A Hp (A) Hp (A) Hp (A) Hp (A) Ka Cycles x 10 ⁶ Cycles/hr mm ² AWG mm ²	- 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 2 x1,5-4 16-10 2x1,5-6
Rated short time withstand current Rated short-circuit make capacity Rated conditional short-circuit current With fuses class g6 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		Icm 	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/hr Cycles/hr mm ² AWG mm ² Type	- 4 20 600/- 16 5000 25(30) 1 (16) 2 (12) 2 (7,8) 3 (9,6) 7,5 (11) 7,5 (9) 2 (7,8) 4 2 2 (7,8) 3 (9,6) 7,5 (11) 7,5 (9) 2 (12) 2
Rated short time withstand current 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 	A kA A UL/CSA V UL/CSA A Arms A Hp (A) Hp (A) Hp (A) Hp (A) Ka Cycles x 10 ⁶ Cycles/hr mm ² AWG mm ²	- 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 2 x1,5-4 16-10 2x1,5-6
Rated short-circuit make capacity Rated short-circuit make capacity Rated conditional short-circuit current With fuses class gG Technical data UI/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 capability Connection according to IEC 9471-1 and EN 50947-1 Connection degree IEC 529 EN 60529		Icm 	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/hr Cycles/hr mm ² AWG mm ² Type	- 4 20 600/- 16 5000 25 (30) 2 (12) 2 (12) 2 (12) 2 (12) 2 (12) 2 (12) 7,5 (11) 7,5 (9) 4 4 2 120 4 2 (12) 2 (13) 3 (9,6) 7,5 (11) 7,5 (9) 4 2 (12) 2 (12) 2 (13) 7,5 (11) 7,5 (9) 2 (12) 2 (12) 7,5 (11) 7,5 (9) 1 (16) 1 (16) 7,5 (11) 7,5 (12) 7,5
Rated short-circuit make capacity Rated short-circuit make capacity Rated conditional short-circuit current With fuses class gG Technical data U/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 	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/hr mm ² AWG mm ² Type Nm	- 4 20 600/- 16 5000 25(30) 1(16) 2(12) 2(7,8) 3(9,6) 7,5(11) 7,5(12) 7,5(12) 7,5(12) 7,5(12) 7,5(12) 7,5(12) 7,5(12) 7,5(12) 2(1,5) 4 16 2(1,5) 4 16 16 2(1,5) 6 M3,5
Rated short-time withstand current 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 Connecting capability Connecting capability Connection degree IEC 529 EN 60529 Terminals Ambient conditions		Icm 	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	- 4 20 600/- 16 5000 25 (30) 7 (116) 2 (12) 2 (7,8) 3 (9,6) 7,5 (11) 7,5 (9) 4 4 2 120 7,5 (9) 7 4 2 2 120 2x1,5-4 16-10 2x1,5-6 M3,5 1 1 00
Rated short time withstand current 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 gcapability Connection degree IEC 529 EN 60529 Terminals Ambient conditions Operating ambient temperature		Icm 	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/hr Cycles/hr Mm ² AWG mm ² AWG mm ² IP 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 4 2 2 120 2 4 2 2 120 2 2 4 16-10 2x1,5-6 M3,5 1 1 00 00 -25 ÷ +55
Rated short time withstand current 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 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 Protection degree IEC 529 EN 60529 Terminals Ambient conditions Operating ambient temperature Storage ambient temperature		Icm 	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	- 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 x1,5-6 M3,5 1 2 x1,5-6 M3,5 1 0 0 0 0 -25 + +55 -30 ÷ +70
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 Connecting capability Connecting capability Connecting to FUE 9471-1 and EN 50947-1 Connecting to rque Protection degree IEC 529 EN 60529 Terminals Ambient conditions Operating ambient temperature		Icm 	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/hr Cycles/hr Mm ² AWG mm ² AWG mm ² IP IP	- 4 20 600/- 16 5000 25(30) 25(30) 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) 4 2 2(1,5-4) 16 2(1,5-6) 16 2(1,5-4) 16 2(1

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