

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

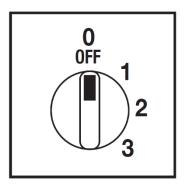
Cod. CR012MZ33RT4



(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



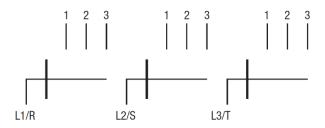
Technical characteristics: Body

- Multi step switch with OFF 3 pole 3 steps
- IP20 Protection degree
- Rated operational current le: 12A
- Rated thermal current Ith: 16A
- 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

- Grey plate 48x48mm and black knob
- · IP66 Protection degree
- · Fixing:- 2 screw at 28mm vertical

Electrical diagram and function



| | 3 | × | | | | | | X | X | | | | 0 | |
|------|------|---|-----|---|---|------------------------------------------------|---|---|---|----------|---|---|----------|-----|
| | 2 | | | | | X | X | | | | | X | CR | 450 |
| | 1 0 | | | | X | • | | | | X | X | | CA CQ | 45° |
| Cont | act | 1 | 2 3 | 4 | 5 | 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 Angle | | | | | | | | |
| Elem | nent | | 1 | | 1 | 2 | | 3 | 4 | <u> </u> | Ę | 5 | Ani | yıc |



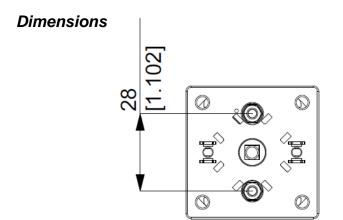
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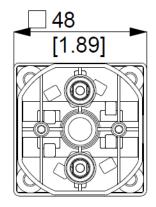
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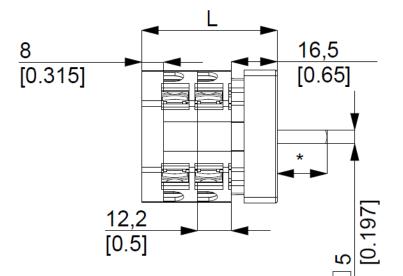
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measures in mm (in)

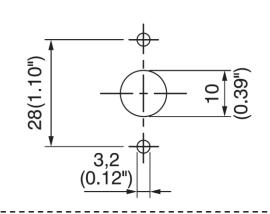


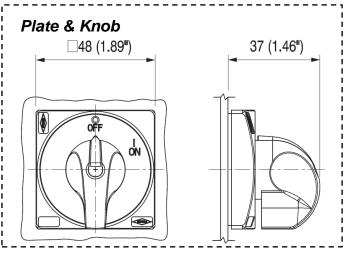




* Sporgenza / Ledge 18,00mm L Lunghezza / Length 85,40mm

Drilling templates







Bremas Ersce SpA

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| ated insulation voltage | | | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|--------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| ateu ilisulation voltage | | Ui | V | 690 |
| ated operating voltage | | Ue | V | 690 |
| ated impulse withstand voltage | | Uimp | kV | 6 |
| ated thermal current for open switch | | Ith | Α | 16 |
| ated thermal current for enclosed switch | | Ithe | A | 16 |
| ated operation frequency | | itiic | Hz | 50/60 |
| | | | W | |
| ower dissipation for each pole | | | VV | 0,27 |
| ated operating current | | | | |
| C-21A Switching resistive loads, including moderate overloads | | le | Α | 12 |
| C-22A Switching of mixed resistive and inductive loads, including moderate overloads | | le | A | 12 |
| C-20A Connecting and disconnecting under no loads conditions | | | | - |
| ated operating power | | | | |
| C-23A Switching of motor loads or other highly inductive loads 3 phase - 3 pole | | 230V | Kw (A) | 3 (9) |
| | | 400V | Kw (A) | 4 (9) |
| | | | | |
| | | 500V | Kw (A) | |
| | | 690V | Kw (A) | - |
| C-23A Switching of motor loads or other highly inductive loads 1 phase - 2 pole | | 110V | Kw (A) | 0,75 (8,5) |
| | | 230V | Kw (A) | 1,5 (8,5) |
| C-3 Squirrel cage motors: starting, swtiching off motors during running 3 phase - 3 pole | | 230V | Kw (A) | 2,2 (7) |
| , 5 | | 400V | Kw (A) | 3,5 (7) |
| | | | | |
| | | 500V | Kw (A) | - |
| | | 690V | Kw (A) | - |
| C-3 Squirrel cage motors: starting, swtiching off motors during running 1 phase - 2 pole | | 110V | Kw (A) | 0,37 (4) |
| | | 230V | Kw (A) | 1,1 (6) |
| | | 400V | Kw (A) | _ |
| C-4 Squirrel cage motors: starting, pluggign, inching | | 230V | Kw (A) | |
| 2 4 Squitter edge motors. starting, plaggigh, mening | | 400V | | |
| | | | Kw (A) | |
| C-15 Control of a.c electromagnetic loads | | 230V | A | 4 |
| | | 400V | A | 3 |
| ated breaking capability in AC-23A (cos φ=0,45) | | 230V | Α | 72 |
| | | 400V | А | 72 |
| nort circuit protection | | | | |
| ated short time withstand current | | lcw | A | 150 |
| | | | | |
| ated short-circuit make capacity | | Icm | A | - |
| ated conditional short-circuit current | | - | kA | 4 |
| /ith fuses class gG | | 500V | A | 16 |
| echnical data UL/CSA | | | | |
| ated operating voltage | | Ue | UL/CSA V | 600/ - |
| eneral use current | | le | UL/CSA A | 12 |
| | | ic . | | |
| nort circuit rating @600Vac | | | Arms | 5000 |
| ise size (Class RK5, 600Vac, 200kA A.I.C.) | | | A | 60 |
| | | | | |
| ated operating power | | | | |
| | | 120V | Hp (A) | 0,5 (9,8) |
| | | 120V 240V | Hp (A) | 0,5 (9,8) 1,5 (10) |
| phase - 2 pole | | 240V | Hp (A) | 1,5 (10) |
| phase - 2 pole | | 240V 200V | Hp (A) Hp (A) | 1,5 (10) 1,5 (6,9) |
| phase - 2 pole | | 240V 200V 240V | Нр (A) Нр (A) Нр (A) | 1,5 (10) 1,5 (6,9) 2 (6,8) |
| phase - 2 pole | | 240V 200V 240V 480V | Hp (A) Hp (A) Hp (A) Hp (A) | 1,5 (6,9) 2 (6,8) 3 (4,8) |
| phase - 2 pole | | 240V 200V 240V | Нр (A) Нр (A) Нр (A) | 1,5 (10) 1,5 (6,9) 2 (6,8) |
| phase - 2 pole phase - 3 pole | | 240V 200V 240V 480V | Hp (A) Hp (A) Hp (A) Hp (A) | 1,5 (10) 1,5 (6,9) 2 (6,8) 3 (4,8) |
| phase - 2 pole phase - 3 pole lechanical characteristics anel tickness | | 240V 200V 240V 480V | Hp (A) Hp (A) Hp (A) Hp (A) | 1,5 (10) 1,5 (6,9) 2 (6,8) 3 (4,8) |
| phase - 2 pole phase - 3 pole lechanical characteristics anel tickness | | 240V 200V 240V 480V 600V | Hp (A) Hp (A) Hp (A) Hp (A) Hp (A) Hp (A) | 1,5 (10) 1,5 (6,9) 2 (6,8) 3 (4,8) 5 (6,1) |
| phase - 2 pole phase - 3 pole lechanical characteristics anel tickness | | 240V 200V 240V 480V 600V | Hp (A) Hp (A) Hp (A) Hp (A) Hp (A) Hp (A) mm Cycles x 10 ⁶ | 1,5 (10) 1,5 (6,9) 2 (6,8) 3 (4,8) 5 (6,1) 4 |
| phase - 2 pole phase - 3 pole echanical characteristics inel tickness echanical life | | 240V 200V 240V 480V 600V | Hp (A) Hp (A) Hp (A) Hp (A) Hp (A) Hp (A) | 1,5 (10) 1,5 (6,9) 2 (6,8) 3 (4,8) 5 (6,1) |
| echanical characteristics In the tickness In the tickne | | 240V 200V 240V 480V 600V | Hp (A) Hp (A) Hp (A) Hp (A) Hp (A) Hp (A) Cycles x 10 ⁶ Cycles/hr | 1,5 (10) 1,5 (6,9) 2 (6,8) 3 (4,8) 5 (6,1) 4 2 |
| echanical characteristics In the tickness In the tickne | With flexible wires | 240V 200V 240V 480V 600V Max | Hp (A) Hp (A) Hp (A) Hp (A) Hp (A) Hp (A) Cycles x 10 ⁶ Cycles/hr | 1,5 (10) 1,5 (6,9) 2 (6,8) 3 (4,8) 5 (6,1) 4 2 120 2x1,5-4 |
| echanical characteristics In the tickness In the tickne | With flexible wires | 240V 200V 240V 480V 600V | Hp (A) Hp (A) Hp (A) Hp (A) Hp (A) Hp (A) Cycles x 10 ⁶ Cycles/hr | 1,5 (10) 1,5 (6,9) 2 (6,8) 3 (4,8) 5 (6,1) 4 |
| echanical characteristics In the tickness In the tickne | With flexible wires With solid wires | 240V 200V 240V 480V 600V Max | Hp (A) Hp (A) Hp (A) Hp (A) Hp (A) Hp (A) Cycles x 10 ⁶ Cycles/hr | 1,5 (10) 1,5 (6,9) 2 (6,8) 3 (4,8) 5 (6,1) 4 2 120 2x1,5-4 |
| phase - 2 pole phase - 3 pole echanical characteristics unel tickness echanical life onnection according to IEC 9471-1 and EN 50947-1 onnecting capability | | 240V 200V 240V 488V 600V Max Min-Max | Hp (A) Hp (A) Hp (A) Hp (A) Hp (A) Hp (A) Mm Cycles x 10 ⁶ Cycles/hr mm² AWG mm² | 1,5 (10) 1,5 (6,9) 2 (6,8) 3 (4,8) 5 (6,1) 4 2 120 2x1,5-4 16-10 2x1,5-6 |
| phase - 2 pole phase - 3 pole dechanical characteristics anel tickness dechanical life connection according to IEC 9471-1 and EN 50947-1 connecting capability connection terminal screw dimensions | | 240V 200V 240V 488V 600V Max Min-Max | Hp (A) Hp (A) Hp (A) Hp (A) Hp (A) Hp (A) Mm Cycles x 10 ⁶ Cycles/hr mm² AWG mm² Type | 1,5 (10) 1,5 (6,9) 2 (6,8) 3 (4,8) 5 (6,1) 4 2 120 2x1,5-4 16-10 2x1,5-6 M3,5 |
| phase - 2 pole phase - 3 pole lechanical characteristics anel tickness lechanical life connection according to IEC 9471-1 and EN 50947-1 connecting capability connection terminal screw dimensions crew tightening torque | | 240V 200V 240V 488V 600V Max Min-Max | Hp (A) Hp (A) Hp (A) Hp (A) Hp (A) Hp (A) Mm Cycles x 10 ⁶ Cycles/hr mm² AWG mm² | 1,5 (10) 1,5 (6,9) 2 (6,8) 3 (4,8) 5 (6,1) 4 2 120 2x1,5-4 16-10 2x1,5-6 |
| phase - 2 pole phase - 3 pole echanical characteristics mel tickness echanical life phase - 3 pole echanical characteristics mel tickness echanical life phase - 2 pole entertion according to IEC 9471-1 and EN 50947-1 phase - 2 pole entertion according to IEC 9471-1 and EN 50947-1 phase - 2 pole entertion according to IEC 9471-1 and EN 50947-1 phase - 2 pole entertion according to IEC 9471-1 and EN 50947-1 phase - 2 pole entertion according to IEC 9471-1 and EN 50947-1 phase - 2 pole entertion according to IEC 9471-1 and EN 50947-1 phase - 2 pole entertion according to IEC 9471-1 and EN 50947-1 phase - 2 pole entertion according to IEC 9471-1 and EN 50947-1 phase - 2 pole entertion according to IEC 9471-1 and EN 50947-1 phase - 2 pole entertion according to IEC 9471-1 and EN 50947-1 phase - 2 pole entertion according to IEC 9471-1 and EN 50947-1 phase - 2 pole entertion according to IEC 9471-1 and EN 50947-1 phase - 2 pole entertion according to IEC 9471-1 and EN 50947-1 phase - 2 pole entertion according to IEC 9471-1 and EN 50947-1 phase - 2 pole entertion according to IEC 9471-1 and EN 50947-1 phase - 2 pole entertion according to IEC 9471-1 and EN 50947-1 phase - 2 pole entertion according to IEC 9471-1 and EN 50947-1 phase - 2 pole entertion according to IEC 9471-1 and EN 50947-1 phase - 2 pole entertion according to IEC 9471-1 and EN 50947-1 phase - 2 pole entertion according to IEC 9471-1 and EN 50947-1 phase - 2 pole entertion according to IEC 9471-1 and EN 50947-1 phase - 2 pole entertion according to IEC 9471-1 and EN 50947-1 phase - 2 pole entertion according to IEC 9471-1 and EN 50947-1 phase - 2 pole entertion according to IEC 9471-1 and EN 50947-1 phase - 2 pole entertion according to IEC 9471-1 and EN 50947-1 phase - 2 pole entertion according to IEC 9471-1 and EN 50947-1 phase - 2 pole entertion according to IEC 9471-1 and EN 50947-1 phase - 2 pole entertion according to IEC 9471-1 and EN 50947-1 phase - 2 pole entertion according to IEC 9471-1 and IEC 9471-1 p | | 240V 200V 240V 488V 600V Max Min-Max | Hp (A) Hp (A) Hp (A) Hp (A) Hp (A) Hp (A) Mm Cycles x 10 ⁶ Cycles/hr mm² AWG mm² Type Nm | 1,5 (10) 1,5 (6,9) 2 (6,8) 3 (4,8) 5 (6,1) 4 2 120 2x1,5-4 16-10 2x1,5-6 M3,5 |
| chase - 2 pole chanical characteristics chanical life chanical served life chanical life chanical characteristics chanical life cha | | 240V 200V 240V 488V 600V Max Min-Max | Hp (A) Hp (A) Hp (A) Hp (A) Hp (A) Hp (A) Mm Cycles x 10 ⁶ Cycles/hr mm² AWG mm² Type | 1,5 (10) 1,5 (6,9) 2 (6,8) 3 (4,8) 5 (6,1) 4 2 120 2x1,5-4 16-10 2x1,5-6 M3,5 |
| phase - 2 pole phase - 3 pole echanical characteristics mel tickness echanical life phase - 3 pole echanical characteristics mel tickness echanical life phase - 2 pole enterior according to IEC 9471-1 and EN 50947-1 phase - 3 pole enterior according to IEC 9471-1 and EN 50947-1 phase - 3 pole enterior according to IEC 9471-1 and EN 50947-1 phase - 3 pole enterior according to IEC 9471-1 and EN 50947-1 phase - 3 pole enterior according to IEC 9471-1 and EN 50947-1 phase - 3 pole enterior according to IEC 9471-1 and EN 50947-1 phase - 3 pole enterior according to IEC 9471-1 and EN 50947-1 phase - 3 pole enterior according to IEC 9471-1 and EN 50947-1 phase - 3 pole enterior according to IEC 9471-1 and EN 50947-1 phase - 3 pole enterior according to IEC 9471-1 and EN 50947-1 phase - 3 pole enterior according to IEC 9471-1 and EN 50947-1 phase - 3 pole enterior according to IEC 9471-1 and EN 50947-1 phase - 3 pole enterior according to IEC 9471-1 and EN 50947-1 phase - 3 pole enterior according to IEC 9471-1 and EN 50947-1 phase - 3 pole enterior according to IEC 9471-1 and EN 50947-1 phase - 3 pole enterior according to IEC 9471-1 and EN 50947-1 phase - 3 pole enterior according to IEC 9471-1 and EN 50947-1 phase - 3 pole enterior according to IEC 9471-1 and EN 50947-1 phase - 3 pole enterior according to IEC 9471-1 and EN 50947-1 phase - 3 pole enterior according to IEC 9471-1 and EN 50947-1 phase - 3 pole enterior according to IEC 9471-1 and EN 50947-1 phase - 3 pole enterior according to IEC 9471-1 and EN 50947-1 phase - 3 pole enterior according to IEC 9471-1 and EN 50947-1 phase - 3 pole enterior according to IEC 9471-1 and EN 50947-1 phase - 3 pole enterior according to IEC 9471-1 and EN 50947-1 phase - 3 pole enterior according to IEC 9471-1 and EN 50947-1 phase - 3 pole enterior according to IEC 9471-1 and EN 50947-1 phase - 3 pole enterior according to IEC 9471-1 and EN 50947-1 phase - 3 pole enterior according to IEC 9471-1 and IEC 9471-1 and IEC 9471-1 and IEC 9471-1 a | | 240V 200V 240V 488V 600V Max Min-Max | Hp (A) Hp (A) Hp (A) Hp (A) Hp (A) Hp (A) Mm Cycles x 10 ⁶ Cycles/hr mm² AWG mm² Type Nm | 1,5 (10) 1,5 (6,9) 2 (6,8) 3 (4,8) 5 (6,1) 4 2 120 2x1,5-4 16-10 2x1,5-6 M3,5 |
| chase - 2 pole chanical characteristics mel tickness chanical life connection according to IEC 9471-1 and EN 50947-1 connecting capability connection terminal screw dimensions rew tightening torque cotection degree IEC 529 EN 60529 connection terminals conditions | | 240V 200V 240V 488V 600V Max Min-Max | Hp (A) Hp (A) Hp (A) Hp (A) Hp (A) Hp (A) Mm Cycles x 10 ⁶ Cycles/hr mm² AWG mm² Type Nm | 1,5 (10) 1,5 (6,9) 2 (6,8) 3 (4,8) 5 (6,1) 4 2 120 2x1,5-4 16-10 2x1,5-6 M3,5 1 |
| phase - 2 pole phase - 3 pole echanical characteristics unel tickness echanical life onnection according to IEC 9471-1 and EN 50947-1 onnecting capability onnecting capability onnection terminal screw dimensions rew tightening torque otection degree IEC 529 EN 60529 erminals mbient conditions perating ambient temperature | | 240V 200V 240V 488V 600V Max Min-Max | Hp (A) Hp (A) Hp (A) Hp (A) Hp (A) Hp (A) Mm Cycles x 10 ⁶ Cycles/hr mm² AWG mm² Type Nm | 1,5 (10) 1,5 (6,9) 2 (6,8) 3 (4,8) 5 (6,1) 4 2 120 2x1,5-4 16-10 2x1,5-6 M3,5 1 |
| chase - 2 pole chanical characteristics mel tickness chanical life connection according to IEC 9471-1 and EN 50947-1 connecting capability connection terminal screw dimensions rew tightening torque cotection degree IEC 529 EN 60529 connection terminals conditions | | 240V 200V 240V 488V 600V Max Min-Max | Hp (A) mm Cycles x 10 ⁶ Cycles/hr mm² AWG mm² Type Nm | 1,5 (10) 1,5 (6,9) 2 (6,8) 3 (4,8) 5 (6,1) 4 2 120 2x1,5-4 16-10 2x1,5-6 M3,5 1 |

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