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# Bistable Switch BI

## BI220, BI225, BI232, BI420, BI425, BI432


### INTENDED USE:

- Residential buildings
- Buisiness premises
- Hotels
- Hospitals
- Shoping centres
- Production halls
- Warehouses
- Public places

### REMOTE SWITCHING AND AUTOMATIC CONTROL:

- Lightning
- Electric heating
- Electric motors
- Electric equipment

### ADVANCED OPERATION:

- Impulse control
- Manual control

### OTHER BENEFITS:

- Small switch on coil consumption
- No hold coil consumtion
- Wide application
- Mounting on 35 mm rail
- Sealing terminal covers

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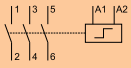
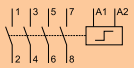
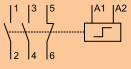
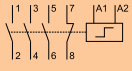
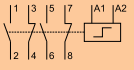
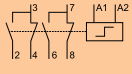
# Technical Data

| Type | | | BI220 | BI225 | BI232 | BI420 | BI425 | BI432 |
|---|---|---|---|---|---|---|---|---|
| Standards | | | IEC/EN 60669-2-2 | | | | | |
| Manual control | | | Yes | | | | | |
| Control with impulse voltage | | | Yes | | | | | |
| Indication | | | With actuator | | | | | |
| Protection degree accordance to IEC/EN 60529 | | | IP 20 | | | | | |
| Module width | | | 1 | | | 2 | | |
| Ambient temperature | | °C | -25…+55 | | | | | |
| Storage temperature | | °C | -30…+80 | | | | | |
| Max. resistance to humidity | | | 95 % RH at +55 °C | | | | | |
| Min. contact reliability | | | 10 V / 100 mA | | | | | |
| Max. shock resistance accordance to IEC/EN 60068-2-27 | | g | 15 | | | | | |
| Max. vibration resistance accordance to IEC/EN 60068-2-6 | | g | 3 | | | | | |
| Min. distance of open contacts | | mm | >3 | | | | | |
| Distance between contacts and coil | | mm | >6 | | | | | |
| Mechanical endurance | | cycles | $10^6$ | | | | | |
| Max. back-up fuse for short-circuit protection (gL) | | A | 20 | 25 | 32 | 20 | 25 | 32 |
| Power dissipation per pole | | W | 1,5 | 2 | 3 | 1,5 | 2 | 3 |
| Rateted control voltages | $U_c$ | V | AC: 12, 24, 48, 120, 230, 240 | | | | | |
| Rated frequency of control voltage | $f_c$ | Hz | 50 / 60 | | | | | |
| Range of control voltage | $U_c$ | % | 90…110 | | | | | |
| Coil consumption – inrush | | VA/W | 18 / 13 | | | | | |
| Coil consumption – hold | | VA/W | 9 / 4 | | | | | |
| Min. impulse duration at $U_c$ | | ms | 50 | | | | | |
| Min. impulse duration at 0,85 $U_c$ | | ms | 100 | | | | | |
| Min. duration between two impulses | | ms | 150 | | | | | |
| Max. number of impulses per minute | | | 15 | | 7,5 | 15 | | 7,5 |
| Max. impulse duration at $U_c$ | | | 1 hour | | | | | |
| Rated impulse voltage | $U_{imp}$ | kV | 4 | | | | | |
| Thermal current | $I_{th}$ | A | 20 | 25 | 32 | 20 | 25 | 32 |
| Rated insulation voltage | $U_i$ | V | 440 | | | | | |
| Rated operational voltage | $U_e$ | V | 440 | | | | | |
| Rated frequency | $f_e$ | Hz | 50 / 60 | | | | | |
| Rated operational current for cos = 0,6 acc. to IEC/EN 60669-2-2 | $I_e$ | A | 20 / 440 V | 25 / 440 V | 32 / 440 V | 20 / 440 V | 25 / 440 V | 32 / 440 V |
| Rated operational current for AC-1 acc. to IEC/EN 60947-4-1 | $I_e$ | A | 20 / 440 V | 25 / 440 V | 32 / 440 V | 20 / 440 V | 25 / 440 V | 32 / 440 V |
| Rated operational current for AC-7a acc. to IEC/EN 61095 – Slightly inductive loads in household appliances and similar applications | $I_e$ | A | 20 / 440 V | 25 / 440 V | 32 / 440 V | 20 / 440 V | 25 / 440 V | 32 / 440 V |
| Rated operational current for AC-21 acc. to IEC/EN 60947-3 – Switching of resistive loads including modetare overloads | $I_e$ | A | 20 / 440 V | 25 / 440 V | 32 / 440 V | 20 / 440 V | 25 / 440 V | 32 / 440 V |
| Rated operational current for AC-22 acc. to IEC/EN 60947-3<br>Switching of mixed resistive and inductive loads, including moderate overloads | $I_e$ | A | 20 / 230 V<br>16 / 440 V | 25 / 230 V<br>20 / 440 V | 32 / 230 V<br>25 / 440 V | 20 / 230 V<br>16 / 440 V | 25 / 230 V<br>20 / 440 V | 32 / 230 V<br>25 / 440 V |
| Rated operational current for AC-23 acc. to IEC/EN 60947-3<br>Switching of motor loads or other highly inductive loads | $I_e$ | A | 16 / 230 V / 1-phase | 20 / 230 V / 1-phase | 25 / 230 V / 1-phase | 16 / 230 V / 1-phase<br>16 / 230 V / 3-phase<br>16 / 400 V / 3-phase | 20 / 230 V / 1-phase<br>20 / 230 V / 3-phase<br>20 / 400 V / 3-phase | 25 / 230 V / 1-phase<br>25 / 230 V / 3-phase<br>25 / 400 V / 3-phase |
| Rated operational current for AC-3 acc. to IEC/EN 60947-4-1<br>Squirrel-cage motors: starting, switching off motors during running | $I_e$ | A | 7 / 230 V / 1-phase | 8 / 230 V / 1-phase | 10 / 230 V / 1-phase | 7 / 230 V / 1-phase<br>6,3 / 230 V / 3-phase<br>6,6 / 400 V / 3-phase | 8 / 230 V / 1-phase<br>8,7 V / 230 V / 3-phase<br>8,5 / 400 V / 3-phase | 10 / 230 V / 1-phase<br>11,5 / 230 V / 3-phase<br>11,3 / 400 V / 3-phase |
| Rated operational current for AC-7b acc. to IEC/EN 61095<br>Motor-loads for household applications | $I_e$ | A | 7 / 230 V / 1-phase | 8 / 230 V / 1-phase | 10 / 230 V / 1-phase | 7 / 230 V / 1-phase<br>6,3 / 230 V / 3-phase<br>6,6 / 400 V / 3-phase | 8 / 230 V / 1-phase<br>8,7 V / 230 V / 3-phase<br>8,5 / 400 V / 3-phase | 10 / 230 V / 1-phase<br>11,5 / 230 V / 3-phase<br>11,3 / 400 V / 3-phase |
| Rated operational current for AC-6a acc. to IEC/EN 60947-4-1<br>Switsching of transformers having inrush current peaks of not more than 30 times peak of rated current | $I_e$ | A | 3 / 230 V<br>1,5 / 400 V | 3,6 / 230 V<br>1,8 / 400 V | 4,5 / 230 V<br>2,2 / 400 V | 3 / 230 V<br>1,5 / 400 V | 3,6 / 230 V<br>1,8 / 400 V | 4,5 / 230 V<br>2,2 / 400 V |
| Rated operational current for AC-6b acc. to IEC/EN 60947-4-1 – Switching of capacitor banks | $C$ | µF | 100 µF / 230 V | | | | | |
| Rated operational current for DC-1 acc. to IEC/EN 60947-4-1 – Non-inductive or slightly inductive loads, resistance furnances | $I_e$ | A | 20 / 24 V / 1 pole | 25 / 24 V / 1 pole | 32 / 24 V / 1 pole | 20 / 24 V / 1 pole | 25 / 24 V / 1 pole | 32 / 24 V / 1 pole |
| Rated operational current for DC-3 acc. to IEC/EN 60947-4-1 – Shunt-motors: starting, plugging, inching | $I_e$ | A | 10 / 24 V / 1 pole | 15 / 24 V / 1 pole | 25 / 24 V / 1 pole | 10 / 24 V / 1 pole | 15 / 24 V / 1 pole | 25 / 24 V / 1 pole |
| Rated operational current for DC-5 acc. to IEC/EN 60947-4-1 – Series-motors: starting, plugging, inching | $I_e$ | A | 10 / 24 V / 1 pole | 16 / 24 V / 1 pole | 20 / 24 V / 1 pole | 10 / 24 V / 1 pole | 16 / 24 V / 1 pole | 20 / 24 V / 1 pole |
| Rated operational current for DC-21 acc. to IEC/EN 60947-3 – Switching of resistive loads including moderate overloads | $I_e$ | A | 20 / 24 V / 1 pole | 25 / 24 V / 1 pole | 32 / 24 / V 1 pole | 20 / 24 V / 1 pole | 25 / 24 V / 1 pole | 32 / 24 / V 1 pole |
| Rated operational current for DC-22 acc. to IEC/EN 60947-3 – Switching of mixed resistive and inductive loads, including moderate overloads | $I_e$ | A | 16 / 24 V / 1 pole | 20 / 24 V / 1 pole | 25 / 24 V / 1 pole | 16 / 24 V / 1 pole | 20 / 24 V / 1 pole | 25 / 24 V / 1 pole |
| Rated operational current for DC-23 acc. to IEC/EN 60947-3 – Switching of highly inductive loads (e.g. series motors) | $I_e$ | A | 10 / 24 V / 1 pole | 16 / 24 V / 1 pole | 20 / 24 V / 1 pole | 10 / 24 V / 1 pole | 16 / 24 V / 1 pole | 20 / 24 V / 1 pole |
| Rated operational current for AC-5a acc. to IEC/EN 60947-4-1 – Switching of electric discharge lamp controls | $I_e$ | A | 16 / 230 V | | | | | |
| Rated operational current for AC-5b acc. to IEC/EN 60947-4-1 – Switching of incandescent lamps | $I_e$ | A | 10 / 230 V | | | | | |
| Rated operational current for fluorescent lamps acc. to IEC/EN 60669-2-2 | $I_e$ | A | 16 / 230 V | | | | | |
| Fluorescent / energy saving / compact lamps with electronic control gear | $I_e$ | A | 2 / 230 V | | | | | |
| Electrical endurance for all utilization categories | | cycles | $10^5$ | | | | | |
| Terminal capacity for main circuit | S | $mm^2$ | 1…10 rigid / flexible | | | | | |
| Screw for main circuit | | | M4 | | | | | |
| Screw-head for main circuit | | | (±) PZ2 | | | | | |
| Tightening torque for main circuit | | Nm | 1,2 | | | | | |
| Terminal capacity for control circuit | S | $mm^2$ | 1…4 rigid / flexible | | | | | |
| Screw for control circuit | | | M3 | | | | | |
| Screw-head for control circuit | | | (±) PZ1 | | | | | |
| Tightening torque for control circuit | | Nm | 0,6 | | | | | |

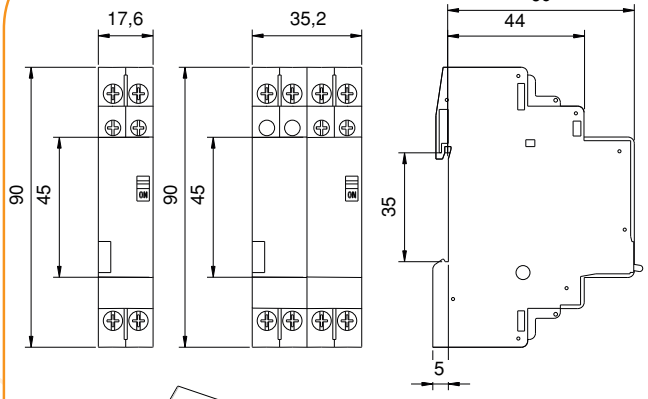
# Contact Arrangements, Operation Positions, Dimensions, Ordering Data

## CONTACT ARRANGEMENTS:

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| BI220-10<br>BI225-10<br>BI232-10 |  | BI220-20<br>BI225-20<br>BI232-20 |  | BI420-30<br>BI425-30<br>BI432-30 |  | BI420-40<br>BI425-40<br>BI432-40 |  |
| BI220-11<br>BI225-11<br>BI232-11 |  | BI420-21<br>BI425-21<br>BI432-21 |  | BI420-31<br>BI425-31<br>BI432-31 |  | BI220-22<br>BI225-22<br>BI232-22 |  |
| BI220-1C<br>BI225-1C<br>BI232-1C |  | BI220-2C<br>BI225-2C<br>BI232-2C |  | | | | |

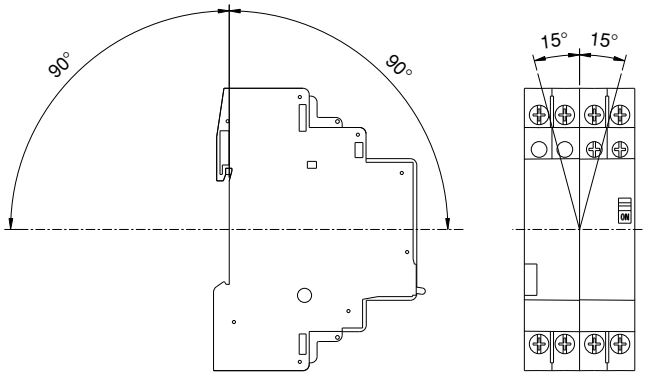
## DIMENSIONS:

BI220, BI225, BI232 BI420, BI425, BI432

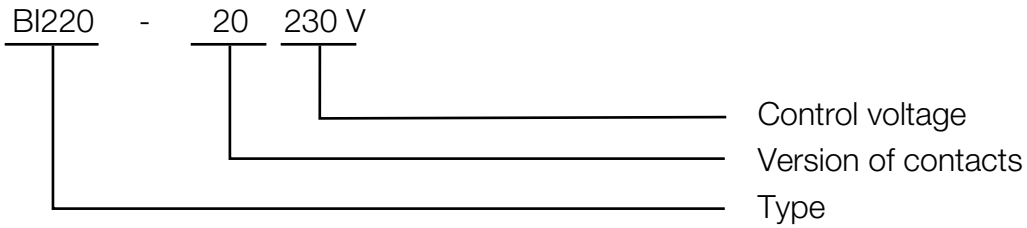



SEALING COVER

## OPERATION POSITIONS:




## ORDERING DATA:

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