Bistable Switches BI2xx (DC coil) and Accessories

Efficient installations

Iskra®
Iskra Sistemi

Bistable switch BI2xx (DC coil)

INTENDED USE

- Residential buildings
- Business premises
- Hotels
- Shopping centres
- Production halls
- Warehouses
- Public places

SWITCHING

- Lighting
- Electric heating
- Electric motors
- Electric equipment

OPERATION

- Impulse control
- Manual control

OTHER BENEFITS

- No hold coil consumption
- Wide application
- Mounting on rail 35 mm rail
- Sealing terminal covers
- Disconnection of remote control by selector switch for maintenance operation

Technical data

Type			BI220	BI225	BI232
Standards			IEC/EN 60669-2-2		
Manual control			YES		
Control with impulse voltage			YES		
Position indicator			With actuator		
Pollution degree acc. to IEC/EN 60529			IP20		
Module width (1 module = 17.5 mm)			1		
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 acc. IEC/EN 60068-2-27		g	10		
Max. vibration resistance acc. to IEC/EN 60068-2-6		g	2		
Min. distance of open contacts		mm	>3		
Distance between contacts and coil		mm	>6		
Mechanical endurance		cycle	10^6		
Max. back-up fuse for short-circuit protection (gL)		A	20	25	32
Power dissipation per pole		W	1.5	2	3
Rated control voltages	U_c	V	DC: 12, 24, 48, 110, 220		
Range of control voltage	U_c	%	90 ... 110		
Coil consumption - inrush/hold		W	9/9		
Min. impulse duration at U_c		ms	100		
Min. duration between two impulses		ms	500		
Max. number of impulses per minute with min. impulse duration			15	7.5	7.5
Max. impulse duration		W	1 minute + 15 minutes pause		
Rated impulse voltage	U_{imp}	kV	4		
Thermal current	I_{th}	A	20	25	32
Rated insulation voltage	U_i	V	440		

Bistable switch BI2xx (DC coil)

Technical data

Type			BI220	BI225	BI232
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
Rated operational current for AC-1 acc. to IEC/EN 60947-4-1 Non-inductive or slightly inductive loads, resistance furnaces	I_e	A	20 / 440 V	25 / 440 V	32/ 440 V
Rated operational current for AC-7a acc. to IEC/EN 61095 Slightly inductive loads in appliances and similar applications	I_e	A	20 / 440 V	25 / 440 V	32 / 440 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
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
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	10 12 (note 1)	10 14 (note 2)
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		cycle	100.000		
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		

Note 1: Corresponding electrical endurance is 60.000 cycles
Note 2: Corresponding electrical endurance is 40.000 cycles

Ordering data

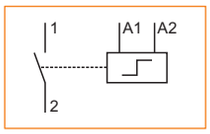
Example: **BI220-10 24 V DC**

BI220 ..... Type
10 ..... Version of contacts
24 V DC ..... Control voltage (DC)

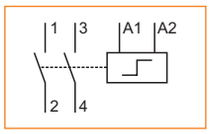
Bistable switch BI2xx (DC coil)

Contact arrangements

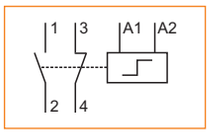
BI220-10, BI225-10, BI232-10



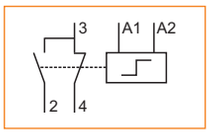
BI220-20, BI225-20, BI232-20



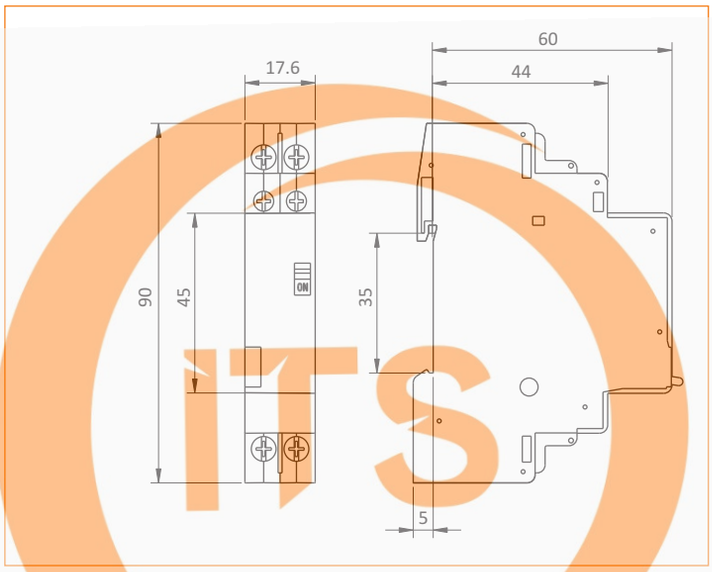
BI220-11, BI225-11, BI232-11



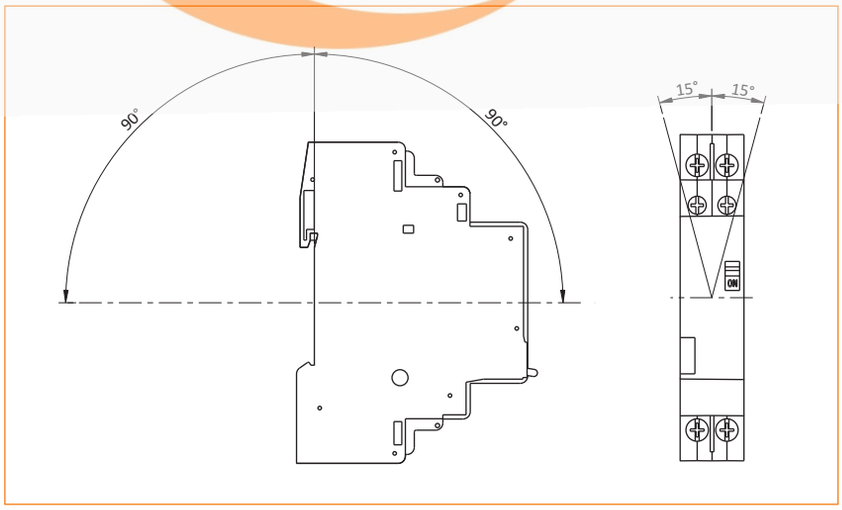
BI220-1C, BI225-1C, BI232-1C



Dimensions



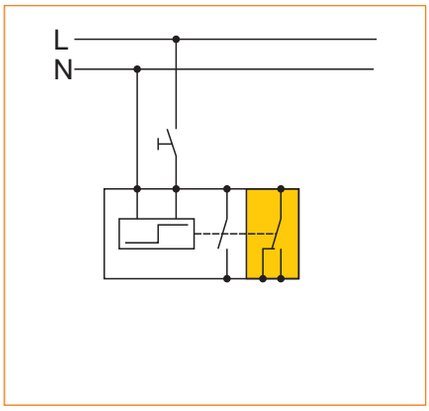
Operation position



Auxiliary devices for bistable switches

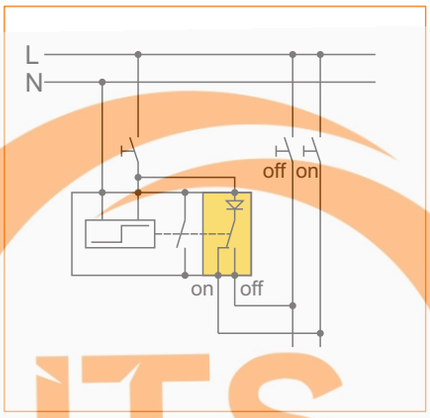
BIN Auxiliary switch

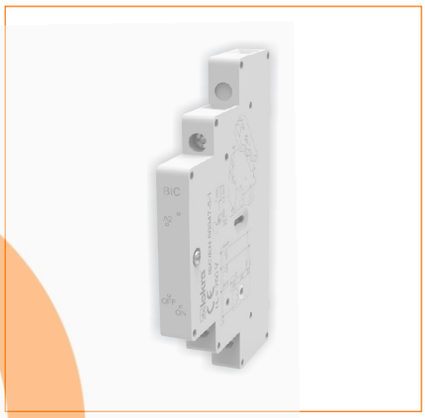
- Reliable switching
- Allows remote indication
- Different version of contacts
- Compatible with the entire range of bistable switches
- Easy to fit on right side of the bistable switch



BIC Auxiliary device for centralised control

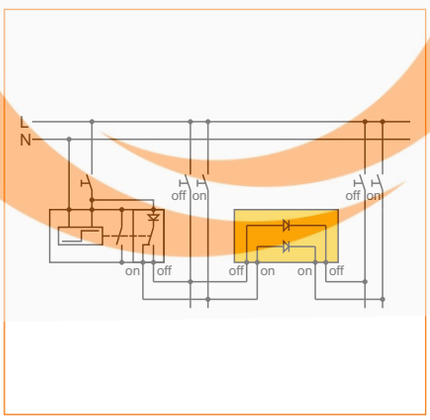
- For centralised control
- Control by a single command
- Possible to actuate over a time switch
- Each bistable switch with BIC may be independent of local push-button controlled via remote push-buttons ON and OFF
- Compatible with the entire range of bistable switches
- Easy to fit on right side of the bistable switch
- Simple and strong fixing with screw

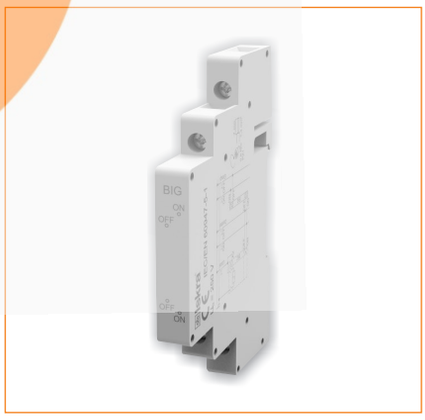




BIG Auxiliary device for group control

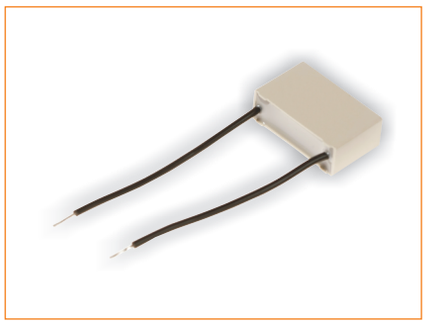
- For group control
- Saving space construction
- Quick assambly to 35 mm wide mounting rail





BIK Compensation capacitor

- Increase the number of illuminated push-buttons
- After the installation is not visible from the cabinet
- Independent unit



Auxiliary devices for bistable switches

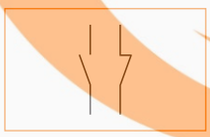
Technical data

Type			BIN	BIC	BIG
Standard			IEC/EN 60947-5-1		
Degree of protection			IP 20		
Module width			1/2 (9 mm)		
Ambient temperature		°C	-25 ... +55		
Storage temperature		°C	-30 ... +80		
Min. contact reliability			12 V / 5 mA		–
Min. distance of open contacts		mm	>3		–
Mechanical endurance		cycles	1.000.000		–
Max. back-up fuse (gL, gG)		A	6	–	
Power dissipation per pole		W	0.3	–	
Thermal current	I_{th}	A	6	–	
Rated insulation voltage	U_i	V	250		
Rated operational voltage	U_e	V	250		
Rated frequency	f_e	Hz	50 / 60		
Rated operational current for cos = 0.6	I_e	A	6	–	
Rated operational current for AC-21	I_e	A	6	–	
Rated operational current for AC-15	I_e	A	6	–	
Electrical endurance		cycles	100.000	1.000.000	
Terminal capacity	S	mm^2	1 ... 4 rigid / flexible		
Screw			M3		
Screw-head			PZ1		
Tightening torque		Nm	0.8		

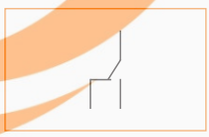
Contact arrangement for auxiliary switch BIN

BIN20

BIN11



BIN1C



Technical details for auxiliary device for group control BIG

Maximum number of bistable switches that can be controlled:

- 230 V AC: 20
- 120 V AC: 10
- 48 V AC: 5

Technical details for compensation capacitor BIK

For operations of bistable switches without malfunctions when illuminated push-buttons are used.
Compensation capacitors parallel to the coil of bistable switch increases the power consumption of 230 V 50 Hz illuminated push-butons from 2.5 mA to 20 mA (capacitor 2.2 F / 300 V AC)

Ordering data

Auxiliary switches:	BIN20	BIN11	BIN1C
Central control:	BIC		
Group control:	BIG		
Compensation capacitor:	BIK		