



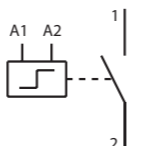
EAN code  
 BR-216-10/230V: 8595188168854  
 BR-216-11/230V: 8595188168878  
 BR-216-20/230V: 8595188168861  
 BR-220-20/230V: 8595188168885  
 BR-232-20/230V: 8595188168892

- Bistable relays are used to switch electrical circuits by impulse command, especially for lighting control in ordinary houses, warehouses, production halls and other buildings.
- Faster and easier installation thanks to an unlimited number of buttons, connected in parallel by two wires, which is a practical replacement for AC and cross switches.
- Last but not least, they offer savings in the number of wires used and, in the case of the control circuit, the possibility of using wires with a smaller cross-section, where the power input is minimal compared to the power circuit.
- The state of the Bistable relay changes with a short control pulse. As a result of which the relay in the steady state has zero consumption and is noiseless.
- All relays can be controlled manually using a switch on the relay panel (I-O), which also serves as to signal the status of the contacts.
- For types BR-220 and BR-232, it is possible to disconnect the electrical switch control and as a result the state of the relay can then only be changed manually (service, maintenance).

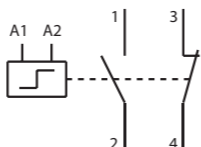
Technical parameters	BR-216-10/11/20	BR-220-20	BR-232-20
<b>Main circuit (contact)</b>			
Rated insulation voltage (U <sub>i</sub> ):		440 V	
Thermal current (I <sub>m</sub> ):	16 A	20 A	32 A
Number of poles:	1, 2, 2	2	2
Contact configuration:	10, 11, 20	20	20
Operational Power (P)			
AC-1, AC-7a for 230 V, 1 phase:	3.5 kW	4.4 kW	7 kW
AC-2 for 230 V, 1 phase:	1.2 kW	1.5 kW	2.4 kW
AC-3, AC-7b for 230V, 1 phase:	0.37 kW	0.55 kW	1.1 kW
DC-1 (L/R ≤ 1 ms)			
U <sub>e</sub> = 24V (1 contact / 2 contacts in series):	16A / 16A	20A / 20A	32A / 32A
U <sub>e</sub> = 48V (1 contact / 2 contacts in series):	12A / 15A	15A / 18A	25A / 28A
U <sub>e</sub> = 60V (1 contact / 2 contacts in series):	8A / 14A	10A / 15A	20A / 22A
U <sub>e</sub> = 110V (1 contact / 2 contacts in series):	4A / 7A	5A / 8A	7A / 12A
U <sub>e</sub> = 220V (1 contact / 2 contacts in series):	0.4A / 3A	0.5A / 4A	0.7A / 6A
Load capacity of light sources AC-5a, AC-5b on page 131			
Max. operating frequency (op./hr)			
without load:	900	900	450
AC-1, AC-7a:	600	600	450
AC-2:	120	120	120
AC-3, AC-7b:	600	600	450
AC-5a, AC-5b:	600	600	450
DC-1:		300	
Electrical endurance: DC-1, DC-3, DC-5, AC-1, AC-7a, AC-2, AC-3, AC-7b, AC-5a / AC-5b (I <sub>e</sub> = 10 A):			
		100 000 op. c.	
Mechanical lifetime: 1 000 000 op. C			
Power dissipation per pole:	1 W	1.5 W	3 W
Contact reliability: >10 V, >100 mA			
Max. back-up fuse against short circuit gL/gG (I <sub>g</sub> ) - coordination type 1:			
	16 A	20 A	32 A
Rated impulse withstand voltage (U <sub>imp</sub> ): 4 kV			
Overload current withstand capability: 10s: 48 A, 56 A, 80 A			
Terminal capacity (solid and stranded): 1 .. 10 mm <sup>2</sup>			
Maximum tightening torque: 1.2 Nm			
Screw head: PZ2			
<b>Control circuit (coil)</b>			
Rated control voltage: 230V AC			
Rated frequency: 50 Hz			
Impulse duration: min. 50 ms / max. 1 h			
Duration between two impulses (of control voltage): min. 150 ms			
Maximum load of illuminated buttons (glow lamps, LEDs,...): 2,5mA			
Terminal capacity (solid and stranded): 1 .. 4 mm <sup>2</sup>			
Maximum tightening torque: 0.6 Nm			
Screw head: PZ1			
<b>General</b>			
Mounting: DIN Rail, TH35 (IEC/EN 60715)			
Number of contactors or switches side-by-side: no limitation under 55 °C (55 - 70 °C max. 3)			
Degree of protection: IP20			
Operational temperature: -25 to +55 °C (> 55 to +70 at max. pulse length - 1min)			
Storing temperature: -30 to +80 °C			
Disconnection of remote control (coil) by switch: no, yes, yes			
Standards: IEC/EN 60669-2-2			

### Connection

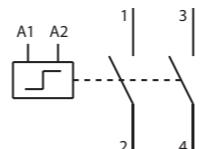
#### BR-216-10



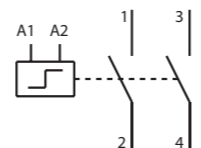
#### BR-216-11



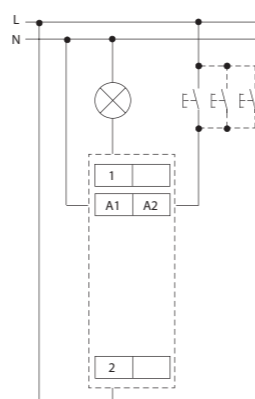
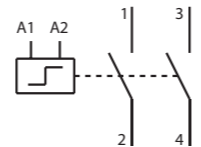
#### BR-216-20



#### BR-220-20



#### BR-232-20



Lamps Type	Power (W)	Current (A)	Capacitor (µF)	Maximum number of lamps per pole at 230 V, 50 Hz				
				BR-216-10/11/20	BR-220-20	BR-232-20		
LED lamps Power supplies for LEDs	-	-	-	max. 2 A per pole	max. 6 A per pole	max. 12 A per pole		
Incandescent lamps and halogen lamps	15	0,07	-	133	133	233		
	25	0,11	-	80	80	140		
	40	0,17	-	50	50	88		
	60	0,26	-	33	33	58		
	75	0,33	-	27	27	47		
	100	0,44	-	20	20	35		
	150	0,65	-	13	13	23		
	200	0,87	-	10	10	18		
	300	1,3	-	7	7	12		
	500	2,17	-	4	4	7		
Fluorescent lamps with external electromagnetic ballasts - uncorrected	18	0,37	-	43	43	43		
	36	0,43	-	37	37	37		
	58	0,67	-	24	24	24		
	18	0,19	4,5	18	22	33		
	36	0,29	4,5	18	22	33		
	58	0,46	7	11	14	21		
	Fluorescent lamps with external electromagnetic ballasts - parallel corrected	2x18	0,26	2,7	62	62	62	
		2x36	0,48	4,5	33	33	33	
		2x58	0,78	7	21	21	21	
		18	0,09	-	33	67	133	
Lead-lag circuit for fluorescent lamps with external electromagnetic ballasts - series corrected	2x18	0,17	-	18	35	71		
	36	0,16	-	19	38	75		
	2x36	0,31	-	10	19	39		
	58	0,25	-	12	24	48		
	2x58	0,48	-	6	13	25		
	80	0,4	-	8	15	30		
	2x80	0,76	-	4	8	16		
	Fluorescent lamps with external electronic ballasts	50	0,6	-	17	27	27	
		80	0,8	-	13	20	20	
		125	1,2	-	8	13	13	
250		2,2	-	5	7	7		
400		3,3	-	3	5	5		
700		5,4	-	2	3	3		
1000		7,5	-	1	2	2		
High pressure mercury vapour lamps with external electromagnetic ballasts - uncorrected		50	0,3	7	11	14	21	
		80	0,4	8	10	13	19	
		125	0,6	10	8	10	15	
	250	1,2	18	4	6	8		
	400	1,8	25	3	4	6		
	700	3,4	40	2	3	4		
	1000	4,8	60	1	2	3		
	High pressure mercury vapour lamps with external electromagnetic ballasts - parallel corrected	35	0,5	-	16	32	32	
		70	1	-	8	16	16	
		150	1,8	-	4	9	9	
250		3	-	3	5	5		
400		4,6	-	2	3	3		
1000		9,7	-	1	2	2		
2000		12,2	-	0	1	1		
Metal halide lamps with external electromagnetic ballasts - uncorrected		35	0,23	6	13	17	25	
		70	0,42	12	7	8	13	
		150	0,77	20	4	5	8	
	250	1,26	32	3	3	5		
	400	2	45	2	2	3		
	1000	5	85	0	1	2		
	2000	10,5	125	0	0	1		
	Metal halide lamps with external electromagnetic ballasts - parallel corrected	150	1,8	-	7	9	9	
		250	3	-	4	5	5	
		400	4,4	-	3	4	4	
1000		10,3	-	1	1	1		
High pressure sodium vapour lamps with external electromagnetic ballasts - uncorrected		150	0,77	20	4	5	8	
		250	1,26	32	3	3	5	
		400	2	45	2	2	3	
		1000	5,1	100	0	0	1	
		High pressure sodium vapour lamps with external electromagnetic ballasts - parallel corrected	150	0,72	-	4	8	17
			250	1,3	-	2	5	9
	400		2	-	2	3	6	
	1000		5	-	0	1	2	
	High pressure sodium vapour lamps with external electronic ballasts		18	0,4	-	25	40	40
			35	0,6	-	15	27	27
55			0,6	-	15	27	27	
90			0,9	-	10	18	18	
135			0,9	-	10	18	18	
180			0,9	-	10	18	18	
Low pressure sodium vapour lamps with external electromagnetic ballasts - uncorrected		18	0,35	5	16	20	30	
		35	0,28	20	4	5	8	
		55	0,35	20	4	5	8	
		90	0,55	26	3	4	6	
	135	0,8	40	2	3	4		
	180	1	40	2	3	4		