

Description

Single and double pole magnetic and hydraulic-magnetic circuit breaker with trip-free mechanism and toggle, push or push/pull, or rocker actuation. A choice of fast magnetic only or hydraulically delayed switching characteristics (S type MO or HM CBE to EN 60934/ IEC 934) ensures suitability for a wide range of applications. Low temperature sensitivity at rated load. Industry standard dimensions and threadneck or snap in panel mounting. Approved to CBE standard EN 60934 (IEC 60934).

Typical applications

Power supplies, process control, switchgear and controlgear.

Interrupting capacity

Lists UL Recognized and CSA Certified configurations and performance capabilities as a Component Supplementary Protector

voltage			current rating		interrupting capacity (A)		
max rating	frequency	phase	full load (A)	general purpose (A)	poles breaking	UL /CSA	
						with backup fuse	without backup fuse
32	DC	-	0.02-15	15.1-25	1	-	1000
50	DC	-	-	0.02-7.5	1	-	1000
65	DC	-	0.02-15	15.1-25	2	-	1000
65	DC	-	0.02-15	15.1-30	1	-	1000
80	DC	-	0.02-15	15.1-30	1	-	600
125	50/60	1	0.02-15	15.1-30	1	-	1000
250	50/60	1	0.02-12	-	1	-	1000
250	50/60	1	0.02-15	15.1-30	2	-	1000
250	50/60	1	-	12.1-18	1	1000	-

Lists TÜV Certified configurations and performance capabilities as a Component Supplementary Protector

voltage			current rating		interrupting capacity (A)		
max rating	frequency	phase	full load (A)	general purpose (A)	poles breaking	TÜV	
						with backup fuse	without backup fuse
32	DC	-	0.02-15	15.1-25	1	3000	500
50	DC	-	-	0.02-7.5	1	3000	500
65	DC	-	0.02-15	15.1-25	2	3000	500
80	DC	-	0.10-15	15.1-25	1	-	600
125	50/60	1	0.02-15	15.1-25	1	3000	500
250	50/60	1	0.02-12	-	1	3000	500
250	50/60	1	0.02-15	15.1-25	2	3000	500

Lists UL 489A Listed and TÜV Certified configurations and performance capabilities for use in Communications Equipment

voltage		current rating	interrupting capacity (A)		
max rating	frequency	general purpose (A)	poles breaking	with backup fuse	
				UL 489A	TÜV
80	DC	0.02-30	1	600	-
65	DC	0.02-30	1	1000	-
80	DC	0.10-25	1	600	600



8330-...

Technical data

Voltage rating	AC 125/250 V (50/60 Hz); DC 80 V
Current rating range	0.1...30 A
Auxiliary circuit	SPDT; 7 A AC 250 V; 7 A (Res) DC 28 V; 4 A (Ind.) DC 28 V; 0.25A DC 80 V
Typical life	10,000 operations at I _N
Ambient temperature	-40...+85 °C (-40...+185 °F)
Insulation co-ordination (IEC 60664 and 60664A)	rated impulse withstand voltage 2.5 kV pollution degree 2 reinforced insulation in the operating area
Dielectric strength	AC 3750 V
Insulation resistance	> 100 MΩ (DC 500 V)
Degree of protection (IEC 60529/DIN 40050)	operating area IP40; terminal area IP00
Vibration	10 g (57-500 Hz) ± 0,76 mm (10-57Hz) to IEC 60068-2-6, test C 10 frequency cycles/axis per Method 204C, test Condition A. Instantaneous curves tested at 80 % of rated current.
Shock	100 g (6 ms) to IEC 60068-2-27, test Ea per Method 213, Cond. I. Instantaneous curves tested at 80 % of rated current.
Corrosion	96 hours at 5% salt mist, to IEC 600-9-2-11, test Ka Method 101, Condition A
Humidity	24 hours at 55% RH, to IEC 60068-2-78, test Cab Method 106D
Mass	approx. 30 g per pole (depending on version)

Ordering information

Type No.	8330 circuit breaker
Mounting	
F	flange, black
G	threadneck, black
Q	flange, grey
M	snap-in, black
N	flange, white
Size	
G	panel thickness 1 -2.5 mm (flange)
M	1/2"-32 for actuator B, C, M, P, 1 and 3
N	3/8"-32 for actuator D and 5
S	standard fuseholder cut out for mounting -M only
Number of poles	
1	single pole
2	double pole
Panel hardware (bulk)	
0	without (1 hex nut, threadneck only)
9	rocker guard
E	1 hex, 1 knurled (Ni) threadneck only
F	1 hex, 1 knurled (Ni), legend plate, threadneck only
H	1 hex, 1 knurled (Ni), locking ring, legend plate, threadneck only
N	1 hex, 1 knurled with collar (Ni), threadneck only
P	1 hex, 1 knurled with collar (Ni), legend plate, threadneck only
R	1 hex, 1 knurled with collar (Ni), locking ring, legend plate, threadneck only
Terminal design	
J	screw terminal, 8-32, with upturned lugs
P	blade terminal 6.3 mm
X	screw terminal, 8-32 (bus type)
W	push-in stud
Actuator configuration	
B	paddle, without legend plate
C	baton, without legend plate
D	push to reset, no button marking
E	dual colour rocker (legend vertical) »ON« indication
G	dual colour rocker (legend vertical) »OFF« indication
K	flat rocker (legend vertical) illuminated
M	paddle, legend plate ON-OFF vertical
P	paddle, legend plate I-0 vertical
R	rocker (legend vertical)
T	flat rocker (legend vertical)
W	rocker illuminated (vertical)
1	baton, legend plate ON-OFF vertical
3	baton, legend plate I-0 vertical
5	push pull, rated Amps horizontal
Characteristic curve	
00	switch only
BD	medium AC/DC
BS	medium
CD	short AC/DC
CS	short
OP	instantaneous
Actuator colour and marking details	
Rocker not illuminated	
A	green I-0 ON-OFF
K	white I-0 ON/OFF
L	black I-0 ON-OFF
V	blue I-0 ON-OFF
W	gray I-0 ON-OFF
X	yellow I-0 ON-OFF
Y	red I-0 ON-OFF
Z	orange I-0 ON-OFF
Rocker illuminated	
T	clear I-0 ON-OFF
U	red transparent I-0 ON/OFF
V	green transparent I-0 ON-OFF
W	amber transparent I-0 ON-OFF
X	smoke gray transparent I-0 ON-OFF
Y	white translucent I-0 ON-OFF

8330 - G M 1 0 - P B BS - ...

8330 - G M 1 0 - P B BS - A	
	Paddle, Baton, Button
1	green
2	white
3	black
4	blue
6	yellow
7	red
8	orange
	Illumination voltage
A	120 V, 250 V, neon, external resistor
B	120V, 250V, green, neon, external resistor
C	LED red, external resistor
D	LED green, external resistor
E	LED amber, external resistor
X	no illumination
	Auxiliary contacts
A	without auxiliary contacts
J	1 changeover, 1st pole, .06 dia solder turret
K	1 changeover 1st pole, -.058 dia round QC
	Internal circuit
A	switch only
B	series trip
	Not used
00	
	Frequency
4	AC 50/60 Hz
9	DC
M	AC + DC
	Current rating
0.1...30 A	
	Approvals
A	without
E	UL1077, CSA, TÜV
8330 - G M 1 0 - P B BS - 2 X A B 00 4 - 5A - ...	ordering example

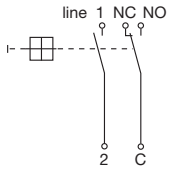
Standard current ratings and typical internal resistance values

Current rating (A)	Internal resistance (Ω) per pole
0.1	103
0.25	20
0.5	3.8
0.75	1.5
1	1
2	0.26
3	0.11
5	0.041
7.5	0.023
10	0.01
12.5	< 0.01
15	< 0.01
20	< 0.01
25	< 0.01
30	< 0.01

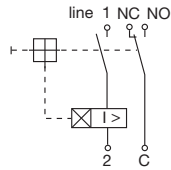
This is a metric design and millimeter dimensions take precedence ($\frac{\text{mm}}{\text{inch}}$)

Internal connection diagrams

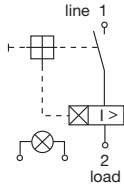
A Switch only with auxiliary contacts



B Series trip, single pole with auxiliary contacts

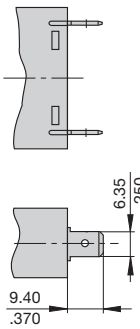


with illumination

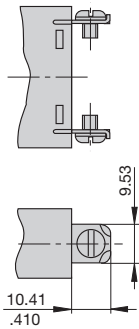


Terminal configurations + design

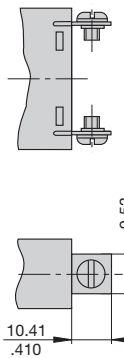
P Blade terminal (Q.C.)



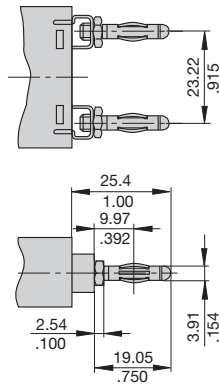
J Screw terminal 8-32 with upturned lugs



X Screw terminal 8-32

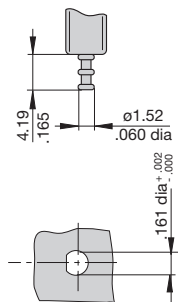


W Push-in stud terminal

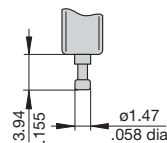


Auxiliary switch terminals:

J Double solder turret type



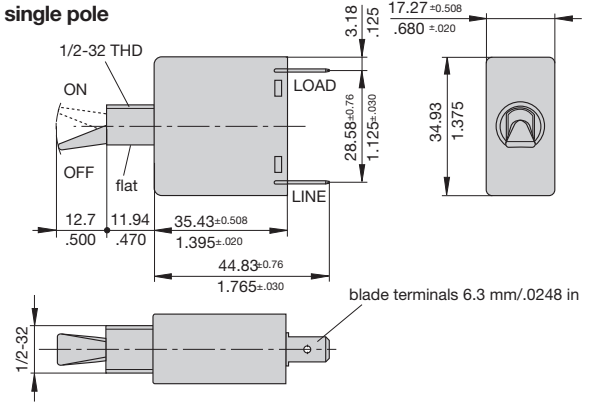
K Round quick-connect type



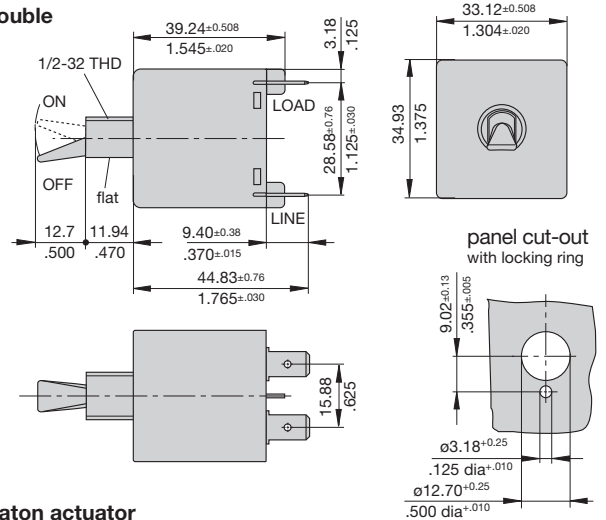
Dimensions – threadneck mounted version

Paddle actuator threadneck mounting

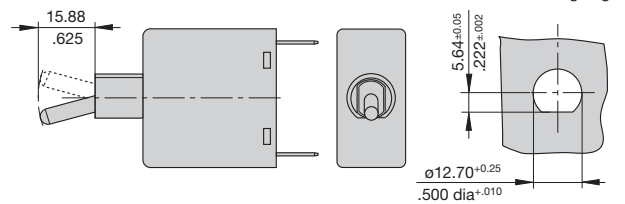
single pole



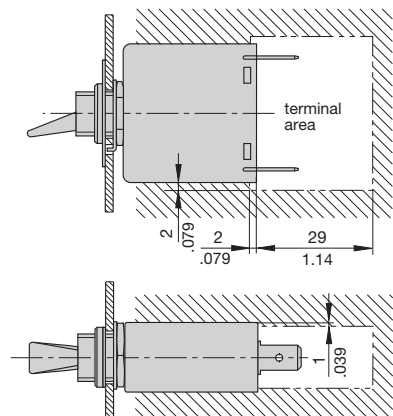
double



Baton actuator threadneck mounting



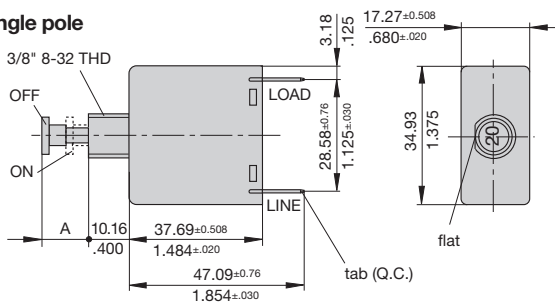
Installation drawing



Dimensions – push and push/pull versions

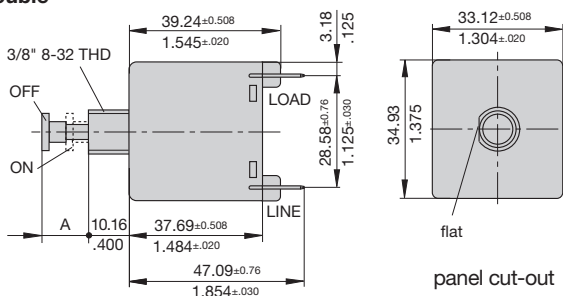
Push-Pull actuator

single pole

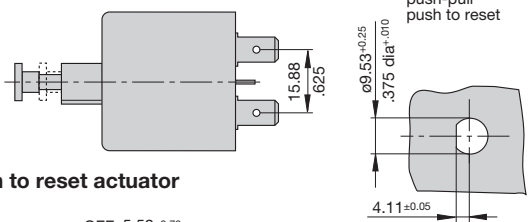


A [mm / inch]	
OFF	12.7 ±0.76 / .500 ±.030
ON	7.11 ±0.76 / .280 ±.030

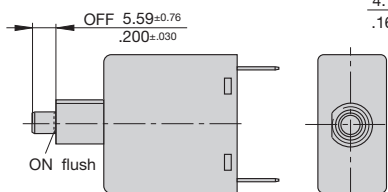
double



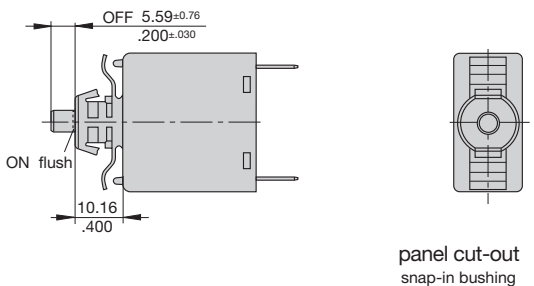
panel cut-out
push-pull
push to reset



Push to reset actuator



Snap-in bushing actuator (shown with push to reset actuator)



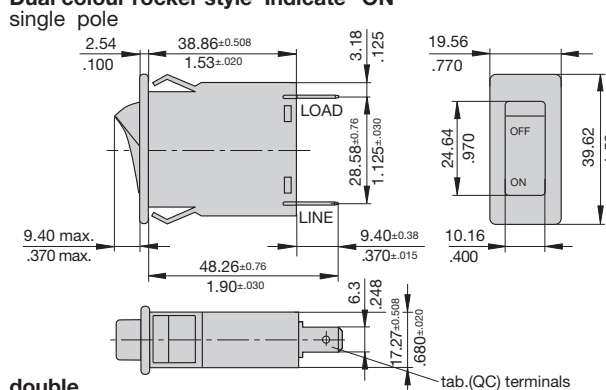
Button marking orientation

push-pull only

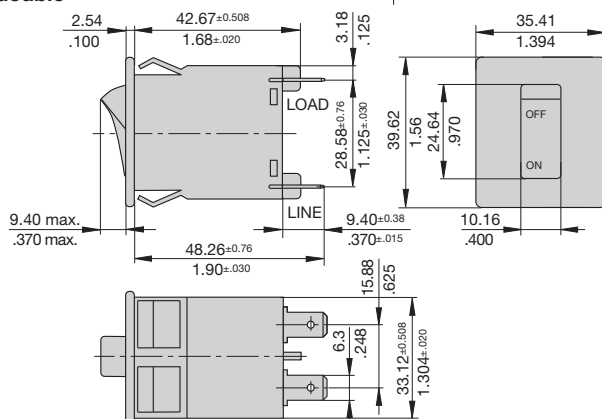


Dimensions – flange mounted version

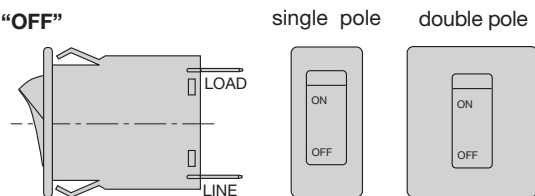
Dual colour rocker style Indicate "ON"



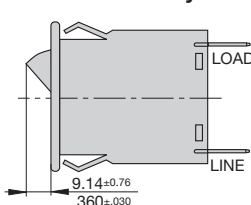
double



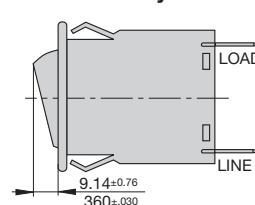
Indicate "OFF"



Standard rocker style

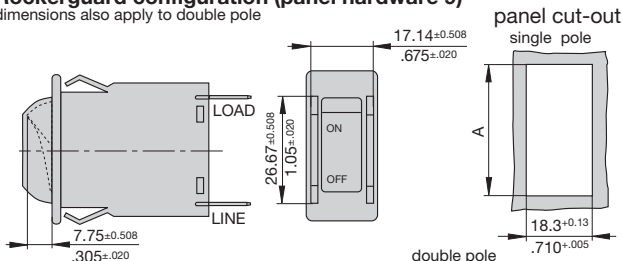


flat rocker style

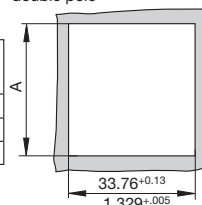


Rockerguard configuration (panel hardware 9)

dimensions also apply to double pole



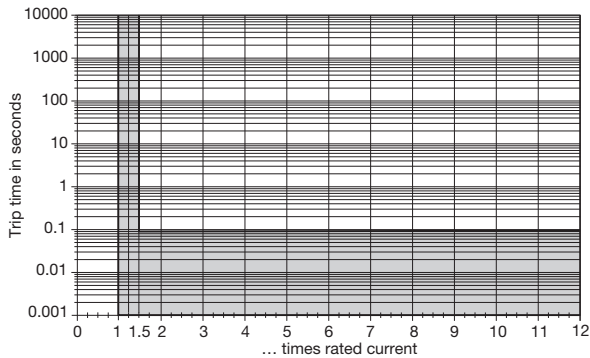
panel thickness [mm / inch]	A [mm / inch]
1.57 / .062	35.18 ^{+0.130} / 1.385 ^{+0.005}
2.36 / .093	36.07 ^{+0.130} / 1.42 ^{+0.005}
3.18 / .125	37.08 ^{+0.130} / 1.46 ^{+0.005}



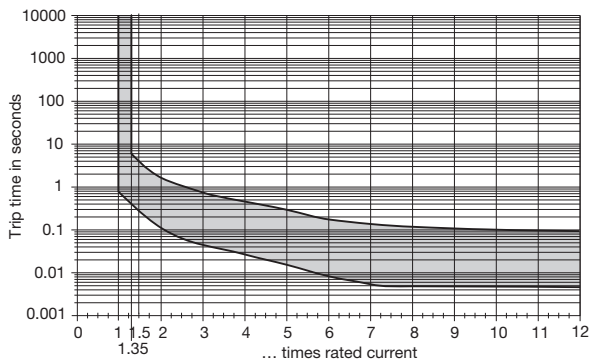
This is a metric design and millimeter dimensions take precedence (mm / inch)

Typical time/current characteristics

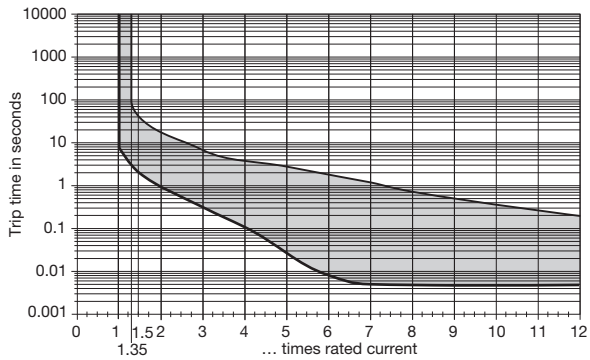
Curve OP (instantaneous)



Curve CS, CD (short delay)



Curve BS, BD (medium delay)

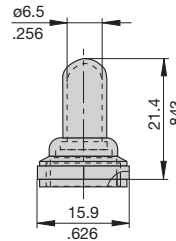


N.B. All curves will only be maintained if the escutcheon is mounted on a vertical surface.

Other characteristic curves to special order (e. g. with impulse delay for inrush peaks).

Accessories

Splash cover 1/2"
X 221 434 01
 (degree of protection IP65)



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All dimensions without tolerances are for reference only. In the interest of improved design, performance and cost effectiveness the right to make changes in these specifications without notice is reserved. Product markings may not be exactly as the ordering codes. Errors and omissions excepted.

