B-TRIP CHARACTERISTICS

Application Examples:

Business equipment, wiring protection, lighting, appliances, control circuits, some motors and some electronic applications. Relatively long thermal trip delay but low magnetic trip point.

Type Designation

2	B	N	U	60
(a)	**(b)**	**(c)**	**(d)**	**(e)**

(a) = Number of Poles
(b) = Trip Characteristic
(c) = Blank: without neutral pole
= N: with neutral pole
(d) = U: UL/CSA version
= R: ring tongue terminals, UL/CSA version
= Blank: European version
(e) = Rated Current

Approvals:

UL508 Listed

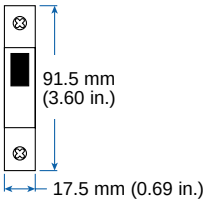
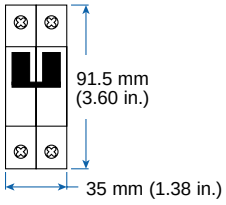
ONE POLE

1B

ONE POLE PLUS NEUTRAL

2BN

Rated Current	Type/ Cat. No.	Approvals	Type/ Cat. No.	Approvals
0.3A	NA		NA	
0.5A	NA		NA	
0.75A	NA		NA	
0.8A❶	NA		NA	
1.0A	1BU1		2BNU1	
1.6A	1BU1.6		2BNU1.6	
2.0A	1BU2		2BNU2	
2.5A	1BU2.5		2BNU2.5	
3.0A	1BU3		2BNU3	
3.5A	1BU3.5		2BNU3.5	
4.0A	1BU4		2BNU4	
5.0A	1BU5		2BNU5	
6.0A	1BU6		2BNU6	
8.0A	NA		NA	
10A	1BU10		2BNU10	
12A❶	NA		NA	
12.5A	NA		NA	
13A	1BU13		2BNU13	
15A❶	1BU15		2BNU15	
16A	1BU16		2BNU16	
20A	1BU20		2BNU20	
25A	1BU25		2BNU25	
30A❶	1BU30		2BNU30	
32A	1BU32	*	2BNU32	*
40A	1BU40	*	2BNU40	*
50A	1BU50	*	2BNU50	*
60A❶	1BU60		2BNU60	
63A	1BU63	*	2BNU63	*

Voltage Rating❸	277VAC	277VAC
Interrupting Capacity (UL/CSA - Ratings)	0.3-60A (RC): 10kA with UL-listed RK5 back-up fuse or MCCB	0.3-60A (RC): 10kA with UL-listed RK5 back-up fuse or MCCB
Group Short Circuit (UL/CSA - Ratings)	0.3-10A (RC): 10kA; 13-60A (RC): 5kA no branch circuit protection required	0.3-10A (RC): 10kA; 13-60A (RC): 5kA no branch circuit protection required
Interrupting Capacity (VDE - Ratings)	0.3-63A (RC): 10kA	0.3-63A (RC): 10kA
Mechanical Endurance	10000 ON/OFF operations❷	10000 ON/OFF operations❷
Calibration Temperature	40°C (104°F)	40°C (104°F)
Standard Pack and Weight	10/0.3A - 32A = 1.4kg (3.1 lb.) 40A - 63A = 1.6kg (3.5 lb.)	5/0.3A - 32A = 1.3kg (2.9 lb.) 40A - 63A = 1.45kg (3.2 lb.)
Terminal Size Acceptability	Top: 18-3 AWG; Bottom: 18-2 AWG	Top: 18-3 AWG; Bottom: 18-2 AWG
Terminal Torque	20 lb.in.	20 lb.in.
Basic Dimensions (Elevation View)		

❶ Not European standard rating.
❷ Please refer to page 21 for specific applications.
❸ DC rating (Manufacturer's self certification): One pole 48VDC, two pole series 125VDC
* VDE pending

TWO POLE

2B

Rated Current	Type/ Cat. No.	Approvals
0.3A	NA	
0.5A	NA	
0.75A	NA	
0.8A❶	NA	
1.0A	2BU1	
1.6A	2BU1.6	
2.0A	2BU2	
2.5A	2BU2.5	
3.0A	2BU3	
3.5A	2BU3.5	
4.0A	2BU4	
5.0A	2BU5	
6.0A	2BU6	
8.0A	NA	
10A	2BU10	
12A❶	NA	
12.5A	NA	
13A	2BU13	
15A❶	2BU15	
16A	2BU16	
20A	2BU20	
25A	2BU25	
30A❶	2BU30	
32A	2BU32	*
40A	2BU40	*
50A	2BU50	*
60A❶	2BU60	
63A	2BU63	*

480Y/277VAC

0.3-60A (RC): 10kA with UL-listed RK5 back-up fuse or MCCB

0.3-10A (RC): 10kA; 13-60A (RC): 5kA no branch circuit protection required

0.3-63A (RC): 10kA

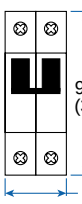
10000 ON/OFF operations❷

40°C (104°F)

5/1.4kg (3.1 lb.)

Top: 18-3 AWG; Bottom: 18-2 AWG

20 lb.in.



THREE POLE

3B

Type/ Cat. No.	Approvals
NA	
NA	
NA	
NA	
3BU1	
3BU1.6	
3BU2	
3BU2.5	
3BU3	
3BU3.5	
3BU4	
3BU5	
3BU6	
NA	
3BU10	
NA	
NA	
3BU13	
3BU15	
3BU16	
3BU20	
3BU25	
3BU30	
3BU32	*
3BU40	*
3BU50	*
3BU60	
3BU63	*

480Y/277VAC

0.3-60A (RC): 10kA with UL-listed RK5 back-up fuse or MCCB

0.3-10A (RC): 10kA; 13-60A (RC): 5kA no branch circuit protection required

0.3-63A (RC): 10kA

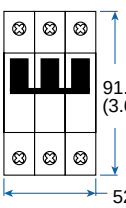
10000 ON/OFF operations❷

40°C (104°F)

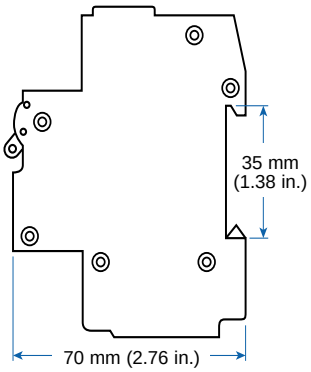
4/1.68kg (3.7 lb.)

Top: 18-3 AWG; Bottom: 18-2 AWG

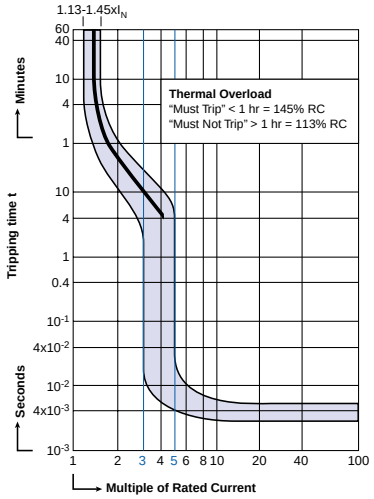
20 lb.in.



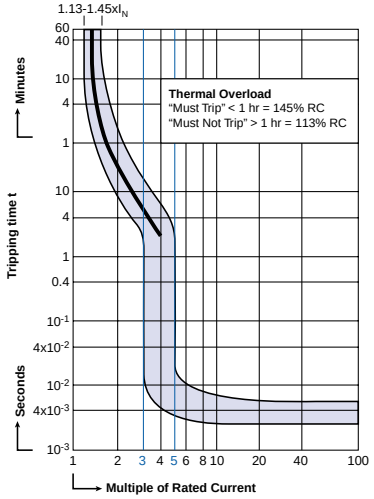
Basic Dimensions (side view)



V-EA-B Trip
6.0A Through 10A Rated Current



V-EA-B Trip
13A Through 63A Rated Current



"B" Magnetic Trip Parameters

Rated current 0.3A to 63A.

1. Hold for a minimum of 100ms at surge of 3 times rated current.
2. Trip in under 100ms at 5 times rated current.

NB: Trip curves shown comply with North American standards. For trip curves according to European standards please consult Altech.

C-TRIP CHARACTERISTICS

Application Examples:

Low inrush motors, lighting, wiring protection, appliances, business equipment, and control circuit applications. Relatively long thermal trip delay and medium magnetic trip point.

Type Designation

2	C	N	U	60
(a)	**(b)**	**(c)**	**(d)**	**(e)**

(a) = Number of Poles
(b) = Trip Characteristic
(c) = Blank: without neutral pole
= N: with neutral pole
(d) = U: UL/CSA version
= R: ring tongue terminals, UL/CSA version
= Blank: European version
(e) = Rated Current

Approvals:

UL508 Listed

ONE POLE

1C

Rated Current	Type/ Cat. No.	Approvals
0.3A	1CU03	
0.5A	1CU05	
0.75A	1CU075	
0.8A❶	NA	
1.0A	1CU1	
1.6A	1CU1.6	
2.0A	1CU2	
2.5A	1CU2.5	
3.0A	1CU3	
3.5A	1CU3.5	
4.0A	1CU4	
5.0A	1CU5	
6.0A	1CU6	
8.0A	1CU8	
10A	1CU10	
12A❶	NA	
12.5A	NA	
13A	1CU13	
15A❶	1CU15	
16A	1CU16	
20A	1CU20	
25A	1CU25	
30A❶	1CU30	
32A	1CU32	*
40A	1CU40	*
50A	1CU50	*
60A❶	1CU60	
63A	1CU63	*

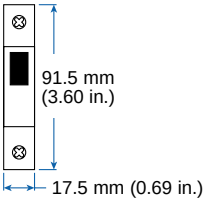
ONE POLE PLUS NEUTRAL

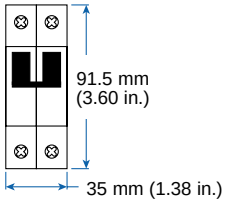
2CN

Type/ Cat. No.	Approvals
2CNU03	
2CNU05	
2CNU075	
NA	
2CNU1	
2CNU1.6	
2CNU2	
2CNU2.5	
2CNU3	
2CNU3.5	
2CNU4	
2CNU5	
2CNU6	
2CNU8	
2CNU10	
NA	
NA	
2CNU13	
2CNU15	
2CNU16	
2CNU20	
2CNU25	
2CNU30	
2CNU32	*
2CNU40	*
2CNU50	*
2CNU60	
2CNU63	*

Voltage Rating❸	277VAC	277VAC
Interrupting Capacity (UL/CSA - Ratings)	0.3-60A (RC): 10kA with UL-listed RK5 back-up fuse or MCCB	0.3-60A (RC): 10kA with UL-listed RK5 back-up fuse or MCCB
Group Short Circuit (UL/CSA - Ratings)	0.3-10A (RC): 10kA; 13-60A (RC): 5kA no branch circuit protection required	0.3-10A (RC): 10kA; 13-60A (RC): 5kA no branch circuit protection required
Interrupting Capacity (VDE - Ratings)	0.3-63A (RC): 10kA	0.3-63A (RC): 10kA
Mechanical Endurance	10000 ON/OFF operations❷	10000 ON/OFF operations❷
Calibration Temperature	40°C (104°F)	40°C (104°F)
Standard Pack and Weight	10/0.3A - 32A = 1.4kg (3.1 lb.) 40A - 63A = 1.6kg (3.5 lb.)	5/0.3A - 32A = 1.3kg (2.9 lb.) 40A - 63A = 1.45kg (3.2 lb.)
Terminal Size Acceptability	Top: 18-3 AWG; Bottom: 18-2 AWG	Top: 18-3 AWG; Bottom: 18-2 AWG
Terminal Torque	20 lb.in.	20 lb.in.

Basic Dimensions (Elevation View)





❶ Not European standard rating.
❷ Please refer to page 21 for specific applications.
❸ DC rating (Manufacturer's self certification): One pole 48VDC, two pole series 125VDC
* VDE pending

TWO POLE

2C

Rated Current	Type/ Cat. No.	Approvals
0.3A	2CU03	
0.5A	2CU05	
0.75A	2CU075	
0.8A❶	NA	
1.0A	2CU1	
1.6A	2CU1.6	
2.0A	2CU2	
2.5A	2CU2.5	
3.0A	2CU3	
3.5A	2CU3.5	
4.0A	2CU4	
5.0A	2CU5	
6.0A	2CU6	
8.0A	2CU8	
10A	2CU10	
12A❶	NA	
12.5A	NA	
13A	2CU13	
15A❶	2CU15	
16A	2CU16	
20A	2CU20	
25A	2CU25	
30A❶	2CU30	
32A	2CU32	*
40A	2CU40	*
50A	2CU50	*
60A❶	2CU60	
63A	2CU63	*

480Y/277VAC

0.3-60A (RC): 10kA with UL-listed RK5 back-up fuse or MCCB

0.3-10A (RC): 10kA; 13-60A (RC): 5kA no branch circuit protection required

0.3-63A (RC): 10kA

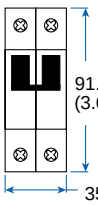
10000 ON/OFF operations❷

40°C (104°F)

5/1.4kg (3.1 lb.)

Top: 18-3 AWG; Bottom: 18-2 AWG

20 lb.in.



THREE POLE

3C

Type/ Cat. No.	Approvals
3CU03	
3CU05	
3CU075	
NA	
3CU1	
3CU1.6	
3CU2	
3CU2.5	
3CU3	
3CU3.5	
3CU4	
3CU5	
3CU6	
3CU8	
3CU10	
NA	
NA	
3CU13	
3CU15	
3CU16	
3CU20	
3CU25	
3CU30	
3CU32	*
3CU40	*
3CU50	*
3CU60	
3CU63	*

480Y/277VAC

0.3-60A (RC): 10kA with UL-listed RK5 back-up fuse or MCCB

0.3-10A (RC): 10kA; 13-60A (RC): 5kA no branch circuit protection required

0.3-63A (RC): 10kA

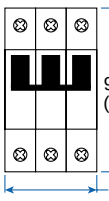
10000 ON/OFF operations❷

40°C (104°F)

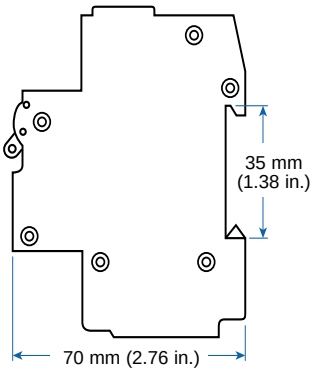
4/1.68kg (3.7 lb.)

Top: 18-3 AWG; Bottom: 18-2 AWG

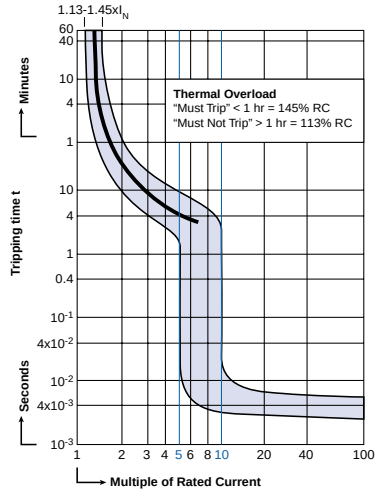
20 lb.in.



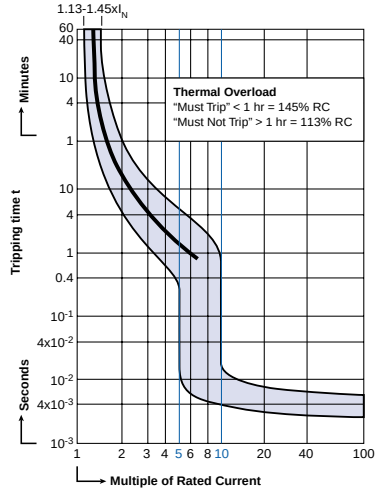
Basic Dimensions (side view)



V-EA-C Trip
0.3A Through 10A Rated Current



V-EA-C Trip
13A Through 63A Rated Current



"C" Magnetic Trip Parameters
Rated current 0.3A to 63A.

1. Hold for a minimum of 100ms at surge of 5 times rated current.

2. Trip in under 100ms at 10 times rated current.

NB: Trip curves shown comply with North American standards. For trip curves according to European standards please consult Altech.

D-TRIP CHARACTERISTICS

Application Examples:

High inrush motors, transformers, power supplies, heaters and reactive loads. Relatively long thermal trip delay and very high magnetic trip point.

Prototype testing is recommended in motor applications where the relatively long thermal trip delay may not provide adequate motor overload protection. Motor-integral overload protectors are recommended, with the V-EA-D providing disconnect, backup thermal protection and additional short circuit and energy let-through protection.

Type Designation

2	D	N	U	60
(a)	**(b)**	**(c)**	**(d)**	**(e)**

(a) = Number of Poles
(b) = Trip Characteristic
(c) = Blank: without neutral pole
= N: with neutral pole
(d) = U: UL/CSA version
= R: ring tongue terminals, UL/CSA version
= Blank: European version
(e) = Rated Current

Approvals:

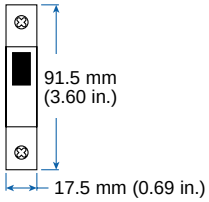
UL508 Listed

ONE POLE

1D

Rated Current	Type/ Cat. No.	Approvals
0.3A	1DU03	
0.5A	1DU05	
0.75A	1DU075	
0.8A❶	NA	
1.0A	1DU1	
1.6A	1DU1.6	
2.0A	1DU2	
2.5A	1DU2.5	
3.0A	1DU3	
3.5A	1DU3.5	
4.0A	1DU4	
5.0A	1DU5	
6.0A	1DU6	
8.0A	1DU8	
10A	1DU10	
12A❶	NA	
12.5A	NA	
13A	1DU13	
15A❶	1DU15	
16A	1DU16	
20A	1DU20	
25A	1DU25	
30A❶	1DU30	
32A	1DU32	*
40A	1DU40	*
50A	1DU50	*
60A❶	1DU60	
63A	1DU63	*

Voltage Rating❸	277VAC
Interrupting Capacity (UL/CSA - Ratings)	0.3-60A (RC): 10kA with UL-listed RK5 back-up fuse or MCCB
Group Short Circuit (UL/CSA - Ratings)	0.3-10A (RC): 10kA; 13-60A (RC): 5kA no branch circuit protection required
Interrupting Capacity (VDE - Ratings)	0.3-63A (RC): 10kA
Mechanical Endurance	10000 ON/OFF operations❷
Calibration Temperature	40°C (104°F)
Standard Pack and Weight	10/0.3A - 32A = 1.4kg (3.1 lb.) 40A - 63A = 1.6kg (3.5 lb.)
Terminal Size Acceptability	Top: 18-3 AWG; Bottom: 18-2 AWG
Terminal Torque	20 lb.in.
Basic Dimensions (Elevation View)	

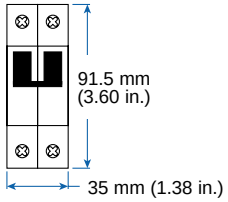


ONE POLE PLUS NEUTRAL

2DN

Type/ Cat. No.	Approvals
2DNU03	
2DNU05	
2DNU075	
NA	
2DNU1	
2DNU1.6	
2DNU2	
2DNU2.5	
2DNU3	
2DNU3.5	
2DNU4	
2DNU5	
2DNU6	
2DNU8	
2DNU10	
NA	
NA	
2DNU13	
2DNU15	
2DNU16	
2DNU20	
2DNU25	
2DNU30	
2DNU32	*
2DNU40	*
2DNU50	*
2DNU60	
2DNU63	*

277VAC
0.3-60A (RC): 10kA with UL-listed RK5 back-up fuse or MCCB
0.3-10A (RC): 10kA; 13-60A (RC): 5kA no branch circuit protection required
0.3-63A (RC): 10kA
10000 ON/OFF operations❷
40°C (104°F)
5/0.3A - 32A = 1.3kg (2.9 lb.) 40A - 63A = 1.45kg (3.2 lb.)
Top: 18-3 AWG; Bottom: 18-2 AWG
20 lb.in.



❶ Not European standard rating.
❷ Please refer to page 21 for specific applications.
❸ DC rating (Manufacturer's self certification): One pole 48VDC, two pole series 125VDC
* VDE pending

E-TRIP CHARACTERISTICS

Application Examples:

High efficiency motors, which have exceedingly high inrush currents. Relatively short thermal trip delays and very high magnetic trip points.

Prototype testing is recommended. The V-EA-E is the result of continuous research and improvement of our G- and D-Trip circuit breakers. It combines the short thermal trip delay of the G-Trip and an even higher magnetic trip point than the D-Trip.

Therefore, the V-EA-E provides adequate motor overload and short circuit protection.

Type Designation

2	E	N	U	60
(a)	**(b)**	**(c)**	**(d)**	**(e)**

(a) = Number of Poles
(b) = Trip Characteristic
(c) = Blank: without neutral pole
= N: with neutral pole
(d) = U: UL/CSA version
= R: ring tongue terminals, UL/CSA version
= Blank: European version
(e) = Rated Current

Approvals:

UL508 Listed

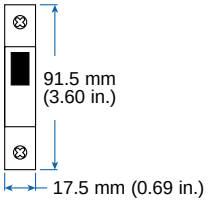
ONE POLE

1E

Rated Current	Type/ Cat. No.	Approvals
0.3A	1EU03	
0.5A	1EU05	
0.75A	1EU075	
0.8A❶	NA	
1.0A	1EU1	
1.6A	1EU1.6	
2.0A	1EU2	
2.5A	1EU2.5	
3.0A	1EU3	
3.5A	1EU3.5	
4.0A	1EU4	
5.0A	1EU5	
6.0A	1EU6	
8.0A	1EU8	
10A	1EU10	
12A❶	1EU12	
12.5A	1EU125	
13A	1EU13	
15A❶	1EU15	
16A	1EU16	
20A	1EU20	
25A	1EU25	
30A❶	1EU30	
32A	1EU32	
40A	1EU40	
50A	1EU50	
60A❶	1EU60	
63A	1EU63	

Voltage Rating❸	277VAC
Interrupting Capacity (UL/CSA - Ratings)	0.3-60A (RC): 10kA with UL-listed RK5 back-up fuse or MCCB
Group Short Circuit (UL/CSA - Ratings)	0.3-10A (RC): 10kA; 12-60A (RC): 5kA no branch circuit protection required
Interrupting Capacity (VDE - Ratings)	0.3-63A (RC): 10kA
Mechanical Endurance	10000 ON/OFF operations❷
Calibration Temperature	40°C (104°F)
Standard Pack and Weight	10/0.3A - 32A = 1.4kg (3.1 lb.) 40A - 63A = 1.6kg (3.5 lb.)
Terminal Size Acceptability	Top: 18-3 AWG; Bottom: 18-2 AWG
Terminal Torque	20 lb.in.

Basic Dimensions (Elevation View)

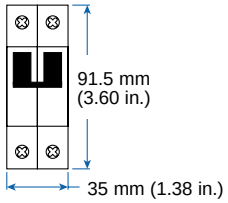


ONE POLE PLUS NEUTRAL

2EN

Type/ Cat. No.	Approvals
2ENU03	
2ENU05	
2ENU075	
NA	
2ENU1	
2ENU1.6	
2ENU2	
2ENU2.5	
2ENU3	
2ENU3.5	
2ENU4	
2ENU5	
2ENU6	
2ENU8	
2ENU10	
2ENU12	
2ENU125	
2ENU13	
2ENU15	
2ENU16	
2ENU20	
2ENU25	
2ENU30	
2ENU32	
2ENU40	
2ENU50	
2ENU60	
2ENU63	

277VAC
0.3-60A (RC): 10kA with UL-listed RK5 back-up fuse or MCCB
0.3-10A (RC): 10kA; 12-60A (RC): 5kA no branch circuit protection required
0.3-63A (RC): 10kA
10000 ON/OFF operations❷
40°C (104°F)
5/0.3A - 32A = 1.3kg (2.9 lb.) 40A - 63A = 1.45kg (3.2 lb.)
Top: 18-3 AWG; Bottom: 18-2 AWG
20 lb.in.



❶ Not European standard rating.
❷ Please refer to page 21 for specific applications.
❸ DC rating (Manufacturer's self certification): One pole 48VDC, two pole series 125VDC

G-TRIP CHARACTERISTICS

Application Examples:

General industrial, including motors, some transformers, solenoids, control circuits, lighting and wiring. Meets the US trip norms with relatively short thermal trip delay and high magnetic trip point.

Type Designation

2	G	N	U	60
(a)	**(b)**	**(c)**	**(d)**	**(e)**

(a) = Number of Poles
(b) = Trip Characteristic
(c) = Blank: without neutral pole
= N: with neutral pole
(d) = U: UL/CSA version
= R: ring tongue terminals, UL/CSA version
= Blank: European version
(e) = Rated Current

Approvals:

UL508 Listed

ONE POLE

1G

Rated Current	Type/ Cat. No.	Approvals
0.3A	1GU03	
0.5A	1GU05	
0.75A	NA	
0.8A❶	1GU08	
1.0A	1GU1	
1.6A	1GU1.6	
2.0A	1GU2	
2.5A	1GU2.5	
3.0A	1GU3	
3.5A	1GU3.5	
4.0A	1GU4	
5.0A	1GU5	
6.0A	1GU6	
8.0A	1GU8	
10A	1GU10	
12A❶	1GU12	
12.5A	1GU125	
13A	1GU13	
15A❶	1GU15	
16A	1GU16	
20A	1GU20	
25A	1GU25	
30A❶	1GU30	
32A	1GU32	
40A	1GU40	
50A	1GU50	
60A❶	1GU60	
63A	1GU63	

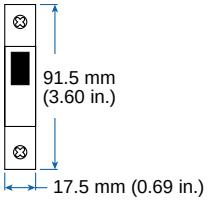
ONE POLE PLUS NEUTRAL

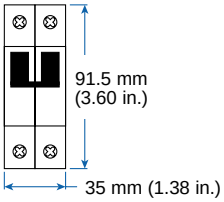
2GN

Type/ Cat. No.	Approvals
2GNU03	
2GNU05	
NA	
2GNU08	
2GNU1	
2GNU1.6	
2GNU2	
2GNU2.5	
2GNU3	
2GNU3.5	
2GNU4	
2GNU5	
2GNU6	
2GNU8	
2GNU10	
2GNU12	
2GNU125	
2GNU13	
2GNU15	
2GNU16	
2GNU20	
2GNU25	
2GNU30	
2GNU32	
2GNU40	
2GNU50	
2GNU60	
2GNU63	

Voltage Rating❸	277VAC	277VAC
Interrupting Capacity (UL/CSA - Ratings)	0.3-60A (RC): 10kA with UL-listed RK5 back-up fuse or MCCB	0.3-60A (RC): 10kA with UL-listed RK5 back-up fuse or MCCB
Group Short Circuit (UL/CSA - Ratings)	0.3-10A (RC): 10kA; 12-60A (RC): 5kA no branch circuit protection required	0.3-10A (RC): 10kA; 12-60A (RC): 5kA no branch circuit protection required
Interrupting Capacity (VDE - Ratings)	0.3-63A (RC): 10kA	0.3-63A (RC): 10kA
Mechanical Endurance	10000 ON/OFF operations❷	10000 ON/OFF operations❷
Calibration Temperature	40°C (104°F)	40°C (104°F)
Standard Pack and Weight	10/0.3A - 32A = 1.4kg (3.1 lb.) 40A - 63A = 1.6kg (3.5 lb.)	5/0.3A - 32A = 1.3kg (2.9 lb.) 40A - 63A = 1.45kg (3.2 lb.)
Terminal Size Acceptability	Top: 18-3 AWG; Bottom: 18-2 AWG	Top: 18-3 AWG; Bottom: 18-2 AWG
Terminal Torque	20 lb.in.	20 lb.in.

Basic Dimensions (Elevation View)





❶ Not European standard rating.
❷ Please refer to page 21 for specific applications.
❸ DC rating (Manufacturer's self certification): One pole 48VDC, two pole series 125VDC
* AC Motor Starting, Across-the-line approval pending