AIRPAX

IAG/IUG/IEG/CEG
Magnetic Circuit Breakers

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IAG/IUG/IEG/CEG Magnetic Circuit Breakers provide low-cost power switching, reliable circuit protection and accurate circuit control for equipment in the international marketplace.

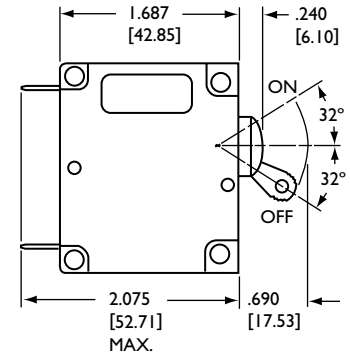
IEG models meet IEC spacing requirements which is mandatory for equipment that must comply with IEC specifications 601 and 950 and VDE specifications 0804 and 0805. In addition, they are UL Recognized, CSA Certified, VDE Approved to VDE 0642 (EN60934) and CE Compliant. IAG models are for those applications where the unit's inherent attributes are desired, but compliance with the various standards is not required.

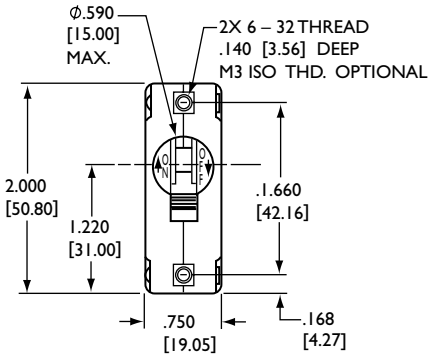
Designed using the latest in sensitive hydraulic magnetic technology, the IAG/IUG/IEG/CEG line adapts itself to many applications and environments. They're ideal for data processing and business machines, medical instrumentation, broadcast equipment, vending and amusement machines, military applications and wherever precision operation is required. Temperature differences which affect fuses and other thermal devices are not a concern.

One important feature of this breaker line is a "trip free" action, which means the circuit will trip in the presence of an overload even though the handle is held in the ON position. The delay mechanism senses the fault and the contacts open.

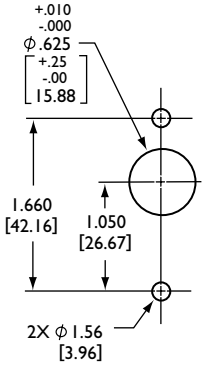
The IAG/IUG/IEG/CEG is available in a wide variety of configurations including series, series with auxiliary switch, shunt and relay with a choice of delays and ratings in either DC, 50/60Hz or 400Hz versions. Handles come in seven different colors and international markings are standard. Single or multi-pole versions are available, with a variety of pole arrangements to meet your specifications. Four pole models require a double toggle handle. Units with a handle per pole come in one through six pole assemblies.

Single Pole Breaker





Single Pole Mounting Detail



Note: Tolerance ±.015 [.38] unless noted. Dimensions in brackets [ ] are millimeters.

Two Pole Breakers

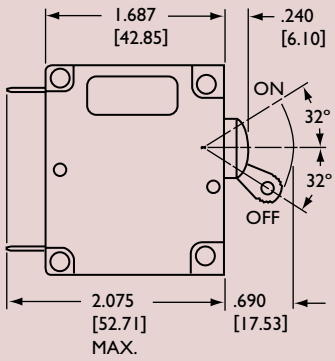
An assembly consisting of two single pole units, having their trip mechanisms internally coupled and with a single toggle handle, forms the IEG-11 with quick-connect D.I.N.-style terminals. Individual poles may differ in ratings, delays and internal connections. An auxiliary switch may be included in either or both poles, allowing you to mix SELV and hazardous voltages. Rugged screw-type terminals can be provided, in which case the designation would be IEG-66. The IEGH offers a toggle handle for each pole.

Three Pole and Four Pole Breakers

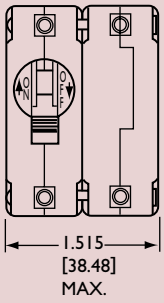
The three pole construction consists of three single pole units assembled with an internal mechanical interlock which actuates all units simultaneously. A single toggle handle operates all three poles for quick and convenient control, or if preferred, a handle per pole is available. The four pole construction consists of four single pole units assembled with an internal mechanical interlock which actuates all units simultaneously. A double toggle handle operates all four poles. The individual poles need not have identical characteristics and any series trip pole may have an auxiliary switch. If screw-type terminals are required, the breaker designation will be IEG-666 for a three pole version and IEG-6666 for a four pole version.

Breaker poles are numbered consecutively when viewed from the terminal side, with the ON position up, starting with Pole #1 on the left side and proceeding to the right.

IAG/IUG/IEG/CEG

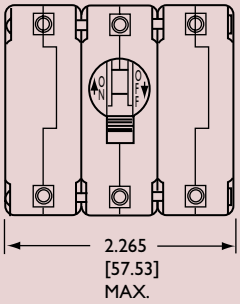


Two Pole*

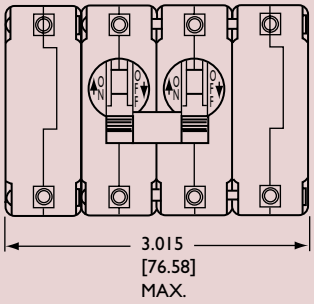


(Optional: Handle may be located in Pole 1 instead of Pole 2)

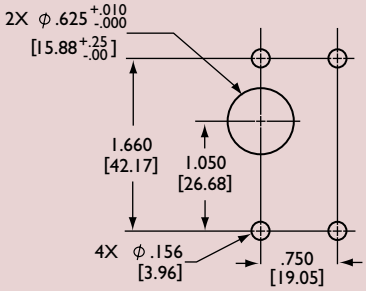
Three Pole*



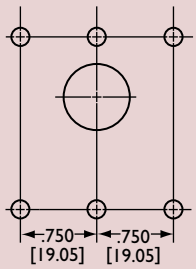
Four Pole*



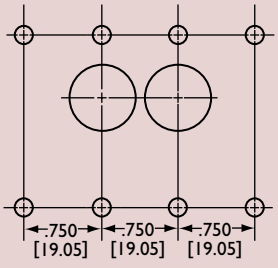
Two Pole*



Three Pole*



Four Pole*



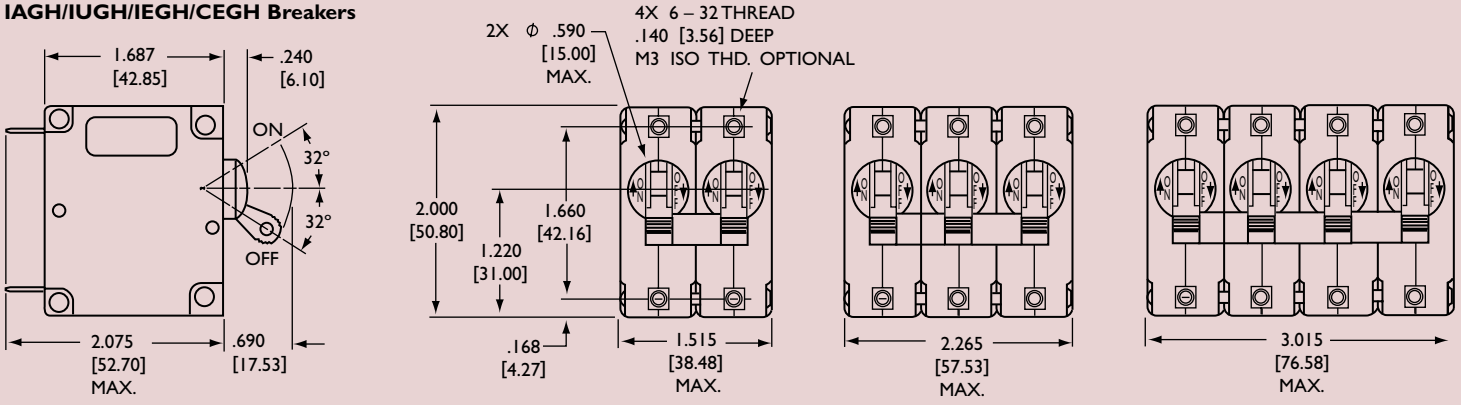
Panel Mounting Detail: Tolerance for Mtg. ±.005 [.13] unless noted.
*See Single Pole Mounting Detail for hole sizes and locations.

Note: Tolerance ± .015 [.38] unless noted. Dimensions in brackets [ ] are millimeters.

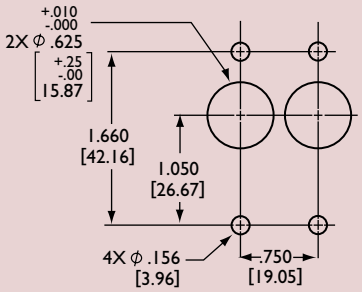
IAGH/IUGH/IEGH/CEGH Breakers

The IAGH/IUGH/IEGH/CEGH two, three and four pole models are available with a handle per pole.

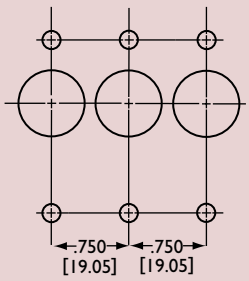
IAGH/IUGH/IEGH/CEGH Breakers



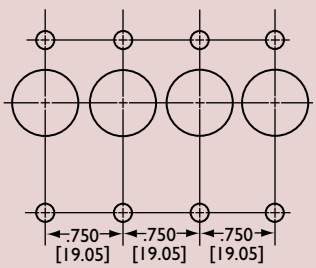
Two Pole



Three Pole*



Four Pole*



Panel Mounting Detail: Tolerance for Mtg. ±.005 [.13] unless noted.
*See Two Pole Mounting Detail for hole sizes and locations.

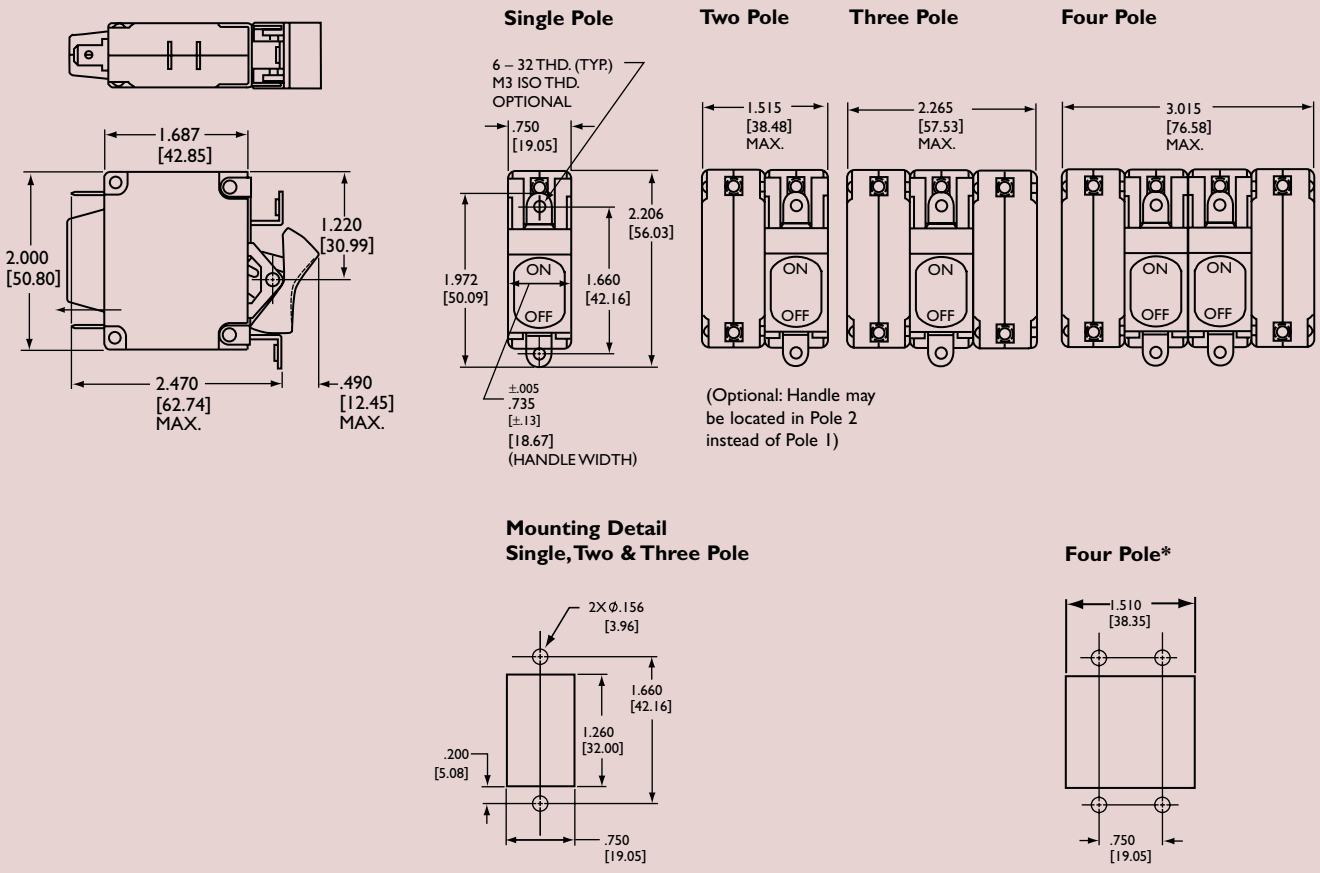
Note: Tolerance ± .015 [.38] unless noted. Dimensions in brackets [ ] are millimeters.

Two-Pole Breakers

The IAGX/IUGX/IEGX/CEGX and IAGZX/IUGZX/IEGZX/CEGZX styles offer two attractive rocker actuator versions of our popular IAG/IUG/IEG/CEG family. Designed with the operator in mind, each features handles with a concave surface and aesthetic appearance for front panel applications.

Both are available with rocker handle styles in a choice of five single colors: black, red, grey, orange or white.

IAGX/IUGX/IEGX/CEGX



Mounting Detail
Single, Two & Three Pole

Four Pole*

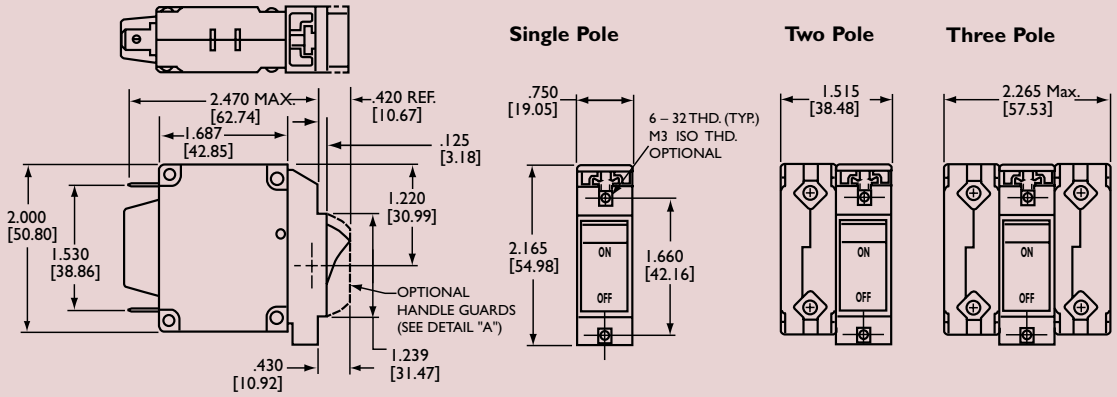
Panel Mounting Detail: Tolerance for Mtg. ±.005 [.13] unless noted.

*See Single Pole Mounting Detail for hole sizes and locations.

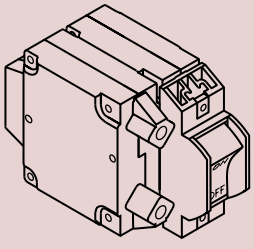
Note: Tolerance ± .015 [.38] unless noted. Dimensions in brackets [ ] are millimeters.

The IAGZX/IUGZX/IEGZX/CEGZX style adds our "EZ" options of contrasting dual color rocker actuators, affording a clear visual indication of the handle position and integrated handle guards, to help prevent accidental turn-on and turn-off of the unit. Available with a black rocker and white, red or green indicator color for either ON or OFF indication.

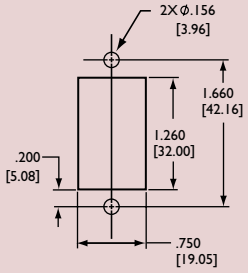
IAGZX/IUGZX/IEGZX/CEGZX



Single, Two & Three Pole



Detail "A"



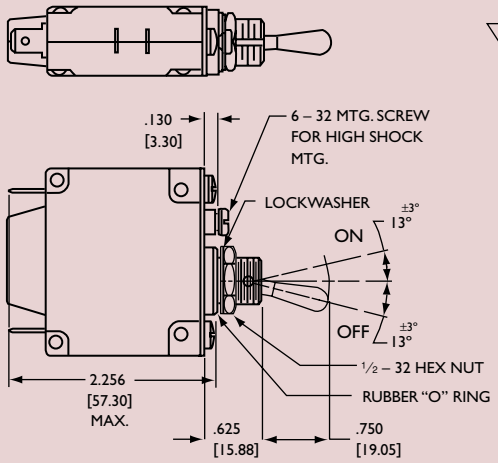
Panel Mounting Detail: Tolerance for Mtg. ±.005 [.13] unless noted.

Note: Tolerance ± .015 [.38] unless noted. Dimensions in brackets [ ] are millimeters.

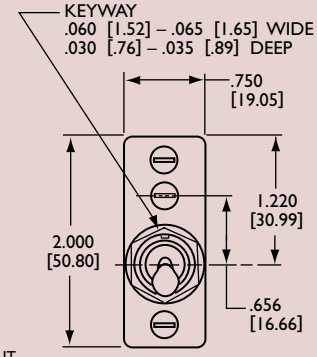
IAGN MULTI-POLE CIRCUIT BREAKERS

The IAGN/IUGN family is a sealed toggle version of the IAG/IUG family. The silicone rubber seal around the handle assures panel seal integrity and makes this style a natural for harsh environments.

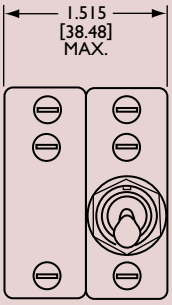
This sealed toggle family is available in one to three poles with ratings of .050 to 30 amperes.



Single Pole

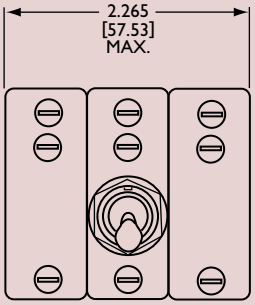


Two Pole

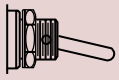


(Optional: Handle may be located in Pole 2 instead of Pole 1)

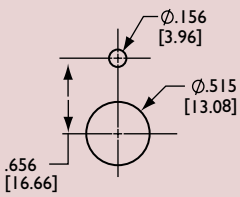
Three Pole



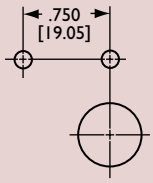
Optional Handle



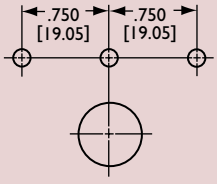
Mounting Detail
Single Pole



Two Pole*



Three Pole*



Panel Mounting Detail: Tolerance for Mtg. ±.005 [.13] unless noted.
*See Single Pole Mounting Detail for hole sizes and locations.

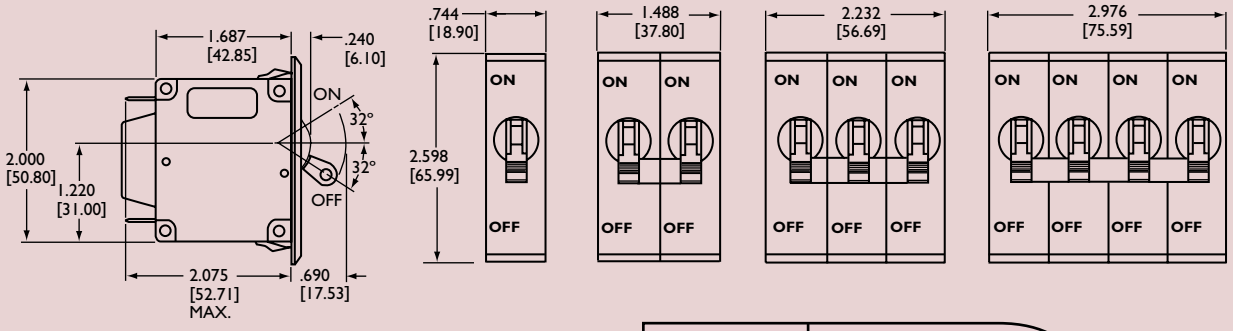
Note: Tolerance ± .015 [.38] unless noted. Dimensions in brackets [ ] are millimeters.

The Snap-In version of the IEG brings mounting simplification and international spacing together in a package that is aesthetically enhanced. The IEGS securely snaps into a rectangular cut-out, eliminating the need for panel mounting hardware and the associated costs. The face plate of the IEGS is a clean, black matte and it satisfies the increasing demand for front panel components that are designed with ergonomic considerations.

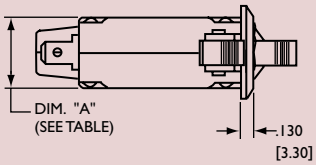
The IEGS is offered in either flush or beveled versions, in 1, 2, 3 or 4 pole packages, and with a handle per pole or per unit. The IEGS is UL Recognized, CSA Certified and VDE approved.

Please see pages 18 and 19 for complete specifications.

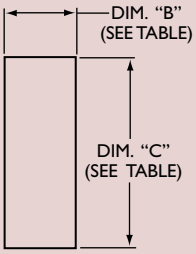
IEGHS/CEGHS Circuit Breakers (Note B)
(Multi-Pole-IEGH Handles Per Pole)
(Omit H for Single Pole)



Panel Cutout Detail
Panel Thickness: (See Table)



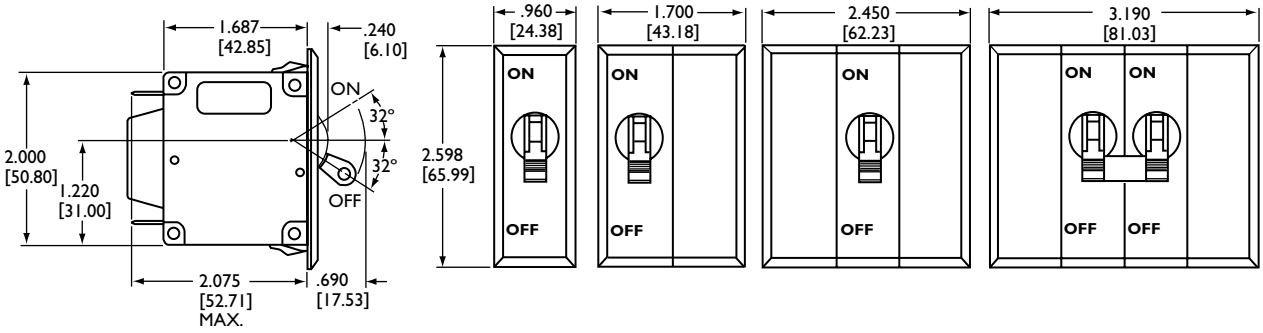
Number of Poles	Dimension "A"
4 pole	3.015 max. [76.58]
3 pole	2.265 max. [57.53]
2 pole	1.515 max. [38.48]
1 pole	.750 max. [19.05]



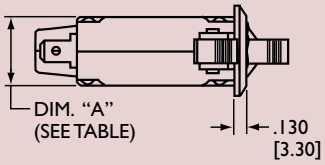
Number of Poles	Dimension "B"	Panel Thickness Dimension "C"	
4 pole	3.020 min. [76.71]	2.180 ± .005 [55.37 ± .13]	2.186 ± .011 [55.52 ± .28]
3 pole	2.270 max. [57.66]		
2 pole	1.520 min. [38.61]		
1 pole	.755 min. [19.18]		
		.040 - .059 [1.02 - 1.50]	.060 - .100 [1.52 ± 2.54]

Note: B: Tolerance ± .031 [.79] Angles: ±5° unless noted. Dimensions in brackets [ ] are millimeters.
A: Flush face plate is optional. See decision tables, sixth decision, page 21.

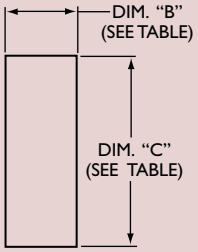
IEGS/CEGS Circuit Breakers (Note B)
(Add H for multiple handles per unit, IEGHS)



Panel Cutout Detail
Panel Thickness: (See Table)

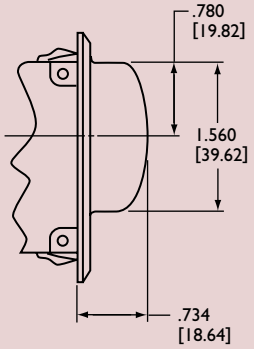


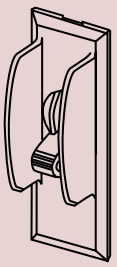
Number of Poles	Dimension "A"
4 pole	3.015 max. [76.58]
3 pole	2.265 max. [57.53]
2 pole	1.515 max. [38.48]
1 pole	.750 max. [19.05]

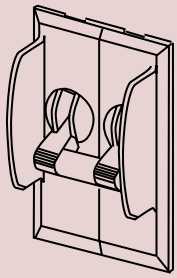


Number of Poles	Dimension "B"	Panel Thickness Dimension "C"	
4 pole	3.040 min. ±.015 [77.22 ±.381]	2.180 ± .005 [55.37 ± .13]	2.186 ± .011 [55.52 ± .28]
3 pole	2.290 ±.015 [58.17 ±.381]		
2 pole	1.540 ±.015 [39.12 ±.381]		
1 pole	.780 ± .015 [19.81 ±.381]		
		.040 - .059 [1.02 - 1.50]	.060 - .100 [1.52 ± 2.54]

Optional Handle Guard







Note: A: Tolerance ± .015 [.38] unless noted. Dimensions in brackets [ ] are millimeters.
B: Bevelled face plate is standard.

Series Trip

The most popular configuration for magnetic protectors is the series trip where the sensing coil and contacts are in series with the load being protected. The handle position conveniently indicates circuit status. In addition to providing conventional overcurrent protection, it's simultaneously used as an on-off switch.

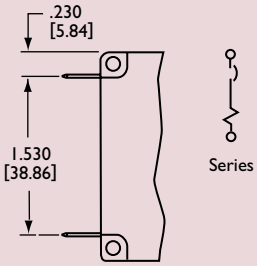
Shunt Trip

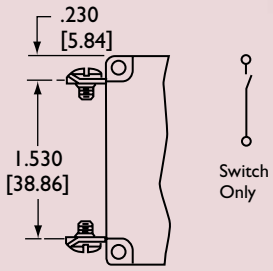
The shunt trip is designed for controlling two separate loads with one assembly. The control is established by providing overload protection for the critical load. When the current through this load becomes excessive and reaches the trip point, the protector will open and remove power from both loads simultaneously. The total current rating of both loads must not exceed the maximum contact rating.

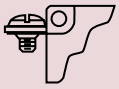
Auxiliary Switch (Applies to Series Trip Only)

This is furnished as an integral part of a series pole in single or multi-pole assemblies. Isolated electrically from the protector's circuit, the switch works in unison with the power contacts and provides indication at a remote location of the protector's on-off status.

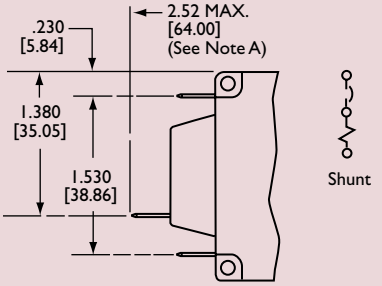
Auxiliary switch contacts actuate simultaneously with the main breaker contacts, and will open regardless of whether the breaker contacts are opened manually or electrically. For auxiliary switch ratings below 6Vac or 5Vdc, an auxiliary switch with gold contacts designated as REG is available. Gold contacts are not recommended for load current above 100 milliamps.



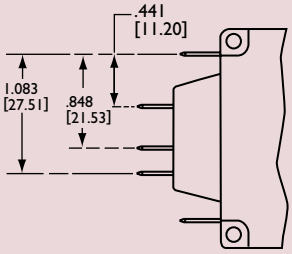


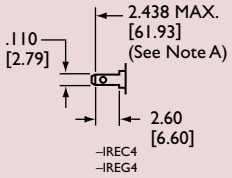


Optional flat screw terminal

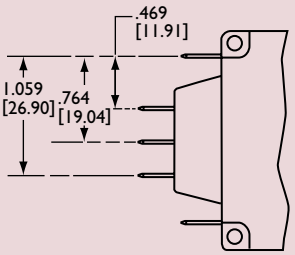


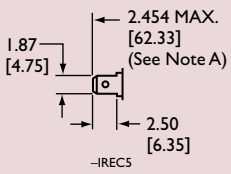
Standard Auxiliary Switch



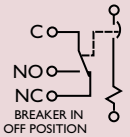


VDE Auxiliary Switch





Series with Auxiliary Switch

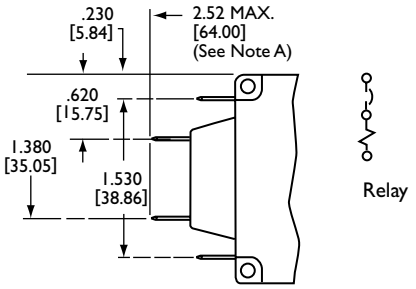


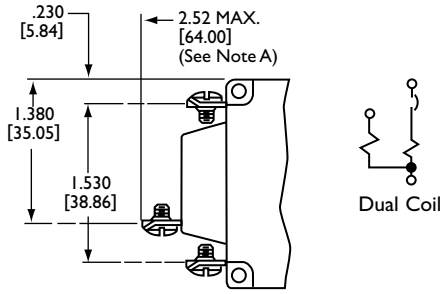
Note:

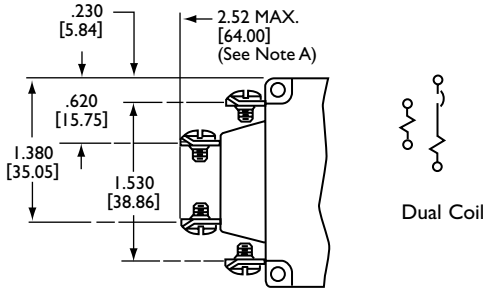
A: Terminal protrusion dimensions are referenced from back mounting panel.

B: Main terminals are male push-on type .250 [6.35] wide x 0.31 [.79] thick x .375 [9.53] long or 8-32 x .187 [4.75] screw type. Metric screw terminals are M4 x 5mm (≤30A): M5 x 5mm screw type (>30A). On VDE approved builds with screw terminals, external tooth lockwashers are supplied. On VDE approved builds with push-on terminals a soldered connection is required above 25 amperes.

Relay Trip
This permits the overload sensing coil to be placed in a circuit which is electrically isolated from the trip contacts. The coil may be actuated by sensors monitoring pressure, flow, temperature, speed, etc. Other typical applications include crowbar, interlock and emergency /rapid shutdown circuitry. Trip may be accomplished by voltage or current, which must be removed after trip.

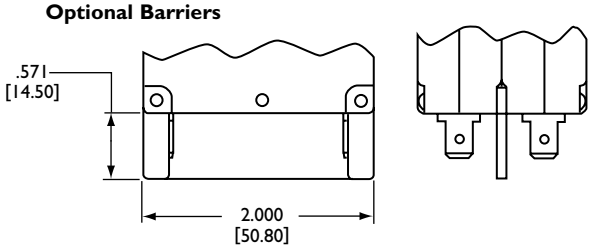






Voltage Trip
Sometimes called "dump circuits" or "panic trip circuits," these units make it possible to open main power contacts with lower power inputs from one or more sources. This configuration is becoming increasingly more important for sensitive circuitry and denser packaging in automation systems. Available in series, shunt or relay configurations.

Optional Barriers



Note: Tolerance ± .015 [.38] unless noted.
Dimensions in brackets [ ] are millimeters.

Delay	Peak Tolerance
61, 62, 63 (.050-50 amp.)	12 times (approx.) rated current
61F, 62F, 63 F (.050-25 amp.)	20 times rated current
61F, 62F, 63F (25.1-50 amp.)	18 times rated current

Inrush Pulse Tolerance

The following table provides a comparison of inrush pulse tolerance with and without the inertial delay feature for each of the 50/60Hz delays. Pulse tolerance is defined as a single pulse of half sine wave peak current amplitude of 8 milliseconds duration that will not trip the circuit breaker. The table at left provides a guide to determine if the inertia delay feature is required. Consult factory for further assistance.

Typical Breaker Resistance / Impedance Chart

Current ratings in amperes	DC Resisitance - Ohms 51, 52, 53, 59	50/60Hz Impedance - Ohms 61, 62, 63, 69	400Hz* Impedance - Ohms 41, 42, 43, 49
.200	36.6	34.2	74.2
1.0	1.38	1.47	2.85
2.0	.31	.25	.64
5.0	.053	.051	.100
10.0	.016	.013	.027
20.0	.006	.005	.008
30.0	.0027	.0026	.004
50.0	.0019	.0018	

Notes: DCR and Impedance based on 100% rated current applied and stabalized for a minimum of one hour.
Tolerance .05-2.5 amperes ± 20%: 2.6 -20 amperes ± 25%, 21-50 amperes ± 50%.
Consult factory for special values and for coil impedance of delays not shown.

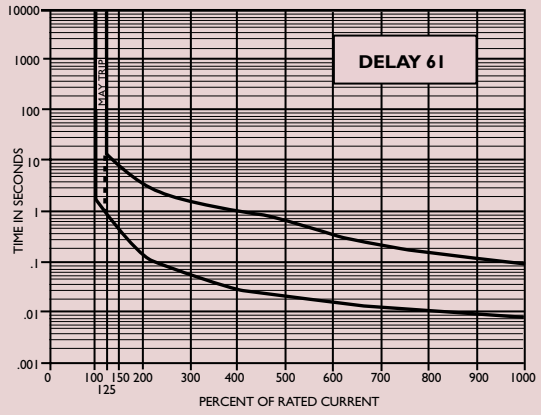
Percentage Overload vs Trip Time in Seconds

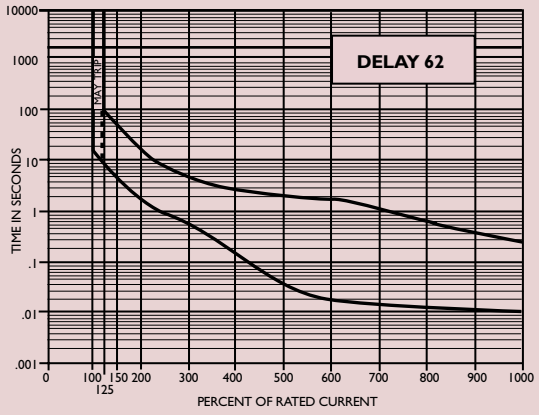
Delay	100%	125%	150%	200%	400%	600%	800%	1000%
41	No trip	May trip	.5 - 8	.15 - 1.9	.02 - .4	.006 - .25	.004 - .1	.004 - .05
42	No trip	May trip	5 - 70	2.2 - 25	.40 - 5	.012 - 2	.006 - .2	.006 - .15
43	No trip	May trip	35 - 350	12 - 120	1.5 - 20	.012 - 2.2	.01 - .22	.01 - .1
49	No trip	May trip	.100 max.	.050 max.	.020 max.	.020 max.	.020 max.	.020 max.
51*	No trip	.5-6.5	.3 - 3	.1 - 1.2	.031 - .5	.011 - .25	.004 - .1	.004 - .08
52*	No trip	2-60	1.8 - 30	1 - 10	.15 - 2	.04 - 1	.008 - .5	.006 - .1
53*	No trip	80-700	40 - 400	15 - 150	2 - 20	.23 - 9	.018 - .55	.012 - .2
59*	No trip	.120 max.	.100 max.	.050 max.	.022 max.	.017 max.	.017 max.	.017 max.
61	No trip	.7-12	.35 - 7	.130 - 3	.030 - 1	.015 - .3	.01 - .15	.008 - .1
62	No trip	10-120	6 - 60	2 - 20	.2 - 3	.02 - 2	.015 - .8	.01 - .25
63	No trip	50-700	30 - 400	10 - 150	1.5 - 20	.4 - 10	.013 - .85	.013 - .5
69	No trip	.120 max.	.100 max.	.050 max.	.022 max.	.017 max.	.017 max.	.017 max.
71**	No trip	.44-10	.3 - 7	.1 - 3	.03 - 1	.012 - .3	.004 - .15	.004 - .1
72**	No trip	1.8-100	1.7 - 60	1 - 20	.15 - 3	.04 - 2	.008 - .79	.006 - .28
73**	No trip	50-600	30 - 400	10 - 150	1.8 - 20	.22 - 10	.018 - .88	.011 - .5
79**	No trip	.120 max.	.100 max.	.050 max.	.023 max.	.016 max.	.015 max.	.015 max.

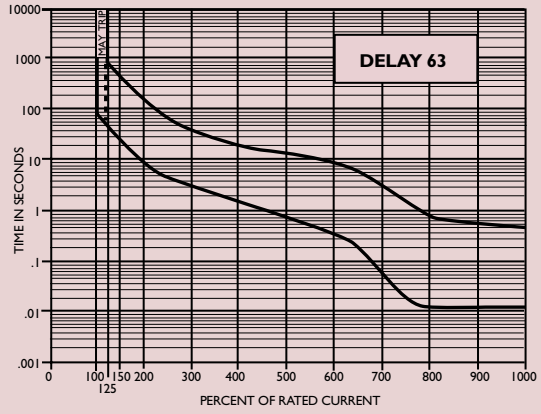
*CEG type units are available only with 51, 52, ,53 and 59 delays
**135% minimum trip point for delays 71, 72, 73 and 79

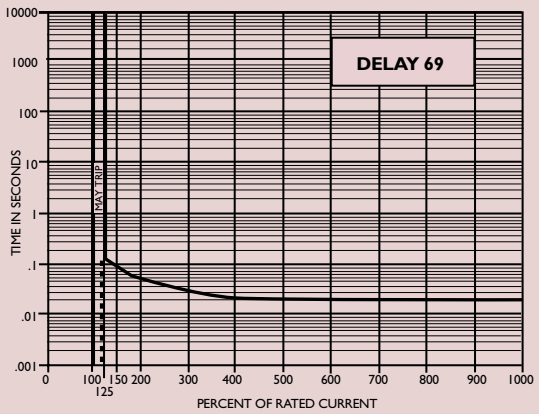
400Hz, DC, 50/60Hz Delay Curves (typ)

A choice of delays is offered for DC, 50/60Hz and 400Hz applications. Delays 49, 59 and 69 provide fast acting, instantaneous trip and are often used to protect sensitive electronic equipment (not recommended where known inrush exists). Delays 41, 51 and 61 have a short delay for general purpose applications. Delays 42, 52 and 62 are long enough to start certain types of motors and most transformer and capacitor loads. Delays 43, 53 and 63 are long delays for special motor applications at 400Hz, DC and 60Hz. CEG type units are only available in 51, 52, 53 and 59 delay curves.

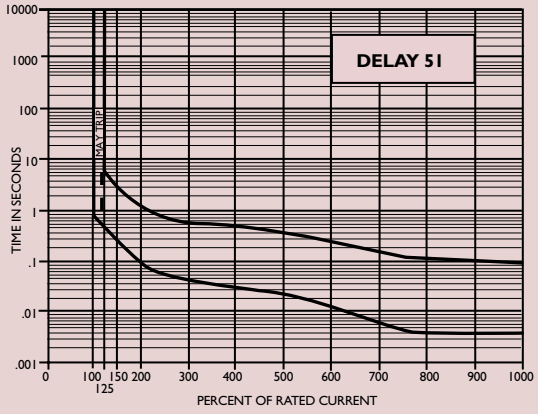


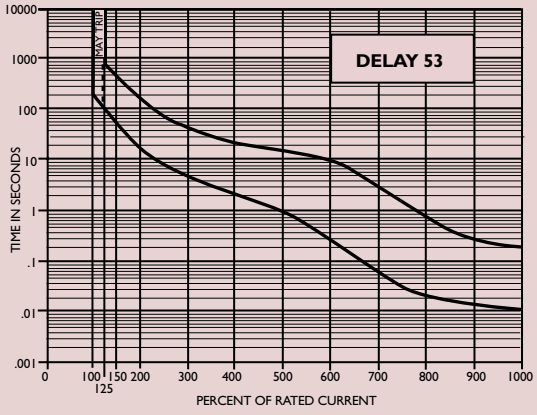


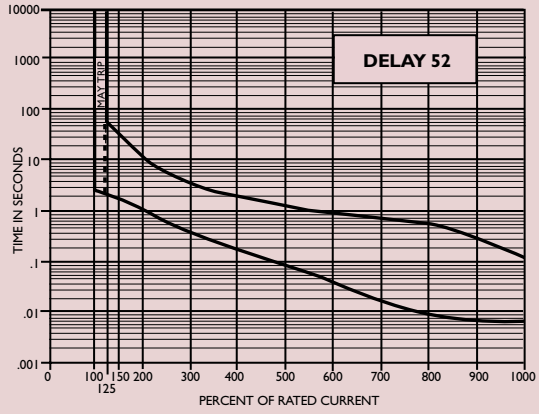


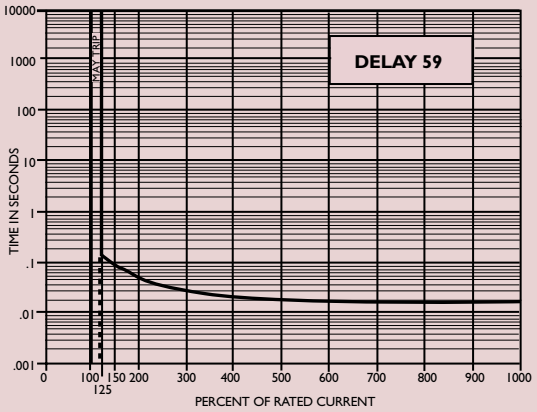


DC Delay Curves (typ)

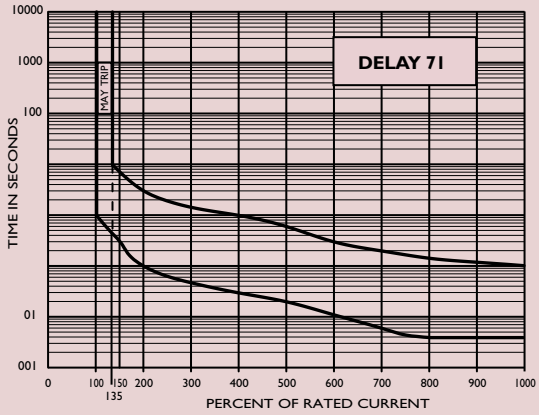


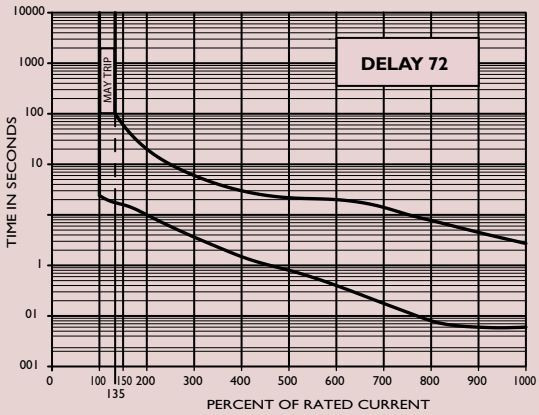


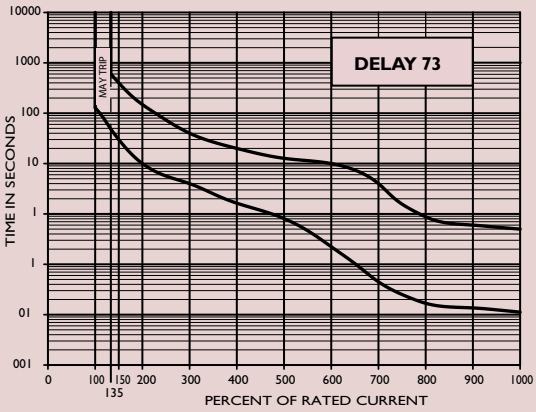


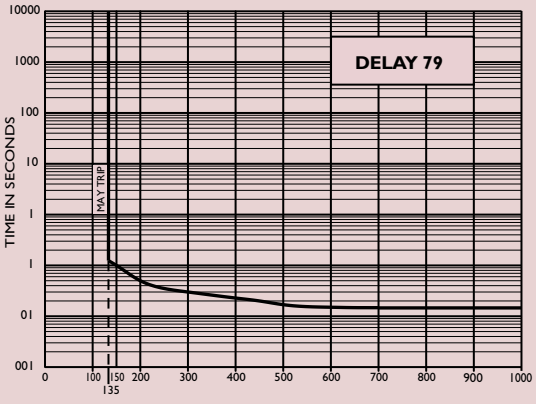


DC/50/60Hz Delay Curves (typ)
(Multi-frequency)

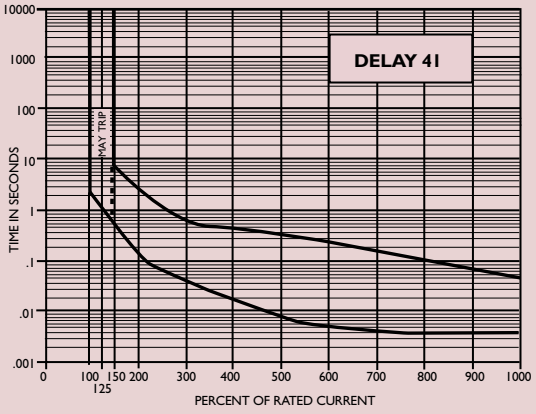


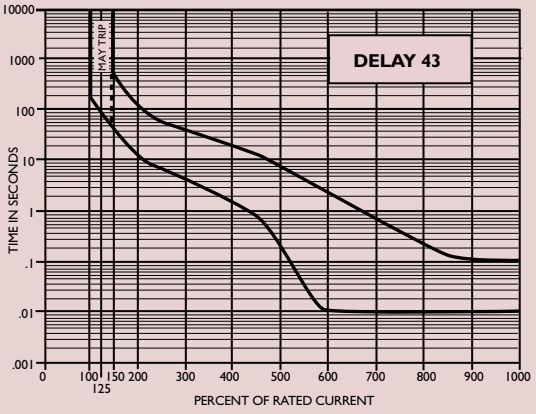


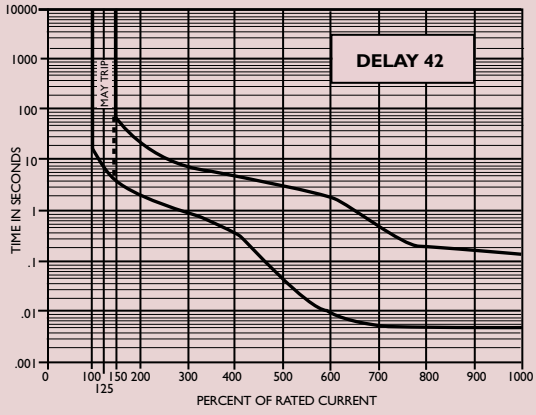


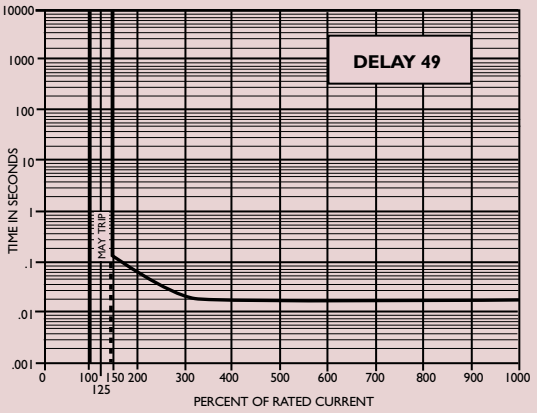


400Hz Delay Curves (typ)









Trip Free
Will trip open on overload, even when forcibly held in the ON position. This prevents the operator from damaging the circuit by holding on the breaker.

Trip Indication
The operating handle moves positively to the OFF position on overload.

Ambient Operation
IAG/IUG/IEG/CEG breakers operate in temperatures between -40° C to +85° C.

Insulation Resistance
Not less than 100 megohms at 500 volts DC.

Dielectric Strength
IAG/IUG/IEG/CEG breakers withstand 3750Vac, 60Hz for 60 seconds between all electrically isolated terminals, except auxiliary switch terminals shall withstand 600Vac, 60Hz for REG and REC types. Four terminal dual coil and relay construction (not offered in the IEG) will withstand 1500Vac.

Endurance
Operating as a switch, the operating life exceeds 10,000 operations at a rate of 6 per minute when tested as follows: 6000 OPS @ rated current plus 4000 OPS @ at no load.

Electrical Characteristics
.050-50 amperes; 80Vdc Max., 240Vac Max., 50/60Hz and .050-30 amperes: 250Vac Max., 400Hz.

Units above 30 amps are not suitable for across-the-line motor starting.

Auxiliary Switch
When supplied shall be SPDT configuration. Non VDE approved switches have a maximum UL rating of 10.0 amperes, 250 volts, 60Hz; 3.0 amperes, 50 volts DC, 1 amperes, 80 volts DC (REC) type or 0.1 amperes, 125 volts, 60Hz. (REG type).

VDE approved switches have a maximum UL rating of 10.0 amperes, 250 volts, 60Hz, 1 amperes, 80 volts DC (REG type); or 0.1 amperes, 125 volts, 60Hz (REG type); or 0.1 amperes, 125 volts, 60Hz (REG type).

Moisture Resistance
Meets all the requirements of MIL-PRF-55629 when tested in accordance with Method 106 of MIL-STD-202.

Salt Spray (Corrosion)
Meets the requirements of MIL-PRF-55629 when tested in accordance with Method 101 of MIL-STD-202.

Shock
Circuit breakers shall not trip when tested per MIL-STD-202, Method 213, Test Condition I with 100% rated current applied to delayed units, except 90% current in plane 4 (i.e., handle down). Instantaneous units shall have 80% rated current applied in all planes.

Vibration
Circuit breaker shall not trip when vibrated per MIL-STD-202, Method 204, Test Condition A with 100% rated current applied to delayed units and 80% rated current to instantaneous units.

Approval / Ratings

Maximum Current (amperes)	Maximum Voltage	Maximum Interrupt Current (amperes)	Approval
30 amps	250 50/60Hz	3500*	UL1077 recognized
30 amps	250 400Hz	1500	UL1077 recognized
50 amps	80 DC	7500	UL1077 recognized
30 amps	277 50/60Hz	5000*	UL1077 recognized
50 amps	240 50/60Hz	2000	UL1077 recognized
50 amps	240 50/60Hz	5000**	UL1077 recognized
30 amps	65 DC	1000	UL1500 marine
30 amps	125/250 50/60Hz	1000	UL1500 marine
30 amps	32 DC	3000	UL1500 marine
50 amps	80 DC	5000	UL489A listed

* 80 amps maximum series fuse
** 125 amps maximum series fuse
Note: A clearence of 1" for DC and 2" for AC is required between the arc vent and any conductive surface components.

Construction
Series, shunt, relay and series with auxiliary switch available in various delays and combinations.

VDE Approval
IEG is VDE approved under VDE 0642 (EN60934). The IEG has 8mm creepage and clearance between the main circuit and the following areas:
A. Operator accessible area around the handle.
B. The mounting inserts or brackets.
C. The auxiliary switch circuit.
D. Between poles.

Care must be taken to maintain spacings at the terminals when wired. The VDE approval for standard terminals is not for use with bare wire. A crimp type lug is required.

In addition, all VDE approved units will be in compliance with specific CE Directives. These units will be marked as CE Compliant.

UL1500 Recognized
IDG/IDGH is approved for Marine Ignition Protection rated at 65Vdc or 125/250Vac to 30 amperes with 1000 amperes maximum interrupt capacity or 32Vdc with 3000 amperes maximum interrupt capacity.

UL489A Listed
The CEG is dimensionally the same as the popular IEG, but provides UL listing to UL489A. Available in one to three poles, in series, series with auxiliary switch, shunt, dual coil and voltage trip configurations. As a circuit breaker, the CEG provides communication equipment manufacturers with a UL listed circuit breaker in a very compact package that meets the stringent environmental requirements of today's marketplace. This makes the CEG ideal for switching, transmission and wireless applications.

Poles
One through six poles available.

Approximate Weight Per Pole

Ounces	Grams
2.2	62.4

Recommended Torque Specifications

6-32 mounting inserts	6-8 inch pounds
M3 mounting inserts	4-5 inch pounds
8-32 screw terminals	10-12 inch pounds
M4 screw terminals	10-12 inch pounds
10-32 screw terminals	14-15 inch pounds
M5 screw terminals	14-15 inch pounds

Note: Where applicable, mechanical support must be provided to terminals when applying torque.

How to Order

The ordering code for IAG/IUG/IEG/CEG/IDG circuit breakers may be determined by following the decision steps in the tables shown here.

The coding given permits a self-assigning part number but with certain limitations. Special applications may require a factory-assigned part number. Typical examples are units with mixed ratings, combinations of styles, or constructions not listed in the third decision table. With these, it is suggested that order entry be by description and/or drawings and a part number will be established. Additionally, it is standard policy to establish a factory-assigned part number whenever a descriptive drawing exists to provide cross reference, traceability and manufacturing control.

When specifying a circuit breaker for AC motor start or high inrush applications, the peak amplitude and surge duration should be specified for factory assistance in rating selection.

For example, the following is the code for a single pole, IEG quick-connect type terminal, series unit with auxiliary switch, designed for operation in a 50/60Hz circuit. It has a short time delay, a rating of 20 amperes, a black marked handle and is VDE approved.

To determine the ordering number for your particular IAG/IUG/IEG/CEG unit, simply follow the steps shown. You may use this number to place an order or as a reference for further questions you may have.

Notes:

A. It is recommended that power leads be soldered to circuit breakers having push-on type terminals for current trip ratings above 20 amperes.

B. When "A" (metric thread mounting) is specified in the sixth decision in combination with screw terminal option in the second decision, metric screw terminals are supplied.

C. IEG, IEGH, IEGS, IEGHS, IEGX and IEGZX circuit breakers are designed to meet 8mm creepage and clearance requirements for installation Category III, Pollution Degree 3, Case A as measured in IEC 664. Intended for use in equipment designed to comply with IEC 601 and 950 and VDE 0804 and 0805.

1 First Decision

Type	Description
IAG IUG* IEG** CUG† CEG††	One toggle handle per unit
IAGH IUGH* IEGH** CUGH† CEGH††	One toggle handle per pole
IAGX IUGX* IEGX** CUGX† CEGX††	One rocker handle per unit (bracket mounting)
IAGZX IUGZX* IEGZX** CUGZX† CEGZX††	One rocker handle per unit, (integral mounting)
IAGN IUGN*	One toggle sealed handle per unit
IAGS IUGS* IEGS** CUGS† CEGS††	One toggle handle per unit, snap-in mounting
IAGHS IUGHS* IEGHS** CUGHS† CEGHS††	One toggle handle per pole, snap-in mounting
IMG* CMG†	One toggle handle per unit, mid-trip construction (DC only)
IMGH* CMGH†	One toggle handle per pole, mid-trip construction (DC only)
IDG***	One toggle handle per unit, marine ignition protection
IDGH***	One toggle handle per pole, marine ignition protection

Note: Add "F" for flat bus connect screw terminal see page 11.
* UL1077 recognized, CSA certified
** UL1077 recognized, CSA certified, VDE approved, see note C
*** UL1077 recognized, UL1500
† UL489A listed, CSA certified
†† UL489A listed, CSA certified,VDE approved, see note C

3 Third Decision

Internal Configuration

-0	Switch only (omit 4th and 5th decisions)
-1	Series
-1REC4	Series with auxiliary switch* .110 quick-connect
-1REC5	Series with auxiliary switch* .187 quick-connect
-1REG4	Series with auxiliary switch (Gold contacts)* .110 quick-connect
-3	Shunt
-4	Relay (not available in IEG/IEGH/IEGX)

*Only one auxiliary switch supplied on two and three pole units. Switch is located in the right-hand pole (viewed from terminal end) unless otherwise specified.

5 Fifth Decision

Rated Current

Standard ratings listed. For other ratings, please contact the factory.

.100	10.0
.250	15.0
.500	20.0
.750	30.0
1.0	35.0*
2.5	40.0*
5.0	50.0*
7.5	

*IDG is rated 30 amps max.

6 Sixth Decision

Optional

-A	Metric thread mounting terminals and screws (See Note 2)
-B	Barriers*
-C	277V (50/60Hz only)
-G	Handle guards, snap-in & "EZ" rocker only
-S	Face plate sides flush with breaker (see page 9)

Notes: 1. One or more descriptions may be used as required.
2. When this table is not used, table 7 may be substituted and U.S. thread will be supplied. Unit will be rated at 250V (50/60Hz only).
3. IEGS standard face plate is bevelled (see page 10)
* Not available on snap-in units.

V = VDE Approved

The shaded areas denote VDE Approval options. This approval requires the addition of a V at the end of the part number. The V will be added to any part number formed entirely from shaded decisions. If non-shaded areas are selected, the unit will not be VDE approved, but other approvals still apply.

Example:

IEG 1-1REC4-61-20.0-01-V

1 2 3 4 5 7

2 Second Decision

Poles

Push-on Terminals	Screw Terminals	
I	6	Single pole
II	66	Two pole
III	666	Three pole
IIII	6666	Four pole*

*Not available in toggle seal handle type.

4 Fourth Decision

Frequency and Delay

-41	400Hz short delay
-42	400Hz long delay
-43	400Hz motor start
-49	400Hz 150% instant trip
-51	DC short delay*
-52	DC long delay*
-53	DC motor start*
-59	DC 125% insant trip*
-61	50/60Hz short delay
-62	50/60Hz long delay
-63	50/60Hz motor start
-69	50/60Hz125% instant trip
-71	DC-50/60Hz short delay
-72	DC-50/60Hz long delay
-73	DC-50/60Hz motor start
-79	DC-50/60Hz135% instant trip

For addition of inertial delay, add an "F" to any delay numeral.
*CEG types are only available with DC ratings.

7 Seventh Decision

Handle Color and Marking Selection

IAG, IUG, IEG, IAGH, IUGH, IEGH, IEGS, IEGHS Toggle Handle

Color	Unmarked	Marked* ON-OFF I-O
Black	-00	-01 (STD)
Yellow	-10	-11
Red	-20	-21
Blue	-30	-31
Green	-40	-41
Orange	-60	-61
White	-90	-91

* Handle marking color is white on black, red, blue, & green handles and black on white, yellow, grey & orange handles. See next page for IAGX/IUGX/IEGX/IAGZX/IUGZX/IEGZX rocker handles

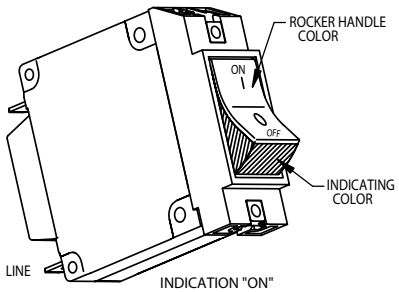
7 Seventh Decision

Rocker Handle Color, Indicator Color and Marking Selection

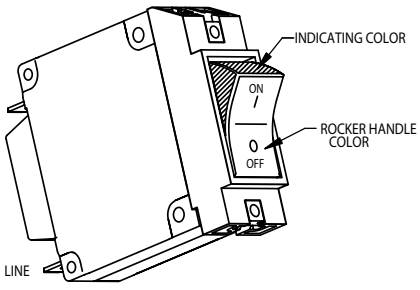
IAGX, IUGX, IEGX, IAGZX, IUGZX, IEGZX Rocker Handle (Single Rocker Color)

				Marked (See Note A)						
				Vertical Mounting			Horizontal Mounting			
Rocker Handle Color	Indicating Color	Indicates:	Unmarked	On-Off Fig.1	I-O Fig.2	On-Off I-O Fig.3	On-Off Fig.4	I-O Fig.5	On-Off I-O Fig.6	Marking Detail
Black	N/A	N/A	-00	-01	-02	-03	-04	-05	-06	A
Red	N/A	N/A	-20	-21	-22	-23	-24	-25	-26	
Grey	N/A	N/A	-40	-41	-42	-43	-44	-45	-46	
Orange	N/A	N/A	-50	-51	-52	-53	-54	-55	-56	
White	N/A	N/A	-90	-91	-92	-93	-94	-95	-96	
IAGZX, IUGZX, IEGZX Rocker Handle (Dual Rocker Color)										
Black	White	On	-A0	-A1	-A2	-A3	-A4	-A5	-A6	A
Black	Red	On	-B0	-B1	-B2	-B3	-B4	-B5	-B6	
Black	Green	On	-C0	-C1	-C2	-C3	-C4	-C5	-C6	
Black	White	Off	-F0	-F1	-F2	-F3	-F4	-F5	-F6	
Black	Red	Off	-G0	-G1	-G2	-G3	-G4	-G5	-G6	
Black	Green	Off	-H0	-H1	-H2	-H3	-H4	-H5	-H6	
Black	White	On	-J0	-J1	-J2	-J3	-J4	-J5	-J6	B
Black	Red	On	-K0	-K1	-K2	-K3	-K4	-K5	-K6	
Black	Green	On	-L0	-L1	-L2	-L3	-L4	-L5	-L6	

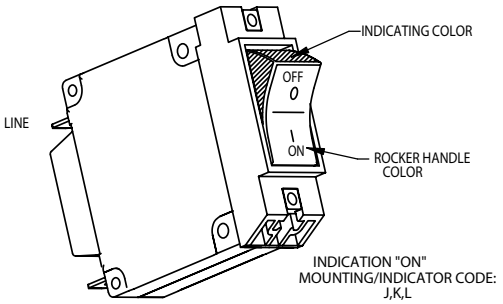
Notes: A. Handle marking color is white on black and red handles, and black on white, orange and grey handles.
B. Bezel of IAGZX, IUGZX and IEGZX is black.



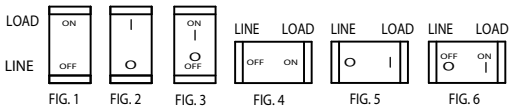
INDICATION "ON"
MOUNTING/INDICATOR CODE:
A,B,C



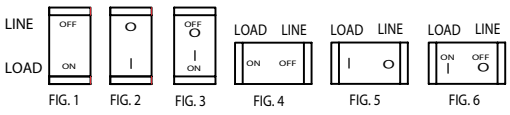
INDICATION "OFF"
MOUNTING/INDICATOR CODE:
F,G,H



INDICATION "ON"
MOUNTING/INDICATOR CODE:
J,K,L



MARKING DETAIL "A"
(SEE TABLE)



MARKING DETAIL "B"
(SEE TABLE)

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