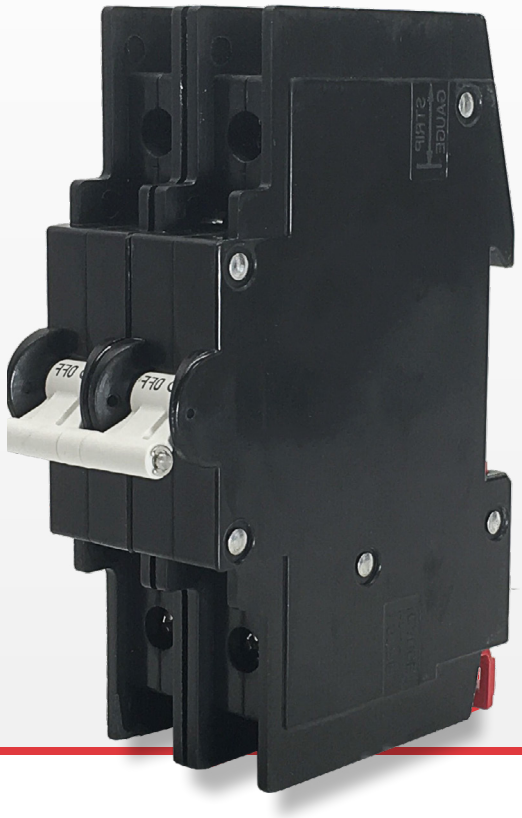
Carling Technologies®
NOW PART OF
Littelfuse®

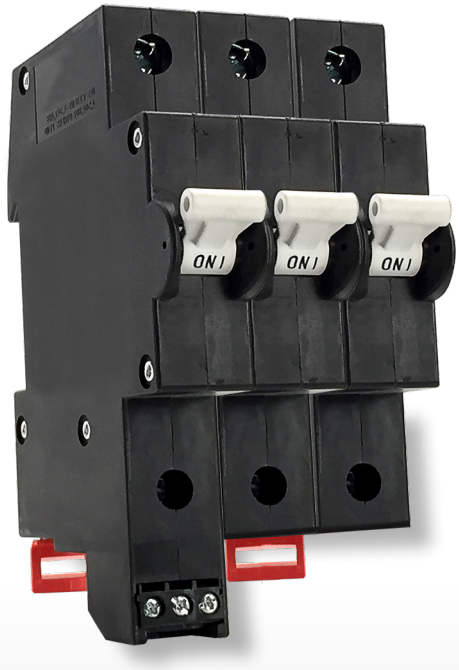
# G-Series

Hydraulic-Magnetic Circuit Breaker

**PRODUCT WEBPAGE**

*request sample, configure part*






**DIN Rail Mounted Circuit Breaker**
**Optional Integrated Auxiliary Switch**

Carling's G-Series hydraulic-magnetic circuit breaker combines maximum protection with ease of use. The breakers are DIN rail mount and offer common trip linkage, a unique terminal bus connection system, finger safe terminals and wiping contacts for added longevity. Optional integrated auxiliary switch for breaker status is also available. The G-Series is rated up to 80 amps, 480VAC/80VDC or 50 amps, 240VAC/125VDC for UL 489 and has a max IC of 5,000 amps.

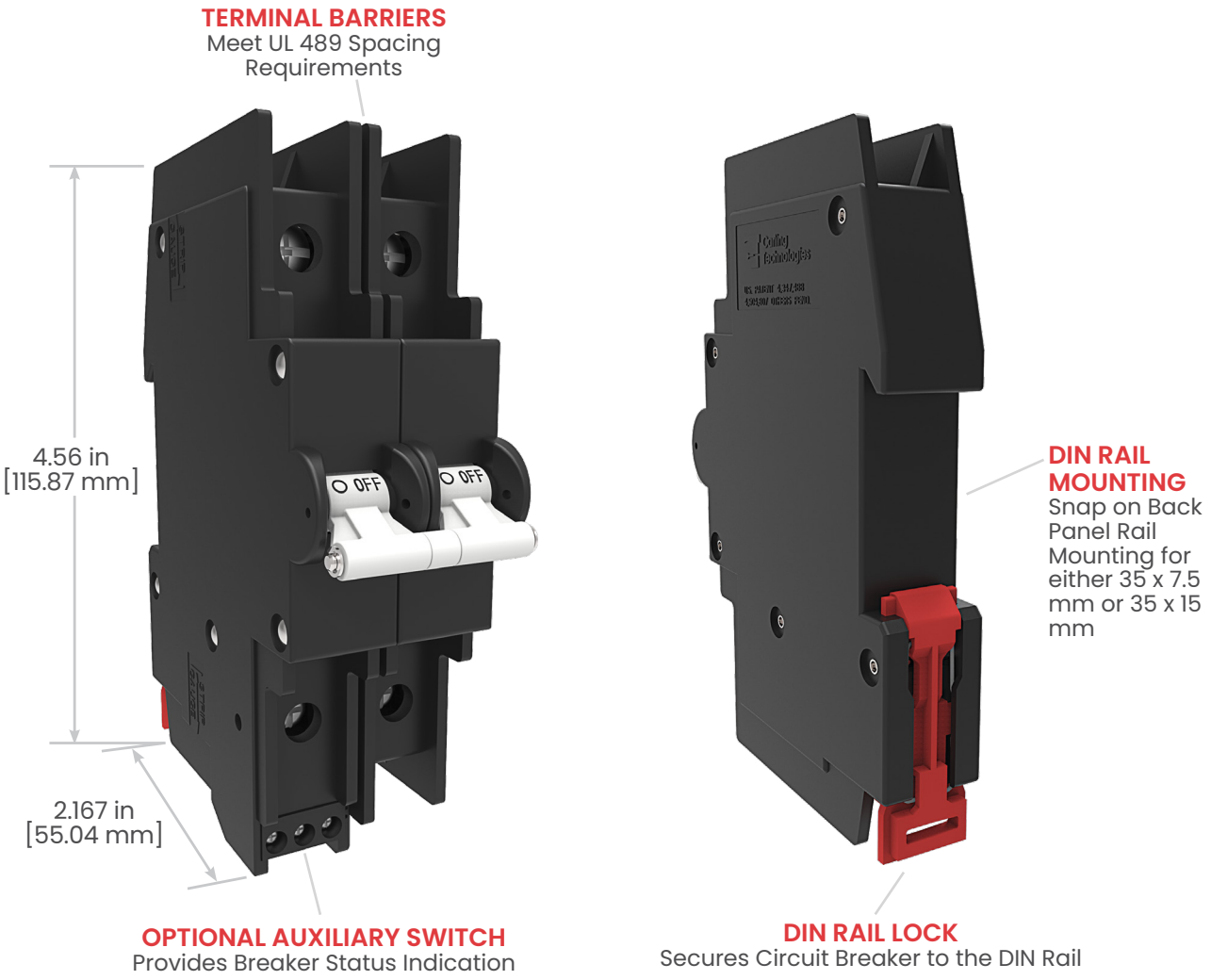
| 1-4 | .2-80 | 240 | 125 |
|---|---|---|---|
| Poles | Amps | VAC Max | VDC Max |

## Typical Applications

- Industrial Automation
- Control Panels
- Lighting
- Renewable Energy
- Telecom

www.carlingtech.com 860.793.9281 sales@carlingtech.com

# Design Features



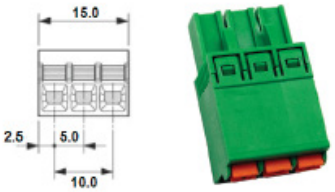

## Auxiliary Switch with Internal Connector


Internal connector

**Advantages:**
- Pre-wiring is possible
- Easy interchangeable
- Time saving solution
- Various connection methods
- Many different plugs

**Example Plugs:**

Spring clamp terminals




Screw terminals

Screw terminals 45° angle

Dimensions in mm

| | |
|---|---|
| Wire size solid wire | 0.2 - 1.5 mm 2 |
| Wire size stranded wire | 0.2 - 2.5 mm 2 |
| Wire size stranded wire with ferrule | 0.25 - 1.5 mm 2 |
| Wire stripping length | 10 mm |

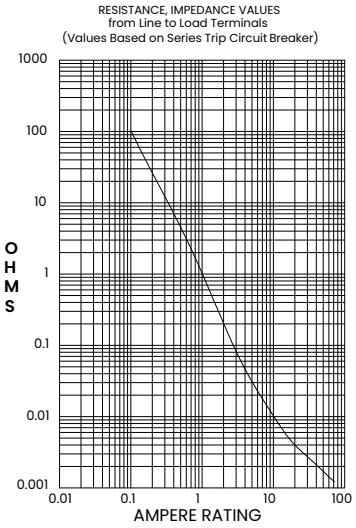
The auxiliary contact with internal connector can be used with Phoenix Combicon plugs. Phoenix item number internal connector: 1753453. The circuit breaker is standard delivered without plugs.

*Manufacturer reserves the right to change product specification without prior notice.

# Tech Specs

## Electrical

| | |
|---|---|
| Maximum Voltage | AC: 240VAC (single pole), 480VAC (3 poles, additional pole shall be dedicated for neutral break) DC: 80VDC (single pole & multipole) |
| Current Ratings | 0.2 – 80A. Other ratings available, see Ordering Scheme. |
| Auxiliary Switch Rating | (optional) Integrated, load side. SPST, 3A – 125VAC, 2A – 30VDC. Auxiliary switch senses the on & off position of circuit breaker handle, as well as contact arm position. Switch connections are screw terminals. |
| Insulation Resistance | Minimum of 100 Megohms at 500 VDC |
| Dielectric Strength | UL, CSA: 1960 V 50/60 Hz for one minute between all electrically isolated terminals. G-Series circuit breakers comply with the 8mm spacing and 3750V 50/60 Hz dielectric requirements from hazardous voltage to operator accessible surfaces, between adjacent poles and from main circuits to auxiliary circuits per Publications EN 60950 and VDE 0805. |
| Resistance, Impedance | Values from Line to Load Terminal -based on series trip circuit breaker. |




| CURRENT (AMPS) | TOLERANCE (%) |
|---|---|
| 0.20 - 5.0 | 15 |
| 5.1 - 20.0 | 25 |
| 20.1 - 80.0 | 35 |

## Mechanical

| | |
|---|---|
| Endurance | 10,000 ON-OFF operations @ 6 per minute; with rated current & voltage. |
| Trip Free | All G-Series circuit breakers will trip on overload, even when actuator is forcibly held in the ON position. |
| Trip Indication | The operating actuator moves positively to the OFF position when an overload causes the breaker to trip. With mid-trip, the handle moves to the mid position on electrical trip of the circuit breaker. With mid trip handle with alarm switch, handle moves to the mid position and the alarm switch actuates when the circuit breaker is electrically tripped. |

## Physical

| | |
|---|---|
| Number of Poles | 1 pole ≤ 63A, 2 poles ≤ 63A per pole |
| Weight | Approx. 172 grams/pole ( 4.13 oz). |
| Standard Colors | Housing: Black |

## Environmental

Designed in accordance with requirements of specification MIL-PRF-55629 & MIL-STD-202 as follows:

| | |
|---|---|
| Shock | Withstands 100 Gs, 6ms sawtooth while carrying rated current per Method 213, Test Condition "I". Instantaneous and ultrashort curves tested @ 90% of rated current. |
| Vibration | Withstands 0.060" excursion from 10-55 Hz & 10 Gs 55-500 Hz, @ rated current per Method 204C, Test Cond. A. Instantaneous & ultrashort curves tested @ 90% of rated current. |
| Moisture Resistance | Method 106D, i.e., ten 24-hour cycles @ +25°C to +65°C, 80-98% RH. |
| Salt Spray | Method 101, Condition A (90-95% RH @ 5% NaCl Solution, 96 hrs). |
| Thermal Shock | Method 107D, Condition A (five cycles @ -55°C to +25°C to +85°C to +25°C). |
| Operating Temperature | -40° C to +85° C |

# Tech Specs

## Tables

**Table A:** Lists UL Recognized, CSA Accepted and TUV Certified capabilities as a Component Supplementary Protector.

| Component Supplementary Protectors | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Circuit Configuration | Voltage | | | | Current Rating | Short Circuit Capacity (Amps) | | Application Codes | |
| | Max Rating | Frequency | Phase | Minimum Poles | Full Load Amps | Without Backup Fuse | | | |
| | | | | | | UL/CSA | TUV | UL | CSA |
| Series | 80 | DC | --- | 1 | .2 - 80 | 5000 | 3000 | TC1, OL1, U1 | TC1, OL1, U1 |
| | 240 | 50 / 60 | 1 | 1 | .2 - 63 | 3000 | 1500 | | |
| | 240 | | | 2 | | | | | |
| | 480 | | 3 | 3 | | 1500 | 415V, 1000 | | |

**Table B:** Lists UL Listed (489) configuration and performance capabilities.

| UL489 Listed Branch Circuit Breakers | | | | | | |
|---|---|---|---|---|---|---|
| Circuit Configuration | Voltage | | | | Current Rating | Interrupting Capacity (Amps RMS) |
| | Max Rating | Frequency | Phase | Poles | Full Load Amps | |
| Series | 80 | DC | --- | 1 | 1 - 50 | 5000 |
| | 125 | DC | --- | 2 | 1 - 50 | 5000 |
| | 120 | 50 / 60 | 1 | 1 | 1 - 50 | 5000 |
| | 120 / 240 | 50 / 60 | 1 | 1 - 3 [1] | 1 - 50 | 5000 |
| | 240 | 50 / 60 | 1 | 1 | 1 - 25 | 5000 |

1 One pole out of the three poles must be a neutral break.

# Ordering Scheme

UL 1077 Recognized

| Sample Part Number | G | A | 1 | - | B | 0 | - | 24 | - | 650 | - | 1 | 1 | - | D | C |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Selection | 1 | 2 | 3 | | 4 | 5 | | 6 | | 7 | | 8 | 9 | | 10 | 11 |

## 1. SERIES

**G**

## 2. ACTUATOR

| | |
|---|---|
| **A** | Handle, one per pole |
| **S** | Mid-Trip Handle, one per pole |

## 3. POLES

| | | | |
|---|---|---|---|
| **1** | One | **3** | Three |
| **2** | Two | **4** | Four |

## 4. CIRCUIT

| | | | |
|---|---|---|---|
| **A** | Switch Only (no coil) [1] | **B** | Series Trip (current) |

## 5. AUXILIARY/ALARM SWITCH [3]

| | |
|---|---|
| **0** | without Aux Switch |
| **1** | S.P.D.T., Screw Terminal |
| **3** | S.P.D.T. Screw Terminal (Gold Contacts) |
| **5** | Plug-in Terminal |
| **6** | Plug-in Terminal (Gold Contacts) |

## 6. FREQUENCY & DELAY

| | | | |
|---|---|---|---|
| **03** | Switch Only | **24** | 50/60 Hz Medium |
| **10** | DC, Instantaneous | **26** | 50/60 Hz Long |
| **11** | DC, Ultra Short | **42** | 50/60 Hz High-inrush Short [2] |
| **12** | DC, Short | **44** | 50/60 Hz High-inrush Medium |
| **14** | DC, Medium | **46** | 50/60 Hz High-inrush Long |
| **16** | DC, Long | **52** | DC High-inrush Short |
| **20** | 50/60 Hz Instantaneous | **54** | DC High-inrush Medium |
| **21** | 50/60 Ultra Short | **56** | DC High-inrush Long |
| **22** | 50/60 Hz Short | | |

## 7. CURRENT RATING (AMPERES)

| CODE | AMPERES | | | | | | |
|---|---|---|---|---|---|---|---|
| **220** | 0.200 | **415** | 1.500 | **485** | 8.500 | **624** | 24.000 |
| **225** | 0.250 | **517** | 1.750 | **490** | 9.000 | **625** | 25.000 |
| **230** | 0.300 | **420** | 2.000 | **495** | 9.500 | **630** | 30.000 |
| **235** | 0.350 | **522** | 2.250 | **610** | 10.000 | **635** | 35.000 |
| **240** | 0.400 | **425** | 2.500 | **710** | 10.500 | **640** | 40.000 |
| **245** | 0.450 | **527** | 2.750 | **611** | 11.000 | **650** | 50.000 |
| **250** | 0.500 | **430** | 3.000 | **711** | 11.500 | **655** | 55.000 |
| **255** | 0.550 | **435** | 3.500 | **612** | 12.000 | **660** | 60.000 |
| **260** | 0.600 | **440** | 4.000 | **712** | 12.500 | **663** | 63.000 |
| **265** | 0.650 | **445** | 4.500 | **613** | 13.000 | **665** | 65.000 |
| **270** | 0.700 | **450** | 5.000 | **614** | 14.000 | **670** | 70.000 |
| **275** | 0.750 | **455** | 5.500 | **615** | 15.000 | **672** | 72.000 |
| **280** | 0.800 | **460** | 6.000 | **616** | 16.000 | **673** | 73.000 |
| **285** | 0.850 | **465** | 6.500 | **617** | 17.000 | **675** | 75.000 |
| **290** | 0.900 | **470** | 7.000 | **618** | 18.000 | **680** | 80.000 |
| **410** | 1.000 | **475** | 7.500 | **620** | 20.000 | | |
| **512** | 1.250 | **480** | 8.000 | **622** | 22.000 | | |

## 8. TERMINAL

| | |
|---|---|
| **1** | Screw Terminal |

## 9. ACTUATOR COLOR & LEGEND

| Actuator Color | I-O | ON-OFF | Dual | Legend Color |
|---|---|---|---|---|
| White | **A** | **B** | **1** | Black |
| Black | **C** | **D** | **2** | White |
| Red | **F** | **G** | **3** | White |
| Green | **H** | **J** | **4** | White |
| Blue | **K** | **L** | **5** | White |
| Yellow | **M** | **N** | **6** | Black |
| Gray | **P** | **Q** | **7** | Black |
| Orange | **R** | **S** | **8** | Black |

## 10. APPLICATION RATING [9]

| | |
|---|---|
| **B** | 125 VDC [5] |
| **D** | 240 VAC |
| **H** | 480 VAC [4] |
| **M** | 80 VDC |

## 11. AGENCY APPROVAL

| | |
|---|---|
| **A** | Without Approvals |
| **C** | UL Recognized |
| **E** | UL Recognized, TUV Certified |

Notes:
1 Switch only circuit only available when tied to a protected pole (Circuit code B)
- for .2 to 30 amps select current code 630
- for 31 to 50 amps select current code 650
- for 51 to 63 amps select current code 663
- Use delay 03 for all switch only poles

2 Hi Inrush Delays limited to 50A max
3 On multi-pole breakers one auxiliary switch is supplied , mounted in the extreme left pole when viewed from front of panel
4 480 VAC rating requires 3 or 4 pole break 3Φ and 2 pole break 1Φ
5 This construction is polarity sensitive when constructed as a single pole unit, 125 VDC is only available without agency approvals

Configure Complete Part Number > | Browse Standard Parts >



COS-8052 Rev: B

# Ordering Scheme

UL 489 Listed

| Sample Part Number | G | A | 1 | - | B | 0 | - | 24 | - | 650 | - | 1 | 1 | - | D | G |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Selection | 1 | 2 | 3 | | 4 | 5 | | 6 | | 7 | | 8 | 9 | | 10 | 11 |

## 1. SERIES

**G**

## 2. ACTUATOR

| | |
|---|---|
| **A** | Handle, one per pole |
| **S** [1] | Mid-Trip Handle, one per pole |

## 3. POLES

| | | | | | |
|---|---|---|---|---|---|
| **1** | One | **2** | Two | **3** | Three |

## 4. CIRCUIT

| | |
|---|---|
| **B** | Series Trip (current) |

## 5. AUXILIARY/ALARM SWITCH [3]

| | |
|---|---|
| **0** | without Aux Switch |
| **1** | S.P.D.T., Screw Terminal |
| **3** | S.P.D.T. Screw Terminal (Gold Contacts) |
| **5** | Plug-in Terminal |
| **6** | Plug-in Terminal (Gold Contacts) |

## 6. FREQUENCY & DELAY

| | | | |
|---|---|---|---|
| **11** | DC, Ultra Short | **42** | 50/60 Hz High-inrush Short [4] |
| **12** | DC, Short | **44** | 50/60 Hz High-inrush Medium [4] |
| **14** | DC, Medium | **46** | 50/60 Hz High-inrush Long [4] |
| **16** | DC, Long | **52** | DC High-inrush Short [4] |
| **21** | 50/60 Ultra Short | **54** | DC High-inrush Medium [4] |
| **22** | 50/60 Hz Short | **56** | DC High-inrush Long [4] |
| **24** | 50/60 Hz Medium | | |
| **26** | 50/60 Hz Long | | |

## 7. CURRENT RATING (AMPERES)

| CODE | AMPERES | CODE | AMPERES | CODE | AMPERES | CODE | AMPERES |
|---|---|---|---|---|---|---|---|
| **410** | 1.000 | **445** | 4.500 | **610** | 10.000 | **618** | 18.000 |
| **512** | 1.250 | **450** | 5.000 | **710** | 10.500 | **620** | 20.000 |
| **415** | 1.500 | **455** | 5.500 | **611** | 11.000 | **622** | 22.000 |
| **517** | 1.750 | **460** | 6.000 | **711** | 11.500 | **624** | 24.000 |
| **420** | 2.000 | **465** | 6.500 | **612** | 12.000 | **625** | 25.000 |
| **522** | 2.250 | **470** | 7.000 | **712** | 12.500 | **630** | 30.000 |
| **425** | 2.500 | **475** | 7.500 | **613** | 13.000 | **635** | 35.000 |
| **527** | 2.750 | **480** | 8.000 | **614** | 14.000 | **640** | 40.000 |
| **430** | 3.000 | **485** | 8.500 | **615** | 15.000 | **650** | 50.000 |
| **435** | 3.500 | **490** | 9.000 | **616** | 16.000 | | |
| **440** | 4.000 | **495** | 9.500 | **617** | 17.000 | | |

## 8. TERMINAL

| | |
|---|---|
| **1** | Screw Terminal |

## 9. ACTUATOR COLOR & LEGEND

| Actuator Color | ON-OFF | Dual | Legend Color |
|---|---|---|---|
| White | **B** | **1** | Black |
| Black | **D** | **2** | White |
| Red | **G** | **3** | White |
| Green | **J** | **4** | White |
| Blue | **L** | **5** | White |
| Yellow | **N** | **6** | Black |
| Gray | **Q** | **7** | Black |
| Orange | **S** | **8** | Black |

## 10. APPLICATION RATING [9]

| | |
|---|---|
| **B** | 125 VDC [5] |
| **C** | 120/240 VAC [6] |
| **D** | 240 VAC [7] |
| **K** | 120 VAC [8] |
| **M** | 80 VDC [9] |

## 11. AGENCY APPROVAL

| | |
|---|---|
| **A** | Without Approvals |
| **G** | UL489 Listed |

Notes:
1 Mid-trip Handle(s) available at 1 pole unit and 2 pole unit only.
2 Third pole of a 3 pole unit is switch only pole.
3 On multi-pole breakers one auxiliary switch is supplied, mounted in the extreme left pole when viewed from front of panel.
4 Hi Inrush Delays limited to 50A maximum.
5 125VDC for 2 pole unit only.
6 120/240VAC for 2 pole and 3 pole unit only. Limited to 50A maximum, and third pole of a 3-pole unit is switch only pole.
7 240VAC for 1 pole unit only, limited to 25A maximum
8 120VAC for 1 pole unit only, limited to 50A maximum.
9 80VDC for 1 pole unit only

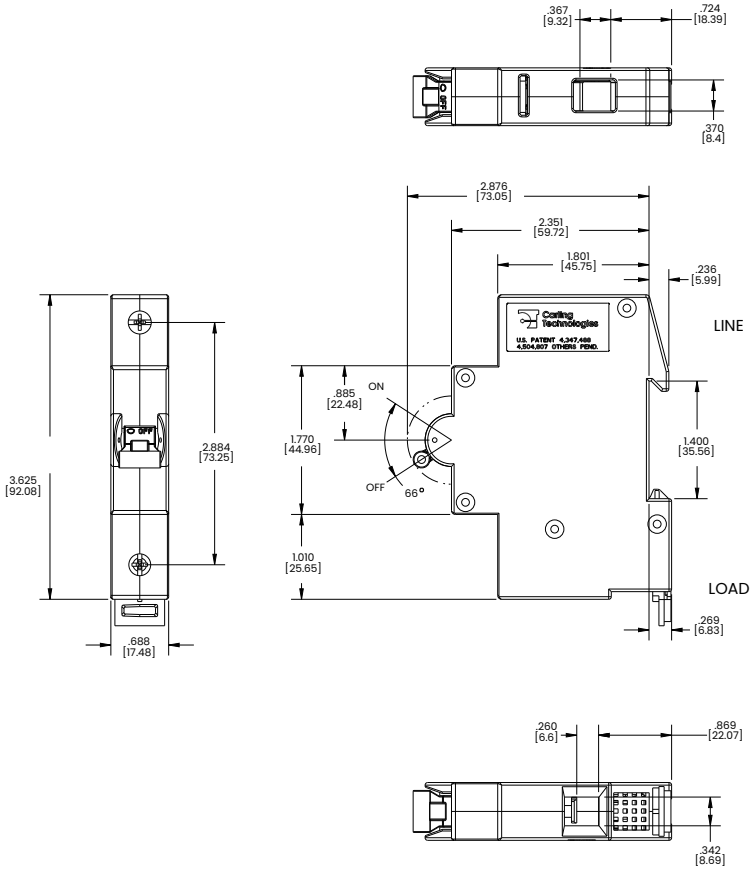
Configure Complete Part Number >  Browse Standard Parts >

# Dimensional Specs

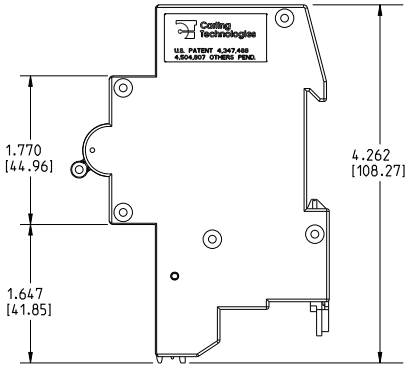
UL 1077 Recognized

inches [millimeters]

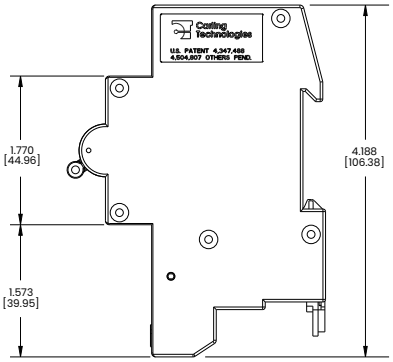
## 1 POLE WITHOUT AUXILIARY SWITCH



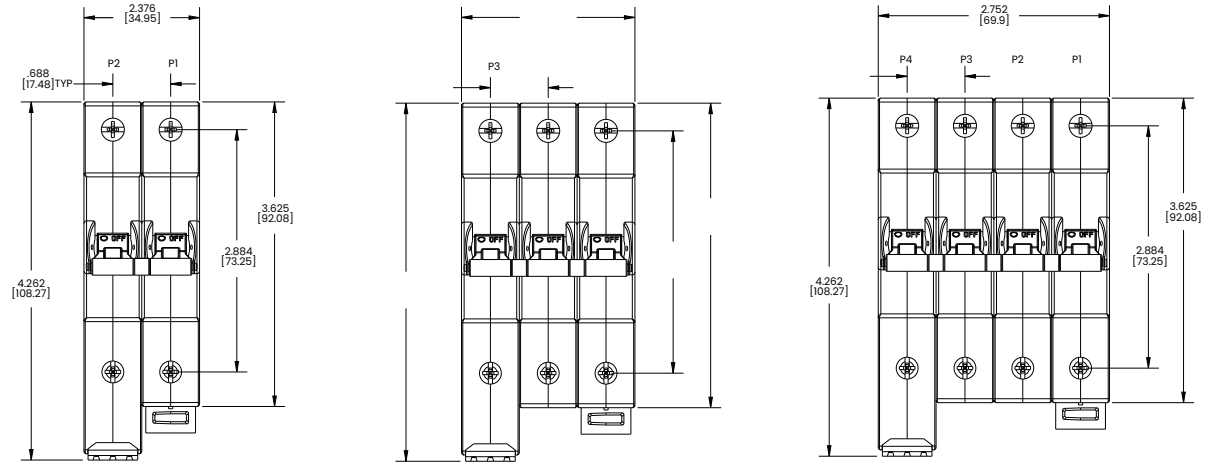

## 1 POLE WITH AUXILIARY SWITCH (PLUG-IN TERMINAL BLOCK)




## 1 POLE WITH AUXILIARY SWITCH (SCREW TERMINAL BLOCK)




## MULTIPLE POLES WITH AUXILIARY SWITCH (PLUG-IN TERMINAL BLOCK)




Notes:

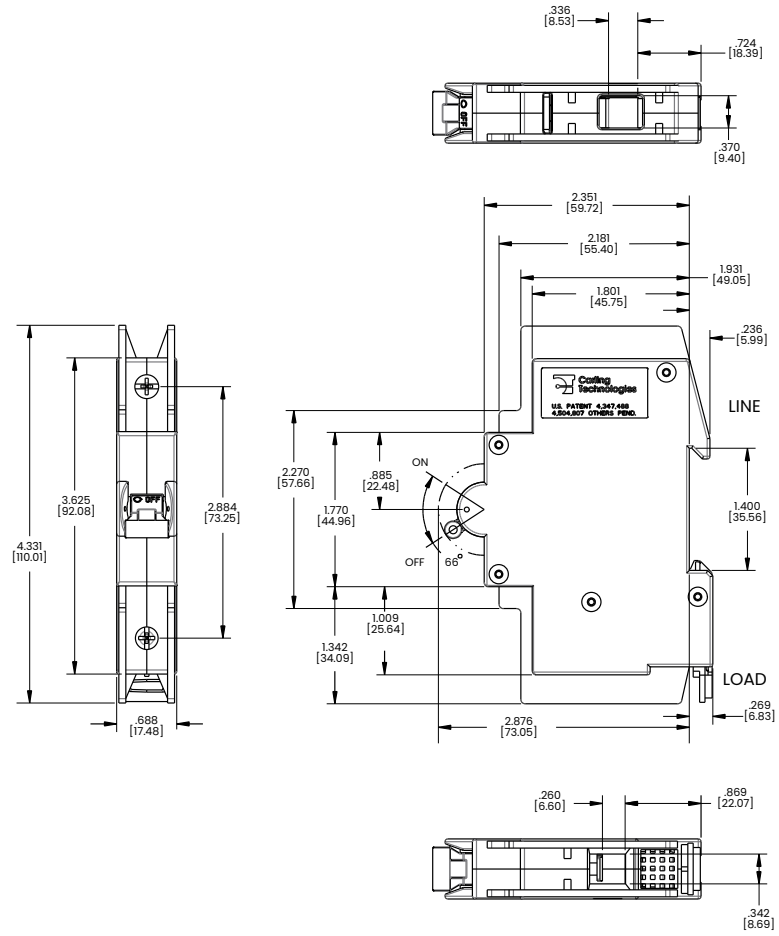
1 Tolerance ±.020 [.51] unless otherwise specified.

# Dimensional Specs

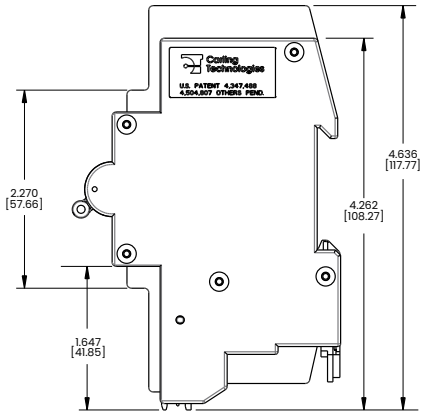
UL 489 Listed

inches [millimeters]

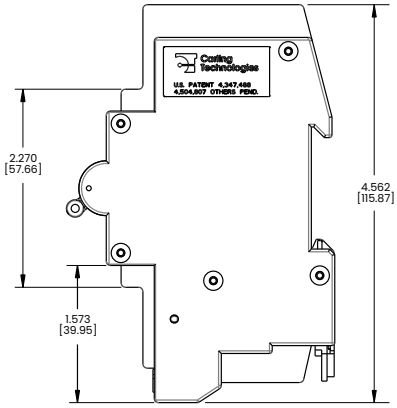
## 1 POLE WITHOUT AUXILIARY SWITCH



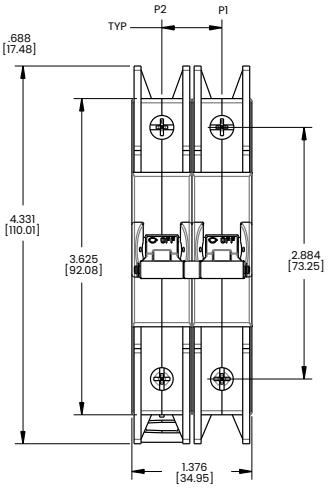

## 1 POLE WITH AUXILIARY SWITCH (PLUG-IN TERMINAL BLOCK)

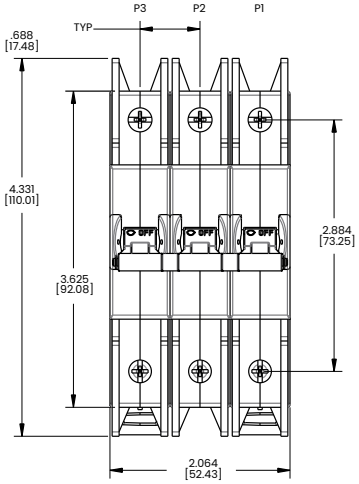



## 1 POLE WITH AUXILIARY SWITCH (SCREW TERMINAL BLOCK)




## MULTIPLE POLES WITH AUXILIARY SWITCH (PLUG-IN TERMINAL BLOCK)



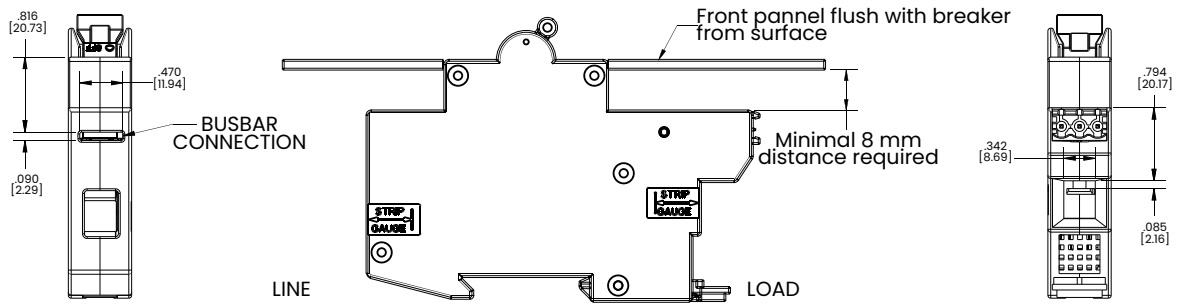

Notes:

1 Tolerance ±.020 [.51] unless otherwise specified.

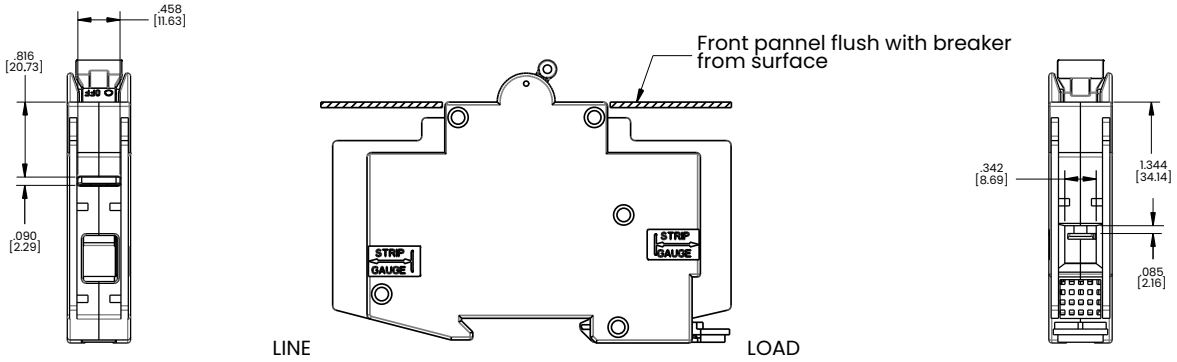
# Dimensional Specs

inches [millimeters]

UL RECOGNIZED




UL489



## Authorized Sales Representatives and Distributors

Click on a region of the map below to find your local representatives and distributors or visit **www.carlingtech.com/findarep**.


## About Carling

Founded in 1920, Carling Technologies is a leading manufacturer of electrical and electronic switches and assemblies, circuit breakers, electronic controls, power distribution units, and multiplexed power distribution systems. With six ISO9001 and IATF16949 registered manufacturing facilities and technical sales offices worldwide, Carling Technologies Sales, Service and Engineering teams do much more than manufacture electrical components, they engineer powerful solutions! To learn more about Carling please visit **www.carlingtech.com/company-profile**.

To view all of Carling's environmental, quality, health & safety certifications please visit **www.carlingtech.com/environmental-certifications**.

# X-ON Electronics

Largest Supplier of Electrical and Electronic Components

***Click to view similar products for*** Circuit Breakers ***category:***

***Click to view products by*** Carling ***manufacturer:***

Other Similar products are found below :

LUGZX66-1-61-20.0-44 M39019/01-201S M39019/01-221 M39019/01-323 M39019/01-333 M39019/01-336 M39019/02-248 M39019/02-311 M39019/02-316 M39019/04-249S M39019/05-246S M39019/06-254S M55629/1-016 M55629/1-018 M55629/1-021 M55629/1-033 M55629/1-036 M55629/1-046 M55629/1-048 M55629/1-058 M55629/1-067 M55629/1-070 M55629/1-079 M55629/1-084 M55629/1-085 M55629/1-101 M55629/1-109 M55629/11-102 M55629/1-120 M55629/12-045 M55629/12-046 M55629/1-330 M55629/1-366 M55629/1-387 M55629/1-401 M55629/1-450 M55629/2-022 M55629/2-030 M55629/2-072 M55629/2-082 M55629/2-099 M55629/2-101 M55629/2-102 M55629/21-BM-BM M55629/21-HM-HM M55629/21-NS-NS M55629/22-NR-NR-NR M55629/22-RS-RS-RS M55629/2-347 M55629/2-401