

Cable-In/Cable-Out Ground Fault and Equipment Protectors, Types QCGF, QCHGF, QCGFEP, QCHGFEP



QUICKLAG Type QCGF 1-Pole Ground Fault Circuit Breaker

Product Description

- Built and listed to UL 489
- All products UL and CSA listed

QUICKLAG Ground Fault Circuit Breakers, Class A GFCI

- Built and tested to UL 943
- 5 mA trip sensitivity

QUICKLAG Ground Fault Equipment Protectors

- Built and tested to UL 1053
- 30 mA trip sensitivity

Technical Data and Specifications

Table 11-15. Shipping Data

Carton Quantity	Approximate Weight Lbs. (Kg)	Dimensions in Inches (mm)
-----------------	------------------------------	---------------------------

1-Pole

20	11.00 (5.0)	12.50 x 6.50 x 5.00 (317.5 x 165.1 x 127.0)
----	-------------	---

2-Pole

5	5.00 (2.3)	15.50 x 6.00 x 4.50 (393.7 x 152.4 x 114.3)
---	------------	---

Instruction Leaflets

- Ground Fault Circuit Breaker and Equipment Protector Installation: FRED 255

Time/Current Curves

- 1-Pole: FRED 350077
- 2-Pole: FRED 350177
- 3-Pole: FRED 350277

Dimension Sheets

- FRED Index 206

Wiring Diagram

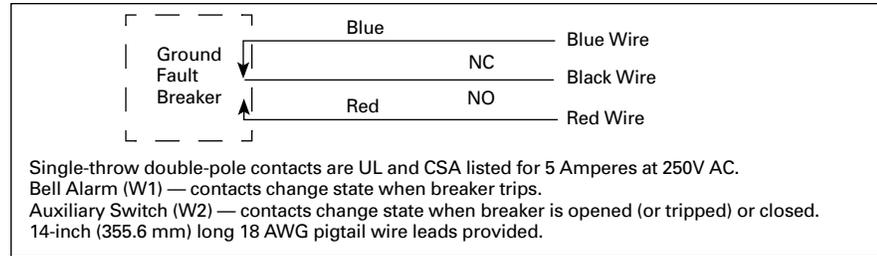


Figure 11-6. Bell Alarm and Auxiliary Contact Schematic

Product Selection

Table 11-16. Breaker Catalog Numbers

Continuous Ampere Rating @ 40°C	1-Pole		2-Pole	
	120V AC		120/240V AC	
	Catalog Number	Price U.S. \$	Catalog Number	Price U.S. \$

Ground Fault Circuit Breakers — 5 mA Sensitivity

QUICKLAG Type: QCGF 10,000 Ampere I.C. Thermal-Magnetic Breakers

15	QCGF1015	201.	QCGF2015	323.
20	QCGF1020	201.	QCGF2020	323.
25	QCGF1025	201.	QCGF2025	323.
30	QCGF1030	201.	QCGF2030	323.
40	QCGF1040	224.	QCGF2040	350.
50	—	—	QCGF2050	350.

QUICKLAG Type: QCHGF 22,000 Ampere I.C. Thermal-Magnetic Breakers

15	QCHGF1015	368.	QCHGF2015	585.
20	QCHGF1020	368.	QCHGF2020	585.
25	QCHGF1025	368.	QCHGF2025	585.
30	QCHGF1030	368.	QCHGF2030	585.

Ground Fault Equipment Protectors — 30 mA Sensitivity

QUICKLAG Type: QCGFEP 10,000 Ampere I.C. Thermal-Magnetic Breakers

15	QCGFEP1015	327.	QCGFEP2015	444.
20	QCGFEP1020	327.	QCGFEP2020	444.
25	QCGFEP1025	327.	QCGFEP2025	444.
30	QCGFEP1030	327.	QCGFEP2030	444.
40	QCGFEP1040	362.	QCGFEP2040	487.
50	—	—	QCGFEP2050	487.

QUICKLAG Type: QCHGFEP 22,000 Ampere I.C. Thermal-Magnetic Breakers

15	QCHGFEP1015	392.	QCHGFEP2015	710.
20	QCHGFEP1020	392.	QCHGFEP2020	710.
25	QCHGFEP1025	392.	QCHGFEP2025	710.
30	QCHGFEP1030	392.	QCHGFEP2030	710.

Special Application Ground Fault Circuit Protector — 5 mA Sensitivity

QUICKLAG Type: QCGF 10,000 Ampere I.C. with Bell Alarm (W1) or Auxiliary Switch (W2)

15	QCGF1015W1	263.	QCGF2015W1	456.
20	QCGF1020W1	263.	QCGF2020W1	456.
25	QCGF1025W1	263.	QCGF2025W1	484.
30	QCGF1030W1	263.	QCGF2030W1	484.
40	—	—	QCGF2040W1	580.
50	—	—	QCGF2050W1	580.

15	QCGF1015W2	263.	—	—
20	QCGF1020W2	263.	—	—
25	QCGF1025W2	263.	—	—
30	QCGF1030W2	263.	—	—

Special Application Ground Fault Equipment Protectors — 30 mA Sensitivity

QUICKLAG Type: QCGFEP 10,000 Ampere I.C. with Bell Alarm (W1) or Auxiliary Switch (W2)

15	QCGFEP1015W1	424.	QCGFEP2015W1	580.
20	QCGFEP1020W1	424.	QCGFEP2020W1	580.
25	QCGFEP1025W1	424.	QCGFEP2025W1	580.
30	QCGFEP1030W1	424.	QCGFEP2030W1	580.
40	—	—	QCGFEP2040W1	625.
50	—	—	QCGFEP2050W1	580.

15	QCGFEP1015W2	424.	—	—
20	QCGFEP1020W2	424.	—	—
25	QCGFEP1025W2	424.	—	—
30	QCGFEP1030W2	424.	—	—

Discount Symbol CB-1

QUICKLAG®

Contents

Description	Page	Description	Page
Quick Reference	11-2	Cable-In/Cable-Out, 1/2 Wide	
Plug-On		Types QCR, QCF, QCRH,	
Types HQP, QPHW, QHPX,		QCFH	11-10
QHPW	11-4	Cable-In/Cable-Out Ground	
Plug-On Ground Fault and		Fault and Equipment Protectors	
Equipment Protectors		Types QCGF, QCHGF, QCGFEP,	
Types QPGF, QPHGF,		QCHGFEP	11-13
QPGFEP, QPHGFEP	11-5	Solenoid-Operated, Remote-	
Bolt-On		Controlled	
Types BAB, BABR, QBHW,		Types GHBS, GBHS, BABR .	11-14
HBAX, HBAW	11-6	International Rated	
Bolt-On Ground Fault and		Types HQP, BA, QC, GFXB,	
Equipment Protectors		GFXBB, GFXBC	11-16
Types QBGF, QBHGF,		Special Application Breakers	
QBGFEP, QBHGFEP	11-7	Types HQP, BA, QC	11-18
Cable-In/Cable-Out		Options and Accessories	11-20
Types QC, QCHW, QHCX,		Factory Modifications and	
QHCW	11-8	Installed Terminals	11-22

11

Quick Reference

Table 11-1. QUICKLAG Industrial Circuit Breakers ① Plug-In, Bolt-On, Cable-In/Cable-Out

Circuit Breaker Type	Circuit Breaker Type Code	Continuous Ampere Rating @ 40°C	Number of Poles	Volts		Federal Spec. W-C-375b	Interrupting Ratings rms Symmetrical Amperes						Page Number
				AC	DC		AC Ratings Volts			DC ②			
							120	120/240	240	24-48	62.5	80	
HQP	P	10 – 70	1	120/240	24, 48, 62.5	10a, 11a, 12a	—	10,000	—	5,000	③	—	11-4
HQP		10 – 125	2	120/240	24, 48, 80	10a, 12a	—	10,000	—	5,000	5,000	5,000	11-4
HQP		10 – 100	2, 3	240	—	10b, 11b, 12b	—	—	10,000	—	—	—	11-4
QPHW	P	15 – 70	1	120/240	24, 48, 62.5	14a	—	22,000	—	5,000	③	—	11-4
QPHW		15 – 125	2	120/240	24, 48, 80	14a	—	22,000	—	5,000	5,000	5,000	11-4
QPHW		15 – 100	2, 3	240	—	14b	—	—	22,000	—	—	—	11-4
QHPX	P	15 – 70	1	120/240	24, 48, 62.5	—	—	42,000	—	5,000	③	—	11-4
QHPX		15 – 100	2	120/240	24, 48, 80	—	—	42,000	—	5,000	5,000	5,000	11-4
QHPX		15 – 100	3	240	—	—	—	—	42,000	—	—	—	11-4
QHPW	P	15 – 30	1	120/240	24, 48, 62.5	15a	—	65,000	—	5,000	③	—	11-4
QHPW		15 – 30	2	120/240	24, 48, 80	15a	—	65,000	—	5,000	5,000	5,000	11-4
QHPW		15 – 20	3	240	—	15b	—	—	65,000	—	—	—	11-4
QPGF	P, GF	15 – 40	1	120	—	10a, 11a, 12a	10,000	—	—	—	—	—	11-5
QPGF		15 – 50	2	120/240	—	10a, 11a, 12a	—	10,000	—	—	—	—	11-5
QPHGF	P, GF	15 – 30	1	120	—	10a, 11a, 12a	22,000	—	—	—	—	—	11-5
QPHGF		15 – 50	2	120/240	—	10a, 11a, 12a	—	22,000	—	—	—	—	11-5
QPGFEP	P, GFEP	15 – 40	1	120	—	—	10,000	—	—	—	—	—	11-5
QPGFEP		15 – 50	2	120/240	—	—	—	10,000	—	—	—	—	11-5
QPHGFEP	P, GFEP	15 – 30	1	120	—	—	22,000	—	—	—	—	—	11-5
QPHGFEP		15 – 30	2	120/240	—	—	22,000	22,000	—	—	—	—	11-5

① QUICKLAG circuit breakers are suitable for application in relative humidity 0 – 95% non-condensing.

② Two-pole DC interrupting ratings based on 2 poles connected in series.

③ 62.5V AC interrupting rating is 3800 AIC 10 – 50 amperes and 2500 AIC 55 – 100 amperes continuous.

Circuit Breaker Type Codes: **P** Plug-In; **B** Bolt-On; **C** Cable-In/Cable-Out; **GF** Ground Fault, 5 mA; **GFEP** Ground Fault, 30 mA.For Types GHBS, GBHS and BABR Solenoid-Operated, Remote-Controlled Circuit Breakers, see **Pages 11-14 – 11-15**.For Types WMS and SPHM Supplementary Protectors, see **Pages 11-23 and 11-34**.

QUICKLAG — Factory Modifications and Installed Terminals

Factory Modifications and Installed Terminals

Table 11-29. Factory Modifications ①

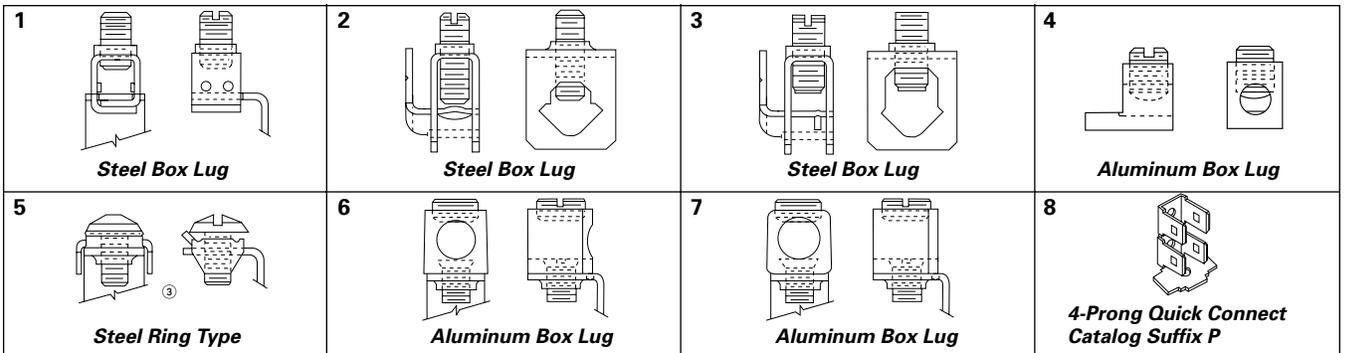
Type of Modification	Breaker Types	Catalog Suffix	Adder U.S. \$
Shunt Trip (Requires 1 extra pole space on right side) 120, 208, 240V AC 12, 24, 48V AC/DC Draws 2.6A at 120V Draws 11A at 24V DC	QUICKLAG Types P, B and C QUICKLAG Types P, B and C	S S1	138.00
Special Calibration (50°C) Shock Testing Freeze Testing	QUICKLAG Types P, B and C QUICKLAG Types P, B and C QUICKLAG Types P, B and C	V L Y	20% 30% 30%
Moisture-Fungus Treatment Marine Duty Naval Duty 400 Hz Calibration Specific DC Ratings (Breaker marked with a Max VDC rating)	QUICKLAG Types P, B, C and Ground Fault QUICKLAG Types P, B, C QUICKLAG Types P, B, C QUICKLAG Types P, B, C QUICKLAG Types P, B, C	F H08 H09 G Q thru Q9 ②	15.00 10% 10% 20% 20%

① Contact Cutler-Hammer for factory modifications available for QCR and QCF breakers.

② Q = 32V DC; Q1 = 32 – 40V DC; Q2 = 37.5V DC; Q3 = 45V DC; Q4 = 48V DC; Q5 = 50V DC; Q6 = 62V DC; Q7 = 75V DC (2P); Q8 = 80V DC (2P); Q9 = 125V DC (QCR 2P)

Table 11-30. Factory Installed Breaker Terminals

Breaker Type	Continuous Ampere Rating	Standard Line Terminal			Standard Load Terminal			Optional Terminals (20% List Price Adder)	
		Term Type	Wire Type	Wire Range (AWG)	Term Type	Wire Type	Wire Range (AWG)	Line	Load
QUICKLAG Type P HQP, QPHW, QHPX, QHPW	10 to 30 35 to 50 55 to 125	Plug-on female clips which mate with the bus stabs			1 2 3	Cu/Al Cu/Al Cu/Al	14 – 4 14 – 4 8 – 1/0	N/A	3 3 —
QUICKLAG Ground Fault QPGF, QPHGF, QPGFEP, QPHGFEP	10 to 30 40	Plug-on female clips which mate with the bus stabs			1 (1-pole) 4 (2-pole) 4	Cu/Al Cu/Al Cu	14 – 4 14 – 8 14 – 8	N/A	3 3 —
QUICKLAG Type B BAB, QBHW, HBAX, HBAW	10 to 30 35 to 50 55 to 125	Extended tangs which bolt directly to the bus			1 (1- and 2-pole) 2 (3-pole) 3	Cu/Al Cu/Al Cu/Al	14 – 4 14 – 4 8 – 1/0	N/A	3 3 —
QUICKLAG Ground Fault QBGF, QBHGF, QBGFEP, QBHGFEP	10 to 30 40	Extended tangs which bolt directly to the bus			1 (1-pole) 4 (2-pole) 4	Cu/Al Cu/Al Cu	14 – 4 14 – 8 14 – 8	N/A	N/A
QUICKLAG Type C QC, QCHW, QHCX, QHCW	10 to 20 25 to 60 70 to 100	5 6 7	Cu/Al Cu/Al Cu/Al	14 – 10 14 – 10 14 – 10	5 2 3	Cu/Al Cu/Al Cu/Al	14 – 10 14 – 4 8 – 1/0	6, 7 5, 7 5	6, 7, 8 5, 6, 7, 8 5, 7, 8
QUICKLAG QCR, QCF	10 to 55 60	1 1	Cu/Al Cu	14 – 4 14 – 4	1 1	Cu/Al Cu	14 – 4 14 – 4	N/A	N/A
QUICKLAG Ground Fault QCGF, QCHGF, QCGFEP, QCHGFEP	10 to 20 25 to 50	5 6	Cu/Al Cu/Al	14 – 10 14 – 10	1 1	Cu/Al Cu/Al	14 – 4 14 – 4	6, 7 5, 7	5 5



③ Clamp on line side only.

Table 11-31. Spare Terminal Hardware Screws (Lugs not Included)

Terminal Type	Description	Order in Multiples of	Catalog Number	Price U.S. \$
1	QUICKLAG Terminal Screw	10	QLLDTSA	.21
2	QUICKLAG Terminal Screw	10	QLLDTSB	.21
3	QUICKLAG Terminal Screw	10	QLLDTSC	2.80
5	QUICKLAG Binding Head Terminal Screw and Clamp	10	QLBHTSE	2.80
6 and 7	QUICKLAG Terminal Screw	10	QLLNTSFG	2.80

Discount Symbol **CB-1**