QO® and QOB Miniature Circuit Breakers with Ground Fault Protection

Integrated design combines UL-approved circuit breaker with 5 mA, 30 mA or 100 mA ground fault protection

Ground faults can occur when electrical equipment is worn, defective or accidentally misused. Square D® QO and QOB miniature circuit breakers with ground fault protection provide load level detection that isolates only the affected circuit when a ground leakage occurs. Applying branch breakers with integral ground fault protection allows users to quickly identify the ground leakage's current location and address the problem before it escalates to hazardous levels.

Square D QO EPD 3-pole Miniature Circuit Breaker



Square D QO and QOB miniature circuit breakers with ground fault protection provide enhanced protection of a system's wiring and sensitive electronic components. Low levels of fault current can injure or harm personnel and damage sensitive electronic equipment yet remain insufficient to operate the thermal-magnetic functions of the circuit breaker.

A ground fault exists when an unintended path is established between the normal current carrying conductors and metallic or conductive surfaces, which are bonded to or in direct contact with earth. Ground faults can initially conduct only a low level of current flow that is well below the thermal ampere frame rating of the protective circuit breaker. However, when a ground fault continues undetected, it can escalate causing significant heat and mechanical damage. Sensing and interrupting the flow of low level, phase-to-ground faults provides enhanced protection of personnel and equipment.

In an integrated design, the Square D QO and QOB miniature circuit breakers with ground fault protection provide conventional UL 489-listed circuit breakers with built-in ground fault sensors. No separate modules or devices are required. Three levels of ground fault protection are available to meet your specific application needs. The QO and QOB ground fault circuit interrupter (QOB GFI) meets the UL definition for people protection with the ground fault protection set at 5 mA. For equipment protection, Square D QO and QOB equipment protection devices (QOB EPD) are available with either 30 mA or 100 mA ground fault protection.



Improve system reliability and safety



Save space and installation time



Standardize equipment designs



More than 90% of short circuits are initiated by ground faults (also called earth leakage or residual current).

Apply Square D QQ and QQB ground fault interrupters and equipment protection devices to maximize continuity of power distribution with load level protection while only isolating the affected circuit.

Improve system reliability and safety

- Load level ground fault detection maximizes continuity of power distribution by isolating only the affected circuit when a ground leakage occurs
- Low level ground fault sensing at 5 mA, 30 mA or 100 mA detects load level ground faults and isolates the circuit before hazardous levels occur
- Detecting low level faults before they escalate to levels that can cause excessive equipment damage reduces system downtime
- Load level ground fault protection reduces the time required to troubleshoot the cause of the ground fault by isolating the load where the ground leakage has occurred
- Ground fault push-to-test feature confirms if the internal ground fault circuitry is working
- An optional IP20 rated terminal shield on the load end of the circuit breaker enhances protection (this accessory is infrared compatible to facilitate thermal scanning)

Save space and installation time

- Ground fault protection integrated into the UL 489-listed circuit breaker eliminates the need for external current transformers or add-on modules
- Line-powered electronics eliminate the need for a control power transformer

Standardize equipment designs

 Square D QO and QOB EPD devices are compatible with standard NQ panelboards and QQ load centers

Product specifications

Voltage	208Y/120 Vac or 240 Vac	
Current	15 – 60 A	
AIR	10 kA	
Poles	1-, 2- or 3-pole	
Standards/Certifications	UL 489 for Circuit Protection	UL 943 Class A for People Protection
	UL 1053 for Ground-fault Sensing	(GFI devices only)
	and Relaying Equipment	 CSA C22.2 (not applicable to 3-pole GFI)
Mounting Options	Line-side: Plug-on or bolt-on	Load-side: Box lug or ring terminal

Square D QO GFI 3-pole Miniature Circuit Breaker 🕶



Conductors

Maximum conductor length is 250 feet; wire sizes for box lug include the following:

Amperage	Aluminum (AWG/kcmil)	Copper (AWG/kcmil)
15 – 30	#12 – #8	#14 – #8
40, 50 and 60	#12 – #4	#14 – #6

The Square D QO and QOB GFI and QO and QOB EPD product lines now include 3-pole devices. Please reference the current versions of our Digest (Document Number 0100PL0901) and the QO and QOB Miniature Circuit Breaker Catalog (Document Number 0730CT9801) for more information on these product lines. For the Canadian market, the Schneider Electric Electrical Distribution Catalog (Document Number S0110CT0901EP RO) is also available.

QOB GFI catalog numbers

All provided with 5 mA setting on ground fault sensors. Omit the "B" in the third position of the catalog number for plug-on type.

Amperage	1-pole		2-pole	3-pole
	10 kA AIR	22 kA AIR	10 kA AIR	10 kA AIR
15	QOB115GFI	QOB115VHGFI	QOB215GFI	QOB315GFI
20	QOB120GFI	QOB120VHGFI	QOB220GFI	QOB320GFI
25	QOB125GFI	QOB125VHGFI	QOB225GFI	_
30	QOB130GFI	QOB130VHGFI	QOB230GFI	QOB330GFI
40	-	_	QOB240GFI	QOB340GFI
50	-	_	QOB250GFI	QOB350GFI
60	_	_	QOB260GFI	

QOB EPD catalog numbers

All provided with an AIR of 10 kA. Omit the "B" in the third position of the catalog number for plug-on type.

Amperage	1-pole	2-pole	3-pole	
	30 mA	30 mA	30 mA	100 mA
15	QOB115EPD	QOB215EPD	QOB315EPD	QOB315EPE
20	QOB120EPD	QOB220EPD	QOB320EPD	QOB320EPE
25	QOB125EPD	QOB225EPD	_	_
30	QOB130EPD	QOB230EPD	QOB330EPD	QOB330EPE
40	_	QOB240EPD	QOB340EPD	QOB340EPE
50	_	QOB250EPD	QOB350EPD	QOB350EPE
60	_	QOB260EPD	_	_

Factory installed accessories

Ring terminals

Replaces standard box lug with a ring terminal on the load side of the device

Suffix	Poles	Amperage
-5237	1, 2, 3	10 – 30
5238 1, 2 35 – 60		35 – 60
	3	35 – 50

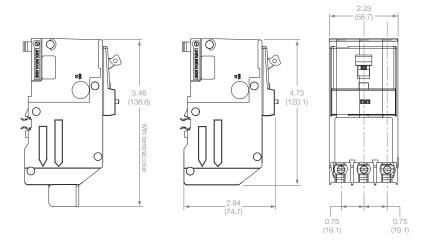
Auxiliary and alarm switches

120 Vac maximum voltage, 5 A maximum load

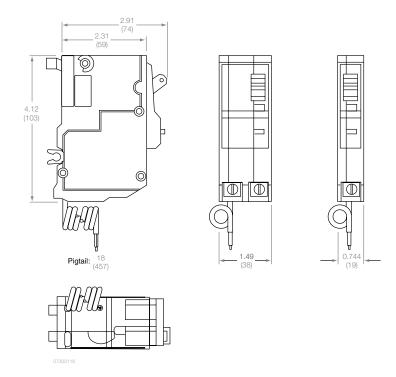
Suffix	Function	Contact
-1200	Auxiliary	1A
-1201	Auxiliary	1B
-2100	Alarm	1A

Dimensions

Type QO GFI and QO EPD circuit breaker: 3-pole



Type QO GFI and QO EPD circuit breaker: 1- and 2-pole



Schneider Electric USA, Inc.

1415 S. Roselle Road Palatine, IL 60067 Phone: 847-397-2600 Fax: 847-925-7500 www.schneider-electric.us

Schneider Electric Canada

19 Waterman Avenue Toronto, ON M4B 1Y2 Tel: 1-800-565-6699 www.schneider-electric.ca © 2009 Schneider Electric All Rights Reserved