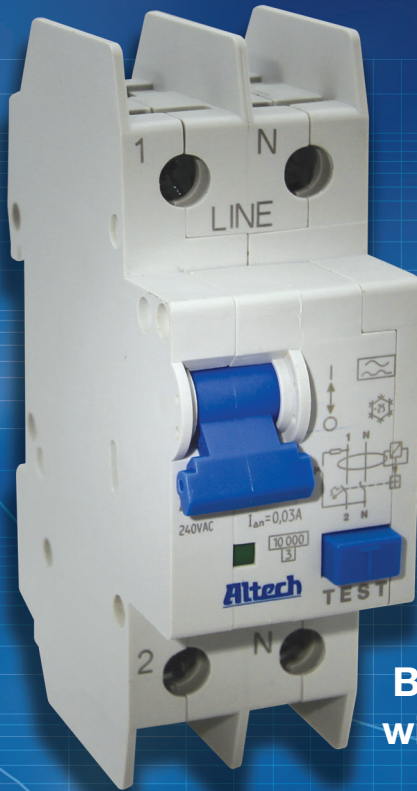


# Altech Corp.®

Serving the Automation & Control Industry Since 1984



ISO 9001  
QMI-SAI Global



**UL 489**  
Branch Circuit Breaker  
with Ground Fault Relay



**UL 1053**  
Ground Fault Sensing  
and Relaying Device



**Ground Fault Relay  
with Overload Protection**

## UL Ground Fault Equipment Protectors



Characteristics B, C, D

Rated current mu

# Altech Corp.®

## GFL Series (5A - 40A)

### 10kA UL489 Listed Branch Circuit Breaker with Equipment Ground Fault Protection (RCBO)

The GFL Series range is a combined Branch Circuit Breaker and Equipment Ground Fault Protector, featuring dual pole switching (live and neutral disconnect) and designed to provide protection against short circuits, overloads, AC ground faults (residual current faults) as well as pulsating DC ground faults.



C.B. W/EQ.GFP  
E483494

### GFL Series RCBO Ordering Scheme

<b>GFL</b>	<b>2</b>	<b>C</b>	<b>08</b>	<b>030</b>	<b>2</b>
	No. of Poles 2	Trip Curve B, C, D	Rated Current 5, 6, 8, 10, 12, 13, 15, 16, 20, 25, 30*, 32*, 35*, 40A* * S & SN versions only	Residual Current Sensitivity 010 = 10mA** 030 = 30mA 100 = 100mA 300 = 300mA	System 2, S, SN see note below

\*\* 10mA only available on current ratings up to 25A

**EXAMPLE:  
GFL2C080302**

#### NOTE:

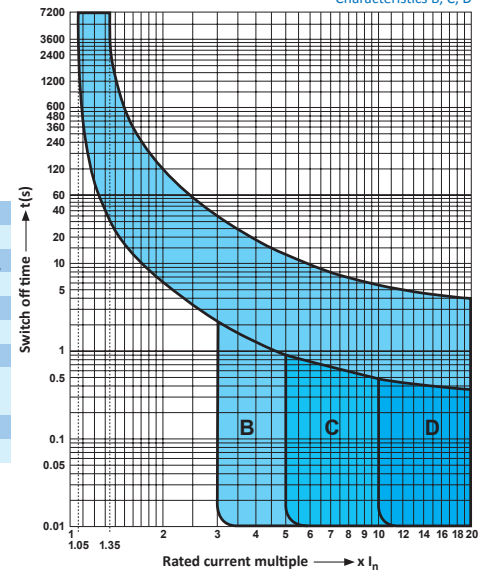
2 = 240V Single Phase System with neutral connection.  
S = 120/240V Split Phase System with no neutral connection.  
SN = 120/240V Split Phase System with neutral connection.

### Technical Specification

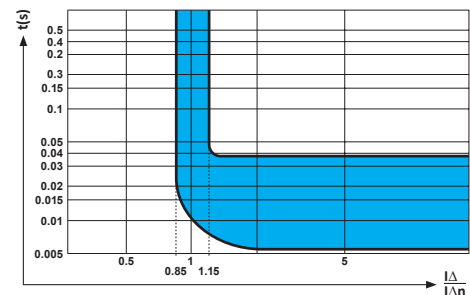
Number of Poles	1+N (2)	2 (S), 2+N (SN)
Rated Voltage (U <sub>n</sub> )	240V AC	
Rated Current	5, 6, 8, 10, 12, 13, 15, 16, 20, 25A	5, 6, 8, 10, 12, 13, 15, 16, 20, 25, 30, 32, 35, 40A
Rated Residual Operating Current (I <sub>n</sub> )	10**, 30, 100, 300mA	
Rated Short Circuit Capacity (Inc)	10kA	
Rated Frequency	50/60Hz	
Overload Tripping	B, C and D	
Cable Size & Tightening Torque	14 - 3 AWG (2mm <sup>2</sup> - 25mm <sup>2</sup> ) @ 17.5lb-in (2.0Nm) 18 - 16 AWG (1mm <sup>2</sup> - 1.5mm <sup>2</sup> ) @ 25lb-in (2.8Nm)	
Electrical Life	6000 Switching Operations	
Mechanical Life	10000 Switching Operations	

### GFL Series RCBO Overload Trip Curves

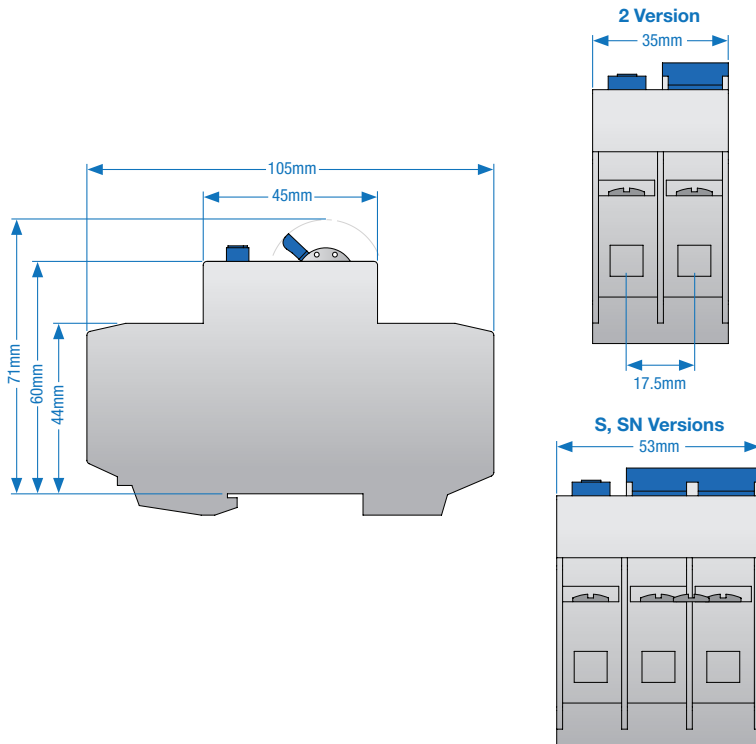
Characteristics B, C, D



### GFL Series RCBO Ground Fault Trip Curve



UL 489  
Branch Circuit Breaker  
with Ground Fault Relay



# Altech Corp.®

## GF Series (up to 63A) 480Y/277V AC Ground Fault Sensing and Relaying Device (RCCB)

The GF Series of Equipment Ground Fault Protection Relays (Earth Leakage Protection) is the latest addition to Altech's UL Listed product range, providing ground fault (residual current) protection for circuits with loads up to 63A. Short Circuit Withstand rating is 10kA.



Ground Fault Sensing  
& Relaying Equipment  
E483493

### GF Series RCCB Ordering Scheme



**EXAMPLE:  
GF225030**

**No. of Poles**  
2, 4

**Rated Current**  
25, 40, 63A

**Residual Current Sensitivity**

010 = 10mA\*  
030 = 30mA  
100 = 100mA  
300 = 300mA  
500 = 500mA

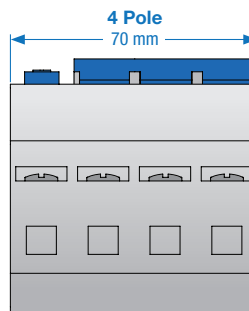
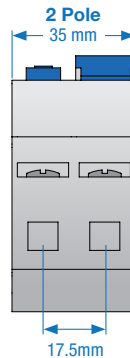
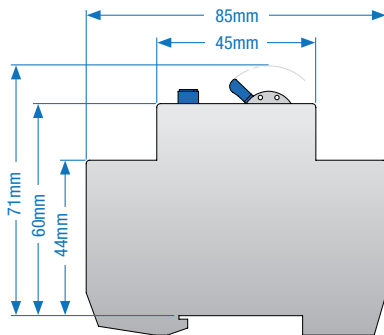
\*(ONLY 2 pole, 25A - Cat. No. GF225010)

### Technical Specification

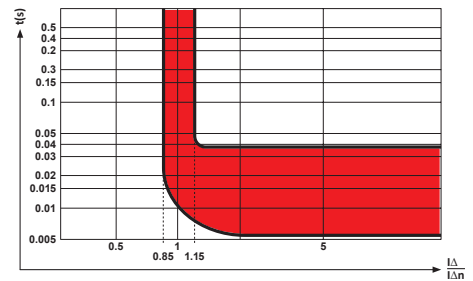
Number of Poles	2	4
Rated Voltage (U <sub>n</sub> )	277V AC	480Y/277V AC
Rated Current	25, 40, 63A	
Rated Residual Operating Current (I <sub>n</sub> )	10*, 30, 100, 300, 500mA	
Rated Frequency	50/60Hz	
Cable Size & Tightening Torque	Stranded wire sized 16 - 3 AWG (1.5mm <sup>2</sup> - 25mm <sup>2</sup> ) @ 17.5lb-in (2.0Nm) Solid wire sized 16 - 10 AWG (1.5mm <sup>2</sup> - 5.5mm <sup>2</sup> ) @ 17.5lb-in (2.0Nm) Solid wire sized 18 - 16 AWG (1mm <sup>2</sup> - 1.5mm <sup>2</sup> ) @ 25lb-in (2.8Nm)	
Electrical Life	6000 Switching Operations	
Mechanical Life	10000 Switching Operations	

### GF Series RCCB Short Circuit Withstand Rating

V	IR	Backup
2 Pole 277V AC	10kA	Class J Fuse 250A or lower Altech L Series Branch Circuit Breaker Altech R Series Supplementary Protector
4 Pole 480Y/277V AC	10kA	Class J Fuse 250A or lower Altech L Series Branch Circuit Breaker Altech R Series Supplementary Protector



### GF Series RCCB Ground Fault Trip Curve



**UL 1053**  
Ground Fault Sensing  
and Relaying Device



# Altech Corp.®

## GFR Series (5A - 40A) 480Y/277V AC Ground Fault Relay with Overload Protection (RCBO)

The GFR Series is a combined Equipment Ground Fault Relay and Supplementary Protector (RCBO), featuring dual pole switching (live and neutral) and designed to provide protection against overloads and AC ground faults (residual current faults) as well as pulsating DC ground faults. Short Circuit Withstand rating is 10kA.



### GFR Series RCBO Ordering Scheme

<b>GFR</b>	<b>2</b>	<b>B</b>	<b>06</b>	<b>030</b>
	No. of Poles	Trip Curve	Rated Current	Residual Current Sensitivity
	2, 4	B, C, D	5, 6, 8, 10, 12, 13, 15, 16, 20, 25, 30, 32, 35, 40A	010 = 10mA* 030 = 30mA 100 = 100mA 300 = 300mA 500 = 500mA

**EXAMPLE:  
GFR2B06030**

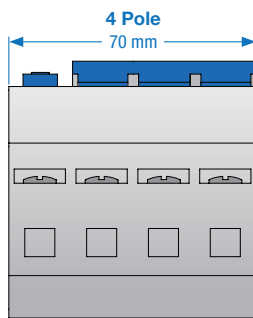
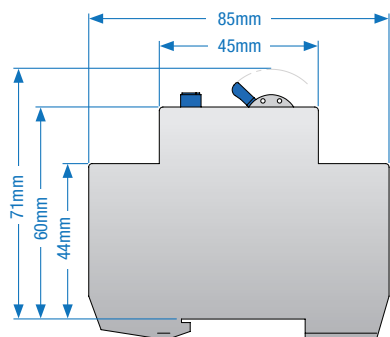
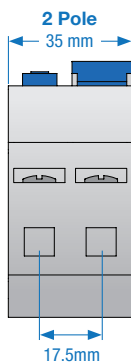
\* 10mA only available on current ratings up to 25A, 2 pole only

### Technical Specification

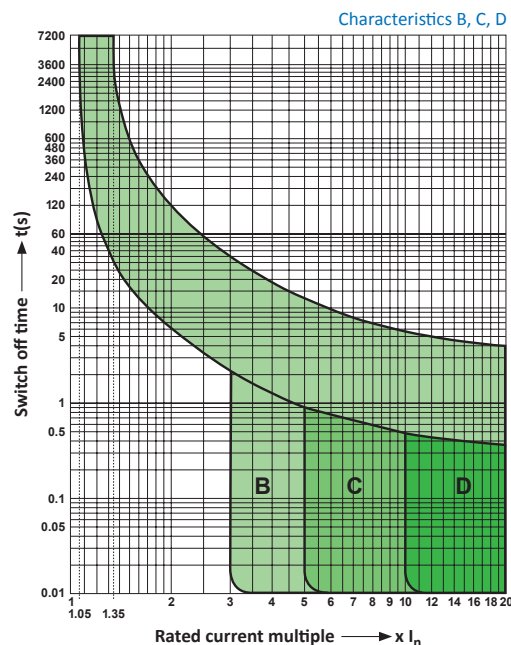
Number of Poles	2	4
Rated Voltage (U <sub>n</sub> )	277V AC	480Y/277V AC
Rated Current	5, 6, 8, 10, 12, 13, 15, 16, 20, 25, 30, 32, 35, 40A	
Rated Residual Operating Current (I <sub>n</sub> )	10*, 30, 100, 300, 500mA	
Rated Frequency	50/60Hz	
Overload Tripping	B, C and D	
Cable Size & Tightening Torque	Stranded wire sized 16 - 3 AWG (1.5mm <sup>2</sup> - 25mm <sup>2</sup> ) @ 17.5lb-in (2.0Nm) Solid wire sized 16 - 10 AWG (1.5mm <sup>2</sup> - 5.5mm <sup>2</sup> ) @ 17.5lb-in (2.0Nm) Solid wire sized 18 - 16 AWG (1mm <sup>2</sup> - 1.5mm <sup>2</sup> ) @ 25lb-in (2.8Nm)	
Electrical Life	6000 Switching Operations	
Mechanical Life	10000 Switching Operations	

### GFR Series RCBO Short Circuit Withstand Rating

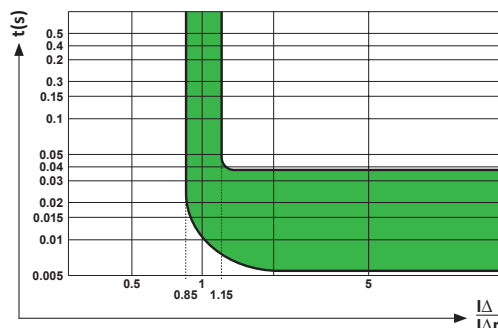
V	I	IR	Backup
2 Pole 277V AC	≤20A	10kA	None
	>20A	10kA	Class J Fuse 250A or lower Altech L Series Branch Circuit Breaker Altech R Series Supplementary Protector
4 Pole 480Y/277V AC	≤20A	10kA	None
	>20A	10kA	Class J Fuse 250A or lower Altech L Series Branch Circuit Breaker Altech R Series Supplementary Protector



### GFR Series RCBO Overload Trip Curves



### GFR Series RCBO Ground Fault Trip Curve



UL 1077  
Ground Fault Relay  
with Overload Protection

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