

# DC 4 Pole Boxed Isolator, IP65

**RoHS  
Compliant**



## Description

DC Isolators have been specifically designed to switch Direct Current (DC) at voltages up to 1000Volts. Their robust design and ability to switch such voltages, at rated current, means that they are ideally suited to be used in the switching of Photovoltaic (PV) systems.

## Features

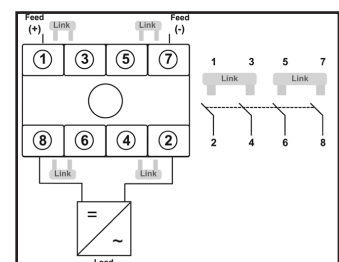
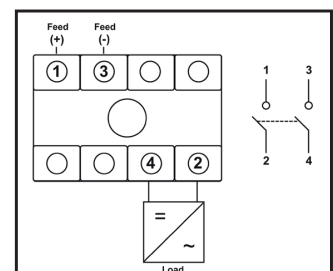
- IP65 rated enclosure
- Ample internal space for easier wiring
- Polycarbonate flame retardant RoHS compliant plastic
- 16A, 25A & 32A all rated up to 1000V DC
- Unique spring loaded switching mechanism for high speed switching (5mS max)
- Knife edge self-cleaning contacts for increased switch life
- Long arc chambers to help rapid arc suppression
- 16mm<sup>2</sup> rising clamp terminals for easy wiring
- The switch has 4 separate poles
- Links can be used to change the way that the poles are connected
- Poles can be connected in series parallel or a variation of both series and parallel
- Interconnection of the poles dictates the load that the switch can make and break
- As the number of poles used increases so the total load switching capacity of the device increases

## Electrical Connection

2 Poles connected in series	Ratings (DC21)	500V	600V	700V	800V	900V	1000V
	MCLB164PDC	16A	16A	13A	13A	13A	9A
	MCLB254PDC	25A	25A	13A	13A	13A	11A
	MCLB324PDC	32A	32A	13A	13A	13A	13A

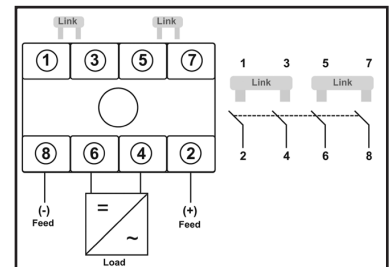
Note: 2 strings can be connected to one switch (2 poles per string) as long as each string does not exceed 500V and the current does not exceed the rating of the switch. However, for maintenance and isolation purposes, it is recommended that 1 isolator is used per string

2 Poles in parallel connected in series with 2 poles in parallel	Ratings (DC21)	500V	600V	700V	800V	900V	1000V
	MCLB164PDC	29A	29A	13A	13A	13A	9A
	MCLB254PDC	45A	45A	13A	13A	13A	11A
	MCLB324PDC	50A	50A	13A	13A	13A	13A



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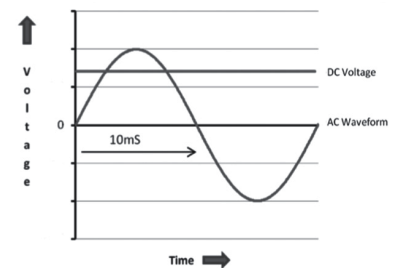
4 poles connected in series	Ratings (DC21)	500V	600V	700V	800V	900V	1000V
	MCLB164PDC	16A	16A	16A	16A	16A	16A
	MCLB254PDC	25A	25A	25A	25A	25A	25A
	MCLB324PDC	32A	32A	32A	32A	32A	32A



## Differences between AC and DC switching:

Alternating Current (AC) rises and falls in value with time, passing through zero volts twice in each cycle. This means that when making or breaking AC current any arc that is created is suppressed as the voltage falls to Zero.

When switching DC the voltage is constant and current does not reduce to zero. Any arc that is created has to be suppressed as quickly as possible so as to reduce the destructive energy within it. There are two methods that can be used to achieve a successful arc quenching, firstly by breaking the arc as quickly as possible and secondly by increasing the length of the arc to the point that it can no longer sustain itself.



The DC switch achieves ultra-rapid switching through a 'Snap Action', spring driven, operating mechanism. When the front actuator is rotated energy is accumulated in the mechanism until a point is reached at which the contacts are fired open or closed. This system will operate the switch under load within 5mS thereby reducing the arcing time to a minimum.

In order to reduce the chances of an arc propagating, the switch employs rotary contact technology. This is designed to make and break the circuit through a revolving double break contact assembly that wipes as it moves. The wiping action has the added advantage of keeping the contact faces clean thereby reducing the circuit resistance and increasing the life of the switch. The boxed DC isolators are manufactured from flame retardant polycarbonate plastic resulting in an extremely strong, reliable, safe switch. They are also supplied in an enclosure which gives plenty of space for cabling.

## Part Number Table

Description	Part Number
DC 4 Pole Boxed Isolator (IP65), 4 Pole, 16A	MCLB164PDC
DC 4 Pole Boxed Isolator (IP65), 4 Pole, 25A	MCLB254PDC
DC 4 Pole Boxed Isolator (IP65), 4 Pole, 32A	MCLB324PDC

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