

DLS7 Series

UL1077 Recognized Supplementary Protector

- DIN Rail Mounted
- 17.5mm width per pole
- Thermal Magnetic
- 0.5-60A / 480Y/277V AC, 50/60Hz
- 10kA Short Circuit Withstand Capacity
- Applications (on the load side of Branch Circuit Protection) include: Sensitive Electronics, Power Supplies, Appliance circuits, etc.



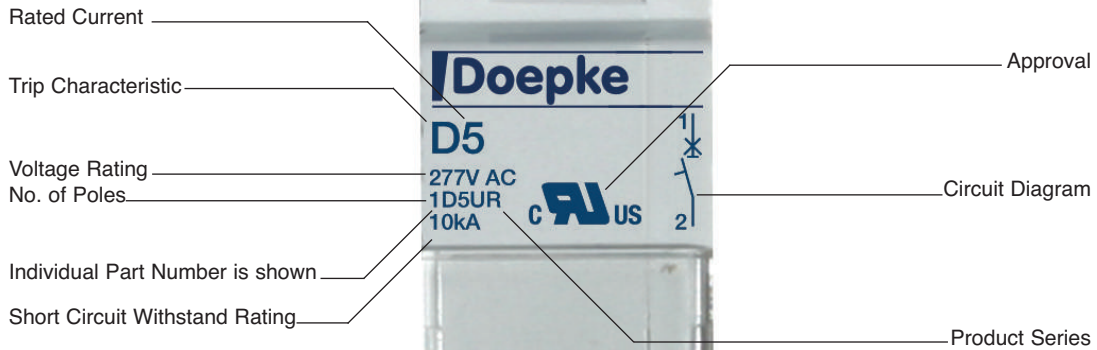
| | |
|---|---|
| UR - Series | 0.5-60A / 480Y/277V AC |
| Voltage Rating | 0.5 - 10A (RC): 10 kA with no back-up fuse |
| Short Circuit Withstand Rating | 8 - 63A (RC): 10 kA with UL-listed Class J back-up fuse; 5 kA with no back-up fuse |
| Calibration Temperature | 30°C (86°F) |
| Ambient Temperature | -25°C to +70°C (-13°F to 158°F) |
| Storage Temperature | -40°C to +70°C (-40°F to 158°F) |
| Terminal Torque (min/max) | 2 Nm (17.7 lb.in.) / 2.5Nm (22.2 lb.in) |
| Electrical Life | 6,000 switching cycles ON/ OFF |
| Mechanical Life | 10,000 switching cycles ON/ OFF |
| Vibration Resistance | > 15g according to DIN EN 60069-2-59 during a load with $1.05 \times I_N$ |
| Resistance to mechanical shocks | 25g @ 11ms |
| Degree of protection acc. IEC/EN 60529 | IP20 |
| Mounting Orientation | In any plane |

Short Circuit Withstand Ratings for R-Series Supplementary Protector

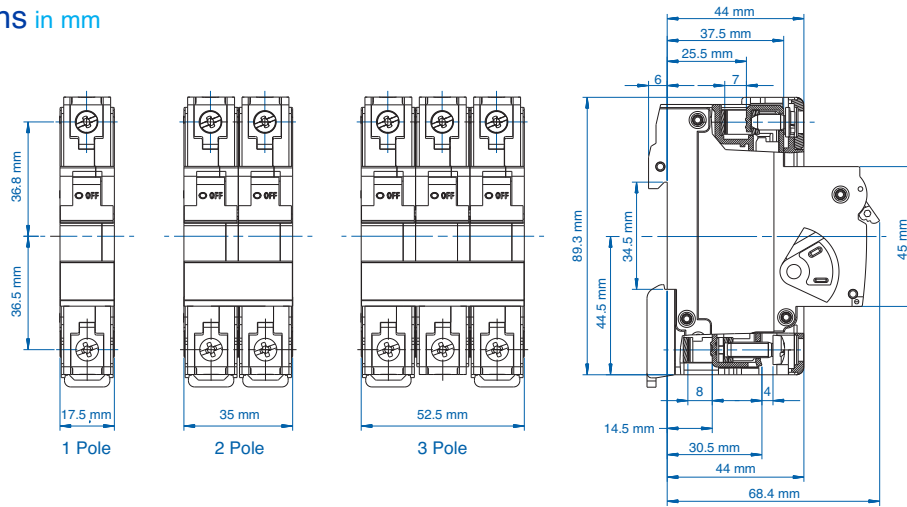
| Trip Curve | Amp Range | Backup Protection | |
|------------|-----------|-----------------------------------|--------------------------------|
| | | UL-Listed Class J Fuse up to 10kA | No Backup Fuse Required up to: |
| All | 0.5 - 10A | 70A | 10kA |
| All | 12 - 60A | 4xRC* | 5kA |

*up to nearest rated current









Marking Details



Dimensions in mm



Application Overview

| Trip-Characteristics* | | | | Applications | | | | | | | |
|--------------------------------|-----------------|-----------------------|--------------------|---|---|---|---|---|------------------|---|--|
| Characteristic Trip Boundaries | | | | Lighting Wiring Protection Control Circuits | Business Equipment Appliances | Control Transformers | Power Supplies | General Electronics | Reactive Load | | |
| Thermal Trip | | Magnetic Trip | | | | | | | | | |
| Must not Trip > 100ms | Must trip < 1hr | Must not Trip > 100ms | Must trip at 100ms | | | | | | | | |
| B-Characteristics | | | |  |  | | |  | | | |
| 1. 13xR | 1. 45xR | 3xRC | 5xRC | | | | | | | | |
| C-Characteristics | | | |  |  | | | | | | |
| 1. 1xRC | 1. 4xRC | 5xRC | 10xRC | | | | | | | | |
| D-Characteristics | | | | | |  |  | | |  | |
| 1. 1xRC | 1. 4xRC | 10xRC | 20xRC | | | | | | | | |

*The value of the characteristic is shown directly beneath its corresponding heading.



Warning!

This information should only be used as a selection guide. Miniature Circuit Breakers are not intended for use in an application with a trip characteristic always requires prototype testing! It is the responsibility of the circuit design engineer to select the appropriate Miniature Circuit Breaker for his specific application.

UL 489

UL 508

UL 1077

UL 1077
Equipment Breakers

Earth Leakage
Circuit Breakers

ANNEX

DLS7 Series B-Trip Characteristic

Application Examples:

Business equipment, wiring protection, lighting, appliances, control circuits, some motors and some electronic applications. Relatively long thermal trip delay but low magnetic trip point.



One Pole



Standard Pack: 12

Weight:

0.3A - 32A

1.75kg (3.86 lb.)

40A - 63A

2.07kg (4.56 lb.)

| Rated Current | Type/ Cat. No. | Rated Voltage |
|---------------|-------------------|---------------|
| 0.5A | 1B05UR | 277V AC |
| 1.0A | 1B1UR | 277V AC |
| 2.0A | 1B2UR | 277V AC |
| 3.0A | 1B3UR | 277V AC |
| 4.0A | 1B4UR | 277V AC |
| 5.0A | 1B5UR | 277V AC |
| 6.0A | 1B6UR | 277V AC |
| 8.0A | 1B8UR | 277V AC |
| 10A | 1B10UR | 277V AC |
| 12A | 1B12UR | 277V AC |
| 13A | 1B13UR | 277V AC |
| 15A | 1B15UR | 277V AC |
| 16A | 1B16UR | 277V AC |
| 20A | 1B20UR | 277V AC |
| 25A | 1B25UR | 277V AC |
| 30A | 1B30UR | 277V AC |
| 32A | 1B32UR | 277V AC |
| 40A | 1B40UR | 277V AC |
| 50A | 1B50UR | 277V AC |
| 60A | 1B60UR | 277V AC |
| 63A* | 1B63UR | 277V AC |

Three Pole



Standard Pack: 4

Weight:

0.3A - 32A

1.75kg (3.86 lb.)

40A - 63A

2.07kg (4.56 lb.)

| Rated Current | Type/ Cat. No. | Rated Voltage |
|---------------|-------------------|---------------|
| 0.5A | 3B05UR | 480Y/277V AC |
| 1.0A | 3B1UR | 480Y/277V AC |
| 2.0A | 3B2UR | 480Y/277V AC |
| 3.0A | 3B3UR | 480Y/277V AC |
| 4.0A | 3B4UR | 480Y/277V AC |
| 5.0A | 3B5UR | 480Y/277V AC |
| 6.0A | 3B6UR | 480Y/277V AC |
| 8.0A | 3B8UR | 480Y/277V AC |
| 10A | 3B10UR | 480Y/277V AC |
| 12A | 3B12UR | 480Y/277V AC |
| 13A | 3B13UR | 480Y/277V AC |
| 15A | 3B15UR | 480Y/277V AC |
| 16A | 3B16UR | 480Y/277V AC |
| 20A | 3B20UR | 480Y/277V AC |
| 25A | 3B25UR | 480Y/277V AC |
| 30A | 3B30UR | 480Y/277V AC |
| 32A | 3B32UR | 480Y/277V AC |
| 40A | 3B40UR | 480Y/277V AC |
| 50A | 3B50UR | 480Y/277V AC |
| 60A | 3B60UR | 480Y/277V AC |
| 63A* | 3B63UR | 480Y/277V AC |

Two Pole



Standard Pack: 6

Weight:

0.3A - 32A

1.75kg (3.86 lb.)

40A - 63A

2.07kg (4.56 lb.)

| Rated Current | Type/ Cat. No. | Rated Voltage |
|---------------|-------------------|---------------|
| 0.5A | 2B05UR | 480Y/277V AC |
| 1.0A | 2B1UR | 480Y/277V AC |
| 2.0A | 2B2UR | 480Y/277V AC |
| 3.0A | 2B3UR | 480Y/277V AC |
| 4.0A | 2B4UR | 480Y/277V AC |
| 5.0A | 2B5UR | 480Y/277V AC |
| 6.0A | 2B6UR | 480Y/277V AC |
| 8.0A | 2B8UR | 480Y/277V AC |
| 10A | 2B10UR | 480Y/277V AC |
| 12A | 2B12UR | 480Y/277V AC |
| 13A | 2B13UR | 480Y/277V AC |
| 15A | 2B15UR | 480Y/277V AC |
| 16A | 2B16UR | 480Y/277V AC |
| 20A | 2B20UR | 480Y/277V AC |
| 25A | 2B25UR | 480Y/277V AC |
| 30A | 2B30UR | 480Y/277V AC |
| 32A | 2B32UR | 480Y/277V AC |
| 40A | 2B40UR | 480Y/277V AC |
| 50A | 2B50UR | 480Y/277V AC |
| 60A | 2B60UR | 480Y/277V AC |
| 63A* | 2B63UR | 480Y/277V AC |

Add-on Neutral Pole



| Rated Current | Type/ Cat. No. | Rated Voltage |
|---------------|-------------------|---------------|
| 0.3-63A | N63UM | 480/277V AC |

Standard Pack: 6

Weight:

0.775kg (1.71)

*63A is not UL Recognized.

DLS7 Series C-Trip Characteristic

Application Examples:

Low inrush motors, lighting, wiring protection, appliances, business equipment, and control circuit applications. Relatively long thermal trip delay and medium magnetic trip point.



Standard Pack: 12
Weight:
0.3A - 32A
1.75kg (3.86 lb.)
40A - 63A
2.07kg (4.56 lb.)

One Pole

| Rated Current | Type/ Cat. No. | Rated Voltage |
|---------------|-------------------|---------------|
| 0.5A | 1C05UR | 277V AC |
| 1.0A | 1C1UR | 277V AC |
| 2.0A | 1C2UR | 277V AC |
| 3.0A | 1C3UR | 277V AC |
| 4.0A | 1C4UR | 277V AC |
| 5.0A | 1C5UR | 277V AC |
| 6.0A | 1C6UR | 277V AC |
| 8.0A | 1C8UR | 277V AC |
| 10A | 1C10UR | 277V AC |
| 12A | 1C12UR | 277V AC |
| 13A | 1C13UR | 277V AC |
| 15A | 1C15UR | 277V AC |
| 16A | 1C16UR | 277V AC |
| 20A | 1C20UR | 277V AC |
| 25A | 1C25UR | 277V AC |
| 30A | 1C30UR | 277V AC |
| 32A | 1C32UR | 277V AC |
| 40A | 1C40UR | 277V AC |
| 50A | 1C50UR | 277V AC |
| 60A | 1C60UR | 277V AC |
| 63A* | 1C63UR | 277V AC |



Standard Pack: 4
Weight:
0.3A - 32A
1.75kg (3.86 lb.)
40A - 63A
2.07kg (4.56 lb.)

Three Pole

| Rated Current | Type/ Cat. No. | Rated Voltage |
|---------------|-------------------|---------------|
| 0.5A | 3C05UR | 480Y/277V AC |
| 1.0A | 3C1UR | 480Y/277V AC |
| 2.0A | 3C2UR | 480Y/277V AC |
| 3.0A | 3C3UR | 480Y/277V AC |
| 4.0A | 3C4UR | 480Y/277V AC |
| 5.0A | 3C5UR | 480Y/277V AC |
| 6.0A | 3C6UR | 480Y/277V AC |
| 8.0A | 3C8UR | 480Y/277V AC |
| 10A | 3C10UR | 480Y/277V AC |
| 12A | 3C12UR | 480Y/277V AC |
| 13A | 3C13UR | 480Y/277V AC |
| 15A | 3C15UR | 480Y/277V AC |
| 16A | 3C16UR | 480Y/277V AC |
| 20A | 3C20UR | 480Y/277V AC |
| 25A | 3C25UR | 480Y/277V AC |
| 30A | 3C30UR | 480Y/277V AC |
| 32A | 3C32UR | 480Y/277V AC |
| 40A | 3C40UR | 480Y/277V AC |
| 50A | 3C50UR | 480Y/277V AC |
| 60A | 3C60UR | 480Y/277V AC |
| 63A* | 3C63UR | 480Y/277V AC |



Standard Pack: 6
Weight:
0.3A - 32A
1.75kg (3.86 lb.)
40A - 63A
2.07kg (4.56 lb.)

Two Pole

| Rated Current | Type/ Cat. No. | Rated Voltage |
|---------------|-------------------|---------------|
| 0.5A | 2C05UR | 480Y/277V AC |
| 1.0A | 2C1UR | 480Y/277V AC |
| 2.0A | 2C2UR | 480Y/277V AC |
| 3.0A | 2C3UR | 480Y/277V AC |
| 4.0A | 2C4UR | 480Y/277V AC |
| 5.0A | 2C5UR | 480Y/277V AC |
| 6.0A | 2C6UR | 480Y/277V AC |
| 8.0A | 2C8UR | 480Y/277V AC |
| 10A | 2C10UR | 480Y/277V AC |
| 12A | 2C12UR | 480Y/277V AC |
| 13A | 2C13UR | 480Y/277V AC |
| 15A | 2C15UR | 480Y/277V AC |
| 16A | 2C16UR | 480Y/277V AC |
| 20A | 2C20UR | 480Y/277V AC |
| 25A | 2C25UR | 480Y/277V AC |
| 30A | 2C30UR | 480Y/277V AC |
| 32A | 2C32UR | 480Y/277V AC |
| 40A | 2C40UR | 480Y/277V AC |
| 50A | 2C50UR | 480Y/277V AC |
| 60A | 2C60UR | 480Y/277V AC |
| 63A* | 2C63UR | 480Y/277V AC |



Add-on Neutral Pole

| Rated Current | Type/ Cat. No. | Rated Voltage |
|---------------|-------------------|---------------|
| 0.3-63A | N63UM | 480/277V AC |

Standard Pack: 6
Weight:
0.775kg (1.71)

*63A is not UL Recognized.

UL 489

UL 508

UL 1077

UL 1077
Equipment Breakers

Earth Leakage
Circuit Breakers

ANNEX

DLS7 Series D-Trip Characteristic

Application Examples:

Control transformers, power supplies, reactive loads. Relatively long thermal trip delay and very high magnetic trip point.



Standard Pack: 12

Weight:
0.3A - 32A
1.75kg (3.86 lb.)
40A - 63A
2.07kg (4.56 lb.)

One Pole

| Rated Current | Type/ Cat. No. | Rated Voltage |
|---------------|-------------------|---------------|
| 0.5A | 1D05UR | 277V AC |
| 1.0A | 1D1UR | 277V AC |
| 2.0A | 1D2UR | 277V AC |
| 3.0A | 1D3UR | 277V AC |
| 4.0A | 1D4UR | 277V AC |
| 5.0A | 1D5UR | 277V AC |
| 6.0A | 1D6UR | 277V AC |
| 8.0A | 1D8UR | 277V AC |
| 10A | 1D10UR | 277V AC |
| 12A | 1D12UR | 277V AC |
| 13A | 1D13UR | 277V AC |
| 15A | 1D15UR | 277V AC |
| 16A | 1D16UR | 277V AC |
| 20A | 1D20UR | 277V AC |
| 25A | 1D25UR | 277V AC |
| 30A | 1D30UR | 277V AC |
| 32A | 1D32UR | 277V AC |
| 40A | 1D40UR | 277V AC |
| 50A | 1D50UR | 277V AC |
| 60A | 1D60UR | 277V AC |
| 63A* | 1D63UR | 277V AC |



Standard Pack: 4

Weight:
0.3A - 32A
1.75kg (3.86 lb.)
40A - 63A
2.07kg (4.56 lb.)

Three Pole

| Rated Current | Type/ Cat. No. | Rated Voltage |
|---------------|-------------------|---------------|
| 0.5A | 3D05UR | 480Y/277V AC |
| 1.0A | 3D1UR | 480Y/277V AC |
| 2.0A | 3D2UR | 480Y/277V AC |
| 3.0A | 3D3UR | 480Y/277V AC |
| 4.0A | 3D4UR | 480Y/277V AC |
| 5.0A | 3D5UR | 480Y/277V AC |
| 6.0A | 3D6UR | 480Y/277V AC |
| 8.0A | 3D8UR | 480Y/277V AC |
| 10A | 3D10UR | 480Y/277V AC |
| 12A | 3D12UR | 480Y/277V AC |
| 13A | 3D13UR | 480Y/277V AC |
| 15A | 3D15UR | 480Y/277V AC |
| 16A | 3D16UR | 480Y/277V AC |
| 20A | 3D20UR | 480Y/277V AC |
| 25A | 3D25UR | 480Y/277V AC |
| 30A | 3D30UR | 480Y/277V AC |
| 32A | 3D32UR | 480Y/277V AC |
| 40A | 3D40UR | 480Y/277V AC |
| 50A | 3D50UR | 480Y/277V AC |
| 60A | 3D60UR | 480Y/277V AC |
| 63A* | 3D63UR | 480Y/277V AC |



Standard Pack: 6

Weight:
0.3A - 32A
1.75kg (3.86 lb.)
40A - 63A
2.07kg (4.56 lb.)

Two Pole

| Rated Current | Type/ Cat. No. | Rated Voltage |
|---------------|-------------------|---------------|
| 0.5A | 2D05UR | 480Y/277V AC |
| 1.0A | 2D1UR | 480Y/277V AC |
| 2.0A | 2D2UR | 480Y/277V AC |
| 3.0A | 2D3UR | 480Y/277V AC |
| 4.0A | 2D4UR | 480Y/277V AC |
| 5.0A | 2D5UR | 480Y/277V AC |
| 6.0A | 2D6UR | 480Y/277V AC |
| 8.0A | 2D8UR | 480Y/277V AC |
| 10A | 2D10UR | 480Y/277V AC |
| 12A | 2D12UR | 480Y/277V AC |
| 13A | 2D13UR | 480Y/277V AC |
| 15A | 2D15UR | 480Y/277V AC |
| 16A | 2D16UR | 480Y/277V AC |
| 20A | 2D20UR | 480Y/277V AC |
| 25A | 2D25UR | 480Y/277V AC |
| 30A | 2D30UR | 480Y/277V AC |
| 32A | 2D32UR | 480Y/277V AC |
| 40A | 2D40UR | 480Y/277V AC |
| 50A | 2D50UR | 480Y/277V AC |
| 60A | 2D60UR | 480Y/277V AC |
| 63A* | 2D63UR | 480Y/277V AC |



Add-on Neutral Pole

| Rated Current | Type/ Cat. No. | Rated Voltage |
|---------------|-------------------|---------------|
| 0.3-63A | N63UM | 480/277V AC |

Standard Pack: 6

Weight:
0.775kg (1.71)

*63A is not UL Recognized.

DLS7 Series Accessories

For mounting instructions please refer to page 61.



E137938

Auxiliary Contact, Alarm Switch



| Type/ Cat No. | Description | Contacts Type | Std Pk |
|---------------|-----------------------------------|--------------------|--------|
| H10UM | 1 Auxiliary Contact | 1NO | 6 |
| H11UM | 2 Auxiliary Contacts | 1NO + 1NC | 6 |
| H12UM | 3 Auxiliary Contacts | 1NO + 2NC | 6 |
| H21UM | 3 Auxiliary Contacts | 2NO + 1NC | 6 |
| HLS11M* | 1 Auxiliary/ 1 Signal Contacts | 1CO + 1CO (Signal) | 6 |

| | |
|-----------------------------------|---|
| Rated Operating Currents | 10A@240V AC 3A@110V DC 1A@220V DC |
| Minimum Contact Load | 1mA @ 24V DC |
| Torque | max. 0.8Nm (7 lb.in) |
| Wire Range: | |
| Single Wire | 1.0mm ² - 2.5mm ² (18-14 AWG) |
| Stranded Wire | 1.0mm ² - 1.5mm ² (18-16 AWG) |
| Stranded Wire with Ferrule | 1.0mm ² - 1.5mm ² (18-16 AWG) |

Shunt Trip



| Type/ Cat No. | Rated Voltage U _N | Max. Operating Current @ U _N | Std Pk |
|---------------|-------------------------------|---|--------|
| FA12UM | 12V AC/DC | 1.3A | 5 |
| FA24UM | 24V AC/DC | 0.6A | 5 |
| FA48UM | 48 - 72V AC/DC | 0.2A | 5 |
| FA110UM | 110 - 240 V AC/DC, 277V AC | 0.25A @ 110V 0.5A @ 240V 0.58A @ 277V | 5 |

Neutral Pole



| Type/ Cat No. | Rated Current I _N | Rated Voltage U _N | Std Pk |
|---------------|------------------------------|------------------------------|--------|
| N63UM | 0.3 - 63A | 480Y/277V AC | 6 |

Touch Protection Caps

to cover the terminal screw holes on the switching devices, neutral Poles and shunt trips for increased touch protection.



| Type/ Cat No. | Std Pk | Type/ Cat No. | Std Pk |
|---------------|--------|---------------|--------|
| BS.UL | 100 | 15.960 | 1 |

Cooling Spacer



Mounting Screw 34mm

to connect the auxiliary contact and shunt trip or neutral Pole to the circuit breaker.

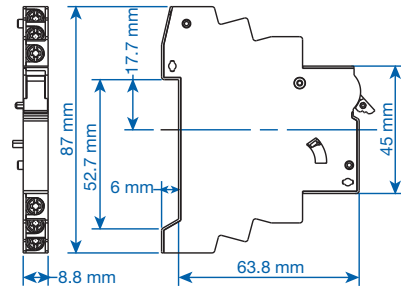


| Type/ Cat No. | Std Pk | Type/ Cat No. | Std Pk |
|---------------|--------|---------------|--------|
| E983419 | 10 | EASS | 10 |

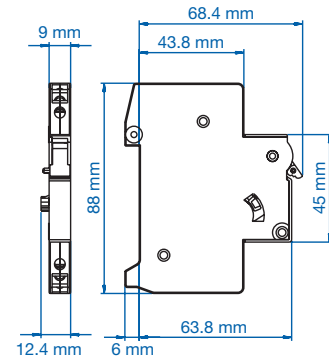
Lock-out Adapter**



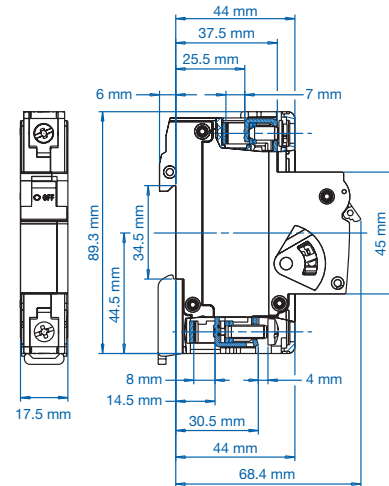
** UR series can also be locked in the on and off position by simply using a common lead or meter seal, which gets fed through the hole in the handle and a corresponding hole in the housing.



Dimensions HxxUM.



Dimensions HLS11M.



Dimensions N63UM, FAppUM.

UL 489

UL 508

UL 1077

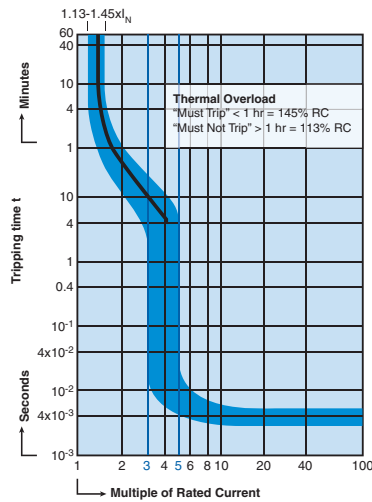
UL 1077
Equipment Breakers

Earth Leakage
Circuit Breakers

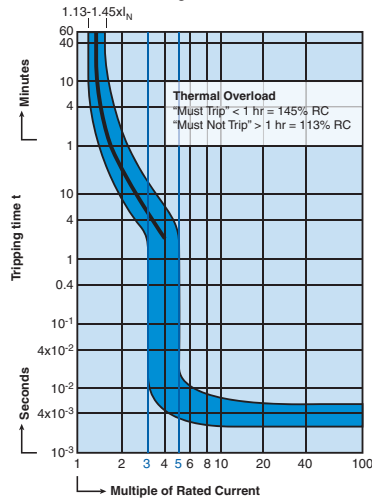
ANNEX

DLS7 Series Trip Curves

B Trip Curve



0.5A Through 10A Rated Current



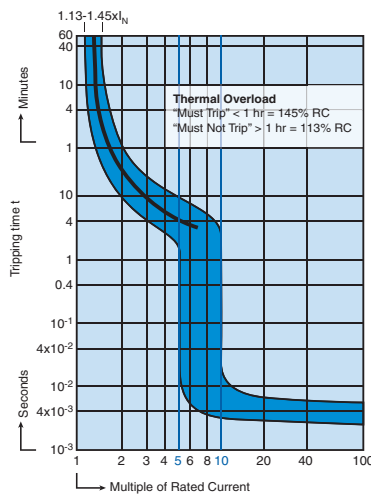
12A Through 63A Rated Current

“B” Magnetic Trip Parameters

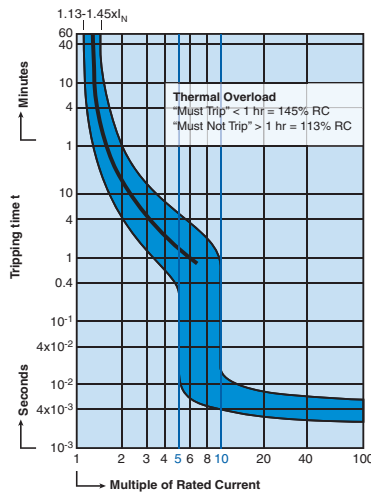
Rated current 0.5A to 63A.

1. Hold for a minimum of 100ms at surge of 3 times rated current.
2. Trip in under 100ms at 5 times rated current.

C Trip Curve



0.5A Through 10A Rated Current



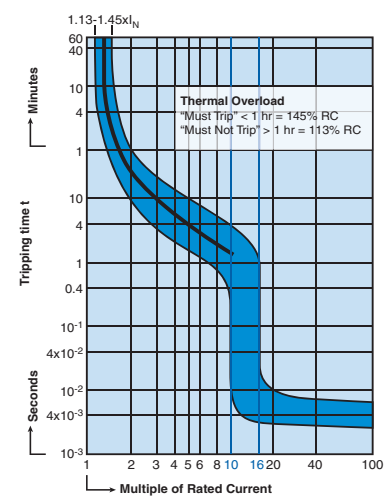
12A Through 63A Rated Current

“C” Magnetic Trip Parameters

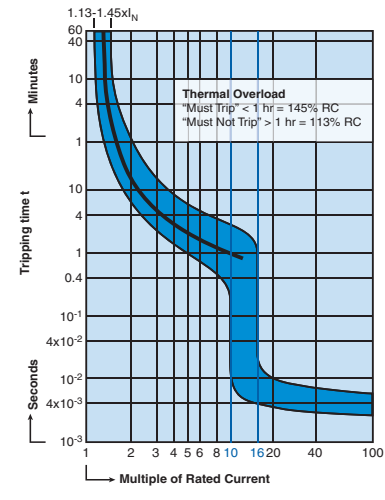
Rated current 0.5A to 63A.

1. Hold for a minimum of 100ms at surge of 5 times rated current.
2. Trip in under 100ms at 10 times rated current.

D Trip Curve



0.5A Through 10A Rated Current



12A Through 63A Rated Current

“D” Magnetic Trip Parameters

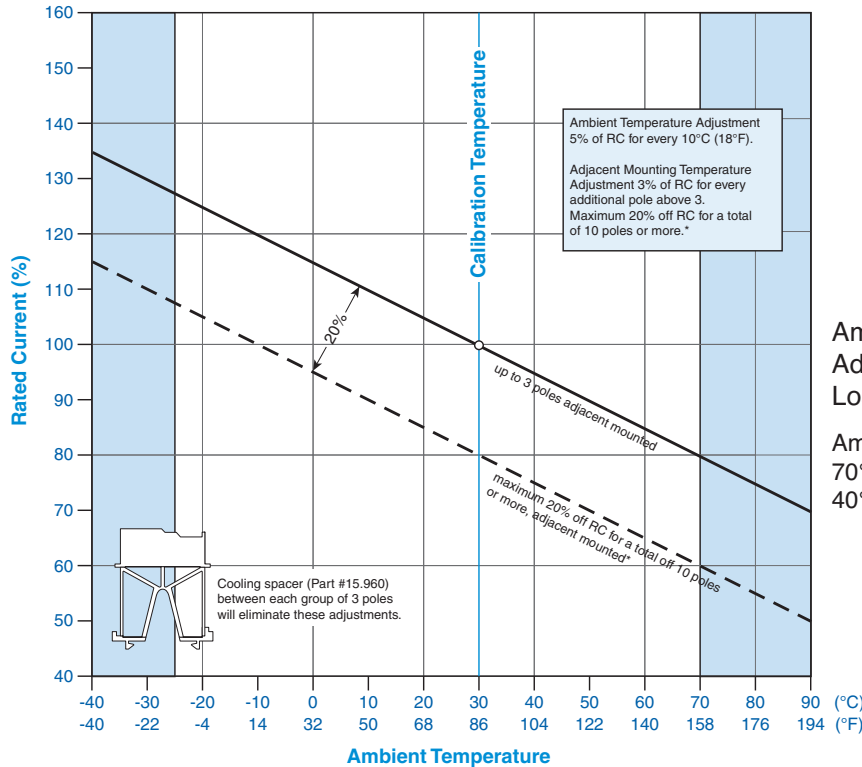
Rated current 0.5A to 63A.

1. Hold for a minimum of 100ms at surge of 10 times rated current.
2. Trip in under 100ms at 16 times rated current.

UR Series Internal Resistance

| Rated Current (A) | Trip Characteristic | | |
|----------------------|---------------------|------------|------------|
| | B (Ohm) | C (Ohm) | D (Ohm) |
| 0.5 | 8.0400 | 6.8540 | 6.0009 |
| 1.0 | 1.7000 | 1.7000 | 1.7560 |
| 2.0 | 0.4190 | 0.4190 | 0.4190 |
| 3.0 | 0.2020 | 0.2020 | 0.2020 |
| 4.0 | 0.1090 | 0.1090 | 0.1090 |
| 5.0 | 0.0654 | 0.0654 | 0.0654 |
| 6.0 | 0.0528 | 0.0528 | 0.0491 |
| 8.0 | 0.0278 | 0.0278 | 0.0240 |
| 10 | 0.0216 | 0.0216 | 0.0187 |
| 12/ 13 | 0.0113 | 0.0084 | 0.0085 |
| 15/ 16 | 0.0085 | 0.0085 | 0.0076 |
| 20 | 0.0067 | 0.0067 | 0.0064 |
| 25 | 0.0050 | 0.0050 | 0.0041 |
| 30/ 32 | 0.0032 | 0.0032 | 0.0027 |
| 40 | 0.0025 | 0.0025 | 0.0022 |
| 50 | 0.0019 | 0.0019 | 0.0018 |
| 60/ 63* | 0.0018 | 0.0018 | 0.0017 |

Temperature Correction Curve (DLS7/8/9 series)



Ambient Temperature and Adjacent Mounting/ Loading Adjustment

Ambient Temperature -25°C to 70°C, Storage Temperature -40°C to 70°C

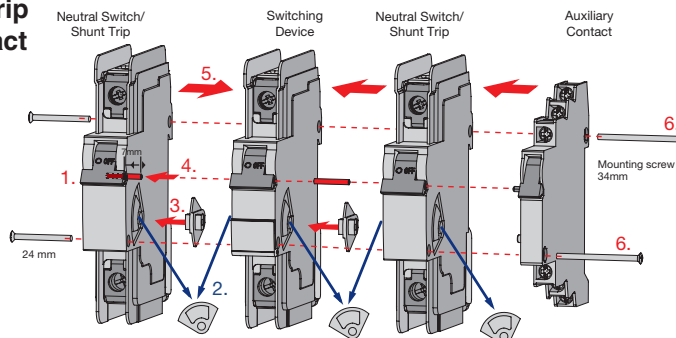
UL 489

UL 508

UL 1077

Accessory Mounting Instructions (DLS7/8/9 series)

Neutral / Shunt Trip + Auxiliary Contact

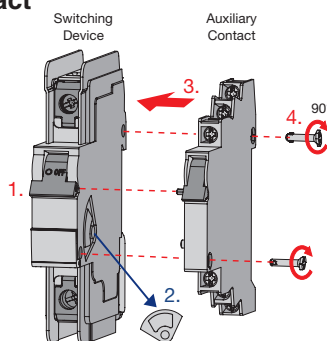


Neutral Poles N63UM, N32UL, N63UL or Shunt Trips FA..UM, FA..UL can be mounted on the right or left side of the circuit protection device.

1. Turn handle to off position.
2. Remove gray cover from the circuit protection device and accessory.
3. Insert linkage component between circuit protection device and neutral pole (N63UM, N32UL, N63UL) or shunt trip (FA..UM, FA..UL).
4. Insert connecting pin into handle.
5. Assemble circuit protection device and neutral pole (N63UM, N32UL, N63UL) or shunt trip (FA..UM, FL..UL).
6. The auxiliary contact (H..UM, H..UL) can also be mounted on the right side by using a different screw (E983419; see accessory pages 14, 32 or 41).

After final assembly check operation by moving the handle to the ON/OFF position several times.

Auxiliary Contact



Auxiliary contact can be mounted on the right side of the circuit protection device only.

1. Turn handles to OFF position.
2. Remove gray cover from switching device.
3. Combine circuit protection device and auxiliary contact (H...UM, H...UL).
4. Insert mounting screws and connect the two devices by turning the screws 90° clockwise.

After final assembly check operation by moving the handle to the ON/OFF position several times.

UL 1077
Equipment Breakers

Earth Leakage
Circuit Breakers

ANNEX