



## MINUS TWO CIRC Minimal Recessed

### Quick Facts

- Class 2 Fixture, Remote Powered up to 45m (150ft) max
- Minimal fixture aperture -  $\varnothing 33\text{mm}$  ( $\varnothing 1\text{-}5/16\text{'}$ )
- 19mm ( $3/4\text{'}$ ) recess depth required
- 12W Cree LED
- Up to 1000lm from source and 652lm delivered (IES files available upon request)
- Available in Warm White (2700K) and Soft White (3000K)
- Color Rendering Index  $\geq 90$
- 2-step SDCM ellipse for accurate color consistency between fixtures
- Full dimming range via remote power supply
- Suitable for installation in drywall, wood, and stone ceilings
- Suitable for dry, damp and wet locations (IP43)
- Type IC Rated, Plenum Rated, Airtight Rated
- Patented Product
- Engineered and made in Germany



### Description

Built on the hardware and performance of the MINUS TWO, the MINUS TWO CIRC introduces a refined circular louver of Apure's own design. Recessed in less than 25mm (1"), it delivers glare-free light in either a 20 or 40 degree beam spread. At a distance the fixtures are virtually undetectable, allowing the ceiling to remain entirely clean and focus to remain on the interior.

### Construction

- Extruded aluminum fixture body
- 50,000 hours LED lifetime
- Approximate fixture weight: 646g (1.43lbs)
- Operating Temperature: 10°C to 50°C

### Fixture Size

- Visible Aperture:  $\varnothing 33\text{mm}$  ( $\varnothing 1\text{-}5/16\text{"}$ )
- Recess Depth: 19mm ( $3/4\text{"}$ )
- Heat Sink: 120mm x 120mm ( $4\text{-}3/4\text{"}$  x  $4\text{-}3/4\text{"}$ )

### Light Output

- High performance Cree LED, available in various color temperatures
- 1000lm source light output, 652lm max delivered light output
- 2-step SDCM ellipse
- Color rendering index (CRI) min. 90
- Integral microprocessor controlled thermal protection

### Electrical Specifications

24V DC Constant Voltage Input (Class 2, 12W Power Consumption)

- 96W 24V DC Power Supply Required (powers up to 4 fixtures)
- Magnetic Low Voltage (MLV) Dimming (or) 3-Wire Lutron Hi-Lume dimming protocols
- Recommended wire, min. 16 AWG plenum rated (CMP, when required) up to 150ft from remote transformer

Constant Current 1000mA 12V DC Input (Class 2, 12W Power Consumption)

- Remote 1000mA Constant Current Driver Required
- 0-10V 0.1% Dimming (or) 1-10V/Push/DALI (or) Phase Dimming drivers available
- Recommended wire, min. 16 AWG plenum rated (CMP, when required) up to 82ft from remote transformer

### Installation Types

- Drywall installation for new construction and retrofit installations possible with the Universal Drywall Bracket, available for various drywall thicknesses.
- Custom installations for wood, metal and stone ceilings. Requires shop drawings available per request by Apure.
- Profile installation in the LINIAR System. See the LINIAR System cutsheet for more details.
- The Minus series is not suitable for installation within steam rooms or saunas!

### Listings

- UL Listed, CE Conform, Type IC Rated, Plenum Rated, Airtight Rated
- Suitable for dry, damp and wet locations (IP43)

### Resources / Installation Videos

Scan QR Code or visit at [apurelighting.com/resources/](http://apurelighting.com/resources/)



Resources



Videos



## ORDERING INFORMATION

### SERIES

- AM - Minus Series

### MODEL

- C - Minus Two Circ

### TYPE

- 1 - LED

### ORIENTATION

- F - Fixed

### TEMPERATURE (CCT)

- 27 - Warm White (2700K)  
 30 - Soft White (3000K)

### COLOR RENDERING INDEX

- 90 -  $\geq 90$

### OPTICS (DEGREE)

- S - Spot (20°)  
 F - Flood (40°)

### DIMMING PROTOCOL

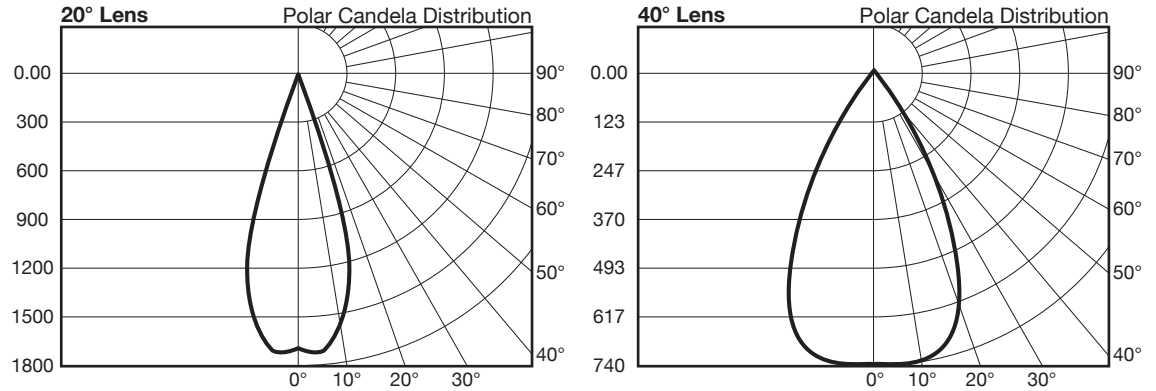
- A - Magnetic Low Voltage (MLV) (24V)\*  
 L - Lutron 3-Wire Hi-Lume 0.1% (24V)\*  
 CC - 0-10V / DALI / Phase Dim (1000mA Constant Current, 12VDC)\*

\*remote power supply required

### ORDERING EXAMPLE

AMC1F3090FCC

### LED Photometrics



#### Drywall Accessories

Universal Drywall Bracket  
 Universal Drywall Bracket  
 Universal Drywall Bracket - (US Standard)

#### Part Number

AMCBRKU10  
 AMCBRKU12  
 AMCBRKU15

#### Thickness

10mm  
 12.5mm  
 15mm

#### Requirement

Drywall Installations  
 Drywall Installations  
 Drywall Installations

#### Profile System

LINIAR System\*

#### Part Number

LSC1XX

#### Thickness

15mm

#### Requirement

Drywall Installations

#### Remote Power Supply for MLV Variant - [A]

Magnitude M-Series Power Supply (96W 24VDC)

#### Part Number

AA3096M

#### Input Voltage

120Vac

#### Listings

ETL

#### Remote Power Supply for Lutron Variant - [L]

Lutron 3-wire Hi-Lume Premier Eco Driver (by others)  
 Lutron 3-wire HomeWorks Digital Control (by others)

#### Part Number

L3D0-96W24V-U  
 LHD0-96W24V-U

#### Input Voltage

120-277V  
 120-277V

#### Listings

UL  
 UL

#### Remote Power Supply for CC Variant - [CC]

Magnitude AFLEX Power Supply (1000mA 60W)\*\*  
 Magnitude AFLEX JBZN Series (1000mA 60W)\*\*\*  
 Hatch FTX 0-10V (1000mA 50W)\*\*  
 Hatch XTC (1000mA 32W)\*\*  
 Apure Phase Dimmable (1000mA 26W)  
 Apure Phase Dimmable (1000mA 65W)  
 KGP DALI 2 NFC Touch Dim (500-1000mA 53.2W)\*\*

#### Part Number

AA3010M1000  
 AA3010MJBXX  
 AA3FTXH1000  
 AA3XTCH1000  
 AA32202DEU  
 AA32205DEU  
 AA3DALI2EU

#### Input Voltage

120-277Vac  
 120-277Vac  
 120-277Vac  
 120-277Vac  
 220-240Vac  
 220-240Vac  
 220-240Vac

#### Listings

UL Listed  
 UL Listed  
 UL Listed  
 UL Recognized  
 CE  
 CE  
 CE

\*Refer to LINIAR cutsheet for more information

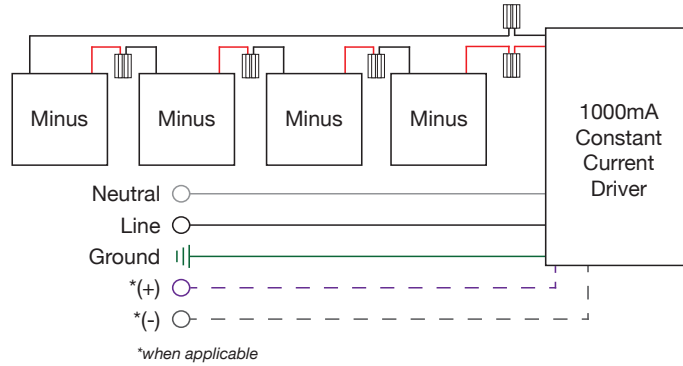
\*\*Driver enclosure required where applicable

\*\*\*Refer to reseller for more information

#### Custom Installation Types

- The universal bracket (AMCBRKUXX) is intended only for drywall installations.
- System ceilings, stone, wood and metal ceiling integrations are accomplished through custom fabrication by others. Please note, not all materials are suitable for installation. However, Apure will make every effort to accommodate custom integrations. Please contact your authorized Minus reseller for more information regarding custom ceiling integrations.
- Fixtures must have a minimum clearance of 12 inches (30cm) below or horizontally from the light source at all times!
- Observe and follow all local and national installation codes for all installation types.
- Test and make sure that all fixtures are working properly before any mudding, painting or finishing occurs!
- Read and adhere to all instructions supplied with each power supply and fixture.
- Follow all instructions supplied by power supply / driver manufacturer!

## Wiring Diagram for Constant Current Minus products - [CC]



**Fixture Leads**  
Red (+)  
Black (-)

*Warning: failure to wire correctly may cause fixture to fail.*

### Additional Considerations

The above wiring diagram applies only to Constant Current Minus products with product ordering codes ending with “CC”. The diagram above shows the typical wiring schematic, however the total number of fixtures per driver is driver specific.

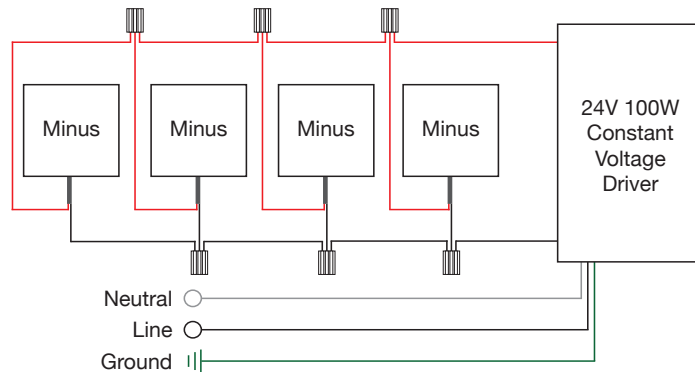
- |   |           |                    |          |
|---|-----------|--------------------|----------|
| • Magnitude AFLEX 0-10V Driver (1000mA 60W)   | 1-4 Minus | 16AWG - 82ft (25m) | US/CAN   |
| • Hatch FTX 0-10V (1000mA 50W)                | 2-3 Minus | 16AWG - 82ft (25m) | US/CAN   |
| • Hatch XTC34 Phase Dimmable (1000mA 32W)     | 1-2 Minus | 16AWG - 82ft (25m) | US/CAN   |
| • Apure Phase Dimmable (1000mA 26W)           | 1-2 Minus | 16AWG - 82ft (25m) | EU/INT'L |
| • Apure Phase Dimmable (1000mA 65W)           | 3-5 Minus | 16AWG - 82ft (25m) | EU/INT'L |
| • KGP DALI 2 NFC Touch Dim (500-1000mA 53.2W) | 1-4 Minus | 16AWG - 82ft (25m) | EU/INT'L |

**WARNING:** The power supply must operate within the range of minimum to maximum fixtures. Operation with less or more fixtures from the specified amount will result in damage to the power supply and/or lighting fixture. Incorrectly wiring the Constant Current lighting fixture may cause luminaire to fail.

### Dimmer Compatibility

Driver manufacturers perform extensive compatibility testing with various dimmers and LED loads. Dimming performance may vary based on driver type, load, wiring, and dimmer model. Apure recommends verifying system performance prior to installation. Refer to the LED driver specification sheet for detailed dimming data.

## Wiring Diagram for 24V Minus Products - [A] MLV or [L] Lutron



**Fixture Leads**  
Red (+)  
Black (-)

### Additional Considerations

The above wiring diagram applies only to 24V Minus products with product ordering codes ending with “A” or “L”. The diagram above shows the typical wiring schematic, however the total number of fixtures per driver is driver specific.

- |  |           |                      |        |
|--|-----------|----------------------|--------|
| • Magnitude M-Series Constant Voltage Driver (96W 24VDC) | 1-4 Minus | ≤16AWG - 150ft (45m) | US/CAN |
| • Lutron Hi-Lume Constant Voltage Driver (96W 24VDC)     | 1-4 Minus | ≤16AWG - 150ft (45m) | US/CAN |
| • Lutron HomeWorks Constant Voltage Driver (96W 24VDC)   | 1-4 Minus | ≤16AWG - 150ft (45m) | US/CAN |

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Fixture Dimensions

