



LEDrose LDR100

0/1-10V controlled dimming driver
for constant current LEDs

Contents

Overview and technical specification	2
Installation	3, 4
Related product options	5
Wiring diagrams	
Rotary Push-switch Wall Dimmer RPS	5
Rotary Push-switch Wall Dimmer RPC	6
Rotary Push-switch Wall Dimmer RPC and Lighting Contactor LC100	6
Take Control	7
Take Control and Lighting Contactor LC100	7
MoodMaker Scene-setting System	8

Product order codes

LDR100

Ten different current settings
selectable by user between
100mA and 750mA.

LDR100F

Supplied with maximum
current factory set to
customer requirement
between 100mA and 750mA



Overview

LEDrose LDR100 uses Constant Current Reduction (CCR) technology to provide smooth consistent flicker-free dimming to zero of constant current LED lamps or strips.

Can be positioned at great distances from the LED light source(s), allowing placement in electrical distribution cupboards or other convenient locations.

Maximum output current between 100mA and 750mA.

Versions available:

LDR100 supplied with 10 current settings on a multi-position switch, selectable between 100mA and 750mA. (See multi-position switch table).

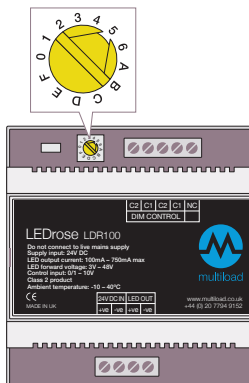
LDR100F supplied with maximum current factory set to customer requirement between 100mA and 750mA.

Features

- Output current range 100mA to 750mA.
- Smooth flicker-free light level adjustment down to 0.0001% with 0/1-10V control.
- DALI and DMX interfaces available.
- Hot pluggable (allowing LEDs to be replaced without switching off the power).
- Short circuit protected.
- Can be placed over 100m from LEDs.
- CCR (Constant Current Reduction) dimming keeps RFI along the cabling to a minimum (because current is not constantly switched on/off as in PWM dimming).
- Monitoring of current settings over time, allowing warranties to be honoured.
- Class 2 product requires power supply to applicable national standard.
- Any number of LEDrose LDR100s can be connected, up to the 85% of the rating of the power supply, provided it can maintain the 24V supply under all conditions.



LDR100 output current settings



Multi-position switch table

Position	Function	max current
0	Initial setup	100mA
1	Operation	100mA
2	Operation	200mA
3	Operation	250mA
4	Operation	300mA
5	Operation	350mA
6	Operation	400mA
7	Operation	500mA
8	Operation	600mA
9	Operation	700mA
A	Operation	750mA
F	Manufacturing test	

Technical information

Mechanical

DIN-rail mounted unit supplied with 3 standalone brackets.

Supply input voltage (24V)

24V ± 10% DC. Any number of LEDrose100s can be connected, up to the wattage of the power supply.

Output forward voltage

3V – 50V

Maximum output current

LDR100: Adjustable using positions 1-A on the multi-position switch between 100mA and 750mA.

LDR100F: Factory set between 100mA and 750mA.

Control input

0/1-10V signal.

DALI and DMX interfaces available

Monitoring

Time operated at different maximum currents is recorded

Efficiency

LEDrose LDR100 is greater than 90% efficient under maximum load.

Environment / humidity

Maximum 90% rh non-condensing

Ambient temperature range

-10°C – 40°C

Terminals

High quality rising clamp, allows easy connection, accepts stranded cable up to 4mm²

Physical data

Weight: 270g

Finish: Plastic

Dimensions: W:88mm D:90mm H:58mm



Installation

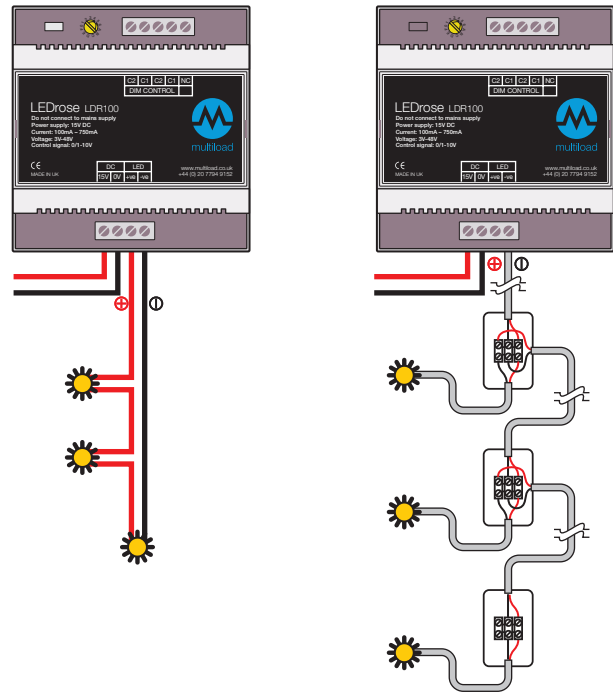
LEDrose LDR100

- Installation should be carried out by suitably qualified personnel in accordance with good wiring practice and the appropriate national wiring regulations.
- Only a single 2-core cable or a single feed and return cable are required for wiring LDR100 to the LED(s)
- Remote positioning eliminates the need to locate drivers in the ceiling or run mains and dimming signal wiring
- Minimised maintenance: LEDrose LDR100s can be placed in any suitable location to make access easy
- The LEDrose is SELV compatible. If SELV status is required for the installation the power supply and the dimming signal must also be SELV compatible (please check with controls manufacturer to ensure the dimming signal is also SELV)

Series connection and maximum voltage

Each LED requires a certain voltage when running at its nominal current; (this nominal voltage is calculated by dividing nominal power by nominal current, eg. a 14W lamp at 700mA requires $14W \div 0.7A = 20V$).

When connected in series the total nominal voltage (plus any cable volt drop) connected to LEDrose LDR100 must not exceed 48V, the voltage capability of the output.

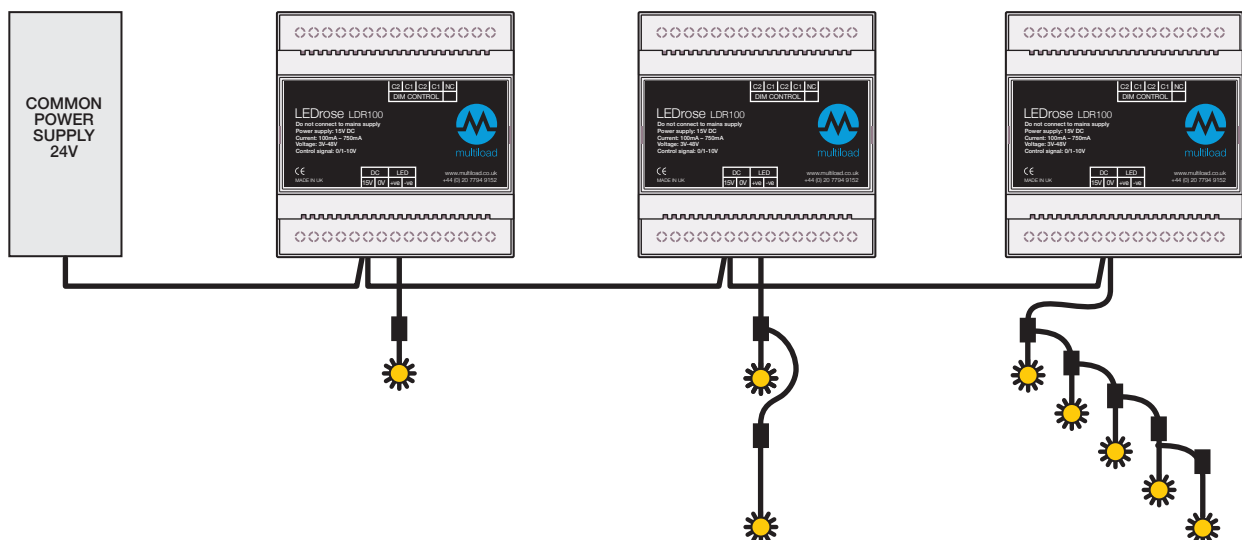


Power supply and series wiring diagrams

LEDrose LDR100 with one individual LED lamp.
 1 x 10W 300mA.
 Nominal voltage:
 $10 \div 0.3 \approx 33V$

LEDrose LDR100 with two lamps wired in series.
 2 x 14W 700mA.
 Nominal voltage:
 $(2 \times 14) \div 0.7 \approx 40V$

LEDrose LDR100 with five lamps wired in series.
 5 x 6W 700mA.
 Nominal voltage:
 $(5 \times 6) \div 0.7 \approx 43V$





Installation

LEDrose LDR100

User-set using one of ten maximum current settings on multi-position switch (see table on previous page).

Preparation

Before switching on supply:

- Connect LED(s) to output terminals. If cabling a string of LED lamps these must be series wired (see page 3), with a combined nominal voltage $\leq 48V$.
- Connect 24V power supply and 0/1-10V control signal to input terminals.
- Adjust multi-position switch to position 0.

Set-up

- Switch on supply and wait between 30 seconds to 1 minute. The unit will calculate the correct forward voltage between 3V and 48V for the LED or string of LEDs. The lamp(s) will reach a steady state brightness level, it will then switch itself off and within a couple of seconds re-establish a brightness level commensurate with the 0/1-10V signal input.
- Switch off supply and adjust the multi-position switch to whatever current is required (see table on previous page).
- Switch on supply and the unit will then be fully operational and set a brightness level commensurate with the 0/1-10V signal input.

To change to new lamp type

If a different output current or voltage lamp is to be used the following process is required to reset LDR100.

- Switch off the supply. Switch the multi-position switch to position 0. Wait a few seconds and then switch on the supply. Wait for between 30 seconds to 1 minute. The unit will calculate the correct forward voltage between 3V and 48V for the LED or string of LEDs. The lamp(s) will reach a steady state brightness level, it will then switch itself off and within a couple of seconds re-establish a brightness level commensurate with the 0/1-10V signal input.
- Switch off supply and adjust the multi-position switch to whatever current is required (see table on page 2).
- Switch on supply and the unit will then be fully operational and set a brightness level commensurate with the 0/1-10V signal input.

If a short circuit is detected

When the LDR100 detects a short circuit on the output it will shut down and a power reset (switch power off, wait a few seconds and switch power on again) is required to restart the LDR100.

To review driver monitor

To review stored usage history of driver please contact supplier.

LEDrose LDR100F

Supplied with maximum current factory set to customer requirement between 100mA and 750mA.

Preparation

Before switching on supply:

- Connect LED(s) to output terminals. If cabling a string of LED lamps these must be series wired (see page 3), with a combined nominal voltage $\leq 48V$.
- Connect 24V power supply and 0/1-10V control signal to input terminals.

Set-up

- Switch on mains supply and wait for between 30 seconds to 1 minute. The unit will calculate the correct forward voltage between 3V and 48V for the LED or string of LEDs. The lamp(s) will reach a steady state brightness level, it will then switch off and within a couple of seconds re-establish a brightness level commensurate with the 0/1-10V signal input.
- Switch off supply and wait for a few seconds.
- Switch on supply and the unit will then be fully operational and set a brightness level commensurate with the 0/1-10V signal input.

To change to new lamp type

If a different voltage lamp is to be used, but at same current, the following process is required to reset LDR100F.

- During normal operation with the LED producing light, short circuit the output lamp. After a few seconds, switch off the power. Fit the new lamp circuit and then switch on the power. Wait for between 30 seconds to 1 minute. The unit will calculate the correct forward voltage between 3V and 48V for the LED or string of LEDs. The lamp(s) will reach a steady state brightness level, the LDR100F will then switch itself off and within a couple of seconds re-establish a brightness level commensurate with the 0/1-10V signal input.
- Switch off supply and wait for a few seconds.
- Switch on supply and the unit will then be fully operational and set a brightness level commensurate with the 0/1-10V signal input.

If a short circuit is detected

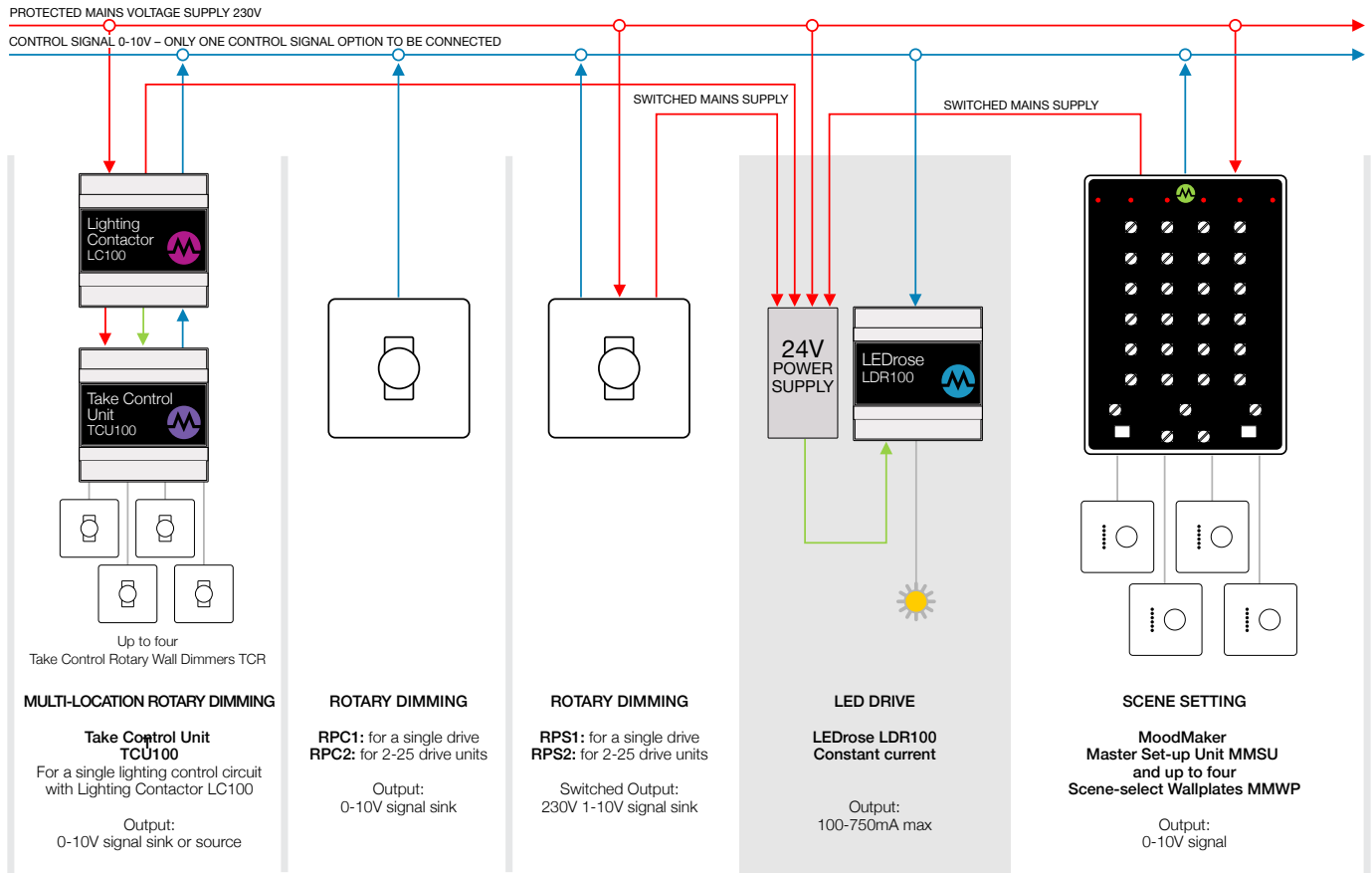
When the LDR100F detects a short circuit on the output it will shut down and a power reset (switch power off, wait a few seconds and switch power on again) is required to restart the LDR100F.

To review driver monitor

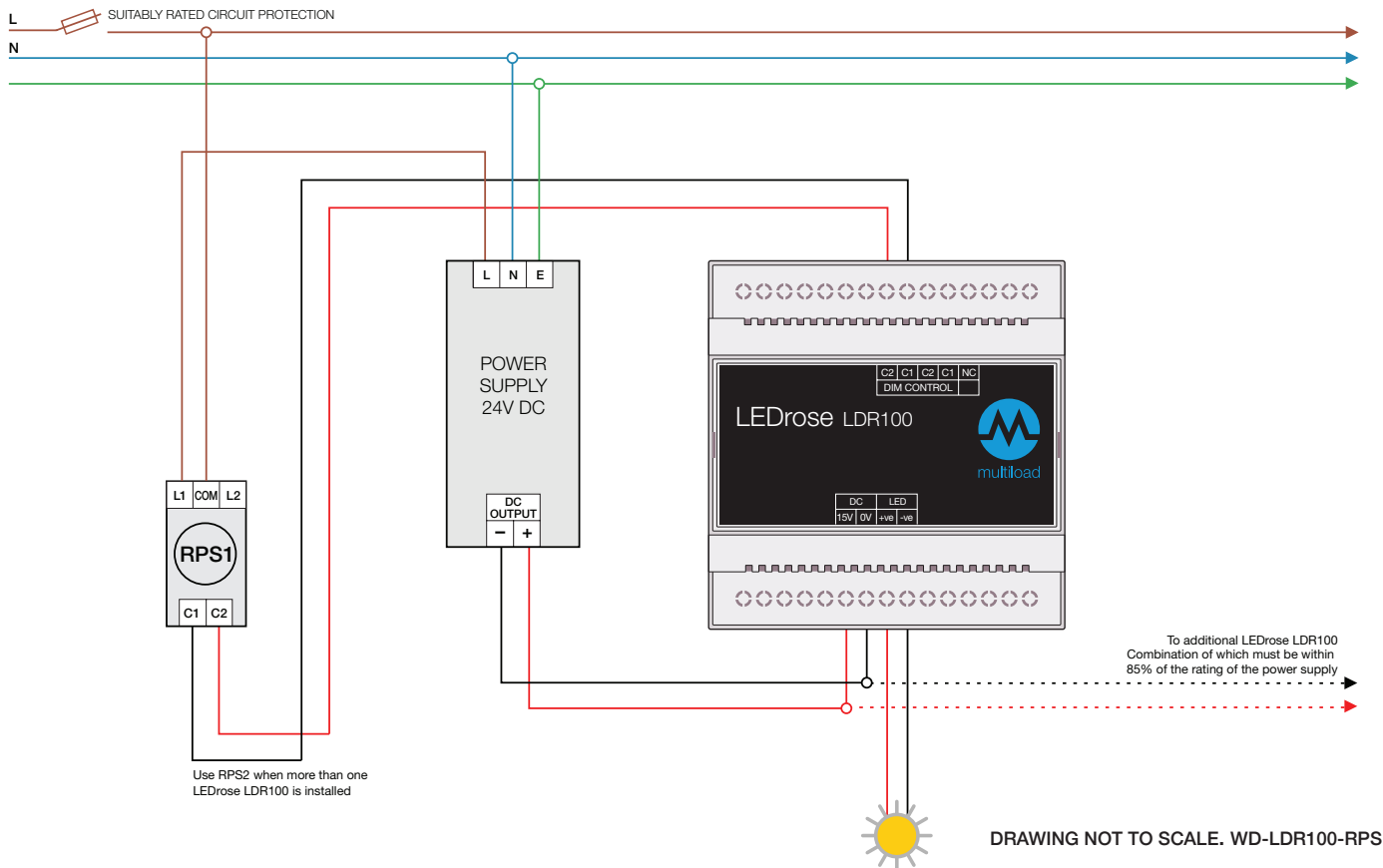
To review stored usage history of driver please return driver to supplier.



LEDrose LDR100 related product options

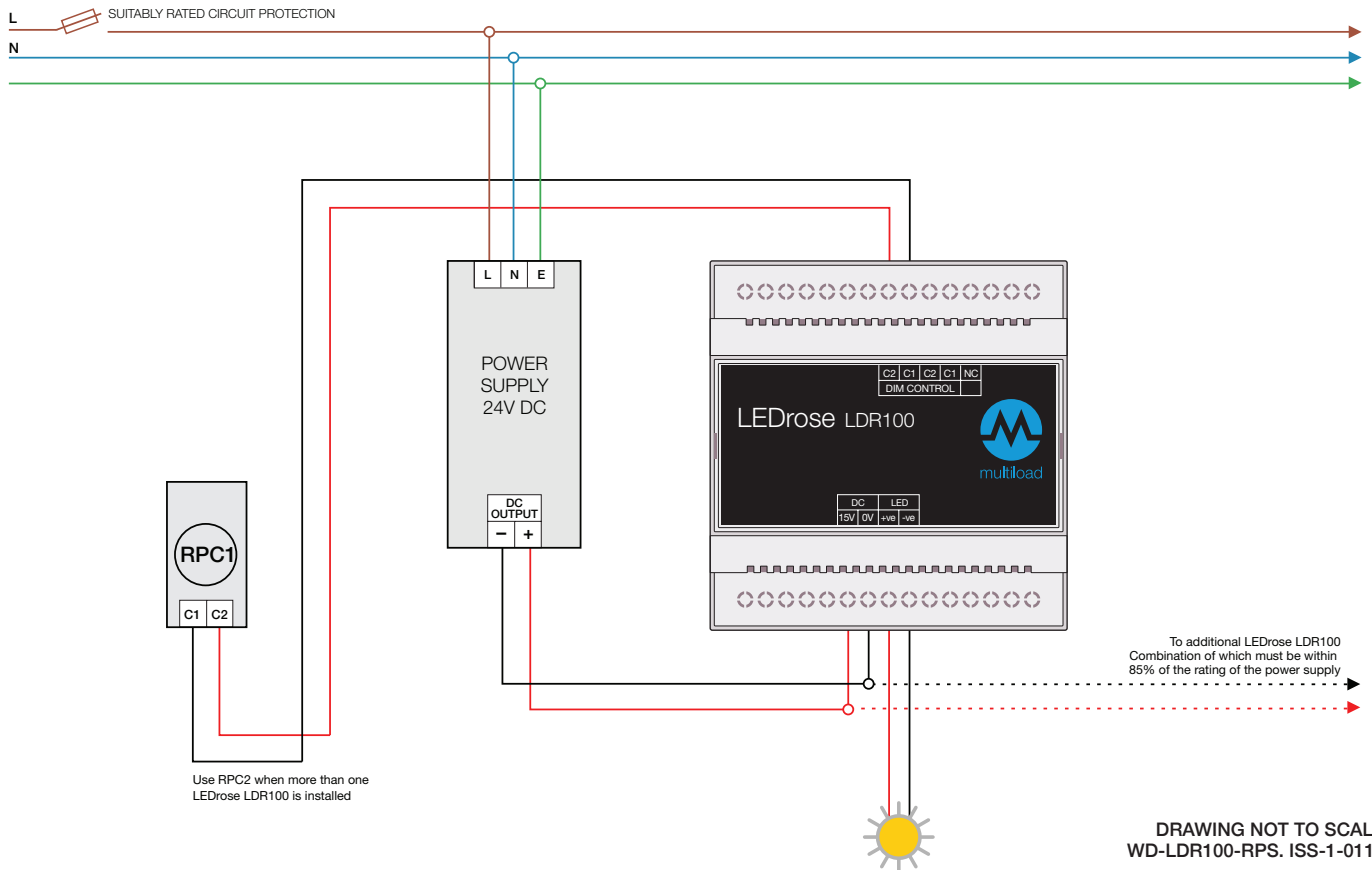


LEDrose LDR100 wired to Rotary Push-switch Wall Dimmer RPS

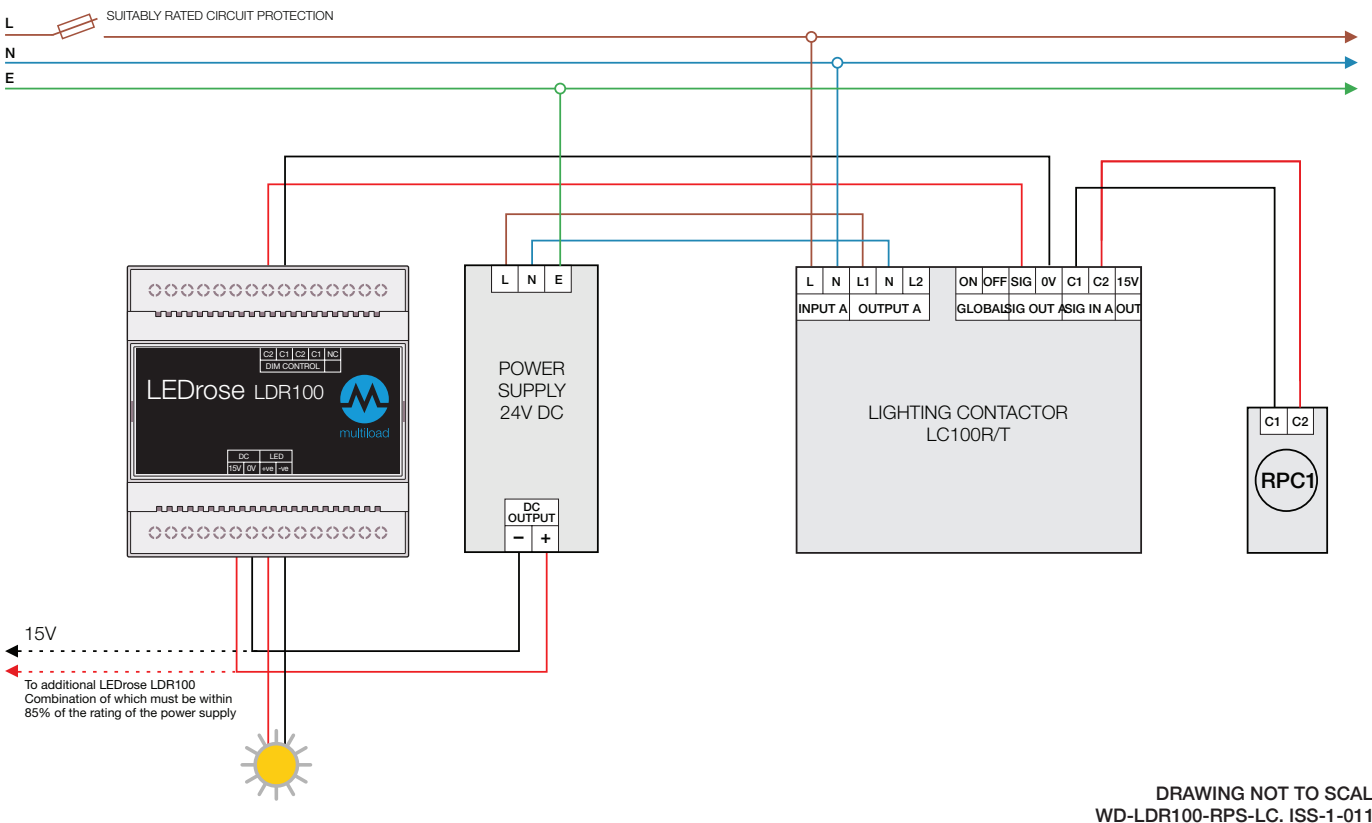




LEDrose LDR100 wired to Rotary Push-control Wall Dimmer RPC

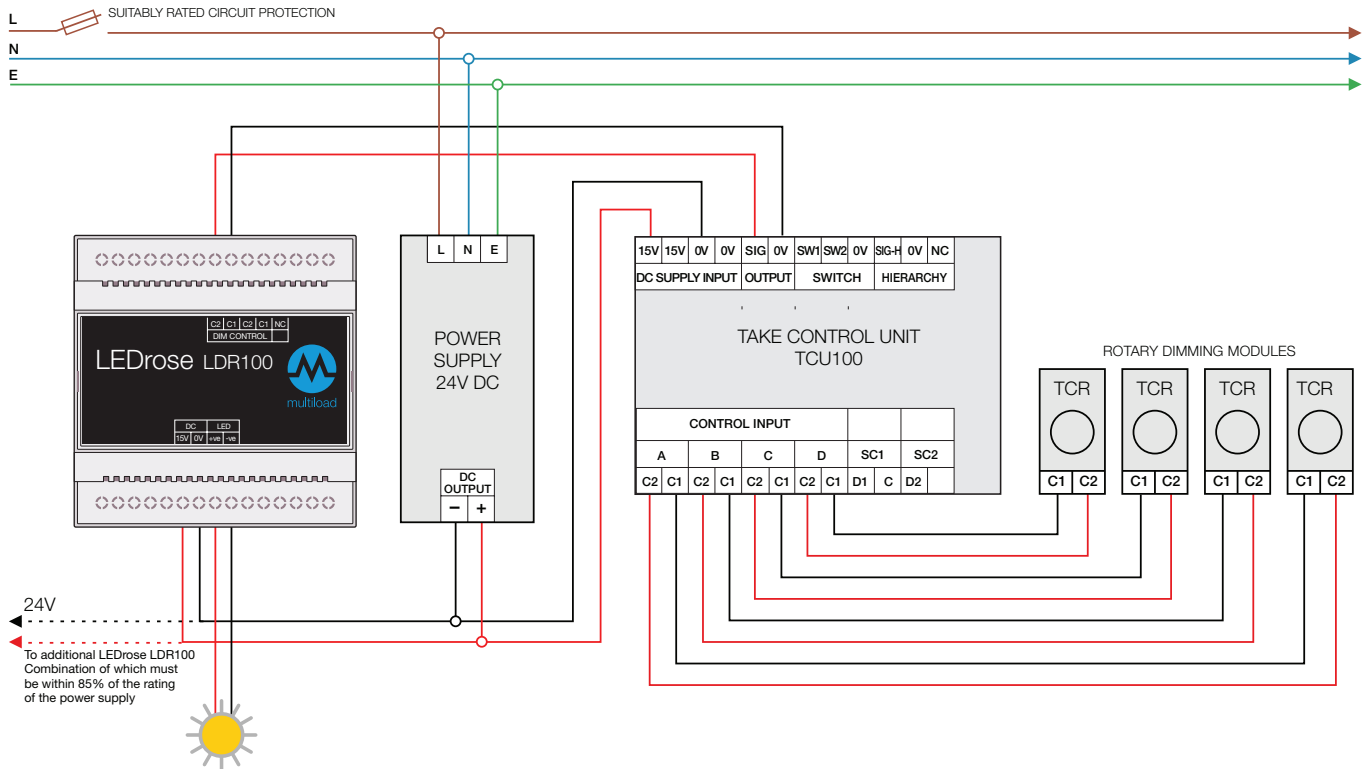


LEDrose LDR100 wired to Rotary Push-control Wall Dimmer RPC and Lighting Contactor LC100



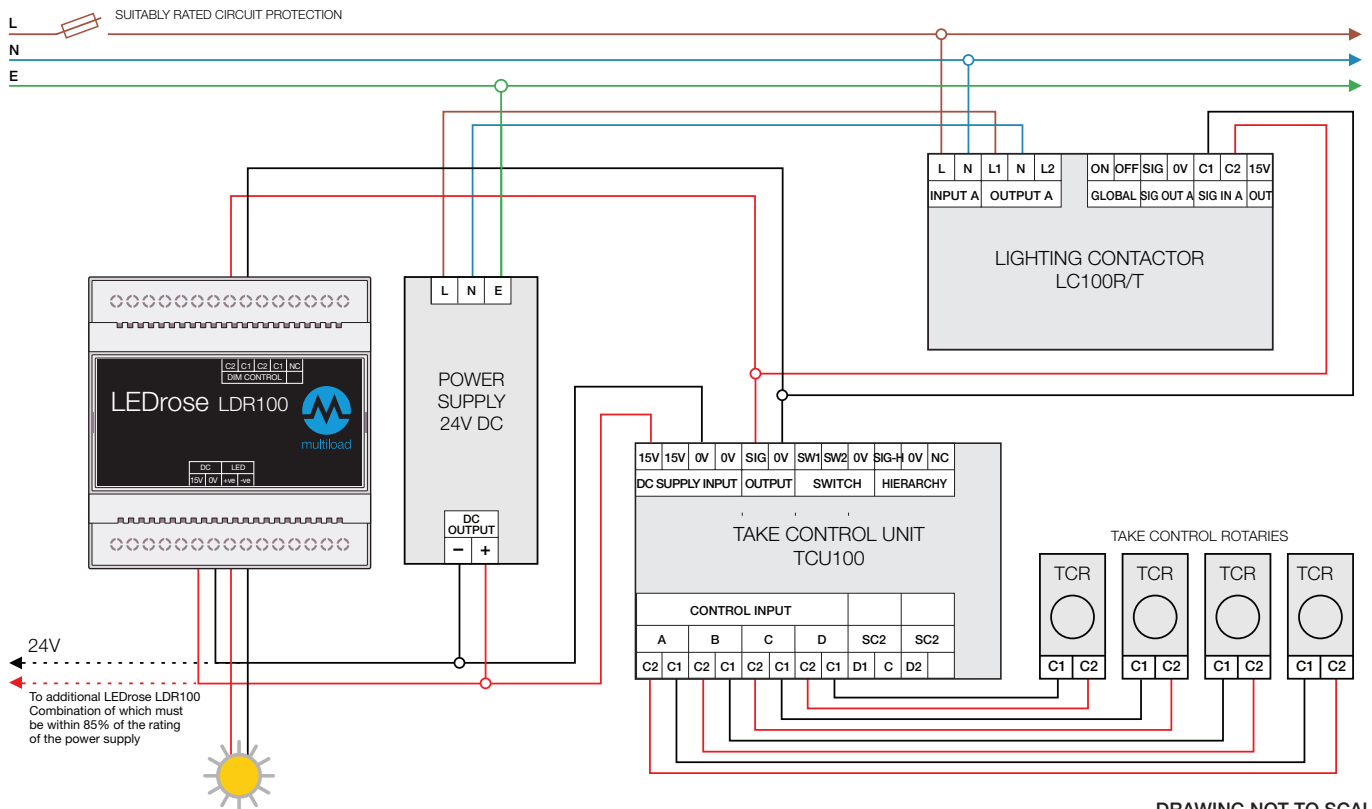


LEDrose LDR100 wired to Take Control Unit TCU



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 WD-LDR100-TCU. ISS-1-0117

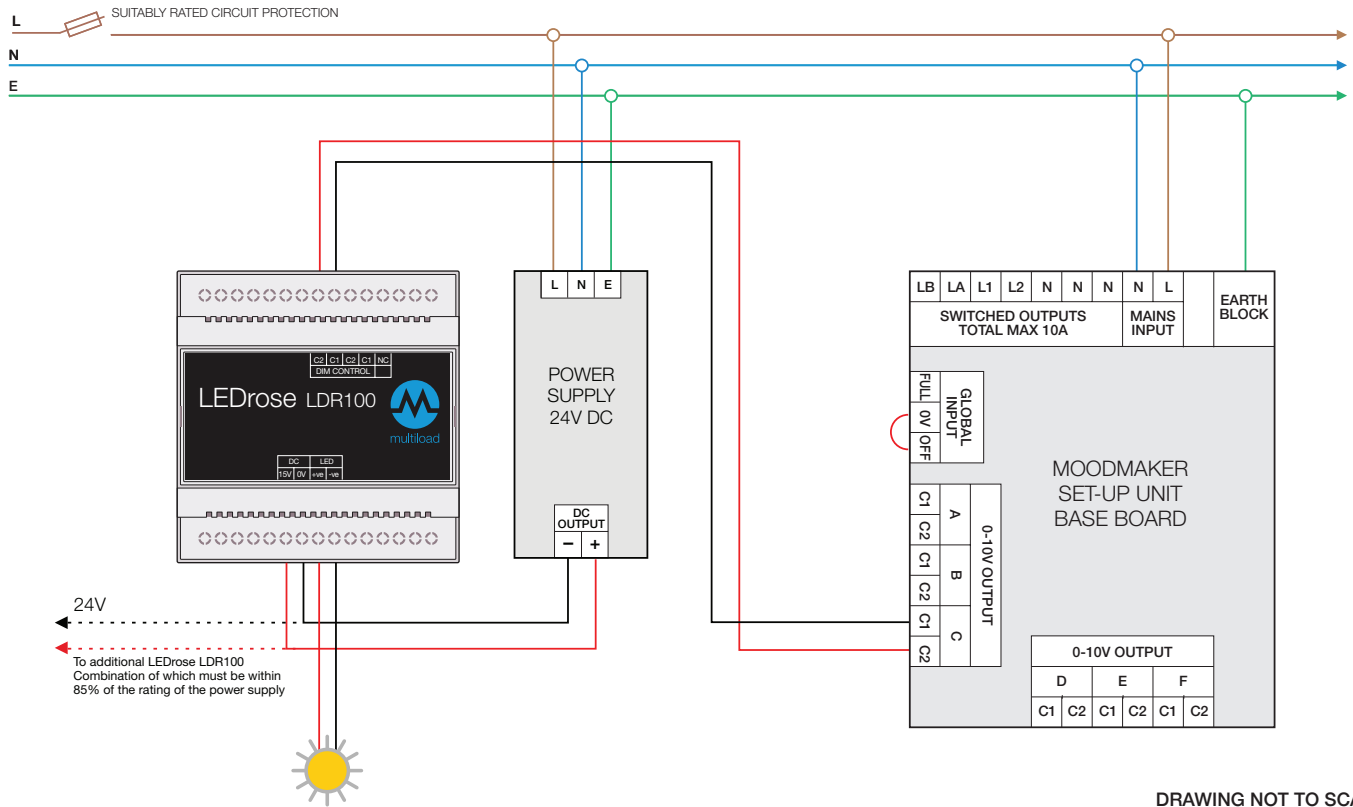
LEDrose LDR100 wired to Take Control Unit and Lighting Contactor LC100



DRAWING NOT TO SCALE
 WD-LDR100-TCU-LC. ISS-1-0117



LEDrose LDR100 wired to MoodMaker Set-up Unit MMSU



DRAWING NOT TO SCALE
WD-LDR100-MMSU. ISS-1-0117