



BITRO Power Controllers

BT-RDC

Bitro One-to-One Redundancy Module



overview

In a low-voltage modular LED system, power supplies are the weakest link in the chain. Unlike LED module failures which are often not catastrophic, power supply failures always lead to system-wide failure and product downtime that calls for immediate service calls by dissatisfied clients.

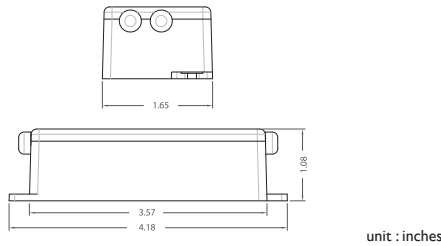
In cases where power supply failure is unacceptable or extremely costly (i.e. industrial telecommunication devices, servers, military devices, etc.), power redundancy offers the benefit of exponential reduction in system failure rate, thereby reducing risk and cost. Bitro has developed a redundancy backup system optimized for class 2 low voltage LED applications! The BT-RDC module allows the use of any two class 2 power supplies to be configured to provide power with redundancy backup to one class 2 load of LED modules.

The BT-RDC also offers 0-10V dimming function and short circuit protection in addition to its redundancy function - all in a single dry and damp location rated module. BT-RDC is an UL recognized component and backed by 5-year warranty.

features

- Creates a one-to-one power redundancy
- Ideal for LED applications where extreme reliability is desired (i.e. high-rise buildings, sign pylons, etc.)
- For use with two units of class 2 power supplies as input
- Exponentially increases the reliability of the power supply system
- Can be used with any class 2 power supplies
- Dimmable with 0-10V control signal
- Dry and damp location rated
- UL Recognized Component
- 5 Year Warranty

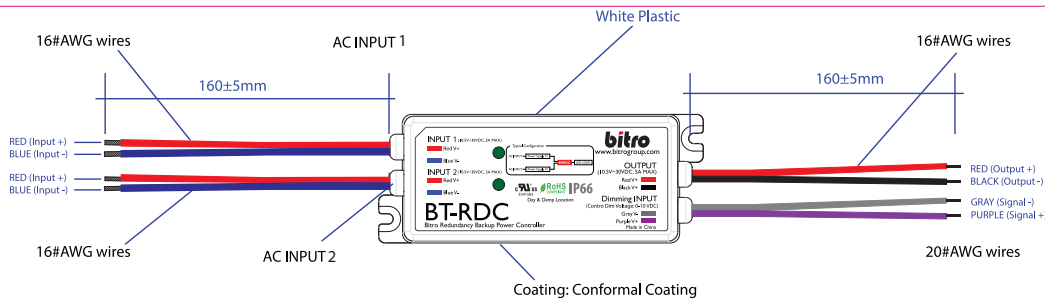
dimension



how it works

- For every set of LEDs powered by a class 2 power supply, the BT-RDC redundancy module is employed on the secondary side of the power supply, allowing for the use of an additional power supply to provide redundancy backup power.
- Any class 2 power supplies can be used with the BT-RDC. This is made possible by the patent pending design of the redundancy module, where the BT-RDC logic seamlessly chooses the higher voltage of the two inputs to be provided as output voltage to the LED load - without any interruptions in power or LED operation.
- This one-to-one (1 power supply + 1 backup) arrangement creates a situation where the only way for the LED power system to fail and require an immediate service call is if both power supplies fail. For instance, if each power supply connected to the BT-RDC has an expected failure rate of 1/1000, then the probability of system failure due to both power supplies failing would be $1/1000 \times 1/1000$ or One-in-a-Million chance of failure! That is an exponential increase in system reliability over a typical set up with only one power supply.
- The redundancy module prevents damage to either power supply due to reverse voltage, which can occur when using two power supplies with differing voltage outputs on other redundancy setups. BT-RDC also prevents short-circuiting of the LED load due to typical power supply failures, as it cuts off the failed power supply from the BT-RDC output, while seamlessly transferring the LED load to the non-failed power supply for continued operation.

models & dimension





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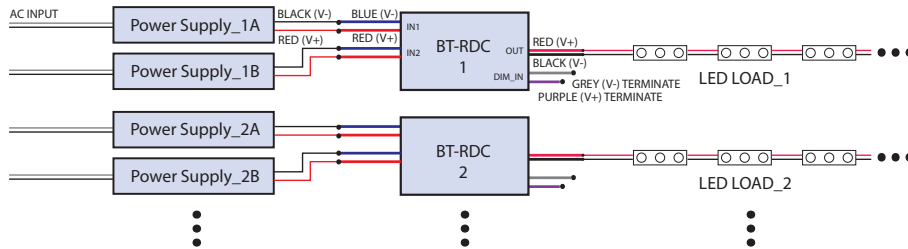


specifications

MODEL	BT-RDC	
INPUT	Input Voltage RANGE	10.5V ~30V DC input (x2 inputs)
	Input/Output switch Current	5 A max input (x2 inputs), 5 A max output
	Control Voltage	0-10V DC control
OUTPUT	DC output voltage	10.5V ~30V DC
	Dimming Range	0 - 100%
	RATED POWER	100W max
	EFFICIENCY (Typ.)	99%
PROTECTION	OVER TEMPERATURE	external LED temperature regulation input with optional temperature sensor module
ENVIRONMENT	WORKING TEMP.	-20 to +80 C ambient at full load.
	WORKING HUMIDITY	0% to 100%, non-condensing
	STORAGE TEMP., HUMIDITY	-40 to 85 C, 0% to 95%RH
SAFETY	SAFETY STANDARDS	design to meet UL requirement
OTHERS	MTBF	>500K hours, MIL-HDBK217E at 25 degrees C ambient.
	DIMENSION	4.18"L (106mm) x 1.65"W (42mm) x 1.08"H (28mm)
	Wire Size	Inputs & Output: 16 AWG standard, 6 inches Control: 20 AWG standard, 6 inches

wiring diagram

Standard Wiring
No Dimming



Remote SDC Wiring
for Control Dimming

