DMX and RGBW FIXTURE INFORMATION

DMX512A is a digital protocol that allows control of advanced lighting fixtures such as RGBW LED (allowing to create virtually any color of the spectrum) and Tunable White LED (allowing modification of the Correlated Color Temperature or CCT) used for Circadian lighting. Starting out as the theatrical fixture control option more than 30 years ago, DMX512A is currently amongst a few most widely used protocols for the architectural lighting controls. The control signal is sent over three conductors that require specific electrical characteristics and terminations. These electrical characteristics are met in the Cat5, or higher category cable. This type of cable is readily available for purchase virtually from any supplier and the cost effectiveness makes it a great choice for the electrical contractor to use. Coronet has adopted the industry standard options for transmission of DMX over the Cat5e cable. ESTA (Entertainment Services and Technology Association) is an organization in charge of creating rules and standards for the entertainment technology industry where DMX is one of the main control protocols and we at Coronet follow these rules closely to ensure that our fixtures could be easily integrated with any standard DMX control system.

Coronet DMX and RGBW fixture information:

Fixtures:

Coronet fixtures are built with rigid RGBW boards which are equipped with top-of-the-line OSRAM LEDs. Each 44” board houses 72 RGB and 72 Static White LEDs. All the boards are manufactured using the same single-color bin and intensity bin LEDs which ensures the consistency in color and intensity amongst the fixtures. The boards are cuttable in the 5.5” increments which adds flexibility to the custom fixture dimensions. Below are the technical aspects for Coronet’s RGBW boards:

Dimension	Color	Intensity	Efficacy (lm/W)	CRI
44”x0.787”	620nm	67000mcd	-	-
	533nm	177000mcd	-	-
	470nm	34000mcd	-	-
	3000K 3500K 4000K	Varies	150-170	>90

Drivers:

All of Coronet’s RGBW and DMX option fixtures are powered by the industry standard EldoLED drivers. All our rigid boards are powered by constant current PowerDrive series drivers which utilize constant current reduction dimming method. This type of dimming eliminates the presence of flicker which some people are sensitive to. Currently, Coronet is offering 50-watt and 100-watt constant current drivers.

If the fixture design or size does not allow the use of the rigid RGBW boards to be used, then the RGBW Flexible PCB might be used instead. The LEDs are powered by the EldoLED LinearDrive

series drivers which utilizes constant voltage reduction dimming method. This type of dimming eliminates the presence of flicker as well. Coronet is currently offering 100-watt constant voltage drivers.

By default, the drivers are programmed to a Linear dimming curve with the starting DMX address 001 unless otherwise has been requested. All the drivers are RDM capable which allows DMX readdressing onsite as required. A compatible RDM device/controller is required for this option (furnished by others). Please contact the factory for the recommended list of controllers.

Remote Enclosure:

All DMX drivers are mounted in a custom remote driver box enclosure. Each enclosure houses a single driver. The DMX wiring is connected in "touch-and-go" manner to the driver and then terminated to 2 female RJ45 ports. Both ports can be used as an IN and OUT for DMX transmission. The low voltage connection to the driver is protected from accidental damage with a special metal enclosure which minimizes the access to the driver's low voltage ports. The LED boards are powered via 8-wires which the EC needs to splice inside the driver enclosure. The line voltage connection features a quick disconnect which allows easy connection and driver servicing if required. The enclosure features 2 knockouts for conduit connection. One is for the line voltage, and another is for the low voltage LED power connection.

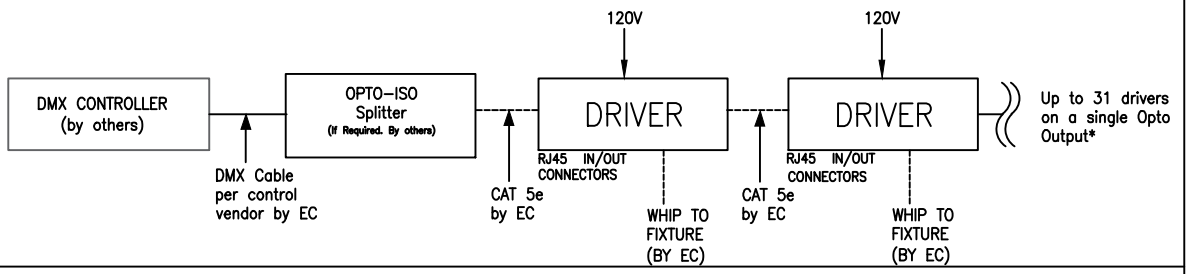
Wiring:

Cat5 Pinout for DMX transmission:

Function	Wire Color	RJ45 Pin Number (TIA-568B)	XLR Pin Number
Data Link Common (Shield)	White/Brown	7	1
Data 1-	Orange	2	2
Data 1+	White/Orange	1	3

The wiring between the driver enclosures can be done via either UTP (unshielded twisted pair) or STP (shielded twisted pair) category cable. In either case, the cable should be protected against physical damage along its entire length by the means of conduit, trunking, or raceways. Coronet suggests the use of UTP installed in the grounded conduit for the purposes of additional data integrity and physical cable protection. No line voltage wiring should be run in the same conduit as the DMX wiring. If the cable is run in the free air, then the STP, plenum rated cable must be used. The cable run between the drivers and/or controllers should not exceed 1000ft(300m). The total maximum of 32 devices (drivers, controllers, boosters) should be connected to a single DMX line. If more devices are present in the system, then the opto-splitter (by others) must be used (consult the factory for recommended makes and models). Please note that a fixture and a device are two different pieces of equipment. A single fixture might be powered by multiple drivers. It is the driver count that is important! The last driver in the run must be terminated using 120 Ohm resistor (provided by the factory). The resistor cannot be preinstalled at the factory as the wire path and the system wiring on site is unknown.

STANDARD DMX WIRING



NOTES:
*Last Driver in the run must be terminated with a 120 Ohm resistor (provided by Coronet)
*A single fixture can be powered by multiple drivers. It is the driver count that is important.

REMOTE DRIVER ENCLOSURE

Finish: GALVANNEALED STEEL