

# Easyl DIN





Easyl DIN DMX Controller


April 15, 2013

**READ AND FOLLOW ALL SAFETY INSTRUCTIONS!  
SAVE THESE INSTRUCTIONS AND DELIVER TO OWNER AFTER INSTALLATION**

- To reduce the risk of death, personal injury or property damage from fire, electric shock, falling parts, cuts/abrasions, and other hazards please read all warnings and instructions included with and on the fixture box and all fixture labels.
- Before installing, servicing, or performing routine maintenance upon this equipment, follow these general precautions.
- Installation and service should be performed by a **qualified licensed electrician**.
- Maintenance should be performed by qualified person(s) familiar with the products' construction and operation and any hazards involved. Regular maintenance programs are recommended.
- **DO NOT INSTALL DAMAGED PRODUCT!** This product has been properly packed so that no parts should have been damaged during transit. Inspect to confirm. Any part damaged or broken during or after assembly should be replaced.
- These instructions do not purport to cover all details or variations in equipment nor to provide every possible contingency to meet in connection with installation, operation, or maintenance. Should further information be desired or should particular problems arise which are not covered sufficiently for the purchaser's or owner's purposes, this matter should be referred to Acuity Brands Lighting, Inc.

	<b>WARNING RISK OF ELECTRIC SHOCK</b>
<ul style="list-style-type: none"><li>✓ Disconnect or turn off power before installation or servicing.</li><li>✓ Verify that supply voltage is correct by comparing it with the product information.</li><li>✓ Make all electrical and grounded connections in accordance with the National Electrical Code (NEC) and any applicable local code requirements.</li><li>✓ All wiring connections should be capped with UL approved recognized wire connectors.</li><li>✓ All unused connector openings must be capped.</li></ul>	

	<b>WARNING RISK OF BURN or FIRE</b>
<ul style="list-style-type: none"><li>✓ Do not exceed maximum wattage, ratings, or published operating conditions of product.</li><li>✓ Do not overload.</li><li>✓ Follow all manufacturer's warnings, recommendations and restrictions to ensure proper operation of product.</li></ul>	

	<b>CAUTION RISK OF INJURY</b>
<ul style="list-style-type: none"><li>✓ Wear gloves and safety glasses at all times when installing, servicing or performing maintenance.</li></ul>	

**Always read the fixtures complete installation instructions prior to installation for any additional fixture specific warnings.**

Failure to follow any of these instructions could void product warranties. For a complete listing of product Terms and Conditions, please visit [www.acuitybrands.com](http://www.acuitybrands.com).



**CAUTION: RISK OF PRODUCT DAMAGE**

- ✓ Electrostatic Discharge (ESD): ESD can damage product(s). Personal grounding equipment must be worn during all installation or servicing of the unit.
- ✓ Do not touch individual electrical components as this can cause ESD and affect product performance.
- ✓ Do not stretch or use cable sets that are too short or are of insufficient length.
- ✓ Do not tamper with contacts.
- ✓ Do not modify the product.
- ✓ Do not change or alter internal wiring or installation circuitry.
- ✓ Do not use product for anything other than its intended use.
- ✓ If installing latching springs: ensure that the springs are fully engaged prior to moving to next connection.
- ✓ If installing wiring systems: Materials and component parts of a manufacturing wiring system as described in Article 604 of the National Electric Code and Underwriters Laboratories Standard for Safety #183 **MUST BE** installed.

Please see product specific installation instructions for additional warnings or any applicable FCC or other regulatory statements.

Failure to follow any of these instructions could void product warranties. For a complete listing of product Terms and Conditions, please visit [www.acuitybrands.com](http://www.acuitybrands.com).

Our Brands	Indoor/Outdoor	Indoor Lighting	Outdoor Lighting	Controls	Daylighting
	Lithonia Lighting	Gotham	American Electric Lighting	DARK TO LIGHT	SunOptics
	Carandini	Mark Architectural Lighting	Antique Street Lamps	LC&D	
	Holophane	Peerless	Hydrel	ROAM	
	RELOC	Renaissance Lighting	Tersen	Sensor Switch	
	Light Concepts	Winona Lighting		Synergy	

Acuity Brands Lighting, Inc. assumes no responsibility for claims arising out of improper or careless installation or handling of its products.

# Easyl DIN

## Theory of Operation

Easyl DIN is a DMX controller for RGB lighting. Easyl has 12 preprogrammed shows which are programmable via Easyl Studio software. Shows and static color effects can be recalled by wallstations (if purchased), dedicated show contact closure inputs or by internal timeclock event triggers.

Easyl DIN operates by playing only ONE show at a time. Multiple contact closures may be active at a time, but the DIN controller will respond to the last input received.

## Startup Sequence

The Easyl DIN startup and commissioning sequence is divided into 3 parts.

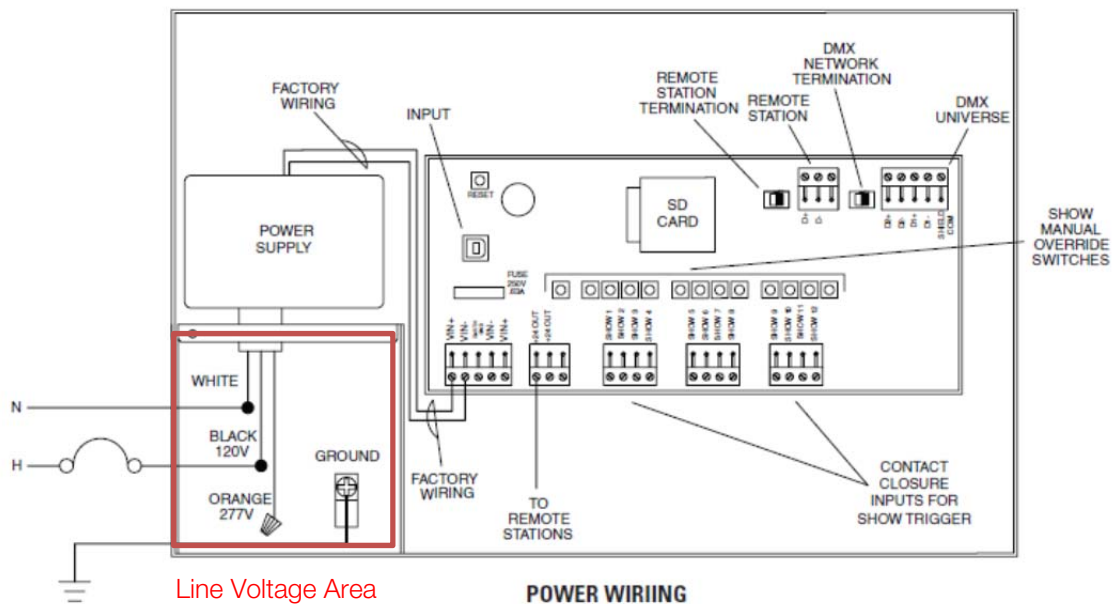
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## PART 1: INSTALLATION

Installation follows these steps

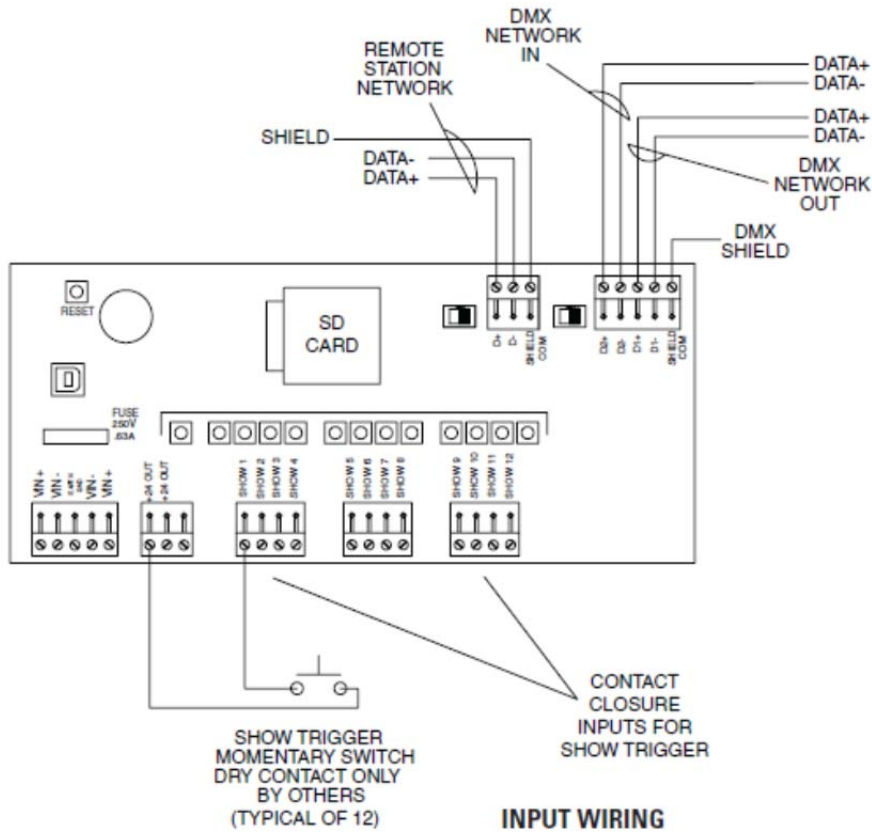
1. Turn off all power sources, DO NOT WIRE LIVE.
2. Easyl DIN is provided in a NEMA 1 enclosure. Mount Easyl DIN flush to a wall surface via appropriate mounting hardware (bolts/washers) through the 4 mounting locations provided. Avoid pinching and/or nicking any wires located near mounting holes.
3. Install all DMX fixtures and route DMX cabling from fixtures to Easyl DIN enclosure, following local codes. Note knock outs are provided for class 2 wiring entry. Line voltage wiring enters on the bottom left in the line voltage wiring location. See below.  
NOTE: DMX wiring is Class 2 and must be daisy chained. Terminating resistors should be used (or termination switches engaged) for the first and last devices in the daisy chain.
4. If Easyl wallstations (hard button) are used, follow wire selection & diagram on page 7
5. Connect line voltage 120 or 277V to the Easyl Power Supply located within the Easyl DIN enclosure
6. Energize Easyl DIN. Power LED should illuminate

### Easyl DIN Input Power Wiring & Key Components



**Easy! DIN low voltage wiring:**

1. Easy! show triggers may be from a contact closure input. Wire inputs as shown.
2. Terminate the DMX network as shown. If Easy! is at the start or end of a DMX string, verify the link termination switch is set "ON". If not at the start or end, set switch off.
3. Easy! wallstation wiring must be daisy chained requires link termination at the 1<sup>st</sup> and last device on the link



**DMX 512 Notes:**

- DMX512 must be daisy chained
- *Luminaires have a variety of DMX standard approved connectors, see page 7 for standard pin-out*
- Network termination is required at the first and last device on the chain
- Use approved 3 conductor cable containing at least 1 twisted pair for DMX Data+, DMX Data-
- Carry common throughout, shield is connected to ground only at the Easy! DIN
- Easy!'s network termination switch is factory set "ON" switch off only if Easy! is NOT the start/end of the DMX run

**Easy! Wallstation Network (Remote Station Network):**

- Must be daisy chained
- 4 Conductor cable must be used: +24, Common, Data+, Data-. Data must be twisted and shielded
- Shield is connected to ground only at the Easy! Backbox
- Easy!'s network termination switch is factory set "ON" switch off only if Easy! is NOT the start/end of the wallstation link

DMX Wiring Reference

<b>DMX Network Cat-5 / Cat-5e / Cat 6 Wiring</b>			
<b>Pin (Wire) #</b>	<b>Wire Color</b>	<b>Easy! Wire Color</b>	<b>DMX512 Function per ANSI E1.11</b>
1	white / orange	White/Stripe	Data 1 +
2	orange	Yellow/Stripe	Data 1 -
3	white / green	N/C	Data 2 + (optional)
4	blue	N/C	Not Assigned
5	white / blue	N/C	Not Assigned
6	green	N/C	Data 2 - (optional)
7	white / brown	Black	Data 1 common (0 v)
8	brown	Black	Data 2 common (0 v)

**Notes from DMX Standard (ANSI E1.11) Document**

**Note 1:** Pin numbering and color in accordance with ANSI/TIA/EIA-568 scheme T568B.

**Note 2:** Pin 8 should be wired as signal common even if pins 3 and 6 are NOT wired

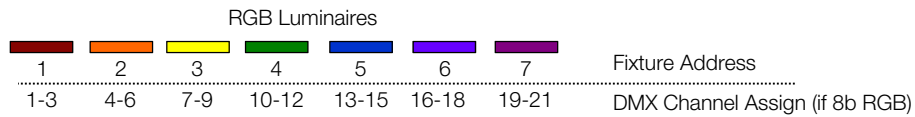
<b>DMX Network with XLR-5</b>			
<b>Pin (Wire) #</b>	<b>Wire Color</b>	<b>Easy! Wire Color</b>	<b>DMX512 Function per ANSI E1.11</b>
1	N/A	Black	Common
2	N/A	Yellow/Stripe	Data 1 -
3	N/A	White/Stripe	Data 1 +
4	N/A	N/C	Data 2 - (optional)
5	N/A	N/C	Data 2 + (optional)

<b>DMX Network with XLR-3</b>			
<b>Pin (Wire) #</b>	<b>Wire Color</b>	<b>Easy! Wire Color</b>	<b>DMX512 Function per ANSI E1.11</b>
1	N/A	Black	Common
2	N/A	Yellow/Stripe	Data 1 -
3	N/A	White/Stripe	Data 1 +

## PART 2: FIXTURE CONFIGURATION AND ADDRESSING

DMX fixture channel assignment and profiles must be properly configured before programming in EasyL Studio.

To properly program EasyL, address fixtures in order from left to right in your space (relative to the way the lighting will be viewed). Therefore, the left most fixture should begin responding to DMX channel 1. Channel assignments should be sequentially arranged as shown below.



Complete the *Fixture Table* in EasyL Studio. Use fixture documentation to correctly record profiles and channel counts. DMX start channel (Start Channel #) and end channel (End Channel #) are manually calculated. Do not overlap channels.

EasyL Fixture Types: EasyL calculates DMX values for fixtures & configures the DMX strings per the DMX fixture type. Use the following table to select the EasyL Fixture type that BEST matches the fixture being used. Reference the EasyL Fixture Types on the next page to select the right profile to match your fixture.



**Easy! Fixture Types**

<b>Name</b>	<b>Channels</b>	<b>Description</b>
(3) RGB 8b	3	8 bit values for Red, Green & Blue
(4) RGBI 8b	4	8 bit values for Red, Green, Blue & Intensity; Intensity = Intensity slider on Easy!
(4) IRGB 8b	4	8 bit values for Intensity, Red, Green & Blue; Intensity = Intensity slider on Easy!
(4) RGBA 8b	4	8 bit value for Red, Green, Blue, Amber; Amber = minimum(Red, Green)
(4) RGBW 8b	4	8 bit value for Red, Green, Blue, White; White = minimum(Red, Green, Blue)
(5) RGBAW 8b	5	8 bit value for Red, Green, Blue, Amber; Amber = minimum(Red, Green), White = minimum (Red, Green, Blue)
(5) RGBWA 8b	5	8 bit value for Red, Green, Blue, Amber; White = minimum (Red, Green, Blue), Amber = minimum(Red, Green),
(6) RGB 16b LSB	6	16 bit values for Red, Green & Blue with the Low Byte First
(6) RGB 16b	6	16 bit values for Red, Green & Blue with the High Byte First
(8) RGBA 16b	8	16 bit value for Red, Green, Blue, Amber; Amber = minimum(Red, Green)
(8) RGBW 16b	8	16 bit value for Red, Green, Blue, White; White = minimum(Red, Green, Blue)
(10) RGBAW 16b	10	16 bit value for Red, Green, Blue, Amber; Amber = minimum(Red, Green), White = minimum (Red, Green, Blue)
(10) RGBWA 16b	10	16 bit value for Red, Green, Blue, Amber; White = minimum (Red, Green, Blue), Amber = minimum(Red, Green),
(1) White 8b min	1	8 bit value for White (single channel DMX fixture); White = minimum(Red, Green, Blue) on a color show*
(1) White 8b avg	1	8 bit value for White (single channel DMX fixture); White = average(Red, Green, Blue) on a color show*
(1) White 8b max	1	8 bit value for White (single channel DMX fixture); White = max(Red, Green, Blue) on a color show*
(2) White 16b min	2	16 bit value for White (single channel DMX fixture); White = minimum(Red, Green, Blue) on a color show*
(2) White 16b avg	2	16 bit value for White (single channel DMX fixture); White = average(Red, Green, Blue) on a color show*
(2) White 16b max	2	16 bit value for White (single channel DMX fixture); White = max(Red, Green, Blue) on a color show*
(2) White 16b min	2	16 bit value for White Low Byte First (single channel DMX fixture); White = minimum(Red, Green, Blue) on a color show*
(2) White 16b avg	2	16 bit value for White Low Byte First (single channel DMX fixture); White = average(Red, Green, Blue) on a color show*
(2) White 16b max	2	16 bit value for White (Low Byte First single channel DMX fixture); White = max(Red, Green, Blue) on a color show*

\* Program plain white shows or create white zones in Easy! Pro to reduce confusion of mapping a color value to "White" luminaires

### **PART 3: DMX RECORD**

Easy! DIN may be used as a DMX recorder and playback device. Up to 20 hours can be stored. A recorded DMX show must be assigned to one of the 12 show slots. To record a DMX string, complete these tasks.

1. Press and hold the record button
2. After 3 seconds, the record LED will light
3. Release the record button and the show LEDs will begin sequencing indicating to the user to press one.
4. Press the desired show button and release. The record LED and show LED will be illuminated. At this point, Easy! is waiting on the DMX stream to begin being received.
5. Start the DMX stream, the show LED will remain illuminated and the record LED will flash to indicate recording is in progress.
6. Stop the stream or press the record button to stop recording.

Repeat the preceding sequence for each show you are recording.

### **PART 4: TROUBLESHOOTING**

Verify Easy! is properly powered

LEDs on the circuit board will be illuminated

Verify DMX is operating

Press one or more show buttons, DMX output LEDs will blink

Verify Wallstations are connected

Press buttons on the wallstation to trigger show status change; LEDs on Easy! DIN should update

Cannot turn lights off

Verify a control signal (wallstation or contact closure or timeclock event) triggers the lights off – when lights are off, show LEDs will not be illuminated

## SUPPORT

For Support please call:

800.922.9646

For Documentation please visit:

[www.easyl.com](http://www.easyl.com)