

## Converging Systems DIN-RAIL Components Recommended Operating Procedures for Proper Mounting

Date: July 8, 2020

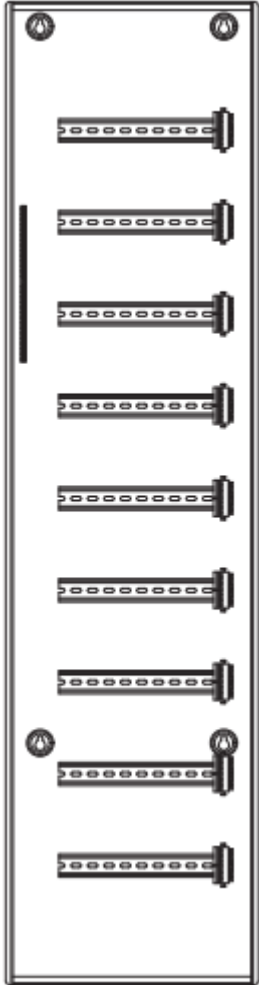

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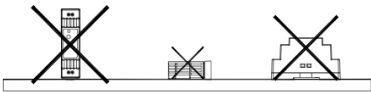
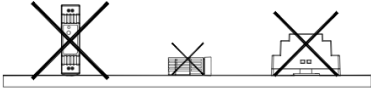
**Background:** Converging Systems ILC-xxx controllers are designed are the DIN-Rail enclosures. In addition, the Converging Systems e-Node/xxx gateways required to control both ILC-xxx controllers (e-Node) as well as third-party DMX fixtures (e-Node/dmx) share the same DIN-Rail enclosure type. Is it up the installing dealer to observe and to follow all local codes when integrating these components and associated power supply units (PSU) within UL- Listed/rated enclosures.

The following detail describes common requirements that should be followed for such installations. Local code inspectors should rely on their existing resources aided by these recommendations when making final determination as to applicability and suitability of a final submission/installation.



The following are recommendations based on acceptable use conditions extracted from our UL-listed products documentation and requirements provided with associated UL Listing documents for associated products.

Topic	Detail	Figure
<p>Recommended DIN Panel enclosure</p>	<p>Converging Systems recommends Lutron family of DIN rail panels designed to accept DIN type power modules (DPSU)</p> <p>Standard panel sizes are typically 16 in (406mm), 36 in (914mm) and 59 in (1499mm).</p> <p>Suggested PN: Lutron PN PD9-59F-120 or similar</p>	
<p>Din rail type</p>	<p>TS35 Standard Din -TS35/7.5 or TS35/15</p>	

<p>Orientation for Din-Power Supply Units (DPSU)</p>	<p>The appropriate mounting orientation for the DPSU is vertical (no exceptions).</p> <p>For DPSU (model 21-1048-xxx), the input terminals at the bottom and output on the top. Mounting orientation other than that, such as upside down, horizontal, or table-top mounting, is not allowed.</p>	
<p>Orientation for Converging Systems ILC-xxx and e-Node devices</p>	<p>The appropriate mounting orientation for Converging Systems Din-rail configured devices is flexible. Typically, units are mounted in the same orientation as DPSU but may be varied depending upon the specific field installation requirements. The orientations may include upside down, horizontal, or table-top mounting.</p>	
<p>Spacing for ILC-xxx Controllers and e-Node</p>	<p>ILC-xxx and e-Node device are non-heat generating. They can be placed next to each other. When placed in proximity to DPSU, allow 15~20mm between devices.</p>	
<p>Spacing for Din Power Supply Units (DPSU)</p>	<p>Always allow ventilation clearance, 5mm left and right, 40 mm above and 20mm below, around the unit to prevent it from overheating. Also, a 10-15cm clearance must be kept when the adjacent device is a heat source.</p>	
<p>Working Temperature</p>	<p>Specified UL listed DIN-rail enclosures have been extensively tested to ensure optimal thermal protection with maximum load in 32 °F to 104 °F (0 °C to 40 °C) ambient temperatures. Components should operate within that range.</p>	
<p>Working Humidity</p>	<p>20~90~ non-condensing</p>	

Separation of Class 1 from Class 2 circuits	All Class 1 circuits should be separated from Class 2 circuits by either a UL approved barrier of ¼" (6.35mm) of air spacing	
Wiring	Use copper wire only -use wires that can withstand temperatures of at least 80°C such as UL1007 -recommended wire strapping length is 6.5mm (0.255") -recommended screwdriver is 3mm slotted -recommended torque setting for terminals is 5 kgf-cm (4.4 Lb-in).	
Incoming Class 1 connections	All Class 1 connections to the UL Listed enclosure should be performed by a licensed electrician according to local codes.	
Cooling	Specified UL Listed enclosure provides for sufficient cooling within fans provided front panel vents are not obstructed. It is recommended that installers perform temperature test over time with the front plate attached in order to determine the internal temperatures do not exceed those specified above.	
Grounding	The (i) ground terminal on the DPU as well as (ii) the ground terminal-pin on all ILC-xxx <b>should be connected to PE</b> (Protected Earth). All ground terminals can be tied together with appropriate copper wiring.	
Hot Swapping	Disconnect system from supply voltage before commencing any installation, maintenance or modification work. Make sure that inadvertent connection to power is impossible	