



## DATASHEET

# HRNL-25W

Compact On AIR Lamp Module  
rev. 1.2

## HRNL-25W Compact On AIR Lamp Module



### Overview

The HRNL-25W is a compact, PoE-powered, network-based controller for addressable LED strips used in broadcast, production, and studio environments. It processes **TSL 3.1 and OSC protocol** data to control color, brightness, and LED segmentation in real time.

Unlike traditional tally systems or integrated light fixtures, the HRNL-25W provides complete installation flexibility: users connect their own LED strips, custom-made acrylic signs, multi-zone light bars, or studio indicators — all powered and controlled from a single PoE Ethernet cable.

### Key Features

- Fully IP-based OnAir/tally control (no GPIO wiring required)
- PoE-powered (single cable for power + control)
- Drives external addressable 5V LED strips
- Supports multiple independent LED segments (per TSL ID)
- **TSL 3.1 and OSC** protocol support
- Built-in WebGUI for configuration and testing
- Up to 8 simultaneous TCP/UDP/WebGUI connections
- Future-ready with planned REST API
- Ideal for custom installations and OEM solutions
- 2-year manufacturer warranty



## **Advanced Features**

### **Advanced Addressable LED System**

The HRNL-25W supports highly flexible LED segmentation, allowing a single connected LED strip to operate as:

- A continuous single-color OnAir bar
- Multi-zone segmented status indicator
- Dual-message or tri-message acrylic sign
- Color-coded cue bar
- Multi-section tally strip
- OSC-driven indication system (up to 5 rules)

### ***LED Strip Support***

- Supports 5V addressable LED strips (WS2812 / WS2813 and equivalents)
- LED count fully configurable via WebGUI
- Per-LED independent control
- Internal brightness limiting to protect power budget

### ***Segmentation (TSL ID Mapping)***

- LEDs can be divided into any number of segments
- Each segment can be assigned a TSL ID (ID0–ID126)
- ID0 = global override (controls all LEDs)

Each segment can independently display:

- Color (Bit0–Bit3 mapping)
- TSL-based brightness
- Label-based brightness (0–100%)
- Manual brightness (fixed)

## Protocol Support

### *TSL 3.1 – TCP*

- Full compatibility with the broadcast-standard tally protocol
- Color bits: Bit0–Bit3
- User-selectable color priority: Bit0 or Bit3
- Supports four brightness levels from protocol

### *OSC – UDP*

- Supports integer and float values
- Up to 5 programmable OSC rule entries

### *Planned Protocol – REST API*

## Hardware

- Power: PoE (IEEE802.3at Class 4) RJ45
- 4-pin Neutrik XLR-F (for LED strip)



## Mechanical

- Enclosure: metal
- Dimensions: 102 x 32 x 38 mm (L x W x H)
- Mounting: desktop / optional brackets



## Support

For additional assistance, contact support team at [office@xichtee.com](mailto:office@xichtee.com).