



DATASHEET

HRNL-25W

Compact On AIR lamp module

REV 1.10 | v1.3.0 RELEASE | BUILD 310

01 STUDIO LIGHTING & TEMPERATURE MONITORING

A compact module with a 25 W PoE power supply, supporting a maximum of 120 LEDs in total across all segments.

[PRODUCT INFORMATION >](#)

STUDIO RGB LIGHTING & ON AIR SIGNALLING



Illustrative studio: soft RGB accents beneath the desk and behind displays.

Create soft RGB accent lighting under presenter desks, behind studio monitors and along set features. Control separate segments to coordinate colours, brightness and effects with your television or radio production.

Use external studio automation to select lighting scenes, show ON AIR status and give presenters or operators a clear visual cue. Rules, Presets and Custom Effects let each segment respond to its assigned control events.

Also suited to voice-over booths, production control rooms and OB facilities.

TEMPERATURE MONITORING & RACK STATUS



Illustrative rack status: selected faults in red; normal status in green.

Monitor two locations with compatible 1-Wire temperature sensors, or configure the inputs as two GPIs or one of each. Temperature thresholds in Logic can trigger local LED indications in server rooms and other temperature-sensitive areas.

Assign LED segments to rack positions. An external monitoring system can mark the affected equipment in red while other sections remain green.

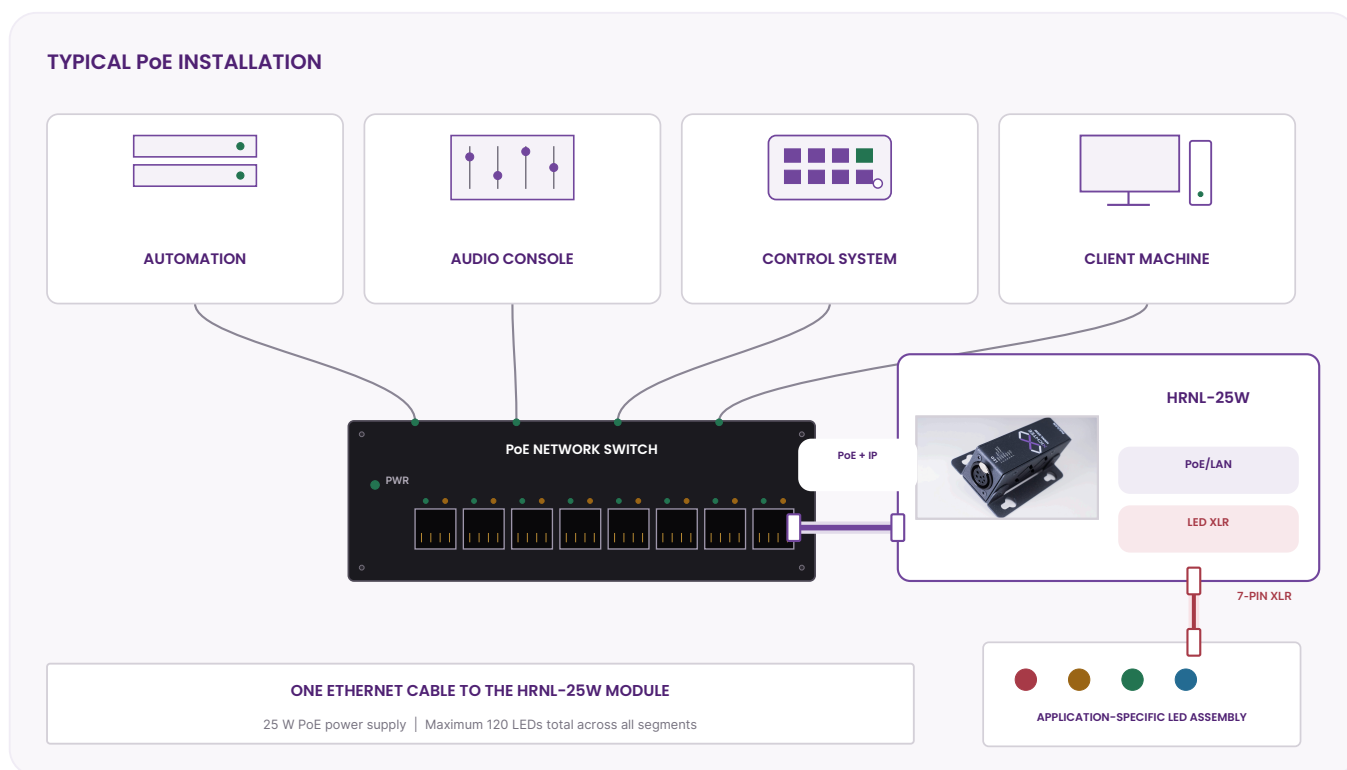
REAL-TIME TEMPERATURE MONITORING

Current temperature data is available through REST API, MQTT and Ember+. Sensor readings refresh approximately every five seconds; delivery follows API polling, MQTT telemetry or Ember+ subscriptions. MQTT and Ember+ require their respective licences.



02 ONE NETWORK CONNECTION FOR POWER AND CONTROL

Connect HRNL-25W to a compatible PoE switch or injector. Its 25 W PoE power supply supports a maximum of 120 LEDs in total across all segments. The LED XLR connects to a compatible LED assembly; control systems share the same IP network.



SUPPORTED CONTROL PROTOCOLS

INCLUDED

- **TSL UMD 3.1**
TCP INPUT

- **Pro-Bel SW-P-08**
TCP CONTROL + STATE

- **OSC 1.0**
UDP INPUT

- **REST API**
HTTP

LICENSED OPTIONS

- **Ember+ / S101**
Provider + lazy consumer

- **MQTT 3.1.1**
TCP client

Pro-Bel SW-P-08 controls and reports Rule Active state over TCP.

03 HARDWARE & CONNECTIONS

The current HRNL-25W uses PoE/LAN and a seven-pin LED connector. The pinout below applies to this hardware revision; N/C means no connection. Assembly suitability remains application-specific.

REVIEWED HRNL-25W CONNECTION HARDWARE



RJ45 | IEEE 802.3at CLASS 4 PoE + LAN



LOCKING SEVEN-PIN XLR-F | MARKED LED

PoE/LAN CONNECTION

One compatible Ethernet connection supplies the module and carries IP control data.

7-PIN XLR-F PINOUT

1 - GND
2 - LED Data
3 - GPI1 / Temp1
4 - GPI2 / Temp2
5 - N/C
6 - N/C
7 - +5V

Licences are device-bound. Protocol services also require their normal network configuration.



04 CAPABILITIES & LICENSING

CONTROL & AUTOMATION CAPABILITIES

Each active segment evaluates ordered Rules and turns the selected result into a repeatable colour, transition or Custom Effect.



PRIORITY RULE ENGINE

Five ordered Rules per segment; Rule 1 is highest priority and the first active Rule is displayed.



PRESETS & CUSTOM EFFECTS

Ten Presets define colour and start/loop/stop behaviour; ten timeline Custom Effects are reusable.



AUXILIARY CONNECTIONS

Two inputs total. Configure each as GPI or temperature sensor: 2 GPIs, 2 sensors, or 1 of each.



SCHEDULE & LOGIC INPUTS

Each Rule supports timed actions and can react through ten Logic groups, including one monitored remote Ember+ value.

OPTIONAL HRNL-25W LICENCES

Four customer-selectable licences extend the standard HRNL-25W with the integration, capacity or resilience capability required for a specific installation.



EMBER+ INTEGRATION

Adds the S101 / Glow provider plus one monitoring-only lazy consumer for a remote Logic value.

S101 / GLOW | 1 OUTBOUND + UP TO 3 INBOUND

OPTIONAL LICENCE



MQTT CONTROL / MONITORING

Enables broker-based control and monitoring through the MQTT TCP client.

MQTT 3.1.1 | IPv4 TCP | QoS 0

OPTIONAL LICENCE



EXTENDED SEGMENTS

Raises the standard capacity of five segments to a maximum of 45 segments. The 120-LED total device limit still applies.

5 STANDARD | MAXIMUM 45

OPTIONAL LICENCE



CLUSTER MODE

Enables one Primary, an optional standby Backup and 1-32 read-only Followers.

PRIMARY | BACKUP | FOLLOWERS

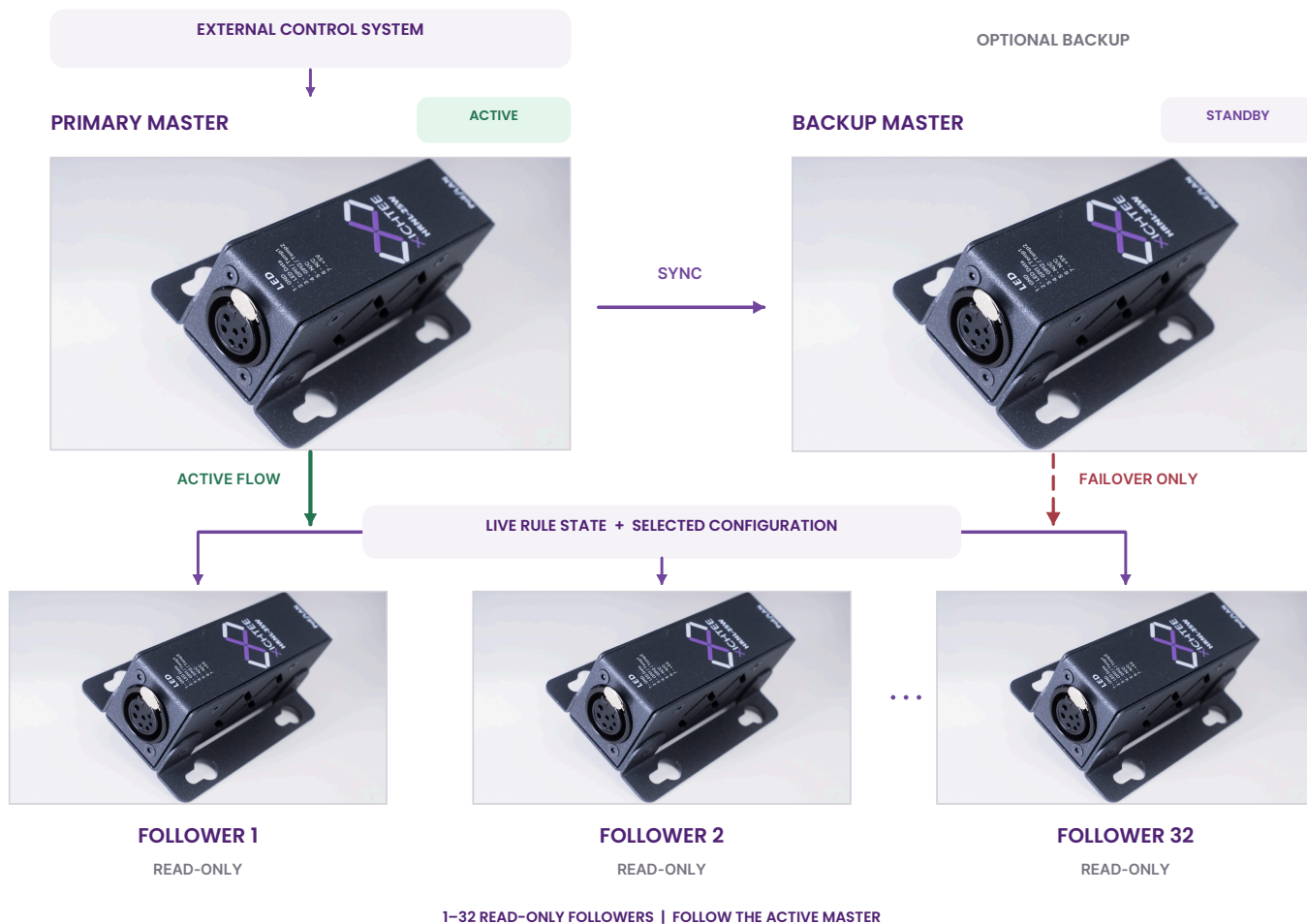
OPTIONAL LICENCE

Licences are device-bound. Protocol services also require their normal network configuration.



05 RESILIENT CLUSTER OPERATION

Licensed Cluster Mode links one Primary Master, an optional Backup Master and 1–32 read-only Followers. The Active master distributes selected application configuration and live Rule state.



FAILOVER SEQUENCE

READY BACKUP REQUIRED



External clients reconnect or retarget the Active master.

ONE ACTIVE MASTER

Send shared control and configuration writes only to the current Active master.

SELECTED STATE SYNC

Application configuration and live Rule state flow to the Backup and Followers.

LOCAL SETTINGS STAY LOCAL

Network settings, users, licences and Cluster topology are not copied.

06 TECHNICAL DATA & DIMENSIONS

VERIFIED TECHNICAL DATA	
PRODUCT AND USE	HRNL-25W RGB signalling and temperature monitoring built-in or standalone
NETWORK POWER	25 W PoE power supply IEEE 802.3at Class 4
LED CAPACITY	Maximum 120 LEDs total across all segments
CONNECTIONS / LABELS	PoE/LAN RJ45 locking seven-pin XLR-F marked LED
SEGMENTS	5 standard maximum 45 with the Extended Segments licence
RULE ENGINE	5 priority Rules per active segment Rule 1 is highest priority
PRESETS AND EFFECTS	10 Presets 10 shared Custom Effects
SHARED PROTOCOLS	TSL UMD 3.1 Pro-Bel SW-P-08 OSC 1.0 REST API
OPTIONAL LICENCES	Ember+ MQTT Extended Segments Cluster Mode
AUXILIARY FUNCTIONS	Pin 3: GPI1 / Temp1 Pin 4: GPI2 / Temp2 2 inputs total; each GPI or 1-Wire sensor
NETWORK AND SETUP	Browser interface DHCP or static IPv4 XICHTEE Discovery Tool

TOP, FRONT & REAR VIEWS | DIMENSIONS IN MILLIMETRES | NOT TO SCALE

TOP VIEW

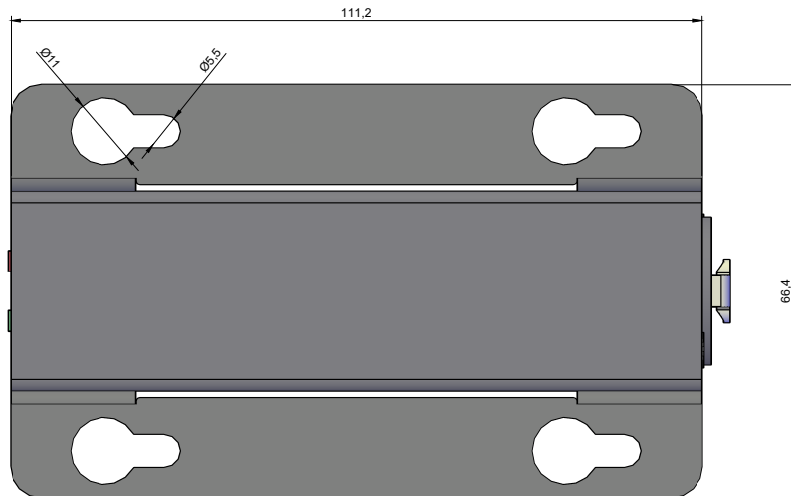
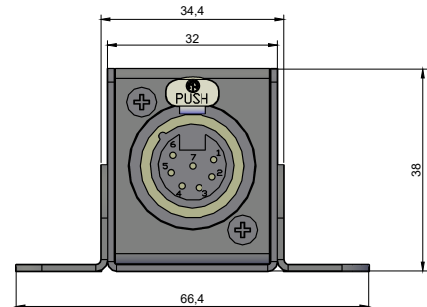


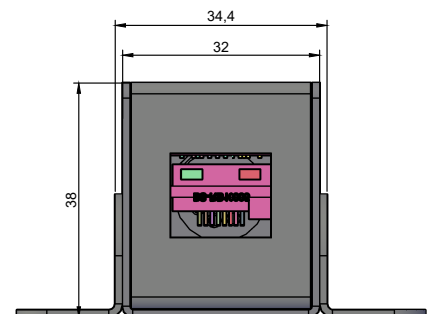
Plate: 111,2 × 66,4 mm

Mounting apertures: Ø11 / Ø5,5 mm

FRONT VIEW



REAR VIEW



Dimensions in millimetres. Drawing not to scale. Confirm mounting dimensions before installation. Technical support: support@xichtee.com