

## IRIS TR588 Technical Datasheet

Effective May 4, 2017

# Starfield lighting Automation

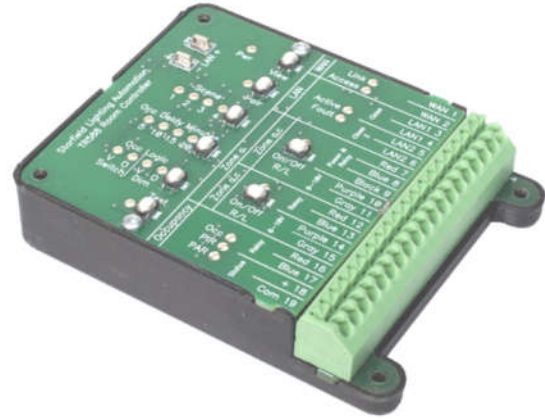
Three zone, digital room controller with optional building-wide networking



Made in USA

### OVERVIEW

The TR588 is the foundation of the IRIS integrated room control system. Each room has one TR588 digital hub for individual room control, configuration, and troubleshooting. Sensors, user controls, and accessory equipment are then added as needed to create a full-function, room-level control system that can be further networked into a full-building control system.



### HIGHLIGHTS

**All Digital** Get rid of special cables and dedicated home runs with one 2-wire control bus that's non-polarized, free-topology, and runs free or inside conduit with lighting power wire.

**DALI, 0-10v, or Switched** Mix or match luminaires to use the right tool for the job.

**Intuitive Control Panel** No frills, installer friendly control panel for quick setup, operation, and troubleshooting.

**Smart Mount** Locate in rooms for safe, quick access or concealed in electrical closets or plenums for utility applications.

**Network Optional** Each room is independent for simplified installation and setup but may also be connected into a building-wide network for system level management and control.

**Local Power** Connects to local lighting power for intuitive installation, reliability, and immediate operation.

**Master** Built-in Master occupancy controller with settable Occupancy or Vacancy logic, occupancy delay period, and switched or dimming luminaires.

**Scouts** Starfield's patented Scouts sensors work right out the box and can be added as needed to cover small rooms to full size assembly halls.

**Indicators** 24 indicator lights for quick feedback and analysis.

**Plug-Load and HVAC** Dedicated, lighting independent connections for occupancy controlled outputs.

**Test Points** Connection points for external DALI troubleshooting and configuration tools.

### TR588 Room Control Panel with Mounting Yoke

Mounts inside a NEMA 11B box in finish or plenum space

### SPECIAL FUNCTIONS

**Room Aware™** Keeps the TR588 coordinated with other sensors, controls, and AV systems.

**Cycle Sentry™** Saves energy and limits hot calls by turning lights off in unoccupied areas 10 minutes after a power outage.

**Remote Trip™** Allows the occupancy controller to be remotely tripped for system level testing, operation, and maintenance.

### GENERAL SPECIFICATIONS

**Size** 3.5"L x 2.7"W x 2.7"H

**Mount** Inside NEMA 11B electrical box on provided yoke

**Power** 24vdc, 150mA, Class 2

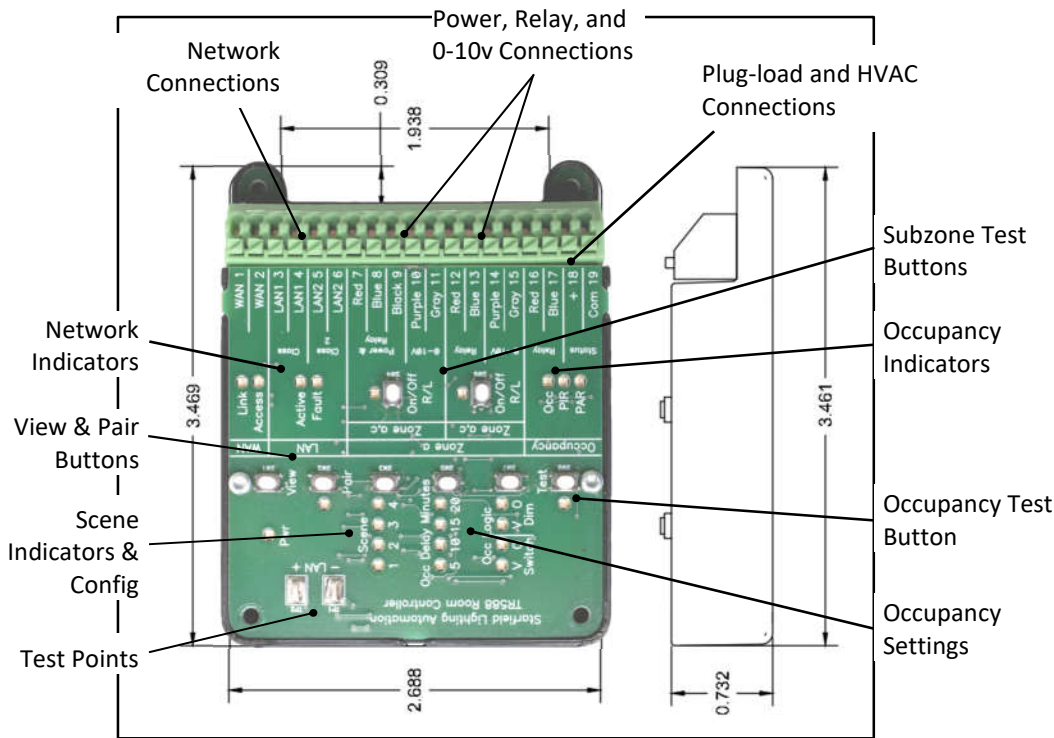
**0-10v Zones** Two 0-10 drivers with full DALI operation and on/off, R/L test buttons

**Addresses** 64 DALI 32 control

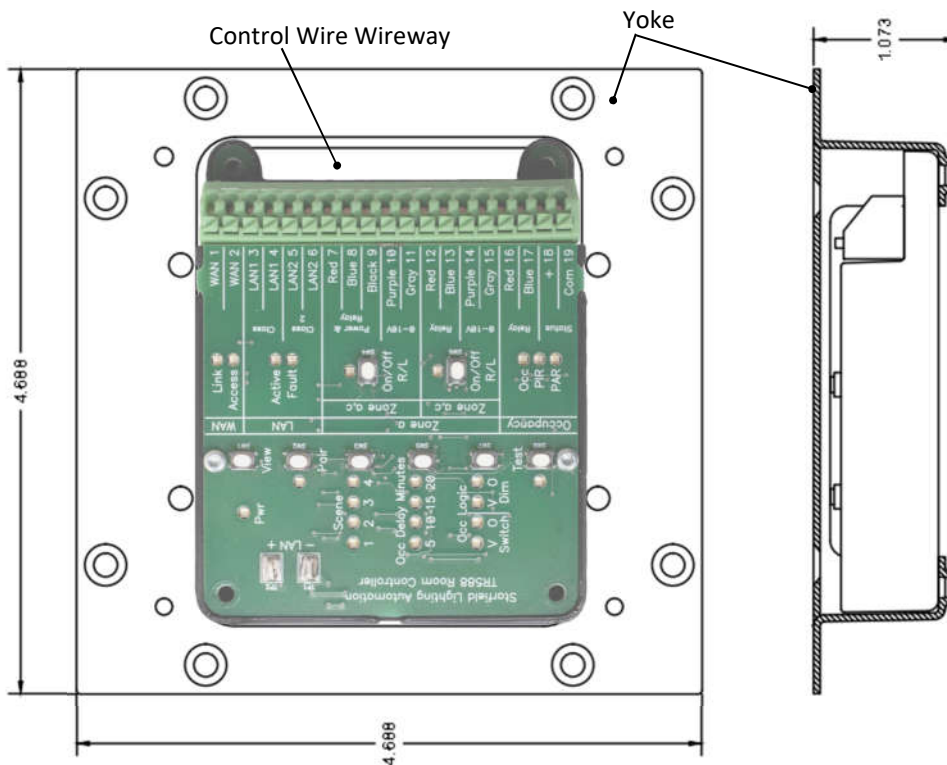
**Three Control Zones** Expandable up to 16

**Indicators** Power, View, Pair, Occupancy Settings, Trips, Test, Network status, and Zone Status.

# TR588 DIMENSIONS & MOUNTING



TR588 Controller



TR588 Controller in Mounting Yoke

## MOUNTING

### Plenum and Utility Space

The yoke mounts inside a NEMA 11B electrical box and finishes with a blank 11B cover plate (not provided).

### Finish Space

The yoke mounts inside an NEMA 11B electrical box on 1/2" standoffs (provided) and finishes with a 2-gang 1/2" mud ring and blank cover plate (not provided).

## TR 588 SPECIFICATIONS

### PHYSICAL

**Controller** 3.45 x 2.69 x 1.02 inches

**Mounting** Controller mounts inside a NEMA 4-11/16 (11B) deep electrical box (*not provided*) in provided mounting yoke.

**Plenum Space Mounting** Mounts in yoke and covered with a blank electrical box cover (*not provided*).

**Finished Space Mounting** Mounts in yoke with provided 1/2" spacers and finished with a 1/2" 2-gang mud ring (*not provided*) and 2-gang blank receptacle cover (*not provided*).

### ELECTRICAL

**Rating** Class 2

**Current Draw** 9mA

**Power Adapter** Starfield PPUV Class 2 relay/power pack

### IRIS BUS ELECTRICAL

**IRIS Bus** 16.5vdc loaded, 17.5vdc unloaded. Non-polarized, free-topology. Conforms to electrical standard IEC 60929 Annex E.4.

**Noise Resistance** Manchester encoding provides exceptionally high noise resistance so that the IRIS Bus may be run inside lighting power conduits without affecting operation.

**Wiring** May be run as Class 1 inside lighting power conduit in accordance with NEC article 300 requirements for wire size and insulation value or free-run as Class 2 in accordance with NEC article 725. Twisted-pair and shielding is acceptable but not required.

**Wire Splicing** Use high quality connectors rated for the wire sizes being spliced. Spice IRIS Bus drops to bus laterals with IDC tapping connectors similar to the 3M 588 in order to avoid cutting the bus lateral.

**Bus Capacity** 150mA current limited with auto-reset overload protection.

**Maximum Connected Load** 150mA.

**Max Run Distance** 1000 feet from the TR588 controller in any direction with multiple legs. 2v maximum voltage drop per leg.

### ENVIRONMENTAL

**Operating Temp** 32 to 131°F

**Storage Temp** 14 to 158°F

**Relative Humidity** 15-85% non-condensing

### OPERATING

**Zones** Three zone control - one room and two subzones - and up to 12 additional using standard DALI configuration methods.

**Occ Logic** Selectable between Vacancy and **Occupancy** and dimming or switched control.

**Occ Delay** 5, 10, 15, 20 minutes operating and 1 minute test.

### WIRE TERMINATION

**Type** Spring Cage

**Wire** 16-22ga solid or stranded, one wire per terminal, stranded recommended, one wire per terminal

**Stripping Length** 5/16"

### DIGITAL OUTPUTS

**Type** Optically isolated transistor

**Application** Not rated for solenoids, motors, and other inductive loads. May be used to drive Starfield PPUV relays and provide a dry contact interface to other controllers and systems.

**Isolation Voltage** 3750 Vrms

**Forward Current Max** 50mA DC at 25C

**Rated Switching Voltage** 10-48vdc

**Leakage Current** 200nA

**Response Time** 1ms or less

**Relays** See PPUV specifications

**Number of Relays per Driver** 5

### 0-10V ANALOG OUTPUTS

**Dimming** DALI exponential dimming curve standard. Programmable for custom applications

**Power Dissipation** 100mA continuous (*check source current of lighting sources but typically enough to control at least 50 devices*).

**Groups Settings** Zone a = 1, Subzone b = 2, Subzone c = 3

**Preassigned DALI Addresses** Subzone b = 1, Subzone c = 2

**DALI Factory Defaults** Per DALI standard or as noted below.

- **Fade Time** 1s to transition between level settings and scenes.
- **Default Fade Rate** 45steps/sec when being scrolled up or down.
- **Scenes** 255/Mask - no response to scene calls.
- **Min Level** 1% (Actual min is determined by physical minimum of connected light source)
- **Max Level** 100%
- **Power On Level** 253/97%
- **System Fail Level** Not applicable
- **Device Type** 5 (0-10v controller)

### OTHER FACTORY SETTINGS

**TR588 Control Address** 0

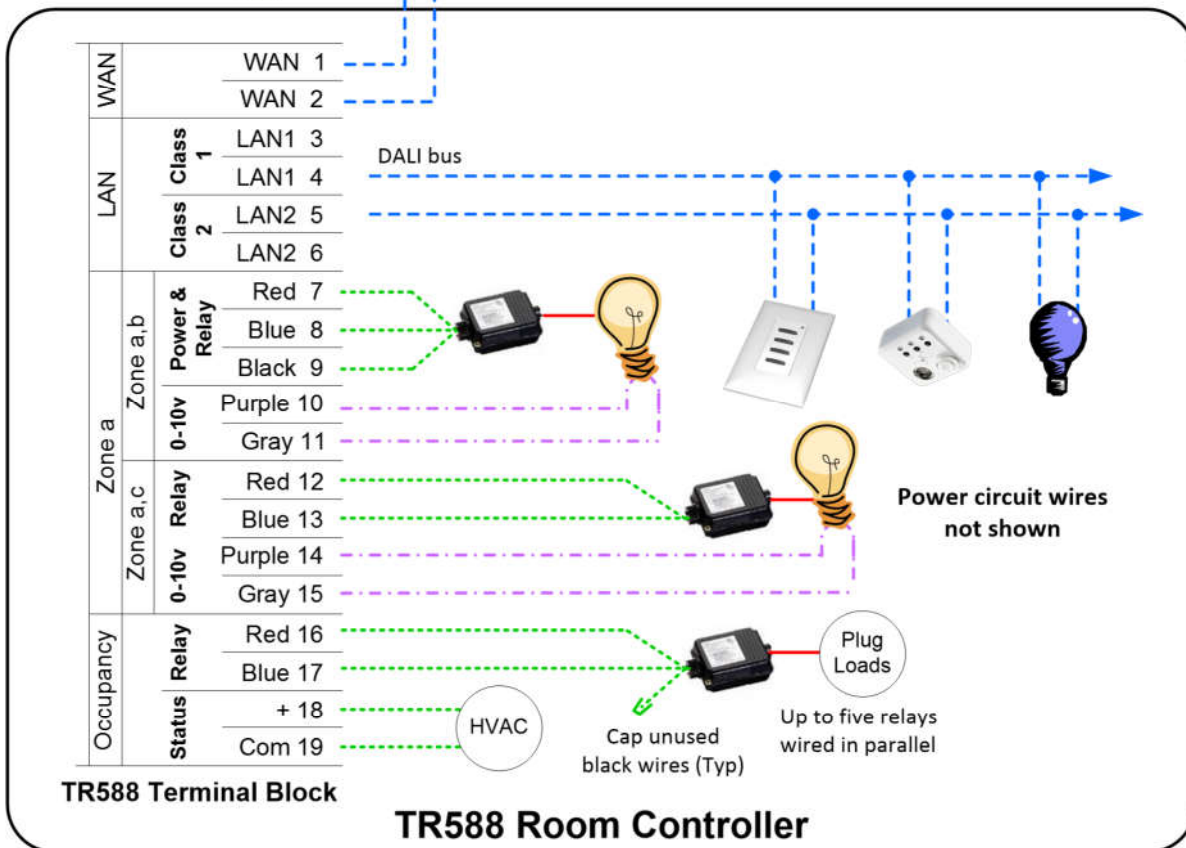
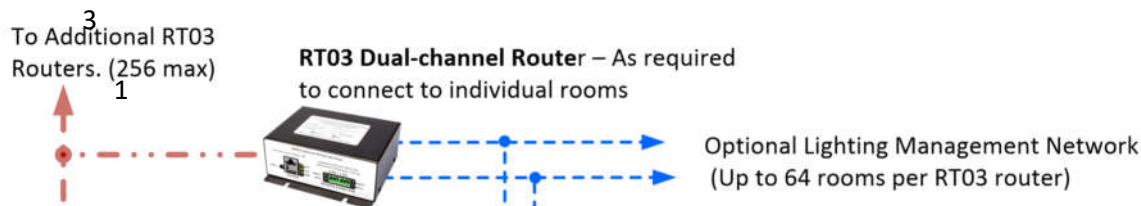
**Occupancy Delay** 10 minutes

**Occupancy Grace Period** 15 seconds

**TR588 WAN Long Address** Factory assigned

**TR588 WAN Short Address** Field assigned from long address

# TR588 SYSTEM SCHEMATIC



**NT124 Network Switch** – As required to provide connections and boost power throughout the building.



**NCP3 Lighting Server** – One per building.



- Power Wiring
- - - Control Wiring – Class 1/2
- · - · - 0-10v Dimming Control – Class 1/2
- · - · - Hook up wire/cable – Class 2
- · - · - Ethernet CAT 5 or higher

- Switched or 0-10v Dimmable Light Sources. Daylighting, partial-on, partial-off, and low-dim warning period functions require dimming.
- PPUV Relay. (5 max per relay driver)
- LS230 Scout sensors with daylighting option where required. Number as required to cover space. (32 max)
- TR218 Wall Controllers. (32 Addresses Max)
- DALI lighting & control devices including ballasts, LED drivers, TR51 dimmers, TR601 DALI to 0-10v converters, and distributed or panel mounted DALI relays. (64 addresses Max)