

D454.F.CE Product Guide

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Overview and General Concepts

The D454.F.CE (the D454-F) 2 channel light dimmer provides up to 800W of dimming power, 400W per channel. The D454.F.CE is a central component in the INNCOM Integrated Room Automation System (IRAS) when used with S-Series, EVORA, or Glass Series switches.



Figure 1. D454.F.CE

Application

The D454.F.CE can be used in many different lighting circuit topologies. Typically the D454.F.CE dims lighting loads when products such as the Glass Series or other low-voltage switches such as the S-and Designer-Series switches are configured for lighting control. In high-end applications, multiple D454-Fs can be easily daisy-chained and used in conjunction with other load bearing wall box dimmers such as the 350W dimmable Evora FET. This allows the designer to create a seamless, multi-point lighting control application that meets nearly any interior design requirement.

The D454.F.CE is specifically designed to meet applications where line-voltage wiring has been pulled to a centralized location, such as a load center. The D454.F.CE can be integrated into the IRAS low-voltage wiring using S5-bus and wireless, Infrared (IR) or RF (Radio Frequency).

The D454.F.CE provides up to 255 dimming levels. This provides fine control over specific light levels and light ramping speed in the guestroom to achieve the highest level of comfort and control.

Features

- Dimmable loads up to 550W per channel or 800W dual channel.
- Wired S5-bus communication for IRAS controls. Optional IR or RF communication is also available.
- Daisy-chainable for multi-point, complex lighting applications.
- Fully enclosed housing to protect electronic components.
- Standard or DIN-rail mounting options with a compact mechanical design.
- Air-gap switch for added safety.
- FCC and CE Mark listed for international applications.

Typical Wiring Applications

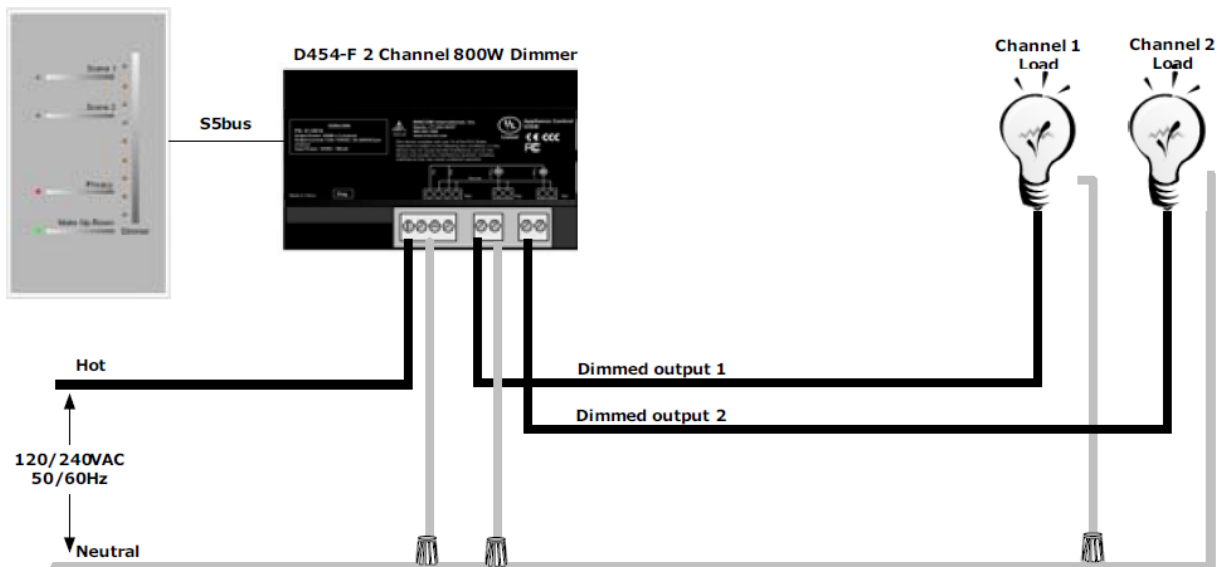


Figure 2: D454.F.CE and Glass Series Application

In this IRAS configuration, the D454.F.CE provides the load bearing capability for the Glass Series switch. The 2-channel D454.F.CE can be configured to provide a variety of light moods to meet the requirements of many specific applications.

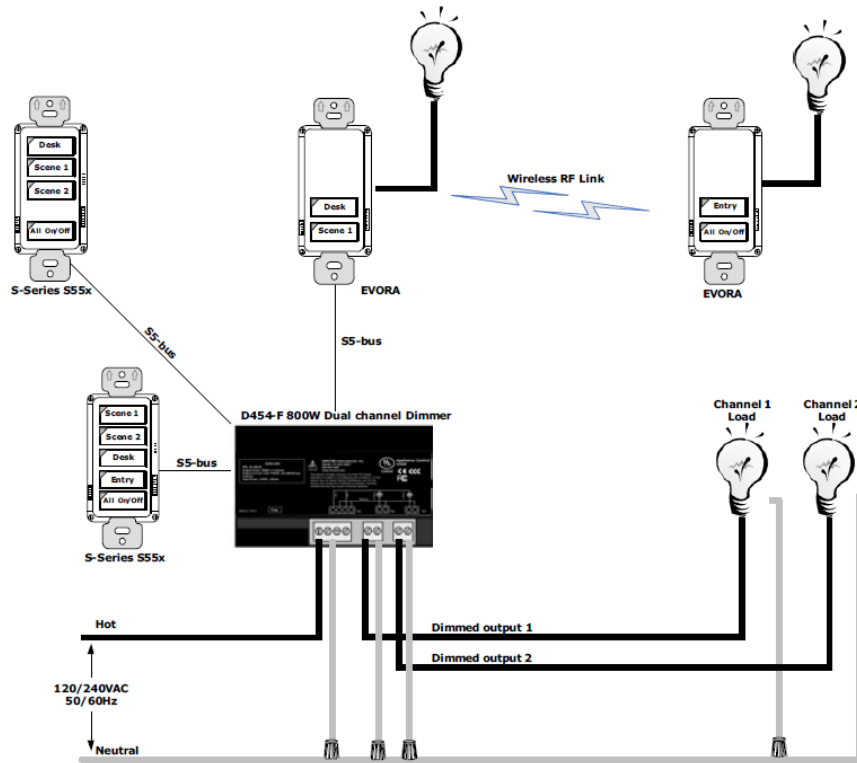


Figure 3: D454.F.CE and S-Series - EVORA Application

In this IRAS application, the D454.F.CE provides the dimming capability for more complex lighting control. As shown in **Figure 3** above, any S-Series switch or EVORA can dim either channel of the D454.F.CE using RF and S5-bus network connections, as well as dimming its own load. This allows the designer to create many distinct lighting moods that can be controlled from anywhere within the guestroom. **Note:** The load bearing EVORA products in this diagram require a phase and neutral to dim the local loads.

Installation Requirements

The installer must be a trained, experienced service technician. When installing this product:

1. Read the instructions carefully. Failure to follow them could damage the product or cause hazardous conditions.

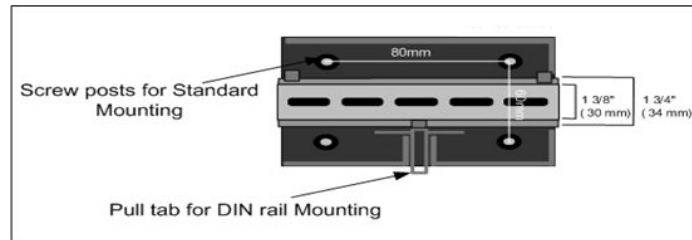


Figure 4: D454.F.CE Mounting

2. Check the ratings given in the product guide to make sure the product is suitable for your application.

Mounting

The D454.F.CE is provided with a DIN rail snap assembly and screw mounts in the bottom housing for multiple installation environments.

DIN Rail Mounting:

1. Mount the DIN rail (supplied separately) to the intended device (NEMA box, wall mount, etc.).
2. On the bottom housing, pull the plastic tab out and mount the D454.F.CE on the DIN rail. Release the plastic tab. This locks the D454.F.CE to the DIN rail mounting assembly.

Standard Mounting:

1. Remove the top cover of the D454.F.CE by pressing in the tabs at both ends of the unit to release it.
2. Remove the PCBA by pulling back on the 4 tabs locking the PCBA to the bottom housing.
3. Once the PCBA is removed, use the 4 countersunk mount posts in the base housing to screw the device to its intended application.
4. Place the PCBA back onto the bottom housing and confirm that it snaps into place.
5. Replace the top housing.

Line Power Connections

Safety Warning  **CAUTION**

- Branch circuit breakers must be used to meet local electrical code.
- The D454.F.CE is intended for INDOOR USE ONLY.
- Separation of Class-1 and Class-2 Circuits must be observed.
- Use copper conductors ONLY.

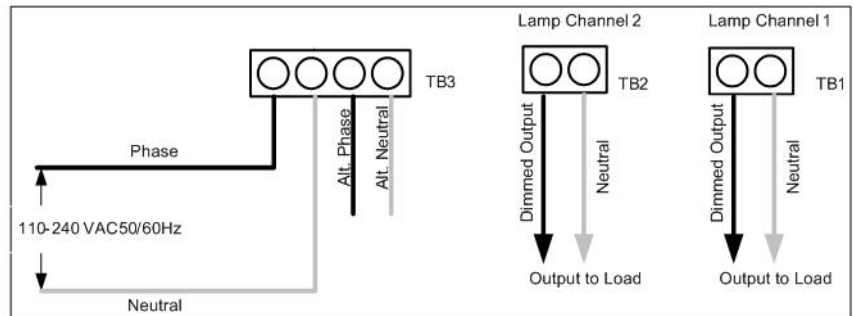


Figure 5: Line Voltage Connections

- TB1, TB2, and TB3 screw terminals require a minimum 4.4 inch-pounds of torque to meet NEC requirements.
- For use in Pollution Degree 2 Environments Only.

NOTE: This product requires an air-gap switch such as a UL #20 switch with an identified off position between the line and load terminals. When using the D454.F.CE with on-board relay, the red LED will blink to indicate the load is disconnected from the line power.

Low Voltage Connections

The D454.F.CE does not require an external power supply. Earth GND must be connected to ensure proper communications function of the D454-F.CE.

1. Remove the top cover of the D454.F.CE by pressing the tabs at both ends of the unit to release it.
2. Connect S5-bus, 12VDC, and GND to either S5-bus 3-pin header as shown below.
3. Connect the IR Eye5 cable to the IR5 header as shown below (where IR communications are necessary).
4. Use the cable channels to route the low voltage wiring in and out of the unit enclosure.

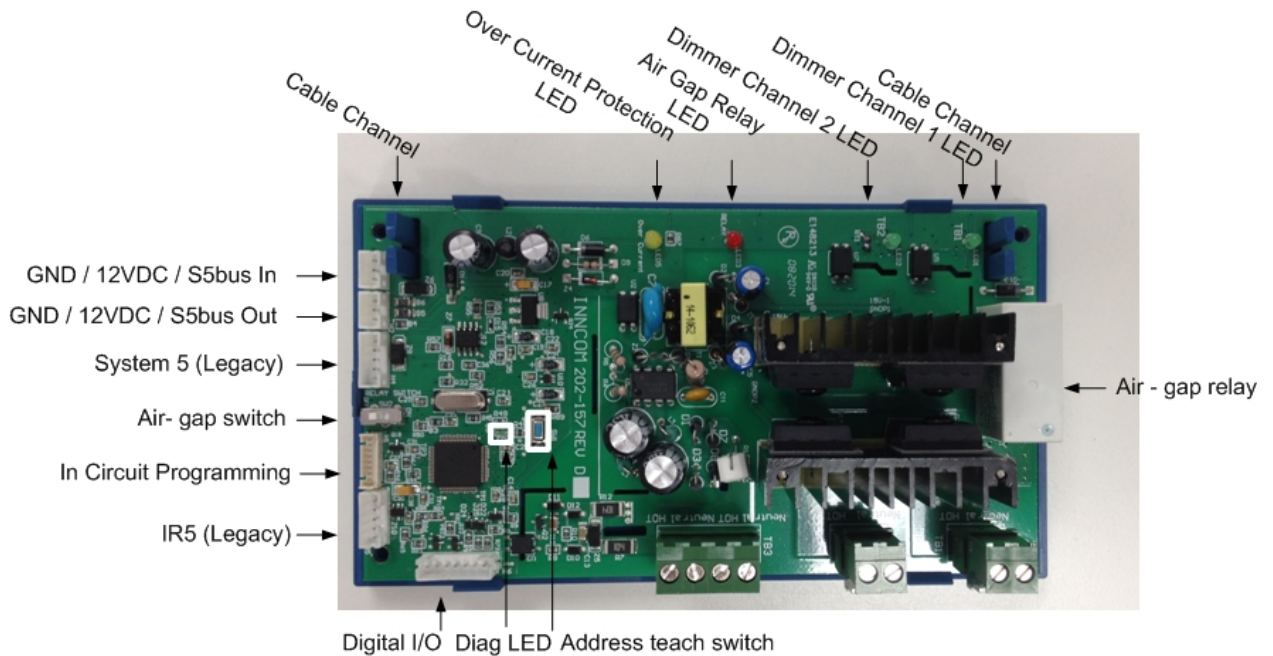


Figure 6: Header and LED description

D454.F.CE Header Specification

TB3 – Input Voltage

Pin	Signal	Function
1	Neutral	220-240VAC 50/60Hz Input
2	Hot	220-240VAC 50/60Hz Input
3	Neutral	220-240VAC 50/60Hz Input
4	Hot	220-240VAC 50/60Hz Input

TB2 – Channel 2 Dimmer Output

Pin	Signal	Function
1	Neutral	Dimmer Output
2	Switched Hot / FET Out	Dimmer Output

TB1 - Channel 1 Dimmer Output

Pin	Signal	Function
1	Neutral	Dimmer Output
2	Switched Hot / FET Out	Dimmer Output

H2 & H3 S5 Bus

Pin	Signal	Function
1	GND	Ground
2	VEE	Power (+12VDC)
3	S5BUS	Communication bus

H4- System 5 (Legacy Only)

Pin	Signal	Function
1	COM	Ground
2	12VDC	Power (+12VDC)
3	S5bus	Communication bus
4	IR5TX	Transmit
5	IR5RX	Receive

H5 – IR5 (Legacy Only)

Pin	Signal	Function
1	GND	Ground
2	AGC	Accelerated Gain Control
3	12VDC	Power (+12VDC)
4	IO2	Open-Collector Output
5	IO3	0-5VDC Dry Contact Inputs

H6 – Expansion I/O

Pin	Signal	Function
1	GND	Ground
2	12VDC	Power (+12VDC)
3	IO1	Open-Collector Output
4	IO2	Open-Collector Output
5	IO3	0-5VDC Dry Contact Inputs
6	IO4	0-5VDC Dry Contact Inputs
7	IO5	0-5VDC Dry Contact Inputs

H1—ISP Programming Header

Pin	Signal	Function
1	GND	Power
2	VCC	Power (+3.3V)
3	SCI2_TX	Transmit
4	SCI2_RX	Receive
5	NRST	Reset
6	SWO	Oscillator
7	SWCLK	Clock
8	SWDIO	Power

Regulatory Approvals

The following table provides the safety and regulatory standards for the load ratings and types.

Listing	Specification
CE-Mark	EN60669-1:1999+A1:2002+A2:2008 EN60669-2-1:2004+A1:2009+A12:2010 EN61000-3-2:2006/A1:2009/A2:2009 EN 61000-3-2:2014 Supersedes all amendments on June 30, 2017 EN61000-3-3:2008 EN61000-6-3:2007/A1:2011 EN61000-6-1:2007

Listed Load Ratings

Load Types	UL Listed Load Ratings 100-120VAC Single Channel	UL Listed Load Ratings 100-120VAC Dual Channel	CE-240VAC Ratings Single Channel	CE-240VAC Ratings Dual Channel
Incandescent / Halogen	5.5A at 100Vac 4.5A at 120Vac	8A at 100Vac 6.6A at 120Vac	2.75A	4A
Resistive	4.5A	6.6A	2.75A	4A
ELV / Electronic Ballast	500VA	750VA	500VA	750VA
CFL / LED	2.5A	4A	2.5	4A

Note: D454.F.CE is not intended to use with magnetic transformers or any inductive loads

Environmental Specification

Specification	Min	Nom	Max	Units
Operating Temperature	0	25	30	C°
Storage Temperature	-40	-	70	C°
Relative Humidity	5	-	95%	%RH

Technical Specifications

Class-2 Input/ Current Consumption	12VDC, 100mA
Parameter memory	Non-volatile

Physical Specification

Dimension	Measure	Unit
Length	157.2/6.18	mm/in.
Height	49.6/1.95	mm/in.
Width	86.6/3.40	mm/in.

Ordering Information

Model #	Description
201-928.CE	D454.F.CE 2-channel dimmer: UL,CSA and CE Mark listed

Document Revision History

Revision	Date issued	Reason for change
V0.1	10-Aug-2015	First Release
Rev.2	09-Aug-2015	Rebranding for Honeywell
Rev.3	17-Mar-17	Total Honeywell Branding overview with New logo

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Honeywell | 277 West Main Street | Niantic, CT 06357 | Phone: 1.860-739-4468 | www.INNCOM.com