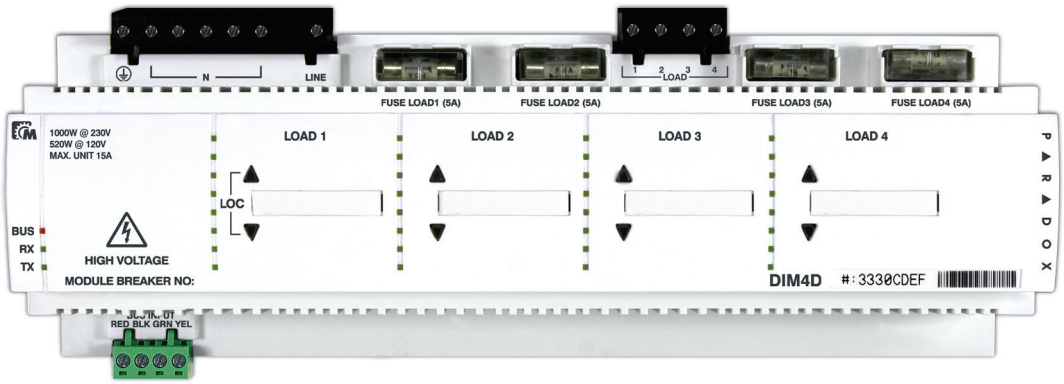
DIM4D: 4-Channel Light Dimmer Module



Installation/Wiring:	1 hr
Programming 1:	2 hr
Programming 2:	1 hr
Testing:	1 hr
Total Time:	5 hr

DRAFT

Description

Driven by the V32 main controller's 4-wire communication bus (Multibus), the DIM4D module provides dimming capabilities for 4 high-voltage devices, including incandescent lights, low-voltage halogen lights, ceiling fans, and other variable speed AC motors. Loads can be either 110Vac or 230Vac, 50or 60Hz with a maximum output rating of 4.5A (500W@120Vac / 1000W@230Vac) per channel with a maximum of 15A per module.When used with the Imperial Dimmer Wall Switches, the system provides up to 32 dimming steps.

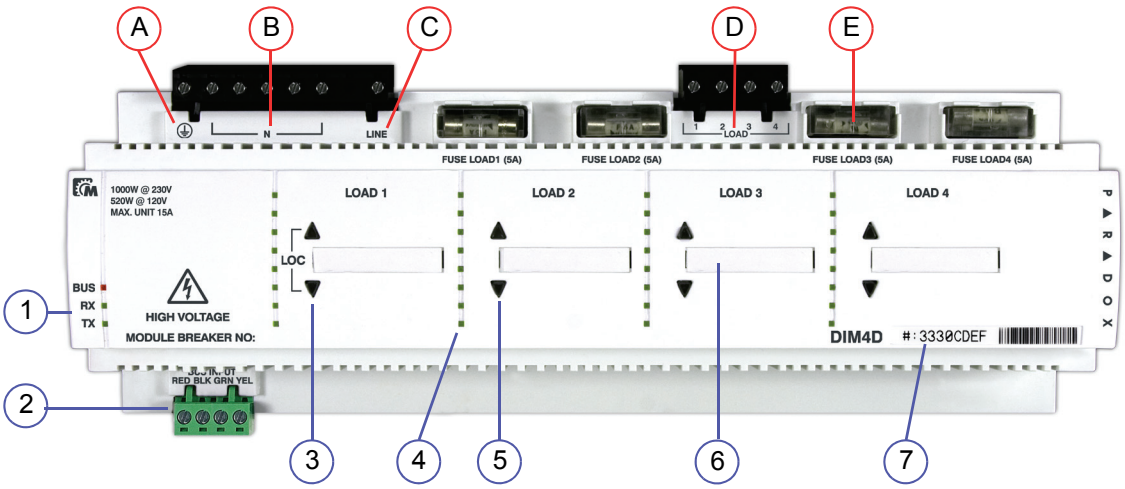
Features

- Four high-voltage channels for dimming of incandescent lights (with 32 dimming steps)
- Output rating: 1000W@230Vac / 500W@120Vac
- Maximum load: 4.5A per channel (15A per module)
- On-board buttons to manually dim each channel
- Dim intensity LED display (per channel)
- 3-LED module status display
- Connects to Multibus: 4-wire encrypted 13.8Vdc communication bus at 500bps
- Remote firmware upgrade via Multibus using RS-485 at 57.6Kbps
- All programming is done using BabyWare PC Software
- DIN rail enclosure with removable terminals for fast, secure, orderly and economic installation

Overview

1) Multibus feedback LEDs (see Table 1 on page 2)
2) 4-wire Multibus connection
3) Press and hold both local dimming buttons of Load 1 to perform a module locate (see "Bi-directional Locate Feature" on page 3).
4) Local dim intensity LED display for each load
5) Local dimming buttons for each load
6) Space provided to label each load
7) Product serial number

A) Ground: You must connect to earth ground using minimum gauge as per local electrical codes
B) Neutral: For your convenience there is 1 common for each load
C) Line: Connect the high-voltage feed from a breaker (max. 15A). Consult local electrical codes for required breaker to protect this load
D) Connect four load outputs as shown in Figure 4 on page 3.
E) Fast blow 5A fuse for protection with a spare fuse underneath.



Related Topics

Installation / Wiring (see Imperial System Guide)
- DIN Rail Enclosure
- System Diagrams and Wiring Tips
- Wire Gauge Selection

Features
- Remote Firmware Upgrade (see page 3)
- Bi-directional Locate Feature (see page 3)

Applications (see Imperial System Guide)
- Wall Switches
- Macros

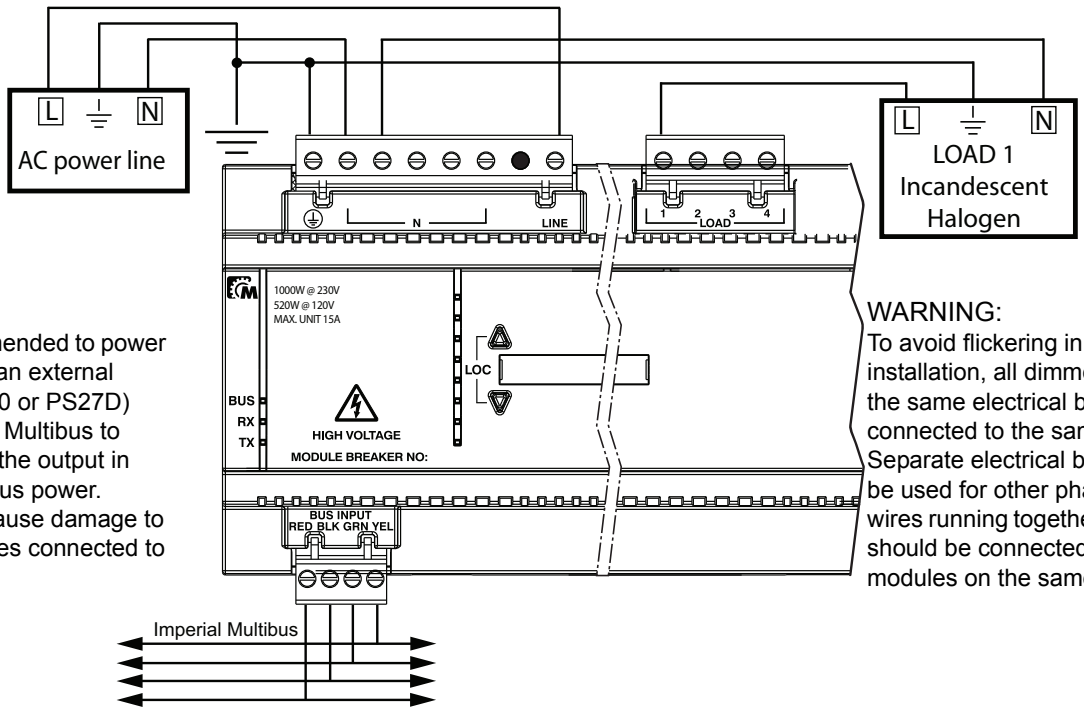
BabyWare (see Imperial System Guide)
- BabyWare

Specifications

Operating voltage	120Vac to 240Vac (nominal)
Power rating	500W @120Vac / 1000W @ 230Vac
Maximum load	4.5A per channel (15A per module)
Frequency	50 to 60Hz
Fuse	Bussman: S501-5-R / Littlefuse: 216 005.P
Multibus supply	13.8Vdc
Dimensions	Standard DIN15
Operating Temperature	0ºC to 50ºC (32ºF to 122ºF)
Load types	- Incandescent lamps - Shaded pole induction motors (exhaust fans) - Permanent split-capacitor (ceiling fans) - Electronic step-down converters (halogen) - Iron-core transformers (extra low-voltage incandescent lamps)

Wiring

Figure 1: DIM4D Wiring Diagram

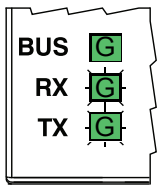
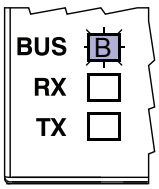
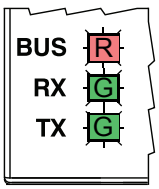
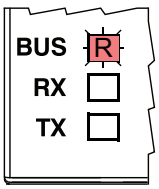
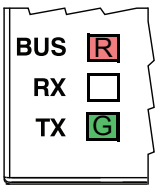
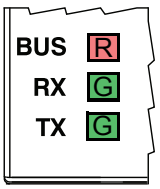
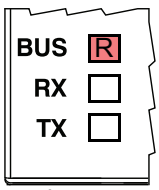


WARNING:
It is highly recommended to power the module using an external source (e.g. PS100 or PS27D) and NOT from the Multibus to avoid flickering of the output in case of a loss of bus power. Flickering might cause damage to electrical appliances connected to the outputs.

WARNING:
To avoid flickering in a 3-phase installation, all dimmer modules in the same electrical box should be connected to the same phase. Separate electrical boxes should be used for other phases. Also, wires running together to the loads should be connected to dimmer modules on the same phase.

Table 1: Multibus Feedback LEDs

R = Red G = Green B = Blue ☐ = Off ▭ = On ▭ = Flashing

						
OK (com in progress)	firmware upgrade in progress	Module locate mode	Bus power too low	Com fail, or too many modules	Bus reversed (GRN/YEL)	Bus short (GRN/YEL)

Bi-directional Locate Feature

Pressing and holding the LOC button for 3 seconds will initiate the Module Locate feature. When a Module Locate is initiated, the module's representation in the BabyWare software will flash and the module's BUS, RX and TX LEDs will flash to indicate that it is in locate mode. A module locate can also be initiated from the BabyWare software. From BabyWare right-click the module's representation and select Locate Physical. The module's BUS, RX and TX LEDs will flash. We highly recommend that after pressing locate and identifying the module, open the programming page and assign the proper physical location label and the doors' labels and locations. After complete connection, use the space provided on the module to indicate the doors' description.

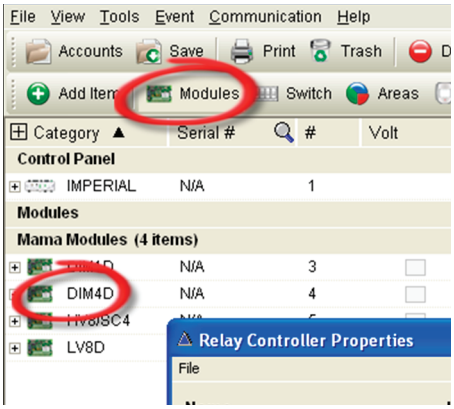
Remote Firmware Upgrade

Work in progress...The DIM4D is firmware upgradeable remotely via the V32 controller's Multibus at 57.6Kbps. Using BabyWare connect to the V32 account using any of the connection methods (direct connect, IP static, or IP DNS). Right-click the desired module and select Upgrade (???). A firmware upgrade for a single module or group of modules will take usually less than 10 minutes, which keeps system downtime to a minimum.

Programming a DIM4D Module

1) When BabyWare is communicating with the V32 controller and a DIM4D module is connected to the Multibus, it automatically appears in the Mama Modules display area. To view the Mama Modules display area, click the **Modules** toggle button. Alternatively, you may wish to add a module to BabyWare before the module is physically connected to the system. Click the **Add Item** button. Refer to Figure 2.
2) To program a module that already appeared in the system, double-click the module's icon. The Relay Controller Properties window opens.
3) From the Relay Controller Properties window, you can label the outputs and set output activation options. Click OK.

Figure 2: DIM4D Programming



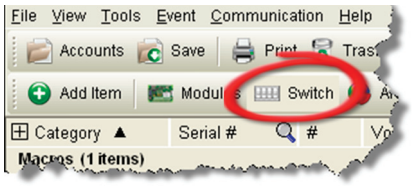
Related Topics

- If you have trouble locating the module in BabyWare, you can use the Module Locate Feature (see "Bi-directional Locate Feature" on page 3)
- The DIM4D outputs can now be activated manually (see "Assigning a Load Output to a Dimmer Wall Switch" on page 3), or by creating macros in the system (see "Assigning a Load Output to a Macro" on page 3).

Assigning a Load Output to a Dimmer Wall Switch

1) In BabyWare ensure the **Switch** toggle button is on and double-click the dimmer wall switch's icon. Refer to Figure 3.
2) From the Switch Programming window, select the dial/knob.
3) Click **Add Action** and select **Control Output**.
4) From the Select Outputs window, select the output(s) to be controlled and click **OK**.
5) Click **OK** from the Switch Programming window.
6) Test operation by moving the slider in the software or turning the dial on the wall switch.

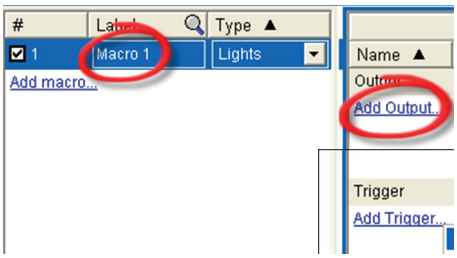
Figure 3: Assigning an Output



Assigning a Load Output to a Macro

1) Click the **Add Item** button to add a macro to the system and click **OK**.
2) Name the macro and click **Add Output** to select the output(s) to be controlled.
3) Click **Add Trigger** to start/stop the macro by schedule and/or event. Click **OK**.

Figure 4: Assigning an Output



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