LIGHTING CONTROLS

KELE FLUORESCENT/LED DIMMING CONTROL MODULE
LDIM2

DESCRIPTION

The **Kele Model LDIM2** is a fluorescent/LED dimming control for dimmable electronic fluorescent ballasts/LED driver module. It is designed for single 0-10V dimming output with a 0-10V input or a PWM input from BAS controllers. Feedback is provided for light level setpoint and light level output. The **LDIM2** output interfaces with electronic fluorescent ballasts/LED driver modules designed for an analog 0-10V sinking input.

FEATURES

- **Control output 0-10 VDC dimmable fluorescent ballasts or LED driver modules**
- **BAS Setpoint (0, 2-10V or PWM)**
- **4-20 mA feedback for light level setpoint and output monitoring**
- **Output is electrically isolated from input**
- **Fail-safe, output to full-bright on lost signal**
- **Manual override of setpoint input**
- **3.25" x 5.00" snap-track mount**

SPECIFICATIONS

Supply Voltage	24VDC ±5% @ 75 mA
	24VAC ±10% @ 150 mA
Signal Input	0-10 VDC, 2-10 VDC @ 50KΩ, or
	PWM contact(Adj. Timebase)
	0.1 to 25.6 seconds
Signal Output	Light dimming, 0-10 VDC, sinking, 0.5A Max
Fuse	1A fast blow (20 x 5 mm Fuse. **K235-1**)
Isolation	Output signal Isolated from Input signal
Fail Safe	Max 10V out on input signal loss
Manual Override	40% to 100% (DIP switch adjustable)
Feed Back	Using both requires 24VDC @
	"LOOP IN" terminal
Setpoint	4-20 mA (Sourcing), @650Ω
Output Signal	4-20 mA (Sourcing), @650Ω
Set-Up	8 DIP switches (Adj. on the fly)
Visual Indication	Three Status LED's
LED 1 (RED)	Output feedback loop (dim to bright)
LED 2 (RED)	Setpoint feedback loop (dim to bright)
LED 3 (GRN)	Off = No PWR, Solid On = normal,
	Blinking = See below
Operating Temperature	14° to 122°F (-10° to 50°C)
Operating Humidity	5 to 95% RH non-condensing
Wiring Terminations	8-Terminals, 22 to 14 AWG wire
	2 Ballast Signal Terminals, 22 AWG
	to 10 AWG
Mounting	Snap Track, (3.25" x 5.00") Included
Dimensions	3.25"W x 5"L x 1.8"H
	(8.25 x 12.7 x 4.57 cm)
Weight	0.75 lb (0.34 Kg)
Approvals	CE, UL
Warranty	2 years

DIP SWITCH SETTINGS (0 = OFF, 1 = ON)

"LDIM" Light Dimmer	DIP Switch Assignments							
	SW1	SW2	SW3	SW4	SW5	SW6	SW7	SW8
Analog Input Range (SW1 = On)								
0-10V, Lost Input Detected Enabled	1					0	0	0
0-10V, Lost Input Detected Disabled	1					0	1	0
2-10V, Lost Input Detected Enabled	1					0	0	1
2-10V, Lost Input Detected Disabled	1					0	1	1
PWM Timebase Input 0.59-2.93 sec (SW1 = Off)	0					0	0	0
0.1-2.65 sec Timebase	0					0	0	1
0.1-5.2 sec Timebase	0					0	1	0
0.1-12.85 sec Timebase	0					0	1	1
0.1-25.6 sec Timebase	0					1	0	0
Go 100% Bright On Signal Loss		0						
Maintain Current Brightness On Signal Loss		1						
Normal CTRL. (No OVD.)			0	0	0			
Manual Override 40%*			0	0	1			
Manual Override 50%*			0	1	0			
Manual Override 60%*			0	1	1			
Manual Override 70%*			1	0	0			
Manual Override 80%*			1	0	1			
Manual Override 90%*			1	1	0			
Manual Override 100%*			1	1	1			

* Stops input control when activated

GREEN STATUS LED OPERATION

Solid Off (No Power)
Indicates that 24 power is missing. Any time power is applied, the LED should not be solid off.

Solid On (Normal)
The LED is solid on for:
Analog input, no override, no PWM pulse present, not in Lost Analog Input state.
PWM input, no override, no PWM pulse present, not in Lost PWM state.

Blink-Blink-Pause (Override)
This occurs when the board is in Override state and no PWM pulse is present.

Blink-Blink-Blink-Pause (Lost PWM or Lost Analog Input)
This occurs in the PWM state, no override, when a pulse has not

been received for 10 seconds (i.e.,Lost PWM state). This occurs in the analog input state, no override, no PWM pulse present, when the input value drops below 0.3 volts (i.e., Lost Analog Input state). The input value must rise above 0.5V to return to normal operation. In Analog Input mode, dipswitch 7 can be used to disable Lost Analog Input detect, allowing the output to track the input all the way to zero volts.

Rapid Blink (PWM Pulse Active)
Any time a PWM pulse is active, the Status LED will blink rapidly. This is true even in the analog input and override modes. The rationale for this is that you may have the board in the analog input or override mode because there is a problem with the pulses coming from the controller, and this way you can visually tell when the pulses have been restored. The PWM pulse does not affect the output in the analog input and override modes, just the Status LED.
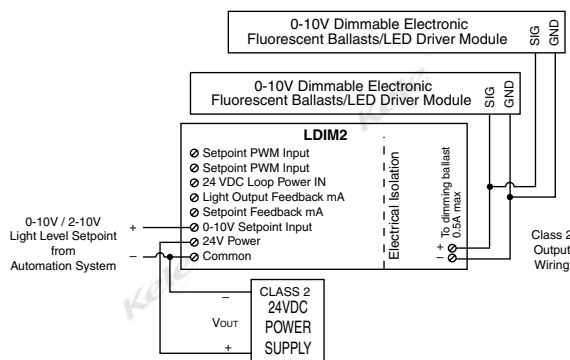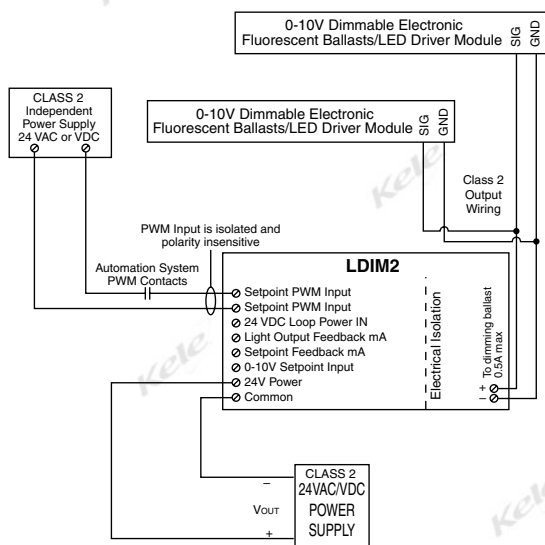
WIRING

Control Wiring (PWM)
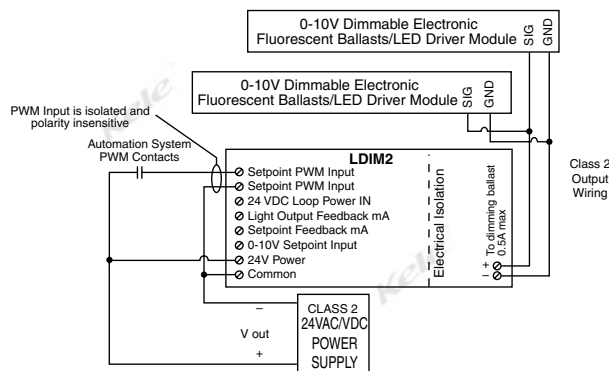
Pulse-Width Setpoint Input Using the LDIM Power Supply
(Feedback circuits not shown)
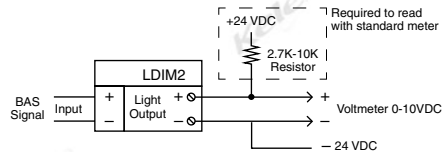
Control Wiring (Analog)

0-10V / 2-10V Analog Setpoint Signal from Automation System
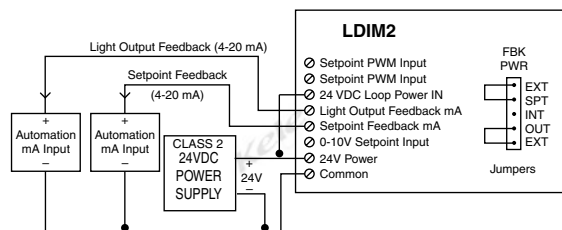(Feedback circuits not shown)

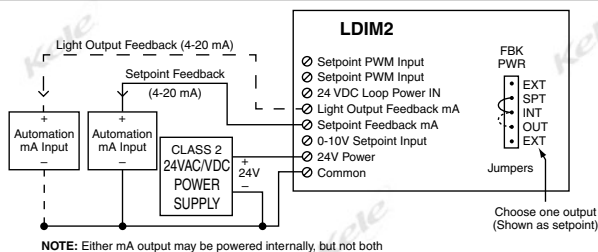**Pulse-Width Setpoint Input Using Independent Power Supply**
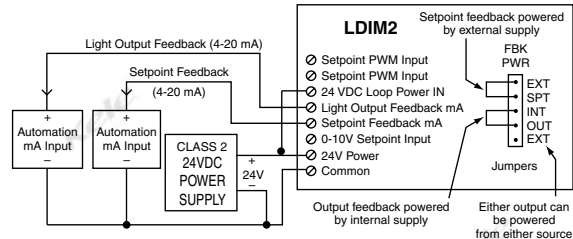(Feedback circuits not shown)

Testing LDIM2 Output Without Lighting Ballast(s) Attached

Powering Both mA Feedback Signals with External 24 VDC Supply

NOTE: Either mA output may be powered internally, but not both

Powering Single mA Feedback Signal Internally from LDIM2

**Powering One mA Feedback Signal with External 24 VDC Supply
and One mA Feedback Signal Internally from LDIM2**

ORDERING INFORMATION

MODEL	DESCRIPTION
LDIM2	Analog input fluorescent ballast & LED dimming control interface module

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