

Low Cost DimNIT – PWM LED dimming controller

GENERAL DESCRIPTION

The ACA-DN011-2868 is a LED dimming control board (DimNIT) that has been designed for cost sensitive applications where only a PWM out is required from an Analog 0 to 5V DC in.

This DimNIT version outputs a PWM signal at an identical level to V_{in} . It is used to control panels which contain an on-board driver that accepts a PWM input with a nominal high level of $+V_{in}$.

Small in size, DimNIT can fit just about anywhere. At 0.339 IN squared the DimNIT is an excellent low cost solution.

This unit features enable and intensity control inputs, and is designed to work with the Digital View LCD Controller and Button Board (See page 3 for more information).

MECHANICAL/ENVIRONMENTAL

Weight = 5.25 grams

Size (L x W x H) = 2.25 IN x 0.7 IN x 0.215 IN

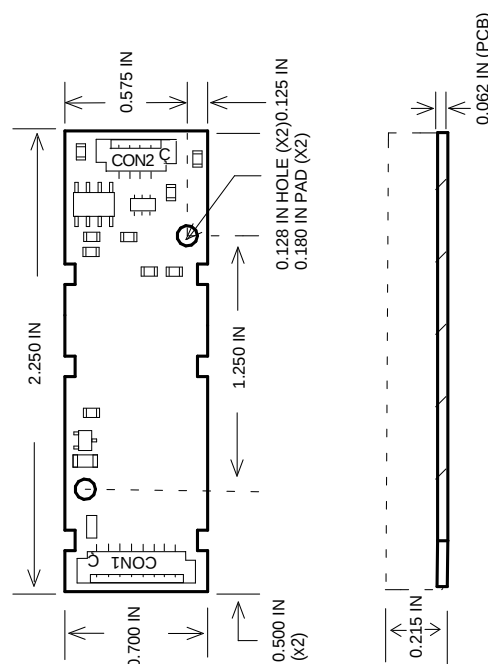
PCB thickness = 0.062 IN

Mounting Holes = 0.128 IN diameter (X2)

Input Power & Control Connector = CON1

PWM Switch Output Connector = CON2

RoHS Compliant



INPUT CONNECTOR
CON1
MOLEX 53261-0871

PIN #	FUNCTION
1	+VIN (PWR)
2	GND (PWR)
3	ENABLE
4	NC
5	ICNTL
6	NC
7	+5V REF (OUT)
8	GND (SIG)

OUTPUT CONNECTOR
CON2
MOLEX 53261-0471

PIN #	FUNCTION
1	+VOUT (PWR)
2	NC
3	GND (SIG)
4	PWM OUT

MAXIMUM RATINGS*

Symbol	Parameter	Value	Unit
Vin	Supply Voltage (Referenced to Ground)	-0.3 to 30	Vdc
Vip	Voltage applied to any Input Pin (Referenced to Ground)	-0.3 to 5.6	Vdc
Iop	Current sourced or sinked from any Output Control Pin	+/- 10	mAdc
Top	Operating Temperature (Still air ambient around Dimmer)	-30 to +85	°C
Tstg	Storage Temperature	-40 to +105	°C

*Maximum Ratings are those values beyond which damage to the DimNIT dimmer may occur.

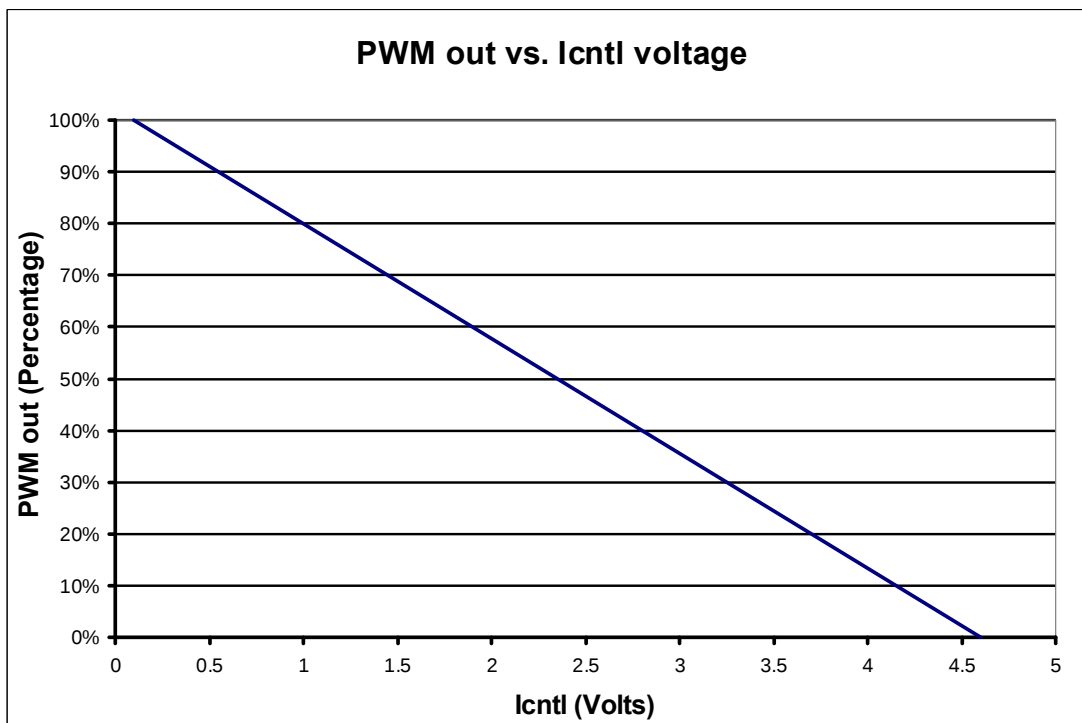
RECOMMENDED OPERATING CONDITIONS

Symbol	Parameter	Min	Max	Unit
Vin	Supply Voltage (Referenced to Ground)	6.5	28.0	Vdc
Icntl	LED Intensity Control Voltage Range (User Supplied Input)	0.1	4.6	Vdc

ELECTRICAL CHARACTERISTICS

Vin = +6.5V to +28V unless otherwise specified.

Symbol	Parameter	Test Conditions	Min	Nom	Max	Unit
Icntl	Control voltage input to obtain 0 to 100% brightness range	Icntl(Pin 5) <= +0.1V CON1			100	%
		Icntl(Pin 5) >= +4.6V CON1	0			%
PWMout	PWM output frequency		332	350	368	Hz
PWMVoh	PWM out high logic level	CON2, Pin 4 = open		Vin		Vdc
PWMVol	PWM out low logic level				0.1	Vdc
PWMpu	PWM output pull-up resistor			10k		Ohms
ENoff	Enable Control, Unit OFF	Enable(Pin 3) CON1			0.8	Vdc
ENon	Enable Control, Unit ON	Enable(Pin 3) CON1	2.0			Vdc
+5Vref	+5V Reference Output Voltage		4.75	5.0	5.25	Vdc
+5Vref-I	+5V Reference Output Current Draw				50	mAdc
Iinq	Vin quiescent current draw	Vin = +12V CON1, pin 7 open CON2 open		3.1		mAdc



NOTE: The intensity response curve is designed to be compatible with the Digital View LCD Controller and Button Board.

Digital View LCD Controllers and Jumper Settings:

LCD Controller	Jumper Settings
ALR-1400	(JB2 = 2-3) (JB3 = 1-2) (JP2 = 1-2)
ALR-1920	(JB2 = 2-3) (JB3 = 1-2) (JB5 = 1-2)
DVS-1600	(JB1 = 2-3) (JB2 = 2-3) (JB3 = 1-2) (JB5 = 1-2)
SP-1600	(JB2 = 2-3) (JB3 = 1-2) (JP3 = 1-2)
SVH-1920	(JB2 = 2-3) (JB3 = 1-2) (JP3 = 1-2)