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ACA-3223

PRODUCT DATA SHEET

04/20/23

Switch Accessory Board

(Switch Control Board for Power, Mode, and Video Setting)

GENERAL DESCRIPTION

The AC-3223 is a three switch and three LED controller board designed for indication with the **VDC 19-in Hi-Bright Enhanced LCD**. The interface is described in the *Connection Diagram* on page 4.

MECHANICAL/ENVIRONMENTAL

Weight = 6.9 grams
Altitude = 35,000 ft max
Humidity = < 95% non-condensing
Size (L x W x H) = 4.00 IN x 0.55 IN x 0.504 IN
PCB thickness = 0.062 IN
Mounting Holes = 0.125 IN x 2 (Plated), 0.125 IN x 1 (Non-Plated)
Input Connector = CON1
Output Connector = CON2
RoHS Compliant

NOTE: SEE PAGE 4 FOR
MECHANICAL DRAWING AND
CONNECTOR PINOUT

MAXIMUM RATINGS*

Symbol	Parameter	Value	Unit
Vin	Supply Voltage (Referenced to Ground)	-0.7 to 20	Vdc
Vip	Voltage applied to any Input Pin (Referenced to Ground)	-0.7 to 5.7	Vdc
Iop	Current sourced or sinked from any Output Control Pin	+/- 10	mAdc
Pin	Input Power (DC Input Voltage x DC Input Current)	0.66	W
Top	Operating Temperature (Still air ambient around Driver)	-40 to +85	°C
Tstg	Storage Temperature	-40 to +105	°C

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

RECOMMENDED OPERATING CONDITIONS

Symbol	Parameter	Min	Max	Unit
Vin	Supply Voltage (Referenced to Ground)	10.5	18.0	Vdc
Icntl	Indicator LED Control Input (LED Driver Supplied Input)	0.5	4.8	Vdc

ELECTRICAL CHARACTERISTICS

Vin = +12V, unless otherwise specified.

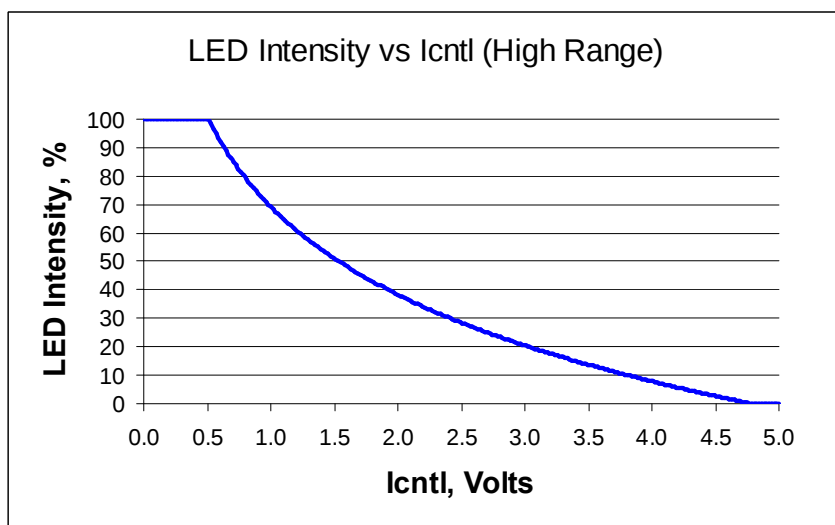
Symbol	Parameter	Test Conditions	Min	Nom	Max	Unit
Ps*	Power Setting, SBC ON	Pin 11 CON1, LED 3 = Green	2.0			Vdc
	Power Setting, SBC OFF (Stand-by)	Pin 11 CON1, LED 3 = Amber			0.5	Vdc
Vid	Video Setting A	Pin 9 CON1, LED 2 = Green			0.5	Vdc
	Video Setting B	Pin 9 CON1, LED 2 = Amber	2.0			Vdc
Rs	Range Select Out, High Range	Pin 10 CON2, LED 1 = Amber	2.0			Vdc
	Range Select Out, Low Range	Pin 10 CON2, LED 1 = Green			0.5	Vdc
Rsdelay**	Range Select Delay	Range Button SW1 Pressed		3.5		Sec
IadjHigh***	Indicator LED Adjustment Range for LED1-LED3 High Range	Icntl (Pin 9 CON2) <= 0.5V			100	%
		Icntl (Pin 9 CON2) >= 4.8V	0.1			%
IadjLow***	Indicator LED Adjustment Range for LED1-LED3 Low Range	Icntl (Pin 9 CON2) <= 0.5V			5	%
		Icntl (Pin 9 CON2) >= 4.8V	0.1			%
Iin	Input Current Draw			0.05		Adc

***Note:** LED1, LED2, and LED3 will only DIM when CON1 Pin 11 = +5V (SBC is ON), LED1 and LED2 will be Off and LED3 will be Full ON and Amber when CON1 Pin 11 = 0V (SBC in Stand-by)

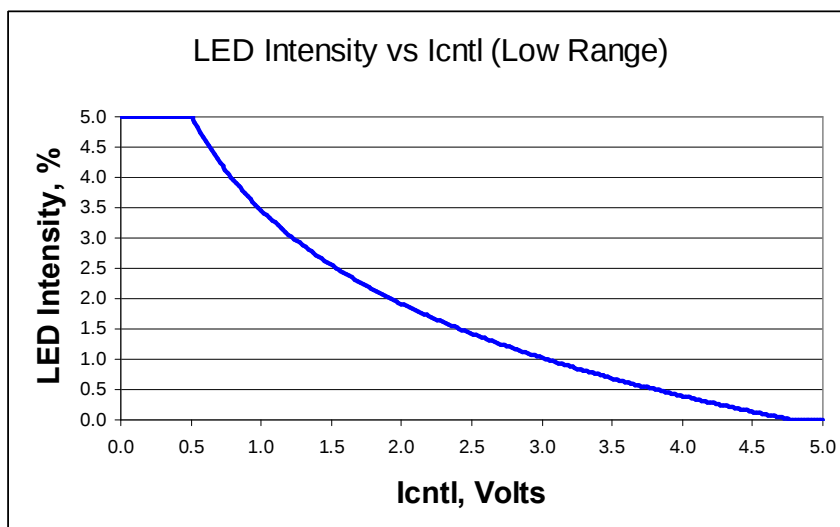
****Note:** See Page 5 for Range Select Delay Timing Diagram

*** **Note:** LED1-LED3 never fully turn off, and only go as low as the first dimming step

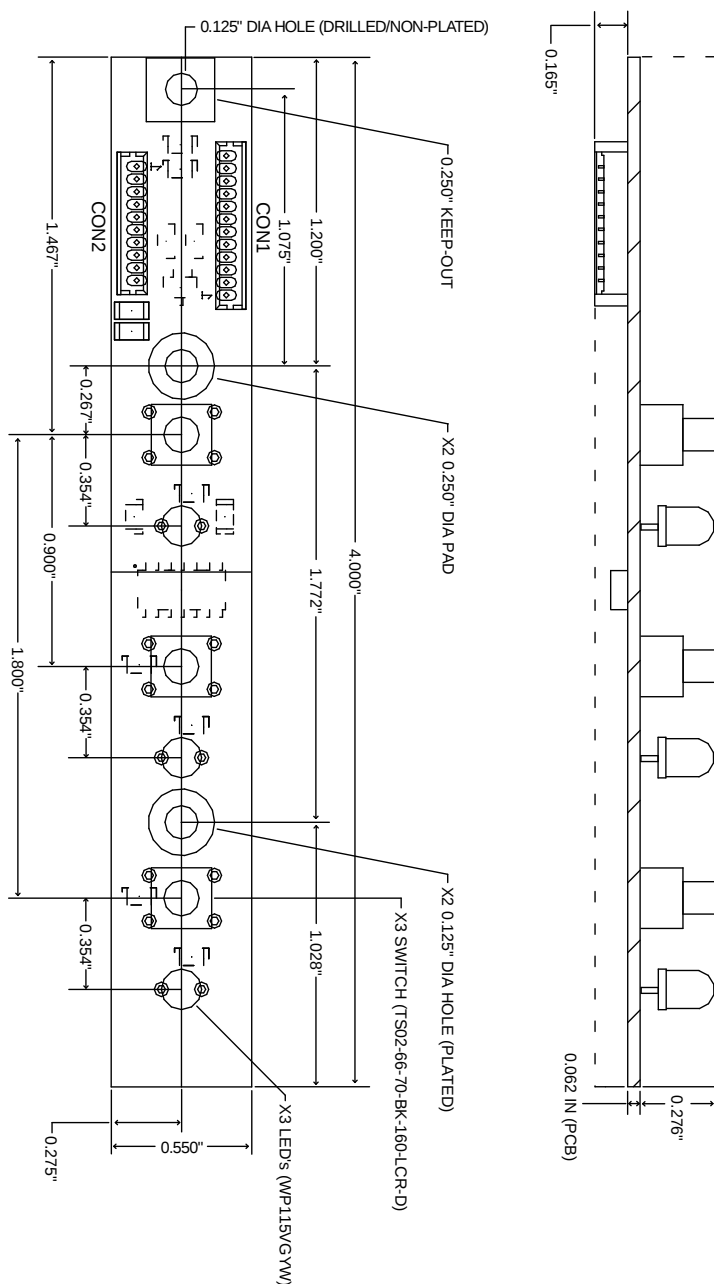
HIGH RANGE BRIGHTNESS CURVE



LOW RANGE BRIGHTNESS CURVE



MECHANICAL DRAWING



OUTPUT CONNECTOR CON1 MOLEX 53398-1271

PIN# FUNCTION

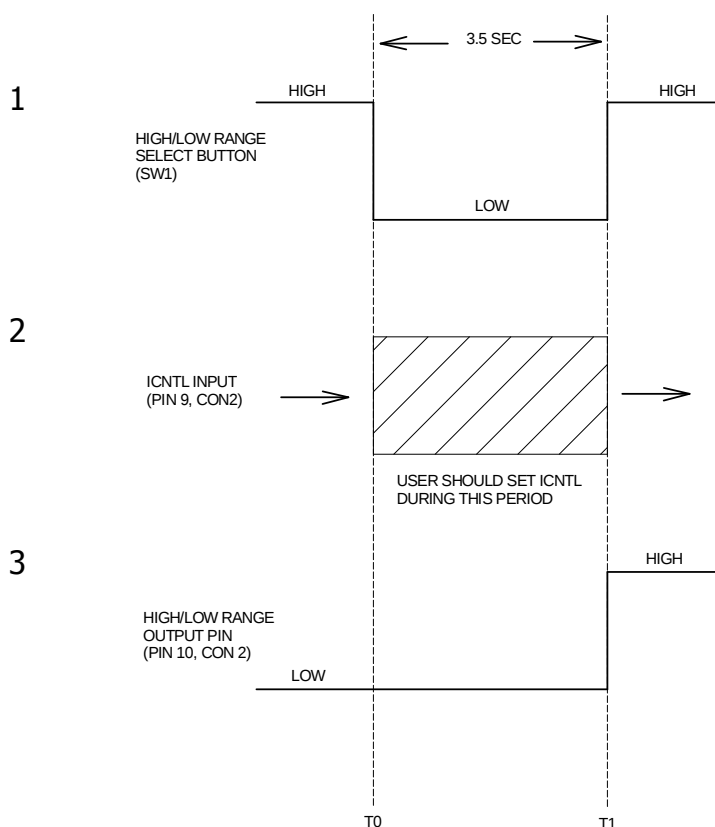
1	+ 10.5V to +18.0V (PWR) (IN)
2	+ 10.5V to +18.0V (PWR) (IN)
3	+ 10.5V to +18.0V (PWR) (IN)
4	+ 10.5V to +18.0V (PWR) (IN)
5	GND (PWR) (IN)
6	GND (PWR) (IN)
7	GND (PWR) (IN)
8	GND (PWR) (IN)
9	VIDEO A/B (IN)
10	VIDEO SWITCH (OUT)
11	POWER SETTING (IN)
12	POWER SWITCH (OUT)

INPUT CONNECTOR CON2 MOLEX 53398-1071

PIN# FUNCTION

1	+ 10.5V to +18.0V (PWR) (OUT)
2	+ 10.5V to +18.0V (PWR) (OUT)
3	+ 10.5V to +18.0V (PWR) (OUT)
4	+ 10.5V to +18.0V (PWR) (OUT)
5	GND (PWR) (OUT)
6	GND (PWR) (OUT)
7	GND (PWR) (OUT)
8	GND (PWR) (OUT)
9	ICNTL (IN)
10	RANGE (OUT)

TIMING DIAGRAM



TIMING DIAGRAM – Example of Switching from Low to High Range

When user wants to switch ranges, do the following:

1. Change to the desired range, via pressing the Range Button *SW1* (This is shown to occur at T0).
2. Update Icntl setting, Pin 9 on CON2, within 3.5 seconds of range change.
3. 3.5 seconds after Range change, the High/Low Range pin will update, and the new Icntl setting will appear (this is shown to occur at T1).