

# LED-CONVERTER UNIT

**PS-LD0403-x-yyy(S) (40W)**

(PRELIMINARY INFORMATION)

**DESCRIPTION :**

This low profile LED-Converter is developed for max. 4 LED-lines

**APPLICABLE:**

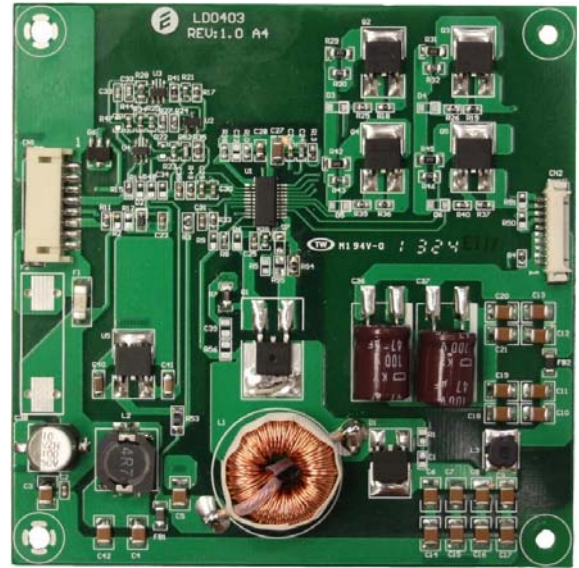
- 4 LED lines (Serial Mode)
- Pout max 7.5 Watt per line, total max. 40W
- LED Voltage max. 62Vdc
- Lamp Current per line: max. 200mA

**FEATURES :**

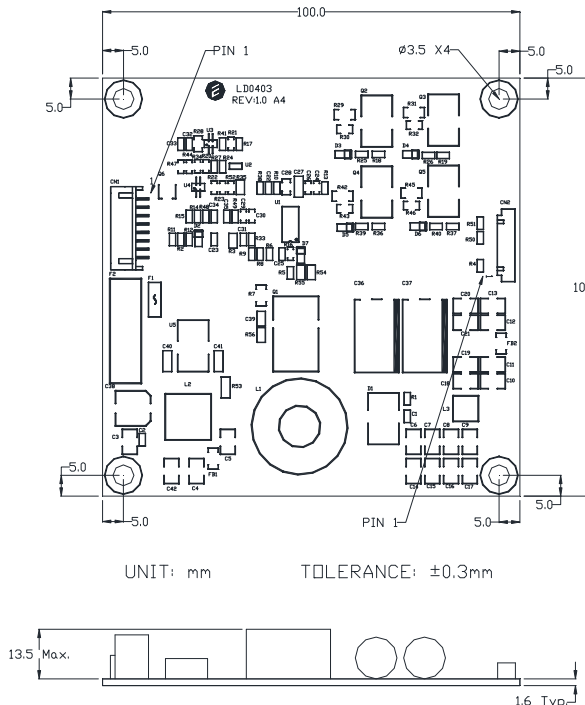
- Internal Open LED Detection for every Line
- Analog or ext. PWM Dimming
- 1000:1 dimming ratio with external PWM
- Remote ON / OFF
- Wide input voltage range
- RoHS compliant (S)

**TEMPERATURE & HUMIDITY :**

- Operating Temperature Range -30°C ~ +60°C  
(Please contact factory for different displays)
- Storage Temperature Range -30°C ~ +85°C
- Humidity 95 %RH max



**DIMENSIONS :** L x W x H 100 x 100 x 16 mm



Weight : (g) typ.

**Components**

No.	Part Description	Qty.	Material	Note
1	PCB	1	UL94V-0 (FR-4 or CEM-3)	t=1.0mm
2	Connector CN1	1	S08B-PH-SM3-TB	Molex or equal
3	Connector CN2	1	53261-1090	Molex or equal

**Power Systems – The Power Solution**

Web: [www.Power-Systems.de](http://www.Power-Systems.de)  
 Email: [Info@Power-Systems.de](mailto:Info@Power-Systems.de)

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## PS-LD0403-x-yyy(S) (40W)

(PRELIMINARY INFORMATION)

### Input side CN1:

Pin No.	Symbols	Ratings
CN 1-1	GND	-
CN 1-2	GND	-
CN 1-3	N.C.	
CN 1-4	Vbr	0.0 ~ 5.0 (5V=low brightness)
CN 1-5	Ext. PWM	0 ~ 0.5 = LOW / 2.5 ~ 5 = HIGH
CN 1-6	Vrmt	0 ~ 0.8 = OFF / 2.5 ~ Vin = ON
CN 1-7	Vin	21.6 ~ 26.4 Vdc
CN 1-8	Vin	21.6 ~ 26.4 Vdc

### Output side CN2:

Pin No.	Symbols	Ratings
CN 2-1	Vhigh(+)	max. 62Vdc
CN 2-2	Vhigh(+)	max. 62Vdc
CN 2-3	Vhigh(+)	max. 62Vdc
CN 2-4	Vhigh(+)	max. 62Vdc
CN 2-5	Vhigh(+)	max. 62Vdc
CN 2-6	NC	-
CN 2-7	RTN1(-)	LED LINE 1 RETURN
CN 2-8	RTN2(-)	LED LINE 2 RETURN
CN 2-9	RTN3(-)	LED LINE 3 RETURN
CN 2-10	RTN4(-)	LED LINE 4 RETURN

\*Configuration PS-LD0403-1-yyy (page 4)

### Output side CN2:\*

Pin No.	Symbols	Ratings
CN 2-1	Vhigh(+)	max. 62Vdc
CN 2-2	Vhigh(+)	max. 62Vdc
CN 2-3	Vhigh(+)	max. 62Vdc
CN 2-4	Vhigh(+)	max. 62Vdc
CN 2-5	Vhigh(+)	max. 62Vdc
CN 2-6	NC	-
CN 2-7	RTN1(-)	LED LINE 1 RETURN
CN 2-8	RTN2(-)	N.C.
CN 2-9	RTN3(-)	LED LINE 3 RETURN
CN 2-10	RTN4(-)	N.C.

\*Configuration PS-LD0403-2-yyy (page 4)

## ELECTRICAL CHARACTERISTICS :

Parameters	Symbols	Conditions			Specification			Unit	Note
		Vin (V)	Vbr (V)	Tu (°C)	Min.	Typ.	Max.		
Output Current	Iout	21.6 ~ 26.4	0	-30~+60	110	120*	130	mAdc	*Note 6
Output Current	Imin	21.6 ~ 26.4	5	-30~+60	-	10	-	%	duty cycle analogue voltage
output Current	Imin	21.6 ~ 26.4	0	-30~+60		1		%	duty cycle ext. PWM
Input Current	Iin	21.6 ~ 26.4	0	-30~+60	TBD	1.35	1.8	Adc	*By 24Vdc
Inrush Current	Ip	21.6 ~ 26.4	0	-30~+60			6.0	Apeak	By full load
Open Load Shutdown	Vbias	21.6 ~ 26.4	0	-30~+60	68	72	77	Vdc	

Note 1: In case of not needing to connect all outputs please ask factory which pins to connect according to your needs.

Note 2: PWM-signal is LOW active.

Note 3: The external PWM-frequency should be within the range of 100 ~ 500Hz. For other frequencies please request.

Note 4: Output current is up to customer's wish when no dimming function is required,

Note 5: Do not use analog dimming and external PWM dimming at the same time.

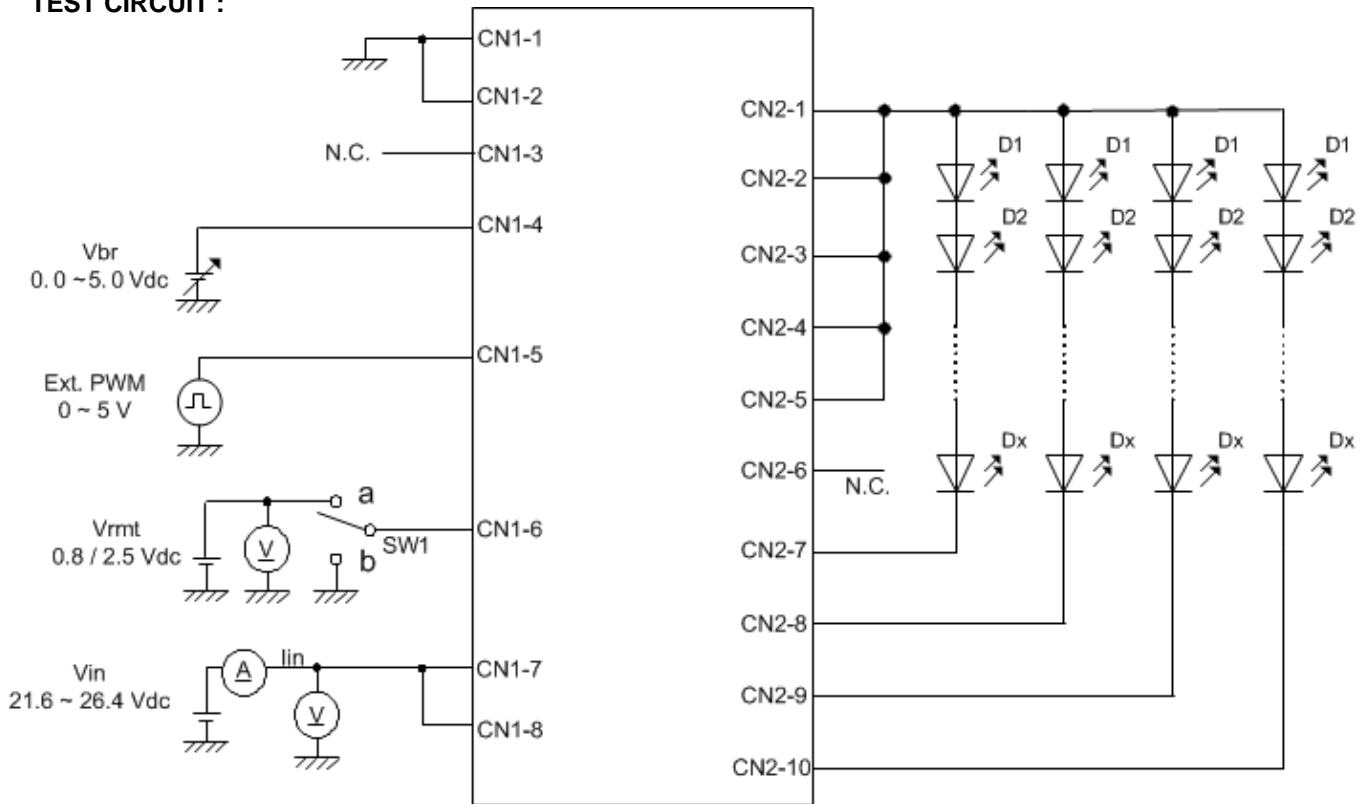
Note 6: Output voltage must be 6v higher then input voltage.

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**TEST CIRCUIT :**



**Connect Vbr to Ground while using ext. PWM dimming.**

**Do not connect ext. PWM dimming while using Vbr.**

**ORDER KEY :**

**PS-LD0403-x-yyy**

When ordering this converter please give the following keys:

**-x** is for different output configuration

**-1** four outputs

**-2** two outputs (by two outputs the typical current must divided with 2).

**-yyy** is for output current (55~200mA rms)

Examples:

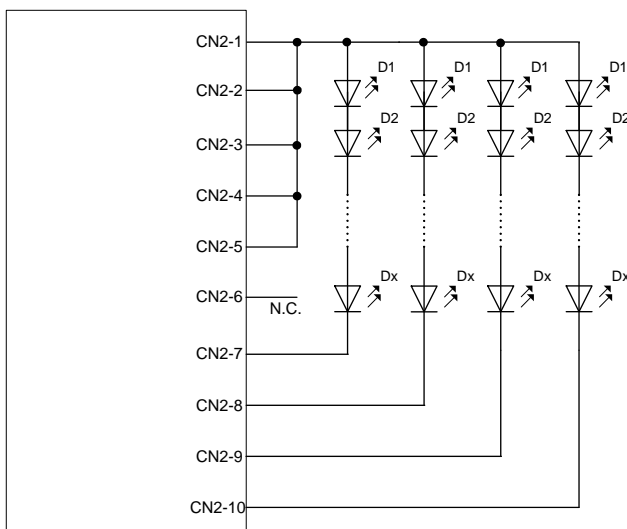
PS-LD0403-**1-120** (S)

PCB with four outputs and 120mA current per line.

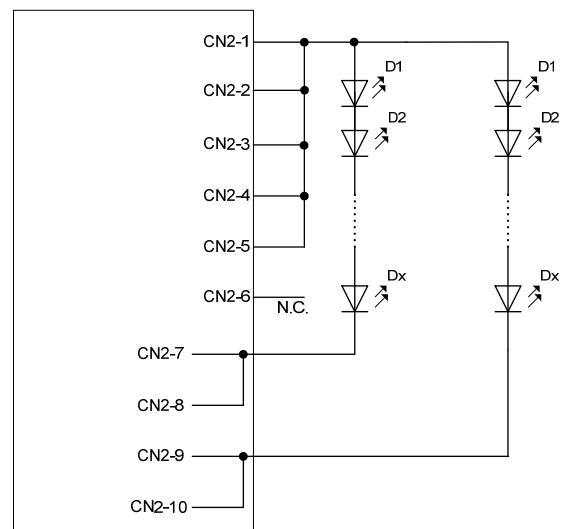
PS-LD0403-**2-060** (S)

PCB with four outputs and 60mA current per line. For one output 120mA.

**CONFIGURATION CIRCUIT : PS-LD0403-1**



**CONFIGURATION CIRCUIT : PS-LD0403-2**



**CABLES :**

**For input:**

500 mm, stripped and tinned ends, order key <input cable #12>

**For output:**

500 mm, stripped and tinned ends, order key <input cable #6>