

12mm Rotary Encoder with LED

Type DPL12 Series

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12mm Rotary incremental encoder with LED for use in electronic equipment. Can be supplied with or without switch with customisation to standard options.

Key Features

- 12mm Rotary Encoder
- Incremental Type
- Push on Switch Option
- Various Shaft Lengths
- LED Colour Options
- Detent Options

Characteristics - Electrical

Pulses:	24
Contact Rating:	0.5mA 5VDC
Dielectric Strength:	300VAC / 1mA, 1 minute
Insulation Resistance (min):	100M ohms at 250VAC
Operating Speed (RPM):	60 RPM
Switch Power Rating (where fitted):	16VDC 3A
Switch Contact Resistance:	100m ohm Max
Electrical Travel:	Continuous
Rotational Noise:	t2 = 2.0 ms max (see below)
Chattering:	t1 & t3 = 3.0 ms max (see below)



Code Off area V = 3.5V or more. Code on area V=1.5V or less

LED	Switch – Dual colour – see below for characteristics No Switch Single colour– see below for characteristics
Colour options	No Switch – Red, Green, Blue Switch – 1: Blue/Green, 2: Blue/Orange, 3: Green/Red

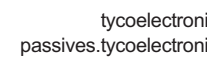
Characteristics - Mechanical

Total Mechanical Travel:	Continuous
Detents:	0, 24
Switch Operating Force:	400+/- 200gf
Switch Travel:	0.5mm
Shaft Type:	F – Flatted, K - Knurled
Shaft Length (from Mounting Surface):	See Chart below

Characteristics - Environmental

Operating Temperature	-40 - +85 degrees C
Rotational Life	30,000 Cycles

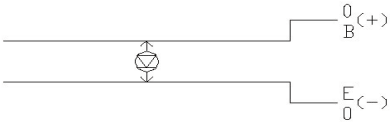
Output Signal Format

Shaft Rotational Direction	Signal	Format
Clockwise	A (Terminal A-C)	OFF  ON 
	B (Terminal B-C)	OFF  ON 
Anticlockwise	A (Terminal A-C)	OFF  ON 
	B (Terminal B-C)	OFF  ON 

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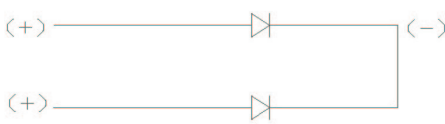
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LED Characteristics - Without Switch

Reverse Current	$[I_R] = 10\mu A$	
Reverse Voltage	5V	
Operating Temperature	-40 - +85 deg C	

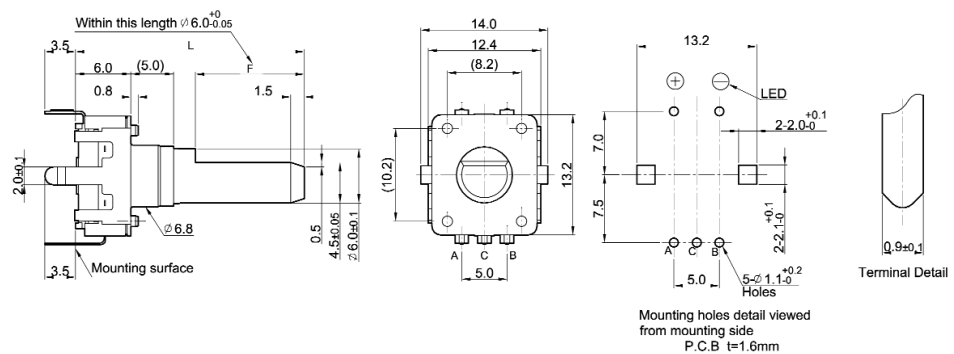
Emitted Colour	Power Dissipation	DC Forward Current	Forward Voltage	
			Typical	Max.
Blue	100mW	20mA	3.2V	4.0V
Red	58mW	25mA	1.8V	2.3V
Green	48mW	20mA	2.0V	2.4V

With Switch

Reverse Current	$[I_R] = 10\mu A$	
Reverse Voltage	5V	
Operating Temperature	-40 - +85 deg C	

Emitted Colour	Power Dissipation	DC Forward Current	Peak Forward Current	Forward Voltage	
				Typical	Max.
Red	170mW	30mA	185mA	1.95V	2.5V
Orange	75mW	30mA	195mA	2.1V	2.5V
Blue	105mW	30mA	150mA	3.3V	4.0V
Green	105mW	25mA	130mA	3.1V	3.8V

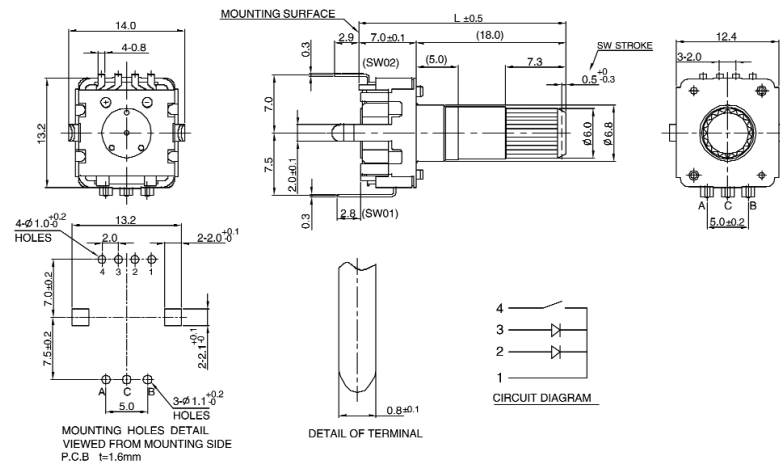
Dimensions DPL12V



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Dimensions DPL12SV



Shaft Length Without Switch

Type	Dim	Options (mm)		
K	L (from mounting surface)	24 only		
F	L (from mounting surface)	17.5	20	25
	F	5	7	12

Shaft Length With Switch

Type	Dim	Options (mm)		
K	L (from mounting surface)	25 only		
F	L (from mounting surface)	18.5	21	26
	F	5	7	12

LED Colour Codes

Switch Option	Code	Description
Switch (Dual Colour)	1	Blue / Green
	2	Blue / Orange
	3	Green / Red
No Switch (Single Colour)	R	Red
	G	Green
	B	Blue

How to Order

DPL12	V	N	24	A	20	F	R
Common Part	Orientation	Detent	Pulses	Bush Details	Shaft Length	Shaft Style	LED Colour
DPL12 – no switch DPL12S – with Switch	V - Vertical	N - None 24 – 24 Clicks	24 – 24 Pulses	A – 5mm	See Relevant Table	F - Flatted K - Knurled	See Relevant Table