

SERVO DRIVER SOLUTIONS FOR OPTICAL SCANNING

光学扫描振镜驱动板



数字系列

EXTRA SERIES



产品特点 FEATURES



支持XY2-100协议、SPI协议、ST2-100协议
数字差分信号输入，数字差分信号输出

Support XY2-100 protocol, SPI protocol,
ST2-100 protocol, digital differential signal input,
and digital differential signal output.

3-50

负载尺寸3-50mm孔径镜片
Load size 3-50mm aperture mirrors.



尺寸紧凑，针对不同的应用振镜电机和负载，
多种不同性能的驱动板可选

Compact size, a variety of the performance of
driver are optional for different galvo motors
and loads.

FPGA

基于高速FPGA控制方式
支持位置信息、状态信息、报警信息输出

Based on high-speed FPGA control mode,
Support the information output for position,
status and alarm.



适配思特光学STGalvo系列、UltraGalvo系列
和ExtraGalvo系列振镜电机

Suitable for Scanner Optics STGalvo series, UltraGalvo
series and ExtraGalvo series galvanometers.



针对不同应用，多种调试方式
如Vector Tune, High Speed Tune等

A variety of debugging modes for different
applications, such as Vector Tune,
High Speed Tune, etc.

EXTRASERVO (A) DIGITAL DRIVER

EXTRASERVO (A) 数字驱动板



ExtraServo (A)
Light Load



ExtraServo (A)
Heavy Load

技术参数

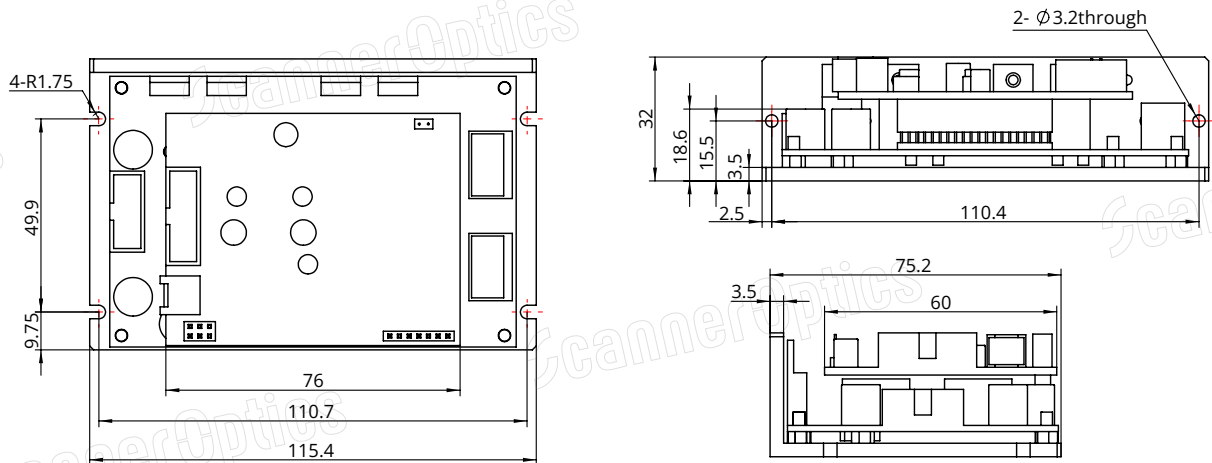
TECHNICAL PARAMETERS

	ExtraServo (A) Light Load	ExtraServo (A) Heavy Load
轴数 Number of Axes	Dual	Dual
命令输入 Command Input	XY2-100 / SPI / ST2-100	XY2-100 / SPI / ST2-100
模拟输出阻抗 Analog Output Impedance	The un-terminated output of DAC8551, <math><1\Omega</math>	The un-terminated output of DAC8551, <math><1\Omega</math>
位置输出比例因子 Position Output Scale Factor	0.4V/degree non-differential	0.4V/degree non-differential
电源要求 Power Supply Requirements	$\pm 15\text{V}(\pm 10\%)$	$\pm 15\text{V}(\pm 10\%)$
最大驱动电流限制 Maximum Drive Current Limit	3A	10A
静态功耗(负载不同功耗有相应波动) Quiescent Power	7.45W	7.95W
工作温度范围 Operating Temperature Range	10 - 50°C	10 - 50°C
尺寸 Dimensions	10.5cmx7.0cm	10.9cmx7.0cm
电子元件温度稳定性 Temperature Stability of Electronics	20ppm/°C	20ppm/°C
推荐负载镜片 Recommend Mirror Aperture	<math><7\text{mm}</math> / 10mm / 14mm	20mm / 30mm / 50mm

外形尺寸图

TECHNICAL DRAWING

ExtraServo (A) Light Load



J1

Marking Signal Interface

- 1: CLK-
- 2: CLK+
- 3: SYNC-
- 4: SYNC+
- 5: XCHANNEL-
- 6: XCHANNEL+
- 7: YCHANNEL-
- 8: YCHANNEL+
- 9/11/13: FB (1-3)-
- 10/12/14: FB (1-3)+

J5

Power Interface

- 2-4: +15VIN
- 8-10: -15VIN
- 5-7: GND

J2

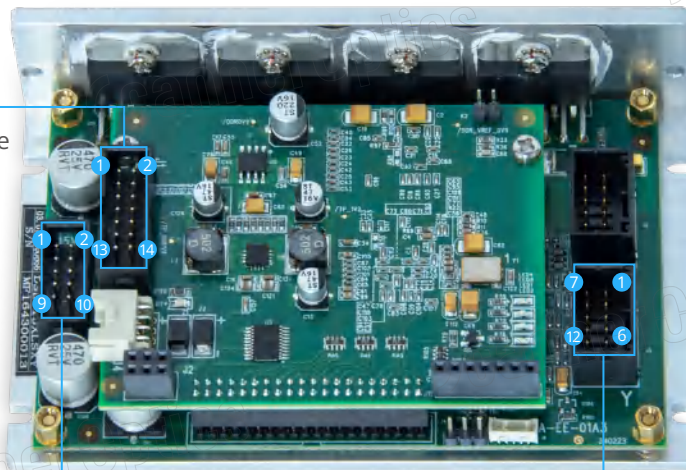
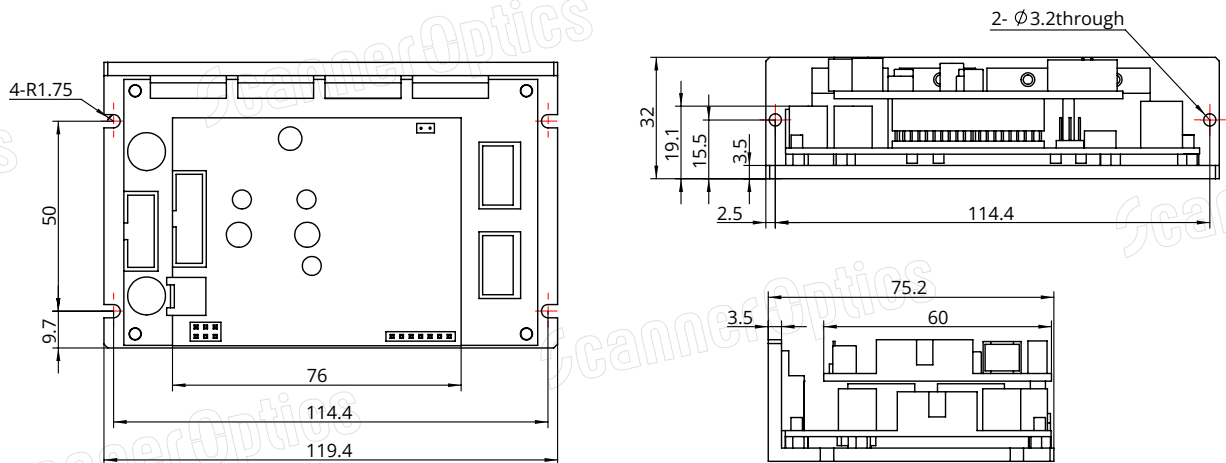
Motor Signal Control Port

- 1: MOTOR1+
- 2: -15V
- 3/4/5/9: GND
- 6: NC
- 7: MOTOR1- (Hang In The Air)
- 8: NC
- 10: LED_AGC (Photocell Voltage Detection Terminal)
- 11: POS1_IN-
- 12: POS1_IN+

外形尺寸图

TECHNICAL DRAWING

ExtraServo (A) Heavy Load



J1

Marking Signal Interface

- 1: CLK-
- 2: CLK+
- 3: SYNC-
- 4: SYNC+
- 5: XCHANNEL-
- 6: XCHANNEL+
- 7: YCHANNEL-
- 8: YCHANNEL+
- 9/11/13: FB (1-3)-
- 10/12/14: FB (1-3)+

J5

Power Interface

- 2-4: +15VIN
- 8-10: -15VIN
- 5-7: GND

J2

Motor Signal Control Port

- 1: MOTOR1+
- 2: -15V
- 3/4/5/9: GND
- 6: NC
- 7: MOTOR1- (Hang In The Air)
- 8: NC
- 10: LED_AGC (Photocell Voltage Detection Terminal)
- 11: POS1_IN-
- 12: POS1_IN+

EXTRASERVO (D) DIGITAL DRIVER

EXTRASERVO (D) 数字驱动板



ExtraServo (D)

技术参数

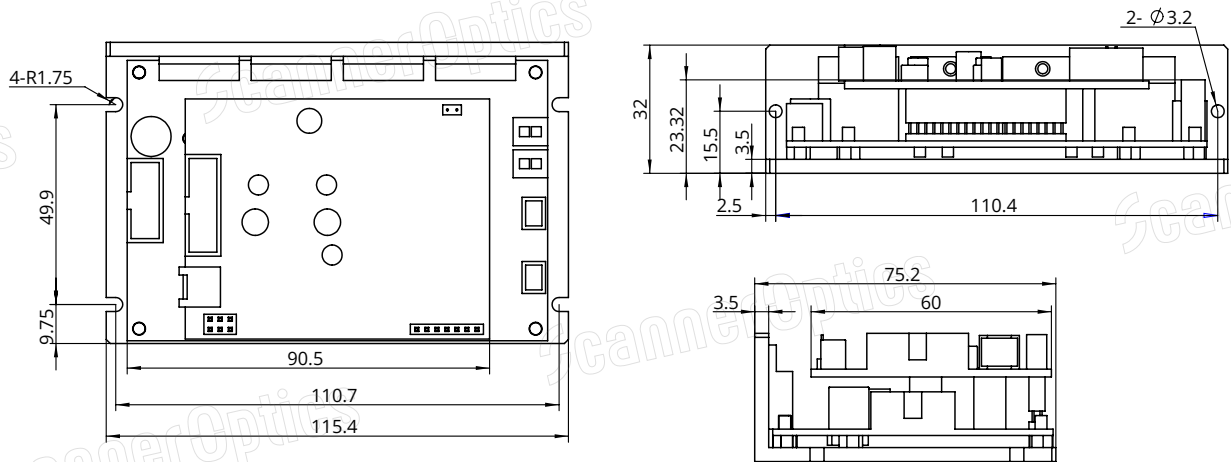
TECHNICAL PARAMETERS

	ExtraServo (D)
轴数 Number of Axes	Dual
命令输入 Command Input	16bit: XY2-100 / 20bit: ST2-100
模拟输出阻抗 Analog Output Impedance	The un-terminated output of DAC8551, <math><1\Omega</math>
位置输出比例因子 Position Output Scale Factor	0.4V/degree non-differential
电源要求 Power Supply Requirements	$\pm 15V(\pm 10\%)$
最大驱动电流限制 Maximum Drive Current Limit	11.5A
静态功耗(负载不同功耗有相应波动) Quiescent Power	13.95W
工作温度范围 Operating Temperature Range	10 - 50°C
尺寸 Dimensions	10.5cmx7.0cm
电子元件温度稳定性 Temperature Stability of Electronics	20ppm/°C
推荐负载镜片 Recommend Mirror Aperture	10mm / 14mm / 20mm / 30mm

外形尺寸图

TECHNICAL DRAWING

ExtraServo (D)



J1

Marking Signal Interface

- 1: CLK-
- 2: CLK+
- 3: SYNC-
- 4: SYNC+
- 5: XCHANNEL-
- 6: XCHANNEL+
- 7: YCHANNEL-
- 8: YCHANNEL+
- 9/11/13: FB (1-3)-
- 10/12/14: FB (1-3)+

J1

Power Interface

- 2-4: +15VIN
- 5-7: GND
- 8-10: -15VIN

J5

Galvo Power Interface

- 1: MOTOR1(+)
- 2: MOTOR1(-)

J3

Galvo Signal Feedback Interface

- 1: GND
- 2: +5V
- 3: M1_ENC COS(+)
- 4: M1_ENC COS(-)
- 5: M1_POS(-)/ENC_Z(-)
- 6: M1_POS(+)/ENC_Z(+)
- 7: M1_ENC SIN(+)
- 8: M1_ENC SIN(-)
- 11-13: CHGND1

EXTRASERVO IV (A) DIGITAL DRIVER

EXTRASERVO IV (A) 数字驱动板



ExtraServo IV (A)

技术参数

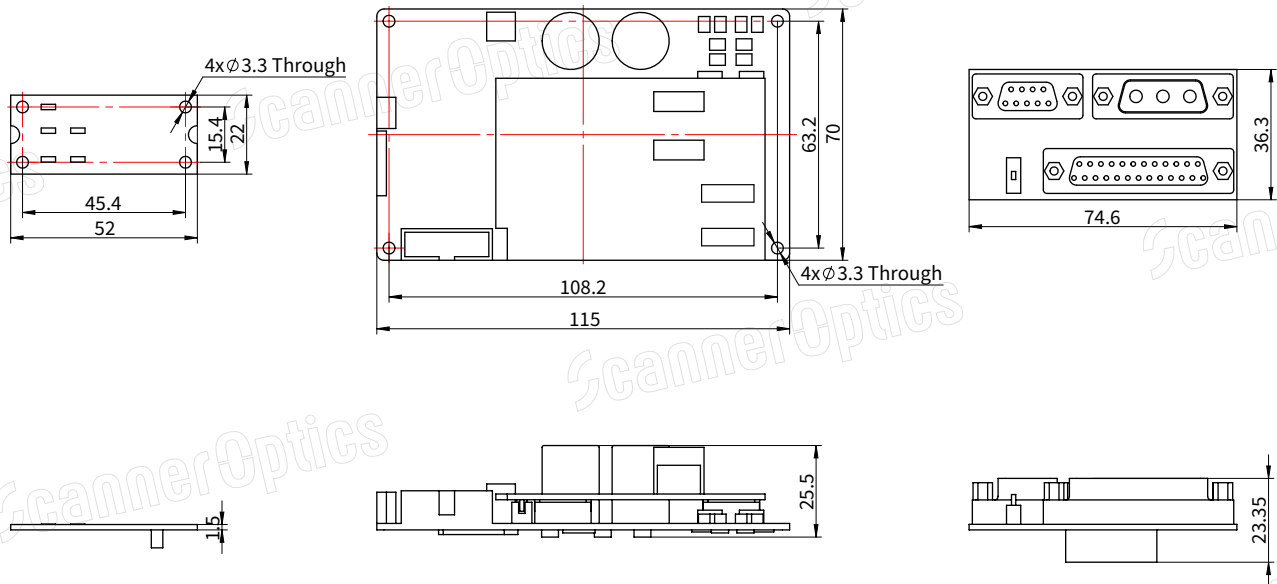
TECHNICAL PARAMETERS

ExtraServo IV (A)	
轴数 Number of Axes	Dual
命令输入 Command Input	16bit: XY2-100 / 20bit: ST2-100
数字输出方式 Digital output mode	PWM
位置输出比例因子 Position Output Scale Factor	0.4V/degree non-differential
电源要求 Power Supply Requirements	48V/5A (10%) the Maximum Ripple 200mvpp@20MHZ BW
最大驱动电流限制 Maximum Drive Current Limit	15A
静态功耗 Quiescent Power	9.6W
工作温度范围 Operating Temperature Range	15-50°C
尺寸 Dimensions	11.5cmx7.0cm
电子元件温度稳定性 Temperature Stability of Electronics	20ppm/°C
推荐负载镜片 Recommend Mirror Aperture	10mm / 14mm / 20mm / 30mm

外形尺寸图

TECHNICAL DRAWING

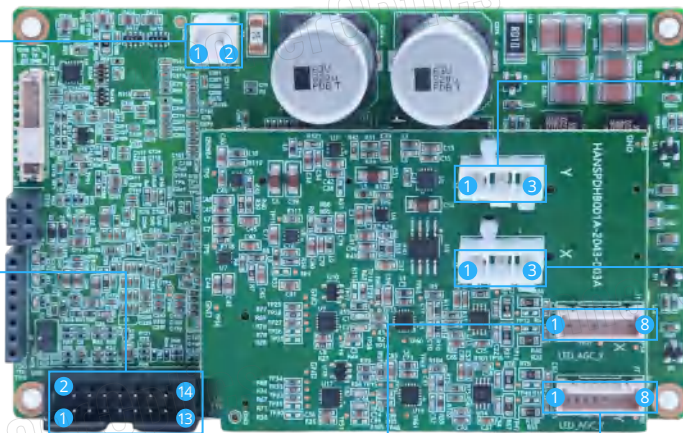
ExtraServo IV (A)



H1

电源输入接口
Power input interface
1: GND
2: +48V

1: CLK-
2: CLK+
3: SYNC-
4: SYNC+
5: Xchannel-
6: Xchannel+
7: Ychannel-
8: Ychannel+
9: FB1-
10: FB1+
11: FB2-
12: FB2+
13: FB3-
14: FB3+



J4

Y轴动力 Y-axis Power
1: GND
2: MOTOR-
3: MOTOR+

J3

X轴动力 X-axis Power
1: GND
2: MOTOR-
3: MOTOR+

J1

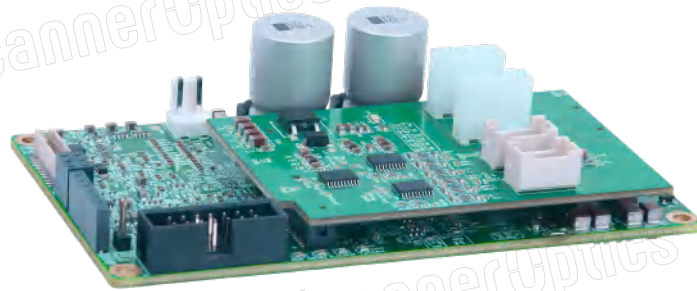
X轴光电信号
X-axis Photoelectric Signal
1: POS1 5: LED+
2: POS2 6: GND
3: GND 7: GND
4: GND 8: GND

J7

Y轴光电信号
Y-axis Photoelectric Signal
1: POS1 5: LED+
2: POS2 6: GND
3: GND 7: GND
4: GND 8: GND

EXTRASERVO IV (D) DIGITAL DRIVER

EXTRASERVO IV (D) 数字驱动板



ExtraServo IV (D)

技术参数

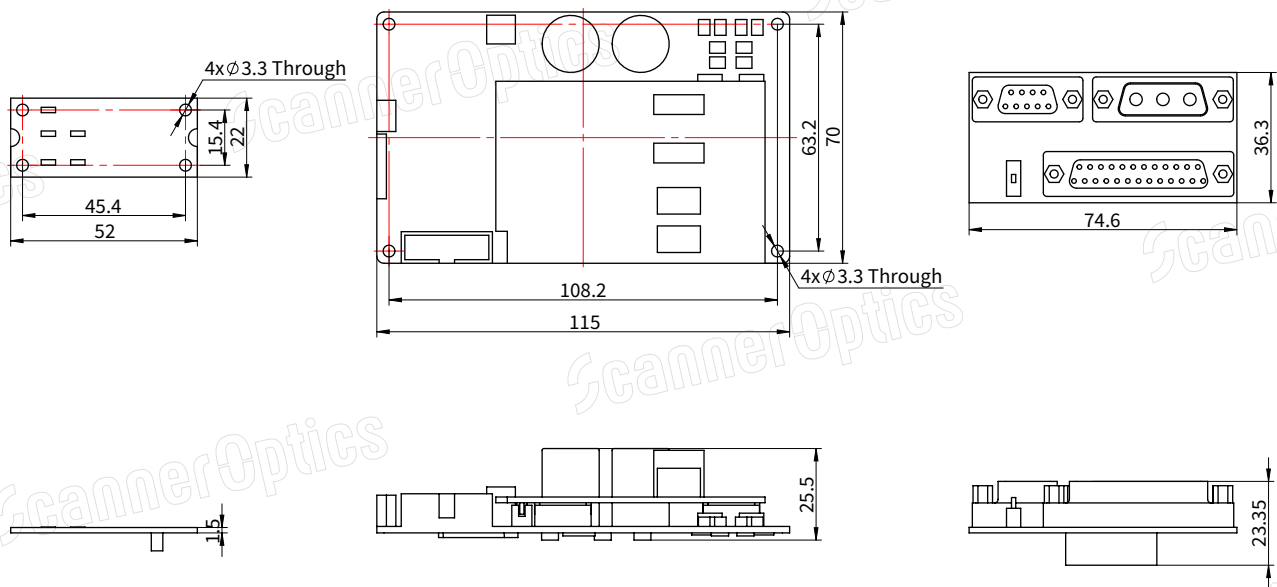
TECHNICAL PARAMETERS

ExtraServo IV (D)	
轴数 Number of Axes	Dual
命令输入 Command Input	16bit: XY2-100 / 20bit: ST2-100
数字输出方式 Digital output mode	PWM
位置输出比例因子 Position Output Scale Factor	0.4V/degree non-differential
电源要求 Power Supply Requirements	48V/5A (10%) the Maximum Ripple 200mvpp@20MHZ BW
最大驱动电流限制 Maximum Drive Current Limit	15A
静态功耗 Quiescent Power	9.6W
工作温度范围 Operating Temperature Range	15-50°C
尺寸 Dimensions	11.5cmx7.0cm
电子元件温度稳定性 Temperature Stability of Electronics	20ppm/°C
推荐负载镜片 Recommend Mirror Aperture	10mm / 14mm / 20mm

外形尺寸图

TECHNICAL DRAWING

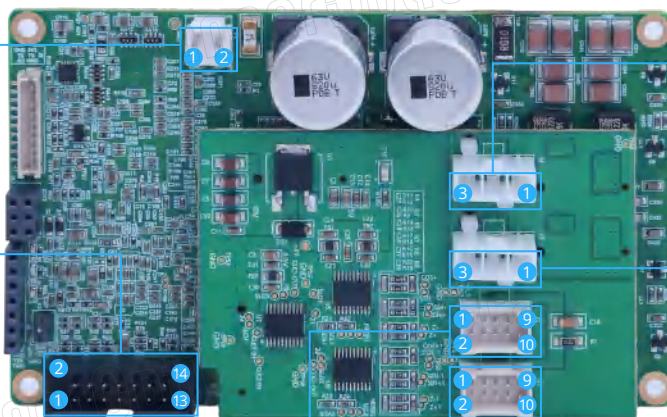
ExtraServo IV (D)



H1

电源输入接口
Power input interface
1: GND
2: +48V

- 1: CLK-
- 2: CLK+
- 3: SYNC-
- 4: SYNC+
- 5: Xchannel-
- 6: Xchannel+
- 7: Ychannel-
- 8: Ychannel+
- 9: FB1-
- 10: FB1+
- 11: FB2-
- 12: FB2+
- 13: FB3-
- 14: FB3+



J4

Y轴动力 Y-axis Power
1: MOTOR+
2: MOTOR-
3: GND

J3

X轴动力 X-axis Power
1: MOTOR+
2: MOTOR-
3: GND

J2

X轴光栅信号
X-axis Grating Signal
1: +5V 6: SIN-
2: COS- 7: GND
3: GND 8: SIN+
4: COS+ 9: Z+
5: PGND 10: Z-

J1

Y轴光栅信号
Y-axis Grating Signal
1: +5V 6: SIN-
2: COS- 7: GND
3: GND 8: SIN+
4: COS+ 9: Z+
5: PGND 10: Z-

适配电机

ADAPTIVE MOTOR

	ExtraServo (A) Light Load	ExtraServo (A) Heavy Load	ExtraServo (D)	ExtraServo IV (A)	ExtraServo IV (D)
ST201	√				
ST200	√				
ST210	√				
ST215	√				
ST218	√				
ST220	√	√		√	
ST231		√		√	
ST230		√		√	
ST240		√		√	
ST250		√		√	
ST260		√		√	
UltraGalvo 10mm	√			√	
UltraGalvo 14mm	√			√	
UltraGalvo 20mm		√		√	
UltraGalvo 30mm		√		√	
ExtraGalvo 10mm			√		√
ExtraGalvo 14mm			√		√
ExtraGalvo 20mm			√		√
ExtraGalvo 30mm			√		√

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