

Features

- Ultra High Efficiency (Up to 92%)
- Four Channels Output
- Active Power Factor Correction (0.99 Typical)
- Constant Current Output
- Input Surge Protection: DM 4kV, CM 6kV
- All-Around Protection: SCP, OTP, OVP
- IP67 and UL Dry / Damp / Wet Location



Description

The EUC-160QxxxDT(ST) series is a 160W, four-channel, constant-current LED driver that operates from 90-305 Vac input with excellent power factor. It is created for many lighting applications including flood, tunnel and street, etc. The high efficiency of these drivers and compact metal case enables them to run cooler, significantly improving reliability and extending product life. To ensure trouble-free operation, protection is provided against input surge, output over voltage, short circuit, and over temperature.

Models

Output Current (1)	Input Voltage Range	Output Voltage Range	Max. Output Power	Typical Efficiency (2)	Power Factor		Model Number
					120Vac	220Vac	
350 mA	90 ~ 305 Vac	57~114Vdc	160 W	92.0%	0.99	0.95	EUC-160Q035DT(ST) ⁽³⁾
450 mA	90 ~ 305 Vac	45~90 Vdc	160 W	92.0%	0.99	0.95	EUC-160Q045DT(ST) ⁽³⁾⁽⁶⁾
600 mA	90 ~ 305 Vac	40~70 Vdc	168 W	91.5%	0.99	0.95	EUC-160Q060DT(ST) ⁽³⁾⁽⁶⁾
700 mA	90 ~ 305 Vac	29~57 Vdc	160 W	91.5%	0.99	0.95	EUC-160Q070DT(ST) ⁽³⁾⁽⁶⁾
1050 mA	90 ~ 305 Vac	19~38 Vdc	160 W	90.0%	0.99	0.95	EUC-160Q105DT(ST) ⁽⁴⁾⁽⁶⁾
1400 mA	90 ~ 305 Vac	14~29 Vdc	160 W	90.0%	0.99	0.95	EUC-160Q140DT(ST) ⁽⁵⁾⁽⁶⁾

Notes: (1) The output current is adjustable at factory from 50% to 100%.

(2) Measured at 100% load and 220 Vac input.

(3) Non-Class2 output (USR & CNR).

(4) Class 2 output (USR), Non-Class 2 output (CNR).

(5) Class 2 output (USR), Class 2 output (CNR) for Wet location.

(6) SELV output.

Input Specifications

Parameter	Min.	Typ.	Max.	Notes
Input Voltage	90 Vac	-	305 Vac	
Input Frequency	47 Hz	-	63 Hz	
Leakage Current	-	-	0.75 MIU	UL8750; 277Vac/ 60Hz , grounding effectively
	-	-	0.70 mA	IEC60598-1; 240Vac/ 60Hz, grounding effectively

Input Specifications (Continued)

Parameter	Min.	Typ.	Max.	Notes
Input AC Current	-	-	2.1 A	Measured at 100% load and 100 Vac input.
	-	-	0.9 A	Measured at 100% load and 220 Vac input.
Inrush current	-	-	65 A	At 220Vac input, 25°C cold start, duration=1 ms, 10%Ipk-10%Ipk.
Inrush Current(I ² t)	-	-	1.7 A ² s	
Power Factor	0.90	-	-	At 100Vac-277Vac, 50-60Hz, 75%-100%load
THD	-	-	20%	

Output Specifications

Parameter	Min.	Typ.	Max.	Notes
Output channels	-	4	-	
Output Current Tolerance	-5%	-	5%	
No-load Output Voltage I _o = 350 mA I _o = 450 mA I _o = 600 mA I _o = 700 mA I _o =1050 mA I _o =1400 mA	- - - - - -	- - - - - -	120V 97V 77V 64V 51V 50.5V	Hiccup mode.
Output Current Ripple (pk-pk)	-	10% I _o	15% I _o	
Output Overshoot / Undershoot	-	-	10%	When power on or off.
Line Regulation	-	-	±1%	
Load Regulation	-	-	±3%	
Turn-on Delay Time	-	1.0 s	2.0 s	Measured at 120Vac input, 75%load-100%load
	-	0.5 s	1.5 s	Measured at 220Vac input, 75%load-100%load
Temperature coefficient	-	0.02%/°C	-	Case temperature = 0°C ~T _c max

Note: All specifications are typical at 25 °C unless otherwise stated.

Protection Functions

Parameter	Min.	Typ.	Max.	Notes
Over Temperature Protection	-	120 °C	-	When OTP occurs, the output current decreases down to the half of the normal output current. The output shall be auto recovery when case temperature becomes normal.
Short Circuit Protection	Single or dual channel short does not affect the normal work of other channels. The driver recovers after short is removed and AC input recycled. Three or four channel short latches the driver and it recovers after the short is removed.			

General Specifications

Parameter	Min.	Typ.	Max.	Notes
Efficiency				
Io =350 mA	88.0%	89.0%	-	Measured at 100% load, 120Vac input, 25°C ambient temperature, after the unit is thermally stabilized. It will be about 1.5% lower, if measured immediately after startup.
Io =450 mA	88.0%	89.0%	-	
Io =600 mA	87.5%	88.5%	-	
Io =700 mA	87.5%	88.5%	-	
Io=1050 mA	86.0%	87.0%	-	
Io=1400 mA	86.0%	87.0%	-	
Efficiency				
Io= 350 mA	91.0%	92.0%	-	Measured at 100% load, 220Vac input, 25°C ambient temperature, after the unit is thermally stabilized. It will be about 1.5% lower, if measured immediately after startup.
Io= 450 mA	91.0%	92.0%	-	
Io= 600 mA	90.5%	91.5%	-	
Io= 700 mA	90.5%	91.5%	-	
Io=1050 mA	89.0%	90.0%	-	
Io=1400 mA	89.0%	90.0%	-	
MTBF	-	306,000 Hours	-	Measured at 220Vac input, 80%Load and 25°C ambient temperature (MIL-HDBK-217F)
Lifetime	-	94,800 Hours	-	Measured at 220Vac input, 80%Load; Case temperature=60°C @ Tc point. See lifetime vs. Tc curve for the details
Operating Case Temperature for Safety Tc_s	-40°C	-	+90 °C	
Operating Case Temperature for Warranty Tc_w	-40°C	-	+70 °C	
Storage Temperature	-40°C	-	+85 °C	Humidity: 5% RH to 100% RH
Dimensions				With mounting ear
Inches (L × W × H)	7.40 × 3.46 × 1.50			8.35 × 3.46 × 1.50
Millimeters (L × W × H)	188 × 88 × 38			212 × 88 × 38
Net Weight	-	1340 g	-	

Note: All specifications are typical at 25 °C unless otherwise stated.

Safety & EMC Compliance

Safety Category	Standard
UL/CUL	UL8750, UL 1310, CAN/CSA-C22.2 No. 250.13, CAN/CSA-C22.2 No. 223-M91
CE	EN 61347-1, EN61347-2-13
KS	KS C 7655
EMI Standards	Notes
EN 55015 ⁽¹⁾	Conducted emission Test & Radiated emission Test
EN 61000-3-2	Harmonic current emissions
EN 61000-3-3	Voltage fluctuations & flicker
FCC Part 15 ⁽¹⁾	ANSI C63.4 Class B
	This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: [1] this device may not cause harmful interference, and [2] this device must accept any interference received, including interference that may cause undesired Operation.