The AT 0-10 100/100-277/1A2 NFC P66 F A24 is a 100W, constant-current, NFC programmable IP66 LED driver that operates from 90-305Vac input with excellent power factor. It is created for many lighting applications including street, roadway and area, 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.



Features

- Full Power at Wide Output Current Range (Constant Power)
- Adjustable Output Current (AOC) with NFC
- Isolated 0-8V/PWM/AstroDIM(Timer) Dimmable
- Dim-to-Off with Standby Power ⩽ 1 W
- Adjustable Dimming Curve
- Always-on Auxiliary Power: 24Vdc/125mA and 12Vdc/250mA Selectable
- End-of-Life Indicator
- Override Dimming
- Constant Lumen
- Input Surge Protection: DM 10kV, CM 10kV
- All-Around Protection: IUVP, IOVP, OVP, SCP, OTP
- Warranty up to 8 Years

Application

- IP66 design, suitable for UL Dry/Damp Location
- Suitable for Built-in Use and Class I Luminaires
- TYPE HL, for use in a Class I, Division 2 Hazardous (Classified) Location
- Reference to the Application Guide for installation requirements.

Models

Adjustable Output Current Range(mA)	Full Power Current Range (mA)[1]	Default Output Current (mA)	Nominal Output Voltage Range(Vdc)[2]	Maximum Output Power(W)	Typical Efficiency[3]	Power Factor λ		Product Name[4]
						120Vac	277Vac	
43-1200	435-1200	500	50-230	100	92.0%	0.99	0.96	AT 0-10 100/100-277/1A2 NFC P66 F A24

Notes: (1) Output current range with constant power at 100W.
(2) Note that the LED voltage must not exceed this range at low temperatures.
(3) Measured at 100% load and 230Vac input (see below “General Specifications” for details).
(4) Certified input voltage range: UL, FCC 100-277Vac.

Input Specifications

Parameter	Min.	Typ.	Max.	Notes
Input Voltage AC	90 Vac	-	305 Vac	
Mains Frequency	47 Hz	-	63 Hz	
Leakage Current	-	-	0.75 MIU	UL 8750; 277Vac/60Hz
Nominal Input Current	-	-	1.03 A	Measured at 100% load and 120 Vac input.
	-	-	0.43 A	Measured at 100% load and 277 Vac input.
Power Factor λ	0.9	-	-	At 100-277Vac, 50-60Hz, 38.5%-100% Load (38.5-100W)
Total Harmonic Distortion	-	-	20%	

Specifications are subject to changes without notice. *All specifications are typical at 25℃ unless otherwise stated.*

Output Specifications

Parameter	Min.	Typ.	Max.	Notes
Programmable Output Current	43 mA	-	1200 mA	
Nominal Output Voltage	50 V	-	230 V	
Output Current Tolerance	-5%	-	+5%	At 100% load condition
Total Output Current Ripple HF	-	-	15%Iomax	At 100% load condition, 20 MHz BW
Output Current Ripple LF	-	-	2%Iomax	At 100% load condition, ＜120Hz (pk-pk)
$P_{st}LM$	-	-	1.0	In allowed operating area
SVM	-	-	0.4	In allowed operating area
Startup Overshoot Current	-	-	10%Iomax	At 100% load condition
U_{out}	-	-	253 V	
Line Regulation	-	-	±2%	Measured at 100% load
Load Regulation	-	-	±5%	
Turn-on Delay Time	-	-	0.5 s	Measured at 120-277Vac input, 38.5%-100% load
Temperature Coefficient	-	0.06%/°C	-	Case temperature = 0°C ~Tc max
24V Auxiliary Output Voltage	21.6 V	24 V	26.4 V	Default 24V mode
24V Auxiliary Output Source Current	0 mA	-	125 mA	Return terminal is “Dim−“
24V Auxiliary Output Transient Peak Current@ 6W	-	-	250 mA	250mA peak for a maximum duration of 2.2ms in a 6.0ms period during which time the average should not exceed 125mA.
24V Auxiliary Output Transient Peak Current@10W	-	-	425 mA	425mA peak for a maximum duration of 1.3ms in a 5.2ms period during which time the average should not exceed 125mA.
12V Auxiliary Output Voltage	10.8 V	12 V	13.2 V	Set to 12V mode in T4T.
12V Auxiliary Output Source Current	0 mA	-	250 mA	Return terminal is “Dim−“
12V Auxiliary Output Transient Peak Current@ 6W	-	-	500 mA	500mA peak for a maximum duration of 2.2ms in a 6.0ms period during which time the average should not exceed 250mA.
12V Auxiliary Output Transient Peak Current@10W	-	-	850 mA	850mA peak for a maximum duration of 1.3ms in a 5.2ms period during which time the average should not exceed 250mA.

General Specifications

Parameter	Min.	Typ.	Max.	Notes
Efficiency at 120Vac Input Io=435 mA Io=1200 mA	 87.5% 87.0%	 89.5% 89.0%	 - -	Measured at 100% load and Steady-state temperature in 25°C ambient; (Efficiency will be about 2.0% lower if measured immediately after startup.)
Efficiency at 230Vac Input Io=435 mA Io=1200 mA	 90.0% 89.5%	 92.0% 91.5%	 - -	Measured at 100% load and Steady-state temperature in 25°C ambient; (Efficiency will be about 2.0% lower if measured immediately after startup.)
Efficiency at 277Vac Input Io=435 mA Io=1200 mA	 90.5% 90.0%	 92.5% 92.0%	 - -	Measured at 100% load and Steady-state temperature in 25°C ambient; (Efficiency will be about 2.0% lower if measured immediately after startup.)
Networked Standby Power	-	-	1 W	Measured at 120-277Vac; Dimming off
MTBF	-	354,000 Hours	-	Measured at 230Vac input, 80%Load and 25°C ambient temperature (MIL-HDBK-217F)
Surge Protection (L - N)	-	-	10 kV	IEC 61000-4-5 (2 ohms); ANSI C136.2 (2 ohms)
Surge Protection (L/N - E)	-	-	10 kV	IEC 61000-4-5 (12 ohms); ANSI C136.2 (2 ohms)
Operating Case Temperature for Safety Tc_s	-40°C	-	+90°C	
Operating Case Temperature for Warranty Tc_w	-40°C	-	+85°C	5 years warranty at Tc_w =85°C 8 years warranty at Tc_w =80°C Humidity: 10%RH to 95%RH
Lifetime	-	44,000 Hours	-	Measured at 120Vac input, 100%Load and 85°C case temperature; See lifetime vs. Tc curve for the details
Ambient Temperature	-40°C	-	+60°C	Measured at 230Vac input, 100% load
Permitted rel. Humidity During Operation	5%	-	95%	
Temperature at Storage	-40°C	-	+85°C	Humidity: 5%RH to 95%RH
Mains Switching Cycles	-	-	100,000	
IP Rating	IP66			
Dimensions (L × W ×H)	5.39 × 2.32 × 1.50 inches 137 × 59 × 38 mm			With mounting ear 6.61 × 2.32 × 1.50 inches 168 × 59 × 38 mm
Net Weight	-	620 g	-	

Inrush Current

Input AC Voltage	Inrush Current I_{peak}	Inrush Current Width t_{width} (@ 50% I_{peak})	The Number of LED Driver can be Configured (MCB)							
			B10A	B16A	B20A	B25A	C10A	C16A	C20A	C25A
120Vac	23.0 A	272 μs	6	10	12	15	7	11	14	18
230Vac	46.6 A	272 μs	6	9	12	15	10	16	20	25
277Vac	57.6 A	264 μs	5	8	10	13	8	14	17	22

Notes: (1) The maximum number of units per circuit breaker is an indicative value.
(2) Comply with NEMA 410.

Dimming Specifications

Parameter	Min.	Typ.	Max.	Notes
Absolute Maximum Voltage on the Vdim (+) Pin	-20 V	-	20 V	
Source Current on Vdim (+)Pin	97 μA	100 μA	103 μA	Vdim(+) = 0 V
Dimming Output Range with 10%-100% (Default)	10% Ioset	-	Ioset	435 mA ≤ Ioset ≤ 1200 mA
	43 mA	-	Ioset	43 mA ≤ Ioset ＜ 435 mA
AstroDIM (Timer)	10%	-	100%	
Dimming Curve Adjustable	0 V	-	10 V	Dimming mode set to Adjustable Dimming Curve in T4T.
Recommended Dimming Range for 0-8V	0 V	-	8 V	Default 0-8V dimming mode with positive logic.
Dim off Voltage	0.35 V	0.5 V	0.65 V	
Dim on Voltage	0.55 V	0.7 V	0.85 V	
Hysteresis	-	0.2 V	-	

Certificates & Standards

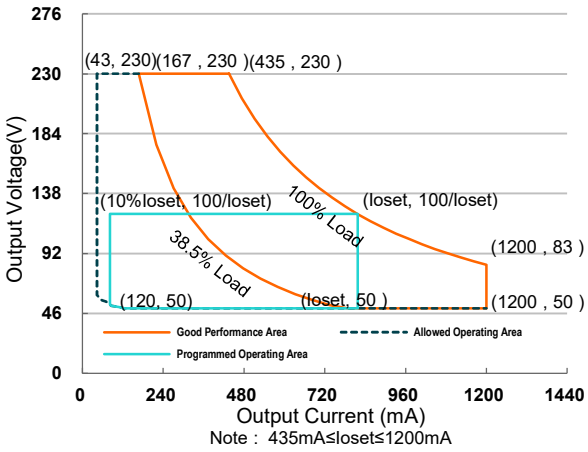
Safety Category	Standard
UL/CUL	UL 8750, CAN/CSA-C22.2 No. 250.13
FCC Part 15	FCC Title 47 Part 15 Class A
	This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: [1] this device may not cause harmful interference, and [2] this device must accept any interference received, including interference that may cause undesired Operation.
NOM	NOM-058-SCFI

Note: (1) This LED driver meets the EMI specifications above, but EMI performance of a luminaire that contains it depends also on the other devices connected to the driver and on the fixture itself.

Isolation Levels

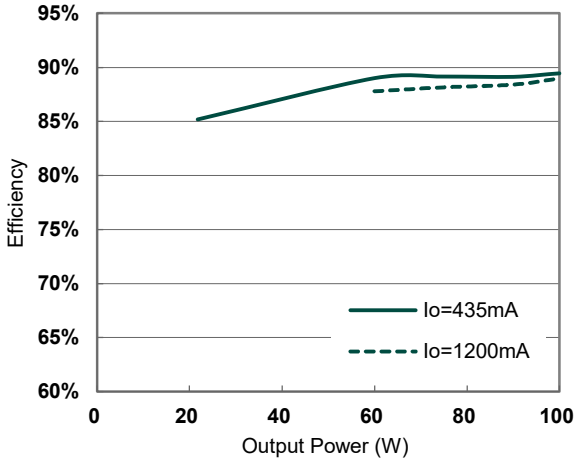
	Input	Output	Dimming	Aux	Housing
Input	N/A	Reinforced	Reinforced	Reinforced	Basic
Output	Reinforced	N/A	Reinforced	Reinforced	Basic
Dimming	Reinforced	Reinforced	N/A	N/A	Basic
Aux	Reinforced	Reinforced	N/A	N/A	Basic
Housing	Basic	Basic	Basic	Basic	N/A

Operating Window

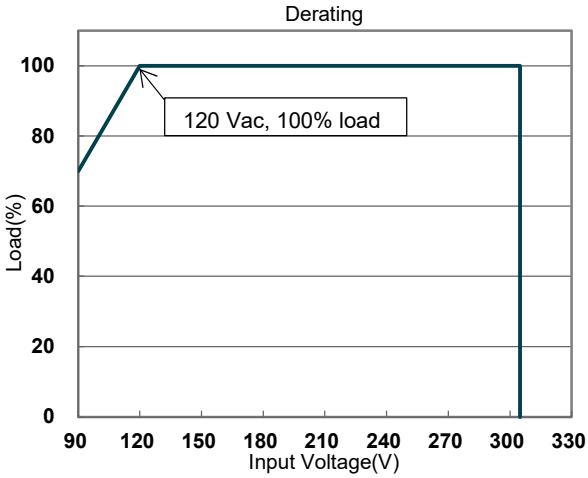


Note： 435mA≤Ioset≤1200mA

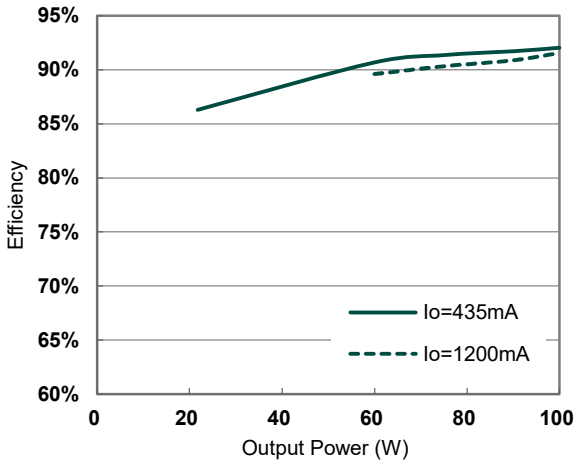
Efficiency vs. Load@120Vac



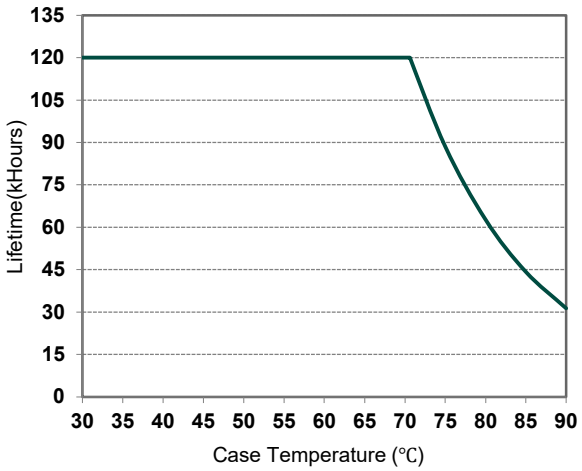
Derating



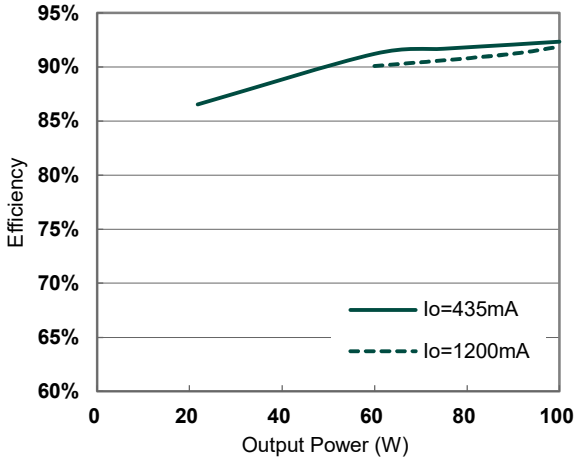
Efficiency vs. Load@230Vac



Lifetime vs. Case Temperature



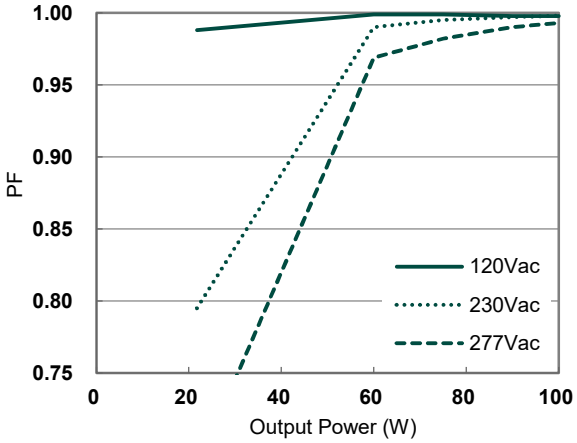
Efficiency vs. Load@277Vac



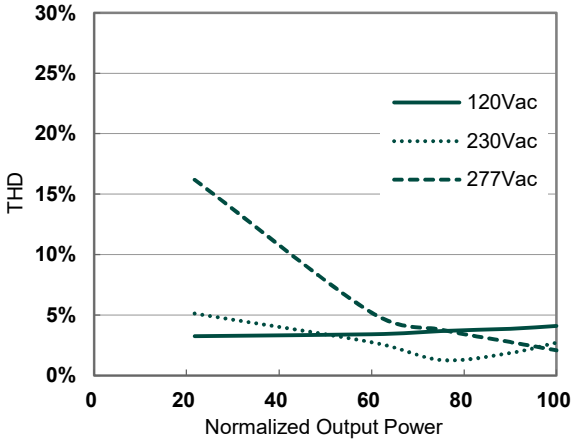
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Power Factor



Total Harmonic Distortion



Protection Functions

Parameter	Value	Notes
Over Temperature Protection(OTP)	Yes	
Driver Guard	Yes	
Over Voltage Protection(OVP)	Yes	
Short Circuit Protection(SCP)	Yes	
Input Under Voltage Protection(IUVP)	Yes	
Input Over Voltage Protection(IOVP)	Yes	

Dimming

Parameter	Value	Notes
Adjustable Dimming Curve	Yes	
0-8V Dimming	Yes	
PWM Dimming	Yes	
AstroDIM(Timer)	Yes	
Constant Lumen	Yes	
End Of Life	Yes	

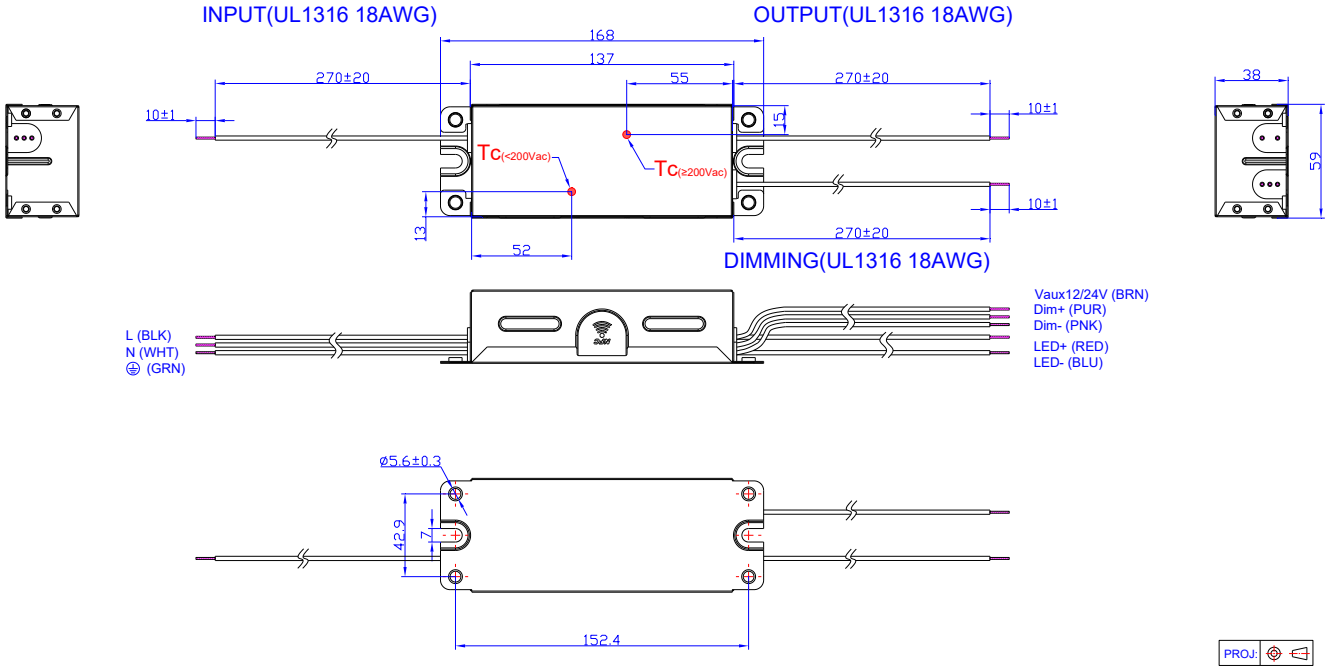
Specifications are subject to changes without notice.

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Programming

Parameter	Value	Notes
Programming device	PRG-NFC-H, PRG-NFC-D2	
Whether to program with power on	No	
Tuner4TRONIC	Yes	
Tuner4TRONIC Field App	Yes	

Mechanical Outline



Unspecified tolerance:±1

Environmental Compliance

RoHS

Our products comply with reference to RoHS Directive (EU) 2015/863 amending 2011/65/EU, calling for the elimination of lead and other hazardous substances from electronic products.

Download Data

File	Type	Download Link
Application Guide	PDF	P03099_INV_App_Guide_AT_NFC_P66_A24_Family

Product Order Overview

Order Code & Packaging

Order Code (EAN)	Product Version Name	Certification Markings on Product	Packaging unit (Pieces/Box)	Packing Dimensions (L × W × H)(mm)
6942736286737	AT 0-10 100/100-277/1A2 NFC P66 F A24	UL Class P	30	490 × 300 × 305