

## Series AMEOR30C-AZ

up to 2.5A | AC-DC / DC-DC LED driver



### FEATURES:

- AC-DC Constant current LED Driver
- Input range 90-305VAC/47-440Hz
- High Efficiency up to 86%
- Operating temperature -40 to 80°C
- Dimmable via Analog / 0-10Vdc / PWM
- Over Temperature Protection
- Open frame
- Power Factor Correction
- SCP, Over Current Protection
- 5 Year Limited Warranty

### Models Single output



| Model            | Max Output Power (W) * | Output Voltage Range (V) | Output Current (A) | Input Voltage (VAC/Hz) | Input Voltage (VDC) | Efficiency (%) |
|------------------|------------------------|--------------------------|--------------------|------------------------|---------------------|----------------|
| AMEOR30C-5070AZ  | 35                     | 36-50                    | 0.7                | 90-305/47-440          | 130-430             | 86             |
| AMEOR30C-4864AZ  | 30.72                  | 36-48                    | 0.64               | 90-305/47-440          | 130-430             | 86             |
| AMEOR30C-36100AZ | 36                     | 24-36                    | 1                  | 90-305/47-440          | 130-430             | 85             |
| AMEOR30C-24140AZ | 33.6                   | 12-24                    | 1.4                | 90-305/47-440          | 130-430             | 84             |
| AMEOR30C-12250AZ | 30                     | 5-12                     | 2.5                | 90-305/47-440          | 130-430             | 83             |

\*Exceeding the maximum output power will permanently damage the converter

All models can be ordered with optional North American colour input wires (black (L), white (N), green (GND)). Add “-NA” to part number when ordering.

NOTE: Aimtec limited warranty of 5 years is valid based on product operation at datasheet specifications at ambient temperature of 25°C, humidity<75%, nominal input voltage (115/230/305VAC) and at rated output load unless otherwise specified. See

<http://www.aimtec.com/terms-sale>

AMEOR30C-AZ's AC/DC LED drivers have electrical safeguards designed within to protect it from conventional electrical abnormalities with the levels listed in the safety table. Applications for use within rural agricultural, heavy industrial, and other areas or regions which are prone to 'dirty' electrical conditions which would subject any of the above models to excessive voltages surges or spikes, may damage or cause early life failure of product. In this case consideration should be made by the end user to ensure that adequate line or mains surge suppression is installed in front of Aimtec device to ensure the longevity of the products. Failure to identify excessive line surges violations prior to installation may damage sensitive equipment permanently.

### Input Specifications

| Parameters          | Conditions | Typical | Maximum | Units |
|---------------------|------------|---------|---------|-------|
| Inrush current <2ms | 115VAC     | 25      |         | A     |
|                     | 230VAC     | 40      |         |       |
| Leakage current     | 115VAC     | 0.3     |         | mA    |
|                     | 230VAC     | 0.5     |         |       |
| AC current          | 115VAC     | 0.33    |         | A     |
|                     | 230VAC     | 0.16    |         |       |
| Power Factor        | 115VAC     |         | 0.99    |       |
|                     | 230VAC     |         | 0.97    |       |
| External fuse       |            |         | 250V/1A |       |
| Start up time       |            | 450     |         | ms    |
| Surge voltage       | 2sec       |         | 440     | V     |

### Output Specifications

| Parameters               | Conditions           | Typical | Maximum | Units  |
|--------------------------|----------------------|---------|---------|--------|
| Current accuracy         |                      | ±3      |         | %      |
| Line regulation          | LL-HL                | ±1      |         | %      |
| Load regulation          | 0-100% load          | ±3      |         | %      |
| Ripple & Noise *         | 20MHz Bandwidth      | 75      |         | mV p-p |
| Hold-up time             |                      | 50      |         | ms     |
| Current adjustment range |                      | 100-0   |         | %      |
| Minimum Load Voltage     | See the models table |         |         |        |

\* Tested with 0.1µF (M/C) or (C/C) and 47µF (E/C) parallel capacitors at the end.

## Isolation Specifications

| Parameters           | Conditions | Typical | Rated | Units |
|----------------------|------------|---------|-------|-------|
| Tested I/O voltage   | 60 sec     |         | 3000  | VAC   |
| Isolation Resistance |            | >1000   |       | MΩ    |

## General Specifications

| Parameters                  | Conditions                                                | Typical    | Maximum | Units  |
|-----------------------------|-----------------------------------------------------------|------------|---------|--------|
| Switching frequency         |                                                           | 130        |         | KHz    |
| Over current protection     | AMEOR30C-5070AZ                                           |            | 0.77    | A      |
|                             | AMEOR30C-4864AZ                                           |            | 0.68    |        |
|                             | AMEOR30C-36100AZ                                          |            | 1.04    |        |
|                             | AMEOR30C-24140AZ                                          |            | 1.45    |        |
|                             | AMEOR30C-12250AZ                                          |            | 2.55    |        |
| Over voltage protection     | Refer to Constant Current vs. Constant Voltage Mode curve |            |         |        |
| Short circuit protection    | Continuous                                                |            |         |        |
| Short circuit restart       | Auto recovery                                             |            |         |        |
| Over temperature protection | >105°C                                                    |            |         |        |
| Operating temperature       | With derating over 60°C                                   | -40 to +80 |         | °C     |
| Maximum case temperature    |                                                           |            | 100     | °C     |
| Storage temperature         |                                                           | -40 to +95 |         | °C     |
| Temperature coefficient     |                                                           | ±0.02      |         | % / °C |
| Cooling                     | Free air convection                                       |            |         |        |
| Humidity                    |                                                           |            | 95      | % RH   |
| Wires                       | UL1015 18AWG * 20CM                                       |            |         |        |
| Weight                      | 220                                                       |            |         | g      |
| Dimensions (L X H X W)      | 5.83 x 1.97 x 1.3 inches    148 x 50 x 33 mm              |            |         |        |
| MTBF                        | >400,000 hrs (MIL-HDBK-217F at +25°C)                     |            |         |        |

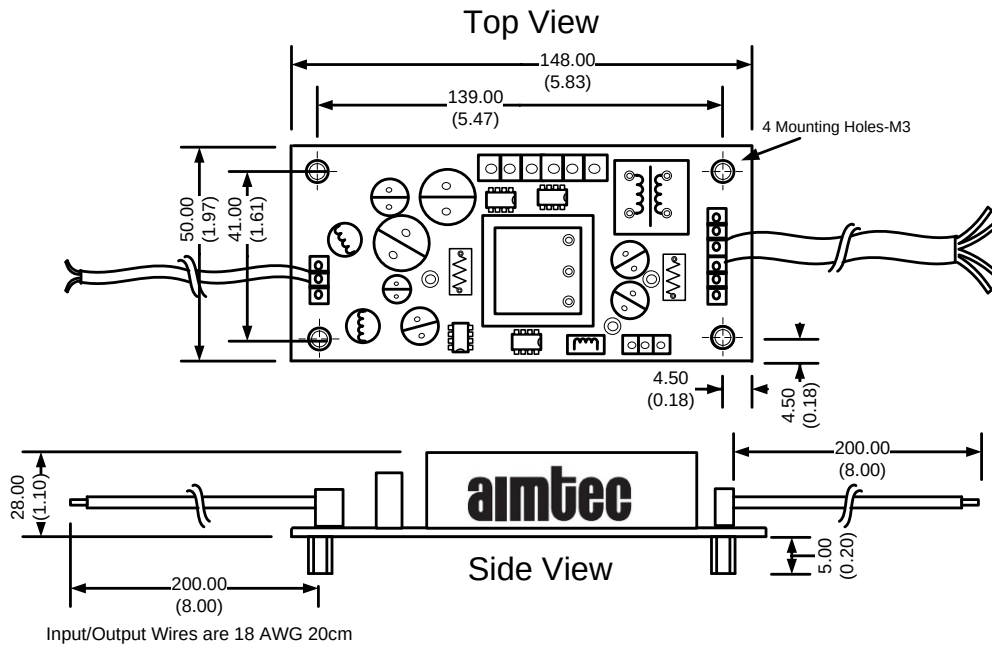
## Environment Approval

| Test      | Parameters             | Conditions                                               |
|-----------|------------------------|----------------------------------------------------------|
| Shock     | Wave form              | Half sine wave                                           |
|           | Acceleration amplitude | 5gn                                                      |
|           | Bump duration          | 30 ms                                                    |
|           | Converter operation    | Before and after test, body mounted (on chassis)         |
|           | Number of bumps        | 18 (3 in each direction for every axis)                  |
| Vibration | Test mode              | Sweep sine, 10-100Hz, speed 0.05Hz/s                     |
|           | Displacement           | 1 mm                                                     |
|           | Acceleration           | 3g, 3 loops 30min one cycle, 3h total, every axis tested |
|           | Converter operation    | Before and after test, body mounted (on chassis)         |

## Safety Specifications

| Parameters       |                                                                     |
|------------------|---------------------------------------------------------------------|
| Agency approvals | CE                                                                  |
| Standards        | Designed to meet UL8750, IEC/EN 60950-1 standards, EN55022, class B |
|                  | Information Technology Equipment EN55022 Class B                    |
|                  | Harmonic Current Emissions IEC/EN 61000-3-2, Class C                |
|                  | Voltage fluctuations and flicker IEC/EN 61000-3-3, (EN60555-3)      |
|                  | Electrostatic Discharge Immunity IEC 61000-4-2 Level 3              |
|                  | RF, Electromagnetic Field Immunity IEC 61000-4-3 Level 2            |
|                  | Electrical Fast Transient / Burst Immunity IEC 61000-4-4 Level 2    |
|                  | Surge Immunity IEC 61000-4-5 Level 3                                |
|                  | RF, Conducted Disturbance Immunity IEC 61000-4-6 Level 2            |
|                  | Power frequency Magnetic Field Immunity IEC 61000-4-8 Level 1       |
|                  | Voltage dips, Short Interruptions Immunity IEC 61000-4-11           |

## Dimensions

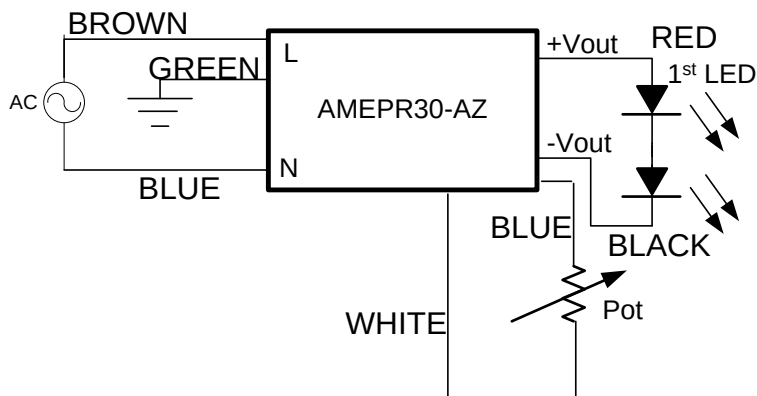


**NOTE:** to adjust the output current connect a 20K Ohm pot between blue and white wire

## Wire connection:

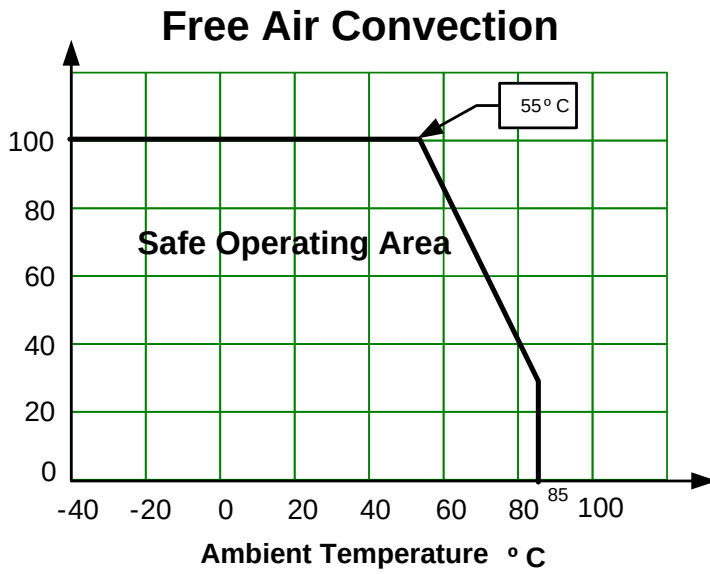
| Wire            | Connection   |
|-----------------|--------------|
| Brown           | AC L         |
| Blue            | AC N         |
| Green           | Ground       |
| Red             | +V output    |
| Black           | -V Output    |
| Blue (Dimming)  | + Vs dimming |
| White (Dimming) | -Vs dimming  |

## Application Circuit



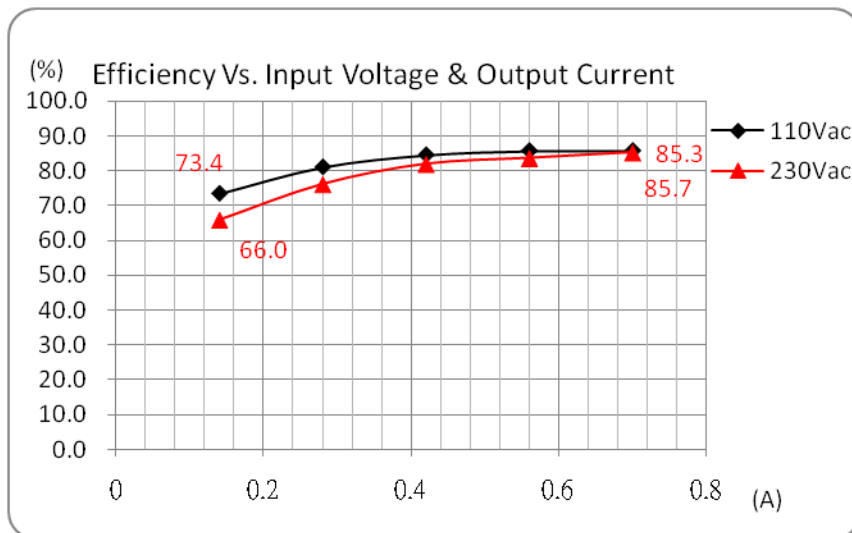
| Model Number    | Maximum Pot Value (kΩ) |
|-----------------|------------------------|
| AMEPR30-5070AZ  | 9.00                   |
| AMEPR30-4864AZ  | 9.00                   |
| AMEPR30-36100AZ | 9.00                   |
| AMEPR30-24140AZ | 26.00                  |
| AMEPR30-12250AZ | 26.10                  |

## Temperature graph



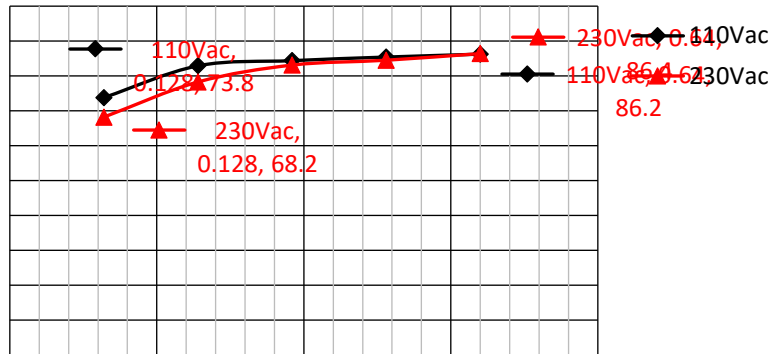
## Efficiency Vs. Input Voltage & Output Current (Constant current load)

AMEOR30C-5070AZ



### AMEOR30C-4864AZ

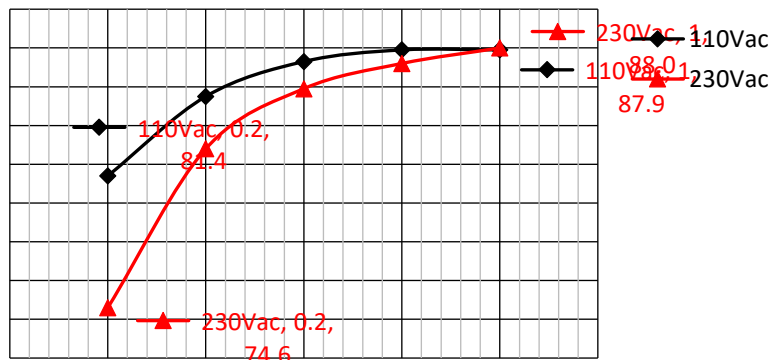
(%) Efficiency Vs. Input Voltage & Output Current



(A)

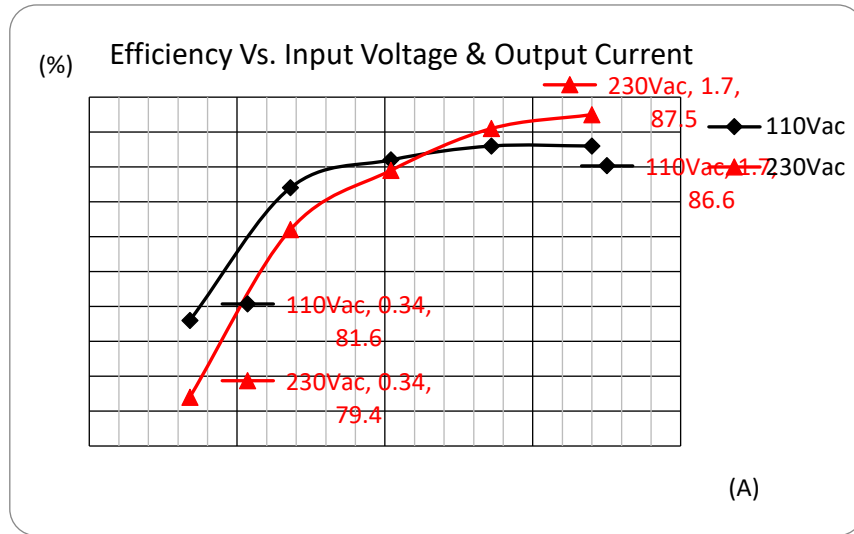
### AMEOR30C-36100AZ

(%) Efficiency Vs. Input Voltage & Output Current

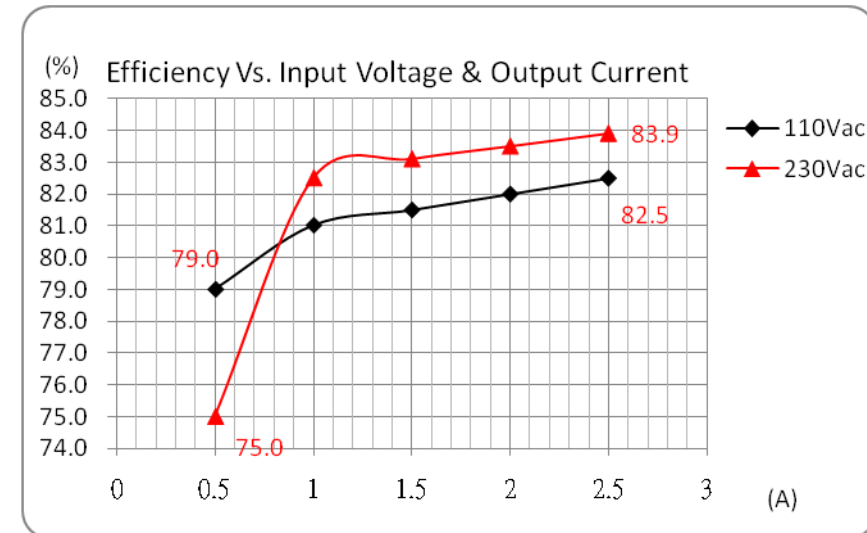


(A)

### AMEOR30C-24140AZ

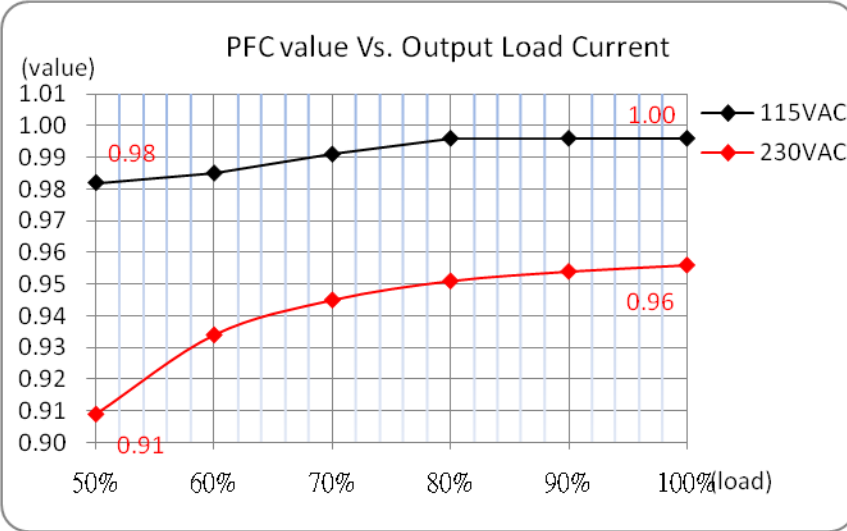


### AMEOR30C-12250AZ

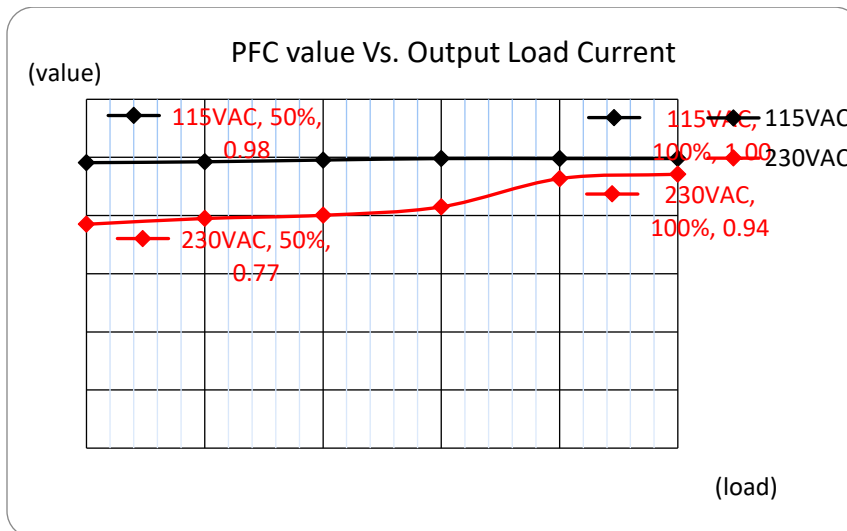


## PFC Value vs. Output Load Current (constant current mode)

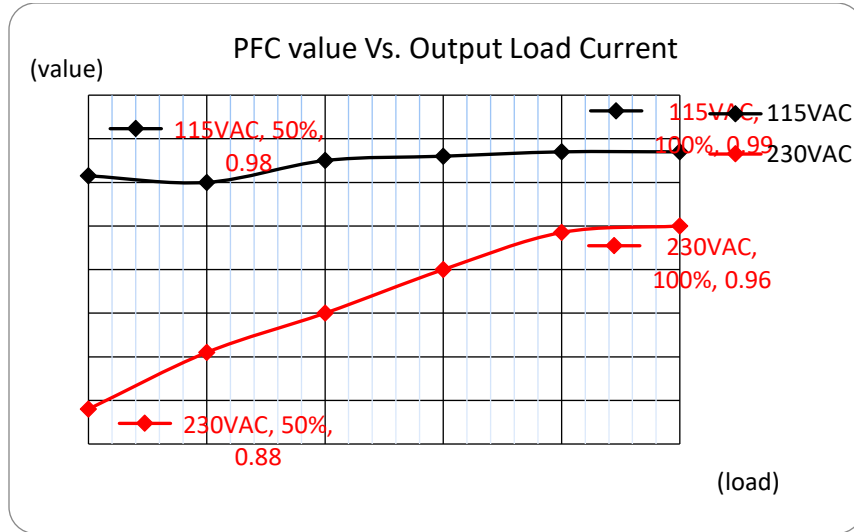
### AMEOR30C-5070AZ



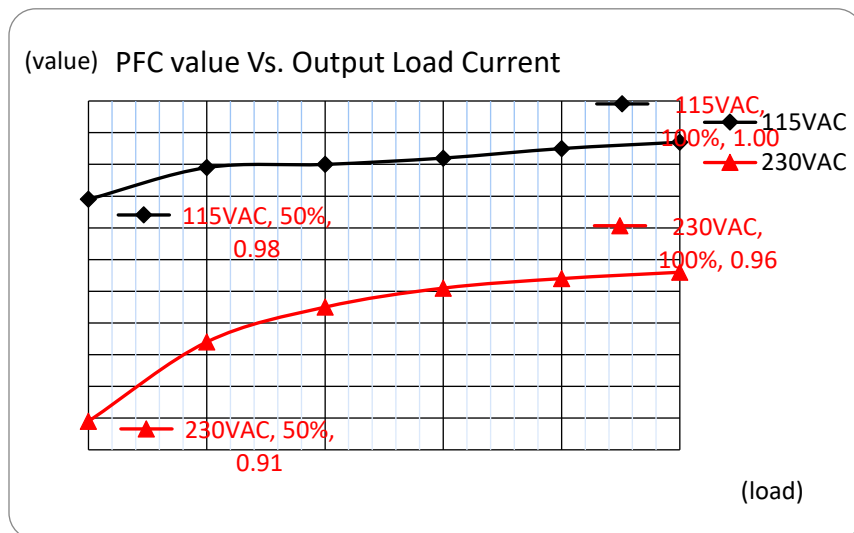
### AMEOR30C-4864AZ



### AMEOR30C-36100AZ

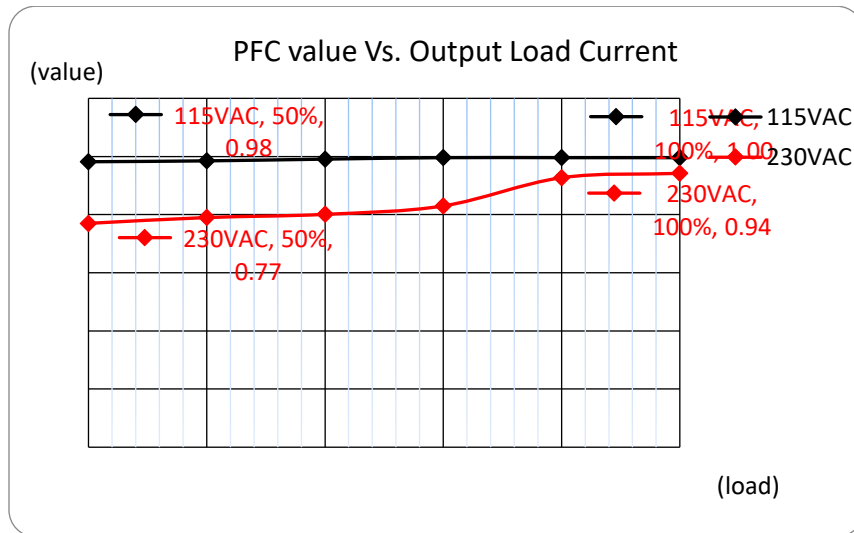


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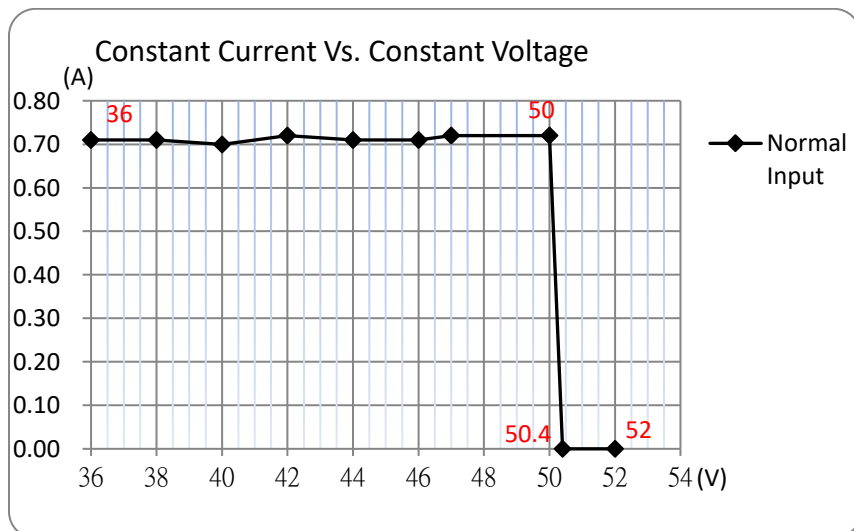


## AMEOR30C-12250AZ

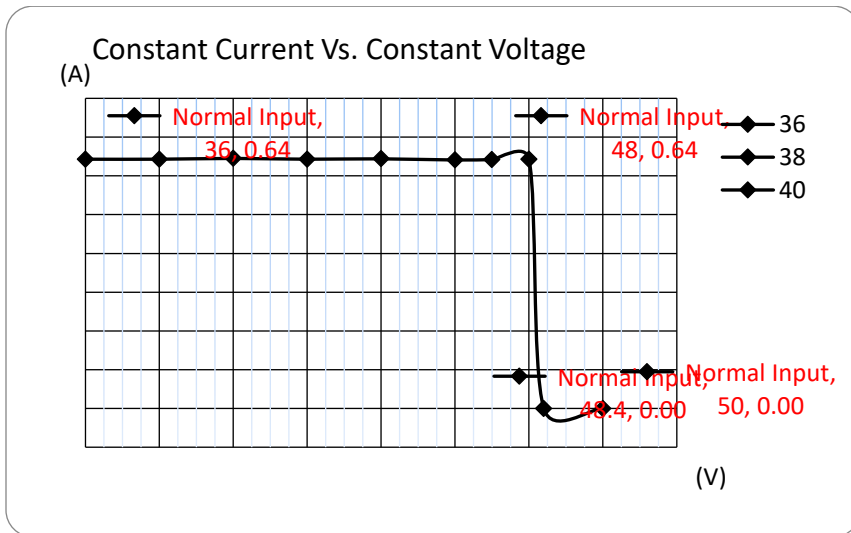


## Constant Current vs. Constant Voltage Mode

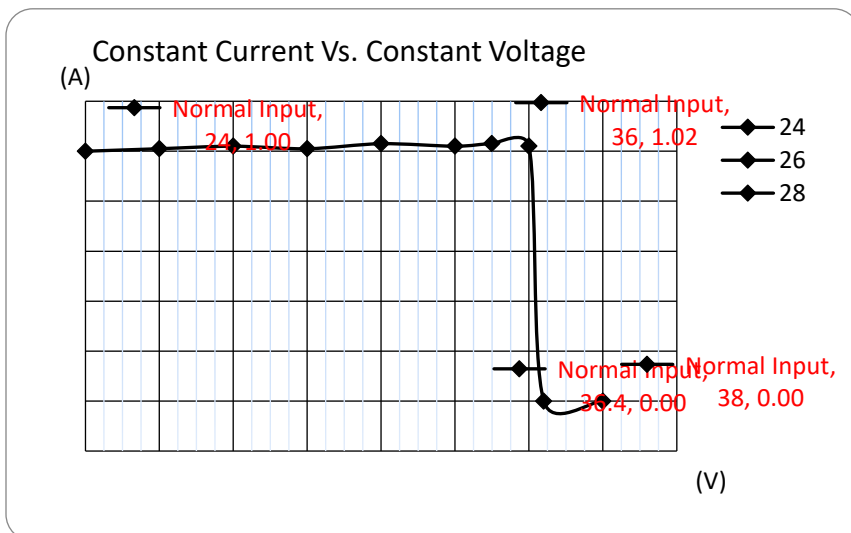
### AMEOR30C-5070AZ



### AMEOR30C-4864AZ

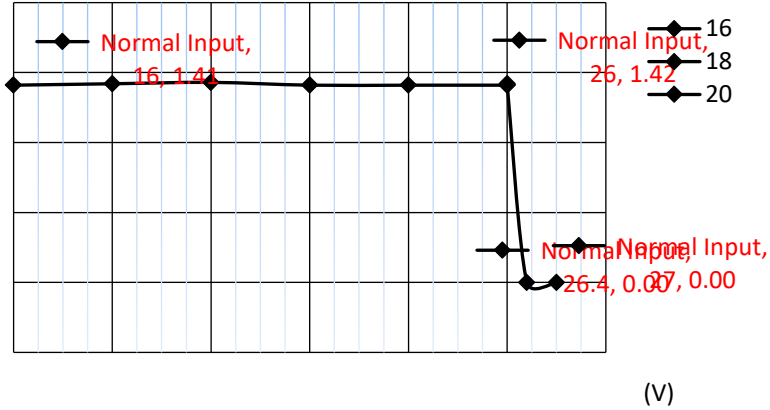


### AMEOR30C-36100AZ



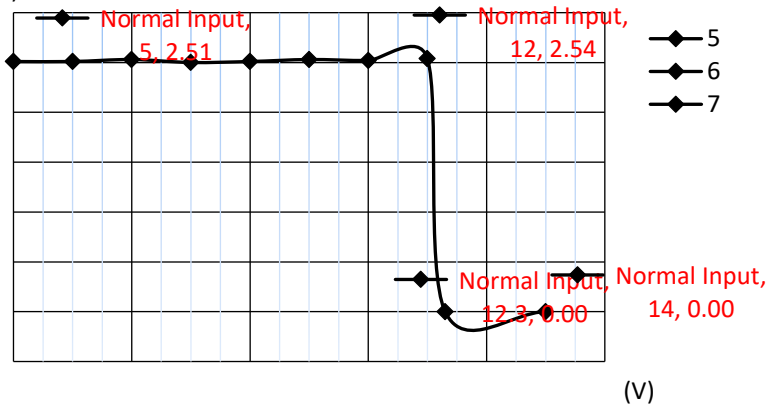
### AMEOR30C-24140AZ

(A) Constant Current Vs. Constant Voltage

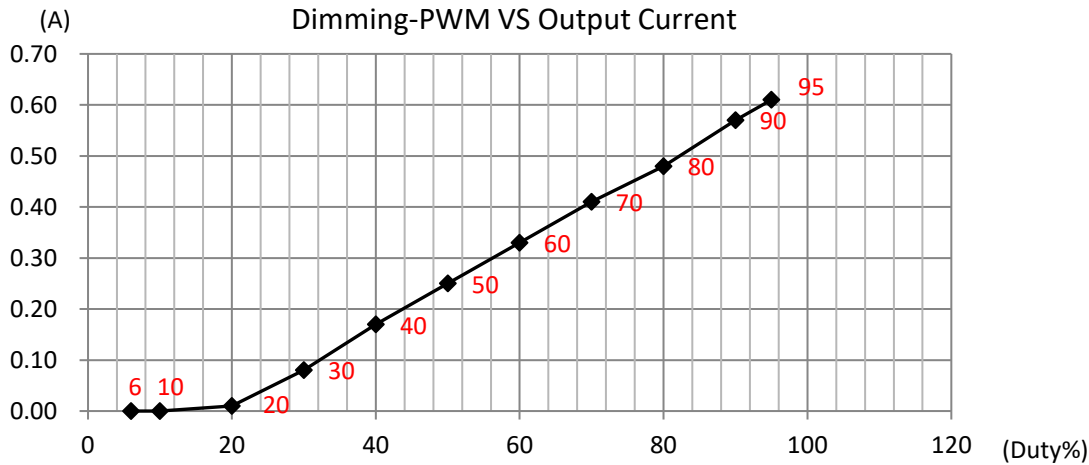
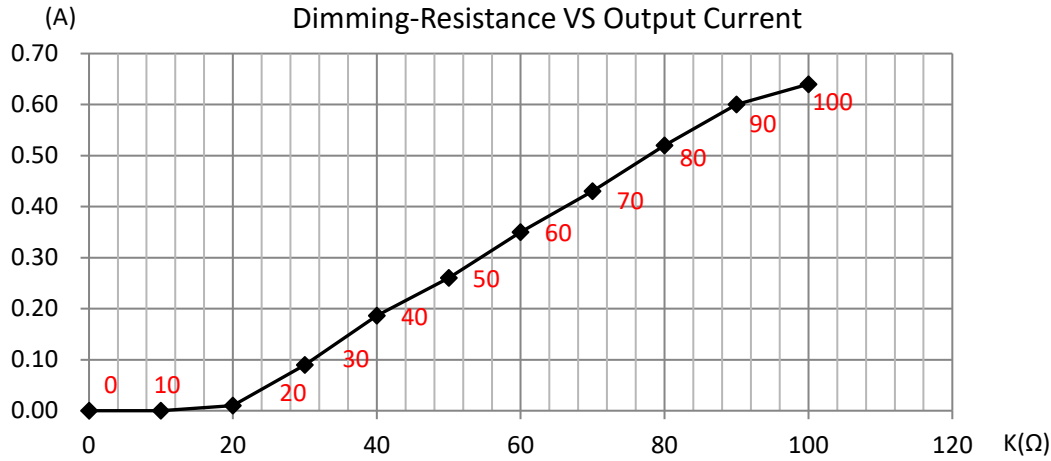


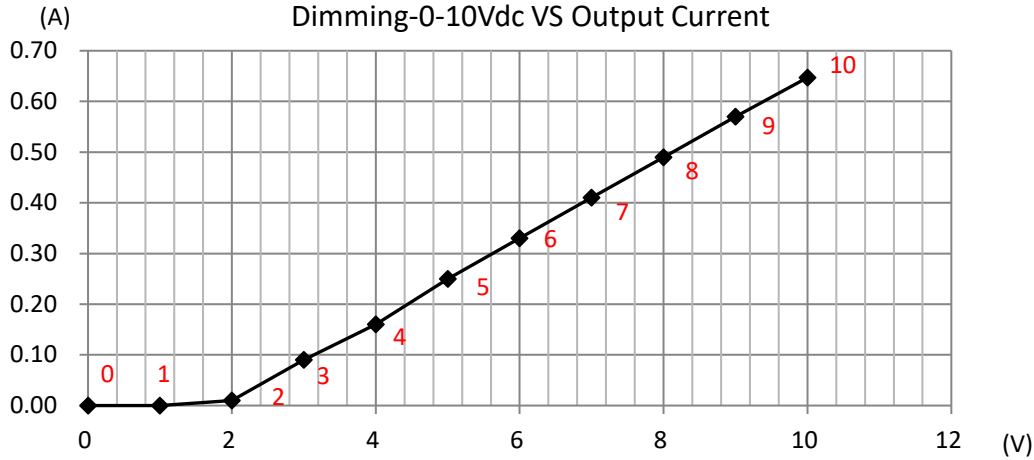
### AMEOR30C-12250AZ

(A) Constant Current Vs. Constant Voltage

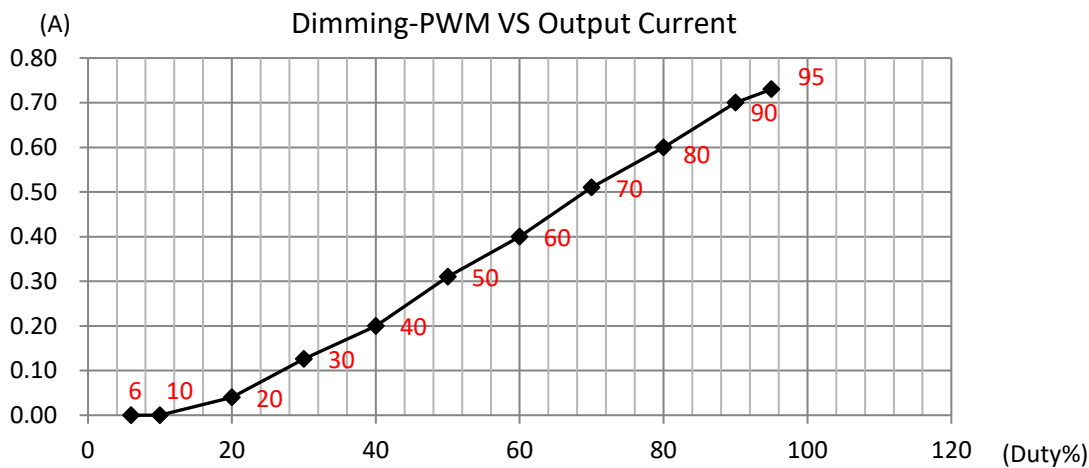
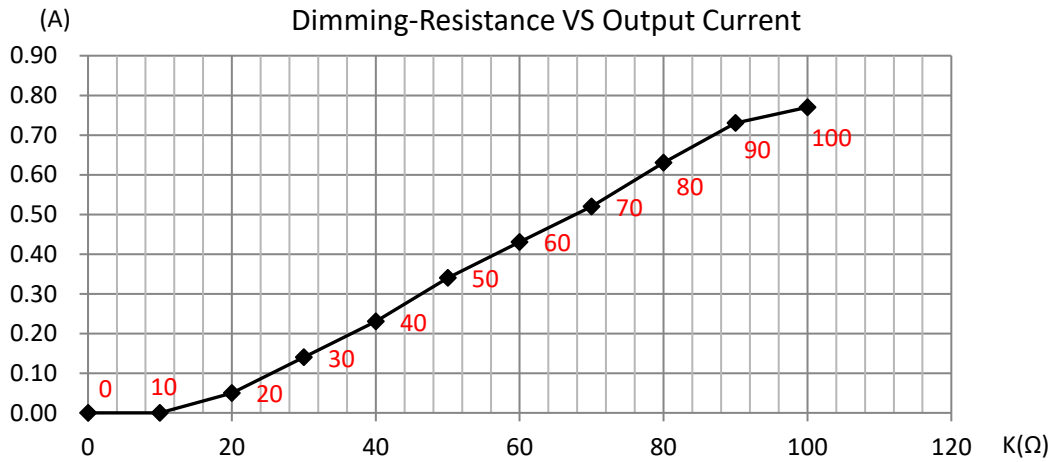


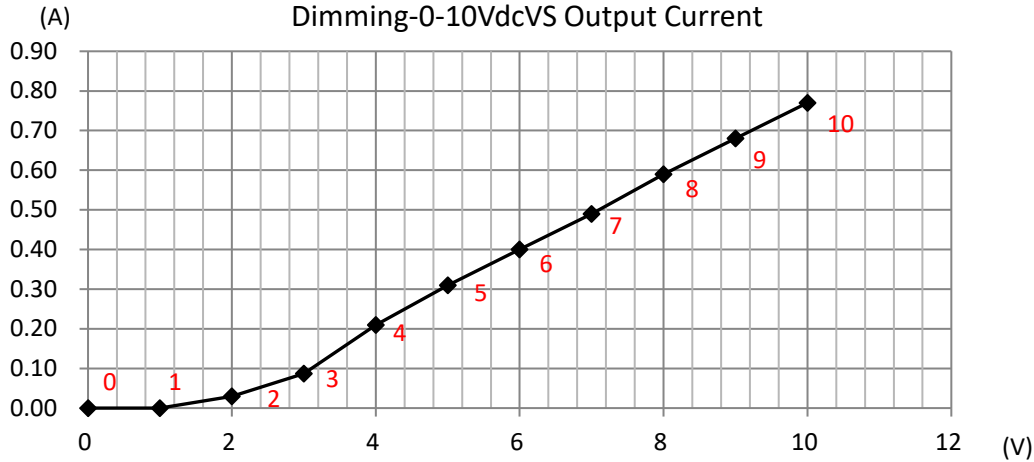
**Dimming Performance Graphs**  
**AMEOR30C-4864AZ**



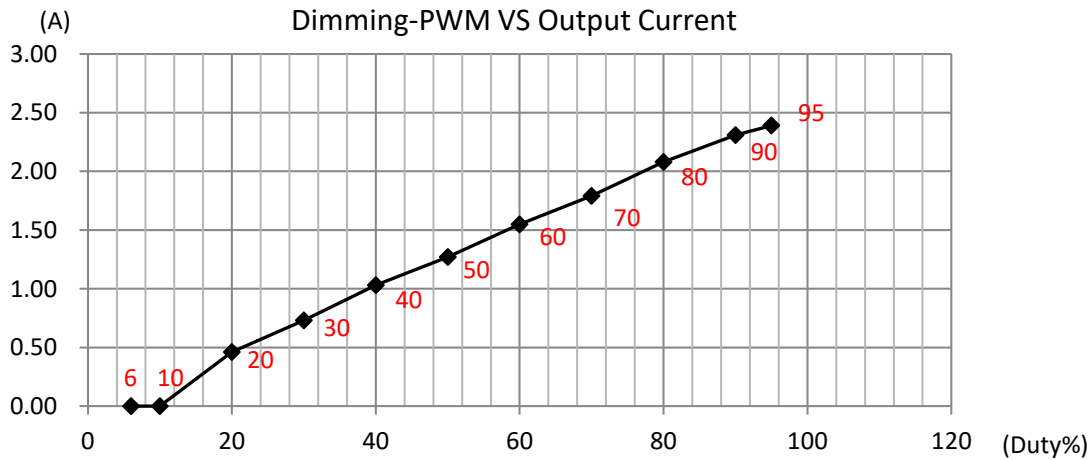
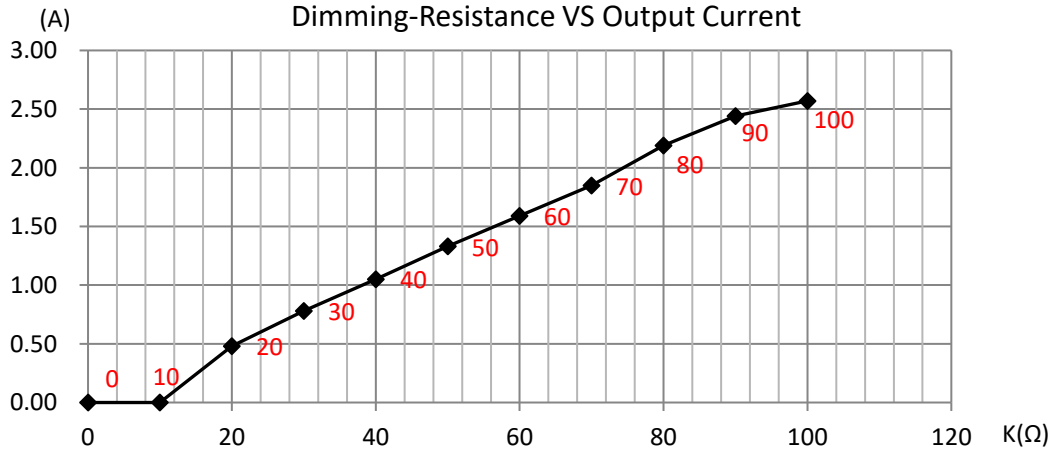


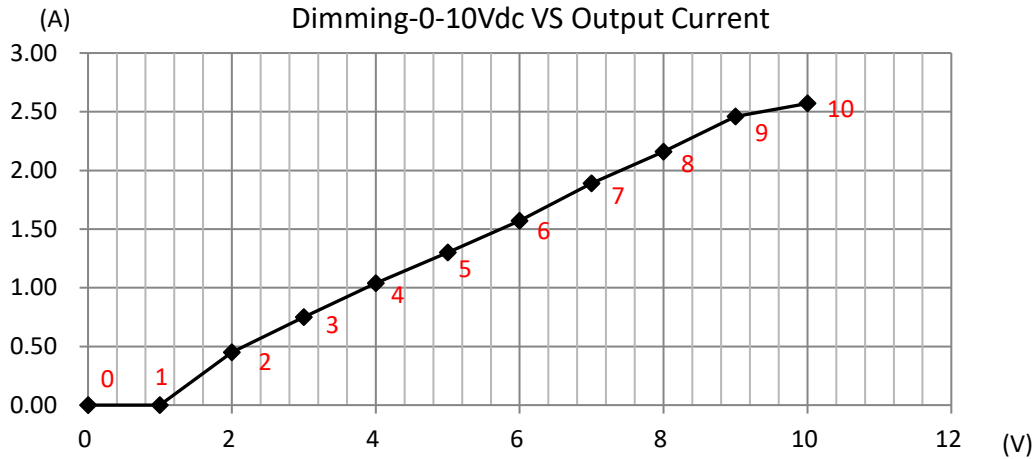
### AMEOR30C-5070AZ



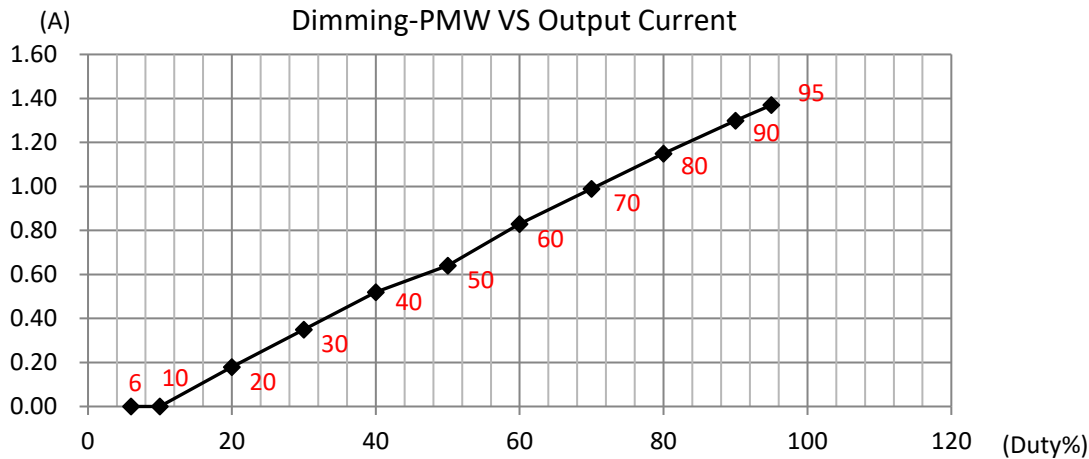
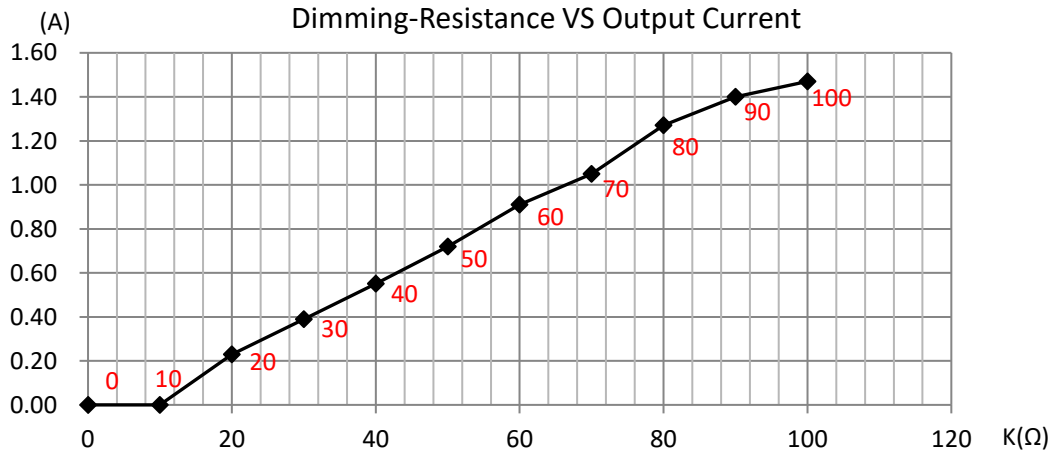


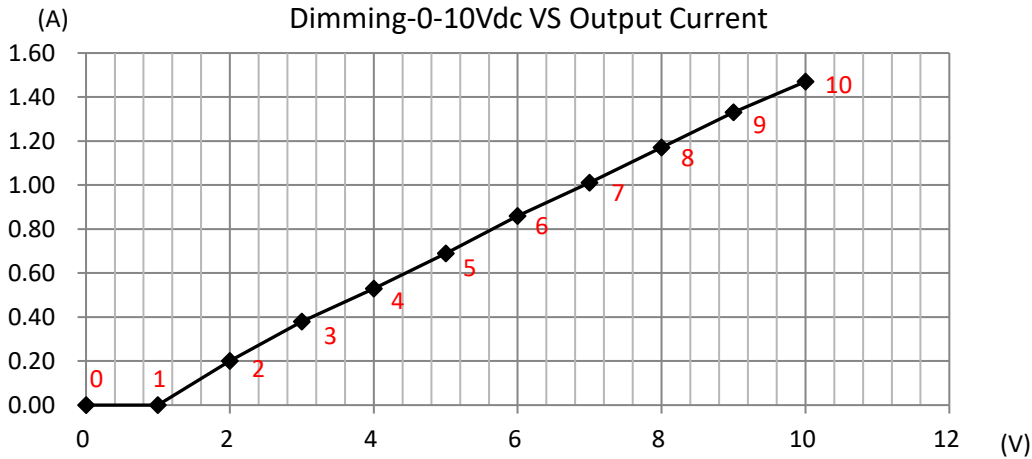
### AMEOR30C-12250AZ



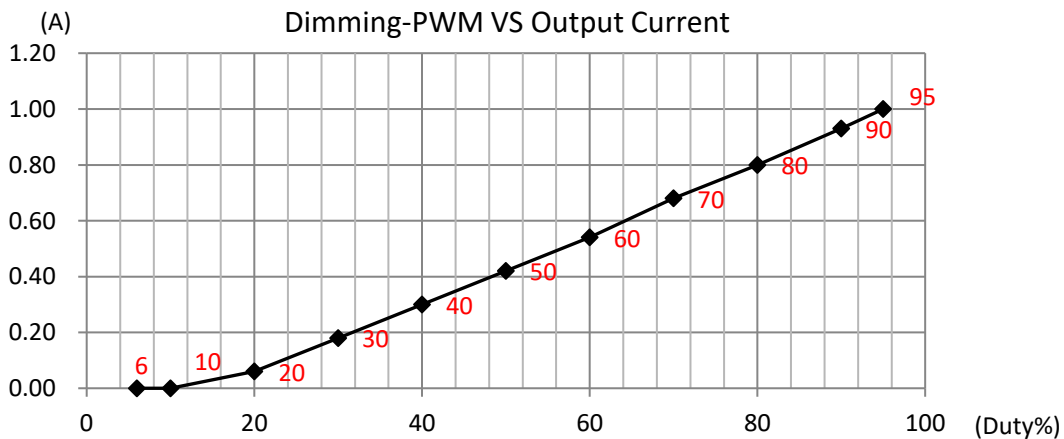
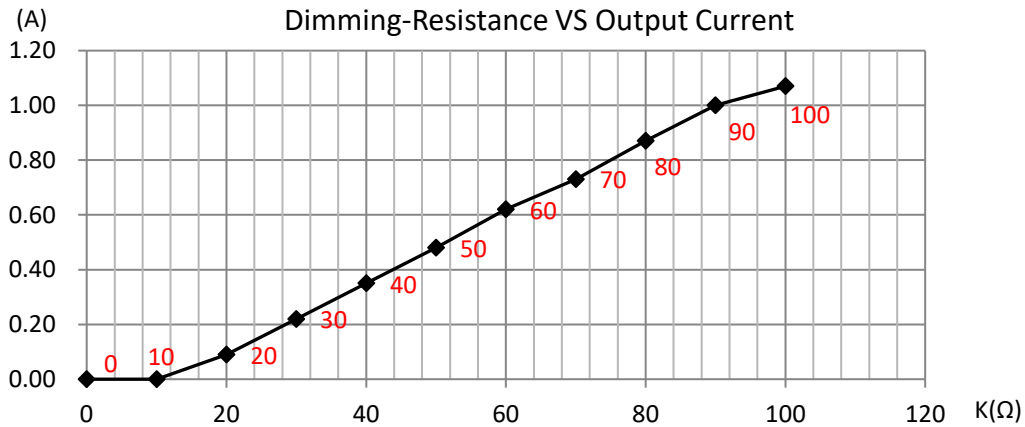


### AMEOR30C-24140AZ

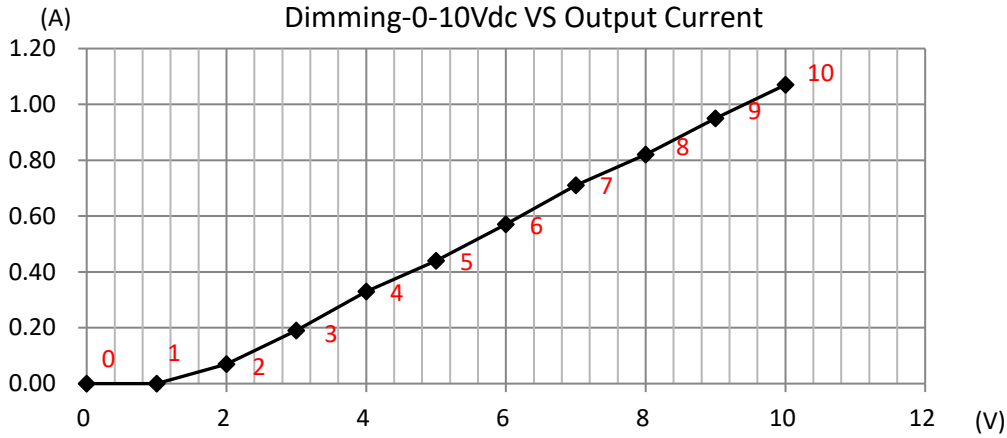




### AMEOR30C-36100AZ







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