

12W Constant Current -LS Series



■ Approve



Features

- Class II, SELV, independent
- Input Voltage 220-240VAC
- Protections: SCP/OLP/OVP
- Power Factor > 0.85C
- Efficiency ≥81%
- 5 years warranty

Applications

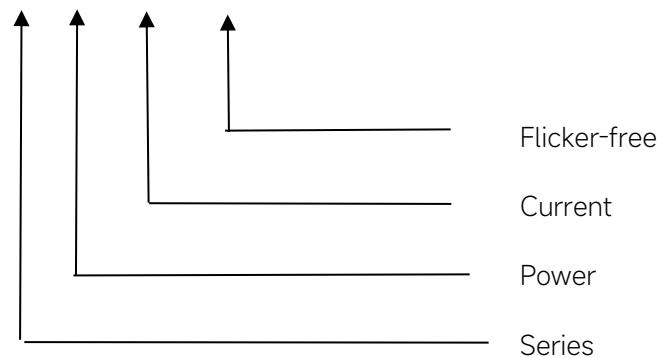
- LED panel, LED down light
- LED spot light

◆ Description

LS-12-XXX MI is a 12W constant current LED driver with 250mA to 700mA output current. With its compact dimensions from 92 x 36 x 25mm it is easy to integrate in LED Panel, spot, down light products. To ensure trouble-free operation, protection is provided against output short circuit and over Load.

◆ Model code

LS-12-XXX MI



◆ Specification

| | | | | | | |
|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|----------|------|----------|----------|
| Output | Constant Current | 250mA | 300mA | | 600mA | 700mA |
| | Voltage Range | 27-48VDC | 24-42VDC | | 12-20VDC | 11-17VDC |
| | Unload voltage Max. | 55VDC | 50VDC | | 30VDC | 25VDC |
| | Current Accuracy | ±5% | | | | |
| | Output HF current ripple(≥1KHz) | ±5% | | | | |
| | Output LF current ripple(≤120Hz) | ±5% | | | | |
| | SVM | ≤0.4 | | | | |
| | Pst | ≤1 | | | | |
| | Efficiency(Typ.) | ≥83% | | | | 81% |
| Input | Rated input voltage | 220-240VAC | | | | |
| | Range of input voltage | 198-264VAC | | | | |
| | Rated input voltage(DC) | NA | | | | |
| | Frequency(Hz) | 50/60 Hz | | | | |
| | Displacement factor | ≥0.9 | | | | |
| | Power Factor | 0.85C | | | | |
| | Input Current max | 0.12A | | | | |
| | Start-up time | < 0.5S | | | | |
| | No Load Power | ≤0.5W | | | | |
| | THD (Typ.) | <70% | | | | |
| Protection | Over Load Protection | 103-120% YES/Auto Resume | | | | |
| | Over Voltage Protection | > 47VDC | > 47VDC | ... | > 30VDC | > 21VDC |
| | Short circuit Protection | YES/Auto Resume | | | | |
| Environment | Operating Temperature | -20°C~+45°C | | | | |
| | Humidity | 20%-90%RH | | | | |
| | Tc | 75°C | | | | |
| | Storage Temperature | -25°C~+60°C | | | | |
| | Life time | > 30000h@Tc=75°C | | | | |
| Surface | Dimension | 92X36X25(LXWXH)mm | | | | |
| standards | EN 61347-1; EN61347-2-13; EN62384; EN55015; EN61000-3-2 ; EN61000-3-3; EN 61547; | | | | | |
| Others | ErP | EU 2019/2020 | | | | |
| | RoHS | RoHS (2011/65/EU) (EU)2015/863 | | | | |
| Note | 1.All parameters NOT specially mentioned are measured at 230VAC input , full load and 25°C of ambient temperature. 2.Ripple & Noise are measured at 20MHz of bandwidth by using a 300mm twisted pair-wire terminated with a 0.1uF & 47 uF parallel capacitor. | | | | | |

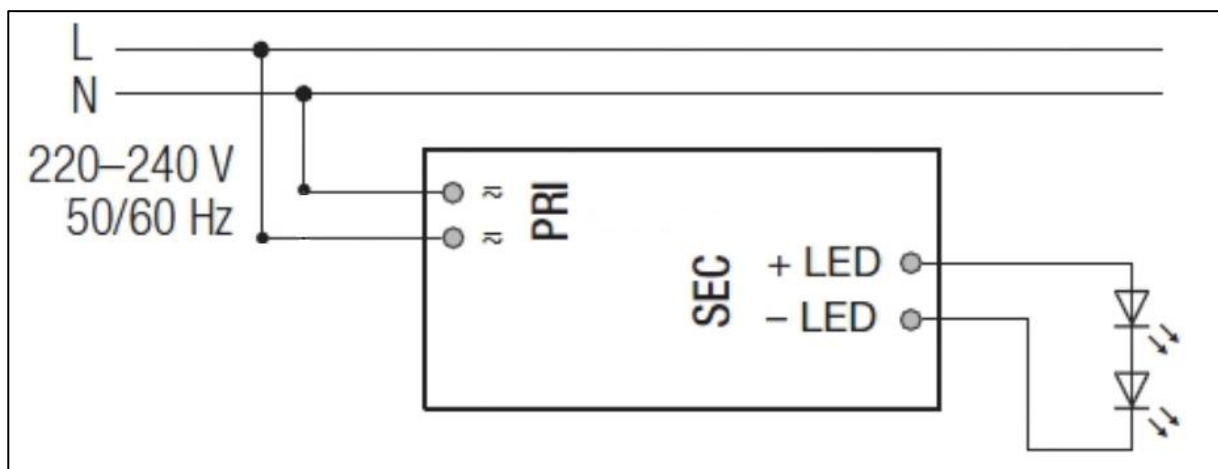
◆ Model list

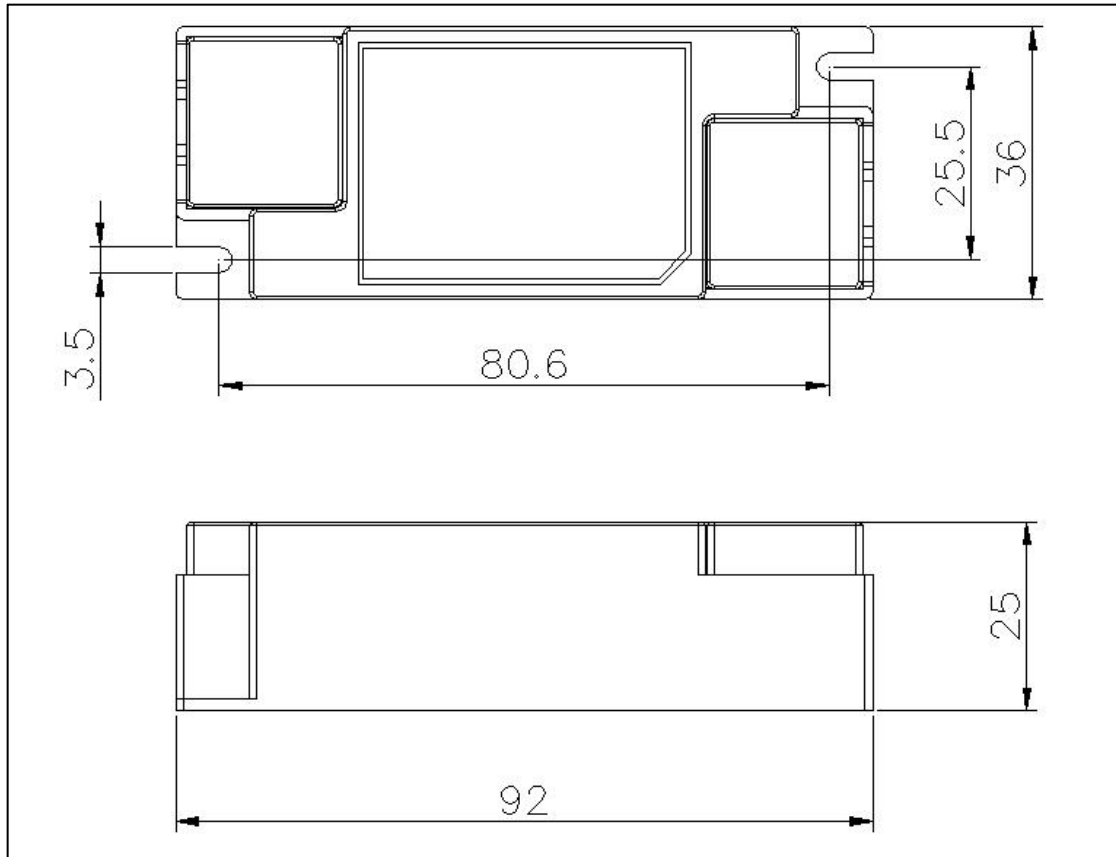
| Model number | Input | | | Output | | | P(W) |
|--------------|---------------|-------------|----------------|-----------------------|------------------------------|-------------------------------|------|
| | Voltage (VAC) | Current (A) | Frequency (Hz) | Constant current (mA) | Normal working voltage (VDC) | No load working voltage (VDC) | |
| LS-12-250 MI | 220-240 | 0.12 | 50/60 | 250 | 27-48 | 50 | 12 |
| LS-12-300 MI | | | | 300 | 24-42 | 50 | 12.6 |
| LS-12-350 MI | | | | 350 | 22-40 | 46 | 14 |
| LS-12-400 MI | | | | 400 | 20-30 | 40 | 12 |
| LS-12-450 MI | | | | 450 | 16-26 | 35 | 11.7 |
| LS-12-500 MI | | | | 500 | 15-25 | 34 | 12.5 |
| LS-12-550 MI | | | | 550 | 14-22 | 32 | 12.1 |
| LS-12-600 MI | | | | 600 | 12-20 | 30 | 12 |
| LS-12-700 MI | | | | 700 | 11-17 | 25 | 11.9 |

◆ Circuit Breaker

| I _{peak} | T _{width} | B10 | B16 | B20 | C10 | C16 | C20 |
|-------------------|--------------------|-------|-------|-------|-------|-------|-------|
| 10A | 300μs | 26pcs | 42pcs | 53pcs | 44pcs | 71pcs | 88pcs |

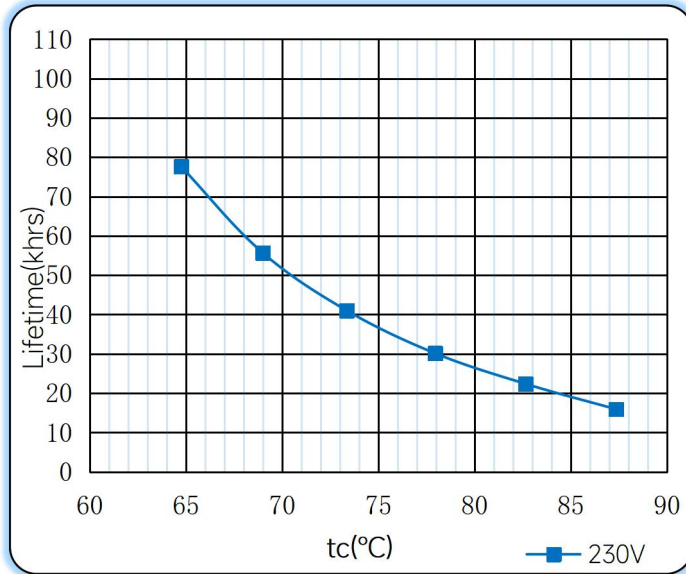
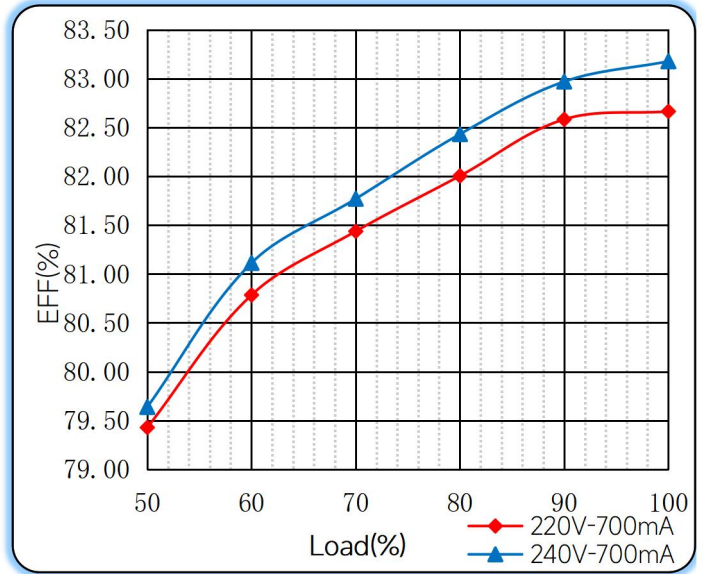
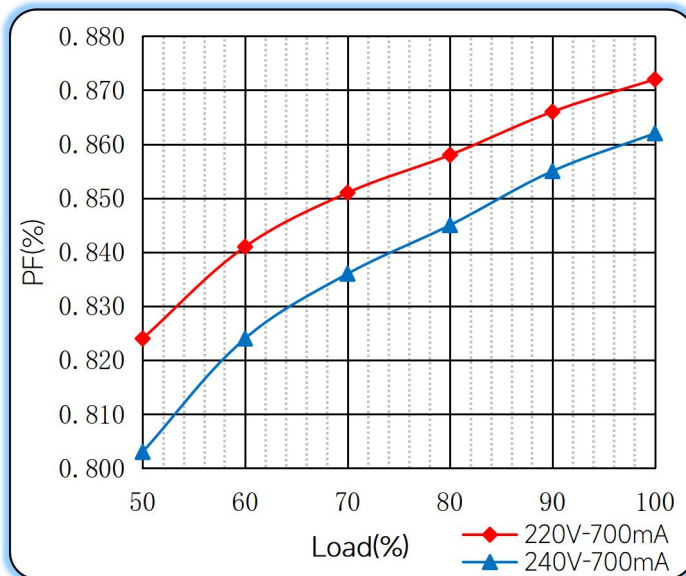
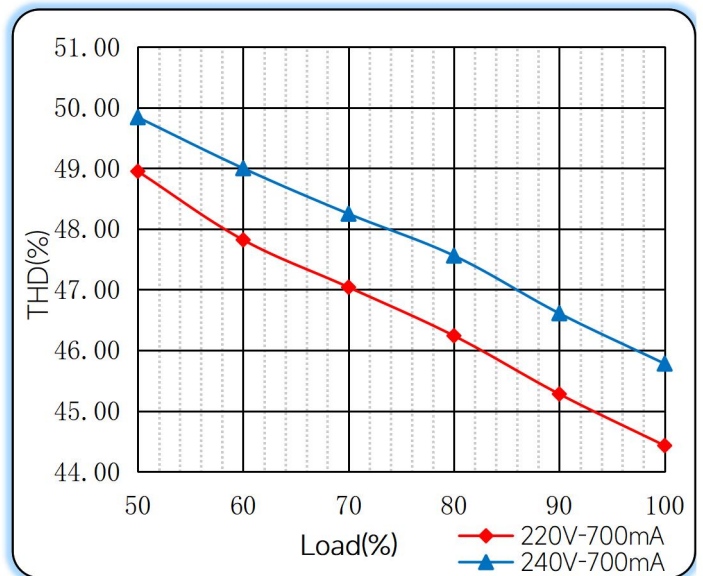
◆ Wiring diagram



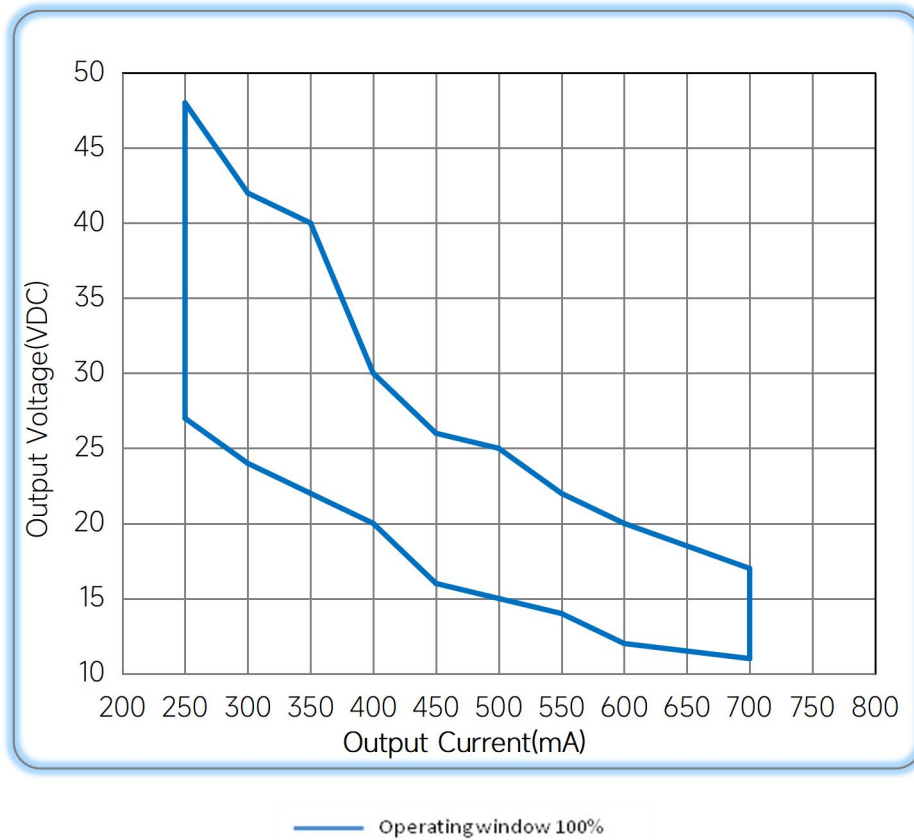
◆ 2D diagram

◆ Wiring & Connections

| | Specification item | Value (Unit) |
|--------|---------------------------|---------------------------|
| Input | Input wire cross-section | 0.5...1.5 mm ² |
| | Input wire gauge. | 16...20 AWG |
| | Input wire strip length | 7...9mm |
| Output | Output wire cross-section | 0.5...1.5 mm ² |
| | Output wire gauge. | 16...20 AWG |
| | Output wire strip length | 7...9mm |

◆ Curve for LS-12-700 MI, I_o=700mA

Lifetime vs. Temperature Curve

Efficiency vs. Load

Power Factor Characteristics

THD vs. Load


◆ Operating window



◆ Revision Updates

| ITEM | BEFORE | AFTER | VERSION | DATE |
|---------|--------|-------|---------|------------|
| Initial | | | A | 2022/05/15 |
| | | | | |

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Manual