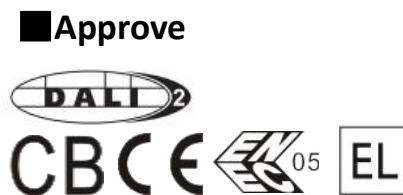


## 100W DALI + PUSH Dimming power supply



### Features

- Class I, Non-Isolated design, Built-in
- Input Voltage 220-240VAC
- Protections: SCP/OLP/OVP/OTP
- Power Factor 0.95
- Efficiency : 94%
- Adjustable Output Current with dip-switch
- Support DALI-2, Push Dimming
- 5 years warranty

### Applications

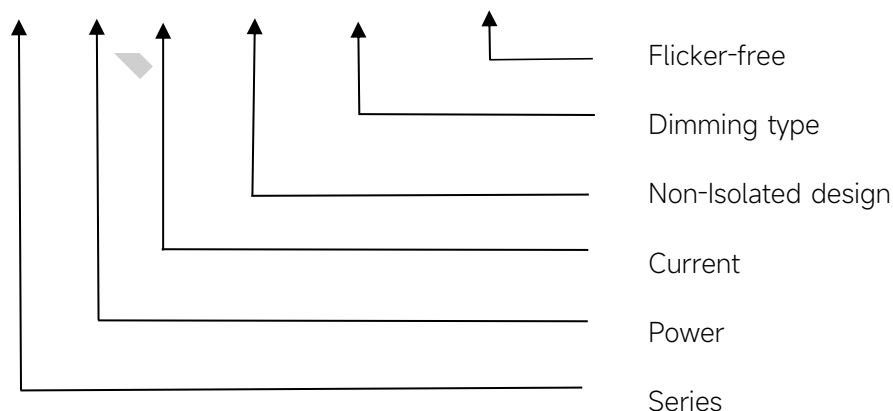
- Linear light

### ◆ Description

FMS-100-1050 N-S DALI-2 LD is a 100W constant current LED driver that operates from 198-264Vac input with 300 to 1050mA output current and a forward voltage range from 50 to 220Vdc. The output current is adjustable by dip-switch. With it's compact dimensions from 280 x 30 x 21 mm. It is easy to integrate in linear light products. To ensure trouble-free operation, protection is provided against output short circuit and over Load.

### ◆ Model code

#### FMS-100-1050 N-S DALI-2 LD



## ◆ Specification

|             |                                  |                                                                               |       |       |     |        |          |
|-------------|----------------------------------|-------------------------------------------------------------------------------|-------|-------|-----|--------|----------|
| Output      | Constant Current                 | 300mA                                                                         | 350mA | 400mA | ... | 1000mA | 1050mA   |
|             | Voltage Range                    | 50-220                                                                        |       |       | ... | 50-100 | 50-95.24 |
|             | Unload voltage Max.              | <250V RMS                                                                     |       |       |     |        |          |
|             | Current Accuracy                 | ±5%                                                                           |       |       |     |        |          |
|             | Output LF current ripple(≤120Hz) | ±3%                                                                           |       |       |     |        |          |
|             | SVM                              | ≤0.4                                                                          |       |       |     |        |          |
|             | P <sub>st</sub>                  | ≤1                                                                            |       |       |     |        |          |
|             | Efficiency(Typ.)                 | 94%@Full Load,230V                                                            |       |       |     |        |          |
|             | EOF1                             | 100%                                                                          |       |       |     |        |          |
| Input       | Rated input voltage              | 220-240V                                                                      |       |       |     |        |          |
|             | Range of input voltage           | 198-264VAC                                                                    |       |       |     |        |          |
|             | Maximum voltage                  | 300VAC@1 h maximum,unit might not operate in this abnormal condition          |       |       |     |        |          |
|             | Rated input voltage(DC)          | 176-280VDC                                                                    |       |       |     |        |          |
|             | Frequency(Hz)                    | 0/50/60 Hz                                                                    |       |       |     |        |          |
|             | Displacement factor              | ≥0.9                                                                          |       |       |     |        |          |
|             | Power Factor                     | >0.95@Full Load,230V                                                          |       |       |     |        |          |
|             | Input Current                    | 0.65A max.                                                                    |       |       |     |        |          |
|             | Start-up time                    | < 0.8S                                                                        |       |       |     |        |          |
|             | Switch over time(AC/DC mode)     | < 0.4S                                                                        |       |       |     |        |          |
|             | No Load Power                    | ≤0.3W                                                                         |       |       |     |        |          |
|             | Standby Power                    | ≤0.3W                                                                         |       |       |     |        |          |
|             | Network standby power            | ≤0.3W                                                                         |       |       |     |        |          |
|             | THD (Typ.)                       | 10%@Full Load,230V                                                            |       |       |     |        |          |
| Dimming     | Dimming                          | YES                                                                           |       |       |     |        |          |
|             | Dimming mode                     | DALI-2 (IEC 62386-101,102,207,251,252,253) & Push Dimming (Corridor Function) |       |       |     |        |          |
|             | Dimming depth                    | 1%                                                                            |       |       |     |        |          |
|             | Dimming current range            | 1 ~100%                                                                       |       |       |     |        |          |
| Protection  | Over Load Protection             | 103-120%                                                                      |       |       |     |        |          |
|             |                                  | YES/Latch off                                                                 |       |       |     |        |          |
|             | Over Voltage Protection          | <250V RMS                                                                     |       |       |     |        |          |
|             |                                  | YES/Latch off                                                                 |       |       |     |        |          |
| capability  | Short circuit Protection         | YES/Latch off                                                                 |       |       |     |        |          |
|             | Over Temperature Protection      | YES/Auto Resume                                                               |       |       |     |        |          |
| capability  | Surge capability (L-N)           | 1KV                                                                           |       |       |     |        |          |
|             | Surge capability (L/N-Ground)    | 2KV                                                                           |       |       |     |        |          |
| Environment | Operating Temperature            | -25°C~+60°C                                                                   |       |       |     |        |          |
|             | Humidity                         | 20%-90%RH                                                                     |       |       |     |        |          |

|           |                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                    |
|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|           | Tc                                                                                                                                                                                                                                                                                                                                                                                                                            | 80°C                                                                                                                                                               |
|           | Storage Temperature                                                                                                                                                                                                                                                                                                                                                                                                           | -25°C~+60°C                                                                                                                                                        |
|           | Lifetime                                                                                                                                                                                                                                                                                                                                                                                                                      | >50000h,@Tc=80°C                                                                                                                                                   |
|           | Noise                                                                                                                                                                                                                                                                                                                                                                                                                         | ≤25dB(A)@20cm                                                                                                                                                      |
| Surface   | Dimension                                                                                                                                                                                                                                                                                                                                                                                                                     | 280 x 30 x 21(LXWXH)mm                                                                                                                                             |
|           | material                                                                                                                                                                                                                                                                                                                                                                                                                      | metal case                                                                                                                                                         |
| Standards | Safety                                                                                                                                                                                                                                                                                                                                                                                                                        | GB19510. 1, GB19510. 14;IEC61347- 1, IEC61347-2- 13;AS/NZS 61347- 1, AS/NZS 61347-2- 13;AS 61347.2.13;EN62384;                                                     |
|           | EMC                                                                                                                                                                                                                                                                                                                                                                                                                           | GB/T17743, GB17625. 1;EN55015, EN61000-3-2, EN61000-3-3, EN61547;EN55015, EN61000-3-2, EN61000-3-3, EN61547,EN 62493;EN61000-4-5;EN61000-4-2,3,4,5,6,8,11, EN61547 |
|           | Energy Efficiency                                                                                                                                                                                                                                                                                                                                                                                                             | Erp2.0 EU 2019/2020                                                                                                                                                |
|           | RoHS                                                                                                                                                                                                                                                                                                                                                                                                                          | RoHS (2011/65/EU) (EU)2015/863                                                                                                                                     |
| DALI      | EN 62386-101 (DALI-2) EN 62386-102 (DALI-2) EN 62386-207 (DALI-2,including part251,252,253)                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                    |
| Note      | 1.All parameters NOT specially mentioned are measured at 230VAC input , full load and 25°C of ambient temperature.<br>2.Ripple & Noise are measured at 20MHz of bandwidth.<br>3.The DC input for this product is only used for emergency lighting and applies to functional and safety requirements, EMC is not considered.<br>4.Switch and dimmer are not recommended to connect between this product output and luminaries. |                                                                                                                                                                    |

## ◆ Parameter

| Number | Output       |               |                       |           | Switch position |    |    |    |
|--------|--------------|---------------|-----------------------|-----------|-----------------|----|----|----|
|        | Current (mA) | Voltage (VDC) | Voltage No load (VDC) | Power (W) | 1               | 2  | 3  | 4  |
| *1     | 300mA        | 50-220        | 250                   | 66        | --              | -- | -- | -- |
| 2      | 350mA        |               |                       | 77        | ON              | -- | -- | -- |
| 3      | 400mA        |               |                       | 88        | --              | ON | -- | -- |
| 4      | 450mA        |               |                       | 99        | ON              | ON | -- | -- |
| 5      | 500mA        | 50-200        |                       | 110       | --              | -- | ON | -- |
| 6      | 550mA        | 50-181.82     |                       | 121       | ON              | -- | ON | -- |
| 7      | 600mA        | 50-166.67     |                       | 132       | --              | ON | ON | -- |
| 8      | 650mA        | 50-153.85     |                       | 100       | ON              | ON | ON | -- |

|    |        |           |
|----|--------|-----------|
| 9  | 700mA  | 50-142.86 |
| 10 | 750mA  | 50-133.34 |
| 11 | 800mA  | 50-125    |
| 12 | 850mA  | 50-117.65 |
| 13 | 900mA  | 50-111    |
| 14 | 950mA  | 50-105.27 |
| 15 | 1000mA | 50-100    |
| 16 | 1050mA | 50-95.24  |

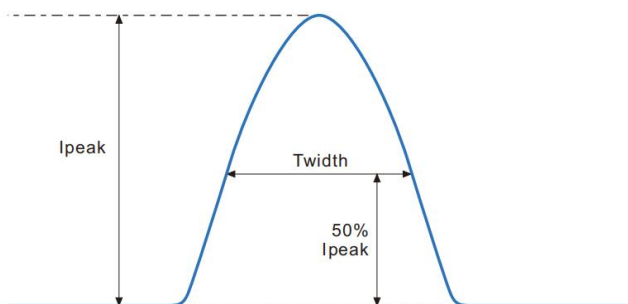
|     |    |    |    |    |
|-----|----|----|----|----|
| 100 | -- | -- | -- | ON |
| 100 | ON | -- | -- | ON |
| 100 | -- | ON | -- | ON |
| 100 | ON | ON | -- | ON |
| 100 | -- | -- | ON | ON |
| 100 | ON | -- | ON | ON |
| 100 | -- | ON | ON | ON |
| 100 | ON | ON | ON | ON |

\* Factory default

Preliminary

## ◆ Inrush Current

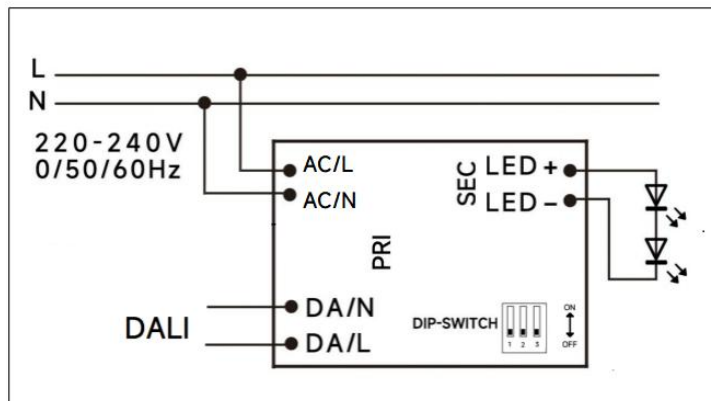
| $I_{peak}$ | $T_{width}$ | B10 | B16 | B20 | C10 | C16 | C20 |
|------------|-------------|-----|-----|-----|-----|-----|-----|
| A          | $\mu s$     | pcs | pcs | pcs | pcs | pcs | pcs |



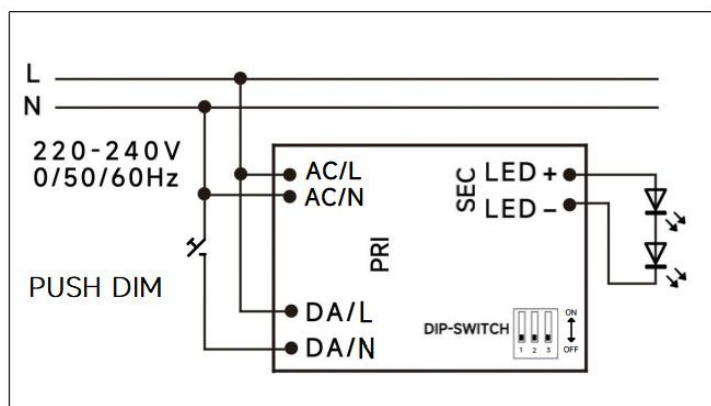
### Remarks:

- 1.The number of drives mounted under different MCBs in the table is the maximum value. Please do not exceed this number during installation.
- 2.Different brands and models of miniature circuit breakers, the number of drives mounted will be slightly different.

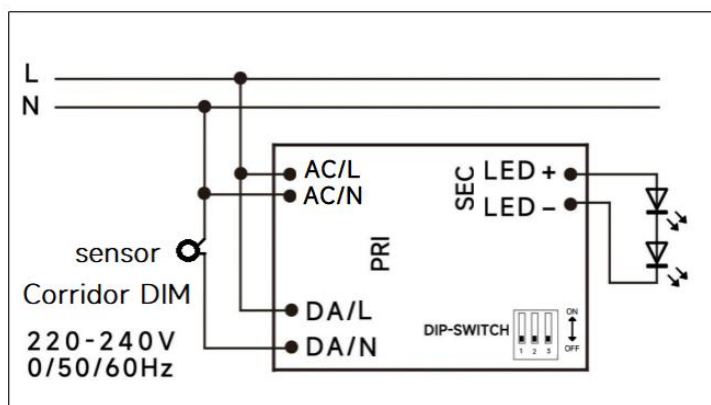
## ◆ Wiring diagram



DALI dimming application

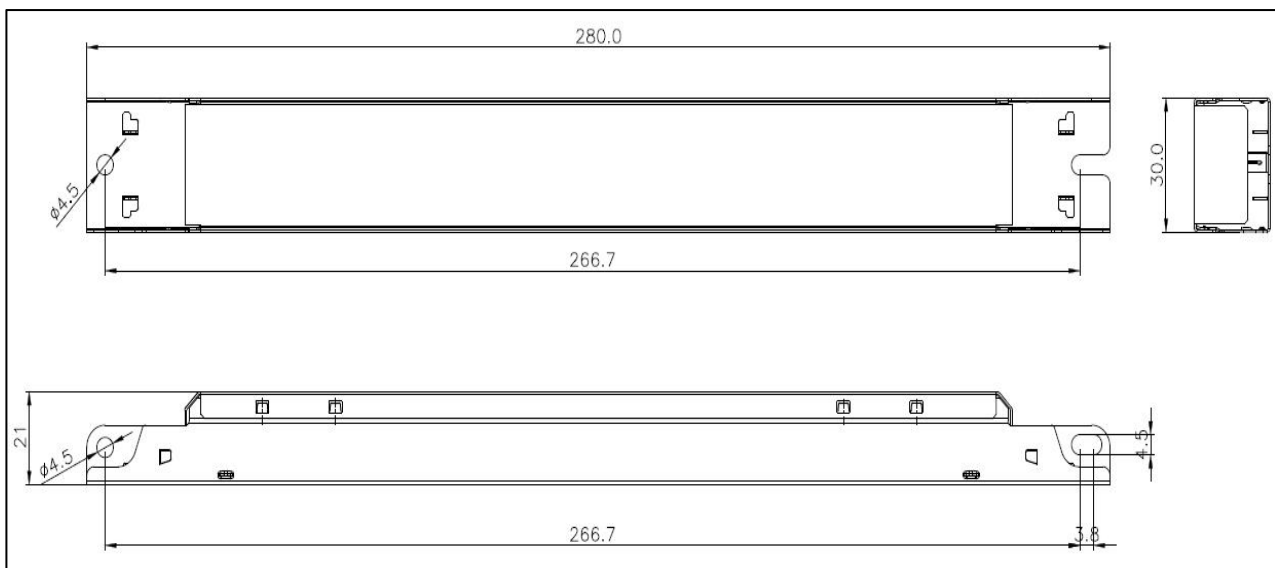


PushDIM dimming application



Corridor DIM dimming application

## ◆ 2D diagram



## ◆ Wiring & Connections

| Specification item |                           | Value (Unit )                                                             |
|--------------------|---------------------------|---------------------------------------------------------------------------|
| Input              | Input wire cross-section  | 0.5...1.5 mm <sup>2</sup> (With A side caps: 0.75...1.5 mm <sup>2</sup> ) |
|                    | Input wire gauge.         | 16...20 AWG (With A side caps: 16...22 AWG )                              |
|                    | Input wire strip length   | 7...9mm                                                                   |
| Output             | Output wire cross-section | 0.5...1.5 mm <sup>2</sup> (With A side caps: 0.75...1.5 mm <sup>2</sup> ) |
|                    | Output wire gauge.        | 16...20 AWG (With A side caps: 16...22 AWG )                              |
|                    | Output wire strip length  | 0.5...1.5 mm <sup>2</sup> (With A side caps: 0.75...1.5 mm <sup>2</sup> ) |

Note: Solid wire is risky to use on an angled terminal. Stranded wire is recommended for this kind of use.

**◆ Curve for FMS-100-1050 N-S DALI-2 LD,  $I_o=1050\text{mA}$** 

Lifetime vs. Temperature Curve

Efficiency vs. Load

Power Factor Characteristics

THD vs. Load

Preliminary



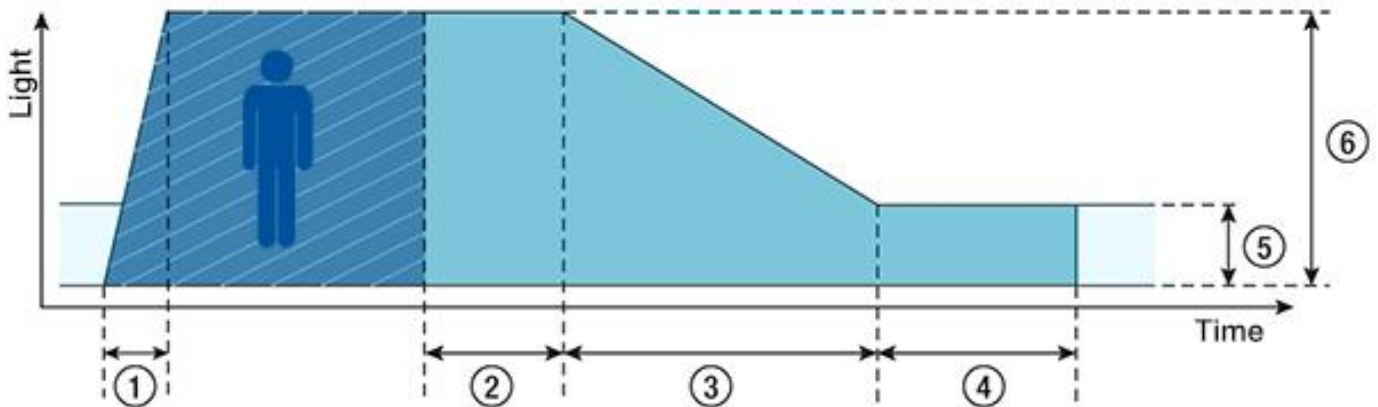
## ◆ Push dimming operation

| Action                   | Action duration | Function                                                                                                                                                  |
|--------------------------|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| Short push               | <0.5s           | Turn on/off                                                                                                                                               |
| Short push<br>twice      | <0.5s           | LED on: Save current brightness level<br>LED off: Delete saved level and turn on at 100% brightness                                                       |
| Short push five<br>times | <3s             | Quit Corridor mode                                                                                                                                        |
| Long push                | 0.5-14s         | Dimming up or down                                                                                                                                        |
| Long push                | 15s-2mins       | Sync all LEDs to be 100% brightness                                                                                                                       |
| Long push                | >2mins          | Enter Corridor mode - LED keep 100% brightness for 2mins.<br>Then brightness will turn to be 10% within 32s if no action during 2mins<br>100% brightness. |

### Note:

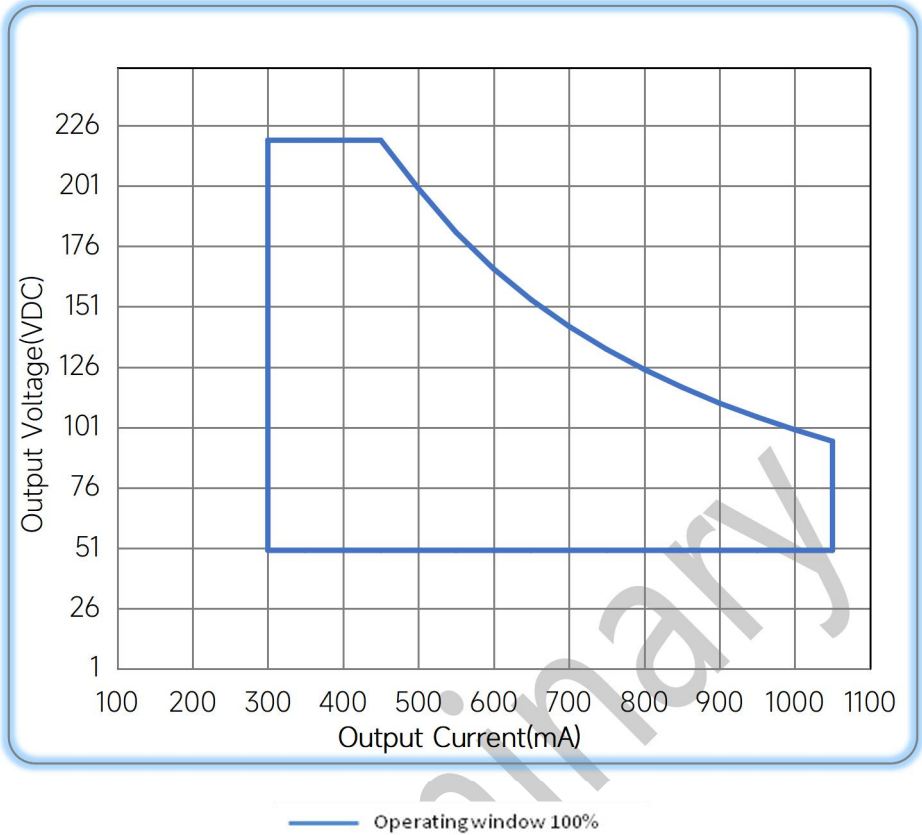
- 1.The factory default brightness is at 100%.
- 2.Up to 30 drivers can perform the PUSH dimming at the same time when utilizing one common push button
- 3.The maximum length of the cable from the push button to the last driver is 200 meters.

## ◆ Corridor mode



- ◆ **① Fade-in time (0.5s):** the time that starts as soon as the presence of a person is detected. During the fade-in time the luminous intensity is faded up to the presence value.
- ◆ **② Run-on time (120s):** the time that starts as soon as the presence of a person is no longer detected. If the presence of a person is detected again during the run-on time the run-on time is restarted from zero. If no presence is detected during the run-on time the fade time is started as soon as the run-on time expires.
- ◆ **③ Fade time (32s):** the time during which the luminous intensity is faded from the presence value to the absence value.
- ◆ **④ Switch-off delay (Never Off):** the time during which the absence value is held before the lighting is switched off. Depending on the profile selected the switch-off delay may have different values or may not be defined.
- ◆ **⑤ Absence value (default: 10 %):** the luminous intensity when there is no person present.
- ◆ **⑥ Presence value (default: 100 %):** the luminous intensity when persons are present.

◆ Operating window



◆ Revision Updates

| ITEM    | BEFORE | AFTER | VERSION | DATE       |
|---------|--------|-------|---------|------------|
| Initial |        |       | A       | 2023/10/20 |
|         |        |       |         |            |

Remark:The final interpretation of the contents of the specification belongs to Eaglerise Electric & Electronic (China) Co., Ltd.

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EAGLERISE



Manual