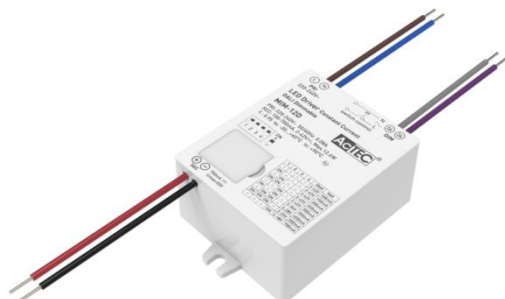# DALI Dimming LED Driver

MIM-12D

AcTEC

Features

- Super compact design for built-in use
- Flicker-free
- DALI-2 certified (incl. Parts 251, 252, 253)
- Configurable constant current output via dip-switch
- Switch-Dim function
- Corridor function application
- Dimming range 0.1...100%
- Primary and secondary sides come with leads
- Protections: opencircuit, shortcircuit, overload, overtemperature
- DC input compatible (176-250VDC)
- SELV equivalent
- Suitable for protection class I & II luminaires

Selection Guide

Model No.	Nominal Voltage (V)	Nominal Current (A)	Power Factor (λ)	THD Full load (%)	Max. Output (W)	Output Current (mA)	Output Voltage (V)	No Load Voltage (V)	Efficiency Full Load (%)
MIM-12D	220-240	0.08	0.95	15	4.2	100	2-42	50	80
					6.3	150	2-42		
					8.4	200	2-42		
					10.5	250	2-42		
					12.6	300	2-42		
					12.6	350	2-36		
					12.6	450	2-28		
					12.6	500	2-25		
					12.6	700	2-18		

Input Parameters

Parameter	Condition	Min.	Typ.	Max.
Input Voltage Range	AC Input	198VAC	--	264VAC
	DC Input	176VDC	--	250VDC
Rated Input Frequency	AC Input	--	50/60Hz	--
No-load Power Consumption		--	--	0.5W
Standby Power Consumption		--	--	0.5W
Inrush Current	Cold Start@230V	10A/100us		

Max.units Per Circuit Breaker

Circuit Breaker	Circuit Breaker Current			
Typ.	10A	13A	16A	20A
B	70	91	112	140
C	125	162	200	250

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Output Parameters

Parameter	Condition	Min.	Typ.	Max.
Output Accuracy	Full Load@230V	--	±5%	--
Ripple & Noise	Low Frequency < 120Hz, Full Load@230VAC	--	--	10%
Pst LM		--	--	1
SVM		--	--	0.4
Galvanic Isolation	SELV			
Short-Circuit Protection (SCP)	The system restarts after the abnormal condition is removed			
Over-Voltage Protection (OVP)	The system restarts after the abnormal condition is removed			
Over-Current Protection (OCP)	The system restarts after the abnormal condition is removed			

General Parameters

Parameter	Condition	Value
Ambient Temperature Range t_a		-20...+60℃
Maximum Case Temperature t_c	Measured on t_c point indicated of the product label	90
Max.Case Temp.In Fault Condition		110℃
Storage Temperature Range		-20...+70℃
Relative Humidity	Non Condensing	5...85%
Withstand Voltage	I/P-O/P	3.75kVAC, I leakage＜5mA, 60s
Surge Transient Protection	L-N, L/N-PE	1kV, 2kV
Environmental Rating		Indoor
IP Rating		IP20
Mains Switching Cycles		> 100,000
Expected Lifetime	t_{cmax}=90, 0.2%/1000h failure rate	50,000h

Dimming Parameters

Dimmable	Yes
Dimming control	DALI-2/Switch-Dim
Dimming range	0.1-100%
Dimming method	PWM+Amplitude
PWM frequency	400Hz-25kHz@0.1-10%

Physical Parameters

Housing Material	PC
Type of connection	Cable
Dimensions (LxWxH)	65x43x24mm
Mounting hole spacing	59mm
Weight	89g±5g

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Standards

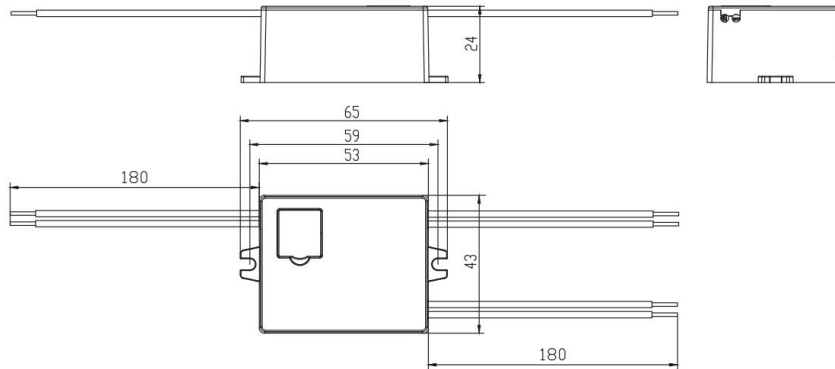| Safety Standards	EN 61347-1, EN 61347-2-13
Performance	EN 62384
EMC Standards	EN 55015, EN 61000-3-2, EN 61000-3-3, EN 61547
DALI Standards	EN 62386-101, EN 62386-102, EN 62386-207, EN 62386-251, EN 62386-252, EN 62386-253

*ALL parameters NOT specially mentioned are measured at 230VAC input, rated current and 25℃ of ambient temperature.

Product Characteristic Curve

Power Factor vs Load

Total Harmonic Distortion vs Load

Efficiency vs Load

Life Time vs Case Temperature
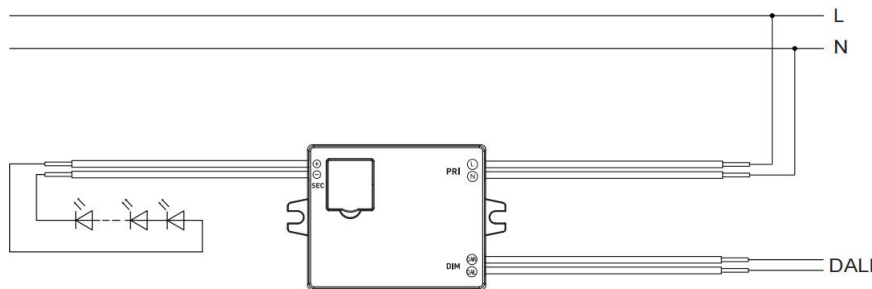
DALI Dimming LED Driver

MIM-12D
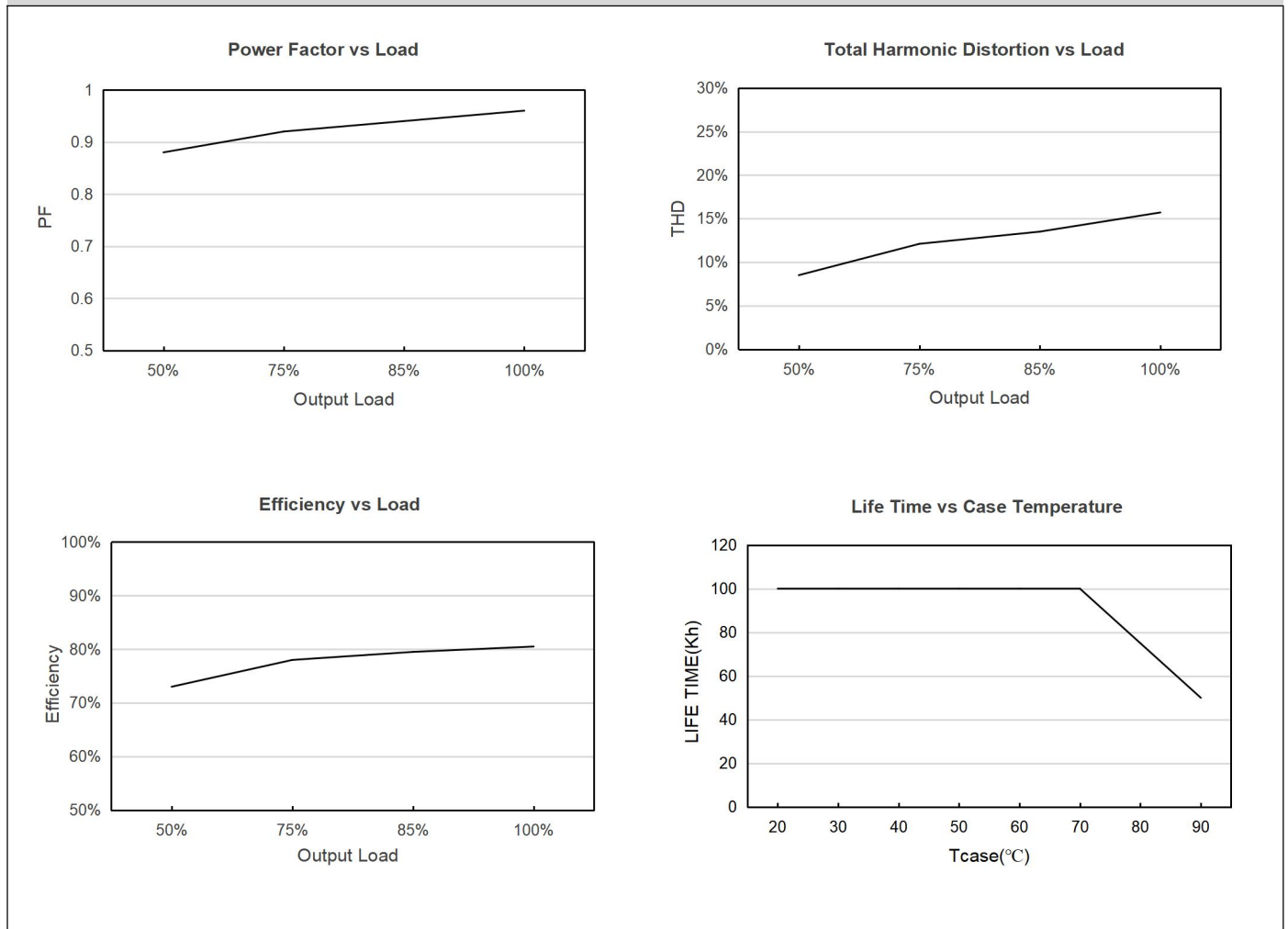
Appearance of Size

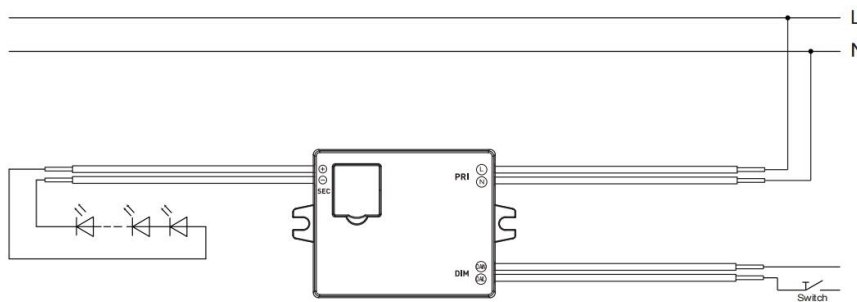### Dimension Drawing(mm)

Wiring Diagram (DALI)

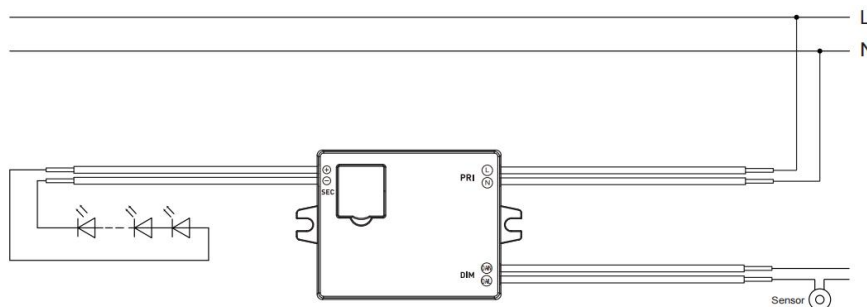**PRI**

Wire: VDE 7022 0.75mm²

Length: 180±10mm

DALI

Wire: VDE 7022 0.5mm²

Length: 180±10mm

SEC

Wire: VDE 7902 22AWG

Length: 180±10mm

Wiring Diagram (Switch-DIM)

Wiring Diagram (Corridor Function)

Hot plug-in or secondary switching of LEDs is not permitted and may cause a very high current to the LEDs.

DALI Dimming LED Driver

MIM-12D

Functions

DALI

In this operating mode the light level of the device is controlled via its DALI address.

Switch-DIM

Alternatively the device can be controlled using switch-inputs for mains voltage, the dim level is saved at power-down and restored at power-up.

-Short press(<1S): switches LED driver ON and OFF

-Long press: LED modules are dimmed. After repush the LED modules are dimmed in the opposite direction.

Synchronization

In installations with LED drivers with different dimming levels or opposite dimming directions, all LED drivers can be sychronzied to 50% dimming level by a 15S push, switch off the light by short press one time, then long press. Up to 25 LED drivers can be controlled via direct switch-button use. The number of switch-button is limited by the sum of the overall cable length between switch(es) and the connected LED drivers, witch may not exceed 20m.

Corridor Function

Activating the Corridor Function

-By supply voltage: Activate the Corridor Function by permanently applying the supply voltage (220-240V, 50/60Hz) to the DALI input of the driver for at least 5 minutes, the light up 100%(under the default setting).

-By sensor: Activate the Corridor Function by keeping the movement in the effective sensing area for at least 5 minutes, the light up 100%(under the default setting).

Changing from the Corridor Function to the Switch-DIM function

-By briefly pressing a push-button 5 times (at the DALI input, 220-240V, 50/Hz) within 3 seconds.

Corridor Function Phasing
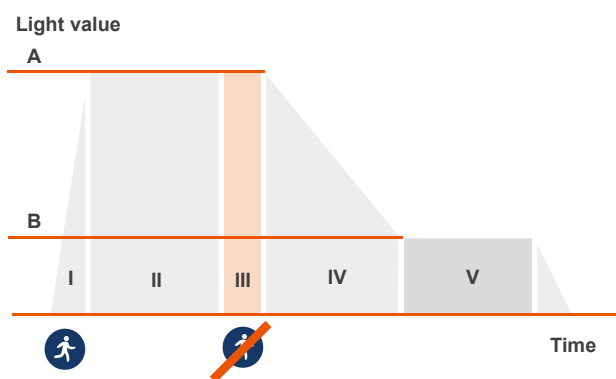
Factory-set parameters:

A: Presence value=100%

B: Absence value=10%

I: Fade-in time=1s

II: By sensor setting

III: Run-on time=2min

IV: Fade time=30s

V: Unlimited

Notice

The compatibility with other devices must be tested in advance to the installation.

DALI application and switch-control application can not apply to the system at the same time.