CINCON

2013

LED POWER SUPPLY

DC LED DRIVER

LIGHT CONTROLLER

Cincon Power Supply LED Lighting DALI (Digital Addressable Lighting Interface)

Cincon offers a wide range of LED drivers / power supplies and DALI controllers to give you the ability to tailor your lighting system to exacting requirements.

Whether your requirements are targeted towards simplified design, energy management, scene change flexibility, ease of maintenance

or all of the above Cincon provides the high quality lighting products you require.

What's DALI?

The Digital Addressable Lighting Interface (DALI) is a communication protocol that enables LED drivers / power supplies and their controllers to talk to each other.

DALI offers numerous advantages over analog lighting control. Wiring is simplified, control zones can be easily reconfigured without rewiring, control accuracy is superior and two-way communication can provide status of lighting components.

Digital lighting control makes for an adaptable lighting system. In an analog system, the smallest zone is a branch circuit. In a digital system, zoning is implemented using software, independent of circuits, using individual LED Drivers addresses stored in memory.

Because each ballast is individually addressable, control zones can be established that are as small as a single LED Drivers or light fixture. Small control zones increase the effectiveness of energy management programs and allow for ultimate flexibility where frequent scene changes are required.

CINCON LED POWER SUPPLY

Features :

- Comprehensive applications from output power range 25W to 150W
- Compact Size
- 3 Years Warranty
- Design for Indoor and Outdoor Installation
- Dimming Function (PWM, 1-10VDC and DALI)
- Safety Requirement : Short Circuit / Over Load / Over Temperature Protection

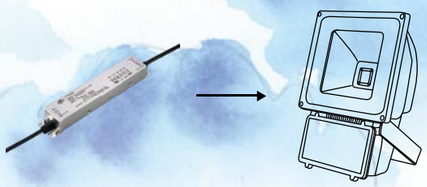
CINCON Light Controller

Features :

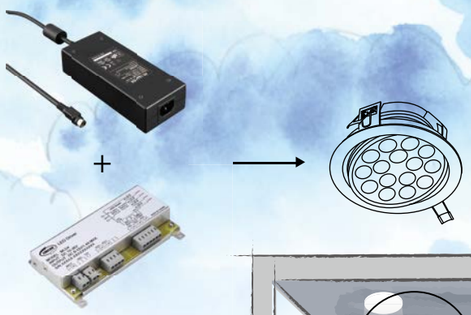
- Designed for DALI Group And Scene Controller
- Recall and store lighting scenes
- Can be connected in parallel to set up multiple control points
- Automatic synchronization between the control points
- Maximum length of signal line 300m

Cincon LED power supplies are designed for indoor / outdoor application and used in variety of applications including LED straight lights, down lights, Hi-Bay, panel lights and street lights.

LDM100S is suitable for outdoor LED applications, like LED Flood Light

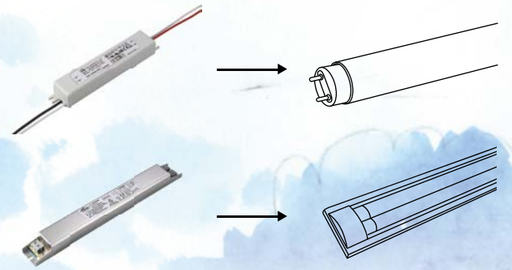


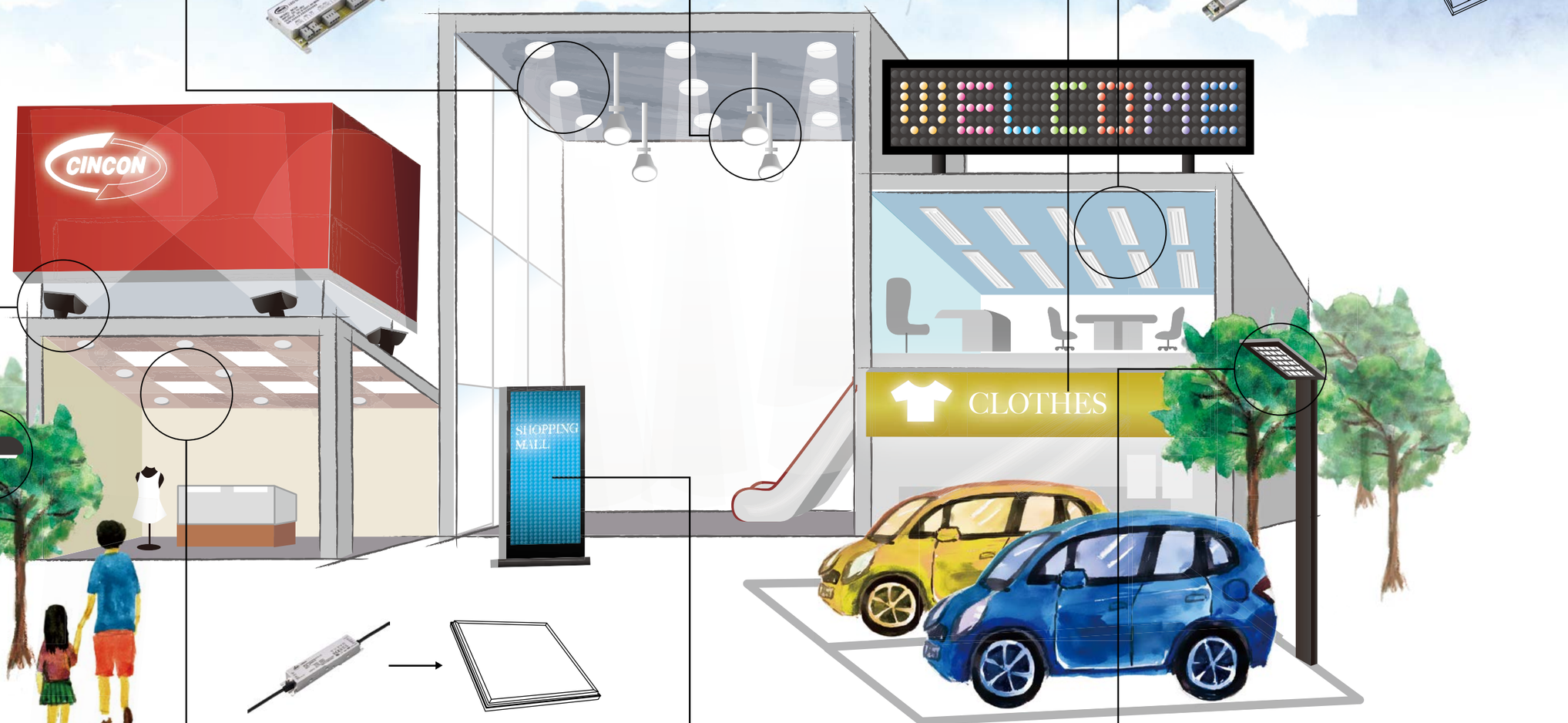
TRG150 & MLD4/MLD6 are suitable for LED Down Light applications



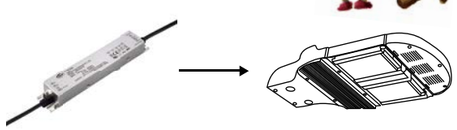
LDM60S is suitable for LED Hi-Bay Light applicatioins

LDP25 / CLD50D are suitable for LED Tube and Tube Fixture

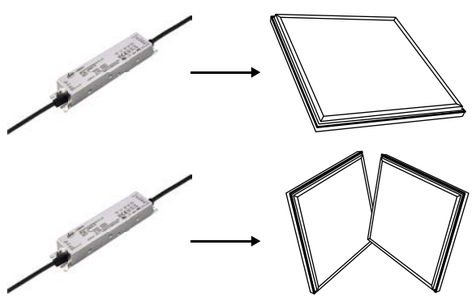




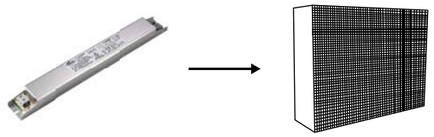
LDM100S is suitable for outdoor LED Street Light



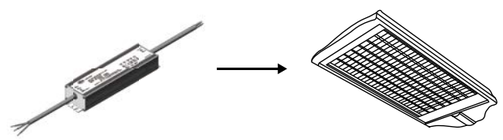
LDP40 / LDP60 are suitable for LED Flat Light



CLD50D is suitable for LED display and moving sign applications



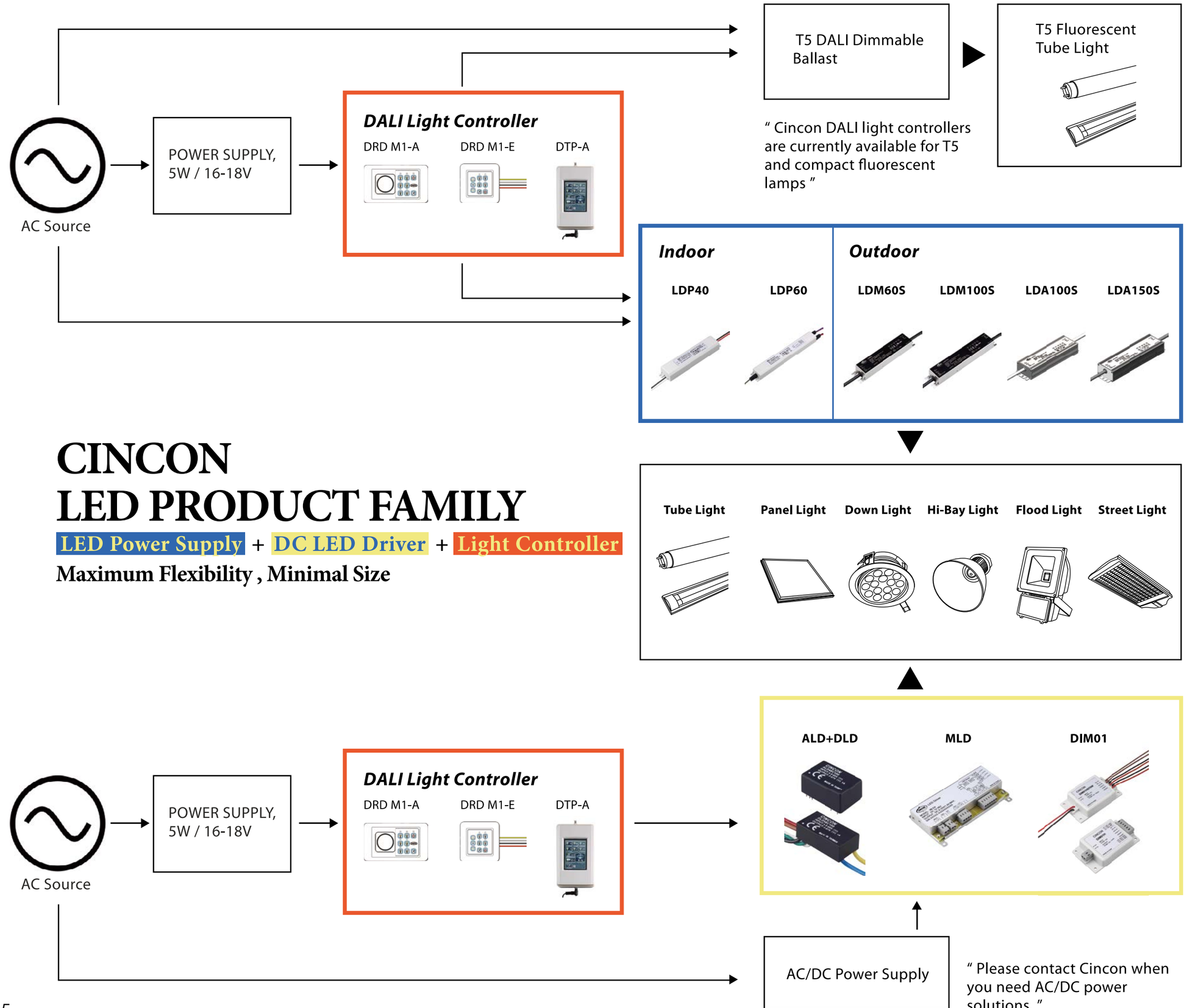
LDA150S is suitable for outdoor LED street Light



CINCON
LED PRODUCT FAMILY

LED Power Supply + DC LED Driver + Light Controller

Maximum Flexibility , Minimal Size



PRODUCT INDEX
3 YEARS WARRANTY

LED POWER SUPPLY

LDP25	25W	P.07
LDP40	40W	P.09
LDP60	60W	P.11
CLD50D	50W	P.13
LDM60S	60W	P.15
LDM100S	100W	P.17
LDA100S/LDA150S	100W/150W	P.19

DC LED DRIVER

DIM01	P.21
DLD	P.23
ALD	P.25
MLD	P.27

LIGHT CONTROLLER

DRD S1-A	P.29
DRD S1-E	P.31
DRD M1-A	P.33
DRD M1-E	P.35
DTP-A	P.37

LDP25

25 WATT OUTPUT LED POWER SUPPLY

- AC Input Range 90 – 305VAC
- Constant Current Output
- Active PFC > 0.9
- Low Inrush Current < 5A
- Low Profile, Height of 20mm and Width of 30mm
- Low Ripple and Noise
- Short Circuit / Over Voltage Protection
- Fully Isolated Plastic Case
- Safety UL8750, IEC/EN61347-1, IEC/EN61347-2-13
- IP 67 (Optional)
- Dimming Function: 1-10V / PWM (Optional)

Order Information:

LDP Series	Output Power	ID Code	Out Voltage	ID Code	Output Current (set when ordering)	Input Voltage	ID Code
LDP	25	X S : Single O/P A : Single O/P with IP67	X 240 : 24V 360 : 36V 480 : 48V	X Cable For America C: No dimming P: With PWM/1-10V/ dimming Cable For Europe E: No dimming G: With PWM/1-10V/ dimming	110 : 1100mA 070 : 700mA 053 : 530mA	X A: 100-240 Vac labelled B: 100-277 Vac labelled	X R: 1% output ripple or Blank: 10% output ripple

MODEL	Input Voltage Range	Output Rated Voltage	Output Rated Current	No Load Output Voltage	Output Rated Power	Ripple and Noise	%Eff. Typ.
LDP25S240-xxxxxx	90-264/305Vac[1]	9/16-24Vdc[3]	1100mA	29Vdc	26.40W	0.24/2.0V_{pp}[3]	86%
LDP25S360-xxxxxx	90-264/305Vac[1]	9/24-36Vdc[3]	700mA	43Vdc	25.20W	0.36/2.7V_{pp}[3]	86%
LDP25S480-xxxxxx	90-264/305Vac[1]	9/32-48Vdc[3]	530mA	56Vdc	25.44W	0.48/4.8V_{pp}[3]	86%

NOTE :1. Nominal Input Voltage: 115Vac, 230/277 Vac
LDP25XXXX-XXXXAX for the models with 90-264Vac Input (100-240Vac labelled)
LDP25XXXX-XXXXBX for the models with 90-305Vac Input (100-277Vac labelled)

2. Ripple and Noise are measured at 20MHz bandwidth with a 0.1uF ceramic capacitor and 10uF aluminum capacitor.
3. LDP25XXXX-XXXXXR for the models with Low Ripple: Vout min 9V Typ. Ripple Noise =Max Output Rated Voltage * 1%(V_{pp}) Eff.=84% Typ.

Specifications

INPUT SPECIFICATIONS:

AC Input Voltage ..... 90~264Vac/305Vac
Frequency ..... 47 to 63Hz
Power Factor.....115Vac/230Vac.....PF≧0.9 at 75%~100%Load
Inrush Current .....<5A after 100μS@240Vac, Cold Start @25˚C
Leakage Current ..... 0.5mA max.

OUTPUT SPECIFICATIONS:

Maximum Output Voltage..... See Table
Constant Current Accuracy...(note1)..... ±5%max.
Current Line Regulation .....(note 2).....±5%max.
Current Load Regulation .....(note 3)..... ±5%max.
Start up time..... 1 second max.
Over Voltage Protection..... yes
Short Circuit Protection..... Hiccup Mode, Auto Recovery

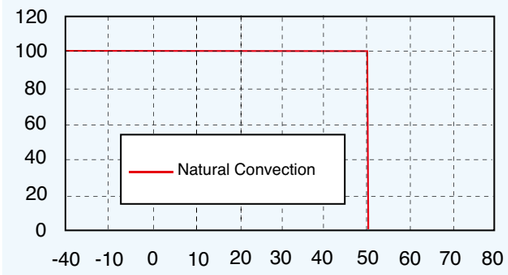
GENERAL SPECIFICATIONS:

Efficiency..... See Table
Temperature Coefficient..... ±0.05%/˚C(0~50˚C)
Isolation voltage, Input to output..... 3.75KVac
Isolation resistance, Input to output..... $10^8\Omega$ min.
Operating Ambient Temperature ..... -40~50˚C
Cooling..... natural convection
Storage Temperature..... -40~85˚C
Operating Humidity..... 20%~95%RH non-condensing.
Operating Altitude..... Sea Level to 3000m
MTBF,MIL-HDBK-217F(25˚C Ta)..... 200K hrs.
Dimensions,..... 5.51x1.18x0.787 Inches (140.0x30.0x20.0mm)
Weight..... 100g

SAFETY AND EMC :

Safety meet..... UL8750, IEC/EN61347-1
IEC/EN61347-2-13,
EMI..... FCC Part 18/EN55015 Class B
EMS..... EN61547,EN61000-4-2,3,4,5,6,8,11
EN61000-3-2 Harmonic Class C,EN61000-3-3

LDP25 Series Derating Curve

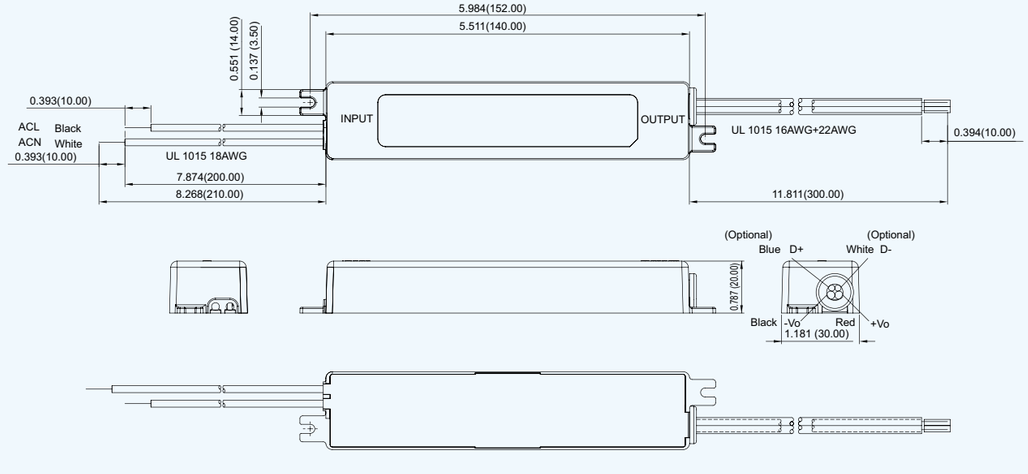


NOTE:

1. Current accuracy is set at nominal input voltage and full load.
2. Line regulation is measured from High Line to Low Line with full load.
3. Load regulation is measured from 75% to 100% output rated voltage max . with full load.

Mechanical Specification

All Dimensions are in inches(mm)
Tolerance Inches: x.xxx= ±0.02
Millimeters: x.xx= ±0.5



LDP40

40 WATT OUTPUT LED POWER SUPPLY

- AC Input Range 90 – 305VAC
- Constant Current Output
- Active PFC > 0.9
- Low Inrush Current < 5A
- Low Profile, Height of 25.2mm and Width of 40mm
- Low Ripple and Noise
- Short Circuit / Over Voltage / Over Temperature Protection
- Fully Isolated Plastic Case
- Safety UL8750, IEC/EN61347-1, IEC/EN61347-2-13
- IP 67 (Optional)
- Dimming Function: 1-10V / PWM / DALI (Optional)

Order Information:

LDP Series	Output Power	ID Code	Out Voltage	Dim ID Code	Output Current (set when ordering)	Input Voltage	ID Code
LDP	40	X S: Single O/P A : Single O/P with IP67	X 240 : 24V 360 : 36V 480 : 48V	X Cable For America C: No dimming D: With DALI dimming P: With PWM/1-10V/ Potentiometer dimming Cable For Europe E: No dimming F: With DALI dimming G: With PWM/1-10V/ Potentiometer dimming	170 : 1700mA 084 : 840mA	X A: 100-240 Vac labelled B: 100-277 Vac labelled	X R: 1% output ripple or Blank:10% output ripple

MODEL	Input Voltage Range	Output Rated Voltage	Output Rated Current	No Load Output Voltage	Output Rated Power	Ripple and Noise	%Eff. Typ.
LDP40S240-xxxxxx	100-240/277Vac[1]	9/16-24Vdc[3]	1700mA	29Vdc	40.80W	0.24/2.0V_{pp}[3]	86%
LDP40S480-xxxxxx	100-240/277Vac[1]	9/32-48Vdc[3]	840mA	56Vdc	40.32W	0.48/4.8V_{pp}[3]	86%

NOTE : 1. Nominal Input Voltage: 115Vac, 230/277 Vac
LDP40XXXX-XXXXAX for the models with 90-264Vac Input(100-240Vac labelled)
LDP40XXXX-XXXXBX for the models with 90-305Vac Input(100-277Vac labelled)
2. Ripple and Noise are measured at 20MHz bandwidth with a 0.1uF ceramic capacitor and 10uF aluminum capacitor.
3. LDP40XXXX-XXXXXR for the models with Low Ripple: Vout min 9V Typ.
Ripple Noise =Max Output Rated Voltage * 1%(Vpp)
Eff.=84% Typ.

Specifications

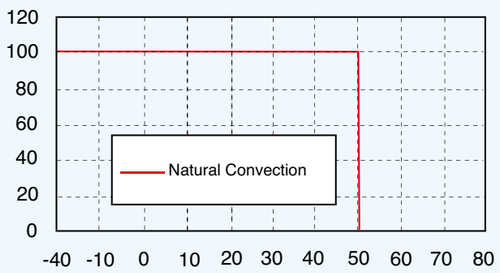
INPUT SPECIFICATIONS:
AC Input Voltage ..... 90~264Vac/305Vac
Frequency ..... 47 to 63Hz
Power Factor.....115Vac/230Vac.....PF≧0.9 at 75%~100%Load
Inrush Current .....<5A After 100uS@240Vac, Cold Start @25˚C
Leakage Current ..... 0.75 max.

OUTPUT SPECIFICATIONS:
Maximum Output Voltage..... See Table
Constant Current Accuracy…(note1).....±5%max.
Current Line Regulation .....(note 2)..... ±5%max.
Current Load Regulation .....(note 3)..... ±5%max.
Start up time..... 1 second max.
Over Voltage Protection..... yes
Short Circuit Protection..... Hiccup Mode, Auto Recovery
Over Temperature Protection.....yes

GENERAL SPECIFICATIONS:
Efficiency..... See Table
Temperature Coefficient.....±0.05%/˚C(0~50˚C)
Isolation voltage, Input to output.....3.75KVac
Isolation resistance, Input to output..... $10^8\Omega$ min.
Operating Ambient Temperature .....-40~50˚C
Cooling.....natural convection
Storage Temperature..... -40~85˚C
Operating Humidity..... 20%~95%RH non-condensing.
Operating Altitude..... Sea Level to 3000m
MTBF,MIL-HDBK-217F(25˚C Ta) ..... 200K hrs.
Dimensions,.....6.614x1.574x0.992 inch (168.0x40.0x25.2mm)
Weight..... 230g

SAFETY AND EMISSIONS:
Safety meet.....UL8750, IEC/ EN61347-1
IEC/EN61347-2-13,
EMI..... FCC Part 18/EN55015 Class B
EMS..... EN61547,EN61000-4-2,3,4,5,6,8,11
EN61000-3-2 Harmonic Class C,EN61000-3-3

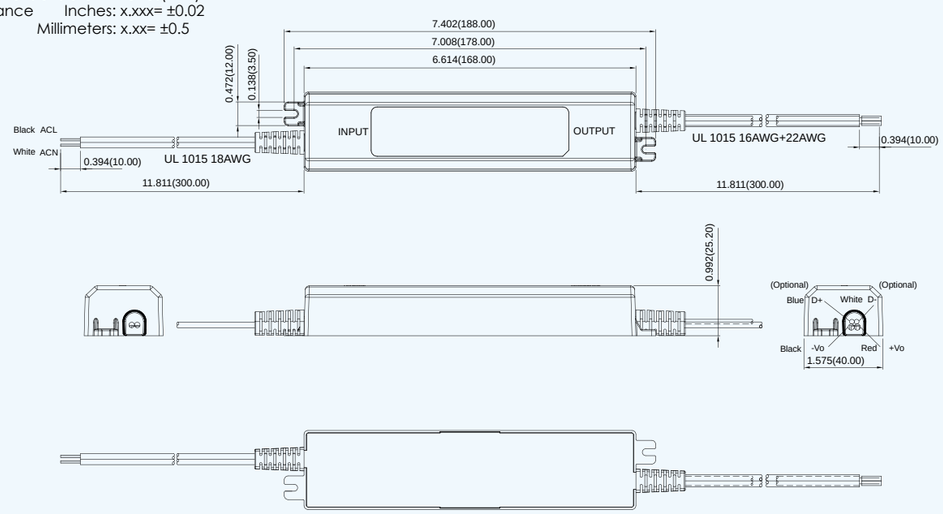
LDP40 Series Derating Curve



NOTE:
1. Current accuracy is set at nominal input voltage and full load.
2. Line regulation is measured from High Line to Low Line with full load.
3. Load regulation is measured from 75% to 100% output rated volt age max . with full load.

Mechanical Specification

All Dimensions are in inches(mm)
Tolerance Inches: x.xxx= ±0.02
Millimeters: x.xx= ±0.5



LDP60

60WATT OUTPUT LED POWER SUPPLY

- AC Input Range 90 – 305VAC
- 30W Dual Outputs / 60W Single Output By Paralleling
- Constant Current Output
- Active PFC > 0.9
- Low Inrush Current < 5A
- Low Profile, Height of 25.2mm and Width of 40mm
- Low Ripple and Noise
- Short Circuit / Over Voltage / Over Temperature Protection
- Fully Isolated Plastic Case
- Safety UL8750, IEC/EN61347-1, IEC/EN61347-2-13
- IP 67 (Optional)
- Dimming Function: 1-10V / PWM / DALI (Optional)

Order Information:

LDP Series	Output Power	ID Code	Out Voltage	ID Code	Output Current (set when ordering)	Input Voltage	ID Code
LDP	60	X S: Single O/P A : Single O/P with IP67 D: Dual O/P B : Dual O/P with IP67	X 240 : 24V 360 : 36V 480 : 48V	X Cable For America C: No dimming D: With DALI dimming P: With PWM/1-10V/ Potentiometer dimming Cable For Europe E: No dimming F: With DALI dimming G: With PWM/1-10V/ Potentiometer dimming	062 : 625mA 083 : 833mA 125 : 1250mA 166 : 1666mA 250 : 2500mA	X A: 100-240 Vac labelled B: 100-277 Vac labelled	X R: 1% output ripple or Blank:10% output ripple

MODEL	Input Voltage Range	Operating Voltage Range	Output Rated Current	Output Voltage Max.	Output Rated Power	Ripple and Noise	%Eff. Typ.
LDP60D240-XXXXXX	90-264/305Vac[1]	9/16-24Vdc[3]	V1 1250mA V2 1250mA	29Vdc 29Vdc	30W 30W	0.24/2.0V_{pp}[3]	86%
LDP60D360-XXXXXX	90-264/305Vac[1]	9/24-36Vdc[3]	V1 833mA V2 833mA	43Vdc 43Vdc	30W 30W	0.36/2.7V_{pp}[3]	86%
LDP60D480-XXXXXX	90-264/305Vac[1]	9/32-48Vdc[3]	V1 625mA V1 625mA	56Vdc 56Vdc	30W 30W	0.48/4.8V_{pp}[3]	86%
LDP60S240-XXXXXX	90-264/305Vac[1]	9/16-24Vdc[3]	2500mA	29Vdc	60W	0.24/2.2V_{pp}[3]	84%
LDP60S360-XXXXXX	90-264/305Vac[1]	9/24-36Vdc[3]	1666mA	43Vdc	60W	0.36/2.7V_{pp}[3]	84%
LDP60S480-XXXXXX	90-264/305Vac[1]	9/32-48Vdc[3]	1250mA	56Vdc	60W	0.48/4.8V_{pp}[3]	84%

NOTE : 1. Nominal Input Voltage: 115Vac, 230/277Vac
LDP60XXXX-XXXXAX for the models with 90-264Vac Input (100-240Vac Labeled)
LDP60XXXX-XXXXBX for the models with 90-305Vac Input (100-277Vac Labeled)
2. Ripple and Noise are measured at 20MHz bandwidth with a 0.1uF ceramic capacitor and 10uF aluminum capacitor.
3. LDP60XXXX-XXXXXR for Low Ripple Type :
Vout min 9V Typ
Ripple Noise =Max Output Rated Voltage * 1%(Vpp)
Eff.=84% Typ.

Specifications

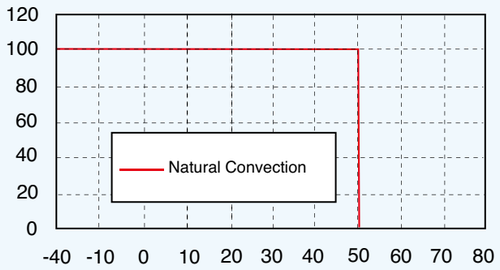
INPUT SPECIFICATIONS:
AC Input Voltage ..... 90~264Vac/305Vac
Frequency ..... 47 to 63Hz
Power Factor.....115Vac/230Vac.....PF≧0.9 at 75%~100%Load
Inrush Current .....<5A, after 100μS@240Vac, Cold Start @25˚C
Leakage Current ..... 0.75mA max.

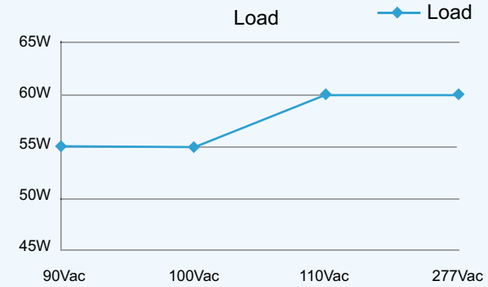
OUTPUT SPECIFICATIONS:
Maximum Output Voltage..... See Table
Constant Current Accuracy...(note1).....±5%max.
Current Line Regulation .....(note 2)..... ±5%max.
Current Load Regulation .....(note 3)..... ±5%max.
Start up time..... 1 second max.
Over Voltage Protection..... yes
Short Circuit Protection..... Hiccup Mode, Auto Recovery
Over Temperature Protection..... yes

GENERAL SPECIFICATIONS:
Efficiency..... See Table
Temperature Coefficient.....±0.05%/˚C(0~50˚C)
Isolation voltage, Input to output.....3.75KVac
Isolation resistance, Input to output..... $10^8\Omega$ min.
Operating Ambient Temperature .....-40~50˚C
Cooling.....natural convection
Storage Temperature..... -40~85˚C
Operating Humidity..... 20%~95%RH non-condensing.
Operating Altitude..... Sea Level to 3000m
MTBF,MIL-HDBK-217F(25˚c Ta) ..... 200K hrs.
Dimensions,..... 10.314x1.574x0.992 inch (262.0x40.0x25.2mm)
Weight..... 530g

SAFETY AND EMISSIONS:
Safety meet.....UL8750, IEC/ EN61347-1
IEC/EN61347-2-13,
EMI..... FCC Part 18/EN55015 Class B
EMS..... EN61547,EN61000-4-2,3,4,5,6,8,11
EN61000-3-2 Harmonic Class C,EN61000-3-3

LDP60D Series Derating Curve

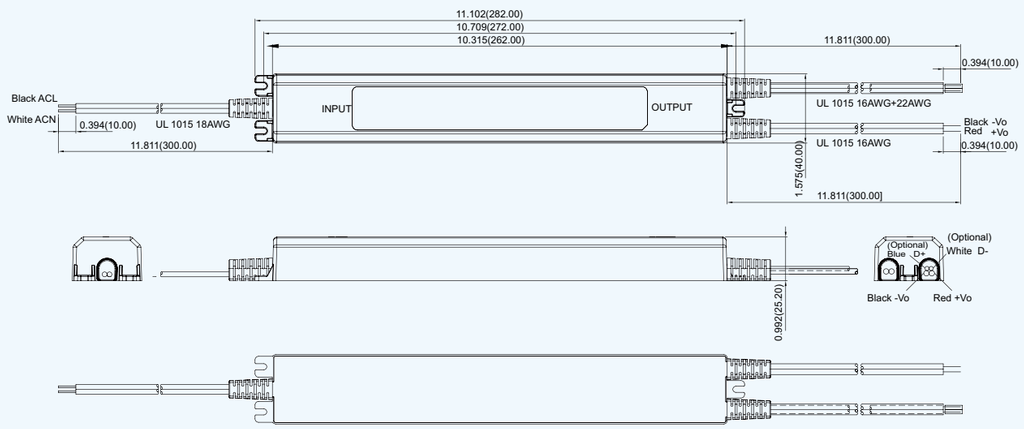




NOTE:
1. Current accuracy is set at nominal input voltage and full load.
2. Line regulation is measured from High Line to Low Line with full load.
3. Load regulation is measured from 75% to 100% output rated voltage max . with full load.

Mechanical Specification

All Dimensions are in inches(mm)
Tolerance Inches: x.xxx= ±0.02
Millimeters: x.xx= ±0.5



CLD50D

50 WATT DUAL OUTPUT LED POWER SUPPLY

- AC Input Range 90 – 264VAC
- Constant Current Output
- Active PFC > 0.9
- Low Inrush Current < 5A
- Low Profile, Height of 24.5mm and Width of 36.1mm
- Low Ripple and Noise
- Short Circuit / Over Voltage Protection
- Fully Isolated Plastic Case
- Safety UL8750, IEC/EN61347-1, IEC/EN61347-2-13 and PSE Mark

MODEL	Input Voltage Range	Output Operating Voltage		Output Rated Current	Output Rated Power	Output Voltage Maximum	Ripple and Noise (max.) Note2	Efficiency (TYPICAL) Note3
CLD50D240-C100	90-264Vac	V1	8-24VDC	1000mA	24W	30VDC	300mVpp	85%
		V2	8-24VDC	1000mA	24W	30VDC	300mVpp	
CLD50D420-C060	90-264Vac	V1	18-42VDC	600mA	25.2W	48VDC	300mVpp	85%
		V2	18-42VDC	600mA	25.2W	48VDC	300mVpp	

NOTE :1.Nominal Input Voltage: 100Vac, 230Vac

2.Ripple and Noise are measured at rated current, 100Vac, Vo=36Vdc(CLD50D420), 21V(CLD50D240) and 20MHz bandwidth with a 0.1uF ceramic capacitor.

3.Measured at rated current, 100Vac, Vo=36Vdc(CLD50D420), 21Vdc(CLD50D240)

Specifications

INPUT SPECIFICATIONS:

AC Input Voltage ..... 90~264Vac
Frequency ..... 50 to 60Hz
Power Factor..... 100Vac/220Vac.....PF≧0.9 at 85%~100%Load
Inrush Current ..... 230Vac.....Cold start ..... 20A max.
After 400us <5A
Leakage Current ..... 3.5mA max.

OUTPUT SPECIFICATIONS:

Maximum Output Voltage....(note1)..... See Table.
Constant Current Accuracy..... ±5%max.
Current Line Regulation....(note 2)..... ±5%max.
Current Load Regulation....(note 3)..... ±5%max.
Over Voltage Protection..... Voltage Clamp by TVS
Short Circuit Protection..... Constant Current with Auto Recovery
Start up time .....100Vac.....1.6 second max.

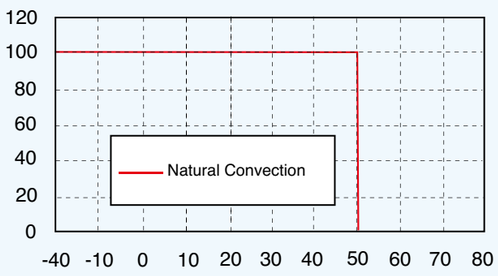
GENERAL SPECIFICATIONS:

Efficiency..... See Table
Temperature Coefficient..... ±0.03%/°C(0~50°C)
Isolation voltage, Input to output.....3.75KVac
Input to Ground..... 1.5KVac
Isolation resistance, Input to output..... $10^8\Omega$ min.
Operating Ambient Temperature ..... -20~50°C
Cooling..... natural convection
Storage Temperature..... -40~85°C
Operating Humidity..... 10%~80%RH non-condensing.
Operating Altitude..... Sea Level to 10000feet
Vibration.....0~500Hz, 2G 60min./1cycle, period for 3hours, 3 axes
Shock..... 30g peak, half sine, 6 axes
MTBF,MIL-HDBK-217F (25°C)..... 200Khrs. typ.

SAFETY AND EMISSIONS:

Safety meet..... UL8750, IEC/EN61347-1
IEC/EN61347-2-13
EMI..... EN55022/EN55015 Class B
EMS..... EN61547,EN61000-4-2,3,4,5,6,8,11
EN61000-3-2 Harmonic Class C,EN61000-3-3
Dimensions,..... 300x36.1x24.5 mm
Weight.....230g.
Case Material..... Aluminum

CLD50 Derating Curve



Ordering information

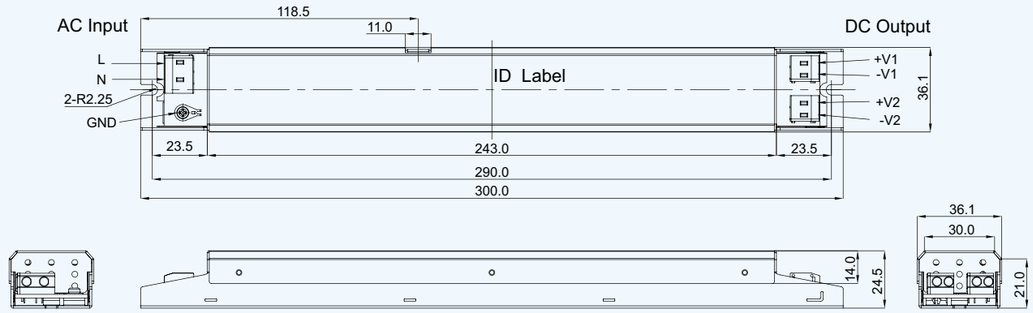
CLD50DXX -	X	XXX
Model No.	**Output Type**	**Output Current**
	C: Constant Current	100 : 1000mA
	D: DALI Dimming	060 : 600mA

NOTE:

1. Output voltage is measured at no load.
2. Current Line regulation is measured from High Line to Low Line.
3. Current Load regulation is measured from high to low operating voltage.

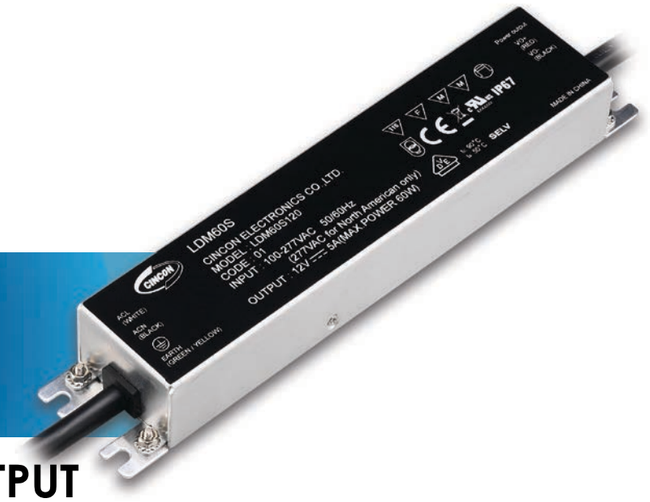
CASE Miniature

All Dimensions in mm
Tolerance Millimeters:x.x= ±0.5,x.xx= ±0.25



Input Connector: WAGO 235-502 2Pin or Equivalent
Output Connector: WAGO 235-402 2Pin or Equivalent

LDM60S



60 WATT SINGLE OUTPUT AC-DC LED DRIVER

IP67 DALI

- AC Input Range 90 – 305VAC
- Max Output Power 60W
- Active PFC Function
- Short Circuit / Over Voltage / Over Current / Over Temperature Protection
- Safety UL8750, IEC/EN61347-1, IEC/ EN61347-2-13 and VDE
- Dimming Input Range 1 - 100%
- IP 67
- Dimming Function: 1-10V / Resistance / PWM / DALI (Optional)

Ordering information

LDM60SXXX - XX

01: Constant Current Mode
No dimming
No adjustment for output voltage and output current

02: Constant Current Mode
No dimming
With adjustment for output voltage and output current

03: Constant Current Mode
Dimming: 1~10Vdc or PWM and Resistance
No adjustment for output voltage and output current

03A: Constant Current Mode
Dimming:1~10Vdc or PWM and Resistance
With adjustment for output voltage and output current

04: Constant Current Mode
Dimming: DALI
No adjustment for output voltage and output current

04A: Constant Current Mode
Dimming: DALI
With adjustment for output voltage and output current

MODEL	Output Voltage	Output Current Note.6	Ripple (mV p-p) Note.1	Voltage Accuracy Note.2	Line Regulation Note.3	Load Regulation Note.4	Constant Current Region.	Current Adj. Rang (Optional) Note.5	Voltage Adj. Rang (Optional) Note.5	%EFF. (Typ.) Note
LDM60S120	12V	5.00A	120mV	±1%	±1%	±2%	6.5V~12V	3A~5A	10.8V~13.2V	87%
LDM60S240	24V	2.50A	240mV	±1%	±1%	±2%	13V~24V	1.5A~2.5A	21.6V~26.4V	88%
LDM60S360	36V	1.67A	360mV	±1%	±1%	±2%	19V~36V	1.0A~1.67A	32.4V~39.6V	89%
LDM60S480	48V	1.25A	480mV	±1%	±1%	±2%	26V~48V	0.75A~1.25A	43.2V~52.8V	90%

Specifications

INPUT SPECIFICATIONS:
Voltage ..... 90~305Vac
Frequency ..... 47 to 63Hz
Inrush Current .....70A max. @240Vac, Cold Start @25˚C
Conducted EMI ..... CISPR/FCC Class B
Power Factor .....PF> = 0.9
Leakage Current..... 1mA max.

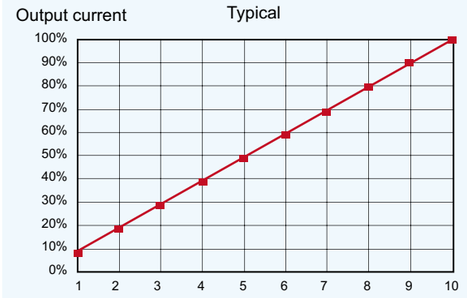
OUTPUT SPECIFICATIONS:
Holdup Time ..... 10ms typ. @115Vac
Short Circuit Protection .....Hiccup Mode (Auto Recover)
Temperature Coefficient ..... ±0.05% /˚C
Over Voltage Protection ..... TVS Component to Clamp
Over current Limit.....constant current mode
Altitude..... 2000 m
Startup time..... 2.5s typ.
Rise time..... 50ms typ.
MTBF..... MIL-HDBK-217F, GB, at 25˚C /115VAC 150K hrs typ.
Vibration..... 15~2000Hz 4G period for 60min,each along X Y Z axes

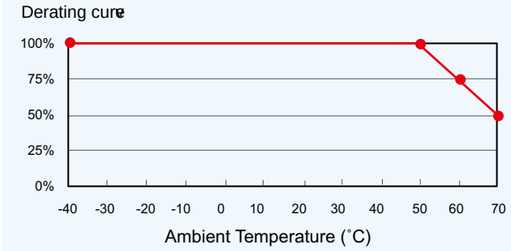
SAFETY AND EMC :
Emission and Immunity:.....EN55015 ,CISPR22
EN61547, ,EN61000-3-2, EN61000-3-3
Isolation Voltage..... I/P-O/P 3750VAC
Surge..... ±4KV
Safety: UL8750, CN61347-1, EN61347-2-13
Harmonic Current..... EN61000-3-2 Class C (>60% load)
Isolation Resistance..... 100MΩ min

GENERAL SPECIFICATIONS:
Operating Temperature .....-40~70˚C(see derating curve)
Storage Temperature ..... -40~85˚C
Cooling ..... Natural Convection

MECHANICAL CHARACTERISTICS:
Dimensions ..... 1.5748x8.149x1.1023 Inches (40x207x28mm)
Weight ..... 454g Typical

1~10V Dimming function for output current curve:

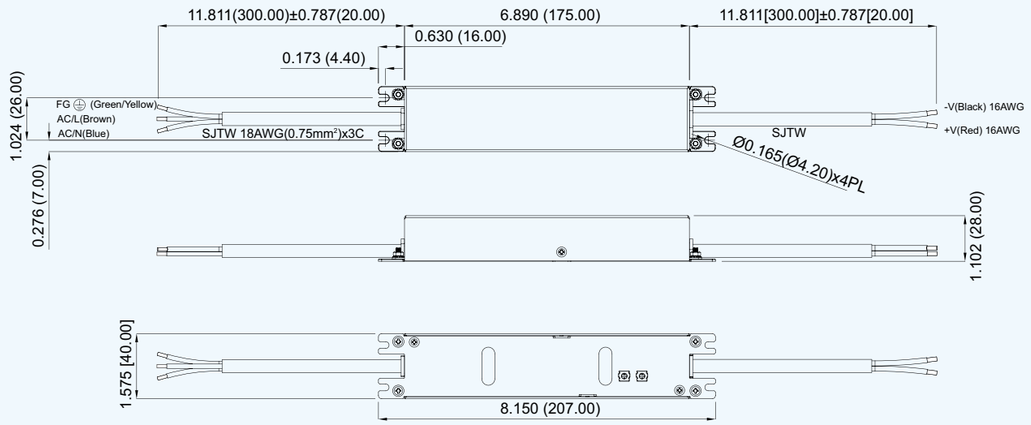




NOTE:
1. Add a 0.1uF ceramic capacitor and a 10uF E.L. capacitor to output for Ripple & Noise measuring @20MHz BW.
2. Voltage accuracy is set of 90% rated current.
3. Line regulation is measured from High Line to Low Line with 90%. Rated current.
4. Load regulation is measured from 90% to 10% Rated current.
5. Can be adjusted by internal potentiometer.
6. Output Constant Current Accuracy ±5%.
7. IP67 for model:LDM60SXXX-01, LDM60SXXX-03, LDM60SXXX-04
IP65 for model: LDM60SXXX-02 , LDM60SXXX-03A, LDM60SXXX-04A.
8. Efficiency is measured 95% rated power at Vin=230VAC.

Mechanical Specification

All Dimensions in inches(mm)
Tolerance Inches: x.xxx= ±0.02
Millimeters: x.xx= ±0.5



LDM100S

100 WATT SINGLE OUTPUT AC-DC LED DRIVER

- AC Input Range 90 – 305VAC
- Max Output Power 100W
- Active PFC Function
- Short Circuit / Over Voltage / Over Current / Over Temperature Protection
- Safety UL8750, IEC/EN61347-1, IEC/EN61347-2-13 and VDE
- Dimming Input Range 1 - 100%
- IP 67
- Dimming Function: 1-10V / Resistance / PWM / DALI (Optional)

Ordering information

LDM100SXXX - XX

01: Constant Current Mode
No dimming
No adjustment for output voltage and output current

02: Constant Current Mode
No dimming
With adjustment for output voltage and output current

03: Constant Current Mode
Dimming:1~10Vdc or PWM and Resistance
No adjustment for output voltage and output current

03A: Constant Current Mode
Dimming:1~10Vdc or PWM and Resistance
With adjustment for output voltage and output current

04: Constant Current Mode
Dimming: DALI
No adjustment for output voltage and output current

04A: Constant Current Mode
Dimming: DALI
With adjustment for output voltage and output current

MODEL	Output Voltage	Output Current(A) Note.6	Ripple (mV p-p) Note.1	Voltage Accuracy Note.2	Line Regulation Note.3	Load Regulation Note.4	Constant Current Region	Current Adj. Rang (Optional) Note.5	Voltage Adj. Rang (Optional) Note.5	%EFF (typ.) Note.8
LDM100S120	12V	8.34A	120mV	±1%	±1%	±2%	6.5V~12V	5.3A~8.34A	10.8V~13.2V	88%
LDM100S240	24V	4.17A	240mV	±1%	±1%	±2%	13V~24V	2.6A~4.17A	21.6V~26.4V	89%
LDM100S360	36V	2.78A	360mV	±1%	±1%	±2%	19V~36V	1.74A~2.78A	32.4V~39.6V	90%
LDM100S480	48V	2.08A	480mV	±1%	±1%	±2%	26V~48V	1.3A~2.08A	43.2V~52.8V	90%

Specifications

INPUT SPECIFICATIONS:
Voltage ..... 90~305Vac
Frequency ..... 47 to 63Hz
Inrush Current .....75A max. @240Vac, Cold Start @25˚C
Conducted EMI ..... CISPR/FCC Class B
Power Factor ..... PF> = 0.9
Leakage Current.....1mA max.

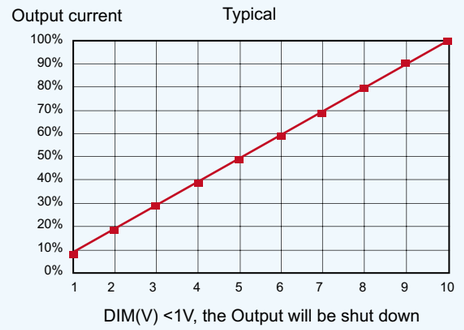
OUTPUT SPECIFICATIONS:
Holdup Time ..... 12ms typ. @115Vac
Short Circuit Protection .....Hiccup Mode (Auto Recover)
Temperature Coefficient ..... ±0.05% /˚C
Over Voltage Protection ..... TVS Component to Clamp
Over current Limit..... Constant Current mode
Altitude..... 2000 m
Startup time.....2.1s typ.
Rise time.....30ms typ.
Humidity ..... 95% RH max. Non condensing
MTBF..... MIL-HDBK-217F, GB, at 25˚C /115VAC…160K hrs typ.
Vibration..... 15~2000Hz 4G period for 60min,each along X Y Z axes

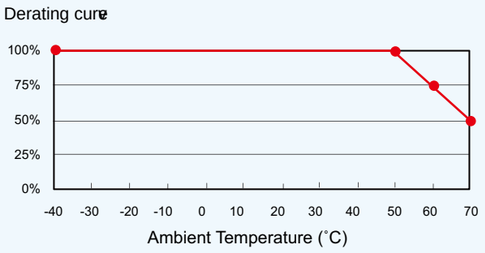
SAFETY AND EMC :
Emission and Immunity:.....EN55015 ,CISPR22
EN61547,EN61000-3-2, EN61000-3-3
Isolation Voltage.....I /P-O/P 3750VAC
Surge.....±4KV
Safety: UL8750, EN61347-1,EN61347-2-13
Harmonic Current..... EN61000-3-2 Class C (>60% load)
Isolation Resistance..... 100MΩ min

GENERAL SPECIFICATIONS:
Operating Temperature ..... -40~70˚C(see derating curve)
Storage Temperature ..... -40~85˚C
Cooling ..... Natural Convection

MECHANICAL CHARACTERISTICS:
Dimensions 1.5748x9.1338x1.1023nches (40x232x28mm)
Weight ..... 504g Typical

1~10V Dimming function for output current curve:

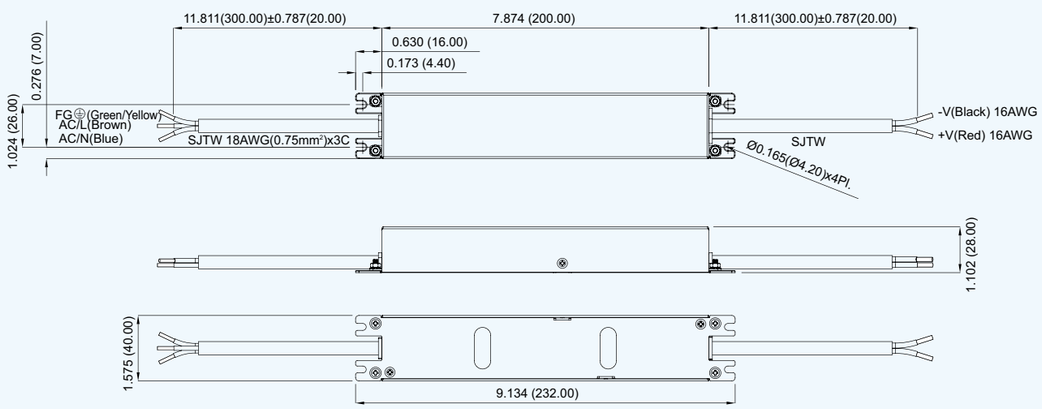




NOTE:
1. Add a 0.1uF ceramic capacitor and a 10uF E.L. capacitor to output for Ripple & Noise measuring @20MHz BW.
2. Voltage accuracy is set of 90% rated current.
3. Line regulation is measured from High Line to Low Line with 90% Rated current.
4. Load regulation is measured from 90% to 10% Rated current.
5. Can be adjusted by internal potentiometer.
6. Output Constant Current Accuracy ±5%.
7. IP67 for model:LDM100SXXX-01, LDM100SXXX-03, LDM100SXXX-04
IP65 formodel:LDM100SXXX-02,LDM100SXXX-03A,LDM100SXXX-04A.
8. Efficiency is measured 95% rated power at Vin=230VAC.

LDM100S Series

All Dimensions are in inches(mm)
Tolerance Inches: x.xxx= ±0.02
Millimeters: x.xx= ±0.5



Typical at 25˚C, nominal line and 75% load, unless otherwise Specified

Coming Soon

LDA100S 100W Single Output / 5 Years Warranty

IP67

- AC Input Range 90 – 305VAC
- Active PFC Function
- Short Circuit / Over Voltage / Over Current / Over Temperature Protection
- Safety UL8750, IEC/EN61347-1, IEC/ EN61347-2-13
- IP 67
- Dimming Function: 1-10V / Resistance / PWM / DALI (Optional)
- Dimming Input Range 1 - 100%

MODEL	OUTPUT VOLTAGE	RATED CURREN	RIPPLE & NOISE Note.1	VOLTAGE ACCURACY Note.2	LINE REGULATION Note.3	LOAD REGULATION Note.4	Constant Current Region	EFF. Note.5
LDA100S24	24V	4.16A	1%	±1%	±1%	±2%	18~24V	90%
LDA100S36	36V	2.77A	1%	±1%	±1%	±2%	27~36V	91%
LDA100S48	48V	2.08A	1%	±1%	±1%	±2%	36~48V	91%
LDA100S60	60V	1.66A	1%	±1%	±1%	±2%	48~60V	92%
LDA100S107	107V	0.93A	1%	±1%	±1%	±2%	75~107V	92%
LDA100S142	142V	0.70A	1%	±1%	±1%	±2%	107~142V	92%
LDA100S214	214V	0.47A	1%	±1%	±1%	±2%	150~214V	92%

LDA150S 150W Single Output / 5 Years Warranty

IP67

- AC Input Range 90 – 305VAC
- Active PFC Function
- Short Circuit / Over Voltage / Over Current / Over Temperature Protection
- Safety UL8750, IEC/EN61347-1, IEC/ EN61347-2-13
- IP 67
- Dimming Function: 1-10V / Resistance / PWM / DALI (Optional)
- Dimming Input Range 1 - 100%

MODEL	OUTPUT VOLTAGE	RATED CURREN	RIPPLE & NOISE Note.1	VOLTAGE ACCURACY Note.2	LINE REGULATION Note.3	LOAD REGULATION Note.4	Constant Current Region	EFF. Note.5
LDA150S240	24V	6.25A	1%	±1%	±1%	±2%	18~24V	90%
LDA150S480	48V	3.125A	1%	±1%	±1%	±2%	36~48V	91%
LDA150S107	107V	1.4A	1%	±1%	±1%	±2%	75~107V	91%
LDA150S142	142V	1.05A	1%	±1%	±1%	±2%	107~142V	92%
LDA150S214	214V	0.7A	1%	±1%	±1%	±2%	150~214V	92%

DIM01

DC/DC LED DRIVER WITH DALI INTERFACE MODULE

- For DALI systems
- Provides Two Sets of LED Lighting Synchronization Controls
- Adjustable Output Current
- Waterproof Design

DALI installation cable

Cable length	min. cable cross-section (AWG)
up to 100 m (325 ft)	0.5 mm² (#20)
100…150 m (325…492 ft)	0.75 mm² (#18)
150…300 m (492…984 ft)	1.5 mm² (#16)

MODEL	CN3,CN4	Vout1,Vout2 Output Rated Current
DIM01L	PIN1,PIN6 Short	1000mA
	PIN2,PIN5 Short	700mA
	PIN3,PIN4 Short	550mA
DIM01H	PIN1,PIN6 Short	700mA
	PIN2,PIN5 Short	550mA
	PIN3,PIN4 Short	350mA

MODEL	Input Voltage Range Note.1	Output Operating Voltage Note.1	Output Rated Current	Output Rated Power (max.)	Ripple and Noise(max.) Note.5	Efficiency (Typical) Note.6
DIM01L	12-30Vdc	Vout1=10-28Vdc Vout2=10-28Vdc	1000 or 700 or 550mA Note.7	28W	500mVpp	93%
DIM01H	12-60Vdc	Vout1=10-58Vdc Vout2=10-58Vdc	700 or 550 or 350mA Note.7	40.6W	500mVpp	95%
DIM01H100W	12-60Vdc	Vout1=10-58Vdc Vout2=10-58Vdc	1000mA	58W	500mVpp	95%
DIM01H070W	12-60Vdc	Vout1=10-58Vdc Vout2=10-58Vdc	700mA	40.6W	500mVpp	95%
DIM01H055W	12-60Vdc	Vout1=10-58Vdc Vout2=10-58Vdc	550mA	31.9W	500mVpp	95%
DIM01H035W	12-60Vdc	Vout1=10-58Vdc Vout2=10-58Vdc	350mA	20.3w	500mVpp	95%

Specifications are subject to change without notice.

Specifications

INPUT SPECIFICATIONS:

Input Voltage .....DIM01H.....12~60Vdc
DIM01L.....12~30Vdc
Input Surge Voltage(1second) ..... 65Vdc max.

OUTPUT SPECIFICATIONS:

Constant Current Accuracy(Note.2).....±5% max.
Current Line Regulation(Note.3).....±5% max.
Current Load Regulation(note.4).....±5% max.
Short Circuit Protection .....Auto Recovery
Start up time..... 10ms max.

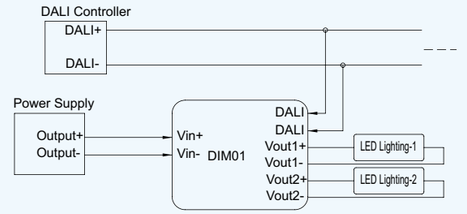
GENERAL SPECIFICATIONS:

Efficiency..... See Table
Isolation Voltage .....Non-isolation
Switching Frequency..... 270KHz typ.
Operating Ambient Temperature ..... -40˚C~85˚C(See Derating Curve)
Cooling..... Natural Convection
Storage Temperature ..... -55˚C to +105˚C
Humidity.....95% RH max. Non condensing
MTBF ..... .MIL-STD-217F, GB, 25˚C, Full Load ..... 400K hrs typ.
Dimensions .....3.31×1.89x0.70 inches (84.0x48.0×17.8 mm)
Weight .....DIM01HXXXW..... 100g
DIM01H&DIM01L.....60g
Case Material ..... Plastic Case

DALI Control:

Output Current..... 10%~100%

Installation Drawing

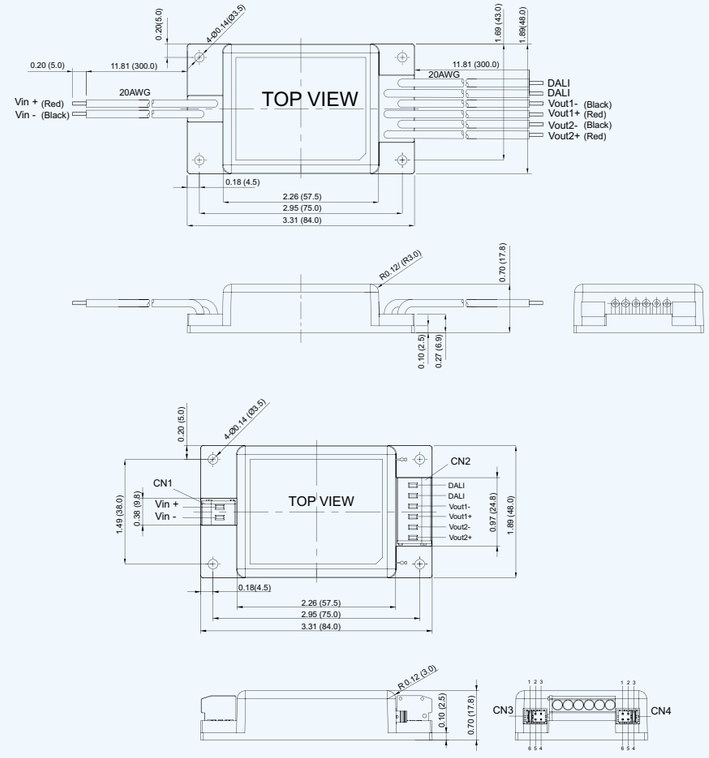


NOTE:

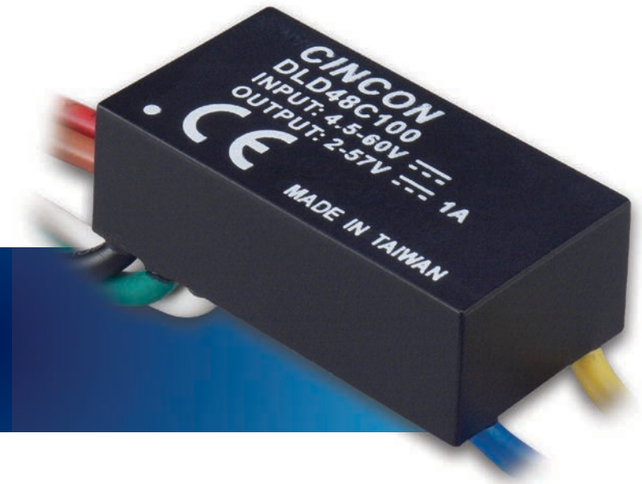
1. Nominal Input Voltage: 48Vdc(DIM01H),24Vdc(DIM01L)
   Nominal output Voltage: 36Vdc(DIM01H),12Vdc(DIM01L)
2. Vin-Vout<30Vdc,to keep current accuracy.
3. Current Line regulation is measured from high line and Low Line.
4. Current Load regulation is measured from high to low operating voltage.
5. Ripple and Noise are measured at rated current , Nominal Input and Nominal output And 20MHz bandwidth with a 0.1uF ceramic capacitor.
6. Measured at rated current , Nominal Input and Nominal output.
7. Ex. using a jumper to connect PIN1 and PIN6 of CN3, CN4 to set output ent. rated current to 1000mA for DIM01L. And using a jumper to connect PIN1 and PIN2 of CN5, CN4 to set output rated current to 500mA for DIM01H. Where the output rated current needn't to be the same for Vout1,Vout2.

Mechanical Specification

All Dimensions are in inches(mm)
Tolerance Inches: x.xx= ±Ø0.02, x.xxx= ±Ø0.010
Millimeters: x.xx= ±Ø0.5, x.xx= ±Ø0.25



Typical at 25˚C, nominal line and 75% load, unless otherwise Specified



DLD

57 WATT
BUCK LED DRIVER

CE

- Output Rated Current from 350 – 1400mA
- Constant Current Output
- DIP16 Package / Wire End
- IP 67
- Short Circuit Protection
- Dimming Function: PWM / Analogue

MODEL NUMBER	Input Voltage Range	Output Operating Voltage	Output Rated Current	Output Rated Power	Ripple and Noise (max.) Note2	Efficiency (TYPICAL) Note3
DLD-C035	4.5-60Vdc	2-57VDC	350mA	20W	300mVpp	96%
DLD-C070	4.5-60Vdc	2-57VDC	700mA	40W	500mVpp	96%
DLD-C100	4.5-60Vdc	2-57VDC	1000mA	57W	500mVpp	96%
DLD-C140	10-36Vdc	8-33VDC	1400mA	46.2W	500mVpp	96%

NOTE : 1. 3V< Vin - Vout <30Vdc, to keep current accuracy. Nominal Input Voltage: 48Vdc, 28Vdc (C140 models)
2. Ripple and Noise are measured at rated current, Nominal Input and 36Vdc or 24Vdc (C140 models) output and 20MHz bandwidth with a 0.1uF ceramic capacitor.
3. Measured at rated current, Nominal Input and 36Vdc or 24Vdc(C140 models) output

Specifications

INPUT SPECIFICATIONS:
Input Voltage .....1400mA/others.....10-36Vdc/4.5-60Vdc
Input Surge Voltage (1second).....1400mA/others..50Vdc/65Vdc max.
Input Filter..... Capacitor
Under Voltage Lockout.....Power up.....8.0Vdc/4.0Vdc typ.
Power down.....6.9Vac/3.7Vdc typ.

OUTPUT SPECIFICATIONS:
Constant Current Accuracy...(note1)..... ±5%max.
Current Line Regulation....(note 2)..... ±5%max.
Current Load Regulation....(note 3)..... ±5%max.
Short Circuit Protection.....Constant Current with Auto Recovery
Start up time ..... 60ms max.

GENERAL SPECIFICATIONS:
Efficiency..... See Table
Temperature Coefficient..... ±0.05%/°C
Isolation voltage.....Non-isolation
Switching Frequency.....1400mA/others..... 50-500KHz/300KHz typ.
Operating Ambient Temperature .....-40~85°C see Derating Curve
Case Temperature.....100°Cmax.
Cooling..... natural convection
Storage Temperature.....-55~125°C
Operating Humidity..... 10%~95%RH non-condensing.
Operating Altitude..... Sea Level to 3000m
Vibration..... 0~500Hz, 2G 60min./1cycle, period for 3hours, 3 axes
Shock.....30g peak, half sine, 6 axes
MTBF,MIL-HDBK-217F (25°C).....>1.6Mhrs
Dimensions,.....1.28x0.66x0.40 Inches(32.5x16.8x10.2mm)
Weight.....18g
Case Material.....Plastic Case

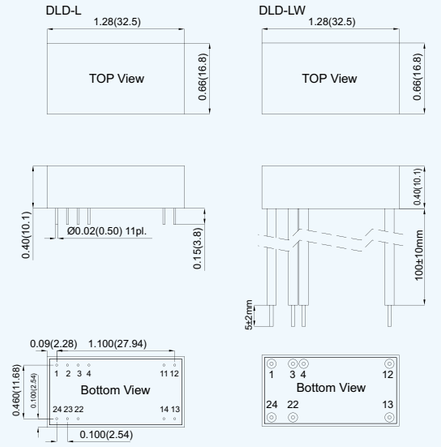
PWM DIMMING: (leave open if not used)
Input Voltage Range ..... TTL Logic Compatibility 5Vdc typ.
Threshold Voltage..... Module on >1.75Vdc, Module off <0.5Vdc
Switching Frequency..... 1KHz max.
Output Current Range..... 10% to 100%
Minimum On Time..... 100ns

ANALOGUE DIMMING: (leave open if not used)
Control Voltage Range.....1400mA/others.....1-5Vdc/1.25-5Vdc
Analogue Pin Drive Current..... 0.4mA max.

SAFETY AND EMISSIONS:
EMI..... EN55022/EN55015 Class B
EMS..... EN61547,EN61000-4-2,3,4,5,6

CASE Miniature

NOTE:Pin Size is 0.020"Inch (0.5mm) DIA±0.05
All Dimensions In Inches(mm)
Tolerance Inches:x.xx= ±0.02, x.xxx= ±0.010
Millimeters:x.x= ±0.5, x.xx=±0.25

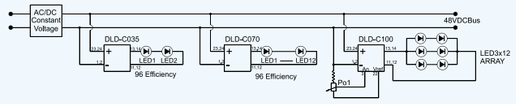


DLD Connections		
DLD-L	DLD-LW	Function
1&2	1(Black)	-V Input
3	3(White)	Analogue DIMming
4	4(Green)	PWM/ON/OFF
11&12	12(Blue)	-V Output
13&14	13(Yellow)	+V Output
22	22(Brown)	Vref / NP
23&24	24(Red)	+V Input

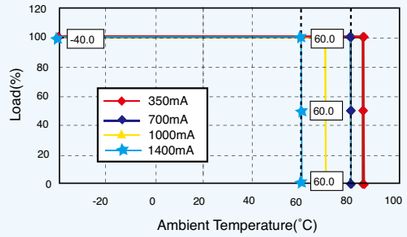
NP: No Pin for DLD-C140

NOTE:
1: 3V<Vin-Vout <30Vdc, to keep current accuracy.
2: Current Line regulation is measured from High Line to Low Line.
3: Current Load regulation is measured from high to low operating voltage.

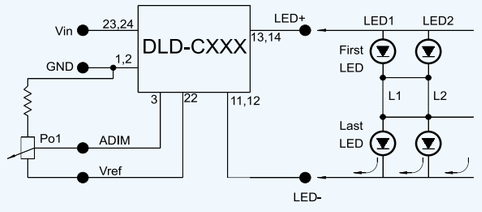
Lighting Application



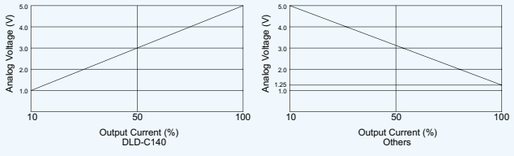
DLD Derating Curve



Lighting Wall Application



Dimming Controlled by Analog Voltage



ALD

57 WATT BUCK LED DRIVER with DALI

- For DALI Systems
- Constant Current Output
- Output Rated Current from 350mA – 1400mA
- DIP24 Package
- IP 67
- Short Circuit Protection

MODEL	Input Voltage Range	Output Operating Voltage	Output Rated Current	Output Rated Power	Ripple and Noise (max.) Note2	Efficiency (TYPICAL) Note3
ALD-C035	4.5-60Vdc	2-57VDC	350mA	20W	300mVpp	96%
ALD-C070	4.5-60Vdc	2-57VDC	700mA	40W	500mVpp	96%
ALD-C100	4.5-60Vdc	2-57VDC	1000mA	57W	500mVpp	96%
ALD-C140	10-36Vdc	8-33VDC	1400mA	46.2W	500mVpp	96%

NOTE : 1. 3V< Vin - Vout <30Vdc, to keep current accuracy. Nominal Input Voltage: 48Vdc, 28Vdc (C140 models)
2. Ripple and Noise are measured at rated current, Nominal Input and 36Vdc or 24Vdc (C140 models) output and 20MHz bandwidth with a 0.1uF ceramic capacitor.
3. Measured at rated current, Nominal Input and 36Vdc or 24Vdc(C140 models) output

Specifications

INPUT SPECIFICATIONS:
Input Voltage .....1400mA/others.....10-36VDC/4.5-60Vdc
Input Surge Voltage (1second)... 1400mA/others....50Vdc/65Vdc max.
Input Filter.....Capacitor
Under Voltage Lockout.....Power up.....8.0Vdc/4.0Vdc typ.
Power down.....6.9Vdc/3.7Vdc typ.

OUTPUT SPECIFICATIONS:
Constant Current Accuracy...(note1).....±5%max.
Current Line Regulation....(note 2).....±5%max.
Current Load Regulation....(note 3).....±5%max.
Short Circuit Protection.....Constant Current with Auto Recovery
Start up time .....60ms max.

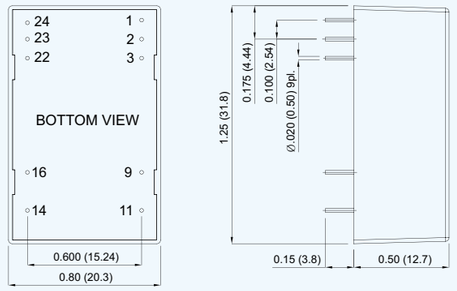
GENERAL SPECIFICATIONS:
Efficiency.....See Table
Temperature Coefficient.....±0.05%/˚C(0~50˚C)
Isolation voltage.....Non-isolation
Switching Frequency.....1400mA/others.....50-500KHz/300KHz typ.
Operating Ambient Temperature .....-40~85˚C see Derating Curve
Case Temperature.....100˚Cmax.
Cooling.....natural convection
Storage Temperature.....-55~125˚C
Operating Humidity.....10%~95%RH non-condensing.
Operating Altitude.....Sea Level to 3000m
Vibration.....0~500Hz, 2G 60min./1cycle, period for 3hours, 3 axes
Shock.....30g peak, half sine, 6 axes
MTBF,MIL-HDBK-217F (25˚C).....>1.6Mhrs
Dimensions,.....1.25x0.80x0.50 Inches(31.8x20.3x12.7 mm)
Weight.....18g
Case Material.....Plastic Case

DALI Control:
Output Current Range.....10%-100%

SAFETY AND EMISSIONS:
EMI.....EN55022/EN55015 Class B
EMS.....EN61547,EN61000-4-2,3,4,5,6

Mechanical Specification

All Dimensions in inches(mm)
Tolerance Inches: x.xx=±0.02 ,x.xxx=±0.010
Millimeters: x.x=±0.5 , x.xx=±0.25

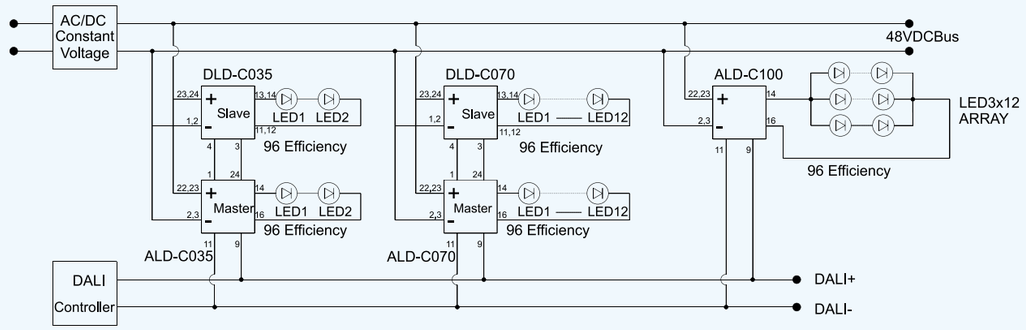


PIN CONNECTION

Pin	Function
1	PWM DIM
2,3	-V Input
9	DALI -
11	DALI +
14	+V Output
16	-V Output
22,23	+V Input
24	Analogue DIMming

NOTE:
1. 3V<Vin-Vout <30Vdc, to keep current accuracy.
2. Current Line regulation is measured from High Line to Low Line.
3. Current Load regulation is measured from high to low operating voltage.

DALL Lighting Application



MLD

MULTI-CHANNEL BUCK DC LED DRIVER with DALI

- For DALI Systems
- Input Range 10 – 36VDC & 4.5 – 60VDC
- Output Rated Current from 700mA – 1400mA
- Provides Multi-Channels of LED Lighting Synchronization Controls
- Dimming Function: PWM
- Optional Auxiliary Power

MODEL	Input Voltage Range	Output Operating Voltage	Output Rated Current	Output Rated Power/ Channel	Ripple and Noise (max.) Note2	Efficiency (TYPICAL) Note3
MLD4-C070	4.5-60Vdc	2-57VDC x4	700mA x4	40W	500mVpp	96%
MLD4-C100	4.5-60Vdc	2-57VDC x4	1000mA x4	57W	500mVpp	96%
MLD4-C140	10-36Vdc	8-33VDC x4	1400mA x4	46.2W	500mVpp	96%
MLD6-C070	4.5-60Vdc	2-57VDC x6	700mA x6	40W	500mVpp	96%
MLD6-C100	4.5-60Vdc	2-57VDC x6	1000mA x6	57W	500mVpp	96%
MLD6-C140	10-36Vdc	8-33VDC x6	1400mA x6	46.2W	500mVpp	96%

NOTE : 1. Nominal Input Voltage: 48Vdc, 28Vdc(C140 models)
2. Ripple and Noise are measured at rated current, Nominal Input and 36Vdc or 24Vdc (C140 models) output and 20MHz bandwidth with a 0.1uF ceramic capacitor.
3. Measured at rated current, Nominal Input and 36Vdc or 24Vdc(C140 models) output

Specifications

INPUT SPECIFICATIONS:
Input Voltage ..... see table
Input Surge Voltage (1second).....1.4A/Others.....50V/65Vdc max.
Input Filter..... Capacitor
Under Voltage Lockout...Power up.....1.4A/Others...8.0Vdc/4.0Vdc typ.
Power down .....1.4A/Others.....6.9Vdc/3.7Vdc typ.

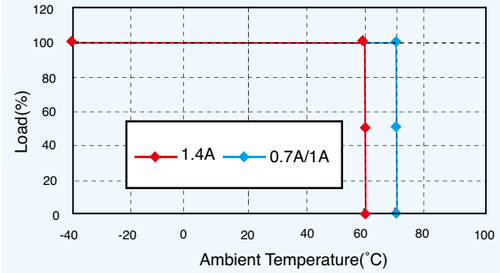
OUTPUT SPECIFICATIONS:
Constant Current Accuracy...(note1)..... ±5%max.
Current Line Regulation....(note 2)..... ±5%max.
Current Load Regulation....(note 3)..... ±5%max.
Auxiliary power(Vin>21Vdc).....18Vdc/300mA
Short Circuit Protection..... Constant Current with Auto Recovery
Start up time ..... 60ms max.

GENERAL SPECIFICATIONS:
Efficiency..... See Table
Temperature Coefficient..... ±0.05%/°C
Isolation voltage..... Non-isolation
Switching Frequency.....1.4A/Others..... 50-500KHz/300KHz typ.
Operating Ambient Temperature .....-40~71°C see De-rating Curve
Cooling..... natural convection
Storage Temperature..... -55~105°C
Operating Humidity..... 10%~95%RH non-condensing.
Operating Altitude.....Sea Level to 3000m
Vibration..... 0~500Hz, 2G 60min./1cycle, period for 3hours, 3 axes
Shock..... 30g peak, half sine, 6 axes
MTBF,MIL-HDBK-217F (25°C)..... TBD
Dimensions,.....5.05x2.30x0.80 Inches(128.3x58.4x20.3 mm)
Weight.....MLD4/MLD6.....145/160g
Case Material..... Aluminum Case

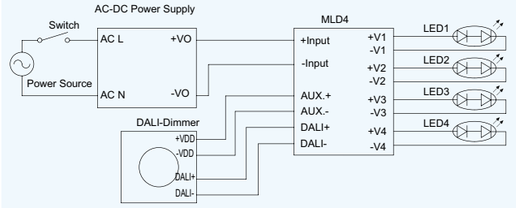
DALI Control:
Output Current Range..... 10%-100%

SAFETY AND EMISSIONS:
EMI meet..... EN55015 Class B
EMS meet..... EN61547,EN61000-4-2,3,4,6,8

MLD4/6 Derating Curve



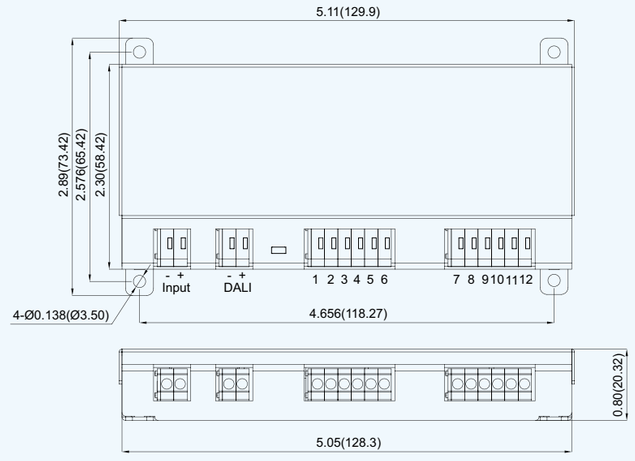
Example Circuit Connection of MLD4 module for driving 4 LED Luminaries



NOTE:
1. 3V < Vin-Vout < 30Vdc. to keep current accuracy.
2. Current Line regulation is measured from High Line to Low Line.
3. Current Load regulation is measured from high to low operating voltage.
4. Suffix "A" to the model number with Aux. power for MLD4 only.

Mechanical Specification

All Dimensions are in inches(mm)
Tolerance Inches: x.xx= ±0.02, x.xxx=±0.010
Millimeters: x.x= ±0.5, x.xx=±0.25



PIN CONNECTION

Pin	MLD4-CXXX	MLD4-CXXXA	MLD6-CXXX
1	V_{1-}	V_{1-}	V_{1-}
2	V_{1+}	V_{1+}	V_{1+}
3	V_{2-}	V_{2-}	V_{2-}
4	V_{2+}	V_{2+}	V_{2+}
5	NC	NC	V_{3-}
6	NC	NC	V_{3+}
7	NC	AUX,-	V_{4-}
8	NC	AUX,+	V_{4+}
9	V_{3-}	V_{3-}	V_{5-}
10	V_{3+}	V_{3+}	V_{5+}
11	V_{4-}	V_{4-}	V_{6-}
12	V_{4+}	V_{4+}	V_{6+}

DRD-S1-A

Digital Rotary Dimmer

- For DALI systems
- On/ Off switchable function
- Green LED locator light
- Designed as master controller or slave controller
- DRD-S1 serves as master controller and power supply for 2 slave controllers
- Automatic synchronization makes it possible to change the control location without disturbing effects (Brightness /ONOFF)
- Capable of individually addressing (1 - 64 addresses) or Broadcast mode

DRD-S1-A Operation

- On/Off – Press
- Brightness decrease – Left Rotate
- Brightness increase – Right Rotate

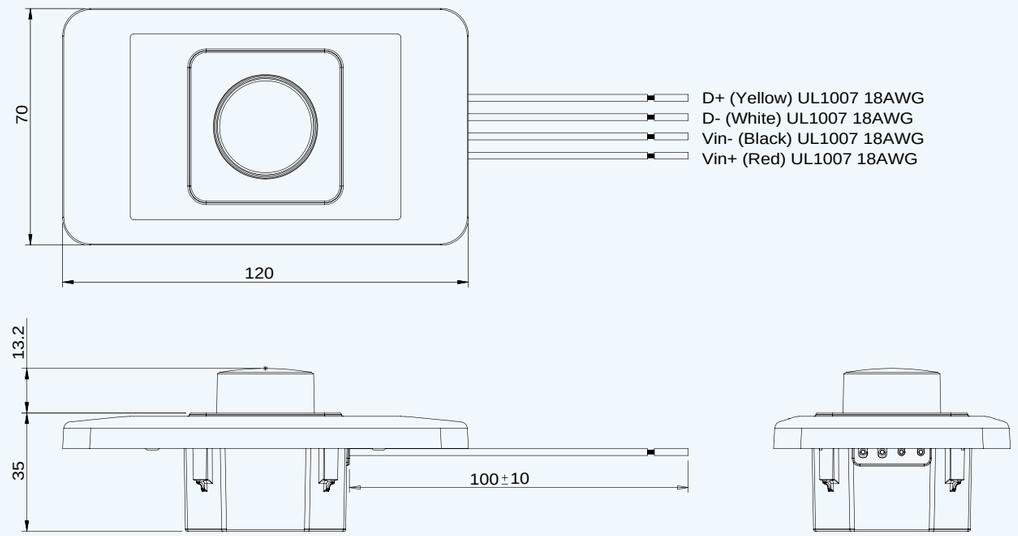
Specifications

- Input Voltage: 18-20Vdc
- Power Consumption: 3W
- Output Current: 150mA max.
- Maximum length of signal line: 300m
- Master(1) DRD-S1*1 Max connection: 45 Ballast or LED Device
- Master DRD-S1*2 Max connection: 90 Ballast or LED Device
- Master DRD-S1*1 Max connection: 2 Slave(2) DRD-S1
- Master DRD-S1*2 Max connection: 4 Slave DRD-S1
- Over Current Protection and Short Circuit Protection
- Operating Temperature: 0~50˚C

Note:
(1) The Master operation can deliver the required control current itself when connected to the DC Power Supply.
(2) The Slave operation can be supplied directly from the DALI control line.

MECHANICAL DRAWING

All Dimensions are in inches(mm)
Tolerance Millimeters: x.xx=±0.5



DRD-S1-E

Digital Rotary Dimmer

- For DALI systems
- On/ Off switchable function
- Green LED locator light
- Designed as master controller or slave controller
- DRD-S1 serves as master controller and power supply for 2 slave controllers
- Automatic synchronization makes it possible to change the control location without disturbing effects (Brightness /ONOFF)
- Capable of individually addressing (1 - 64 addresses) or Broadcast mode

DRD-S1-E Operation

- On/Off – Press
- Brightness decrease – Left Rotate
- Brightness increase – Right Rotate

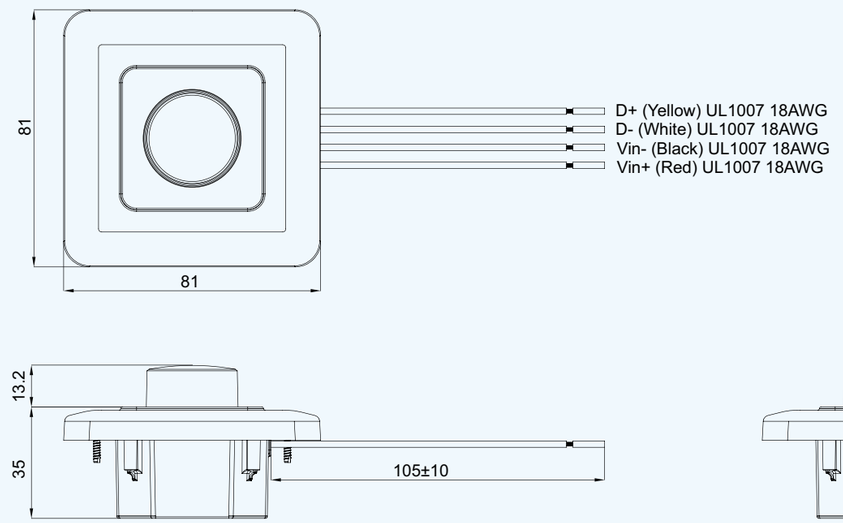
Specifications

- Input Voltage: 18-20Vdc
- Power Consumption: 3W
- Output Current: 150mA max.
- Maximum length of signal line: 300m
- Master(1) DRD-S1*1 Max connection: 45 Ballast or LED Device
- Master DRD-S1*2 Max connection: 90 Ballast or LED Device
- Master DRD-S1*1 Max connection: 2 Slave(2) DRD-S1
- Master DRD-S1*2 Max connection: 4 Slave DRD-S1
- Over Current Protection and Short Circuit Protection
- Operating Temperature: 0~50˚C

Note:
(1) The Master operation can deliver the required control current itself when connected to the DC Power Supply.
(2) The Slave operation can be supplied directly from the DALI control line.

MECHANICAL DRAWING

All Dimensions are in inches(mm)
Tolerance Millimeters: x.xx=±0.5

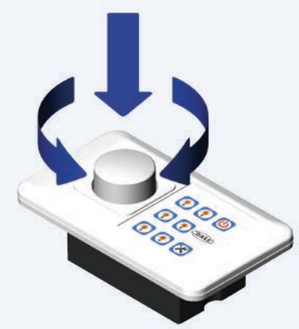


DRD-M1-A

Multiple Dimmer

- For DALI systems
- On/Off switchable function
- Green LED locator light
- DRD-M1serves as master controller and power supply for 2 DRD-S1 slave controllers
- Automatic synchronization makes it possible to change the control location without disturbing effects (Brightness /ONOFF)
- 1 - 6 Individual DALI addresses can be addressed and controlled independently
- Recall and store up to 6 lighting scenes
- Readdressing of individual DALI addresses possible

DRD-M1-A Operation



- Unitary On/Off – Press
- Brightness decrease – Left Rotate
- Brightness increase – Right Rotate
- Group1~Group6
- Power On/Off
- Function Set

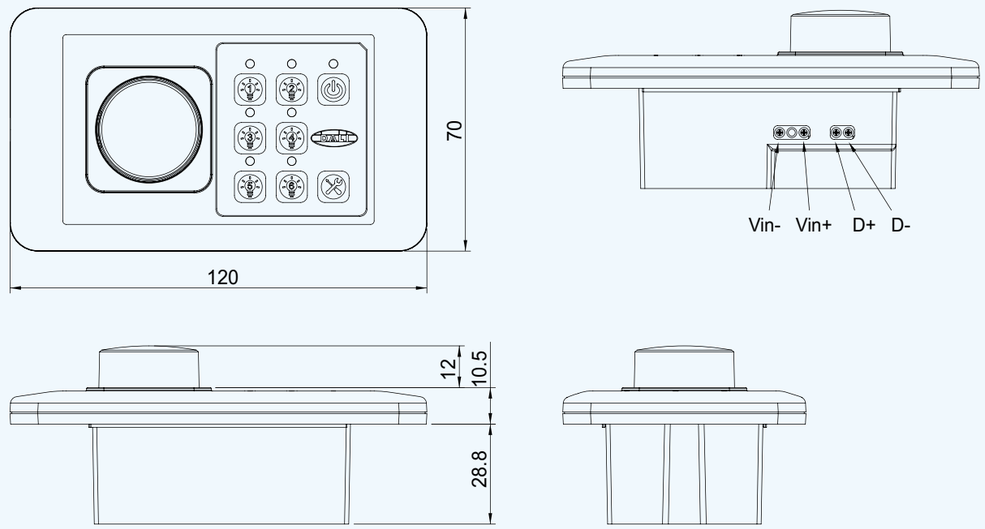
Specifications

- Input Voltage: 18-20Vdc
- Power Consumption: 5W
- Output Current: 150mA max.
- Maximum length of signal line: 300m
- Master(1) DRD-M1-A*1 Max connection: 45 Ballast or LED Device
- Master DRD-M1-A*2 Max connection: 90 Ballast or LED Device
- Master DRD-M1-A*1 Max connection 2 Slave(2) DRD-S1
- Master DRD-M1-A*2 Max connection: 4 Slave DRD-S1
- Over Current Protection and Short Circuit Protection
- Operating Temperature: 0~50˚C

Note:
(1) The Master operation can deliver the required control current itself when connected to the DC Power Supply.
(2) The Slave operation can be supplied directly from the DALI control line.

MECHANICAL DRAWING

All Dimensions are in mm
Tolerance Millimeters: x.xx=±0.5



DRD-M1-E

Multiple Dimmer

- For DALI systems
- On/Off switchable function
- DRD-M1serves as master controller and power supply for 2 DRD-S1 slave controllers
- Automatic synchronization makes it possible to change the contro location without disturbing effects (Brightness /ONOFF)
- 1 - 4 Individual DALI addresses can be addressed and controlled independently
- Recall and store up to 4 lighting scenes
- Readdressing of individual DALI addresses possible

DRD-M1-E Operation

- Up / Brightness increase
- Unitary On/Off
- Down / Brightness decrease
- Group1~Group4
- Power On/Off
- Function Set

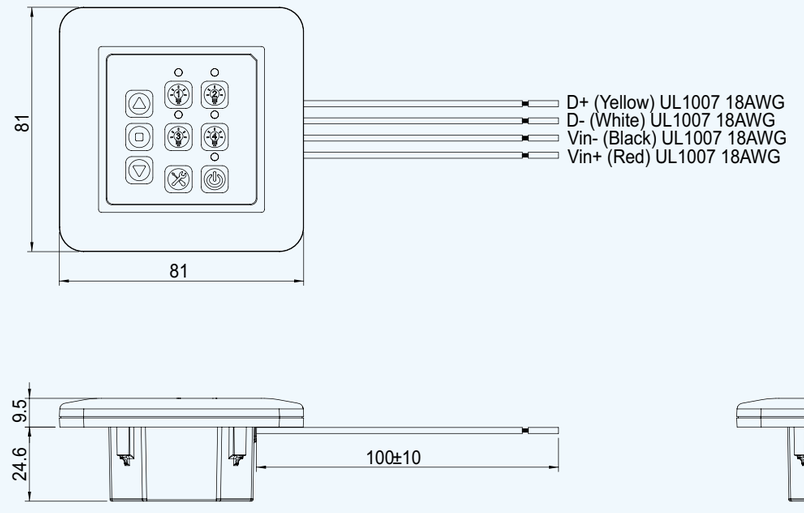
Specifications

- Input Voltage: 18-20Vdc
- Power Consumption: 5W
- Output Current: 150mA max.
- Maximum length of signal line:
  300m Master(1) DRD-M1-E*1 Max connection:
  45 Ballast or LED Device
- Master DRD-M1-E*2 Max connection:
  90 Ballast or LED Device
- Master DRD-M1-E*1 Max connection:
  2 Slave(2) DRD-S1
- Master DRD-M1-E*2 Max connection:
  4 Slave DRD-S1
- Over Current Protection and Short Circuit Protection
- Operating Temperature: 0~50˚C

Note:
(1) The Master operation can deliver the required control current itself when connected to the DC Power Supply.
(2) The Slave operation can be supplied directly from the DALI control line.

MECHANICAL DRAWING

All Dimensions in mm
Tolerance Millimeters: x.xx= ±0.5



DTP-A

Touch panel DALI controller

CE DALI

- For DALI systems
- On/Off switchable function
- DTP-A serves as master controller and power supply for 2 DRD-S1 slave controllers
- Automatic synchronization makes it possible to change the control location without disturbing effects (Brightness /ONOFF)
- 1-6 Individual DALI addresses can be addressed and controlled independently
- Recall and store up to 4 lighting scenes
- Readdressing of individual DALI addresses possible
- 2.8" LCD display

Specifications

- Input Voltage: 18~20Vdc
- Power Consumption: 5W
- Output Current: 150mA max.
- Maximum length of signal line: 300m
- Master(1) DTP-A Max connection: 45 Ballast or LED Device
- Master DTP-A Max connection: 2 Slave(2) DRD-S1
- Over Current Protection and Short Circuit Protection
- Operating Temperature: 0~50˚C

Note:

(1) The Master operation can deliver the required control current itself when connected to the DC Power Supply.

(2) The Slave operation can be supplied directly from the DALI control line.

www.cincon.com

CINCON ELECTRONICS CO., LTD.

Headquarter Office :

14F, No. 306, Sec.4, Hsin Yi Rd.,

Taipei, Taiwan

Tel: 886-2-27086210

Fax: 886-2-27029852

E-mail: sales@cincon.com.tw

Cincon America Office :

1655 Mesa Verde Ave. Ste 180

Ventura, CA 93003

USA

Tel: 805-639-3350

Fax: 805-639-4101

E-mail: info@cincon.com