# Constant Current Dimmable Driver

- The housing is made from V0 flame retardant PC materials from COVESTRO.
- Small size and light weight. Wide range of applicable lamps.
- Class 1 LED driver, Safety Extra Low Voltage (SELV).
- Innovative thermal management technology intelligently protects the life of the LED driver.
- Overheat, overload, short circuit protection and automatic recovery.
- Up to 50,000-hour life time.
- 5-year warranty (AiSHi capacitor).

The certification icon represents on-going certification applications only, and final certification qualification is subject to actual products.
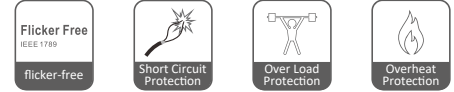
Model		Output Current	Input Current	Input Power	Output Power Range	PF	Typical Efficiency	Output Voltage	No load Voltage
S-280-C35W150-700 DALI NFC		150-700mA	≤0.24A	39.4W	3.00-35.00W	≥0.95	89%	20-50Vdc	60Vdc

* Test result @230V, 50Hz, Full Load

Parameters

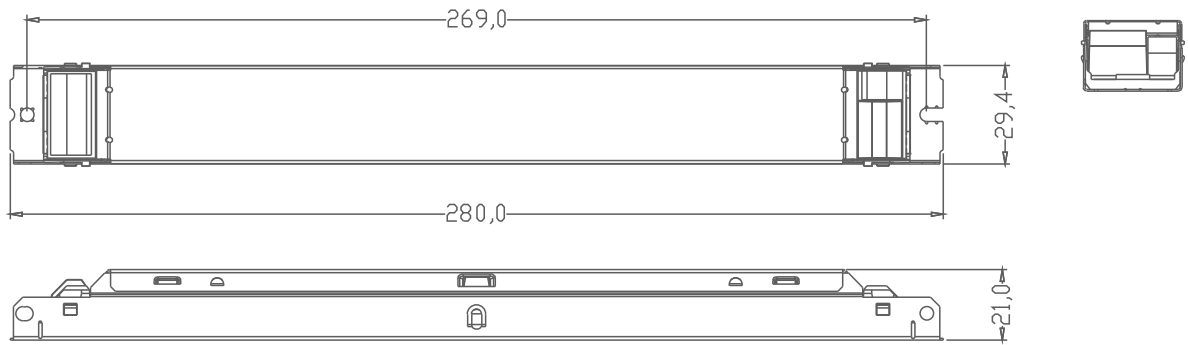| Category	Item	Technical Norm
Features	Output Type	Constant Current
	Dimming Type	DALI 2/ Touch DIM
	Output current setting	Near field communication (NFC)
	Output Features	Isolation
	IP Grade	IP20
	Insulation Class	Class I
Input	Rated Input Voltage	220-240VAC
	Range of Input Voltage	198-264VAC
	Range of DC Input Voltage	180-280VDC
	Frequency	0/50/60Hz, Range:0/47-63Hz
	Overvoltage protection	2h@380VAC, 48h@320VAC
	Input Current	≤0.24A max
	Input Power	≤39.4W max
	Power Factor	≥0.95 （230VAC, full load)
	THD	≤7% (230VAC，full load)
	Standby Power Consumption	≤0.45W @230VAC (DALI system DIM to off)
	Inrush Current	≤15A/25us (230VAC，full load)
	Connected quantity of 10A Breaker Connected quantity of 13A Breaker Connected quantity of 16A Breaker Connected quantity of 20A Breaker	13pcs/type A; 20pcs/type B; 33pcs/type C @ 230Vac 16pcs/type A; 27pcs/type B; 43pcs/type C @ 230Vac 20pcs/type A; 33pcs/type B; 53pcs/type C @ 230Vac 26pcs/type A; 41pcs/type B; 66pcs/type C @ 230Vac
	Output Voltage	20-50VDC@150-700mA
	No Load Voltage (Uout)	60VDC Max.
	Output Current	150mA-700mA ((by NFC setting ,Factory set current of 150mA)

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Output	Max. Output Power	35W
	Efficiency	≥89%　　　　(230VAC，full load@max current)
	Output LF current ripple (< 120 Hz)	±3%　　　　(Imax-Imin) / (Imax+Imin)
	Current Accuracy	±5%
	PstLM	≤1
	SVM	≤0.4
	Starting Time (AC mode)	≤0.8S　　　　(230VAC，full load,by DALI system)
	Starting Time（DC mode）	≤0.4S
	Switching over time（AC/DC）	≤0.4S
Control Method	Secondary PUSH dimming	Secondary PUSH dimming (Max. lead wire length:20m,same port of DALI）
	DALI function	DALI dimming (Max. lead wire length:300m）logarithm or linear dimming curve selectable
	Dimming range	DALI dimming: 1%-100%
	PUSH-button	Max parallel connections qty for Push-dim 15
	NFC current setting	The output current can be set within the total value range in 1-mA-steps. Output current is mean value. Setting is by SGN's software APP/APK/PC with FEIG equipment or mobile phone.
Protection	Short Circuit Protection	Auto Recovery
	Overload Protection	Auto Recovery (not be hot swap)
	No-load Protection	Auto Recovery
	Insulation voltage	3000V 5mA 60S between P-S, 1500V 5mA 60S between P-E
	Insulation resistance	>100M ohm @ 500VDC L/N to PE
	Leakage current	< 700μA, I/P to O/P or I/P to PE @230V input
Environment	Ta/Operation Temperature	-25….+50℃
	Ts/Storage Temperature	-25….+80℃
	Tc/Enclosure Temperature	80℃
	Humidity	10%....90%RH
	Atmosphere pressure	86-108KPa
Construction	Connection Method	Push-in Terminal
	Installation	Built-in
	Dimension	280*29.4*21mm (L*W*H)
	SEC Wire preparation	0.5-1.5□ / 8-9mm
	PRI Wire preparation	0.5-1.5□ / 8-9mm
	DALI Wire preparation	0.5-1.5□ / 8-9mm
Standards	Certification	CE/ENEC/RCM/UKCA/CB
	Safety Standards	EN61347-1:2015/A1:2021; EN61347-2-13:2014/A1:2017; EN62384:2006/A1:2009; AS 61347.2.13:2018; AS/NZS61347.1:2016; BS EN61347-1:2015/A1:2021; BS EN61347-2-13:2014/A1:2017; IEC 61347-2-13:2014; IEC 61347-1:2015
	EMC Standards	AS/NZS CISPR 15:2011；AS CISPR 15:2017 ;
	DALI performance	EN 62386-101 (DALI-2),EN 62386-102 (DALI-2) EN 62386-207 (DALI-2, including part 251, 252, 253)
	Performance	EN 62384
	Surge	L/N-PE:2kV；L-N:1kV
Others	RoHs	2011/65/EU
	Life Time	50000h　　　　Tc=80℃
		75000h　　　　Tc=75℃
		100000h　　　　Tc=70℃
	Warranty	5years，F.R. < 10000ppm

Remark:

1.All Parameters, if not specified, are measured at 230VAC/50Hz and 25℃ ambient temperature.

2.LED Driver is a component of the luminaires, Luminaires and wire layout will affect the EMC, please check the EMC with end products again.

3.During the PUSH DIM test,the number of parallel connections must be less than 15PCS.

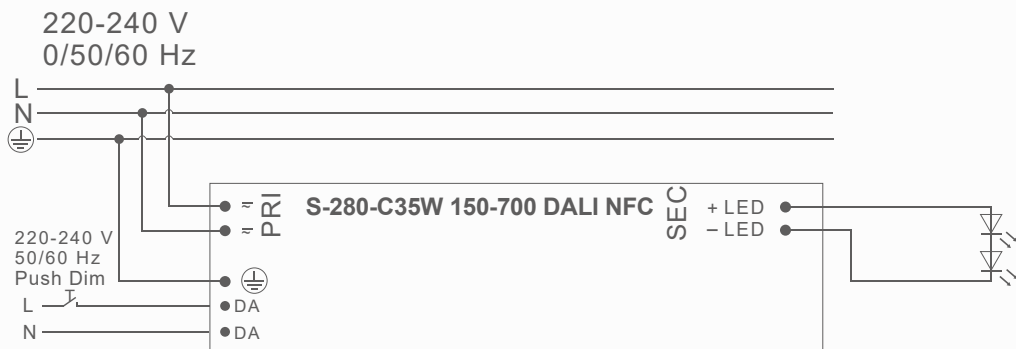| Distance	15m	30m	50m
Cable selection	0.5mm²	0.75mm²	1.0mm²

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Label
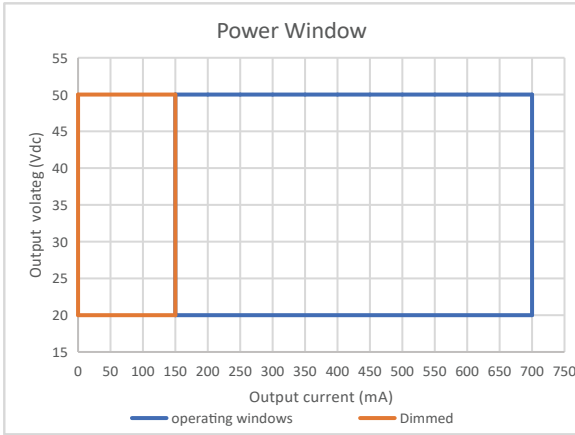
Dimension

Wiring Diagram

Circuit diagram
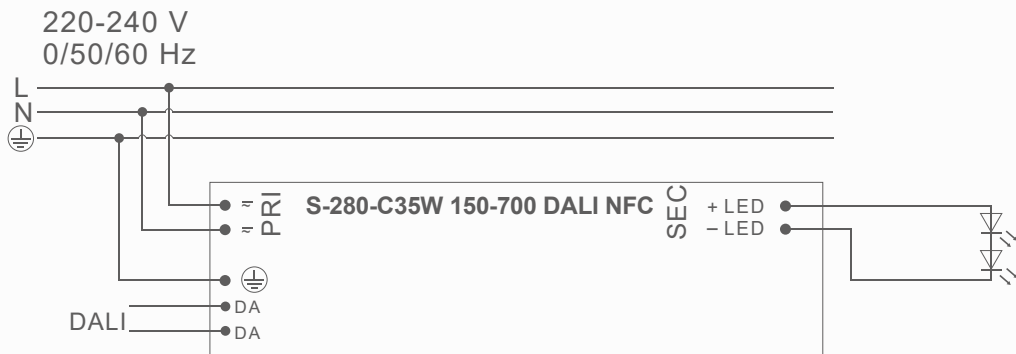
Push Dimming

Electrical values

1. Operating power windows

Power Window

Output volateg (Vdc) vs Output current (mA)

operating windows — Dimmed

2. Effciency v.s. Load

Efficiency v.s Loading %

Efficiecny% vs Output Power[w]

700 — 400 — 150

3. PF v.s. Load

PF v.s. Loading%

PF vs Output Power[w]

700 — 400 — 150

4.THD v.s. Load

THD v.s. max Load %

THD % vs Output Power[w]

5.Life time

Life Time

Life Time (h) vs TC(℃)

6.Derating

LOAD (100%) vs TA(℃)

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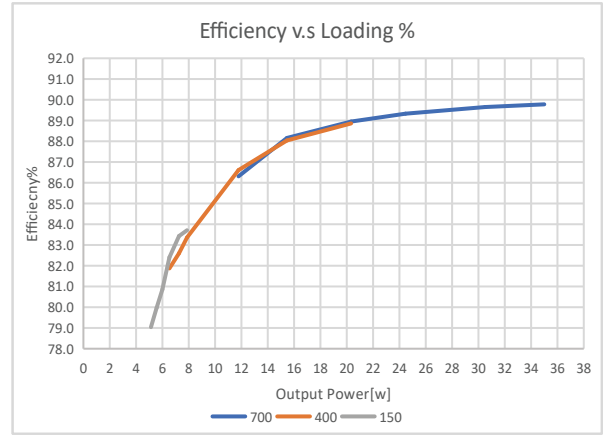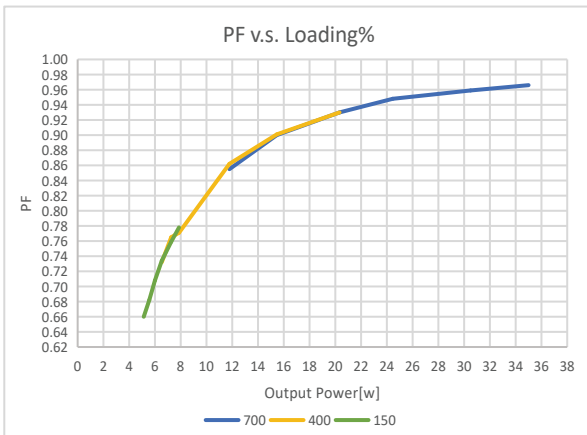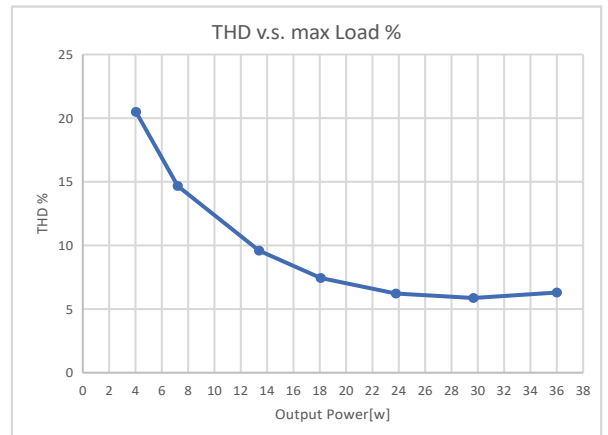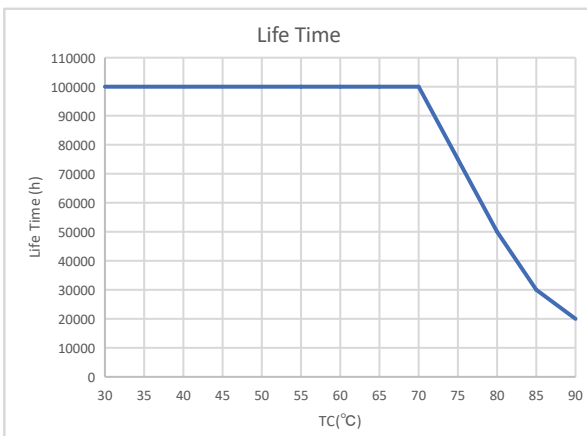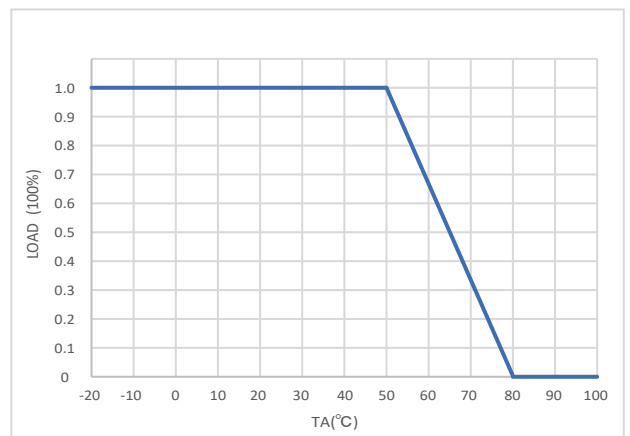
DALI dimming curve

formula for DALI dimming.

$X(n)=10^{[(n-1)/(253/3)]-1}$,

Here, n means the target dimming stage of the total 254 stages.

X(n) means the percent of the maximum output current

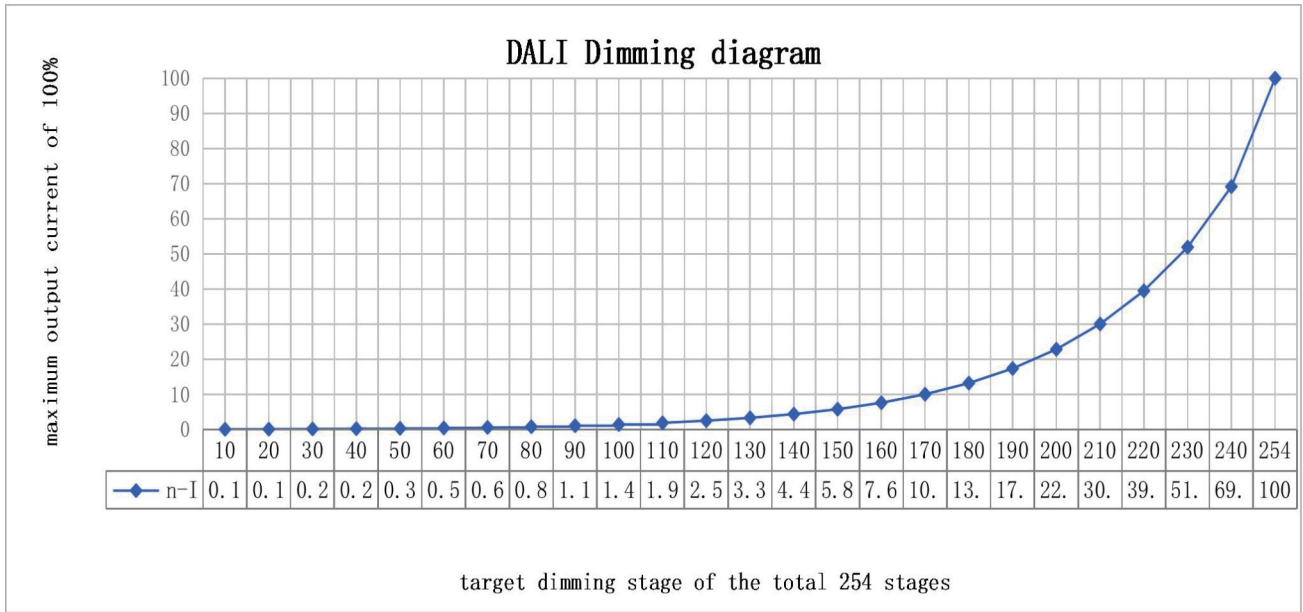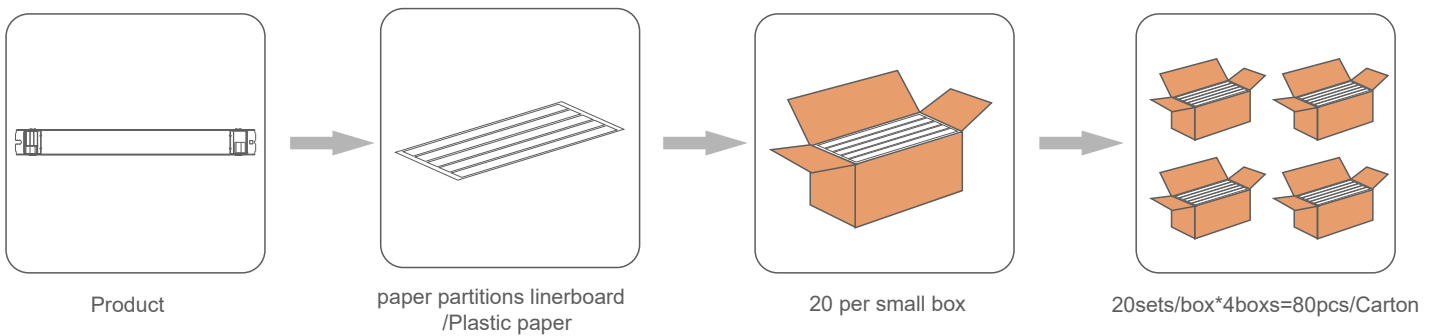| n-I	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	210	220	230	240	254
	0.1	0.1	0.2	0.2	0.3	0.5	0.6	0.8	1.1	1.4	1.9	2.5	3.3	4.4	5.8	7.6	10.	13.	17.	22.	30.	39.	51.	69.	100

Packing information

| Product | paper partitions linerboard /Plastic paper | 20 per small box | 20sets/box*4boxs=80pcs/Carton |

Model	Carton L*W*H(mm)	Pcs/-Carton	Net weight/ Pcs(kg)	Net weight/ Carton(kg)	Cross weight/-Carton(kg)
S-280-C35W150-700 DALI NFC	325*303*240	80	0.164	13.12	14.08

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NFC current setting

NFC Reader (optional)

Feature:
Easily on-line read a output current from a driver or write a new current data to a driver throughout SGN NFC reader within few seconds.
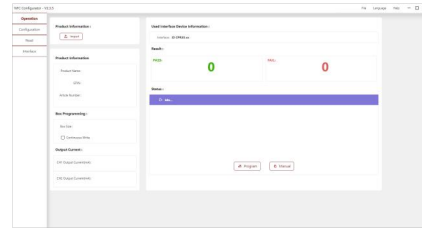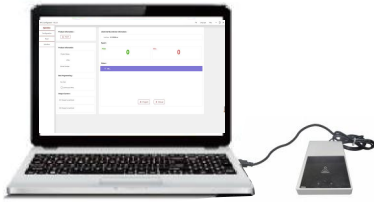
Product	Description	Interface	Matching antenna	Zhaga approval	Usage
ID CPR30+	Desktop programmer	USB	Integrated	Yes	Single Programming on Desktop
ID ISC.PRH101-USB	Handheld programmer	USB	Integrated	Yes	Single Programming by Handheld
ID ISC.MR102-USB	Middle range programmer，for connecting external antenna	USB	RF-MANT12786	Yes	Single Programming on Product line
ID ISC.LR1002-E	Long range programmer，for connecting external antenna	USB,RS232,TCP/IP	ID ISC.ANT310/310	Yes	Multi Programming System

APP NFC

Feature:
Quickly check output current of a LED driver simply via iPhone smart phone, as well as, correct or setup a new current data immediately with no extra equipment at any job site.

ICON	Main	Download method

1.Scan the QR code to download

iPhone smartphones with NFC can be down-

loaded and used directly

An iPhone smartphone without NFC requires the following devices to use it

Product	Description	Interface	Matching antenna	Zhaga approval	Usage
ID ECCO Smart HF-BLE	Handheld wireless programmer	USB,Bluetooth LE V4.2 & V5.0	Integrated	Yes	Handheld programming, installation and maintenance work

Push Dim :

1.On / off:

Short push (120ms-600ms) on the switch,Stepless dimming: long push (> 0.6sec) on the switch.

2.Power-on memory function

When the LED driver is powered on, it will restore the memory before the LED driver is poweredoff.

(brightness remembers the brightness after the last dimming is stable, and the bright ness during dimming is not memorized)

3.Light on/off

If the light is on, the light will be off after a short press. If the light is off, the light will be on after a short press.

The time range of short press is 120-600mS.

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4.PUSH Dimming

Press and hold the push switch for a long time, the light will enter the dimming state, if theprevious time is dimming,

it will automatically turn to dimming the next time.After releasing the reset button, the dimming stops and the current

illuminance is maintained. The dimming range is 1%-100%. The default is to dim when the power is first long-press. If the

brightness of the power-onis the maximum brightness, the first long-press is to dim. (Long press 0.6-3S to start dimming.)

5.Forced synchronization

Long press for 10 seconds to turn on all the lights and turn on the same brightness (50%), and continue to quickly short press

will not change. After a short period of time without short press operation, the module exits the synchronization mode, and

the short press restores the switch function.

6.PUSH Dimming rate

Long press the push switch 10S to switch the dimming rate to 3S, Long press the push switch 20S to switch the dimming rate to

6S.

REVISION HISTORY

Date	Revision	Remark

SGN-V0.01