SORAA

Electrical compatibility – Constant Current MR16 & Light Engines

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BASIC GUIDELINES

Summary
This document provides the basic guidelines regards electrical compatibility / integration of Constant Current MR16 & Optical Light Engines (OLEs).
The Optical Light Engines are not end products, they are components and it is the responsibility of the fixture manufacturers to make sure they work inside the design limits of the product. Please refer to the specification sheets for both CC MR16 and OLEs. For the OLEs, there is published an Application guide document as well.

Drivers:
Both SORAA Constant Current MR16 lamps and Light Engines are made to work with constant current drivers. The driver shall be able to provide the specified maximum current over the entire voltage range of 20 to 35VDC. This voltage requirement is the same for all Soraa Optical Light Engines and Constant Current MR16 lamps. The lower end of the voltage range is related to operation at low current amplitude, for example under current amplitude dimming. Light output can be varied by either Pulse Width Modulation (PWM), or amplitude variation. For uniform light output across the light beam, current amplitude of at least 20mA is recommended.

Soraa recommends using one LED driver (or one driver channel in the case of a multi-channel driver) per light engine/CC MR16. Parallel configuration of OLE/CC MR16 can result in unpredictable light output and series configuration results in an increase of overall system voltage potentially beyond the design limits of the product.

Every CC driver with able to give a forward voltage range of 20 to 35VDC, and the right driving current, is considered compatible. On pages 4-9 we list all the CC drivers with adjustable current we were able to find and fulfill the needs of our CC products. Their suitability will depend on the specific needs of the project and the product used.

Specific notes on drivers for Constant Current MR16 lamps
- CC MR16 are not sensitive to polarity
- They are rated 300mA, but if the lamp's Tc exceeds the maximum temperature stated on the specs when installed in a certain fixture, the driving current should be set lower.

Specific notes on drivers for Optical Light Engines
- Soraa Optical Light Engines are not designed to be driven in reverse voltage. Please see the application guide and specsheet for OLEs for more details on how to identify the polarity.
- Depending on the light engine type and the fixture design, the required current setting can be different.
- It is the responsibility of the fixture manufacturer to make sure the OLE works at a safe temperature when integrated in the fixture. See the spec sheet and the application guide for more details.
- Several market available driver types have the capability to include the NTC as an input to the driver and provide thermal feedback. This can be used to ensure that the Optical Light Engine cannot exceed set temperature limits.

BASIC GUIDELINES

Dimming
Depending on the LED driver type, good dimming compatibility can be achieved with various dimming methods, both phase cut based and 0-10V or DALI based.
The type of dimmer/control needed will depend on the driver used.

Dimmer compatibility tables are on pages 10-12.
Along the top of the dimmer compatibility tables you will see the different dimmers/ control methods that we have tested, and along the left side of the chart you will see the different drivers we tested.
The percentages for each driver/dimmer combination are the percentage of light output that we were able to dim down to without seeing any problems like flicker/shimmer. Anything 30% or above is considered not compatible and you will see a "NC" in a grey cell. There might be a minimum wattage load on the dimmer. If this minimum load is not met, there might be compatibility issues.

Maximum number of lamps on a dimmer/driver
The following need to be considered when determining the amount of lamps on a dimmer/driver.
1. SORAA tests have been carried out with 1 lamp/OLE unless stated otherwise.
2. SORAA recommends using one LED driver (or one driver channel in the case of a multi-channel driver) per light engine/CC MR16. Parallel configuration of OLE/CC MR16 can result in unpredictable light output and series configuration results in an increase of overall system voltage potentially beyond the design limits of the product.
3. Ultimately the dimmer manufacturer is the only one with authority to rate their product, but SORAA can give an Engineering estimate.

Distance between driver and lamp/OLE
Usually CC drivers can be installed remotely from the lamp/OLE. The maximum allowable distance between driver and lamp/OLE can depend on different factors, like driving current, wire gauge, PWM frequency (if used), and more. Usually the maximum length of the wires between driver and load is provided by the driver manufacturer on the product literature.

Disclaimer
Compatibility tests are conducted by Soraa only as guidance for the user. All tests are conducted under bench conditions; results may differ from test results depending on conditions at the application site. Results may vary due to variability in component choices and manufacturing processes by the dimmer/driver manufacturer.. For more information on the dimmers/drivers, please find specs on the companies website.

SORAA Constant Current Lamp and Light Engine Driver COMPATIBILITY LIST

The following drivers meet the on-paper specifications required to be compatible with Soraa light engines and light cups; not all have been tested by Soraa
Some of these drivers are also suitable to provide the driving current needed by Soraa's constant current lamp, as indicated in the column "Suitable for Soraa CC lamp?

Mfg	Model	Wattage	Output Voltage	Input Voltage	Output Current (mA)	Suitable for Soraa CC lamp?	Dimming Method	Country	no. of channels	NTC input	Pass NC=Not Compatible Not Tested
Arditi	800578 (*)	25W	5-36V	230	350, 500, 700mA	NO	Casambi (BlueTooth)	EU	1	NO	Tested by manufacturer (Pass)
eldoLED	DUALdrive 560/M/S/A	50W	2-55V	120-277	200-1050mA (settable with PC)	YES	DALI	World	2, independent from each other	Yes, 47kΩ. Settable throttling with PC	Pass
eldoLED	DUALdrive 1060/M/S/A	100W (60W per channel)	2-57V	120-277	200-1050mA (settable with PC)	YES	DALI	World	4, divided in 2 independent groups	Yes, 47kΩ. Settable throttling with PC	Not Tested
eldoLED	ECOdrive / SOLOdrive 360/A/B/S	30W	2-55V	120-277	A: 150-1,050mA (PC settable) /B, /S: 150-1,400mA (PC settable)	YES	DALI	World	1	Yes, 47kΩ. Settable throttling with PC	Pass
eldoLED	ECOdrive / SOLOdrive 260/B/S	20W	2-55V	120-277	150-1,400mA (PC settable)	YES	DALI	World	1	Yes, 47kΩ. Settable throttling with PC	Not Tested
eldoLED	ECOdrive / SOLOdrive 261/B/S	20W	2-55V	120-277	150-1,400mA (PC settable)	YES	0/1-10V, potentiometer	World	1	Yes, 47kΩ. Settable throttling with PC	Not Tested
eldoLED	ECOdrive / SOLOdrive 361/B/S/A	30W	2-55V	120-277	A: 150-1,050mA (PC settable) /B, /S: 150-1,400mA (PC settable)	YES	0/1-10V, potentiometer	World	1	Yes, 47kΩ. Settable throttling with PC	Pass
eldoLED	ECOdrive / SOLOdrive 560/M/S/A	50W	2-55V	120-277	200-1,050mA (settable with PC)	YES	DALI	World	2, controlled together	Yes, 47kΩ. Settable throttling with PC	Pass
eldoLED	ECOdrive / SOLOdrive 561/M/S/A	50W	2-55V	120-277	200-1,050mA (settable with PC)	YES	0/1-10V, potentiometer	World	2, controlled together	Yes, 47kΩ. Settable throttling with PC	Pass
eldoLED	SOLOdrive 1060/M/S/A	100W (60W per channel)	2-57V	120-277	200-1,050mA (settable with PC)	YES	DALI	World	4, controlled all together	Yes, 47kΩ. Settable throttling with PC	Not Tested
eldoLED	SOLOdrive 1061/M/S/A	100W (60W per channel)	2-57V	120-277	200-1,050mA (settable with PC)	YES	0/1-10V, potentiometer	World	4, controlled all together	Yes, 47kΩ. Settable throttling with PC	Not Tested
eldoLED	POWERdrive 561/562/M/S/A	50W	2-55V	120-277	200-1,050mA (settable with PC)	YES	DMX	World	3/4 independent from each other	Yes, 47kΩ. Settable throttling with PC	Not Tested
Euchips	EUP15T-1HMC-0	15W	15-42V	40-240	280, 350	YES	Phase Cut	EU/Asia	1	NO	Not Tested
Fulham	T1A1UNV105P-60F	60W	10-57V	120V-277V	250-1,050mA (settable with PC or resistors)	YES	DALI	World	1	NO	Not Tested
Fulham	T1A1UNV105P-40E	40W	10-57V	120V-277V	250-1,050mA (settable with PC or resistors)	YES	DALI	World	1	Yes, programmable	Not Tested
Harvard	CoolLED CL270A-240-C	15W	58V	220-240	270	YES	0-10V/PWM	EU/Asia	1	NO	Pass
Harvard	CoolLED CL270D-240-C	13W	48V	220-240	270	YES	DALI	EU/Asia	1	NO	Pass
Harvard	CoolLED CLK10-300P-240-C	11W	16-38V	220-240	300	YES	Phase Cut	EU/Asia	1	NO	Pass
Harvard	CLi15-2050D-38V-240-B (*)	15W	16-38V	220/240	programmable with PC	YES	DALI	EU/Asia	1	NO	Pass
Hatch	XTC16-0350P-UNV-I	16W		120-277	350	NO	Phase Cut	USA	1	NO	Pass
Hatch	I-LOC XRC16-0350Z-UNV-I	16W	46V	120-277	175-350mA (settable with resistors)	YES	0-10V	USA	1	NO	Not Tested
Hatch	I-LOC XRC32-0700Z-UNV-I	32W	46V	120-277	350-700mA (settable with resistors)	NO	0-10V	USA	1	NO	Pass

SORAA Constant Current Lamp and Light Engine Driver COMPATIBILITY LIST

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Mfg	Model	Wattage	Output Voltage	Input Voltage	Output Current (mA)	Suitable for Soraa CC lamp?	Dimming Method	Country	no. of channels	NTC input	Pass NC=Not Compatible Not Tested
Helvar	LL35/2-E-DA-iC	35W per channel	100V	198-264	350-700mA (settable with resistor)	NO	DALI	World	2, independent	Yes, SLE @ 68°C -> dims to 30%	Not Tested
Helvar	LL2x35-E-DA	35W per channel	50V	198-264	350-700mA (settable with resistor)	NO	DALI	World	2, independent	Yes, SLE @ 68°C -> dims to 30%	Not Tested
Helvar	LL1x40-E-DA-350-700	40W	20-57V	198-264	350-700mA (settable with resistor)	NO	DALI	World	1	Yes, SLE @ 68°C -> dims to 30%	Not Tested
Helvar	LC1x30-E-DA	30W	10-43V	198-264	350,500,700mA selecteable	NO	DALI	World	1	Yes, SLE @ 68°C -> dims to 30%	Not Tested
Helvar	LC1x30-E-AN	30W	10-43V	198-264	350,500,700mA selecteable	NO	1-10V	World	1	Yes, SLE @ 68°C -> dims to 30%	Not Tested
Helvar	LC50-U-DX3	50W	10-55V	90-305	350-1050mA (programmable via PC)	NO	DMX	World	3, independent	Yes, SLE @ 68°C -> dims to 30%	Not Tested
HUEUC	PV-3CC-60 LED	60W		100-240	350	NO	0-10V/PWM	World	3	NO	Pass
Hytronik	HED2020	20W	68V	220-240	350,500,700,900mA (DIP switches)	NO	DALI, pulse switch	EU/Asia	1	NO	Not Tested
Hytronik	HE2030-A	30W	68V	220-240	250,350,400,450,500,550,600,700mA (DIP switches)	YES	1-10V, pulse switch	EU/Asia	1	NO	Not Tested
Hytronik	HE2050-A2	2x50W	36V	220-240	250,350,400,450,500,550,600,700mA (DIP switches)	YES	1-10V, pulse switch	EU/Asia	2	NO	Not Tested
Hytronik	HE2015-A	15W	60V	220-240	350/500/550mA (DIP switches)	NO	1-10V, pulse switch	EU/Asia	1	NO	Not Tested
Hytronik	HE5020-A	20W	52V	220-240	250/350/400/450/500/ 550/600/700mA	YES	1-10V, pulse switch	EU/Asia	1	NO	Not Tested
Hytronik	HE1025-1	25W	68V	220-240	250/350/400/450/500/ 550/600/700mA	YES	Phase Cut	EU/Asia	1	NO	Not Tested
IDP Power Technology Ltd	MP-AD-018W-0A35-A-FD-20	18W	25-50V	220-240	150/200/250/300/350mA (DIP switches)	YES	Phase Cut	EU/Asia	1	NO	Pass
IDP Power Technology Ltd	MP-AD-028W-0A70-A-FD-20	28W	20-40V	220-240	350/400/500/600/700mA (DIP switches)	NO	Phase Cut	EU/Asia	1	NO	Pass
Inventronics	LUD-060S110BSF	60W	16 -78V	90-305	7.7-1100mA, programmable via software	YES	DALI	World	1	Yes, fully programmable via software	Not Tested
Inventronics	LUD-060S110DSF	60W	17 -78V	90-305	7.7-1100mA, programmable via software	YES	0-10V (can be PWM)	World	1	Yes, fully programmable via software	Not Tested
ISTL (iDrive)	IDD2014410350	14W	18-41V	220-240	programmable via DALI, max 350mA	YES	DALI	World	1	NO	Not Tested
ISTL (iDrive)	IDD2021410500	21W	18-41V	220-240	programmable via DALI, max 500mA	YES	DALI	World	1	NO	Not Tested
ISTL (iDrive)	IDD2029410700	29W	18-41V	220-240	programmable via DALI, max 700mA	YES	DALI	World	1	NO	Not Tested
ISTL (iDrive)	IDD2017400420	17W	18-40V	220-240	programmable via DALI, max 420mA	YES	DALI	World	1	NO	Not Tested
ISTL (iDrive)	IDD2032400800	32W	18-40V	220-240	programmable via DALI, max 800mA	YES	DALI	World	1	NO	Not Tested

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Mfg	Model	Wattage	Output Voltage	Input Voltage	Output Current (mA)	Suitable for Soraa CC lamp?	Dimming Method	Country	no. of channels	NTC input	Pass NC=Not Compatible Not Tested
ISTL (iDrive)	IDD2041411000	41W	18-41V	220-240	programmable via DALI, max 1A	YES	DALI	World	1	NO	Not Tested
ISTL (iDrive)	Quad 120	4x48W	1-48V	220-240	programmable via software, 0.1 - 1A	YES	DMX	World	4, independent	Yes, only 1, fully programmable	Not Tested
ISTL (iDrive)	Force 12	12x48W	1-48V	220-240	programmable via software, 0.1 - 1A	YES	DALI, DMX,DSI, RDM, Art-Net 3, KiNET & sACN	World	12, independent	NO	Not Tested
ISTL (iDrive)	White Knight 36	36x48W	1-48V	100-240	programmable via software, 0 - 1A	YES	DALI, DMX,DSI, RDM, Art-Net 3, KiNET & sACN	World	36, independent	NO	Not Tested
Lumotech	L05021-40250	12W	40V	220-240	200mA or 250mA	YES	Phase Cut	EU/Asia	1	NO	Not Tested
Lumotech	L05021-40300	12W	40V	220-240	180mA or 300mA	YES	Phase Cut	EU/Asia	1	NO	Not Tested
Lumotech	L05011i2	20W	48V	180-240	150mA-1200mA, 14 options in total (DIP switches)	YES	1-10V, potentiometer 100k log b, pulse switch	EU/Asia	1	NO	Not Tested
Lumotech	L05011i3	20W	48V	180-240	200mA-1200mA in 20mA steps (DIP switches)	YES	1-10V, potentiometer 100k log b	EU/Asia	1	NO	Not Tested
Lumotech	L05011i4	20W	48V	180-240	200mA-1200mA in 20mA steps (DIP switches)	YES	pulse switch	EU/Asia	1	NO	Not Tested
Lumotech	L05025	30W	43V	180-240	100mA-1000mA in 50mA steps (resistors)	YES	DALI	EU/Asia	1	NO	Not Tested
Lumotech	L05021-40300	12W	6-42V	220-240	300	YES	Phase Cut	EU/Asia	1	NO	Pass
Lutron	L DE A2E1C PA – HA()()()	25W	10-40V	220-240	200mA - 620mA, in 10mA steps	YES	EcoSystem	EU/Asia	1	NO	Not Tested
Lutron	LDE11U1UMN-LA()()()	10W	20-40V	120-277	150-320mA	YES	EcoSystem	USA	1	NO	Not Tested
Lutron	LDE11U1UMN-MA()()()	14W	20-40V	120-277	250-500mA	YES	EcoSystem	USA	1	NO	Not Tested
Lutron	LTEA4U1UKx-HA024 LTEA4U1UKx-HA037 LTEA4U1UKx-HA058 LTEA4U1UKx-HA029 LTEA4U1UKx-HA044	40W	15-38V	120V	240mA 370mA 580mA 290mA 440mA	YES NO NO YES NO	Hi-lume 1% 2 Wire Forward Phase Control (LTE)	USA	1	NO	Not Tested
Lutron	L3DA4U1UKx-HA024 L3DA4U1UKx-HA037 L3DA4U1UKx-HA058 L3DA4U1UKx-HA029 L3DA4U1UKx-HA044	40W	15-38V	120V	240mA 370mA 580mA 290mA 440mA	YES NO NO YES NO	Hi-lume 1% EcoSystem & 3 Wire Phase Control (L3D)	USA	1	NO	Not Tested
Meanwell	LCM-25DA	25W	6-36V	180-277	350,500,600,700mA (DIP switches)	NO	DALI	World	1	NO	Not Tested

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Mfg	Model	Wattage	Output Voltage	Input Voltage	Output Current (mA)	Suitable for Soraa CC lamp?	Dimming Method	Country	no. of channels	NTC input	Pass NC=Not Compatible Not Tested
Meanwell	LCM-25	25W	7-36V	180-277	350,500,600,700mA (DIP switches)	NO	0-10V	World	1	NO	Not Tested
Meanwell	LCM-40	42W	2-40V	180-295	350,500,600,700,900, 1050mA (DIP switches)	NO	0-10V	World	1	Yes, trigger at 40kΩ, not useful for SLE	Not Tested
Meanwell	LCM-40DA	42W	3-40V	180-295	350,500,600,700,900, 1050mA (DIP switches)	NO	DALI	World	1	Yes, trigger at 40kΩ, not useful for SLE	Not Tested
Meanwell	LCM-60	60W	1-57V	180-295	350,500,600,700,900, 1050mA (DIP switches)	NO	0-10V	World	1	Yes, trigger at 40kΩ, not useful for SLE	Not Tested
Meanwell	LCM-60DA	60W	2-57V	180-295	350,500,600,700,900, 1050mA (DIP switches)	NO	DALI	World	1	Yes, trigger at 40kΩ, not useful for SLE	Not Tested
MODE	LD-0300-48-MT-230-RD		48V	230	300	YES	Phase Cut	EU/Asia	1	NO	Pass
Multiload	LEDrose LDR100	37W	3-50V	15V DC	100mA to 750mA	YES	0-10V (DALI interface available)	World	1	NO	Pass
Osram	OTi DALI 15/220-240/1A0 LT2	18W	7.5-54V	220-240	150 – 1050 mA, via LEDset or software	YES	DALI	World	1	NO	Not Tested
Osram	OTi DALI 25/220-240/700 LT2	27W	12-54V	220-240	180 – 700 mA, via LEDset or software	YES	DALI	World	1	NO	Not Tested
Quanzhou Smarts Electronics and Technology	0-10V SMT-050-0700CD	50W		100-265	700	NO	01-10V/PWM	World	1	NO	Pass
Quanzhou Smarts Electronics and Technology	DALI SMT-050-0700CM	50W		100-265	700	NO	DALI	World	1	NO	Pass
Quanzhou Smarts Electronics and Technology	TRIAC SMT-045-0700CT	45W		90-135	700	NO	Phase Cut	NA	1	NO	Pass
RAL (Ricardo Architectural)	ES010-C030-0E	10.2W	5-36V	100-242	300	YES	PWM	JAPAN	1	NO	Pass
TCI	UNIVERSALE 20 LC	20W	55V	198-264	100,140,180,220,260, 300,340,380mA (DIP switches)	YES	NO	World	1	NO	Not Tested
TCI	DC MINIJOLLY DALI 20	20W	10-51V	100-240	250 to 550mA in 50mA steps (DIP switches)	YES	DALI	World	1	Yes (no details available)	Not Tested
TCI	DC JOLLY DALI (cod.123424)	14W	55V	110-127 220-240	250 to 700mA in 50mA steps (DIP switches)	YES	DALI	World	1	Yes (no details available)	Pass
TCI	TCI DC JOLLY MD LC (cod. 122262)	7.2-24W	59V	220-240	150 to 500mA in 50mA steps (DIP switches)	YES	Mains	EU & Asia	1	NO	Pass
TCI	MP 32 HV K2	32W	46V	220-240	350-700mA in 50mA steps (DIP switch)	NO	NO	World	1	NO	Not Tested
TCI	Smart 50	48V, 50W	48V	220-240	350-1050mA in 50mA steps (DIP switch)	NO	NO	World	1	Yes (no details available)	Not Tested
TCI	DC Wolf MP	46V, 32W	46V	220-240	350,500,550,700mA (DIP switch)	NO	NO	World	1	NO	Not Tested
TCI	MP 15 (122360)	15W	41.5V	90-264	60,80,100,120,140,160,180,200,220, 240,260,280,300,320,340,360mA (DIP switch)	YES	NO	World	1	NO	Not Tested
TCI	DC Minijolly LC (122401)	20W	55V	110-127V / 220-240V	100,140,180,220,260, 300,340,380mA (DIP switch)	YES	1-10V, pulse switch	World	1	NO	Pass

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Mfg	Model	Wattage	Output Voltage	Input Voltage	Output Current (mA)	Suitable for Soraa CC lamp?	Dimming Method	Country	no. of channels	NTC input	Pass NC=Not Compatible Not Tested
TCI	DC Minijolly LC PLV (122401PLV)	20W	2-54V	110-127V / 220-240V	100,140,180,220,260, 300,340,380mA (DIP switch)	YES	push LV	World	1	NO	Pass
TCI	DC Minijolly LC DALI (122395)	20W	10-51V	110-127V / 220-240V	100,140,180,220,260, 300,340,380mA (DIP switch)	YES	DALI	World	1	NO	Pass
TCI	Jolly 25	25W	36V	110-127V / 220-240V	350,500,700mA (DIP switch)	NO	1-10V, pulse switch	World	1	NO	Not Tested
TCI	Jolly US 32	32W	46V	110-127V / 220-240V	350,500,550,700mA (DIP switch)	NO	1-10V, pulse switch	World	1	NO	Not Tested
TCI	Jolly DALI 32	32W	46V	110-127V / 220-240V	350,500,550,700mA (DIP switch)	NO	DALI	World	1	NO	Not Tested
TCI	Jolly MD 32	32W	43V	220-240	350,500,550,700,750mA (DIP switch)	NO	Mains	World	1	NO	Not Tested
TCI	Jolly DIN 32	32W	40V	220-240	200-800mA in 50mA steps (DIP switch)	YES	1-10V, pulse switch	World	1	NO	Not Tested
TCI	DC Maxi Jolly US	50W	55V	110-127V / 220-240V	350,500,550,650,700,750,850,900mA (DIP switch)	NO	1-10V, pulse switch	World	1	Yes (no details available)	Not Tested
TCI	Maxi Jolly US DALI 50	50W	55V	110-127V / 220-240V	350,500,550,650,700,750,850,900mA (DIP switch)	NO	DALI	World	1	Yes (no details available)	Not Tested
TCI	Maxi Jolly US TCM 50	50W	55V	110-127V / 220-240V	350,500,550,650,700,750,850,900mA (DIP switch)	NO	DALI	World	1	Yes (no details available)	Not Tested
TCI	Multijolly 4ch	70W	50V	220-240	230,270,310,350mA (DIP switch)	YES	DALI	World	4	NO	Not Tested
Tridonic	TALEXXdriver LCCI 016/0350 B020 (28000738)	16W	3-48V	220-240	70 – 350 mA (set with resistor/pot)	YES	potentiometer 100K	World	1	NO	Not Tested
Tridonic	TALEXXdriver LCI 35W 350mA–900mA TOP C	35W	39V	220-240	350 – 900 mA (set with resistor/pot)	NO	NO	Europe	1	NO	Not Tested
Truelux	AN30V30CC	20W	60V	100-230	300 mA	YES	0-10V	EU/Asia	1	NO	Pass
Truelux	DA30V30CC	20W	60V	100-230	300 mA	YES	DALI	EU/Asia	1	NO	Pass
Truelux	PH30V30CC	20W	60V	100-230	300 mA	YES	Phase Cut	EU/Asia	1	NO	Pass
Vossloh Schwabe	ECXe 500.164 (ref. no. 186463)	10, 14, 20W	17-40V	220-240	250, 350, 500 mA (DIP switch)	YES	NO	EU/Asia	1	NO	Pass

Notes:

- Compatibility tests are conducted by Soraa only as guidance for the user
- All tests are conducted under bench conditions; results may differ from test results depending on conditions at the application site
- Results may vary due to variability in component choices and manufacturing processes by the dimmer or transformer manufacturer
- Unless otherwise noted, testing is done with a load of 1 lamp
- Unless the driver has independent multiple channels, only 1 CC lamp/Light Engine can be driven with 1 driver.
- if the fixture/driver is not listed as tested, please consult with Soraa first before making any recommendations to end customer.
- (*) This driver added to the compatibility list as of Revision 18Q1

SORAA Constant Current Lamp and Light Engine Driver/Dimmer COMPATIBILITY LIST

NON-PHASE DIMMABLE DRIVERS																					
Driver manufacturer →	**Arditi**	**eldoLED**					**Harvard (*)**			**Hatch (*)**	**HUEUC**	**Multiload**	**Quanzhou Smarts Electronics and Technology**		**RAL (Ricardo Architectural)**	**TCI**				**Truelux**	
Driver model → **Control method ↓**	800578 (*)	DUALdrive 560	SOLOdrive 360	SOLOdrive 361	SOLOdrive 560	SOLOdrive 561	CL270A-240-C	CLi15-2050D-38V-240-B	CL270D-240-C	I-LOC XRC32-0700Z-UNV-I	PV-3CC-60 LED	LEDrose LDR100	0-10V SMT-050-0700CD	DALI SMT-050-0700CM	ES010-C030-0E	DC JOLLY DALI (123424)	DC Minijolly LC (122401)	DC Minijolly LC PLV (122401PLV)	DC Minijolly LC DALI (122395)	AN30V30CC	DA30V30CC
1 / 0-10V				0%		0%	6%			1%	4%	0%	4%			0%	0%			3%	
BlueTooth (Casambi)	PASS (*1)																				
DALI		0%	0%		0%			1%	14%					1%					0%		0%
Push button																		1%			
Panasonic NQ20356 PWM dimmer															4%						

Notes:

(*1) Tested by driver manufacturer.

SORAA CC MR16 Lamp and OLEs Driver/Dimmer phase-cut COMPATIBILITY LIST

PHASE DIMMABLE DRIVERS International																							
Driver	**Dimmer -->**	Lutron QSNE-4A-D (TE)	Lutron QSNE-4A-D (LE)	Philips Dynalite DDMC802GL + DGLEDM401 (TE)	Philips Dynalite DDMC802GL + DGTM402 (TE)	Lutron QSGRK-3PCE (LE)	Helvar Digidim 452 (TE)	Helvar Digidim 454 (DALI) (TE)	Feller 40.300.RC	Feller 40420.RLC	Varilight V-PRO JQP401W	RAKO RDT500	Jung 225 TDE	Cabac HNS630DT	Clipsal C-Bus L5504D2U	Clipsal 32E450UDM	Clipsal 32ELEDM	Diginet MEDM	Legrand 450P	Legrand AR400A3PM	Legrand EM400A3P	Legend Tech DIMEZE DZ3G450DIAL	Lumex Load Smart Gen2 LT1D450LS
Harvard	CoolLED CLK10-300P-240-C 16V to 38V			7%	12%			3%						6%	6%	12%	3%	3%	NC	2%	3%		2%
IDP Power Technology Ltd	MP-AD-018W-0A35-A-FD-20 (*)																					7%	
IDP Power Technology Ltd	MP-AD-028W-0A70-A-FD-20 (*)																					9%	
Lumotech	L05021-40300	15%		9%	27%		NC	19%	15%	14%	12%		24%										
Mode Lighting	LD-0300-48-MT-230-RD	0%	14%	12%	NC	NC	3%	7%	NC	NC	NC	4%											
TCI	TCI DC JOLLY MD LC (cod. 122262)													9%		10%	9%	9%					NC
Truelux	PH30V30CC	0%	0%	2%	18%	0%	0%	0%	3%	NC	0%	0%											

PHASE DIMMABLE DRIVERS North America				
Driver	**Dimmer -->**	Lutron DV-600P	Lutron SELV-300P	Lutron MAELV-600
Hatch	XTC16C-0350P-UNV-I	24%	3%	14%

Notes:

- Compatibility tests are conducted by Soraa only as guidance for the user
- All tests are conducted under bench conditions; results may differ from test results depending on conditions at the application site
- Unless otherwise noted, testing is done with a load of 1 lamp.
- Unless the driver has independent multiple channels, only 1 CC lamp/Light Engine can be driven with 1 driver.
- The driver's driving current must meet the needs of the Soraa CC lamp or Light Engine used.
- Results may vary due to variability in component choices and manufacturing processes by the dimmer or driver manufacturer
- The lamp load (or number of lamps) should meet minimum load requirement of respective dimmer.
- (*) This driver added to the compatibility list as of Revision 18Q1

--%	Dims to < 20% (of the measured light output)
--%	Dims to 20-30% (of the measured light output)
NC	Not compatible (or dims to >30%)
Blank cell	Not tested