

Everline System Application Note: 32, 56, 72, 96, & 112 LED Linear System Configurations w/ Gen-B Modules

Purpose:

Everline second generation series of linear LED modules can be operated with a variety of Everline LED drivers to provide a wide range of system lumen performance options and tunable output capabilities. The chart below identifies several combinations with system lumens ranging from 1,000 to 11,000+ lumens.

Module p/n	# of Modules	Driver p/n	Tunable Output?*	System Lumens	Module Current	System Power	System Lm/W	Connection Diagram
------------	--------------	------------	------------------	---------------	----------------	--------------	-------------	--------------------

32 LED ZHL Module 22"/23" x 1.0"

M10CC8xxD32N2S	2	D700C30zzzTZ-C	Yes	2730	0.700	21	130	ZH-2
M10CC8xxD32N2S	2	D700C20UNV-J	No	2730	0.700	20	138	ZH-2
M10CC8xxD32N2S	2	D10CC30zzzTZ-C	Yes	3930	1.050	31	127	ZH-2
M10CC8xxD32N2S	3	D10CC55zzzTZ-C	Yes	5895	1.050	45	130	ZH-7
M10CC8xxD32N2S	4	D10CC30zzzTZ-C	Yes	4180	0.525	29	146	ZH-4
M10CC8xxD32N2S	4	D15CC55zzzTZ-C	Yes	5800	0.750	43	134	ZH-4
M10CC8xxD32N2S	4	D10CC55zzzTZ-C	Yes	7860	1.050	58	135	ZH-8
M10CC8xxD32N2S	6	D21CC80zzzTZ-D	Yes	8190	0.700	57	143	ZH-10
M10CC8xxD32N2S	6	D21CC80zzzTZ-D	Yes	11790	1.050	89	133	ZH-9
M10CC8xxD32N2S	8	D10CC55zzzTZ-C	Yes	8360	0.525	56	149	ZH-11
M10CC8xxD32N2S	8	D21CC80zzzTW-D* T'd 1.6A	Yes	12320	0.800	89	138	ZH-11

56 LED ZH Module 22"/23" x 1.0"

M10CC8xxD56NyA	1	D350C15UNVA-JF	No	1240	0.350	9	135	ZH-1
M10CC8xxD56NyA	1	D700C20UNV-J	No	2390	0.700	18	132	ZH-1
M10CC8xxD56NyA	1	D10CC30zzzTZ-C	Yes	3440	1.050	28	122	ZH-1
M10CC8xxD56NyA	2	D700C30UNV-J	No	4780	0.700	35	135	ZH-2
M10CC8xxD56NyA	2	D700C30zzzTZ-C	Yes	4780	0.700	34	140	ZH-2
M10CC8xxD56NyA	2	D15CC55zzzTZ-C	Yes	5080	0.750	39	132	ZH-3
M10CC8xxD56NyA	2	D10CC55zzzTZ-C	Yes	6880	1.050	52	133	ZH-2
M10CC8xxD56NyA	4	D15CC55zzzTZ-C	Yes	5300	0.375	37	145	ZH-5
M10CC8xxD56NyA	4	D10CC55zzzTZ-C	Yes	7300	0.525	49	150	ZH-4
M10CC8xxD56NyA	4	D21CC80zzzTW-D* T'd 1.8A	Yes	12000	0.900	87	138	ZH-4
M10CC8xxD56NyA	6	D21CC80zzzTW-D* T'd 1.9A	Yes	13050	0.633	89	147	ZH-10
M10CC8xxD56NyA	8	D10CC55zzzTZ-C	Yes	7600	0.265	48	160	ZH-12
M10CC8xxD56NyA	8	D21CC80zzzTW-D* T'd 1.95A	Yes	13600	0.633	91	149	ZH-12

72 LED ZHAGA Mounting Module 22"/23" x 1.6"

M700C8xxD72NyA	1	D700C30UNV-J	No	3985	0.700	32	125	Z72-1
M700C8xxD72NyA	1	D700C30zzzTZ-C	Yes	3985	0.700	30	132	Z72-1
M700C8xxD72NyA	2	D10CC55zzzTZ-C	Yes	6140	0.525	43	142	Z72-2
M700C8xxD72NyA	2	D15CC55zzzTZ-C	Yes	8480	0.750	64	133	Z72-2
M700C8xxD72NyA	3	D15CC55zzzTZ-C	Yes	8805	0.500	61	145	Z72-3
M700C8xxD72NyA	3	D21CC80zzzTZ-D	Yes	11955	0.700	87	137	Z72-3
M700C8xxD72NyA	4	D10CC55zzzTZ-C	Yes	6400	0.263	42	154	Z72-4
M700C8xxD72NyA	4	D15CC55zzzTZ-C	Yes	8980	0.375	60	150	Z72-4
M700C8xxD72NyA	4	D21CC80zzzTZ-D	Yes	12280	0.525	86	144	Z72-4
M700C8xxD72NyA	4	D23CC90yyyT-F	Yes	13340	0.575	92	146	Z72-4

(T) Designates that the Driver will be tuned to achieve target lumens

* Tunable output systems can be Tuned (programmed) to operate at lower lumen and power levels

**Data shown is for the 4000°K Temperature with Tc=45°C

xx indicates the color temperature
y indicates 2 or 3 for 22" or 23" length
zzz indicates voltage: 347 or UNV (120 to 277)
yyy indicates voltage: UNV or HRV (347 to 480)

Module p/n	# of Modules	Driver p/n	Tunable Output?*	System Lumens	Module Current	System Power	System Lm/W	Connection Diagram
96 LED ZHAGA High Density Module 22" x 1.6"								
M10CC8xxD96N2S	1	D700C30zzzTZ-C	Yes	3960	0.700	29	138	Z96-1
M10CC8xxD96N2S	1	D10CC42UNVS-A	No	5700	1.050	45	125	Z96-1
M10CC8xxD96N2S	1	D10CC55zzzTZ-C	Yes	5700	1.050	45	125	Z96-1
M10CC8xxD96N2S	2	D21CC80zzzTZ-D	Yes	11400	1.050	90	127	Z96-2
M10CC8xxD96N2S	3	D21CC80zzzTZ-D	Yes	11880	0.700	86	138	Z96-3
M10CC8xxD96N2S	3	D23CC90UNVT-F	Yes	13350	0.767	92	146	Z96-3
M10CC8xxD96N2S	4	D21CC80zzzTZ-D	Yes	12520	0.525	83	150	Z96-4
M10CC8xxD96N2S	4	D23CC90yyyT-F	Yes	13640	0.575	89	153	Z96-4

112 Dual Row LED 22.5"/23" x 1.5"								
M14CC8xxD112NyD	1	D10CC30zzzTZ-C	Yes	3655	1.050	25	149	DR-1
M14CC8xxD112NyD	1	D15CC55zzzTZ-C	Yes	5090	1.500	38	135	DR-1
M14CC8xxD112NyD	1	D21CC80zzzTZ-D	Yes	7725	2.100	55	141	DR-1
M14CC8xxD112NyD	2	D700C30zzzTZ-C	Yes	4980	0.700	32	156	DR-2S
M14CC8xxD112NyD	2	D10CC55zzzTZ-C	Yes	7310	1.050	49	149	DR-2S
M14CC8xxD112NyD	2	D21CC80zzzTW-C (T)	Yes	12000	1.800	88	136	DR-2S
M14CC8xxD112NyD	2	D24VA100UNVA-A	No	13460	2.050	101	134	DR-2P
M14CC8xxD112NyD	3	D24VA100UNVA-A	No	14010	1.367	96	146	DR-3P
M14CC8xxD112NyD	4	D24VA100UNVA-A	No	14300	1.025	94	153	DR-4P

(T) Designates that the Driver will be tuned to achieve target lumens

* Tunable output systems can be Tuned (programmed) to operate at lower lumen and power levels

**Data shown is for the 4000°K Temperature with Tc=45°C

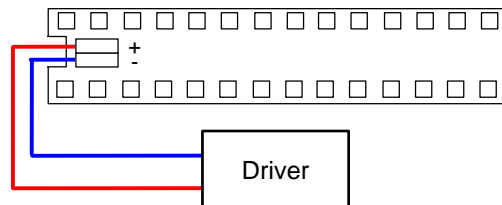
xx indicates the color temperature

y indicates H or 3 for 22.3" or 22.9" length

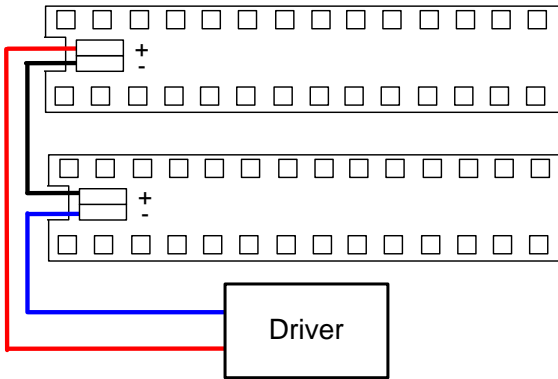
zzz indicates voltage: 347 or UNV (120 to 277)

yyy indicates voltage: UNV or HRV (347 to 480)

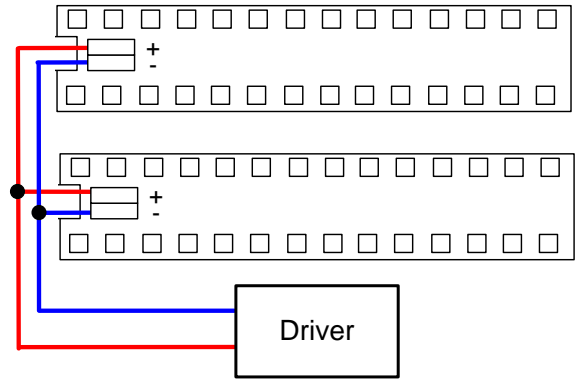
DR-1



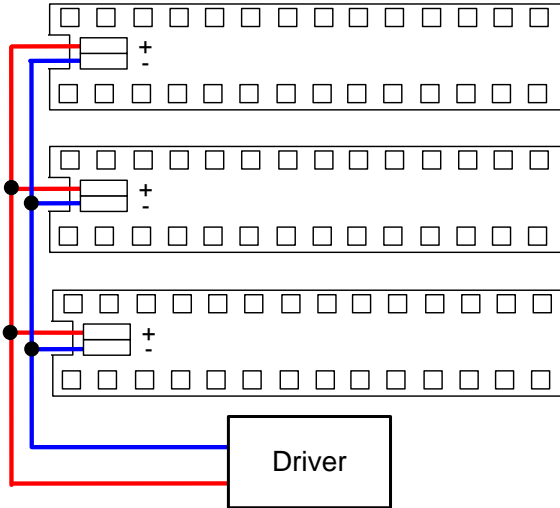
DR-2S



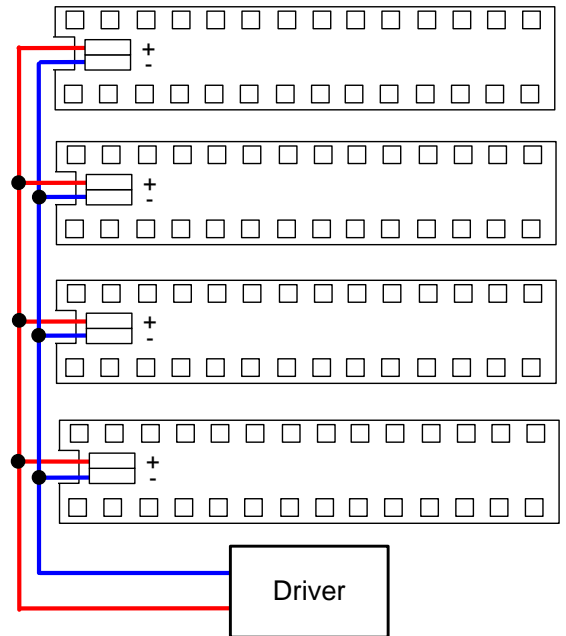
DR-2P



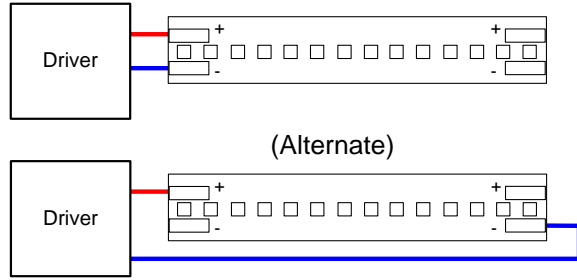
DR-3P



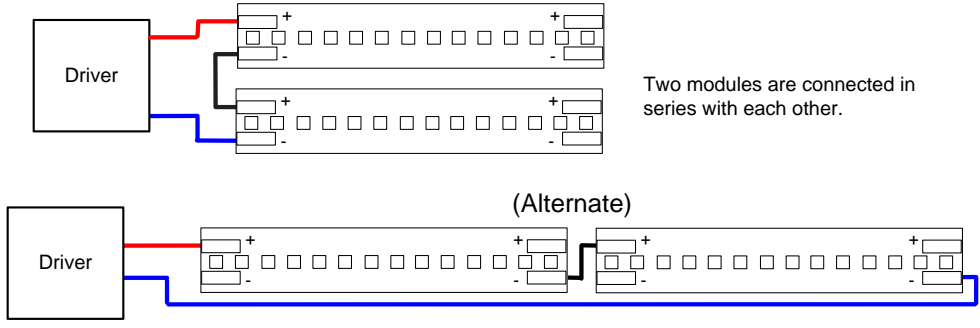
DR-4P



ZH-1

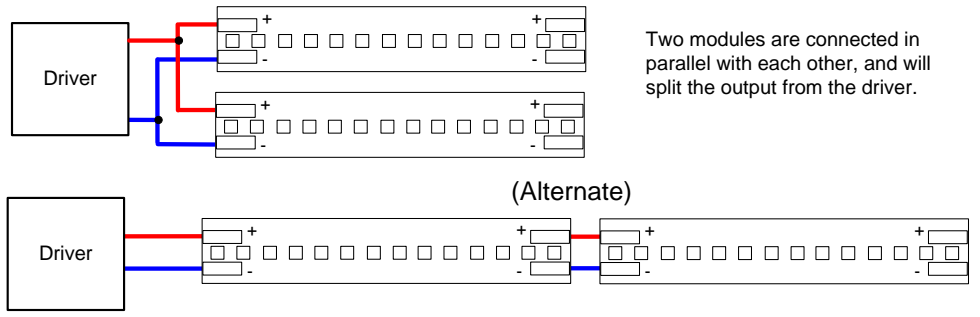


ZH-2



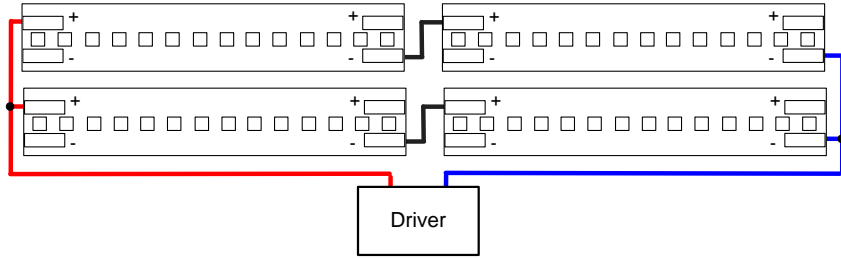
Two modules are connected in series with each other.

ZH-3

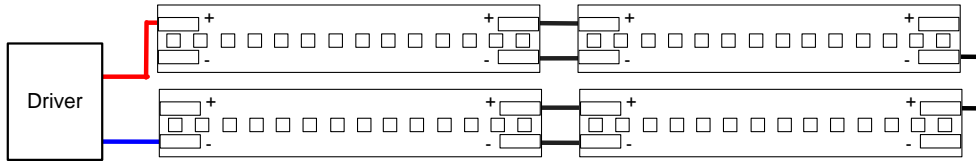


Two modules are connected in parallel with each other, and will split the output from the driver.

ZH-4

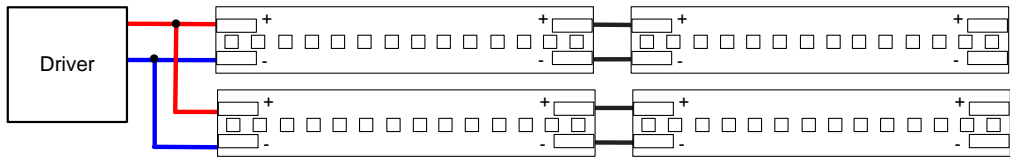


(Alternate)



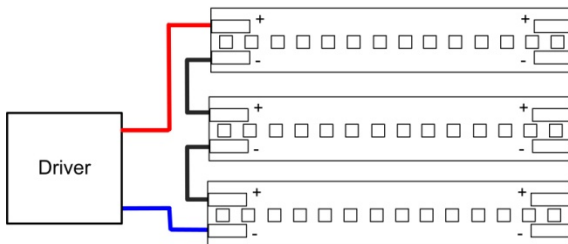
Modules are connected in either a series-parallel or parallel-series configuration.

ZH-5



Four modules are connected in parallel with each other, and will split the output from the driver.

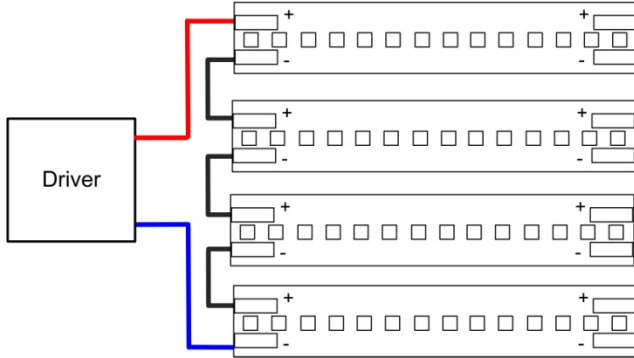
ZH-7



Three Modules in Series:

Series wiring can be configured with a variety of methods. The Red lead from driver must connect to "+" terminal of first module. The "-" terminal of first module must be connected to "+" terminal of the next module. This pattern continues with the "-" terminal of the last module connecting to the Blue lead of the driver.

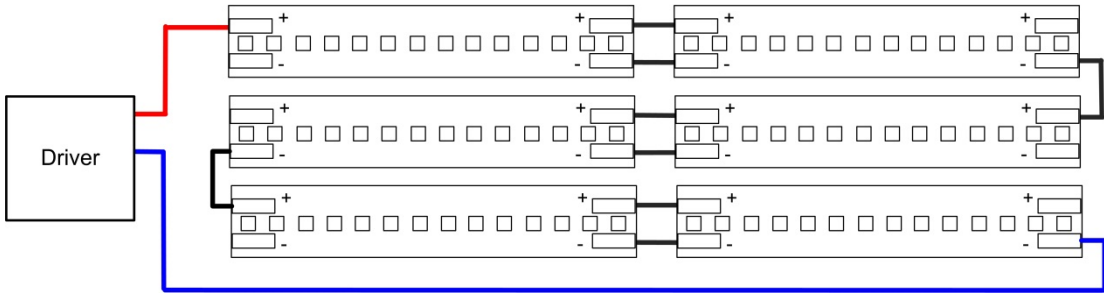
ZH-8



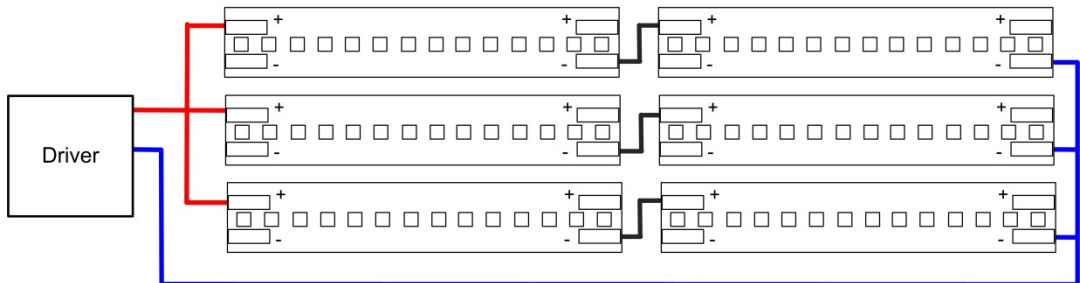
Four Modules in Series:

Series wiring can be configured with a variety of methods. The Red lead from driver must connect to "+" terminal of first module. The "-" terminal of first module must be connected to "+" terminal of the next module. This pattern continues with the "-" terminal of the last module connecting to the Blue lead of the driver.

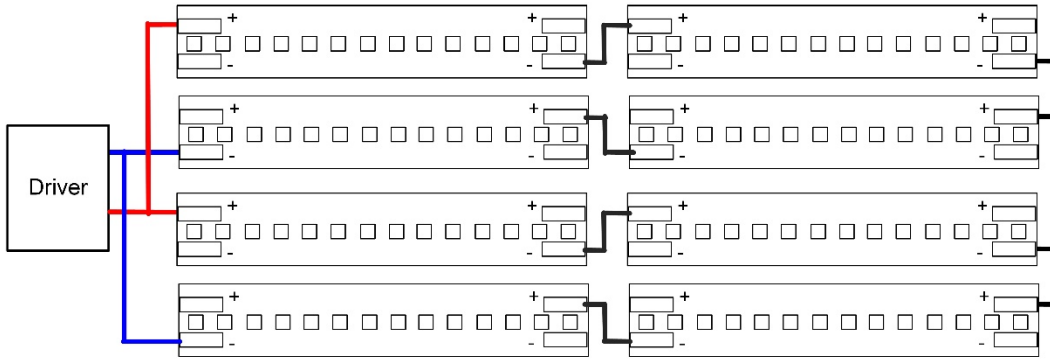
ZH-9



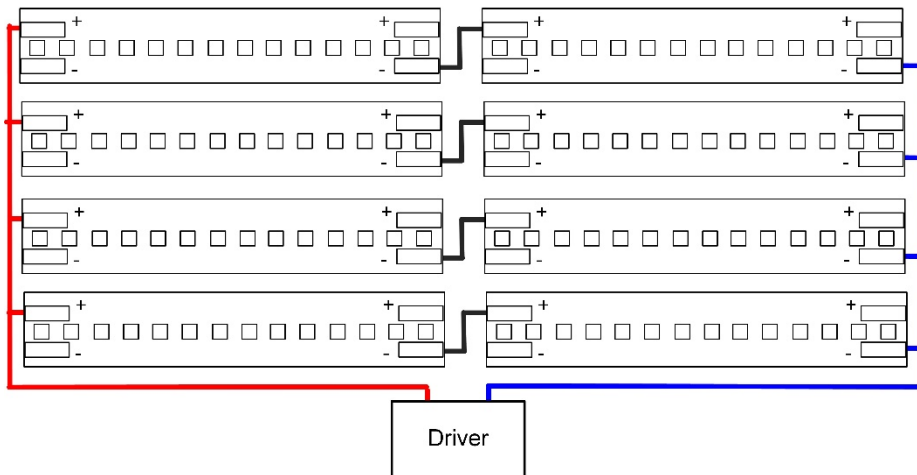
ZH-10



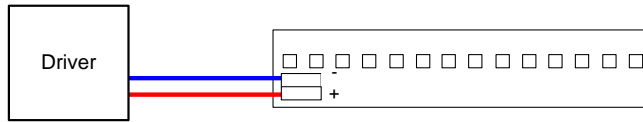
ZH-11



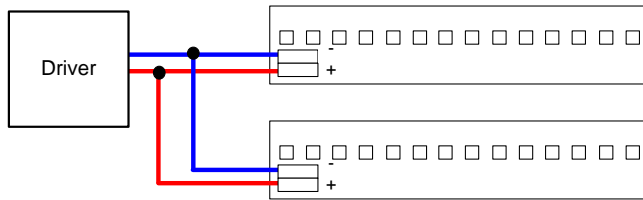
ZH-12



Z72-1

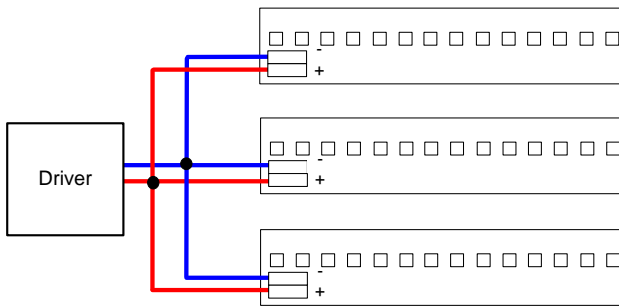


Z72-2



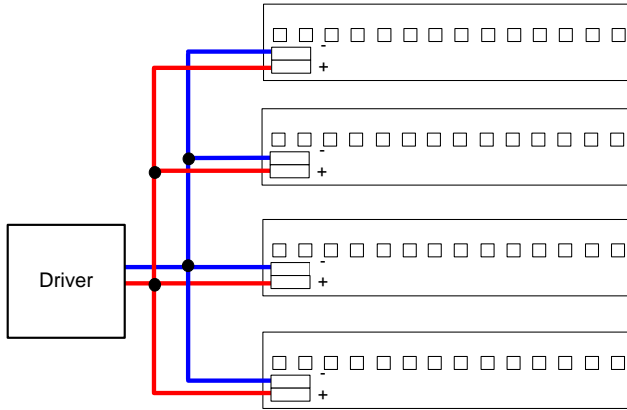
Modules are connected in parallel with each other and will split the output current from the driver.

Z72-3



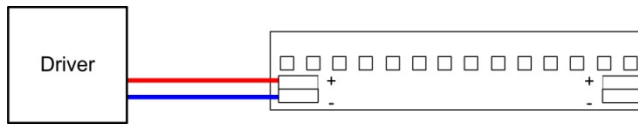
Modules are connected in parallel with each other and will split the output current from the driver.

Z72-4

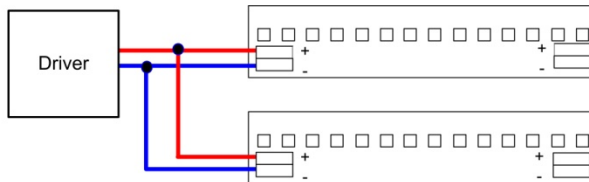


Modules are connected in parallel with each other and will split the output current from the driver.

Z96-1

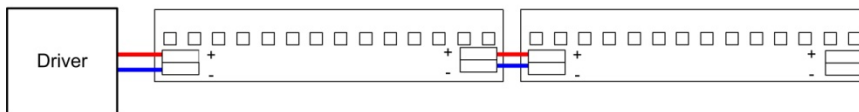


Z96-2

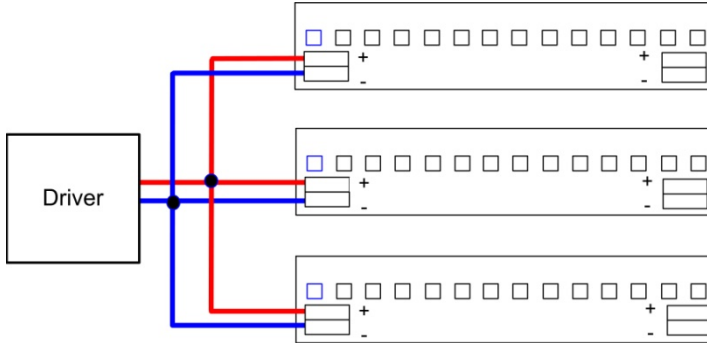


Modules are connected in parallel with each other and will split the output current from the driver.

(Alternate)

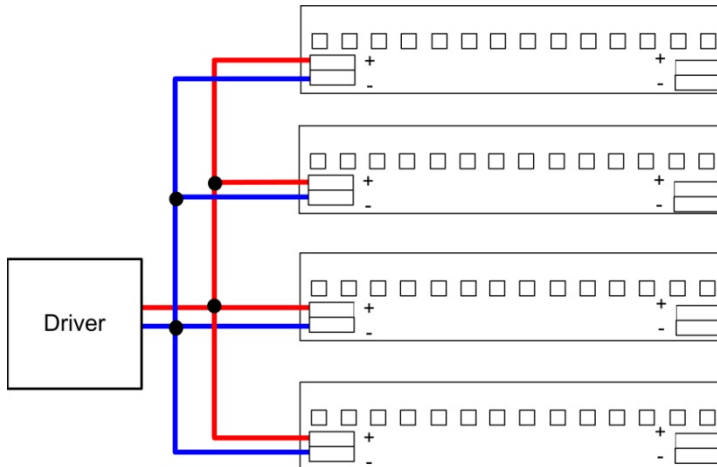


Z96-3



Modules are connected in parallel with each other and will split the output current from the driver.

Z96-4



Modules are connected in parallel with each other and will split the output current from the driver.