JKL® COMPONENTS CORPORATION

LED FLEX RIBBON

ZFS-Series:

ZFS-8500	LED Flex Ribbon 12V
ZFS-10504-RGB	RGB LED Flex Ribbon 12V
ZFS-85000HD	High Density LED Flex Ribbon 12V
ZFS-84000	High Density LED Flex Ribbon 24V
ZFS-125000-B	High Density LED Blue Flex Ribbon 24V
ZFS-124000	High Lumen LED Flex Ribbon 24V
ZFS-245000	High Lumen LED Flex Ribbon 24V

Dimmers & Controllers:

ZDM-01	LED Manual Dimmer
ZDM-02	LED Remote Control Dimmer
ZCTR-03-RGB	LED RGB Controller

Input Connectors:

ZFS-200-I
ZFS-CH140-I
ZCH-145-RGB-I
ZFS-CH144-12I

Joiner Connectors:

ZFS-205-J
ZFS-CH0-J
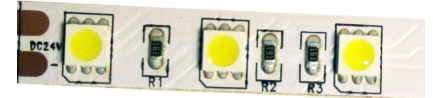ZFS-CH0-8J
ZFS-CH138-8J
ZFS-CH0-12J
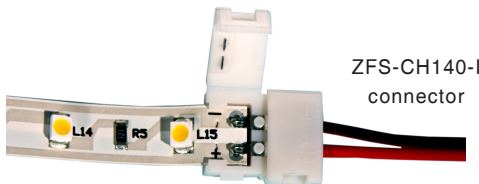

ZFS-8500

ZFS-85000HD

ZFS-84000

ZFS-125000HD

ZFS-124000

ZFS-245000

ZFS-CH140-I connector

ZCTR-03-RGB

ZDM-01

ZFS-10504-RGB

APPLICATIONS

- CABINET LIGHTING
- COVE LIGHTING
- DISPLAY CASES
- COSTUME LIGHTING
- MENU BOARDS

- LANDSCAPE
- ARCHITECTUAL
- SIGN BACKLIGHTS
- SPECIAL EFFECTS
- MENU BOARDS

Quality Lighting Solutions

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ISO9001 Certified

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CHART 1

| Part Series	ZFS-8500	ZFS-85000HD	ZFS-10504-RGB	ZFS-84000	ZFS-124000	ZFS-125000	ZFS-245000
Voltage	12 VDC	12 VDC	12 VDC	24 VDC	24 VDC	24 VDC	24 VDC
Reel Length	5 Meter 16.4 Feet	5 Meter 16.4 Feet	5 Meter 16.4 Feet	4 Meter 13.1 Feet	4 Meter 13.1 Feet	5 Meter 16.4 Feet	5 Meter 16.4 Feet
Power for one Reel	21.6 Watts	52.8 Watts	36 Watts	34.6 Watts	46 Watts	48 Watts	67 Watts
LEDs per Reel	300	600	150	480	192	600	300
LED package size	2.8 x 3.5	2.8 x 3.5	5.0 x 5.0	2.8 x 3.5	5.0 x 5.0	2.8 x 3.5	5.0 x 5.0
Min. Segment Length	50 mm	25 mm	100 mm	50 mm	100 mm	25 mm	50 mm
LEDs per Segment	3	3	3	6	6	3	6
LED Pitch	16 mm	8 mm	33 mm	8 mm	20 mm	8 mm	8 mm
Max Length in Series	10 Meter 32.8 Feet	5 Meter 16.4 Feet	5 Meter 16.4 Feet	8 Meter 26.3 Feet	8 Meter 26.3 Feet	10 Meter 32.8 Feet	8 Meter 26.3 Feet
Color Options	Cool White Neutral White Warm White Yellow	Cool White Warm White Red Blue	Red-Blue-Green Combinations	Cool White Neutral White Warm White	Cool White Neutral White Warm White	Blue Green	Cool White Neutral White Warm White
Input Cables	ZFS-CH140-8I	ZFS-CH-200-I	ZCH-145-RGB-I	ZFS-CH-200-I	ZFS-CH144-12I		ZFS-CH144-12I
Joiner Connectors & Cables	ZFS-CH0-8J ZFS-CH138-8J	ZFS-CH0-J ZFS-CH-205-J		ZFS-CH0-J ZFS-CH-205-J	ZFS-CH0-12J		ZFS-CH0-12J

INSTALLATION

The ZFS LED flex ribbon has adhesive backing and a paper cover strip that can be peeled away for mounting to most hard surfaces. Insulated staples can also be used to mount the LED flex ribbon with care. If one LED is damaged, the segment may not light but the rest of the flex ribbon will light, unless the main trace is damaged. If this is the case, the damaged section can be cut out and the two pieces joined together using one of the joiner connectors.

All of the flex ribbons are made up of segments containing LEDs and a current controlling element. Marks at the beginning and end of each segment show where the ribbon can be cut without losing the function of the LEDs. The flex ribbon can be cut with a pair of scissors or wire cutters at the marks. Input cables and joiner cables can then be used to apply power, turn corners, change directions or create gaps with a jumper where no light is desired. See *Chart 1* for the appropriate segment lengths, cables and connectors.

The maximum recommended continuous length of flex ribbon is listed by part number in *Chart 1*. This length is determined by the current carrying capacity of the specific LED flex. In addition to the heat generated by the LEDs (which must be dissipated via conduction through the flex ribbon), the flex ribbons with higher current levels will generate added heat, which can affect the lumen output. If one extends beyond the recommended length limit the voltage at the end of the flex ribbon will be reduced, causing them to be dimmer than the others in the ribbon.

ZFS- SERIES

POWER IN ➡ **POWER SUPPLY**

"STAR" Pattern Layout

LED RIBBON   **LED RIBBON**   **LED RIBBON**
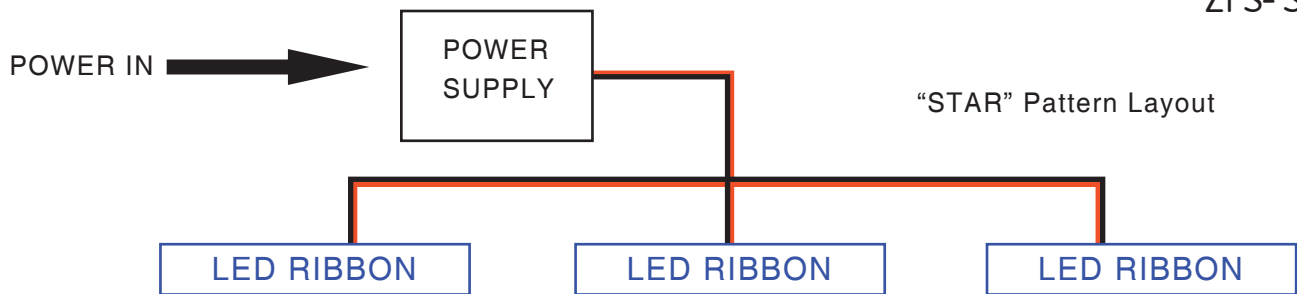
The LED Ribbons can be the full lengths allowable, shown in *Chart 1*. the red/black lines from the power supply are the DC Voltage wires powering the LED Ribbons. Additional LED Ribbons can be added in this fashion and the wires can be made longer so the LED Ribbons can be laid out in a linear fashion as shown above to make a continuous run while still maintaining proper use of the maximum current allowable for each type of LED Ribbon.

POWER INPUT

Once the type of flex ribbon has been selected and the total amount determined then the power supply size can be established. This is determined by adding up all the number of reels of the flex ribbon and any partial reels used. *Chart 1* gives information on the amount of power consumed by one reel of each style of LED Flex Ribbon. Multiply the number of reels & partial reels by the power for one reel together to establish the power required. Add an additional 20% to the minimum power required and this is the amount of wattage the power supply will need to provide to safely power the LED flex ribbon.

OUTPUT DIMMING

Optimum dimming is accomplished with a Pulse Width Modulating (PWM) dimmer, such as the ZDM-01, which will maintain operating voltage to the ZRS ribbon. The dimmer varies the duty-cycle to the LED which permits easy changes to the light output. For the ZFS-10504-RGB, three dimmers can be used to set a particular color or for experimenting with color schemes. See *Diagram 2*. For an array of changing colors the ZCTR-03-RGB can be used to set the brightness level and speed at which the color changes.

POWER IN ➡ **POWER SUPPLY**

ZDM-01 UNIT ONE
IN V- / V+
OUT V+ / V-

ZDM-01 UNIT TWO
IN V- / V+
OUT V+ / V-

ZDM-01 UNIT THREE
IN V- / V+
OUT V+ / V-

RGB LED FLEX