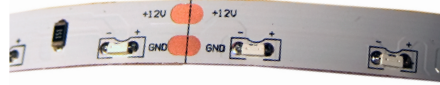


## LED FLEX RIBBON

ZFS-SERIES



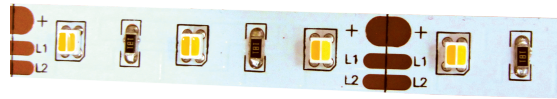
STANDARD INTENSITY (Economy)



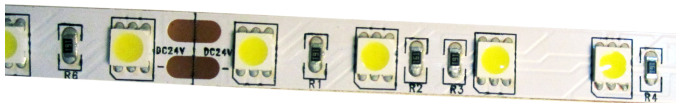
SIDEVIEW



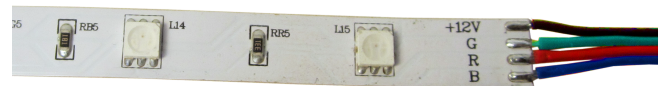
HIGH DENSITY (Tight Pitch)



ADJUSTABLE WHITE



HIGH INTENSITY



ADJUSTABLE RGB COLOR

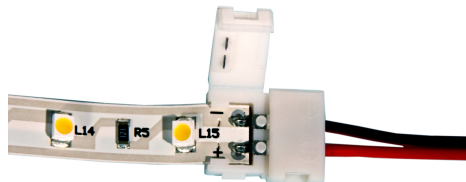
### LED Flex Ribbon - Compatible Dimmers & Controllers:

- |         |   |
|---------|---|
| ZDM-01  | LED Manual Dimmer                       |
| ZDM-02  | LED Remote Control Dimmer               |
| ZCTR-04 | LED Photo Sensor Switch                 |
| ZCTR-08 | LED Small Remote Controller             |
| ZCTR-06 | LED RGB Controller                      |
| ZCTR-05 | LED Double-White Controller             |
| ZCTR-07 | LED Touch Panel Double-White Controller |

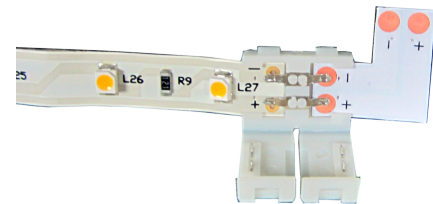


WATER RESISTANT

### SAMPLE CONNECTORS



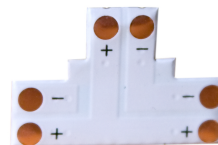
ZFS-CH140-I connector with LED flex



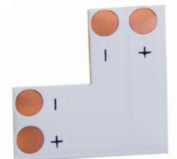
ZFS-CH0-8J & ZFS-CNL-8J connectors with LED flex



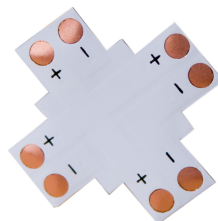
ZCH-170-RGB-J



ZFS-CNT-8J



ZFS-CNL-8J



ZFS-CNX-8J



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Since 1972

## LED FLEX RIBBON - 12VDC

ZFS-SERIES

Part Series	Feature	Wattage Per Reel	Reel Length	Max Length in Series	Color Options	Connector Options
ZFS-8500	Standard Intesity Economy Flex	21.6 Watts	5 Meter	10 Meter	Cool White (CW) Neutral White (NW) Warm White (WW) Yellow	ZFS-CH140-8I - Input, 5" lead ZFS-CH0-8J - Joiner, no lead ZFS-CH138-8J - Joiner, 5" lead ZFS-CNL-8J - "L" connection ZFS-CNT-8J - "T" connection ZFS-CNX-8J - "X" connection
ZFS-85000HD	Max Intesity High Density	52.8 Watts	5 Meter	5 Meter	CW, NW, WW Red Blue	ZCH-143HD-8I - Input, 5" lead ZFS-CHXB-8I - Input, no lead ZCH-137HD-8J - Joiner, 5" lead ZFS-CHBB-8J - Joiner, no lead
ZFS-85020WR	Water resistant	48 Watts	5 Meter	5 Meter	CW, NW	
ZFS-85000SV	Sideview	24 Watts	5 Meter	5 Meter	CW, NW	
ZFS-155000	Double LED	57 Watts	5 Meter	5 Meter	CW	
ZFS-105000-DBW	Adjustable White Output	25 Watts	5 Meter	20 Meter	Adjustable White	
SEE JKL'S APPLICATION SHEET JKL-AS-ZFS-DUAL-WHITE ON THIS ITEM FOR ADDITIONAL DETAIL						
ZFS-10504-RGB	Adjustable Color RGB	36 Watts	5 Meter	5 Meter	Adjustable RGB	ZCH-170-RGB-J - Joiner, 6" lead ZCH-CH0-RGB10J - Joiner, no lead
SEE JKL'S APPLICATION SHEET JKL-AS-ZFS-RGB-LED ON THIS ITEM FOR ADDITIONAL DETAIL						

## LED FLEX RIBBON - 24VDC

Part Series	Feature	Wattage Per Reel	Reel Length	Max Length in Series	Color Options	Connector Options
ZFS-84000	High Density 8mm width	34.6 Watts	4 Meter	8 Meter	CW, NW, WW	ZCH-143HD-8I - Input, 5" lead ZCH-137HD-8J - Joiner, 5" lead
ZFS-124000	High Density 12mm width	46 Watts	4 Meter	8 Meter	CW, NW, WW	ZFS-CH144-12I - Input, 5" lead ZFS-CH0-12J - Joiner, no lead
ZFS-125000HD	High Lumen 12mm width	48 Watts	5 Meter	8 Meter	Blue, Green	
ZFS-245000	High Lumen 10mm width	67 Watts	5 Meter	8 Meter	CW, NW, WW	ZFS-CH144-12I - Input, 5" lead ZFS-CH0-12J - Joiner, no lead
ZFS-104000	High Lumen 10mm width	46 Watts	4 Meter	8 Meter	CW, NW, WW	ZFS-CH144-12I - Input, 5" lead ZFS-CH0-12J - Joiner, no lead
ZFS-105000-24RGB	Adjustable Color RGB	72 Watts	5 Meter	5 Meter	Adjustable RGB	ZCH-170-RGB-J - Joiner, 6" lead ZCH-CH0-RGB10J - Joiner, no lead
SEE JKL'S APPLICATION SHEET JKL-AS-ZFS-RGB-LED ON THIS ITEM FOR ADDITIONAL DETAIL						

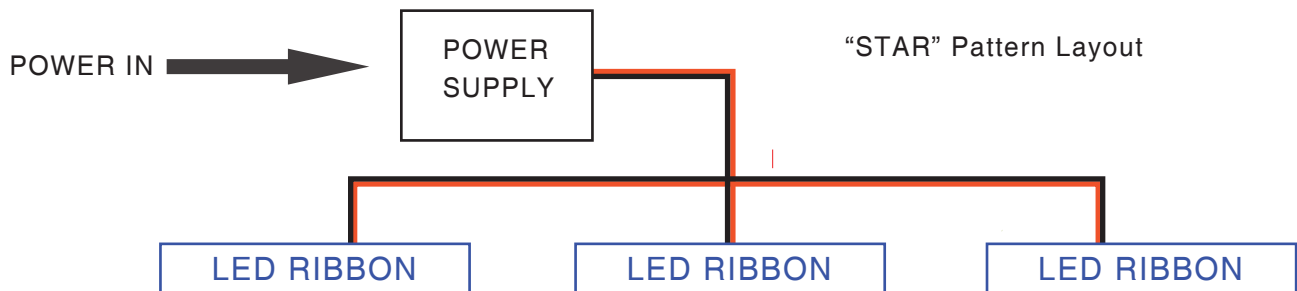
1 METER = 3.25 FEET CW = Cool White, NW = Warm White, WW = Warm White

## INSTALLATION

The ZFS LED flex ribbon has adhesive backing and a paper cover strip that can be peeled away for mounting to 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 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 indicate where the ribbon can be cut. 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 for the appropriate segment lengths, cables and connectors.

The maximum recommended continuous length of flex ribbon is listed by part number and considers 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 will be reduced, causing reduced brightness.



If a high wattage power supply is used, you can parallel connect LED lines, taking care not to exceed the maximum series length indicated in the flex ribbon chart on page 2.

## 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. The chart on page 2 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. Power supplies should have a rating of 15-20% more than the specified wattage for safe, cool operation.

## 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. The LED Ribbons can also be set to turn on and off using other compatible devices such as JKL's ZCTR-04 Photo Sensor Switch which responds to ambient light.