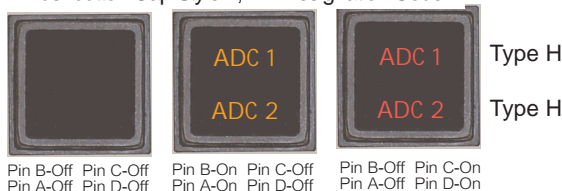


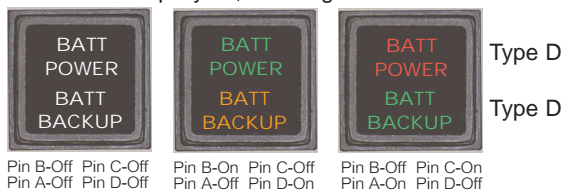
VIVISUN LED

Programmable Lighted *DichromaticSwitch™* Legends

Pushbutton Cap Style 2; Pin Designation Code 2



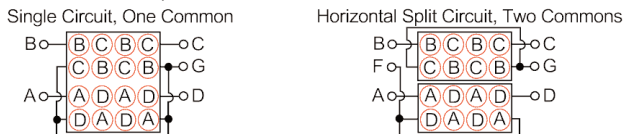
Pushbutton Cap Style 2; Pin Designation Code 2



Dichromatic Legends: The Dichromatic Switch legends are bicolor and can be illuminated in either of two distinctly different colors. The color displayed can be programmed by selecting which input pins are energized (On) and which pins are unenergized (Off).

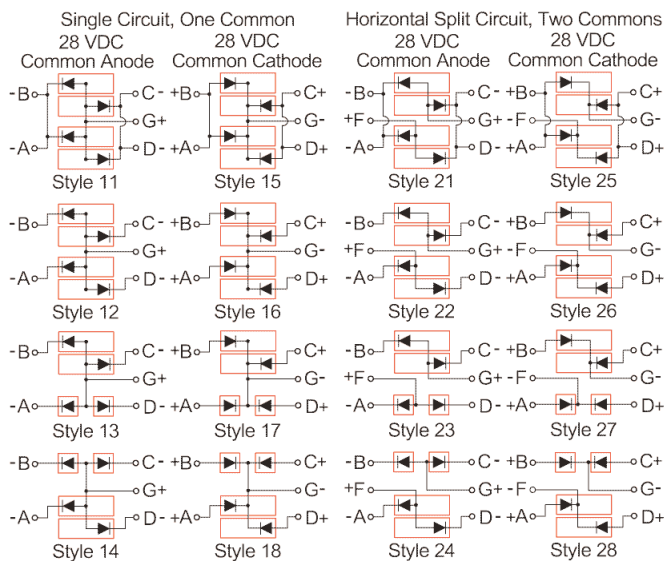
Display Illumination: The display legends are illuminated by solid state LED (Light Emitting Diode) technology. The LEDs are arranged in a matrix of 16 LEDs with 4 LEDs per electronic circuit.

LED Electronic Circuit and Pin Identification: Each pushbutton cap contains four separate LED electronic circuits consisting of 4 LEDs and the driving, dimming and protection circuitry needed for operation. Each LED circuit has its own power input pin labeled A, B, C and D according to the LED circuit it illuminates. The LED circuits can all be tied to one common pin labeled G or they can be horizontally split and tied to two common pins labeled G and F.



The circled letters **A** represent the 4 LEDs illuminated by energizing the same letter input pin i.e., the 4 LEDs **B** are illuminated by energizing input pin B.

LED Circuit Style and Pin Configurations: The circuit polarity can be either common anode or common cathode.



The symbols and represent an entire LED electronic circuit including 4 LEDs and the Driver, Dimming and Protection Circuit (DDPC). Diagrams are as viewed from the front of the display.

Bicolor Pushbutton Cap Display Styles: The Dichromatic Switch pushbutton cap displays are available in 6 versions: a full screen bicolor display, 3 horizontal split screen displays wherein both halves can be bicolor or just the top bicolor or just the bottom bicolor, and 2 three way split screen displays where half the screen is bicolor and the other half screen is split into quadrants having unicolor legends.

TABLE 5 Bicolor Pushbutton Cap Display Styles and Designations

Style 1	Style 2	Style 3	Style 4	Style 5	Style 6
Full Screen	Horizontal Split Screen	Horizontal Split Screen	Horizontal Split Screen	3 Way Split Screen	3 Way Split Screen
Bicolor	Bicolor	Bicolor	Unicolor	Bicolor	Uni-Color
	Bicolor	Unicolor	Bicolor	Uni-Color	Uni-Color
1	2	3	4	5	6

Designations

Colors: The Dichromatic Switch legends are available as a two color combination of five colors: green, white, yellow, red and a blue, color code I. Blue coordinates are $0.160 \leq x \leq 0.240$ and $0.190 \leq y \leq 0.295$.

Color Hierarchy: If one of the bicolor legend colors is green, code G, it is always energized by pin A or B and if one color is red, code R, it is always energized by pin C or D. When one color is white, code A, it is energized by pin A or B except with green then it is energized by pin C or D. If one color is yellow, code Y, it is energized by pin A or B except with green or white then it is energized by pin C or D. If one color is blue, code I, it is energized by pin C or D except with red then it is energized by pin A or B. **Do not simultaneously energize pins A and D or pins B and C except briefly to perform a lamp test function.**



Display Types: The Dichromatic Switch displays are available as Type H having hidden legends until energized, then they illuminate in color. Contrast requirements are not applicable to Type H displays. They are also available as Type D displays having translucent visible white legends illuminating in color producing over 100 foot-lamberts and Type W displays having black legends on a translucent white background that illuminates in color producing over 100 foot-lamberts.

TABLE 6 Legend Positions and Display Type Lighting

Type H			
1	2	2	4 5
	3	6 7	3
Type D			
Q	J	X	U V
	S	Y	S
Type W			
W	I	O	

Display Type H: Hidden legends on an opaque black background that illuminate in color.

Display Type D: Always visible white legends on an opaque black background. The legends illuminate in color producing over 100 foot-lamberts at rated voltage.

Display Type W: Always visible black legends on a translucent white background. The background illuminates in color producing over 100 foot-lamberts at rated voltage.

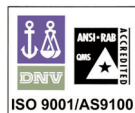
LED Circuit Pin Designation Codes: The circuit block diagram pin designation, voltage and polarity designation codes are shown below.

TABLE 7 LED Pin Designation, Bicolor Cap Style, Voltage and Polarity Designation Codes

Block Diagram Pin Designation	Bicolor Cap Style	28VDC Designation Codes	
		Common Anode	Common Cathode
	Style 1	1	5
	Style 2	2	6
	Style 3 or Style 5	3	7
	Style 4 or Style 6	4	8

Specifying DichromaticSwitch™ Legends: To specify a VIVISUN LED Dichromatic Switch legend begin by selecting the bicolor pushbutton cap display designation number from Table 5. Select the designation code from Table 7 above to indicate the circuit block diagram pin designation, voltage and polarity. Select the legend position designation from Table 6 above, followed by the two color codes from the Color Hierarchy Tree above representing the two desired colors for the bicolor legends. The color codes selected must appear in the order of illuminated colors from pin A or B first and pin C or D second. These designation codes are then placed in the corresponding positions of Line 1 and Line 2 in the How To Order section of the VIVISUN LED Data Sheet No. LED-12-2001-04 Rev. B.

Low Power Consumption: Power consumption is typically less than 1.25 watts when illuminating no more than one color per legend position of any display style at full rated voltage (28VDC).



Patent Pending

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