

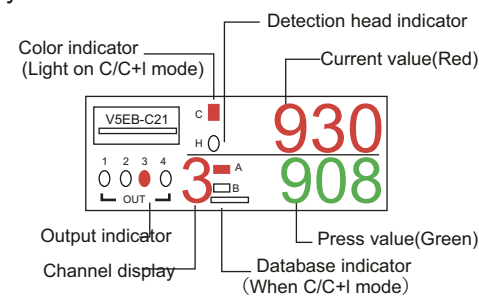
High precision digital intelligent color sensor V5EB-C21 series

■ Amplifier V5EB-C21



- Easy operation, one button operation and delayed function.
- 8 channel output, which can detect 8 different colors at the same time.
- More than 3000 kinds of color recognition, accurate identification of fine color difference.
- Three different ways can be used to identify different products, such as brightness, color, or brightness and color.

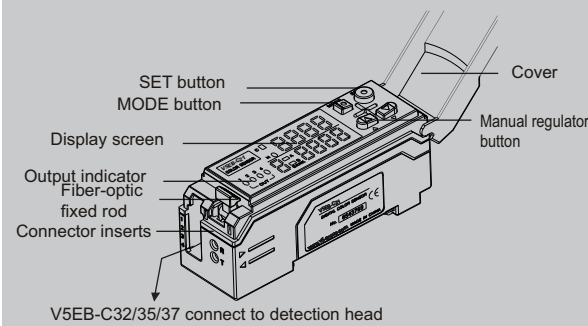
■ Display screen



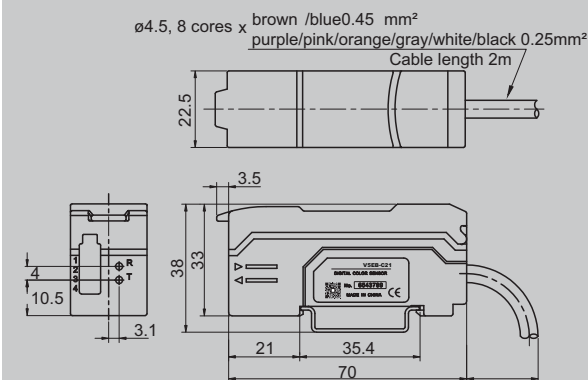
■ Amplifier parameters

Amplifier model	NPN	V5EB-C21N
	PNP	V5EB-C21P
Reaction time	200μS(HSP)/1ms(FINE)/4ms(TURBO)/8ms(SUPER)	
Output control	NPN(PNP)open-collector X4 channels, Max.40VDC (30VDC), 1 output reach to 100mA, The total 4 output is 200mA, and the residual voltage is 1.0V.	
Circuit protection	Reverse electrode protection, overcurrent protection, over-voltage protection	
External calibration input	Input time: minimum 20ms	
External switching input (C/C+I mode) External shifting input (Super I mode)	Input time: minimum 20ms	
Timing function	Timmer OFF/OFF-delay/ON-delay/single timer,time: Adjustable from 1 to 1000ms (for each domain).	
Power	24VDC, ripple voltage (P-P): max.10%	
Current consumption	Normal mode:1.5W (Max.62.5mA), Eco mode: 1W (Max.42.0mA)	
Ambient temperature	-10 to +55°C, no freezing	
Vibration resistance	10 to 55Hz, 1.5mm, Double amplitude, In the direction of X, Y, Z, each 2 hours	
Material	polycarbonate	
Wight (with 2m cable)	Approx. 180g	

■ Name or each part



■ Size diagram



■ Sensing head parameter

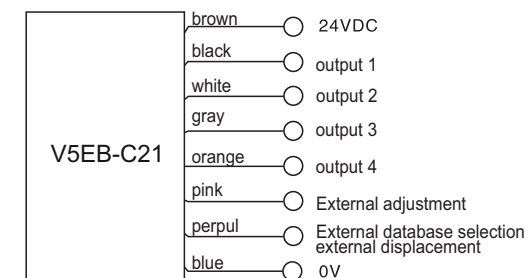
Appearance		
* the picture is for reference only		
Type	Long distance	Short distance, small light spot
Model	V5EB-C35	V5EB-C37
Detection distance	28 to 52mm	11 to 20mm
Min. light spot diameter	40mm reference distance, 4.5mm diameter	16mm reference distance, 1mm diameter
Light source	Red LED (665nm)/Green LED (520nm) Blue LED (465nm)	
Min. bending radius of fiber	15mm	
Ambient brightness	filament lamp: Max. 10,000lux, sunlight: Max. 2	0,000lux
Ambient temperature	-10 to +55°C, no freezing	
Vibration resistance	10 to 55Hz, 1.5mm, Double amplitudes in the direction of X, Y and Z, each 2 hours	
Protection grade	IP40	
Material	Case	PC
	Cover of lens	Three acetate (metal part: Type 304 stainless steel)
Weight (with 2m cable)	Approx. 55g	

■ Detection mode

Mode C、Mode C+I、Super I mode, Three detection modes are applicable to various targets

Detection mode	Calibration standard	A method for calculating similarity or receiving light intensity (a brief description)		Advantage	shortcoming
mode C	RGB compare	Compare the RGB value and the color of the reference color, and calculate the change.	Similarity = 1000 - (average changes in R, G, and B)	Good handling of motion and vibration of the workpiece	It is not suitable for identifying neutral colors such as white, black or gray.
mode C+I	RGB compare + brightness difference compare (brightness of received light)	Detected via the color and brightness difference	Similarity = (similarity of mode C) - (difference between received luminance)	detect subtle differences	Influence of workpiece vibration
Super I mode	Brightness difference compare (brightness of received light)	Total intensity of RGB three color light	photolepsy = The amount of light received by the light source	Identification of neutral colors (black and white)	

■ Wiring diagram



■ Default mode setting (initialization)

Access mode	EASY
Function (detection function)	Mode C
Tuning mode	Single point tuning
Power mode (reaction time)	TURBO
Output mode	no (L-on)
Timer mode	OFF (Timer value 20ms)
Eco mode	OFF
Displacement function	OFF (Displacement value)