

## CVS4

### Instruction Manual

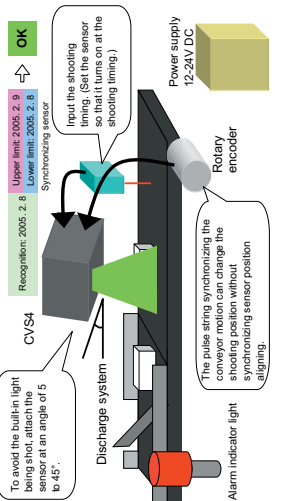
OCR Sensor (Optical Character Recognition)

\* Thank you for purchasing our OCR Sensor (Optical Character Recognition) character recognition sensor, CVS4 series.  
 \* Carefully read this manual for proper operation before use.  
 \* Keep this manual handy for future reference.  
 \* This product is not designed as a safety device to protect human body.

## 1 Before use

### What is CVS4 Series?

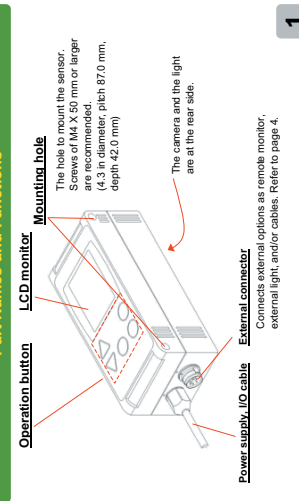
The CVS4 series converts the date and time such as an expiration date from the screen to the strings and outputs OK (line) are within the upper and lower limit of setting date and time. The date and time are recognized by the built-in calendar. In addition, the string of alphabetical and numerical characters can be identified.



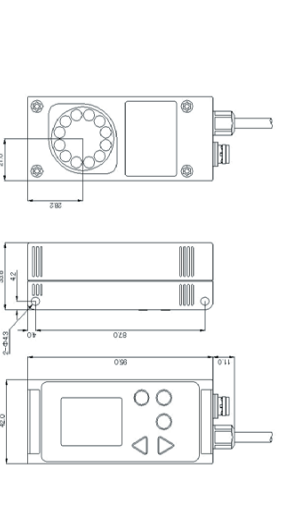
## Specification

Model	CVS4-N20	CVS4-N21	CVS4-N23	CVS4-N23R	CVS4-P20	CVS4-P23	CVS4-P23R
Angle of view	20°						
Shooting distance, range	Refer to page 3.						
Light source	Approx. 70 cd	Approx. 35 cd	Green LED (12 pcs)	Approx. 70 cd	Approx. 35 cd	Approx. 70 cd	Approx. 70 cd
Brightness	330,000 pixels, CMOS black and white image sensor						
Image sensor	2.0 MP (1,920 × 1,080 pixels)						
Supply voltage	12.24 V DC (1.5 mm × 1.5 mm)						
Power consumption	Max. 140 mW (7.24 V DC)						
Resolution	512 X 244						
Resolution	244 X 512						
Lifetime of light source	Approx. 100,000 hours (in normal temperature and humidity, brightness level down by 1/3 of the initial level)						
Built-in clock accuracy	Monthly difference: ~45 sec to ~1 min (15 sec representative value)						
Built-in clock	Primary battery: 5 years with the power OFF (Representative value)						
Backup	Super capacitor: 7.5 years (Representative value with 3 days of backup)						
Response time	20 characters of the date in 2 rows Approx. 45 to 65 ms (Residual correction: 0 to ~10%)						
Output signal	NPN/PNP Open collector output: 2, max. 100 mA, Residual voltage 1.0 V or less, ON/OFF output, External line control						
Input signal	Bank selection, Syncronizing sensor, External teaching input						
Input filter time	12 ms (max); Bank selection, String addition, External teaching input, 48 ps (turn on, max); 1450 ps (turn off); Synchronization, Pulse train input						
Operation temperature/humidity	-20 to 70 °C, 25 to 85 %RH						
Storage temperature/humidity	-10 to 55 °C, 25 to 85 %RH						
Vibration and impact durability	10 to 55 Hz Amplitude 1.5 mm, 5 G (10 times)						
Housing material	ABS / Acrylic / Polycarbonate						
Protection class	IP67						
Weight	Approx. 200 g						
Recognized number of characters, rows	60 characters (All rows) / 6 rows						
Recognized number of dates, times and strings	4 in total. Each 2 for the date and the time, 1 for 16 characters of the string						
Date and time in letters	56 characters (Transferred from the PC)						
Communication	Month: 1 chr, Day: 2 chr, Hour: 1 chr, Minute: 1 chr. Converting to the above-mentioned alphabetical and numeric characters is available. (Transferred from the PC) RS232C (TTL Level) 4800 to 57600 bps						

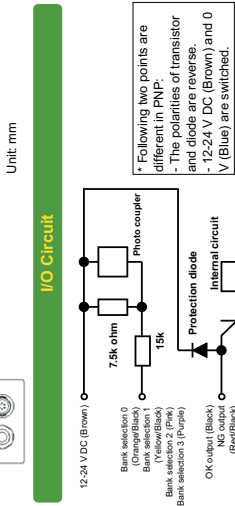
## Part Names and Functions



## Dimension Drawing



## I/O Circuit



\* Following two points are different in PNP:  
 - The polarities of transistor and diode are reverse.  
 - 12.24 V DC (Brown) and 0 V (Blue) are switched.

## Bank Selection Table

Parameter (Parameter)	Line color			Selectable range
	Orange/Black	Yellow/Black	Pink/Black	
Bank Syncronizing	OFF	ON	ON	0 to 15
Bank selection 0	OFF	ON	ON	0, 1, 4, 5, 8, 9, 12, 13
Bank selection 1	OFF	ON	ON	0 to 7
Bank selection 2	OFF	ON	ON	0, 2, 4, 6
Bank selection 0	OFF	ON	ON	0, 1, 4, 5
Bank selection 1	OFF	ON	ON	0 to 4
Bank selection 2	OFF	ON	ON	0 to 3
Bank selection 0	OFF	ON	ON	0 to 3
Bank selection 1	OFF	ON	ON	0 to 3
Bank selection 2	OFF	ON	ON	0 to 3
Bank selection 0	OFF	ON	ON	0 to 3
Bank selection 1	OFF	ON	ON	0 to 3
Bank selection 2	OFF	ON	ON	0 to 3
Bank selection 0	OFF	ON	ON	0 to 3
Bank selection 1	OFF	ON	ON	0 to 3
Bank selection 2	OFF	ON	ON	0 to 3
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Bank selection 2	OFF	ON	ON	0 to 3
Bank selection 0	OFF	ON	ON	0 to 3
Bank selection 1	OFF	ON	ON	0 to 3
Bank selection 2	OFF	ON	ON	0 to 3
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Bank selection 2	OFF	ON	ON	0 to 3
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Bank selection 2	OFF	ON	ON	0 to 3
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Bank selection 1	OFF	ON	ON	0 to 3
Bank selection 2	OFF	ON	ON	0 to 3
Bank selection 0	OFF	ON	ON	0 to 3
Bank selection 1	OFF	ON	ON	0 to 3
Bank selection 2				





