

**NanoView™ Series
Photoelectric Sensors**

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The NanoView Series from Eaton is a family of miniature rectangular photoelectric sensors designed for optimum value and sensing performance in a wide range of applications.

These small sensors are available in a variety of optical modes: polarized reflex; diffuse reflective; fixed-focus diffuse; thru-beam with narrow-beam option; and even a clear object detector.

NanoView sensors are housed in ABS enclosures rated IP66 or better. Two top-mounted indicator LEDs communicate power and output status. Each model includes both light operate and dark operate modes. Termination options include a 4-pin M8 connector cable or a built-in 6-foot (2 m) cable.

NanoView is the ultimate solution to sensing challenges that require reduced dimensions and costs.

Approvals

- UL Listed
- C-UL Listed



For the most current information on this product, visit our web site: www.eaton.com

**A Full Line of Miniature Photoelectric Sensors
Built for Performance and Value**

Sensitivity Adjustment on Polarized Reflex,
Diffuse and Clear Object Detector Models

Indicator LEDs
for Power and
Output Status



Choose from 4-Pin Nano
Connector or 2-Meter
(6-Foot) Potted Cable





Miniature Size and Mounting Holes
to Fit Into Tight Applications

Product Features

- **A Complete Family of Solutions** — Models include an 8.2 ft. (2.5 m) polarized reflex, a 13 in. (35 cm) diffuse reflective, a 4 in. (10 cm) fixed-focus diffuse, a 20 ft. (6 m) thru-beam; and a 2.6 ft. (80 cm) clear object detector for sensing plastic bottles, molds, cartons and films
- **Small Size** — At less than 1.5 inches long and half an inch deep, NanoView can fit into the smallest of spaces
- **Fixed Focus Diffuse Models** — Perfect for sensing very small targets at a 4-inch focal point. A visible red LED beam makes it easy to set up
- **Clear Object Detection Models** — Ideal for sensing plastic bottles, molds, cartons, films and glass objects
- **UL and C-UL Listed, CE Approved**


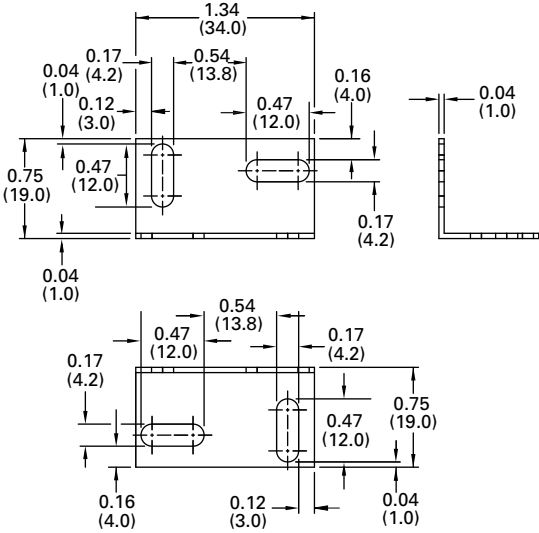
For Customer Service in the U.S. call **1-877-ETN CARE (386-2273)**,
in Canada call **1-800-268-3578**.
For Application Assistance in the U.S. and Canada
call **1-800-426-9184**.

Model Selection — NanoView Series


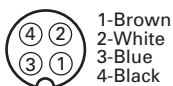


	Voltage Range	Sensing Mode	Sensing Range	Output Type	Connection Type	Catalog Number
4-Wire Sensors						
Thru-Beam 	10 – 30V DC	Thru-Beam Detector	19 feet (6 m)	NPN, Light Operate or Dark Operate (Selectable)	6-foot Cable	E71-TBRN-CA
				4-pin Nano Connector ①	E71-TBRN-M8	
		Thru-Beam Source	N/A	6-foot Cable	E71-TBRS-CA	
				4-pin Nano Connector ①	E71-TBRS-M8	
		Narrow Beam Thru-Beam Source	4.9 feet (1.5 m)	N/A	6-foot Cable	E71-NTBS-CA
				4-pin Nano Connector ①	E71-NTBS-M8	
Polarized Reflex 	10 – 30V DC	Polarized Reflex	8.2 feet (2.5 m)	NPN, Light Operate or Dark Operate (Selectable)	6-foot Cable	E71-PRN-CA
				4-pin Nano Connector ①	E71-PRN-M8	
		PNP, Light Operate or Dark Operate (Selectable)	6-foot Cable	E71-PRP-CA		
			4-pin Nano Connector ①	E71-PRP-M8		
Diffuse Reflective 	10 – 30V DC	Diffuse Reflective	13.8 inches (35 cm)	NPN, Light Operate or Dark Operate (Selectable)	6-foot Cable	E71-SDN-CA
				4-pin Nano Connector ①	E71-SDN-M8	
		PNP, Light Operate or Dark Operate (Selectable)	6-foot Cable	E71-SDP-CA		
			4-pin Nano Connector ①	E71-SDP-M8		
Fixed Focus Diffuse Reflective 	10 – 30V DC	Fixed-Focus Diffuse Reflective	3.9 inches (10 cm) focal point	NPN, Light Operate or Dark Operate (Selectable)	6-foot Cable	E71-FFDN-CA
				4-pin Nano Connector ①	E71-FFDN-M8	
		PNP, Light Operate or Dark Operate (Selectable)	6-foot Cable	E71-FFDP-CA		
			4-pin Nano Connector ①	E71-FFDP-M8		
Clear Object Detector 	10 – 30V DC	Clear Object Detector	31.5 inches (80 cm)	NPN, Light Operate or Dark Operate (Selectable)	6-foot Cable	E71-COON-CA
				4-pin Nano Connector ①	E71-COON-M8	
		PNP, Light Operate or Dark Operate (Selectable)	6-foot Cable	E71-COP-CA		
			4-pin Nano Connector ①	E71-COP-M8		

① For compatible connector cables, see **Page 21**.

Model Selection — Accessories

	Description	Catalog Number	Price U.S. \$	Approximate Dimensions
	L-shaped mounting bracket for NanoView sensors.	E71-MTB1	5.00	

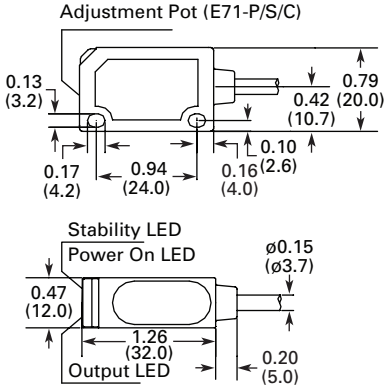
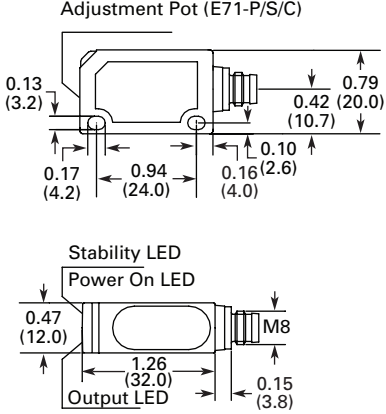
Model Selection — Compatible Connector Cables

	Voltage Style	Number of Pins	Gauge	Length	Catalog Number	Pins
					PVC Yellow Jacket	
	DC	4-pin, 4-wire	24 AWG	6.5 ft. (2 m)	CSNS4A4CY2402	
				16.4 ft. (5 m)	CSNS4A4CY2405	
				32.8 ft. (10 m)	CSNS4A4CY2410	
	DC	4-pin, 4-wire	24 AWG	6.5 ft. (2 m)	CSNR4A4CY2402	
				16.4 ft. (5 m)	CSNR4A4CY2405	
				32.8 ft. (10 m)	CSNR4A4CY2410	

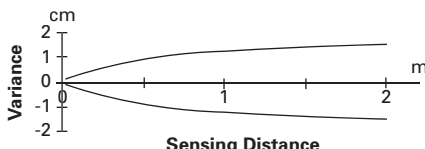
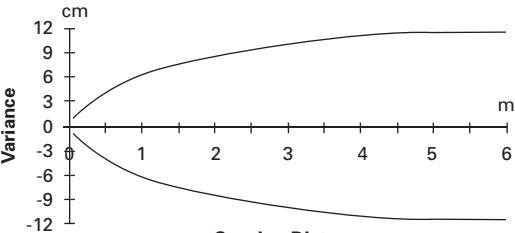
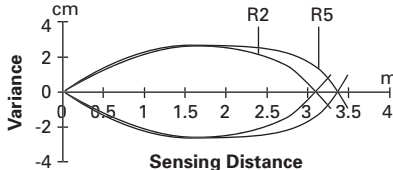
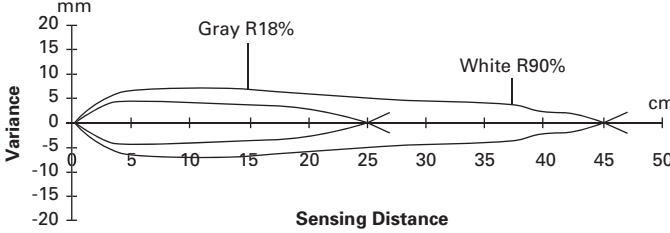
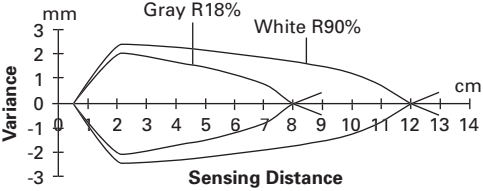
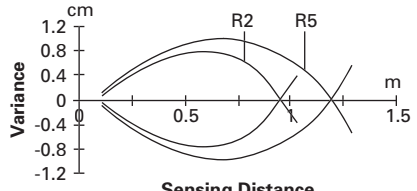
Wiring Diagrams

Models	Nano Connector Diagram (Face View Male Shown)	Cable Diagram
All NPN Models Except Thru-Beam Source		
All PNP Models Except Thru-Beam Source		
All Thru-Beam Source Models		

Approximate Dimensions — NanoView Series

Models	Diagram
Cable Models	 <p>Adjustment Pot (E71-P/S/C)</p> <p>Stability LED Power On LED Output LED</p> <p>0.13 (3.2) 0.17 (4.2) 0.94 (24.0) 0.16 (2.6) (4.0) 0.10 (10.7) 0.42 (20.0) 0.79 (20.0) 0.47 (12.0) 1.26 (32.0) 0.20 (5.0) ø0.15 (3.7)</p>
Nano Connector Models	 <p>Adjustment Pot (E71-P/S/C)</p> <p>Stability LED Power On LED Output LED</p> <p>0.13 (3.2) 0.17 (4.2) 0.94 (24.0) 0.16 (2.6) (4.0) 0.10 (10.7) 0.42 (20.0) 0.79 (20.0) 0.47 (12.0) 1.26 (32.0) 0.15 (3.8) M8</p>

Detection Diagrams — NanoView Series

Models	Diagram
Thru-Beam Models	<p style="text-align: center;">E71-N ①</p>  <p style="text-align: center;">Sensing Distance</p> <p style="text-align: center;">E71-T ①</p>  <p style="text-align: center;">Sensing Distance</p>
Polarized Reflex Models	<p style="text-align: center;">E71-P ①</p>  <p style="text-align: center;">Sensing Distance</p>
Diffuse Reflective Models	<p style="text-align: center;">E71-S ①</p>  <p style="text-align: center;">Sensing Distance</p>
Fixed Focus Diffuse Models	<p style="text-align: center;">E71-F ①</p>  <p style="text-align: center;">Sensing Distance</p>
Clear Object Detector Models	<p style="text-align: center;">E71-C ①</p>  <p style="text-align: center;">Sensing Distance</p>

① These diagrams depict the width of the sensing beam over distance. These diagrams also show the sensing difference between white and gray targets. Because gray is less reflective than white, gray targets will typically need to come closer to the beam centerpoint to be detected.

Specifications — NanoView Series

	For E71-T/N (Thru-Beam)	For E71-P (Polarized Reflex)	For E71-S (Diffuse Reflective)	For E71-F (Fixed Focus Diffuse)	For E71-C (Clear Object Detector)
Input Voltage	10-30V DC				
Current Consumption (Output Current Excluded)	35 mA max.				
Outputs	Light Operate and Dark Operate; PNP or NPN by model; 30V DC max.				
Output Current	100 mA max.				
Output Saturation Voltage	2V max.				
Electrical Protection	Short Circuit and Reverse Polarity Protection				
Response Time	1 ms max.				
Switching Frequency	500 Hz max.				
Indicator LEDs	Output LED (yellow), Stability LED (green), Power LED (green)				
Sensing Adjustment	None	Adjustment Pot		None	Adjustment Pot
Operating Temperature	-25 to +55°C (-13 to +131°F)				
Storage Temperature	-25 to +70°C (-13 to +158°F)				
Sensing Range	Standard Beam: 19.7 ft. (6.0 m) Narrow Beam: 4.9 ft. (1.5 m)	8.2 ft. (2.5 m)	13.8 in. (35 cm)	3.9 in. (10 cm)	31.5 in. (80 cm)
Beam Type	Infrared LED (880 nm)	Visible Red LED (660 nm)	Infrared LED (880 nm)	Visible Red LED (660 nm)	
Vibration and Shock	Vibration: 0.5 mm Amplitude, 10-55 Hz for every axis (EN60068-2-6); Half sine, 30 g _N , 11 ms, 3 axes				
Housing Material	ABS UL 94V-0				
Lens Material	PMMA				
Mechanical Protection	IP67	IP66		IP67	IP66
Connections	M8 4-Pin Nano Connector; 6-Foot (2 m) Cable				
Weight	Connector Models: 40g max. Cable Models: 10g max.				
Approvals	UL, C-UL, CE				

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