



## Description

The 45AST area array is a compact, easy-to-use, nonsafety light array for small parts detection and assembly applications. This transmitted beam array is ideal for use in a variety of applications from counting to process initiation.

## Features

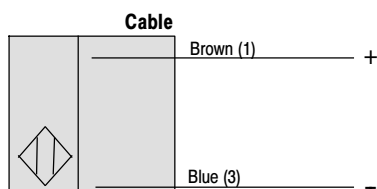
- Two-dimensional array scanning technology
- Sensing ranges up to 2.5 m (8.2 ft)
- Minimum object resolution from 11...17 mm (0.43...0.66 in.)
- Highly visible alignment LEDs
- Easy bracket-free mounting
- IP67 rated housing

## Specifications

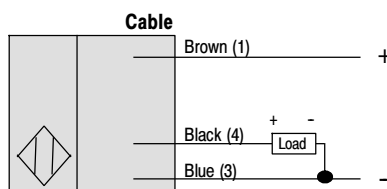
Environmental	
Certifications	cULus and CE Marked for all applicable directives
Operating Environment	IP67
Operating Temperature [C (F)]	-10...+55° (14...+131°)
Vibration	10...55 Hz, 1 mm amplitude, meets or exceeds IEC 60947-5-2
Shock	30 g with 1 ms pulse duration, meets or exceeds IEC 60947-5-2
Relative Humidity	35...85%
Ambient Light Immunity	5000 lux max.
Optical	
Sensing Modes	Transmitted beam
Sensing Range	2.5 m (8.2 ft) max.
Number of Optical Axis	5 or 10 by cat. no.
Light Source	Infrared LED (860 nm)
LED Indicators	Green LED for transmitter, green LED for alignment on receiver, and three orange LEDs for output
Electrical	
Voltage	12...24V DC ±10% ripple
Current Consumption	Transmitter (80 mA max.), Receiver (110 mA max.)
Sensor Protection	Reverse polarity, short circuit protection
Outputs	
Response Time	4 ms or 8 ms max by cat. no.
Output Type	PNP or NPN by cat. no.
Output Mode	Light operate
Output Current	100 mA @ 24V DC
Output Leakage Current	10 µA max
Mechanical	
Housing Material	Aluminum
Lens Material	Acrylic
Connection Types	4-pin DC micro (M12) pigtail
Supplied Accessories	None
Optional Accessories	Mounting brackets, reflectors, cordsets

## Wiring Diagrams

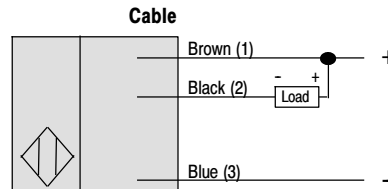
### Emitter



### PNP Output



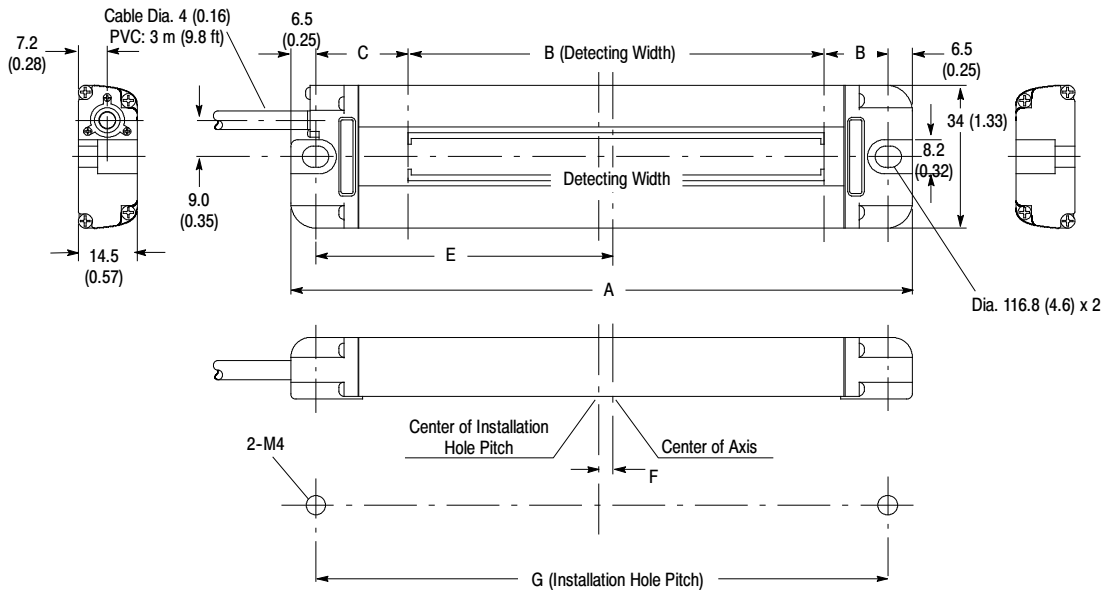
### NPN Output



# PHOTOSWITCH® Photoelectric Sensors

## 45AST Area Array

### Approximate Dimensions [mm (in.)]



1 Refer to [www.ab.com/e-tools](http://www.ab.com/e-tools) for 2D and 3D CAD drawings.

Model	[mm (in.)]						
	A	B	C	D	E	F	G
45AST-1J $\emptyset$ B1-F4	100 (3.93)	50 (1.96)	22.5 (0.88)	14.5 (0.57)	47.5 (1.87)	4 (0.15)	87 (3.42)
45AST-1J $\emptyset$ B2-F4	150 (5.9)	100 (3.93)	22 (0.86)	15 (0.59)	72 (2.83)	3.5 (0.13)	137 (5.39)
45AST-1J $\emptyset$ B3-F4							137 (5.39)
45AST-1J $\emptyset$ B4-F4	200 (7.87)	150 (5.9)	22 (0.86)	15 (0.59)	97 (3.81)	3.5 (0.13)	187 (7.36)

2 N = NPN and P = PNP.

### Product Selection

Sensing Mode	Sensing Distance	Sensing Height [mm (in.)]	Minimum Object Resolution Diameter [mm (in.)]	Number of Optical Axis	Output Type	Cat. No.
	0.5...2 m (1.6...6.5 ft)	50 (1.96)	15 (0.59)	5	NPN	45AST-1JNB1-F4
					PNP	<b>45AST-1JPB1-F4</b>
	0.15...0.8 m (0.49...2.62 ft)	100 (3.93)	11 (0.43)	10	NPN	45AST-1JNB2-F4
					PNP	<b>45AST-1JPB2-F4</b>
	0.5...2.5 m (1.6...8.2 ft)	100 (3.93)	13 (0.51)	10	NPN	45AST-1JNB3-F4
					PNP	<b>45AST-1JPB3-F4</b>
<b>Transmitted Beam Area Array</b> <b>Emitter LED: Infrared 860 nm</b>	0.15...0.8 m (0.49...2.62 ft)	150 (5.9)	17 (0.66)	10	NPN	45AST-1JNB4-F4
					PNP	<b>45AST-1JPB4-F4</b>

**Note:** All sensor models are rated for 12...24V DC and can drive loads requiring up to 100 mA. NPN output models typically have longer lead times.

### Accessories

Description	Cat. No.
2 m (6.5 ft) 4-pin DC micro (M12) QD cordset	889D-F4AC-2
	889D-F4AC-5