



**Description**

The PTFE encased 42KF photoelectric sensor is an ideal solution for liquid level detection applications typically found in the semiconductor wafer manufacturing and handling industry. The PTFE casing protects both the sensor and the connecting cable from many caustic solutions, which would normally damage other sensors.

Two sensing modes are offered to cover both short- 30cm (11.8in) and long-range, 3m (9.8ft) applications. These are diffuse and transmitted beam. For fiber optic solutions a PTFE coated fiber optic cable is also available.

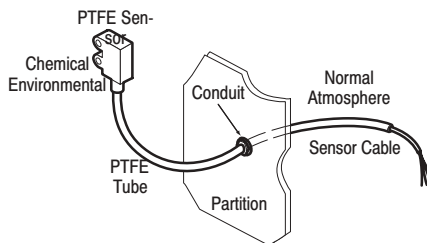
The sensor is DC operated and provides a sinking (NPN) output. An optional output module may be connected inline with the sensor to convert this signal to a sourcing PNP output. This module also doubles as a sensitivity adjustment, allowing the sensing distance to be set manually.

**General Specifications**

<b>Light Source</b>	Infrared LED (880nm)
<b>Unit Protection</b>	Overload, short circuit, reverse polarity, false pulse
<b>Supply Voltage</b>	10.8 to 26.4V DC
<b>Current Consumption</b>	20mA maximum
<b>Output Type</b>	NPN standard, PNP with optional module
<b>Output Mode</b>	Dark operate (transmitted beam) light operate (diffuse)
<b>Output Rating</b>	100mA @ 26.4V DC
<b>Response Time</b>	350µs
<b>Housing Material</b>	Fluorine resin (PTFE) casing
<b>Lens Material</b>	Acrylic
<b>LED Indicators</b>	See User Interface on page 1-196
<b>Connection Types</b>	3m cable, 2m inside PTFE casing
<b>Supplied Accessories</b>	Not applicable
<b>Optional Accessories</b>	AB#61-6736, AB#61-6737 sensitivity module
<b>Operating Environment</b>	NEMA 4X, 12, 13 (IP67) 1200psi washdown
<b>Vibration</b>	10-55Hz, 1mm amplitude, Meets or exceeds IEC 60947-5-2
<b>Shock</b>	30g with 1ms pulse duration, Meets or exceeds IEC 60947-5-2
<b>Operating Temperature</b>	-25°C to +55°C (-13°F to +131°F)
<b>Relative Humidity</b>	5...95%
<b>Approvals</b>	UL listed, C-UL listed, and CE marked for all applicable directives

CAUTION

Sensor not for use in hazardous (classified) locations or where fluorine is present.



**Features**

- PTFE casing for protection in caustic environments
- Diffuse and transmitted beam sensing modes
- Complements Rockwell Automation PTFE coated fiber optic cables
- External sensitivity adjustment
- Fast 350µs response time
- 3m cable connection

**General Information**

- Wiring Diagrams . . . . . page 1-196
- Dimensions . . . . . page 1-196

**Sensing Modes**

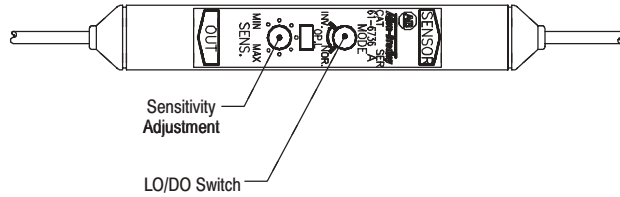
- Standard Diffuse . . . . . page 1-197
- Transmitted Beam . . . . . page 1-198

# 42KF

PTFE Coated Sensor

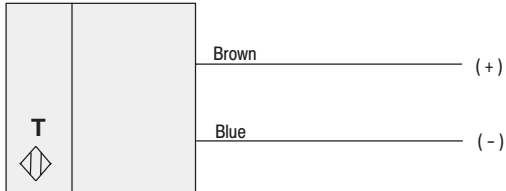
## User Interface Panel—Optional Sensitivity Module

Label	Color	State	Status
None	Green	OFF	Margin < 1X
		ON	Margin > 1X
	Red	OFF	Sensor output de-activated
		ON	Sensor output activated

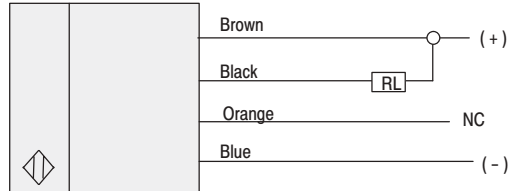


## Wiring Diagrams

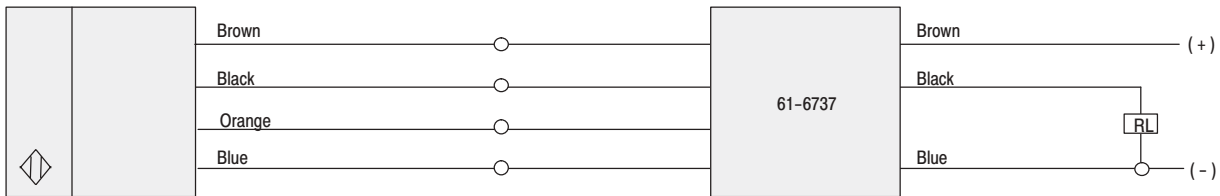
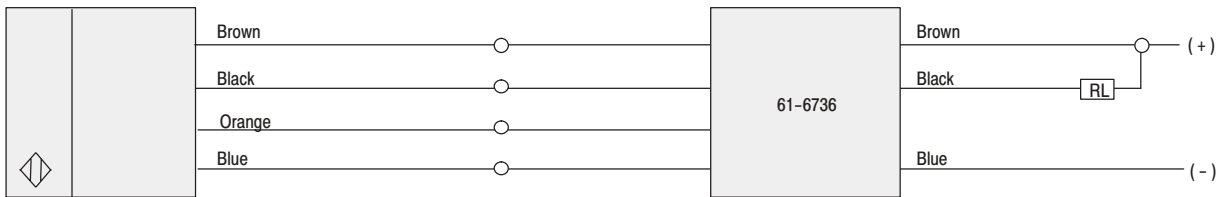
### Transmitted Beam Source



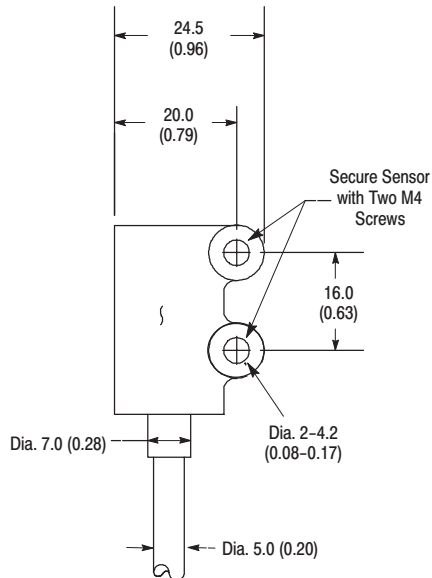
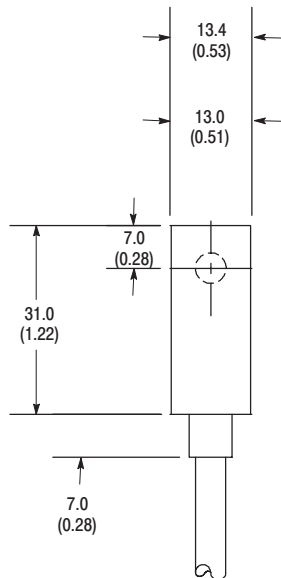
### Sensor without Sensitivity Adjustment Module

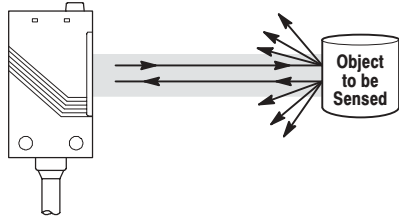


### Sensor with Sensitivity Adjustment Module

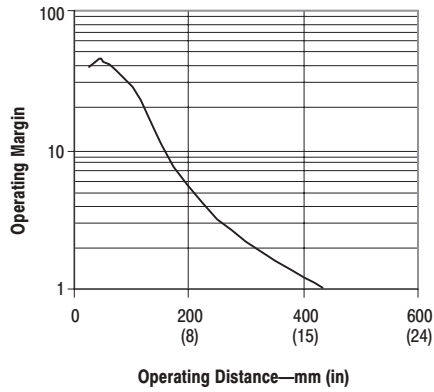


## Dimensions—mm (inches)

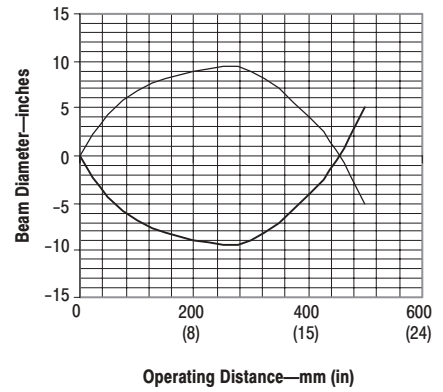




**Typical Response Curves**



**Beam Pattern**



**Specifications**

<b>Field of View</b>	—
<b>Transmitting LED</b>	Infrared 880nm

**Accessories**

Description	Catalog Number
Sensitivity Adjustment Module with NPN Output	61-6736
Sensitivity Adjustment Module with PNP Output	61-6737

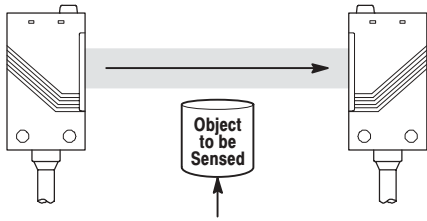
**Product Selection**

Operating Voltage Supply Current	Sensing Distance	Output Energized	Output Type Capacity Response Time	Max Leakage Current	Connection Type	Catalog Number
10.8 to 26.4V DC 12-24V DC >20mA max	30cm (12in)	Light Operate	NPN ①② 10mA @ 26.4V DC 350µs	100µA	3m cable/with 2m coated	42KF-D1KNTH-A3

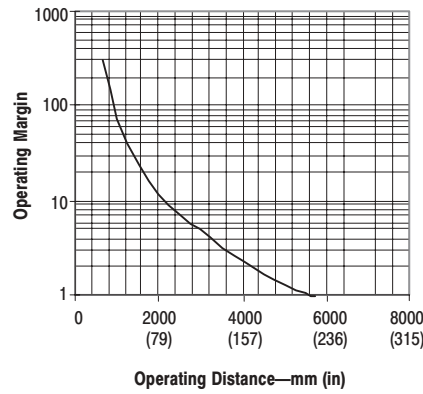
- ① Optional sensitivity module #61-6737 may be installed; which will provide a sourcing PNP output.
- ② 650µs with optional sensitivity module #61-6736 or #61-6737 installed.

# 42KF Transmitted Beam

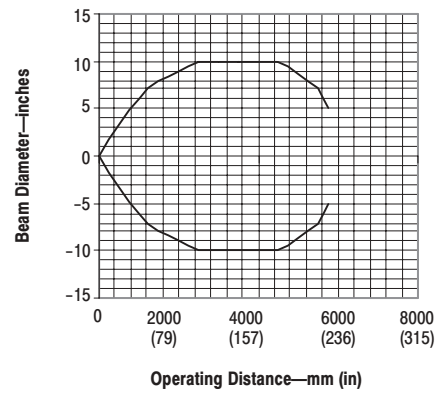
PTFE Coated Sensor



Typical Response Curves



Beam Pattern



## Specifications

Field of View	10° (receiver)
Transmitting LED	Infrared 880nm

## Accessories

Description	Catalog Number
Sensitivity Adjustment Module with NPN Output	61-6736
Sensitivity Adjustment Module with PNP Output	61-6737

## Product Selection

Operating Voltage Supply Current	Sensing Distance	Output Energized	Output Type Capacity Response Time	Max Leakage Current	Connection Type	Catalog Number
10.8 to 26.4V DC 12-24V DC 15mA max	3m (9.8ft) to 300mm (12in)	Dark Operate	NPN ❶ ❷ 10mA @ 26.4V DC 350µs	100mA	3m cable/with 2m coated	42KF-T1JNTN-A3 ❸

- ❶ Optional sensitivity module #61-6737 may be installed; which will provide a sourcing PNP output.
- ❷ 650µs with optional sensitivity module #61-6736 or #61-6737 installed.
- ❸ Catalog number includes emitter and receiver models.