

Installation Instructions—PHOTOSWITCH® Series 5000 Green Line

All Sensors		Retroreflective	Polarized Retroreflective	Standard/Long-Range Diffuse	Transmitted Beam		Glass Fiber Optic	Plastic Fiber Optic	Fixed Focus Diffuse	Wide Angle Diffuse
1	Sensor Type				Receiver	Light Source				
2	Sensing Distance	10m (33ft)	6m (20ft)	3m (10ft)/4.8m (16ft)	117mm (500ft)	—	Depends on fiber optic cable		(FR) 127mm (5in) (VR) 101.6mm (4in)	(FR) 508mm (20in) (VR) 177.8mm (7in)
3	Transmitting LED	Infrared 880nm	Visible red 660nm		Infrared 880nm			Visible red 660nm		
4	Indicators					Red: Output				
5	Field of View	2.5°		3.0°			Depends on fiber optic cable		—	—
6	Sensitivity Adjustment					Yes				
7	Operating Temperature					EM Relay: -40°C to +65°C (-40°F to +150°F) SS Relay: -40°C to +52°C (-40°F to +125°F)				
8	Relative Humidity					90% maximum				
9	Housing/Lens Material					Valox®/Acrylic (Polarized Retroreflective = Valox/Glass)				
10	Cover Gasket Material					Nitrile				
11	Operating Environment					NEMA 3, 4, 12, 13, and IP66 (IEC 529), corrosion resistant, high-impact housing				
12	Approvals					UL listed, CSA certified (except cable style power base), and CE marked for all applicable directives				
13	Protections					Power on False Pulse protection				
14	Vibration					10-55 Hz, 1 mm amplitude, meets or exceeds IEC 947-5-2				
15	Shock					30G, meets or exceeds IEC 947-5-2				
Photohead										
16	Catalog Number	42MRU-5000	42MRU-5200	42MRP-5000 42MRP-5000P	42MRR-5000	42MRL-5000	42MRA-5000-FO	42MRF-5000-FO	42MRA-5000-FF 42MRF-5000-FF	42MRA-5000-WA 42MRF-5000-WA
17	Output Energized									
18	Load Current									
19	Leakage Current									
20	Response Time	1ms + module	2.5ms + module		5ms + module	—			2.5ms + module	
Base										
		120V AC	240V AC	24V AC	24V DC					
21	Catalog Number: Terminal	42MTB-5000	42MTB-5001	42MTB-5003	42MTB-5004				42MTB-5002	
22	Catalog Number: Mini Quick-Disconnect	42MTB-5000QDS-1			42MTB-5004QD4-1					
23	Supply Voltage	102-132V AC	204-254V AC	20-30V AC	20-30V DC				40-54V AC/DC	
24	Power Consumption	2VA	4VA	1VA	1VA				1VA	
Plug-In Output Module										
		8-590	8-594 (6004 only)	8-591	8-592	8-593 (5004 only)				
25	Output Type	SPDT EM Relay		SP-NO FET SS	SP-NO AC TRIAC	NPN and PNP				
26	Output Rating	2A @ 120V AC 1A @ 240V AC		30mA @ 0-120V AC/DC	0.75A @ 24-240V AC	100mA @ 30V DC				
19	Leakage Current	—		10µA	1mA	1µA				
20	Response Time	ON: 10ms—OFF: 15ms		1ms	8ms	1ms				
Plug-In Function Module										
		60-1790	60-1791	60-1798	60-1792	60-1793	60-1794	60-1795	60-1796	60-1797
27	Function		ON/OFF delay		ONE SHOT	ONE SHOT	Delayed ONE SHOT			Motion Detector
28	ON Delay Adjustment	0.05-1.0	0.5-10	0.5-15	—	—	0.1-1.5	1.0-15	—	—

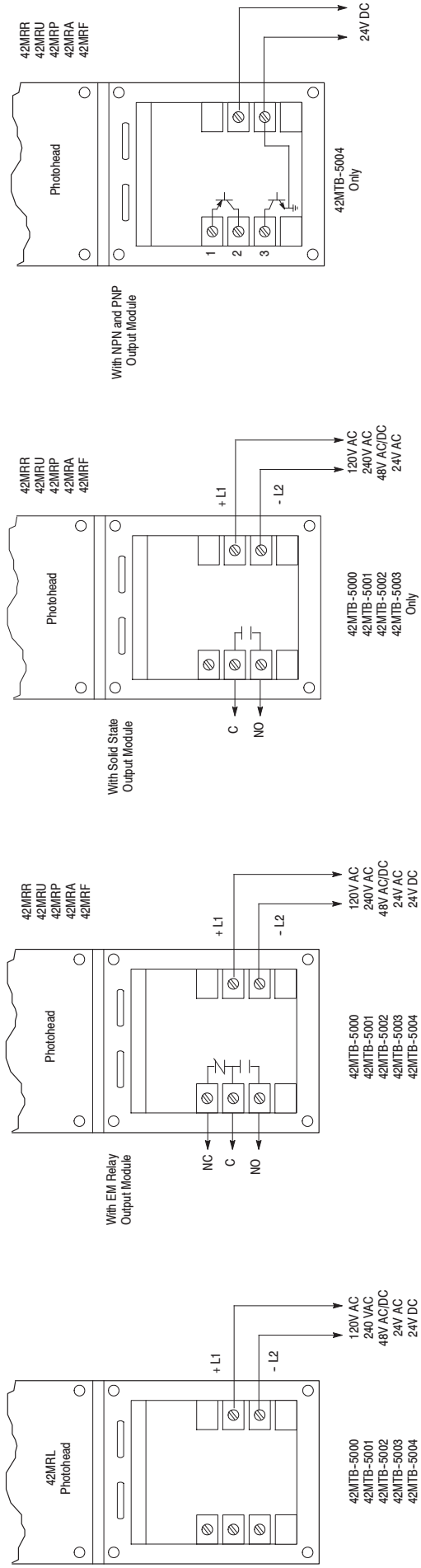
29	OFF Delay Adjustment	0.05-1.5	2-4	2-6	—	—	—	—	0.05-1.5	0.5-15
30	Adjustable Dwell	ON/OFF delay		0.005-0.5	0.02-0.2	—	—	—	—	—

English	Français	Italiano	Deutsch	Español	Português
Operating Distance Selection The maximum operating distance is based on installing the sensor in a relatively clean environment. Normal industrial environments actually range from moderately dusty to extremely dirty. Greater operating margin may be required if the sensor is to be used in a dirty environment. Operating distance is obtained by reducing the operating distance of the control.	Choix de la Distance de Fonctionnement La distance maximale de fonctionnement dépend de la propreté relative de l'environnement d'installation de la cellule. A vrai dire, les environnements industriels normaux vont de modérément poussiéreux à extrêmement saisis. Pour être sûr d'obtenir une marge de fonctionnement suffisante, il est préférable de réduire la distance opérationnelle du contrôle.	Selezione Distanza Operativa La massima distanza di funzionamento si basa sull'installazione del sensore in un ambiente relativamente pulito. Gli ambienti industriali normal vanno in verità da moderatamente polverosi a estremamente sporchi. Per essere sicuri di avere una sufficiente margine di funzionamento, è preferibile ridurre la distanza operativa del controllo.	Wahl der Reichweite Die maximale Reichweite basiert auf einer Installation des Sensors in einer relativ sauberen Umgebung. Normale industrielle Umgebungen sind zumeist jedoch relativ staubig bis schmutzverschmutzt. In diesem Fall ist eine größere Betriebsreichweite durch Reduzierung der durch einen geringeren Abstand erzielt werden kann.	Selección de Distancia de Operación La distancia máxima de operación se basa en la instalación del sensor en un ambiente relativamente limpio. Los ambientes industriales normales fluctúan entre moderadamente polvorientes a extremadamente sucios. Es preferible reducir la distancia operativa del control para obtener un margen de operación suficiente.	Seleção do Alcance O alcance máximo é baseado na instalação do detector em ambiente relativamente limpo. Os ambientes industriais normalmente apresentam condições entre moderadamente polvorentes e extremamente sujos. Poderá obter-se uma maior margem de operação, que pode ser obtida pela redução do alcance do controle.
Retro-reflective	Réflex	A Riflessione	Reflexions-Lichtschranke	Retro-reflexivo	Rétro-élastivo
Polarized Retro-reflective	Réflexe polarisé	Retro-reflectivo polarizzato	Reflexionslichtschranke, polarisiert	Retro-reflexivo polarizado	Feixe Rétro-Refleto, Luz Polarizada
Standard/Long Range Diffuse	Standard/Proximité longue portée	Standard/Trasfer per lunghe distanze	Standard/Lichtstrahl mit grosser Tastweite	Normal/Difuso de Margen Largo	Padrão/Feixe Difuso-Reflexivo de Longo Alcance
Transmitted Beam	Barrière	Barriera	Einweg- Lichtschranke	Haz Transmítido	Feixe tran smítido
Glass Fiber Optic	Fibre optique de verre	Fibre Ottiche in Vetro	Glas-Lichtleiter	Fibra de Vidro Óptica	Fibra óptica de vidro
Plastic Fiber Optic	Fibre optiques plastique	Fibre Ottiche in Plastica	Kunststoff-Lichtleiter	Fibra de Plástico Óptica	Fibra óptica de plástica
Fixed Focus Diffuse	Proximité à focale fixe	Taster fokalizzato	Lichttaster mit fester Fokussierung	Difusa de Foco Fijo	Feixe Difuso-Reflexivo, com Foco Fijo
Wide Angle Diffuse	Proximité grand angle	Taster a Grand'Angolo	Weitwinkel-Lichttaster	Difusa Gran Angular	Feixe difuso-reflexivo, com grande abertura
Light Source	Emetteur	Emititore	Lichtquelle	Fuente de Luz	Emissor
Receiver	Récepteur	Ricevitore	Empfänger	Receptor	Receptor
Depends on fiber optic cable	Depend de la fibre optique	Depende dalla Fibra Ottica	Hängt vom Lichtleiter-Kabel ab	Depende del cable de Fibra Óptica	Depende de cabo de fibra óptica escolhido
Infrared	Infrarouge	Infrarosso	Infrarot	Infrarrojo	Infravermelho
Visible Red	Rouge visible	Fibre ottiche ad emissione Rosso/Visibile	Sichtbares Rotlicht	Rolo Visível	Luz vermelha visível
Red Output	Rouge- Sortie	Rosco- Usclta	Rot- Schaltausgang	Rolo- Salida	Vermelho- Saída
EM Relay	Relais EM	Relé EM	EM Relais	Relé EM	Relé EM
UL listed, CSA certified, and CE marked for all applicable directives	Listés UL, Certifiés CSA, et marqués CE en conformité avec toutes les directives applicables	Elencato UL, certificato CSA, e marcato CE per tutte le direttive applicabili	UL-Einträgung, CSA-Zertifikat und CE-Kennzeichnung für alle anwendbaren Richtlinien	Certificado CSA, listado UL, y marca CE	Certificado por CSA, listado por UL, e marcado com CE segundo diretrizes aplicáveis
10-55Hz, 1mm amplitude, needs or exceeds IEC 947-5-2	10-55Hz, 1mm amplitude, enfilit oder übertrifft IEC 947-5-2	10-55Hz, amplitude 1mm, conforme ou supérieur à la norme CEI 947-5-2	10-55Hz, 1mm di ampiezza, soddisfa o supera le IEC 947-5-2	10-55Hz, 1mm de amplitude, satisfice o supera IEC 947-5-2	10-55Hz, 1mm de amplitude, atende ou excede a norma IEC 947-5-2
Power on false pulse protection	Protection Impulsion à la mise sous tension	Protezione falsi impulsi in accensione	Einschaltimpuls-Unterdrückung	Protecciones contra pulsos en falso en el encendido	Proteção contra pulso falso ao alimentar
Wiring Diagrams	Schémas de câblage	Schema Collegamenti	Anschluss-Schema	Diagramas de Cableado	Diagramas de Conexão
Typical Response Curve	Courbe de réponse	Curva di risposta	Diagramm. Relative Empfangs-Lichtstärke / Reich-/Flashtweite	Curva de Respuesta Típica	Curva de resposta típica
Dimensions	Encombrements	Dimensioni	Dimensionen	Dimensiones	Dimensões
Accessories	Accessories	Accessori	Zubehör	Accesorios	Accesórios
1 Sensor Type	Type de détecteur	Tiplo del sensore	Sensor-Ausführung	Tiplo del sensor	Tiplo do detector
2 Sensing Distance	Distance de Détection	Distanza di Rilevamento	Reichweite	Dispositivo Sensor	Alcance
3 Transmilling (LED)	LED de Transmission	LED di Trasmissione	Lichtquelle (LED)	LED de Transmisión	LED de Transmisão
4 Indicators	Indicators	Indicatori	Anzeigen	Indicadores	Indicadores
5 Field of View	Angle de Visée	Campo di Visione	Sichtbereich	Campo de Visión	Campo de Visão
6 Sensitivity Adjustment	Réglage de Sensibilité	Regolazione della Sensibilità	Empfindlichkeits-Einstellung	Ajuste de Sensibilidad	Ajuste de sensibilidade
7 Operating Temperature	Température de Fonctionnement	Temperatura di Funzionamento	Betriebstemperatur	Temperatura de Operación	Temperatura de Operação
8 Relative Humidity	Humidité Relative	Umidità Relativa	Relative Luftfeuchtigkeit	Humedad Relativa	Umidade Relativa
9 Housing/Lens Material	Matériaux du Boîtier/du Couvercle/des Lentilles	Materiale dell'Involucro/for la Copertura/delle Lenti	Gehäusmaterial/Werkstoff der Abdeckung/Linsenmaterial	Material del Alojamiento/de la Cubierta/del Lente	Materiał da Tampa/Lente
10 Cover Gasket Material	Matériau du joint de capot	Materiale Guarnizioni della Copertura	Dichtungsmaterial für Abdeckung	Materiał da tampa da junta	Materiał da tampa da junta
11 Operating Environment	Environnement Opérationnel	Ambiente Operativo	Betriebsumgebung	Ambiente de Operación	Ambiente de Operação
12 Approvals	Homologations	Approvazioni	Approbation	Aprovações	Aprovações
13 Protections	Protections	Protezioni	Schutzart	Protecciones	Proteções
14 Vibration	Vibration	Vibrazione	Vibration	Vibración	Vibração
15 Shock	Choc	Uffo	Stoek	Impacto	Choque
16 Catalog Number	Référence de Commande	Numero di Catalogo	Bestellnummer	Numero de Catálogo	Número do Catálogo
17 Output Energied	Sortie activée	Usclta	Ausgang aktiviert	Salida Activada	Saída comutada
18 Load Current	Courant de charge	Corrente di Carico	Laststrom	Corriente de Carga	Corrente de carga
19 Leakage Current	Courant de Fuite	Corrente di Dispersione	Ruhestrom	Corriente de Fuga	Corrente de Fuga
20 Response Time	Temps de Réponse	Tempo di Risposta	Anspruchzeit	Tempo de Respuesta	Tempo de Resposta
21 Catalog Number: Terminal	Référence de Commande: Base à bornes	Numero di Catalogo: Morsetti	Bestellnummer: Klemmen	Numero de Catálogo: Terminal	Número do Catálogo: Terminal
22 Catalog Number: Mini Quick-Disconnect	Référence de Commande: Connecteur mini	Numero di Catalogo: Connettore Mini 78*	Bestellnummer: Mini-Steckverbinder	Numero de Catálogo: Conector Mini	Número do Catálogo: Mini Desconexão Rápida
23 Supply Voltage	Tension d'Alimentation	Tensione di Alimentazione	Versorgungsspannung	Voltaje de Alimentación	Tensão de Alimentação
24 Power Consumption	Consumation	Consumo Potenza	Leistungsaufnahme	Consumo de Alimentación eléctrica	Consumo de Energia
25 Output Type	Type de sortie	Tiplo di Usclta	Art des Schaltausgangs	Tiplo de Salida	Tiplo de Saída
26 Output Rating	Caractéristique de sortie	Categoria di usclta	Ausgabebewertung	Características de salida	Especificações de saída
27 Function	Fonction	Funzione	Funktion	Funkción	Função
28 ON Delay Adjustment	Réglage front montant	Regolazione Ritardo all'Inserzione	Einstellung der Anzugsverzögerung	Ajuste de Temporización a la Conexión	Ajuste de retardo de comutação

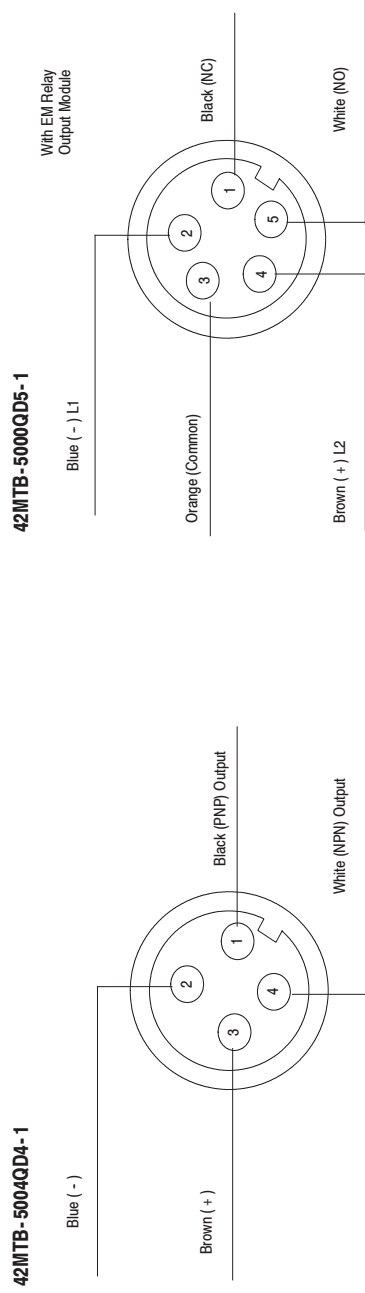
29	OFF Delay Adjustment	Fréglage temporisation front descendant	Regolazione ritardo alla disinserzione	Einstellung der Abfallverzögerung	Ajuste de temporização a la Desconexión	Ajuste de retardo de descomutação
30	Adjustable Dwell	Reglable angle de saturation	Regolabile ablazione	Justierbarer Halt	Ajustable detención	Ajustável interrupção

Wiring Diagrams

With Terminal Style Power Base



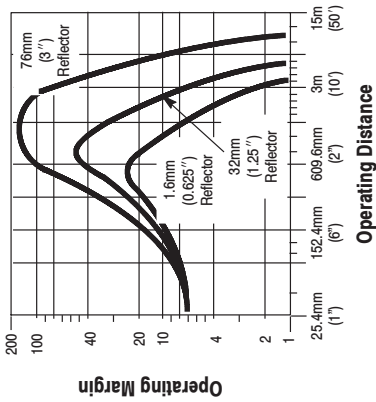
With Mini Quick-Disconnect Style Power Base



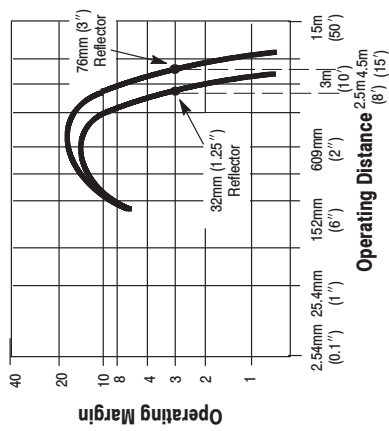
Note: Details of connection of Allen-Bradley Series 5000 photoelectric sensors to Allen-Bradley Programmable Controllers can be found in Publication 42MR-4.0.

Typical Response Curves

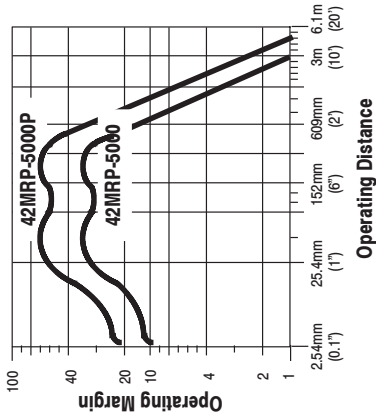
Retroreflective



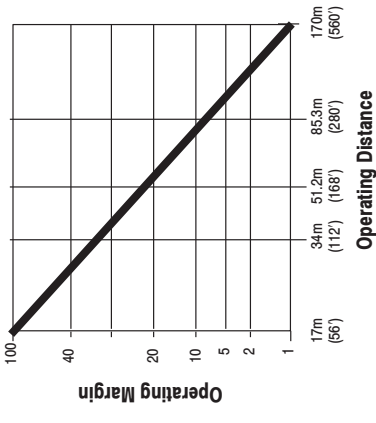
Polarized Retroreflective



Standard Diffuse

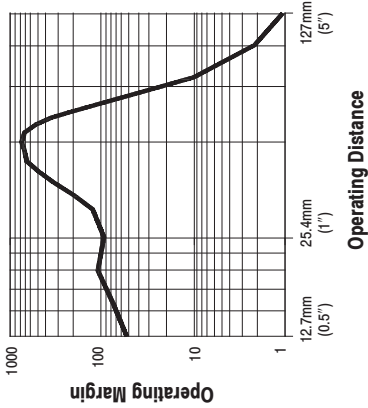


Transmitted Beam

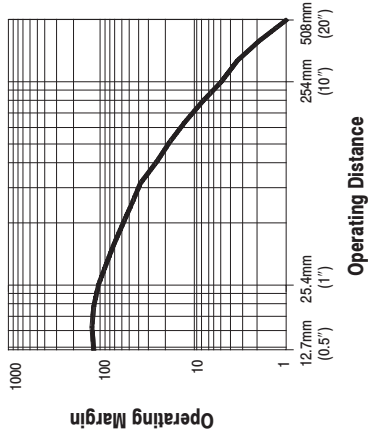


Infrared Glass Fiber Optic/Fixed Focus/Wide Angle Diffuse

Fixed Focus Lens

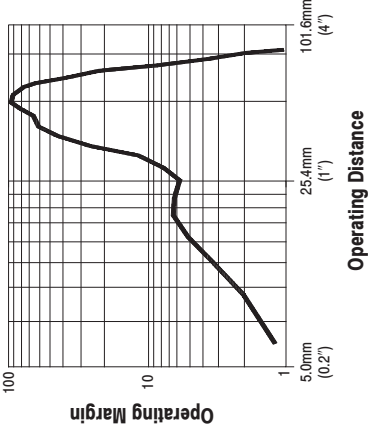


Wide Angle Lens

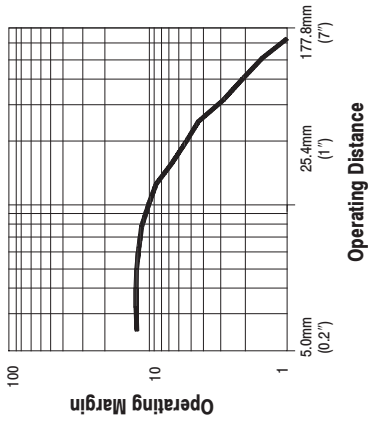


Visible Red Plastic Fiber Optic/Fixed Focus/Wide Angle Diffuse

Fixed Focus Lens

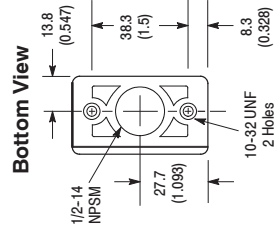
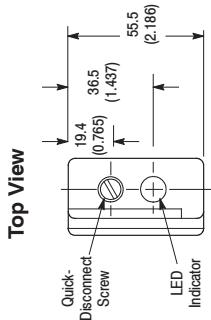
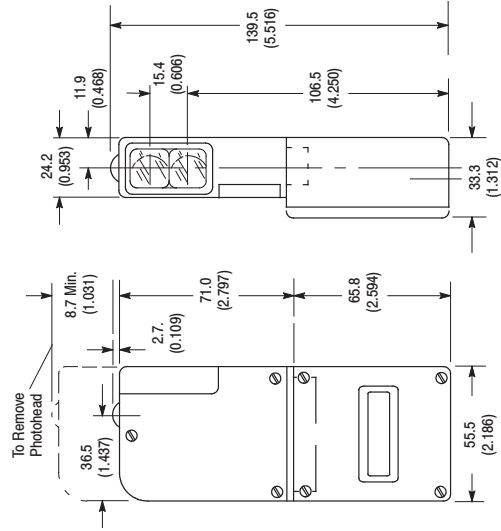


Wide Angle Lens

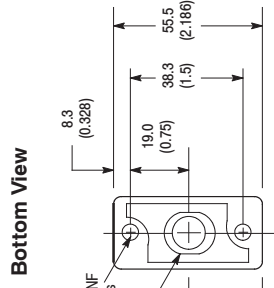
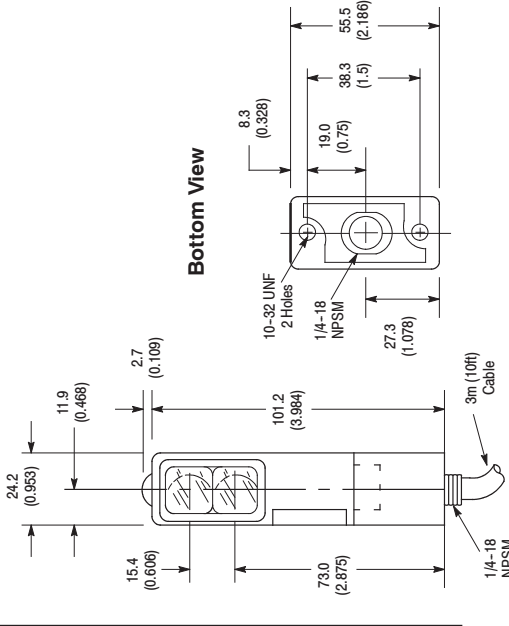


Dimensions—mm (inches)

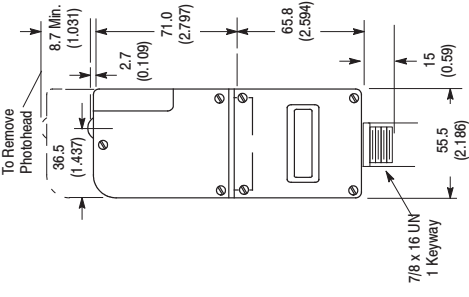
Terminal Style Power Base



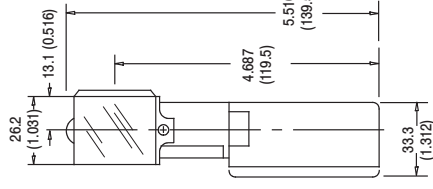
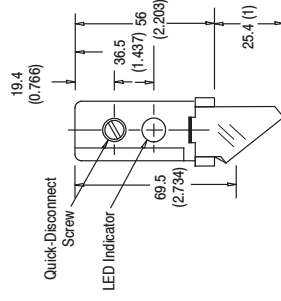
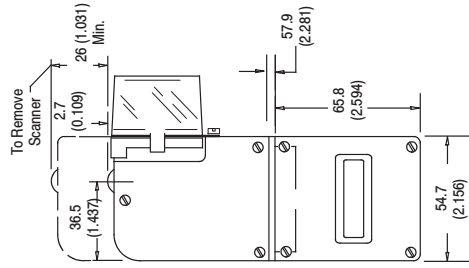
Cable Style Power Base



Quick-Disconnect Style Power Base



Right Angle Mirror Adaptor #60-1840



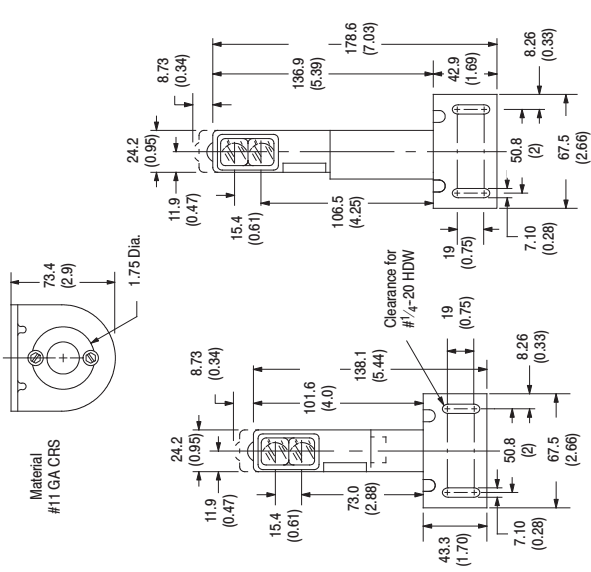
Note: Hardware included with sensor: two (2) nickel plated 10-32 mounting screws.

Accessories—mm (inches)

Lens Assembly

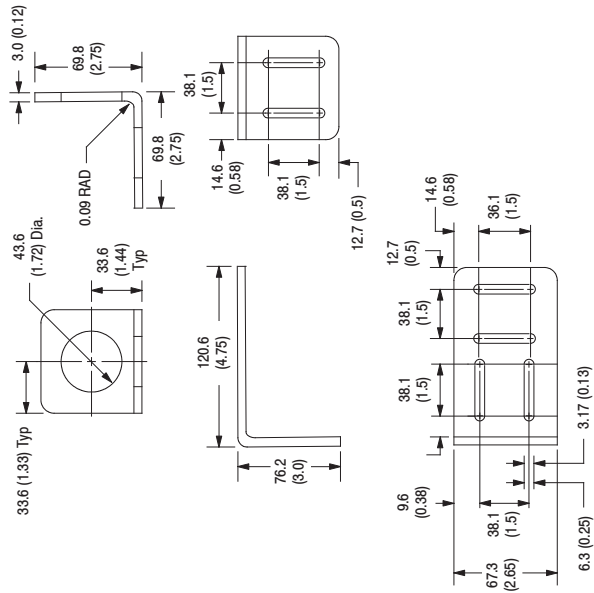
61-5550	Glass Fiber Optic
61-5551	Fixed Focus
61-5611	Wide Angle
61-6310	Plastic Fiber Optic

Accessories—mm (inches) (continued)
General Purpose Mounting Assembly #60-1785

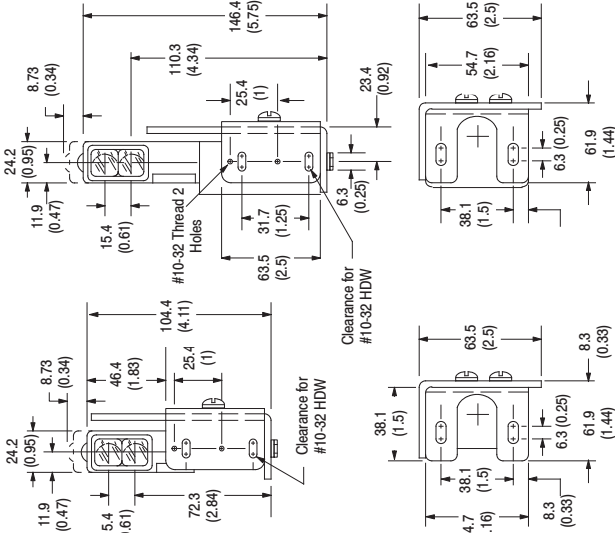


Control with Cable Style Power Base

General Purpose Mounting Assembly #60-1785



Heavy Duty Mounting Assembly #60-1748



Control with Cable Style Power Base

Control with Terminal Style Power Base

Heavy Duty Mounting Assembly #60-1748

