

REMOTE SERIES 4000 PHOTO-SWITCHES

IDEAL SENSOR FOR MONITORING HOT AND COLD PRODUCT
Through Beam • Retro Reflect • Diffuse • All with one unit

Exceptional steam penetration

Accommodates 50mm misalignment

Robust stainless Lenses & Optic Leads withstand up to 400°C

One tubular lens housing for all lens options

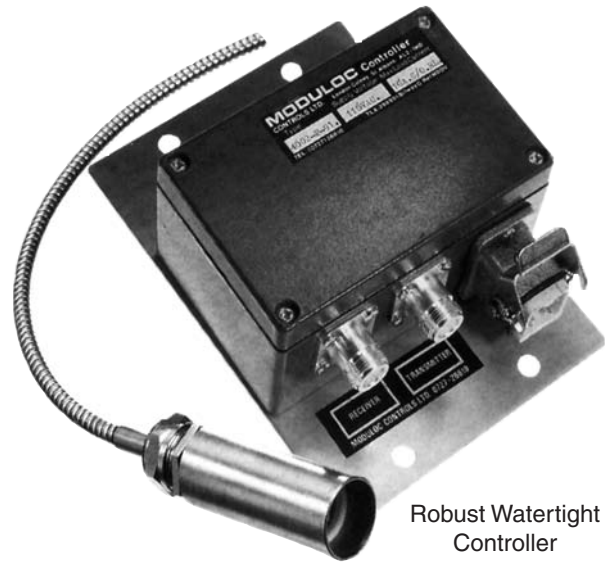
Air purged & water cooled lens mounts available

Two wire silicone extension leads

These Series 4000 photo-switches are specifically designed for detection of both hot and cold product in extreme hostile areas.

Particularly useful where the product is normally too hot to permit use of Proximity or normal Photo-switches yet radiating insufficient I.R. energy for detection by Hot Metal Detectors.

As these switches utilise powerful Gallium Arsenide cells, their pulsed infra-red beams penetrate substantial steam over long distances and operate with the heavy lens contamination. They will also accommodate substantial lens mis-alignment.



Robust Watertight Controller

Remote Stainless Lens

Lens Mounting and Reflector Options

A variety of lens mounting options are available to accommodate installation requirements. Mounting technique may be selected on the basis of purge, cooling and adjustment requirements.



Purged Stainless Transmitter Lens
Type: PST - 07



Purged Stainless Receiver Lens
Type: PSR - 25



Purged and Cooled Stainless Transmitter Lens
Type: PWST - 07



Universal Lift/Swivel Stand
Type: LSS - 36

Purged & Air Cooled Lens Mounting Bracket
Type: BPA - 27



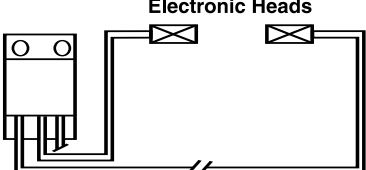
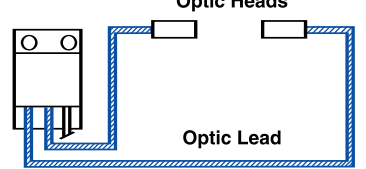
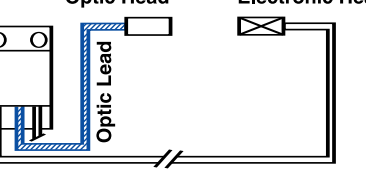
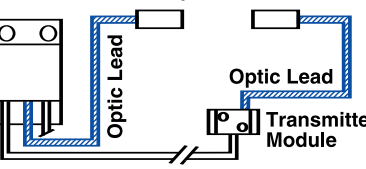
Photo-Switch Components

CONTROLLER/SWITCHING MODULES Switched outputs: SPDT 10 Amp 240 VAC/DC Relay Plug-in modules 4000 & 4007: Additional NPN 30V 60mA max	DESCRIPTION For 110 VAC connection For 240 VAC connection For 24 VDC connection	TYPE NO. MD400_91B MD400_92B MD400_93B
LENSES Tubular 25mmØ Stainless 316 Housing with glass lens Electronic lenses with screw type plug/socket High ambient Optic Lenses with gland fitting	Electronic Transmitter Lens: 15 mtr range Electronic Transmitter Lens: 25 mtr range Electronic Receiver Lens Electronic Retro Lens (combined Transmitter/Receiver) Optic Transmitter Lens: 200°C Spec 5 metre range Optic Receiver Lens: 200°C Spec 15 metre range Optic Receiver Lens: 200°C Spec 5 - 15 metre range Transmitter & Receiver Lens: 400°C Spec Quartz Lens Rod (Through Beam Systems only): 1000°C Spec	ETS LTS ERS RTS F7T FCS F7R F7H Q1R
REMOTE MODULES	Transmitter Module	TDM
SILICONE INTER-CONNECTION LEADS Unscreened 2 core silicone lead with plug/socket both ends.	Various lengths: 5, 10, 20 and 30 metre (* *: Length specified by middle digits)	SC - ** - BB
OPTIC LEADS Stainless sheathed. Plug/socket fitting on controller and gland fitting on lens.	Various lengths: 2 to 10 metre (* *: length specified by middle digits) Standard 200°C Spec. Hi-Temperature 400°C Spec	LG - ** - AB LGH - ** - AB

Selection Chart

Eight models are available to allow the user to select exactly the right mounting and connection technique to suit individual installation parameters. All lenses are in standard 25mm tubular stainless housings. Connections are via common style plug/socket to ensure straightforward inter-changeability of components.

Lenses, Remote Modules, Optic leads and silicone interconnecting leads are ordered separately in addition to the specified controller arrangement. The Optic and silicone interconnecting leads are ordered according to length required. The interconnecting leads (2 core-unscreened) can be extended on site up to 30 metres in length.

Model and Range Spec.	Description	Connection Schematic (Through Beam Configuration)
TYPE 4001.-- Thru-Beam: 25 metres Retro: 10 metres Diffuse: 5 metres	Comprises IP66 Controller, dual remote electronic lenses with silicone connection leads. Allows exposed mounting of controller & lenses where there is no high ambient. Strongest signal.	 <p style="text-align: center;">Electronic Heads</p>
TYPE 4002.-- Thru-Beam: 12 metres Retro: 4 metres Diffuse: 2 metres	Comprises IP66 Controller, dual optic leads with remote optic lenses. Allows exposed mounting of controller & installation of lenses in high ambient. High temperature installations.	 <p style="text-align: center;">Optic Heads</p> <p style="text-align: center;">Optic Lead</p>
TYPE 4004.-- Thru-Beam: 12 metres Retro: 4 metres Diffuse: 2 metres	Comprises IP66 Controller, in conjunction with Remote Transmitter module. Incorporates silicone extension lead and dual optic leads with remote optic lenses. Allows long cable run to one lens and mounting of both lenses in high ambient.	 <p style="text-align: center;">Optic Head Electronic Head</p> <p style="text-align: center;">Optic Lead</p>
TYPE 4005.-- Thru-Beam: 8 metres	Comprises two IP66 Controllers, one transmitter & one receiver complete with optic lead and lenses. Accommodates cabling restrictions & high ambient. Reduced Range.	 <p style="text-align: center;">Optic Heads</p> <p style="text-align: center;">Optic Lead</p> <p style="text-align: center;">Optic Lead</p> <p style="text-align: center;">Transmitter Module</p>

General Specifications

Receivers

RECEIVER CELL - Silicon Photo Transistor

Extraneous light immunity: 40,000 Lux
 Maximum sensitivity: 880nm
 I.R. cut-off filter incorporated
 Maximum cable resistance: 10Ω
 Estimated working life at 55°C: 100,000 hrs.
 Maximum peak temperature: 75°C
 Maximum operating temperature: 55°C

ELECTRONIC RECEIVER LENS - IP65

Receiving angle 12°: Approx. 80%
 Maximum temperatures: As Receiver cell.

OPTIC RECEIVER LENS

Receiving angle: 5 metre range head - 14°, 80%
 15 metre range head - 7°, 80%
 Temperature rating: FCS and F7R head - 180°C
 F7H head - 360°C

Transmitters

TRANSMITTER CELL -Ga ALAs

Modulation: 4 Hz
 Output: 12 mW
 Maximum cable resistance: 10Ω
 Impact resistance: 500 m/s²
 Estimated working life at 30°C: 100,000 hrs.
 Maximum peak temperature: 90°C
 Maximum operating temperature: 55°C

ELECTRONIC TRANSMITTER LENS - IP65

Emission angle: 5 metre head - 8°, 80%
 25 metre head - 3°, 80%
 Maximum temperatures: As Transmitter cell

OPTIC TRANSMITTER LENS

Emission angle: 7°, 80%
 Temperature rating: F7T head - 180°C
 F7H head - 360°C

Controller & Switching Modules

Power Consumption: 1.5 VA

Function LED: Green
 Alignment LED: Red
 Relay Rating: 250 VAC, 5A maximum
 Relay reaction: 40 m.s.
 Maximum operating temperature: -20°C to + 55°C
 NPN transistor rating: NPN 30V, 60 mA
 (Where provided)

CONTROLLER HOUSINGS

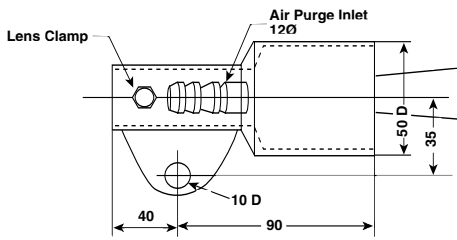
Plug-In module: Plastic ABS
 All Other Housings: Oven baked painted aluminium
 to IP66

Performance data established/estimated by in-house test procedures.

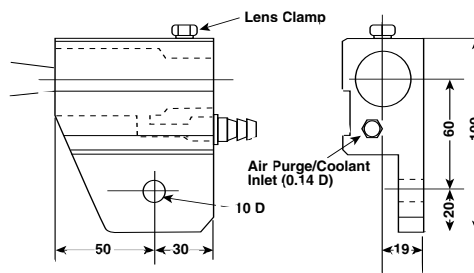
The information presented herein is, to the best of our knowledge accurate. However, please ensure that this information has not been amended or superseded.

Dimensions

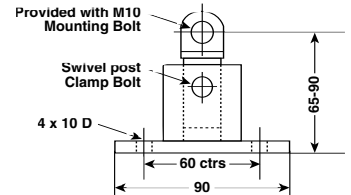
Purged Receiver Mount PSR-25



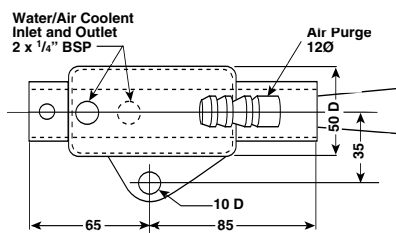
Purged/Cooled Lens Mounting Bracket BPA-27



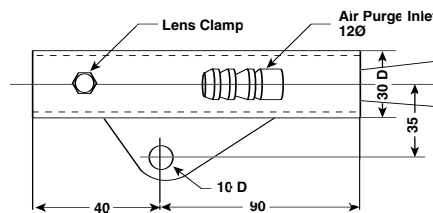
Universal Swivel Stand LSS - 36



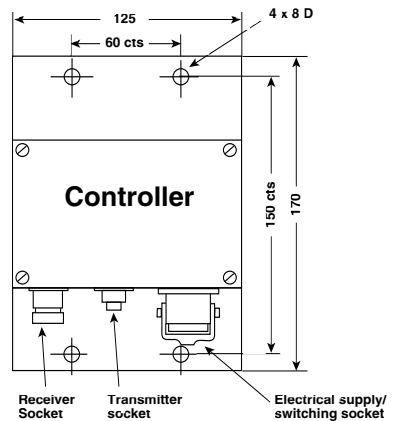
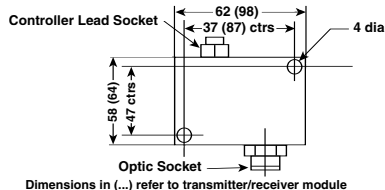
Purged/Cooled Transmitter Mount PWST-07



Purged Transmitter Mount PST-07



Remote Transmitter/Receiver Module



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