



Instruction Leaflet

Miniature fibre optic photoelectric controls

Controllers RS stock no. 340-869, 340-875
Optical fibres RS stock no. 340-881, 340-897

A miniature fibre optic photo electric controller with a choice of either pnp or npn open collector output. Optical fibres are available to enable either diffuse scan or through scan operation. The controller operates from a 10V to 28V $\overline{\text{DC}}$ power supply utilising visible red light. Light on or dark on operation is selectable. The plastic optical fibres can be cut to the required length in the field.

Installation

Fibre cutter

Use the guillotine cutter supplied to trim the optical fibres to the required length. It is recommended that each cutting aperture is used only once, since damage to the cutter blade edge results each time the blade is used.

Always examine the cut end of the fibre to ensure a clean cut has occurred and if necessary, cut again using a new aperture.

Fibre insertion

Do not sleeve the end of the optical fibre.

Release the screw in the control unit cable holder to permit the fibres to slide fully into the connector. (Do not remove screw).

When both fibres are fully inserted, tighten the screw to prevent withdrawal. **DO NOT OVERTIGHTEN SCREW.**

- Note:**
1. Avoid impact or abrasion of sensing end of fibre. This will reduce its performance.
 2. Use generous bend radii for fibre optic cables, minimum bend radius is 25mm.
 3. Do not tension the fibre otherwise damage to the sensing head or withdrawal from the control unit may occur.
 4. Do not overtighten the sensing head fixing nuts. When tightening the fixing nuts ensure that the fibre cable is not twisted. Allow the fibres to assume natural positions wherever possible.

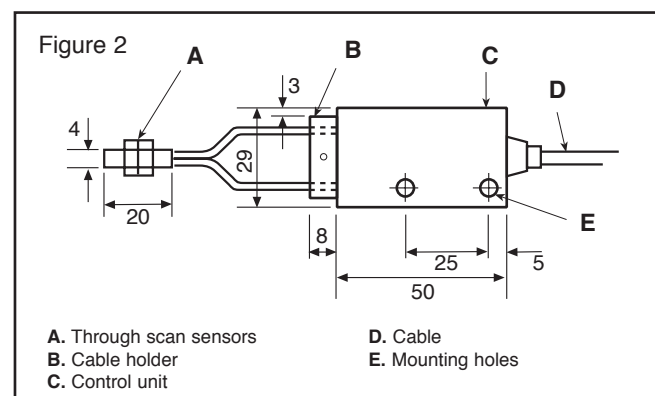
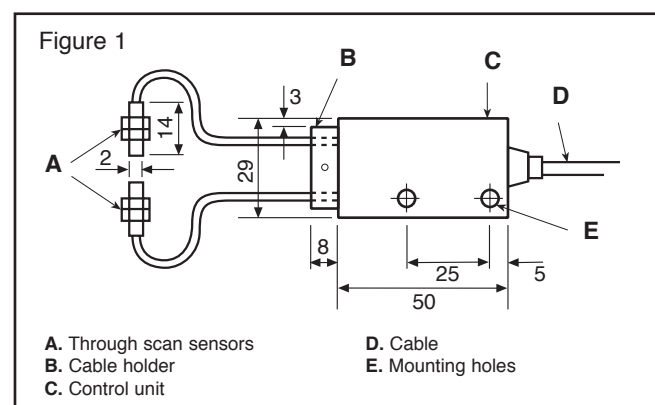
Through scan

For through scan operation separate emitter and receiver optical fibres are inserted into the cable holder at the front of the control unit. The object to be detected must interrupt the light beam (see fig 1).

Diffuse scan

Diffuse scan uses the bifurcated (Y-type) optical fibre (see fig 2). The emitted light is reflected from the object into the receiving part of the fibre.

Mounting dimensions



Mounting and alignment

1. Apply power, the LED indicator on the control unit should remain off.
2. Position the object to be detected in line with sensor head. Do not exceed the maximum recommended scanning range. In case of through scan operation the receiver must be positioned in line with the emitter.
3. When the maximum light falls on the receiver the bi-colour LED indicator is green. However, when the light level is reduced to below 150% of the maximum operating level is LED is red.
4. By moving the object or through scan receiver end tip to the left, right, up and down approximate beam centre can be determined. This is the optimum scanning position.
5. Make sure that the controller and sensor heads are securely mounted. A mounting bracket is included with the controller.
6. To check the operation, block the beam several times; the LED indicator on the control units should turn off and on.

