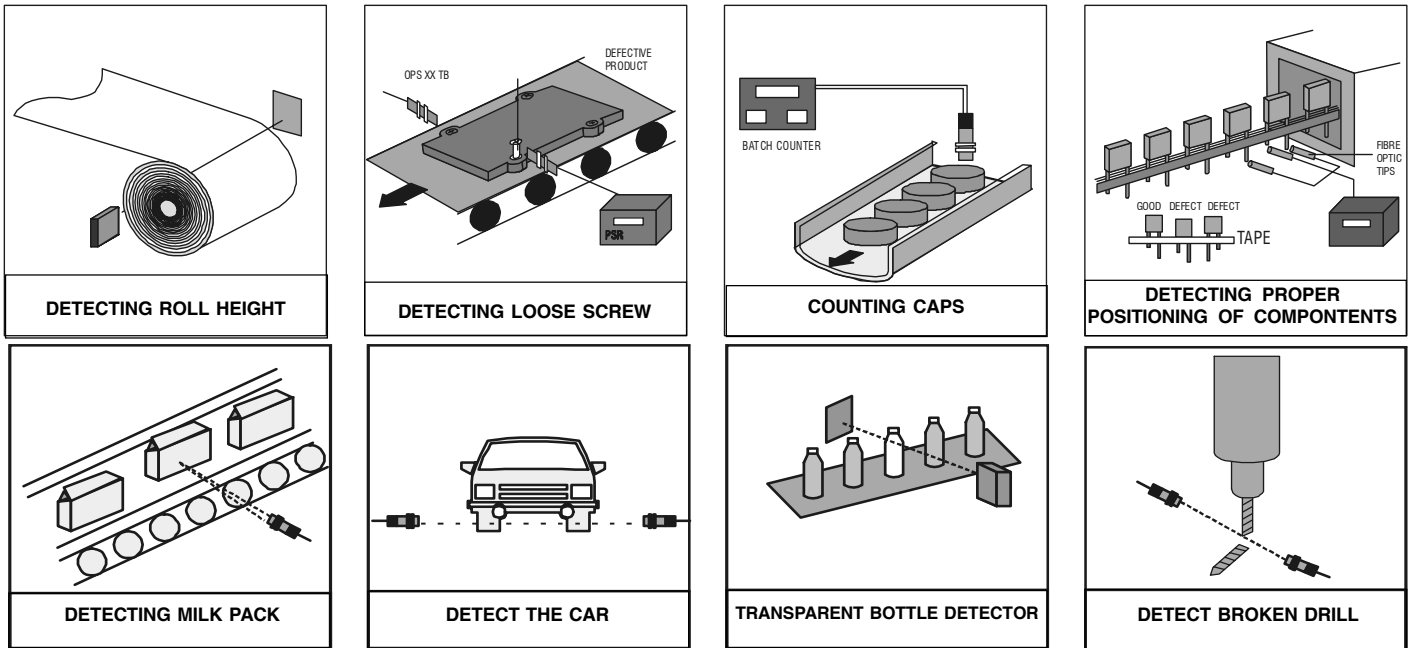


APPLICATION SKETCHES : PHOTOELECTRIC / OPTICAL / INFRARED PROXIMITY SWITCH



PHOTOELECTRICAL - OPTICAL - INFRARED PROXIMITY SWITCH / SYSTEM

Optical proximity switches are used where higher sensing distance is required with non contact operation. The object can be sensed by three methods

A) DIFFUSED REFLECTIVE TYPE :

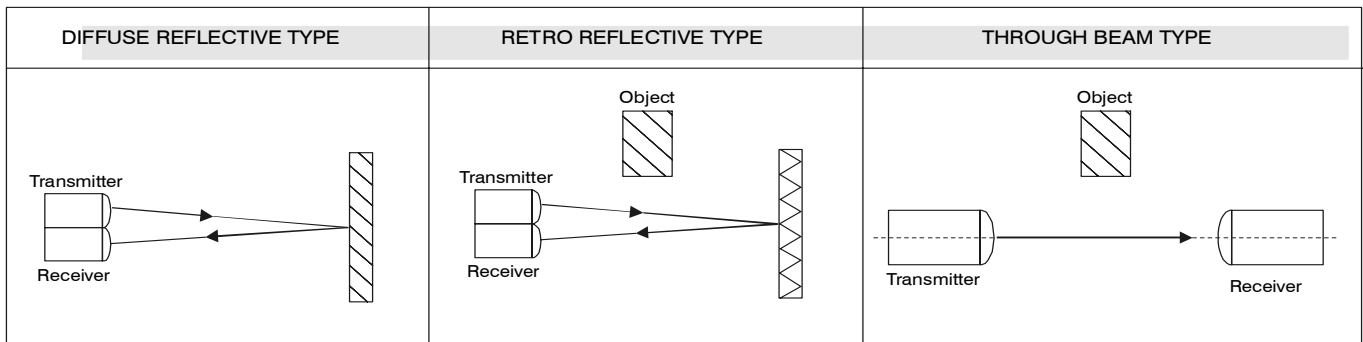
This is a fixed focused type of switch. Transmitter and receiver enclosed in one housing. Transmitted beam strikes on the object (when the object enters the sensing range) and gets reflected by object surface. Receiver detects these rays and output signal is produced.

B) RETRO REFLECTIVE TYPE :

Transmitter and receiver are housed in single housing and aligned with the reflector. The beam reflected by the reflector gets back to the receiver. Object breaking the light beam causes a change at the receiver. This change initiates an output signal.

C) THROUGH BEAM TYPE :

Transmitter and receiver are enclosed in two separate housings. When they are aligned light beam travels from transmitter to receiver. Object breaking the light beam causes a change in the receiver. This change is detected and output signal is produced to drive external relay



A special modulating circuit is developed and used in Protocontrol optical sensors to make them unique for working in adverse atmospheric conditions.

CORRECTION FACTOR FOR VARIOUS OBJECTS

Material	White Paper	Black anodised Alu.	Metal glossy	PVC	Wood	Cotton Cloth (white)	Carton (black)
Factor	1	1.1 to 1.5	1.1 to 1.6	0.5	0.4	0.6	0.1 - 0.3

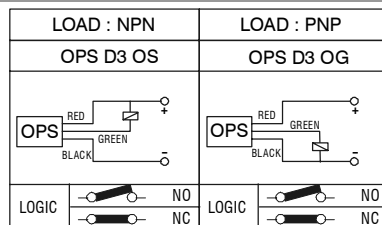
THREE WIRE DC SWITCH **CPS D3**

COMMON SPECIFICATIONS :

- SUPPLY VOLTAGE : 10-30V DC.
- MAX. LOAD CURRENT : 250 m Amp.
- CABLE LENGTH PER SWITCH : 2 Mtrs for standard models with built in cable.

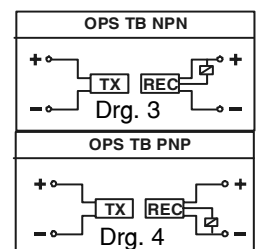
PROTECTIONS :

- Transient noise protection : provided
- Reverse polarity protection : provided
- Short circuit protection : provided

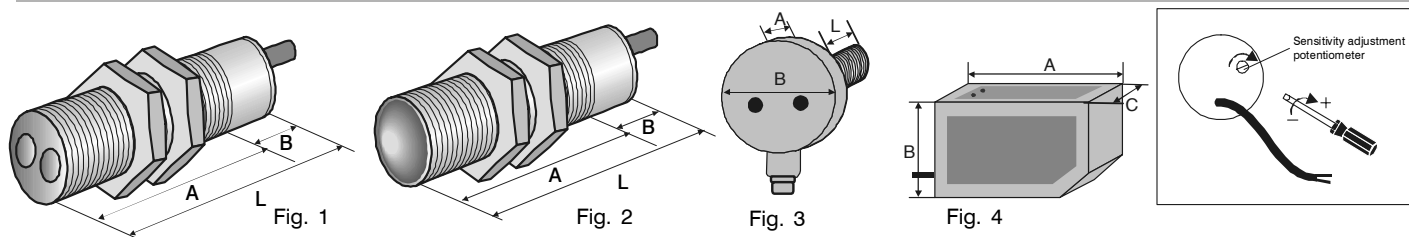


Drg. 1

Drg. 2



CYLINDRICAL / THREADED ENCLOSURE



DIFFUSE TYPE BUILT IN TRANSMITTER AND RECEIVER IN SINGLE HOUSING OPS D3 MD

SIZE	SENSING RANGE mm	OUTPUT MODE	LOGIC	WORKING	FIG. NO	DIMENSIONS A B		WIRING TYPE NO C L DIAGRAM			
M18X1	100	PNP	NO	DIFFUSE	1	60	20	-	80	2	OPS D3 OG NO M18D1
	100	NPN	NO	DIFFUSE	1	60	20	-	80	1	OPS D3 OS NO M18D1
	400	PNP	NO	DIFFUSE	1	60	20	-	80	2	OPS D3 OG NO M18D4
	400	NPN	NO	DIFFUSE	1	60	20	-	80	1	OPS D3 OS NO M18D4
	400	PNP	NO	DIFFUSE	3	17	38	-	32	2	OPS D3 OG NO M18DTQ4
	400	NPN	NO	DIFFUSE	3	17	38	-	32	1	OPS D3 OS NO M18DTQ4

RETRO REFLECTIVE TYPE, TO BE USED WITH REFLECTOR (Refer Accessories for Reflector) OPS D3 M R

M18X1	2000	PNP	NO	RETRO	1	60	20	-	80	2	OPS D3 OG NO M18R2
	2000	NPN	NO	RETRO	1	60	20	-	80	1	OPS D3 OS NO M18R2

THROUGH BEAM TYPE WITH SEPARATE TRANSMITTER AND RECEIVER OPS D3 M T

M18X1	10000	PNP	NO	THR. BEAM	2	60	20	-	80	4	OPS D3 OG NO M18T10
	10000	NPN	NO	THR. BEAM	2	60	20	-	80	3	OPS D3 OS NO M18T10

MINI , LONG RANGE , SQUARE ENCLOSURE,IP 65 OPS D3 B

BLOCK	600	PNP	NO	DIFFUSE	4	50	50	18	APRX.	4	OPS D3 OG NO BD6
	600	NPN	NO	DIFFUSE	4	50	50	18	APRX.	3	OPS D3 OS NO BD6
BLOCK	2000	PNP	NO	RETRO	4	50	50	18	APRX.	4	OPS D3 OG NO BR2
	2000	NPN	NO	RETRO	4	50	50	18	APRX.	3	OPS D3 OS NO BR2
BLOCK	6000	PNP	NO	THR. BEAM	4	50	50	18	APRX.	4	OPS D3 OG NO BT6
	6000	NPN	NO	THR. BEAM	4	50	50	18	APRX.	3	OPS D3 OS NO BT6

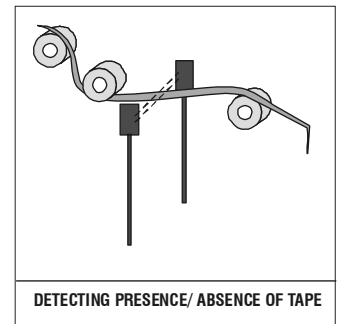
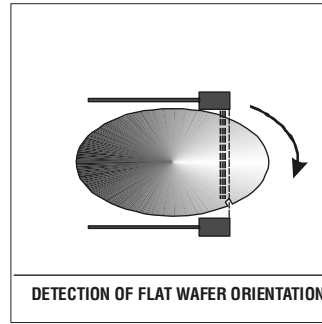
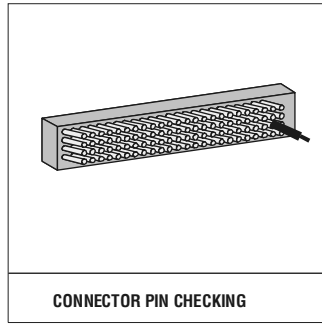
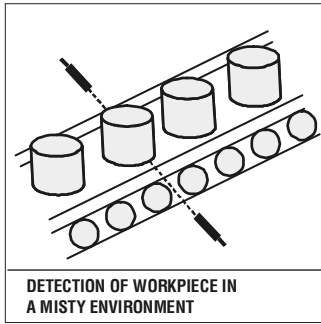
MINI , LONG RANGE , SQUARE ENCLOSURE IP 65, AC TYPE OPS A2 B

Supply : 90-230 V AC
Output : 1 NO relay contact rated for 2 Amp resistive at 230 V AC

BLOCK	500		NO	DIFFUSE	4	50	50	18	APRX.	4	OPS A2 NO BD5
	2000		NO	RETRO.	4	50	50	18	APRX.	4	OPS A2 NO BR2
	6000		NO	THR. BEAM	4	50	50	18	APRX.	4	OPS A2 NO BT6

FIBRE AMPLIFIER FOR FIBRE OPTIC CABLES

FA



Fiber Amplifier receives light from fiber optic cable, they are developed for sensing miniature object precisely object of size 0.01mm can also be detected by switch.

FEATURES :

- High speed response: 0.5 m Sec
- Abel to detect small targets and mount to tiny place
- Select suitable fiber optic cable
- With sensitivity adjustment, Light Source: Red light
- Power supply: 12 – 24 V DC
- Control Output: 100 m A

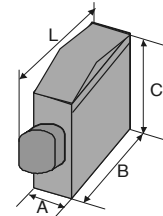


FIG NO. 1

SIZE	OUTPUT MODE	LOGIC	FIG. NO	DIMENSIONS				TYPE NO
				A	B	C	L	
BLOCK	PNP	NO	1	15	56	34.3	65	OPS OG FA
BLOCK	NPN	NO	1	15	56	34.3	65	OPS OS FA

FIBRE OPTIC CABLE

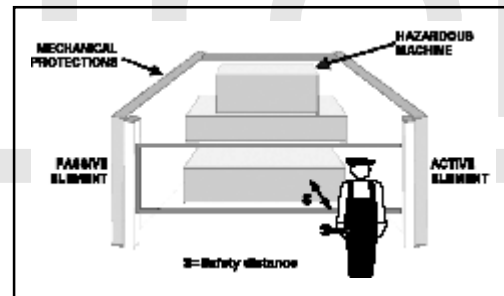
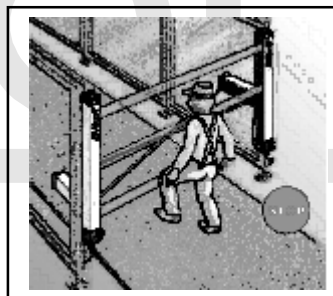
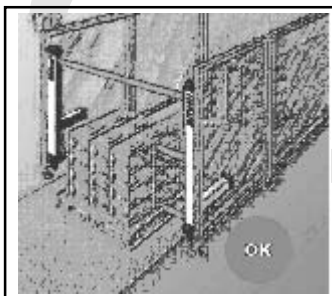
FOC

Protocontrol offers variety of fiber optic cables to suite every application. Different sizes, shapes and offered with different cable length. Please inform your application so as to offer you suitable cable.

- FOC TB : Through Beam
- FOC D : Diffuse Reflective

LIGHT CURTAIN / GENERAL PURPOSE AREA SENSOR

AS



Designed for general industrial use, Protocontrol Light Curtains find application in detecting physical interruption.

Applications :

- Confirmation of ejection of Plastic moulded products.
- Confirmation of component removal.
- Detection of Person entering in restricted area.

Specification

- a. Light source : Infrared Light Diode.
- b. Control unit :
- Supply Voltage : 230V AC, 50 Hz.
- Input : From Light curtain sensor.
- Output : 2 C/o Relay contact.
- Contact Rating : 5 Amps. Resistive @ 230V AC.
- Enclosure : Sheet metal, IP 30.

NO OF BEAMS	BEAM PITCH mm	DETECTING RANGE (W)	CURTAIN HEIGHT (H)	TYPE NO.		
				AS	8	30
8	30	2 Meters	271	AS	8	30
16	30	2 Meters	510	AS	16	30
24	30	2 Meters	750	AS	24	30

Note : Light curtains with different no of beams, pitch and detecting distance are available.