

**THE SACK FILLING & ROBOT PALLETISING COMPANY LTD**

**TEL: +44 (0)1376 552020 EMAIL: sales@sfrpc.co.uk**

# Multi-Mode Sensor Reference Manual



**THE SACK FILLING &  
ROBOT PALLETISING  
COMPANY**  
LIMITED



## Osiconcept Photo - electrics - diffuse operation (no accessory required)

1. Ensure that nothing is positioned in the sensing zone as shown.
2. The sensor must be ('taught') for diffuse operation by carrying out the following steps :-

•**Total reset** (Not required if as supplied from factory)  
Press and hold the 'teach' button (use the nib of your pen) until all three lights illuminate and flash simultaneously - then release button.



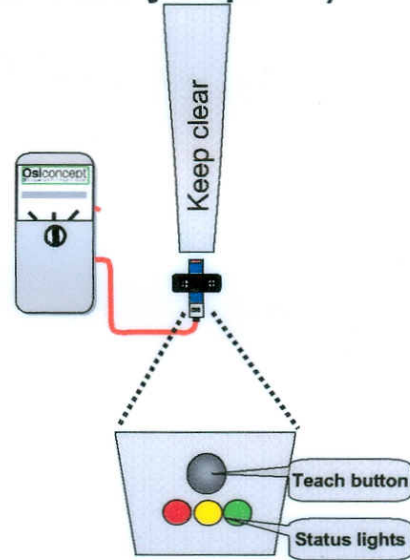
•Just the green light should now be flashing.

3. **Teaching Diffuse** Press and hold the teach button, all the lights will extinguish, keep pressing until the green light illuminates steady- now release the button.



•The sensor is now 'learning' to operate in standard diffuse mode. The green light flashes rapidly during this .

•Once the green light illuminates continuously the sensor is ready for use.



### 4. Testing

Test the sensor is correctly set up by placing an object in front of the sensor. The yellow light should illuminate.

## Osiconcept - Photo - electrics - diffuse operation with background suppression

1. The receiver must be re-configured ('taught') now for 'background suppression' diffuse operation by carrying out the following steps :-

**Total reset** (Not required if as supplied from factory)  
Press and hold the 'teach' button (use the nib of your pen) until all three lights illuminate and flash simultaneously - then release button.



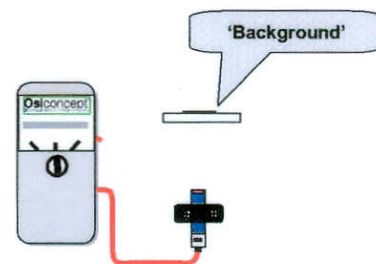
•Just the green light should now be flashing.

2. **Teaching Diffuse with BGS.** Press and hold the teach button, all the lights will extinguish, keep pressing until the green light illuminates steady- now release the button.



•The sensor is now 'learning' to eliminate the background so that only objects in front are detected. The green light flashes rapidly during this .

•Once the green light illuminates continuously the sensor is ready for use.



### 3. Testing

Only objects in front of the 'background' should be detected.

In other words, the sensor is focused to only 'see' up to 150mm (approx).





## Osiconcept - Photo -electrics - diffuse background suppression fine position

### Fine positional detection

1. Having carried out the standard background suppression set-up, it is possible to 'teach' the sensor to only detect the object in a certain position.
2. Make sure the 'background' is in position.
3. Place the object to be detected in the required position. The green and yellow lights should be on in a steady condition.



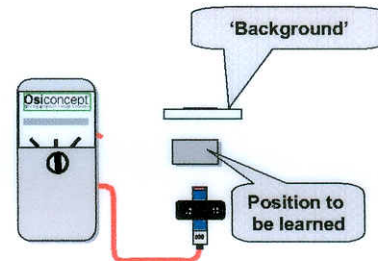
4. The receiver must now be 'taught' where the object is to be detected by carrying out the following additional steps :-

• Press and hold the teach button, all the lights will extinguish, keep pressing until the green light illuminates steady- now release the button.



• The sensor is now 'learning' the position of the object to be detected. The green light flashes rapidly during this .

• Once the green light illuminates continuously the sensor is ready for use.



### 5. Testing

The sensor should only detect the target in the same position as it was when taught.

Test to see that you obtain repeatable results.

## Osiconcept - Photo - electrics - reflex operation (with reflector accessory)

1. Align the reflector centrally as shown.
2. The receiver must be ('taught') for a reflex arrangement by carrying out the following steps :-

• **Total reset** (Not required as supplied from factory)  
Press and hold the 'teach' button (use the nib of your pen) until all three lights illuminate and flash simultaneously - then release button.



• The green light should now be flashing and the yellow light stable\*.

3. **Teaching reflex** Press and hold the button, all the lights will extinguish, keep pressing until the green light illuminates steady- now release the button.

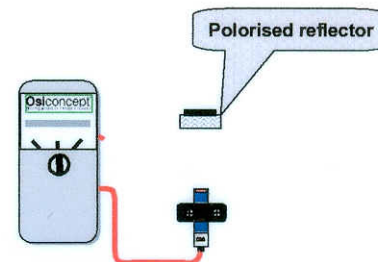


• The sensor is now 'learning' to operate in conjunction with the reflector. The green light flashes rapidly during this .

• Once the green light illuminates continuously the sensor is ready for use.



\*Note: Stable yellow indicates correct alignment with the reflector



### 4. Testing

The sensor should detect the target placed between sensor and reflector.

If the object is semi transparent and is not detected, try optimising the operation as shown on next page.







## Osiconcept - Photo - electrics - reflex operation - adjustment to suit target

1. Some targets, such as semi-transparent objects can be difficult to detect as the light beam simply passes straight through the object.

However, it is possible to 'teach' the Osiconcept photo-electric sensors to detect such objects (depending on how transparent they are).

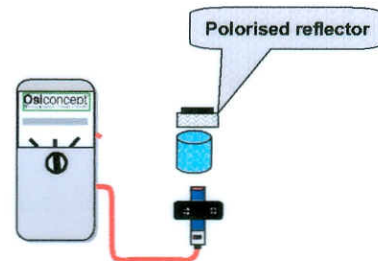
2. To 'teach' the sensor to detect e.g. a semi transparent bottle placed between the sensor and the reflector;  
The unit should be initially programmed for standard reflex operation

•Press and hold the button, all the lights will extinguish, keep pressing until the green light illuminates steady- now release the button.



•The sensor is now 'learning' to operate with this target object (green light flashes).

•Once the green light illuminates continuously the sensor is ready for use.



### 4. Testing

The semi-transparent object should now be reliably detectable!

## Osiconcept - Photo - electrics - through beam operation

1. Position the 'through beam accessory' in line with the photo electric receiver as shown

2. The receiver must be configured ('taught') that it is a through beam arrangement by carrying out the following simple steps:-

•**Total reset** (Not required if as supplied from factory)

Press and hold the 'teach' button (use the nib of your pen) until all three lights illuminate and flash simultaneously - then release button.



•The green light should now be flashing and the yellow light stable\*.

2. **Teaching through beam:** Press and hold the teach button, all the lights will extinguish, keep pressing until the green light illuminates steady- now release the button.

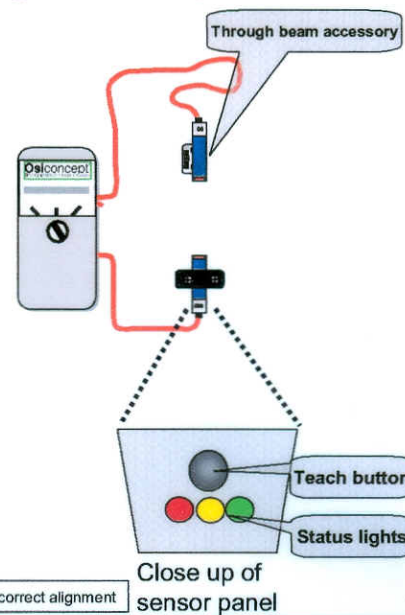


•The receiver is now 'learning' to operate in conjunction with the through beam accessory (transmitter). The green light flashes rapidly during this .

•Once the green light illuminates continuously the sensor is ready for use.



\*Note: Stable yellow indicates correct alignment







## Osiconcept - Photo - electrics - through beam operation - TESTING

### Testing the operation

With no object breaking the (invisible infrared) beam, the beacon should not be illuminated. Only the green power status light should be illuminated.



2. Pass a the target object between the transmitter and the receiver,

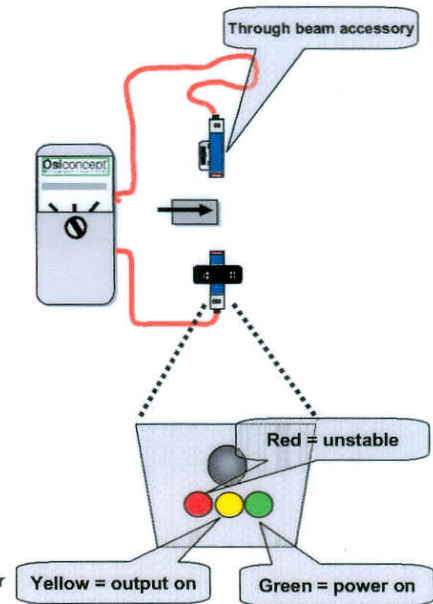
The sensor output should be active with the yellow status light on the sensor



3. Notice that only partially breaking the beam results in the red light illuminating - this indicates unstable operation.



4. If you obtain the above results you have satisfactorily taught the sensor to operate in normal through beam mode.





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**Contact Details**

**Phone: +44 (0)1376 552020**

**Email: [sales@sfrpc.co.uk](mailto:sales@sfrpc.co.uk)**

**The Sack Filling and Robot Palletising Company Ltd.**

**Walthambury House**

**Witham Road**

**Cressing**

**Braintree**

**CM77 8PD**

**United Kingdom**

**VAT Reg: 116642918**

**Company No: 07705339**

