Be Smart, Be Professional

Photoelectric detector

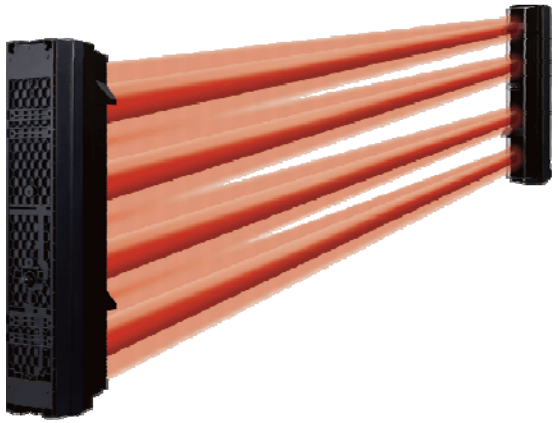
Smart Line series

Advanced model

SL-200QDM/350QDM/650QDM

Standard model

SL-200QDP/350QDP/650QDP

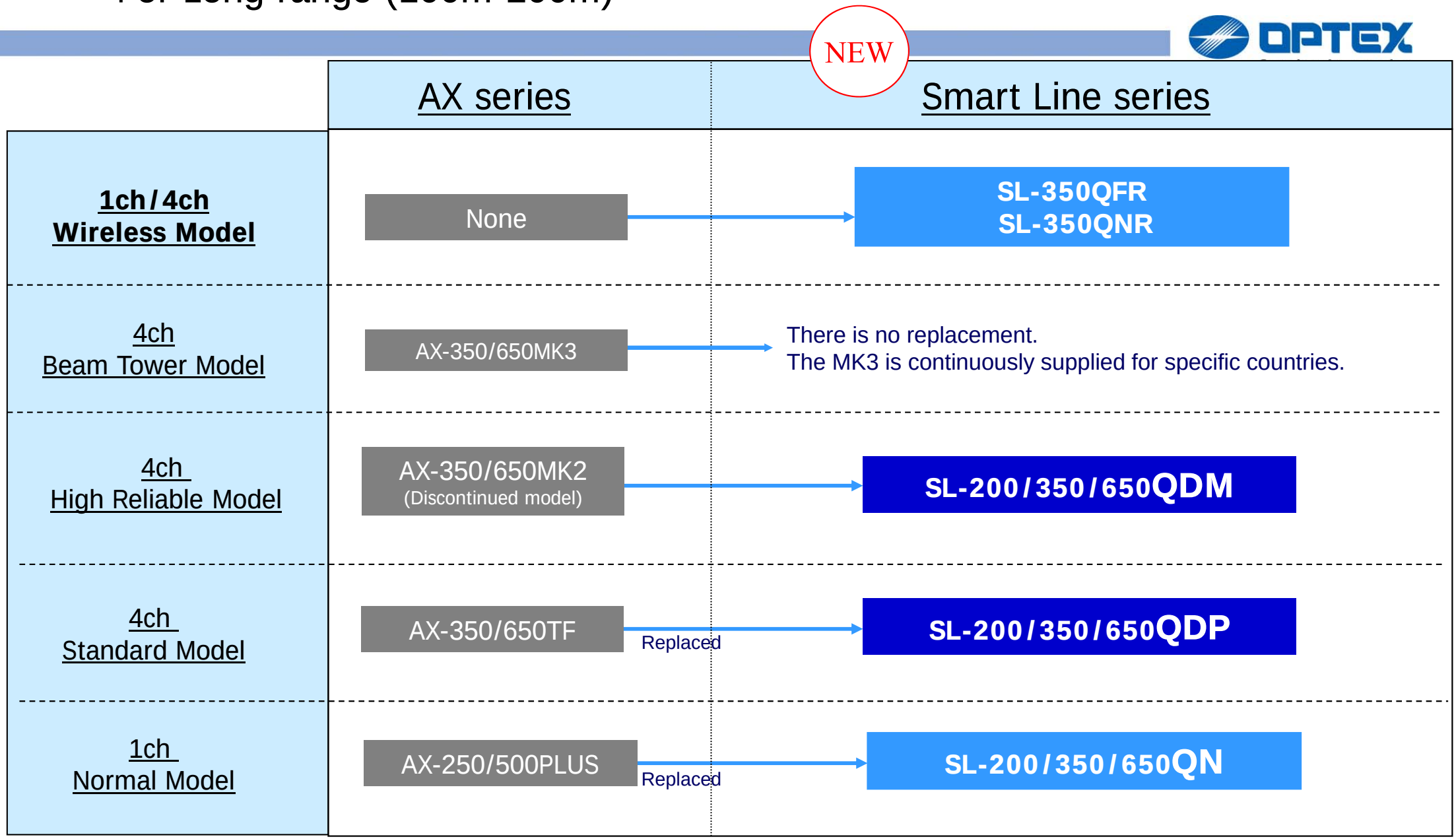


OPTEX
Sensing Innovation

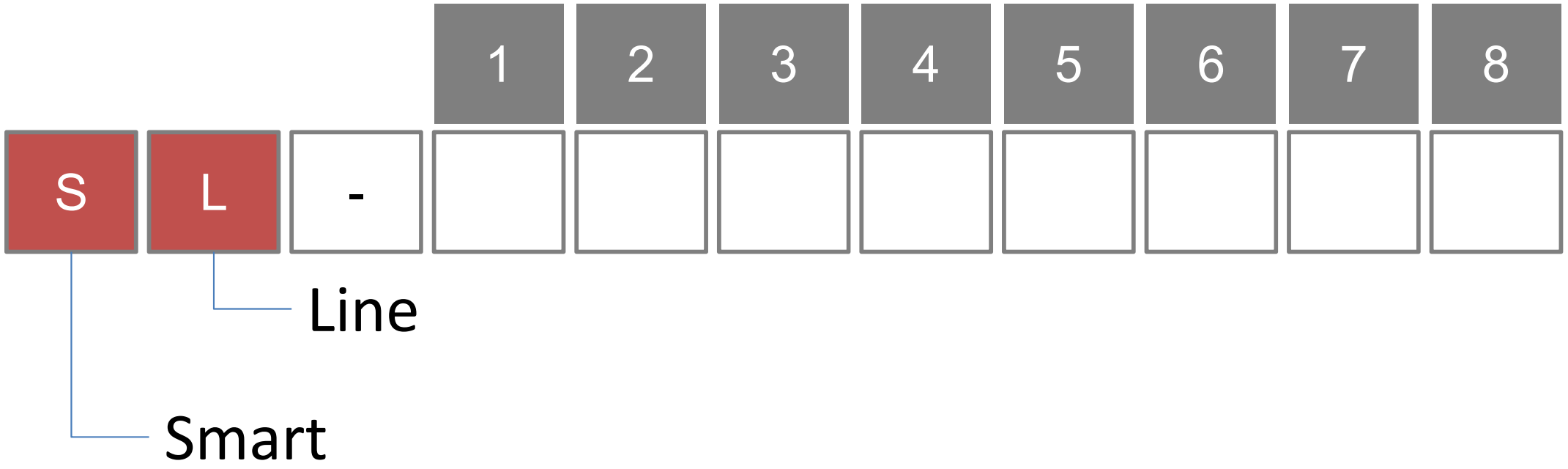
Products line up after Smart Line series

1. Product Line up after Smart Line series

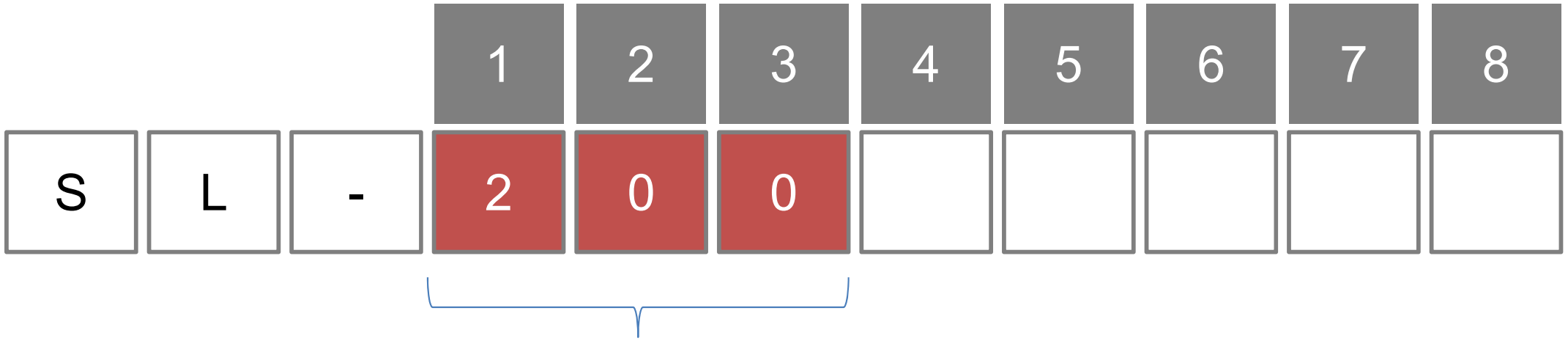
- For Long range (100m-200m) -



SL Series Model Name Rule

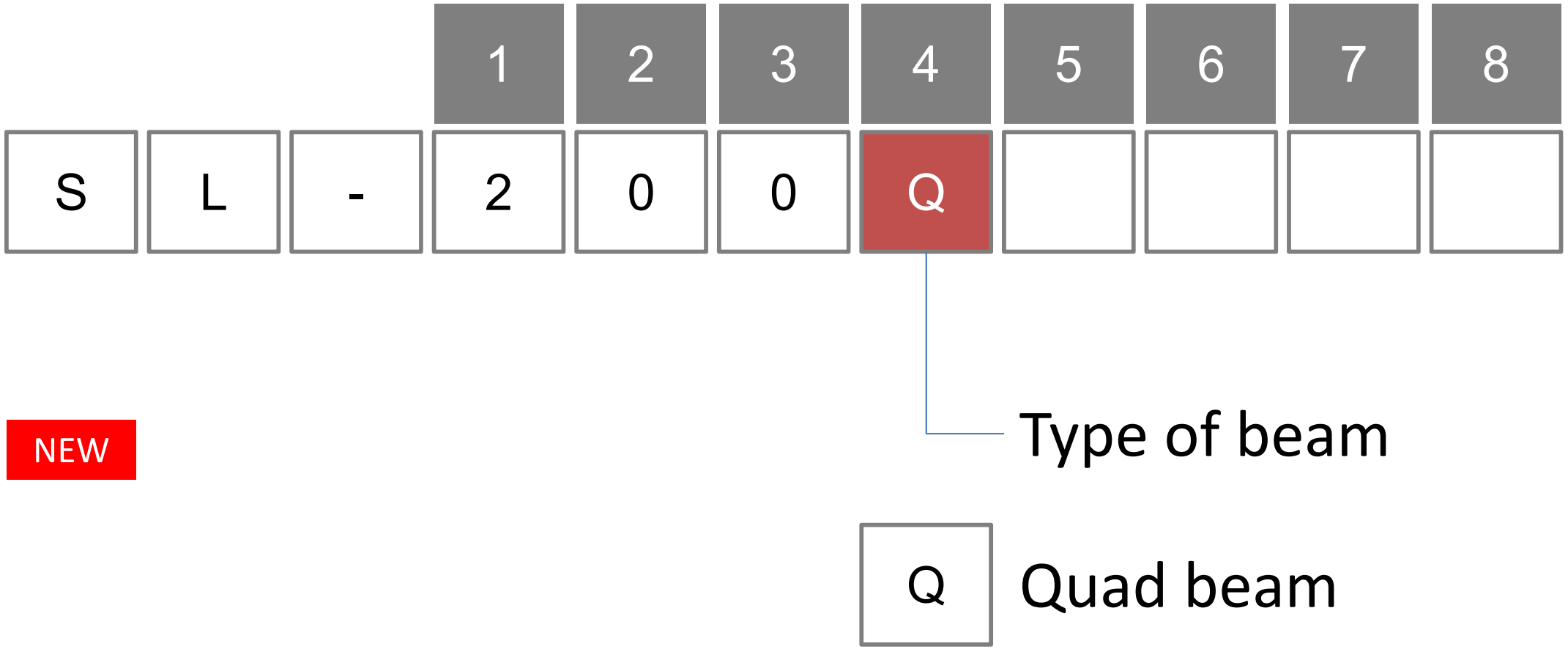


SL Series Model Name Rule



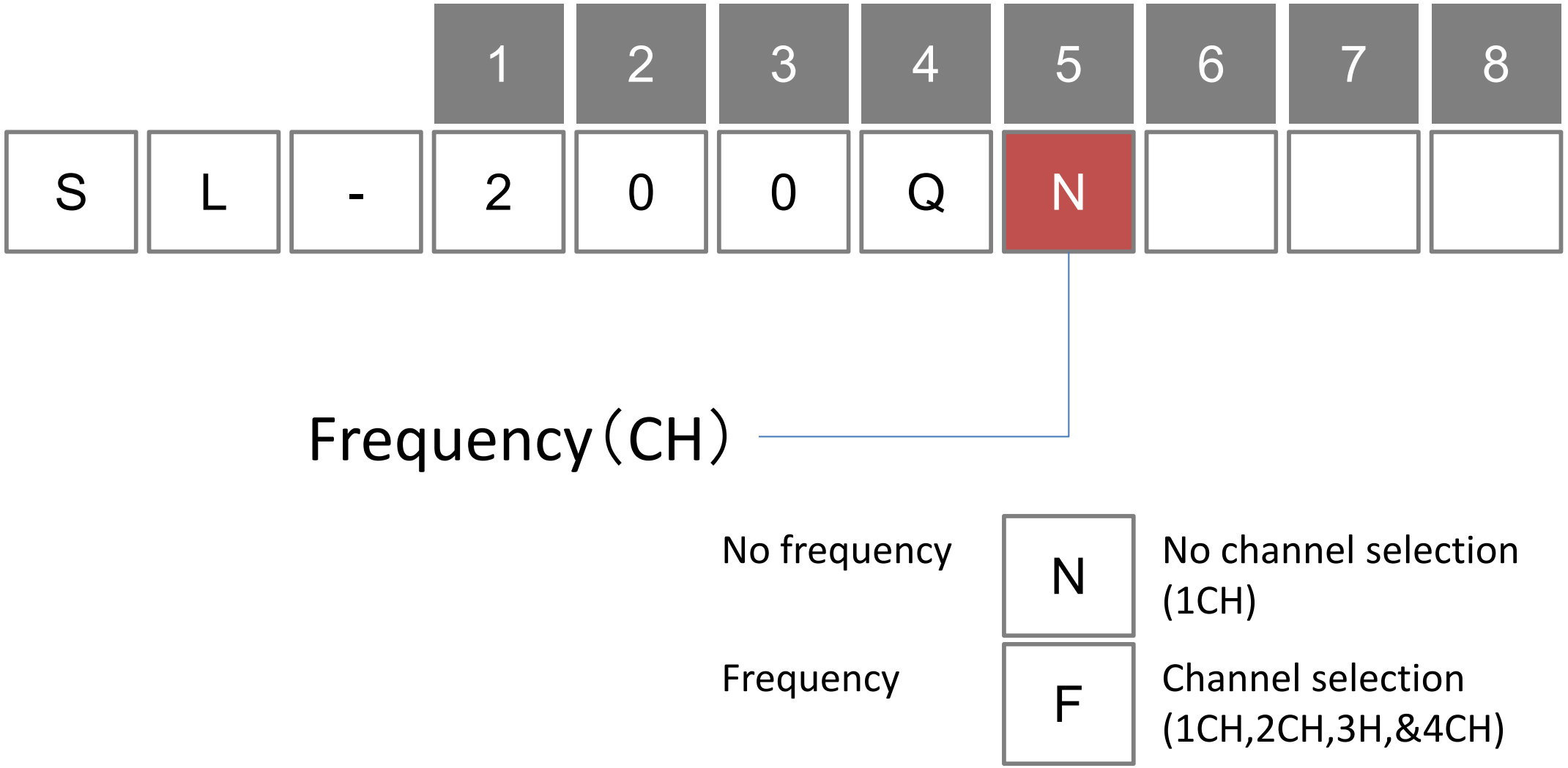
1. 200 ft = 60 m
2. 350 ft = 100 m
3. 650 ft = 200 m

SL Series Model Name Rule

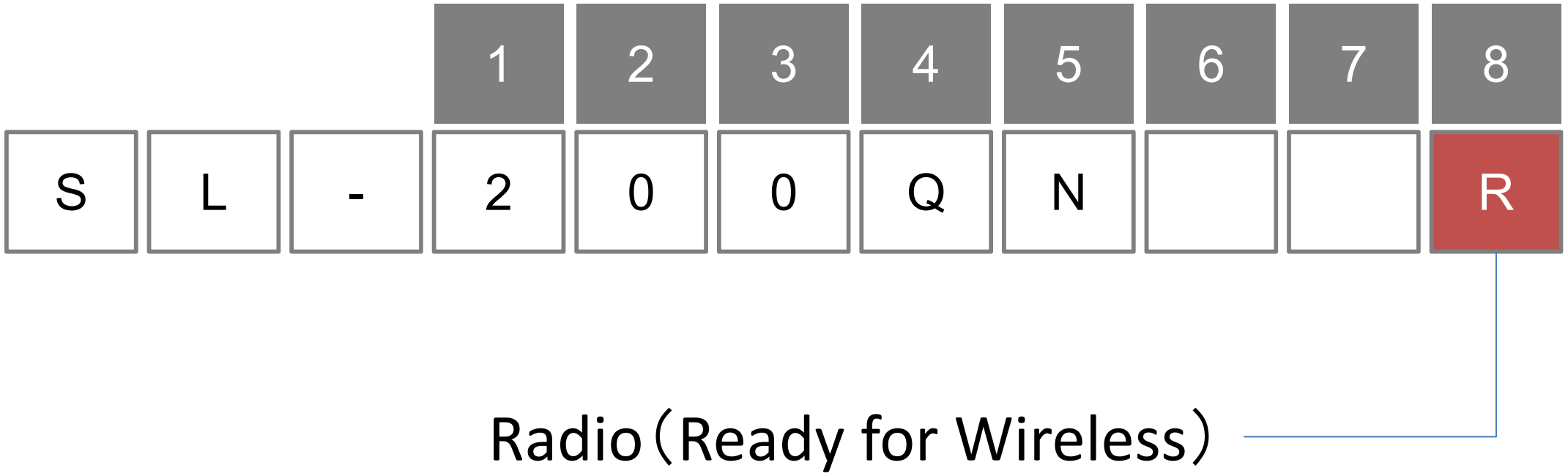


NEW

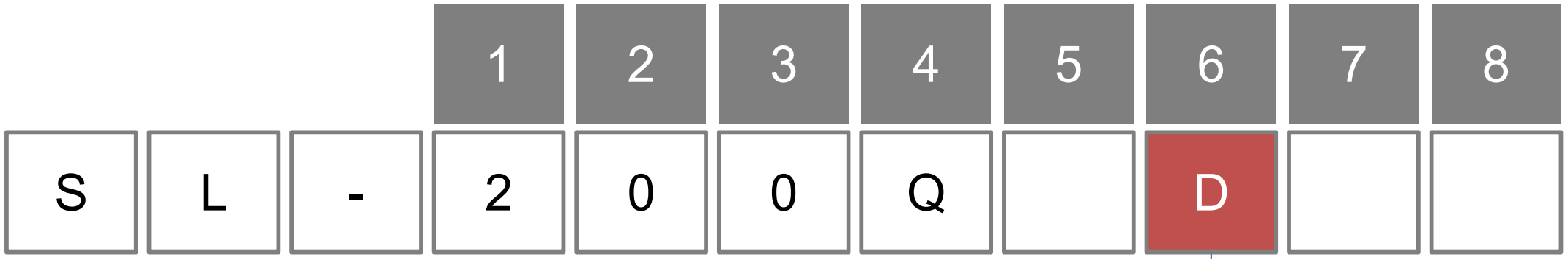
SL Series Model Name Rule



SL Series Model Name Rule



SL Series Model Name Rule

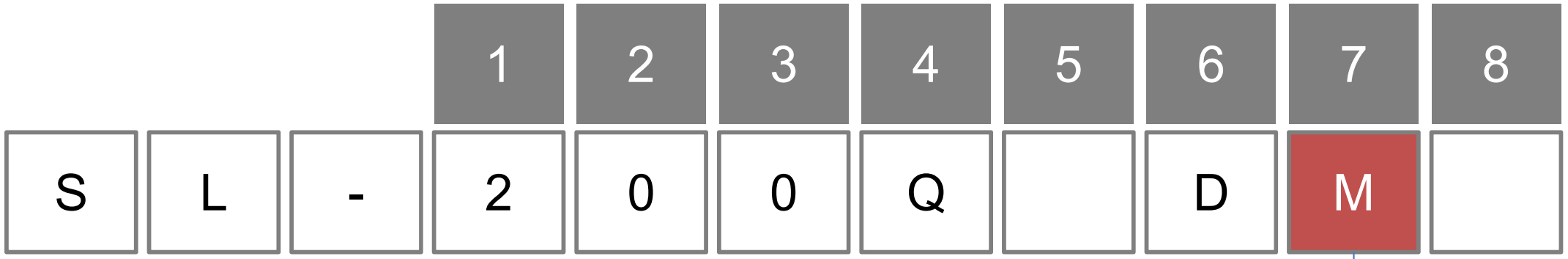


NEW

Double modulation

With 4 frequency channel selection
(1CH,2CH,3H,&4CH)

SL Series Model Name Rule



Function grade

NEW

M	Master : Advanced model
P	Professional : Standard model

New Line up

			1	2	3	4	5	6	7	8
S	L	-	2	0	0	Q		D	M	
S	L	-	3	5	0	Q		D	M	
S	L	-	6	5	0	Q		D	M	
S	L	-	2	0	0	Q		D	P	
S	L	-	3	5	0	Q		D	P	
S	L	-	6	5	0	Q		D	P	

Features

I. Benefit to Distributors & Installers

II. Easy Installation

III. Reliable Performance

1. Body

Slim body

- 20% reduction of the body size
- Aesthetically satisfying design fit in with the scenery.

Lightweight

- 10% reduction of weight
- Warehousing and transportation charges can be saved.

2. United appearance

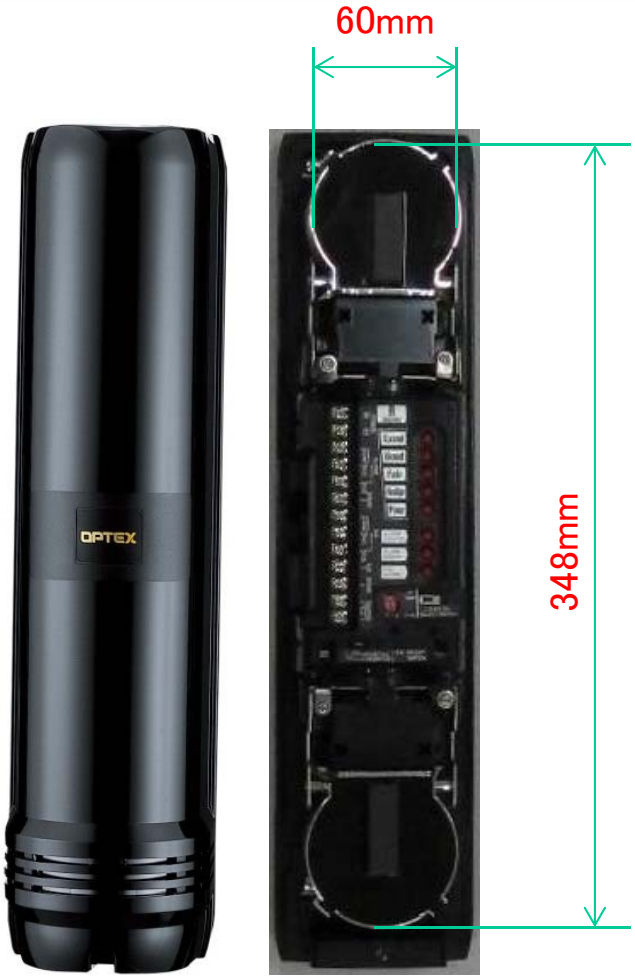
SL-200QDM
SL-200QDP
60m

SL-350QDM
SL-350QDP
100m

SL-650QDM
SL-650QDP
200m

Unity among the installation sites

3. Smart design



H:400mm x W:100mm x D:104mm

AX-250/500PLUS,
AX-350/650TF
(Conventional model)

H:448mm x W: 79mm x D: 96mm

Smart Line Series

4. Selection of SL series Line up

- 11 models in the same appearance
- Detection range 60m, 100m and 200m
- Can select the best suitable model according to the each installation case
  - ➢ Basic (Non-freq.) SL-QN/QNR
  - ➢ Standard (4ch D.M./Freq.) SL-QDP/QFR
  - ➢ Advanced (4ch D.M.) SL-QDM
- Solar battery operated model (60m, 100m and 200m range)

Unique!

- Wireless solution by battery operated model (100m range)

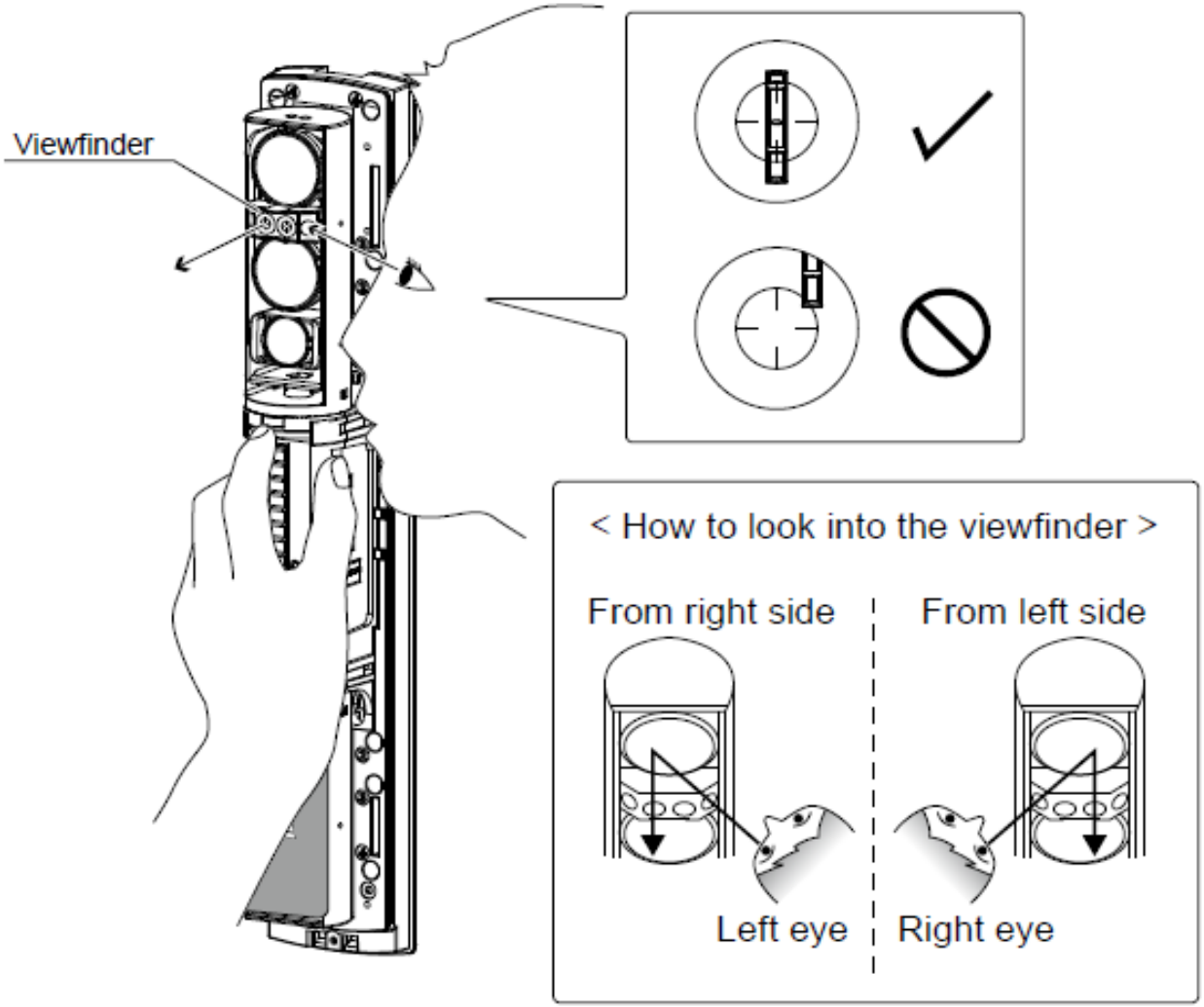
By studying just one series, installers can accommodate with various business scenes. :-))

	HARD-WIRED MODELS			BATTERY OPERATED MODELS		
++ Most appropriate + Appropriate	ADVANCED	STANDARD	BASIC	STANDARD	BASIC	SOLAR BATTERY
	SL-200QDM SL-350QDM SL-650QDM	SL-200QDP SL-350QDP SL-650QDP	SL-200QN SL-350QN SL-650QN	SL-350QFR	SL-350QNR	SBU-4+ SL-QDM series
LIGHT DISTURBANCE (Expected impact :False alarm)	++	+				++
REFLECTION (Expected impact :Missed alarm)	++	+				++
INTERFERENCE (Expected impact :Missed alarm)	++	+		+		++
FOG (Expected impact :False alarm)	+					+
LIGHTNING (Expected impact :Unit damage)	+	+	+	++	++	++
FROST (Expected impact :False alarm)	++	+	+			
RE-TRANSMISSION FUNCTION	+					+
LED INDICATOR AND SOUND ASSIST	++	+				++
WIRELESS (BATTERY OPERATED) WIRELESS				++	++	+

1. Sniper View Finder

- By the new telescope lens, high level of visibility (2X magnification) can be achieved.

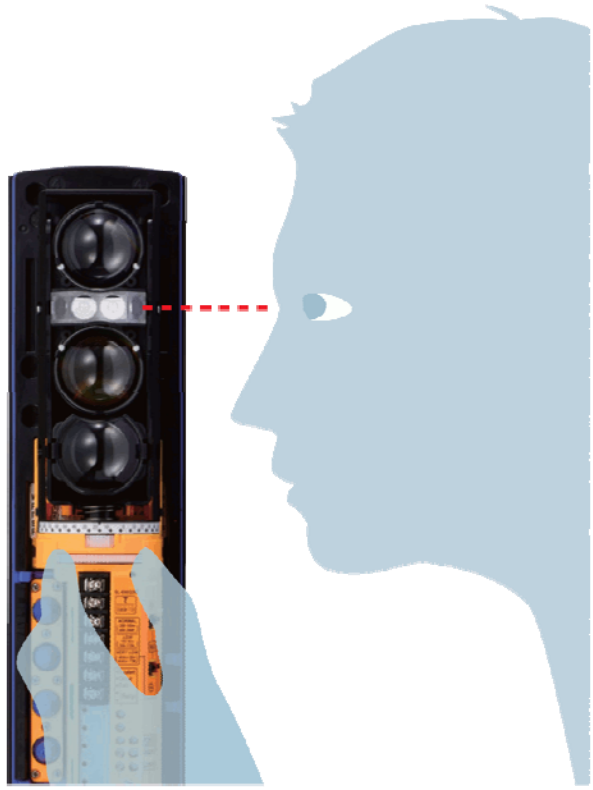
- Even over long distances, sufficient optical alignment by visual contact can be done in a short period.



1. Sniper View Finder

Conventional model's
view finder

1. Sniper View Finder



SL-series Sniper view finder
(X2 magnification lens)

1. Sniper View Finder

Conventional model's
view finder

SL-series Sniper view finder
(X2 magnification lens)

Very easy to sight the target !

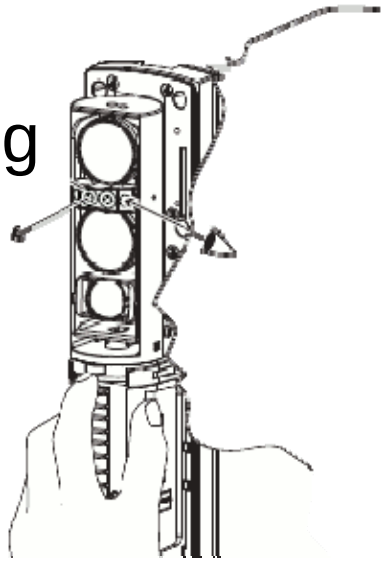
2. Vivid Interior Colour

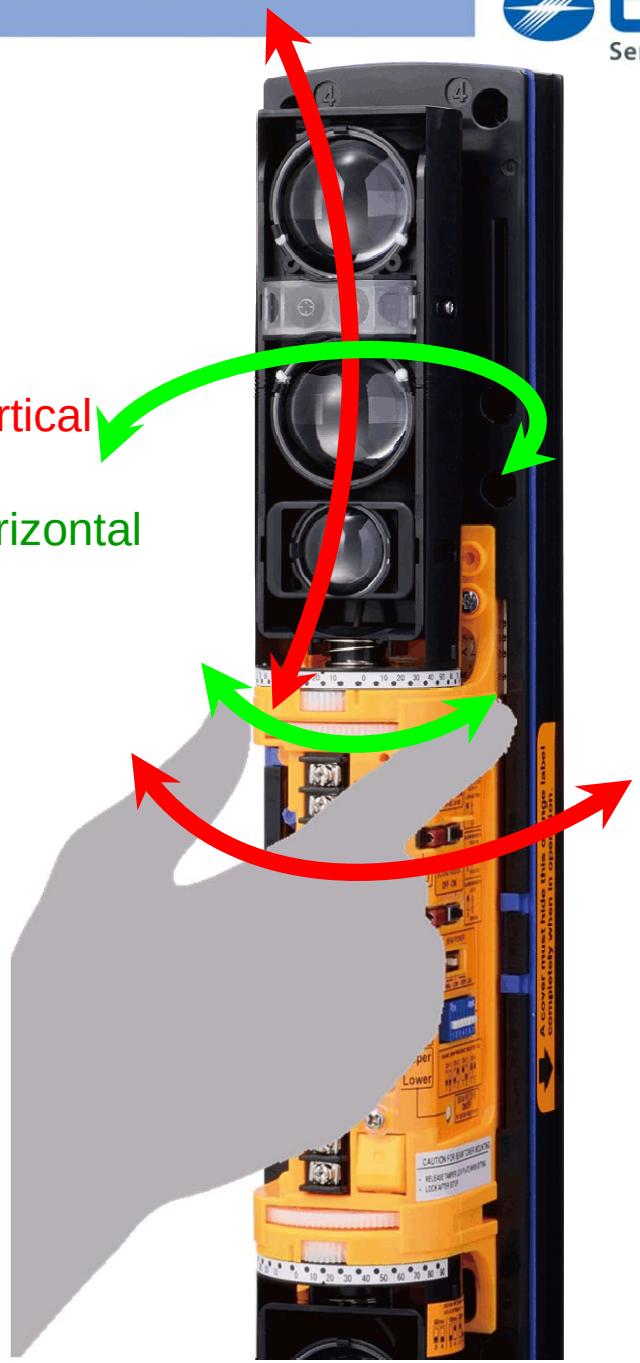
- By using vivid interior colour, easy to recognize the right place for the optical alignment.

Quite easy to recognize even in long distance !

3. Alignment Dial

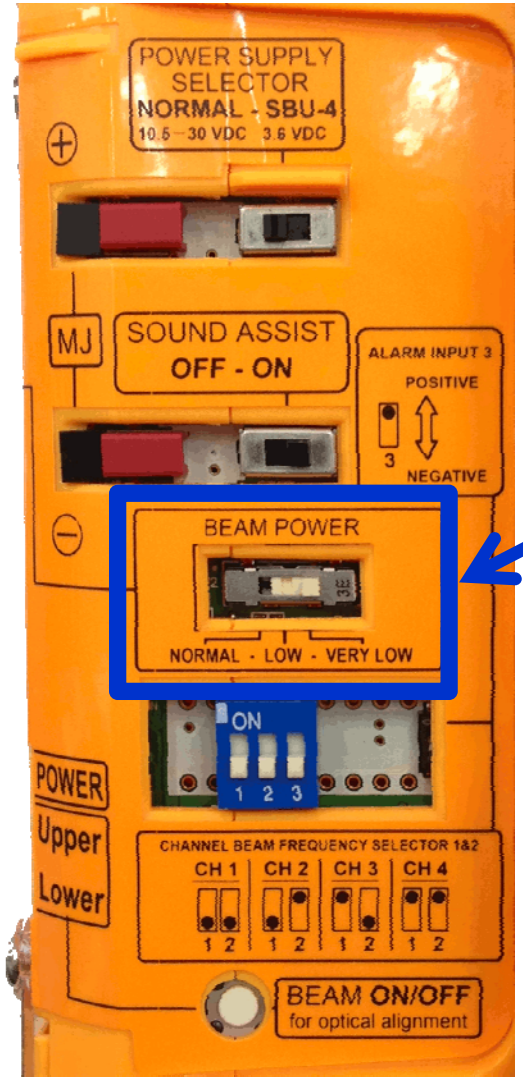
- Alignment dial is employed for the lens angle adjustments.
- No more need for the screwdriver.
- The alignment can be done easily with seeing the sniper view.





Speed up the installation work ! :-))

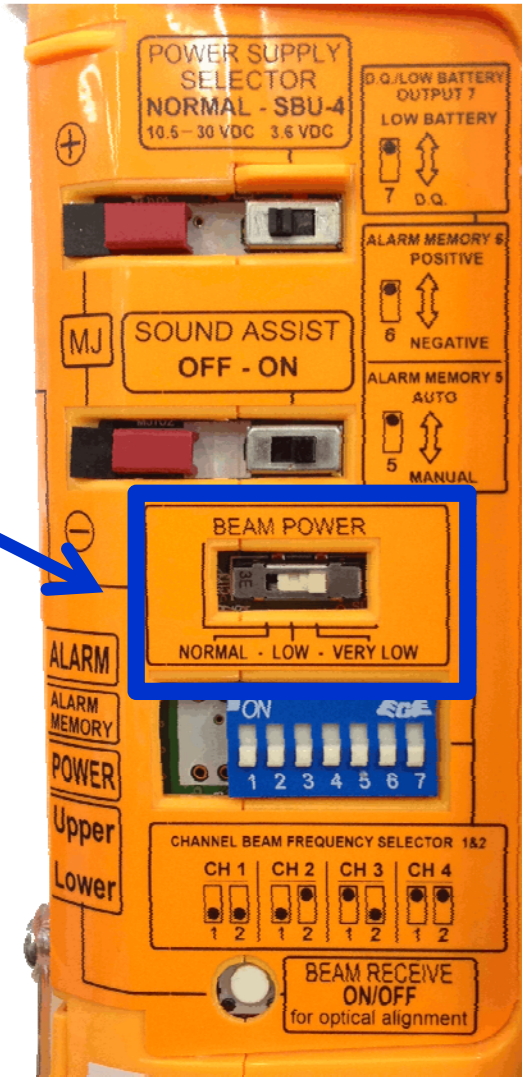
4. Beam Power Control Selector



Setting panel
(QDM Transmitter)

Beam Power Control Selector
(Normal, Low, Very low)

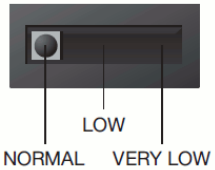
Note:
Receiver side Power Control Selector is only available for QDM for the use of I.A.S.C communication.

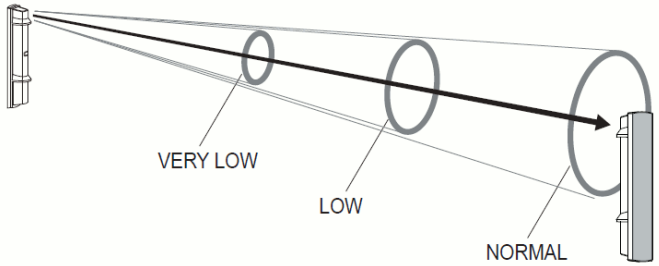


Setting panel
(QDM Receiver)

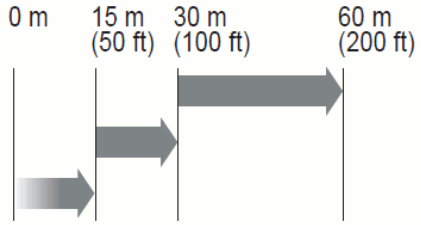
4. Beam Power Control Selector

- The beam power can be adjusted manually by switch from Normal, to Low, or Very low.

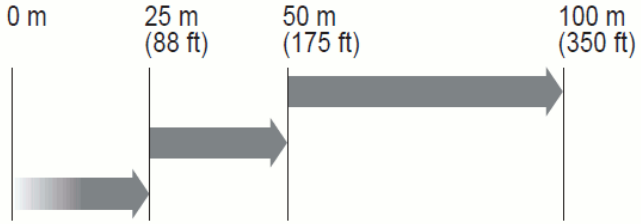




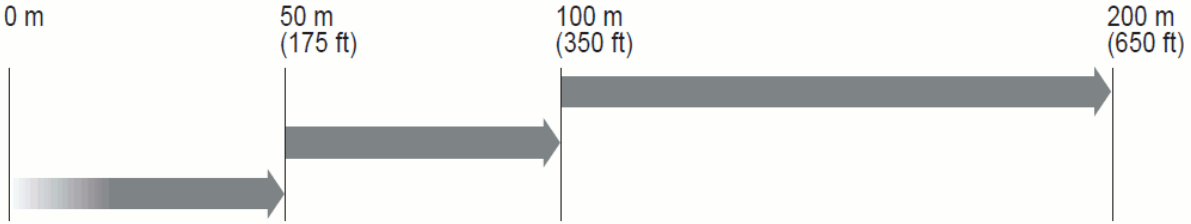
SL-200 QDM/QDP		
NORMAL	60 - 30 m	(200 - 100 ft)
LOW	30 - 15 m	(100 - 50 ft)
VERY LOW	Within 15 m	(Within 50 ft)



SL-350 QDM/QDP		
NORMAL	100 - 50 m	(350 - 175 ft)
LOW	50 - 25 m	(175 - 88 ft)
VERY LOW	Within 25 m	(Within 88 ft)



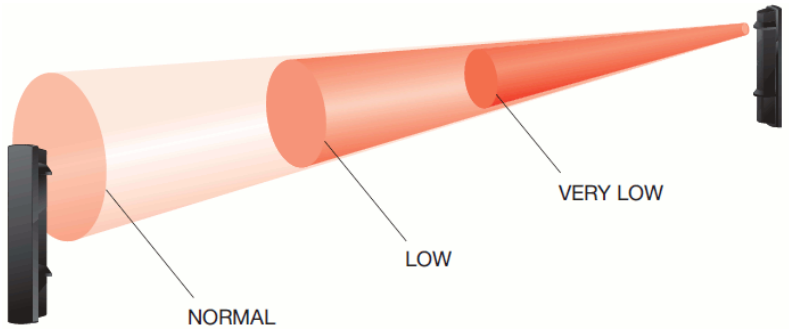
SL-650 QDM/QDP		
NORMAL	200 - 100 m	(650 - 350 ft)
LOW	100 - 50 m	(350 - 175 ft)
VERY LOW	Within 50 m	(Within 175 ft)

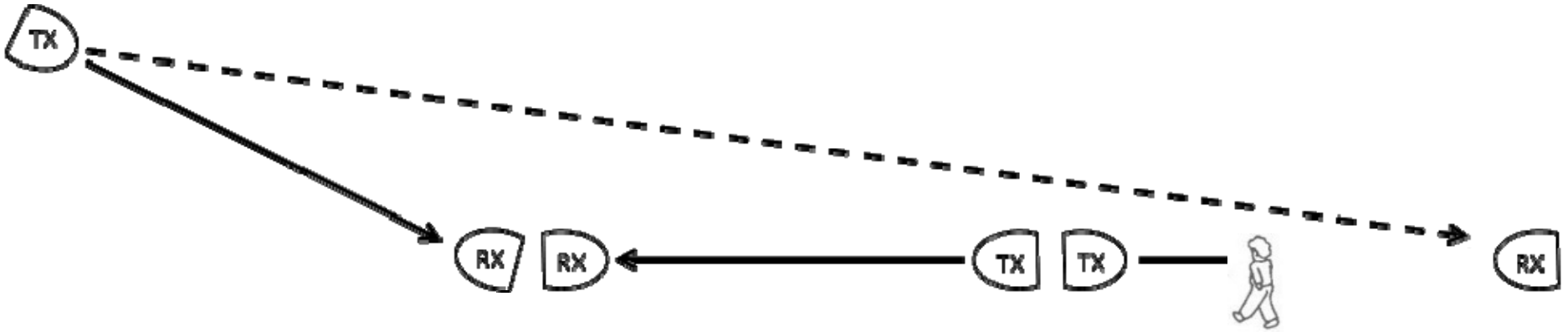


4. Beam Power Control Selector

For what purpose this function is effective? (1)

- To avoid unwanted crosstalk that can occur when using multiple photo beams for long distance or beam stacking applications.

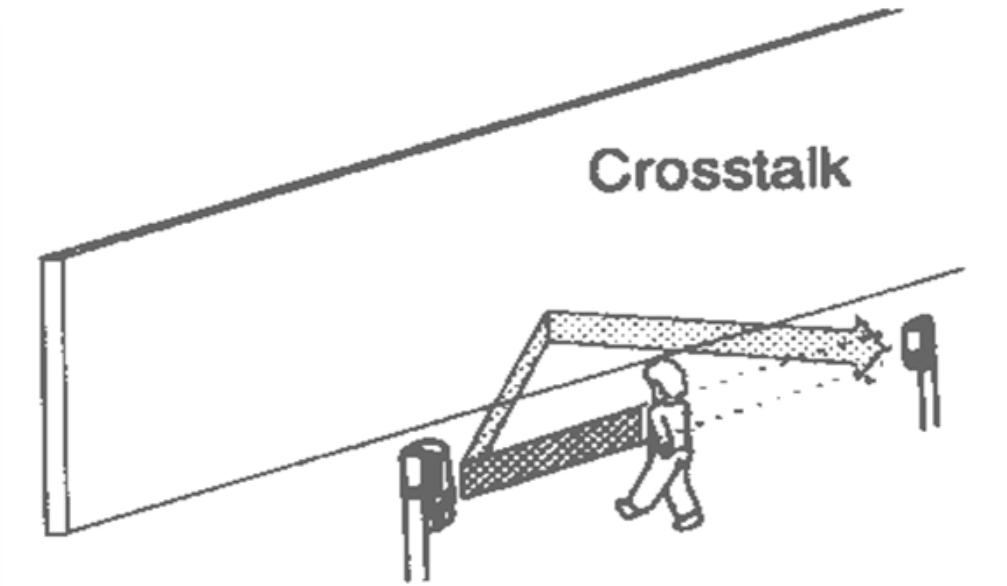




4. Beam Power Control Selector

For what purpose this function is effective? (2)

- For the countermeasure against crosstalk due to reflection of walls or grounds.

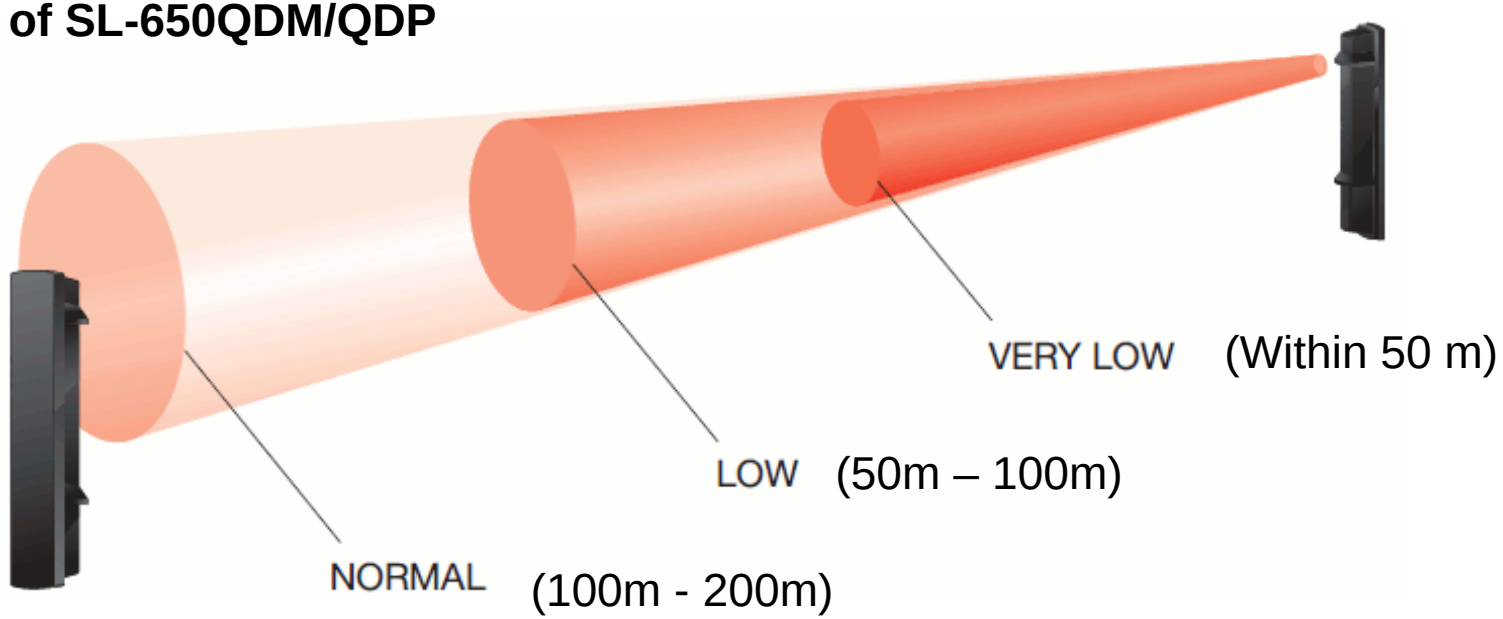


4. Beam Power Control Selector

For what purpose this function is effective? (3)

- To reduce the beam power when using the detector for a distance shorter than the rated distance.

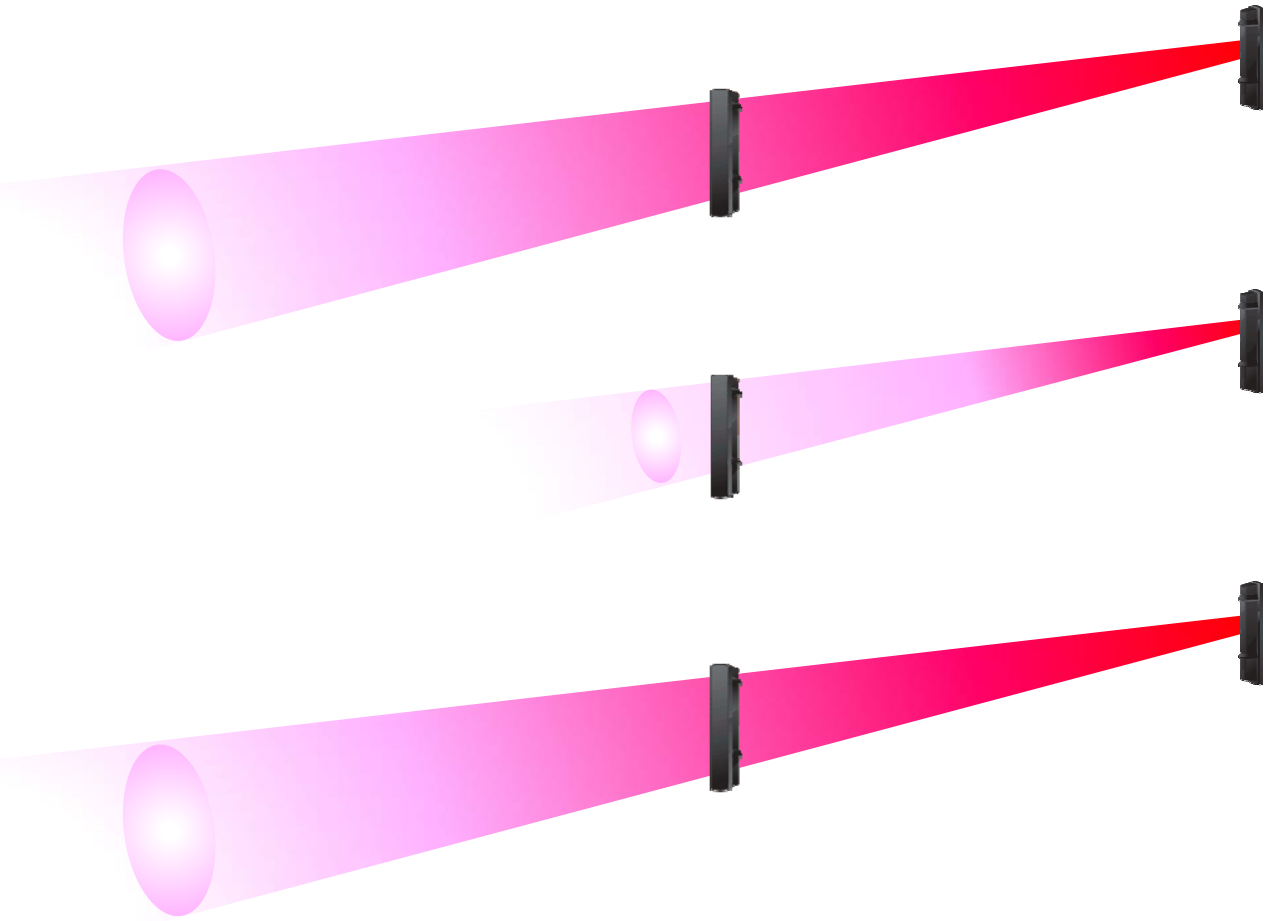
In case of SL-650QDM/QDP



4. Beam Power Control Selector

For what purpose this function is effective? (4)

- To search the peak value alignment position for the perfect alignment when the monitor jack output beams saturated.



1. Beam power is saturated at NORMAL.

2. Once reduce the power to LOW or VERY LOW, and search the peak value position.

3. After finding the peak center position, change the power back to NORMAL power.

5. I.A.S.C.

QDM only

OPTEX Sensing Innovation

What I.A.S.C. stands for?

answer :

Integrated Alignment
Status Communication

I.A.S.C. lens

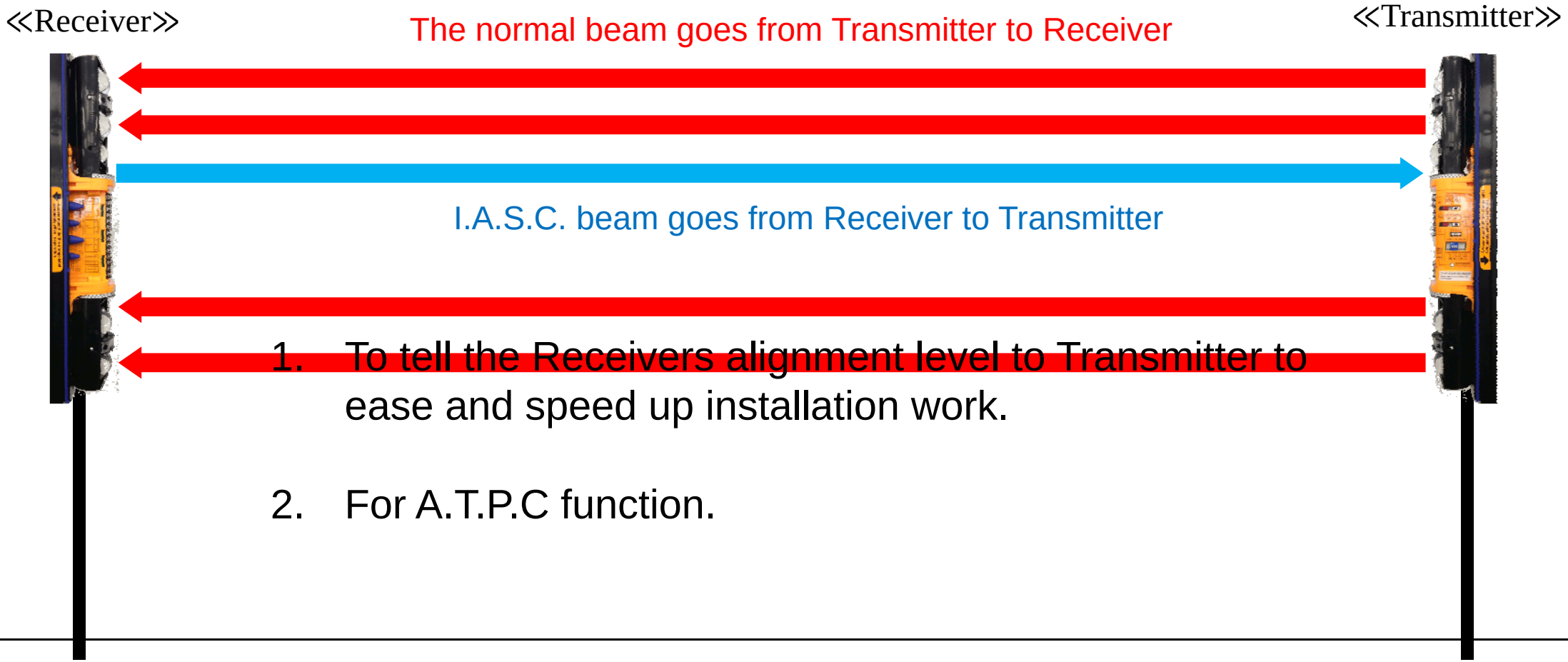
5. I.A.S.C.

QDM only

What purpose I.A.S.C. function is used?

answer :

Communication from Receiver to Transmitter.



1. To tell the Receivers alignment level to Transmitter to ease and speed up installation work.

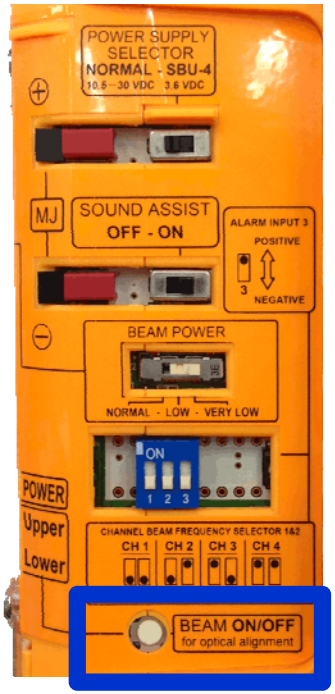
2. For A.T.P.C function.

6. Upper/Lower Beam Selection Button

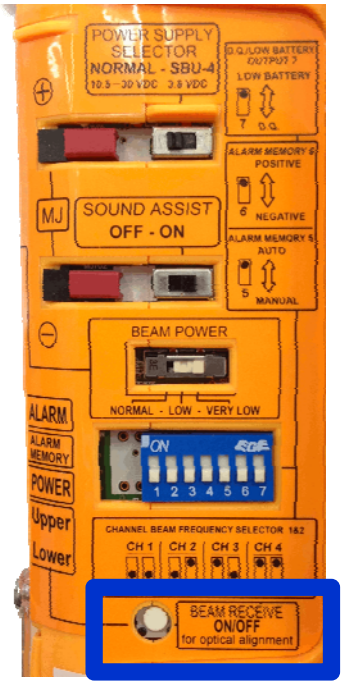
OPTEX Sensing Innovation

- With using Beam Selection Button, no need to cover the lens by beam blocking plate.

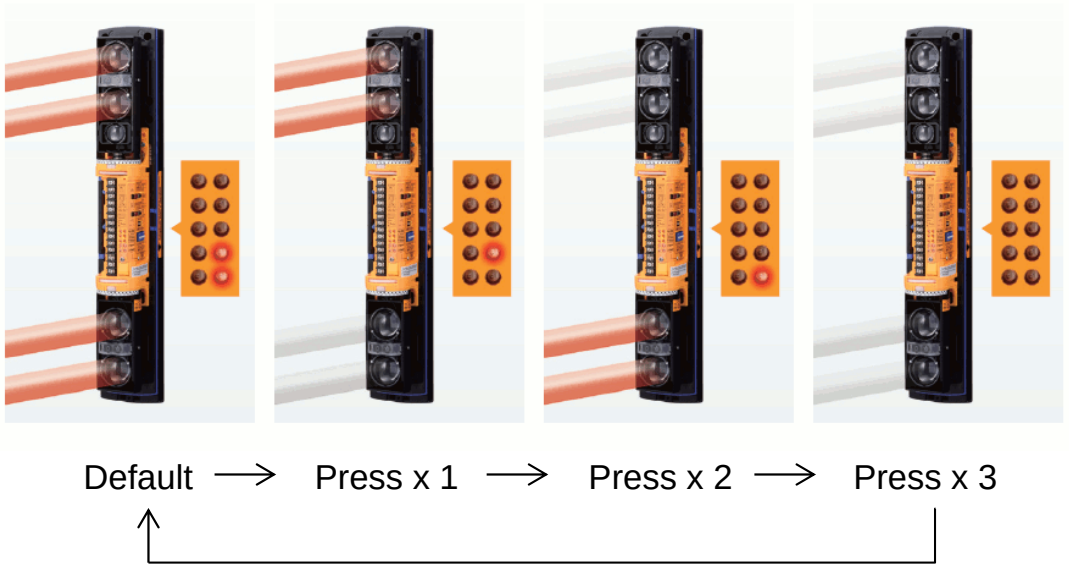
Transmitter



Receiver



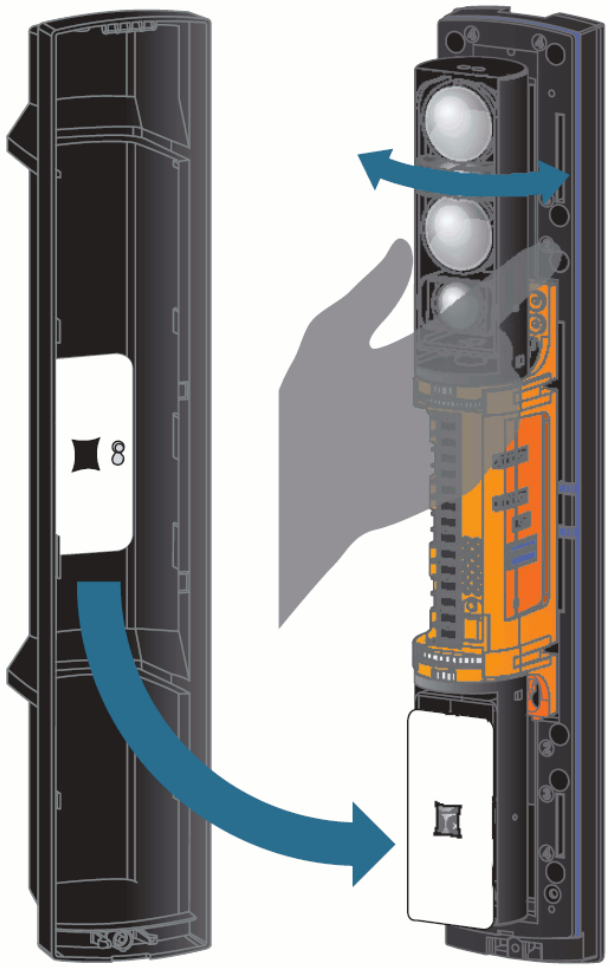
Beam Selection Button



Speed up the installation work !! :-))

7. Beam Blocking Plate

- The beam blocking plate is also prepared in the back of front cover for both QDM and QDP.



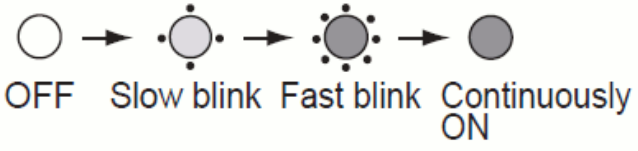
8. LED Indicator

- 5 LED Indicator to show the optical alignment level.

Receiver

Excellent
Good
Fair
Re-align
Poor

- Each LED indicate 3 steps of alignment, slow blink, fast blink, continuously on, providing 15 graduated stages.



- By using I.A.S.C communication, Optical alignment level of receiver can be checked by LED indicator at transmitter side for SL-QDM.

By visualization, optical alignment is no more complicated work !! :-))

9. Sound Assist

- Sound Assist function is employed.
  - ➢ SL-QDM : Receiver and Transmitter
  - ➢ SL-QDP : Receiver

Sound Assist Switch

For …

1. Optical alignment level can be checked by sounds. For SL-QDM, transmitter side as well by I.A.S.C communication.

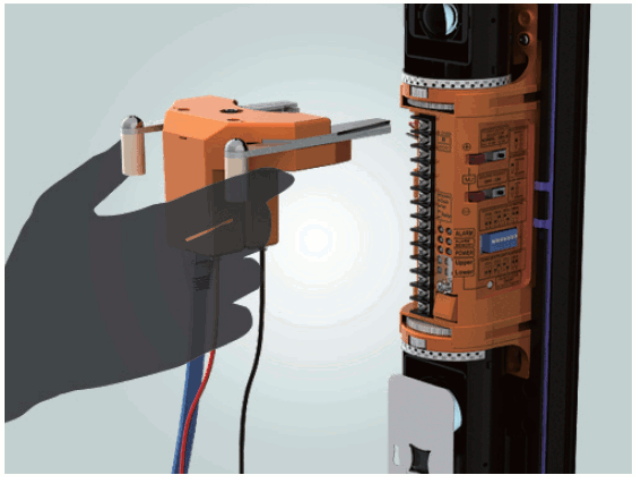
2. Walk Test can be done with beep sounds at interruption after 5 minutes when the front covers are closed. (Receiver only)

By sound assist, intuitive operation is realized!

10. Beam Alignment Unit BAU-4 (Option)

- Final weapon !
- The BAU-4 beam alignment unit automatically and accurately adjust the optical axis.

How easy to set up all ! :-))



1. Double Modulated Beam with 4ch. frequency

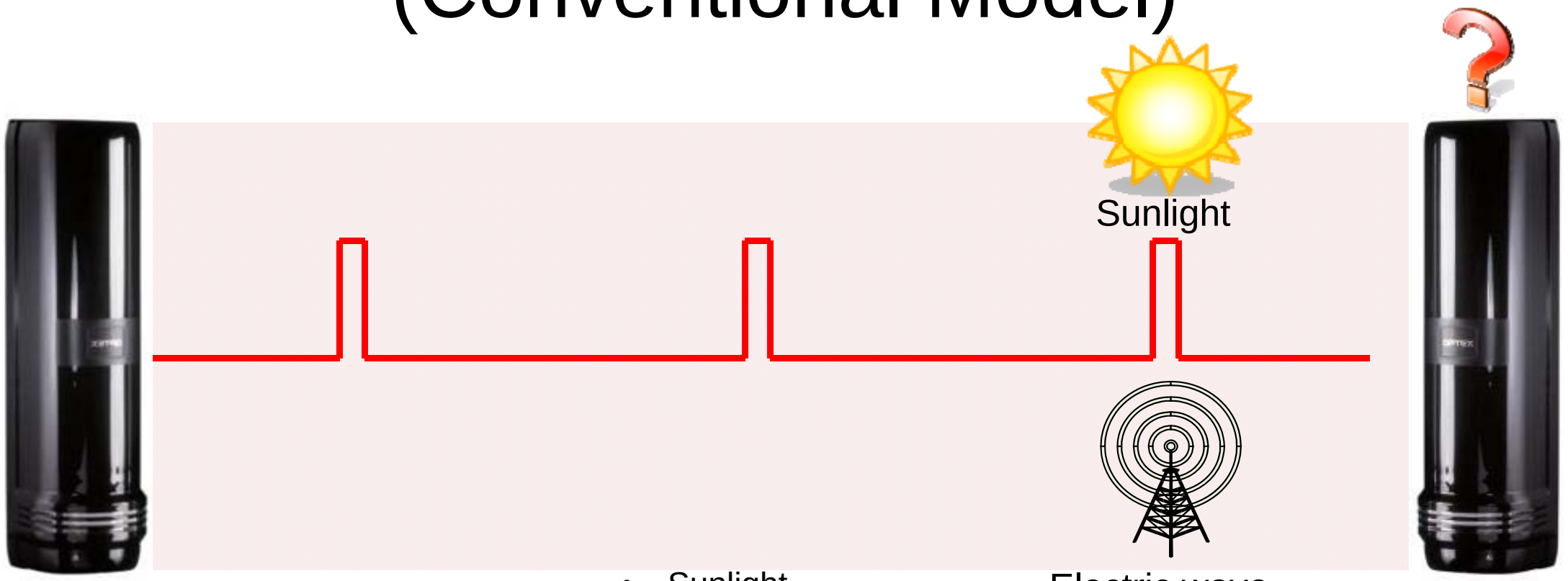
OPTEX Sensing Innovation

Double Modulation
is employed
for SL-QDM/QDP!!!

?

What is Double Modulation ???

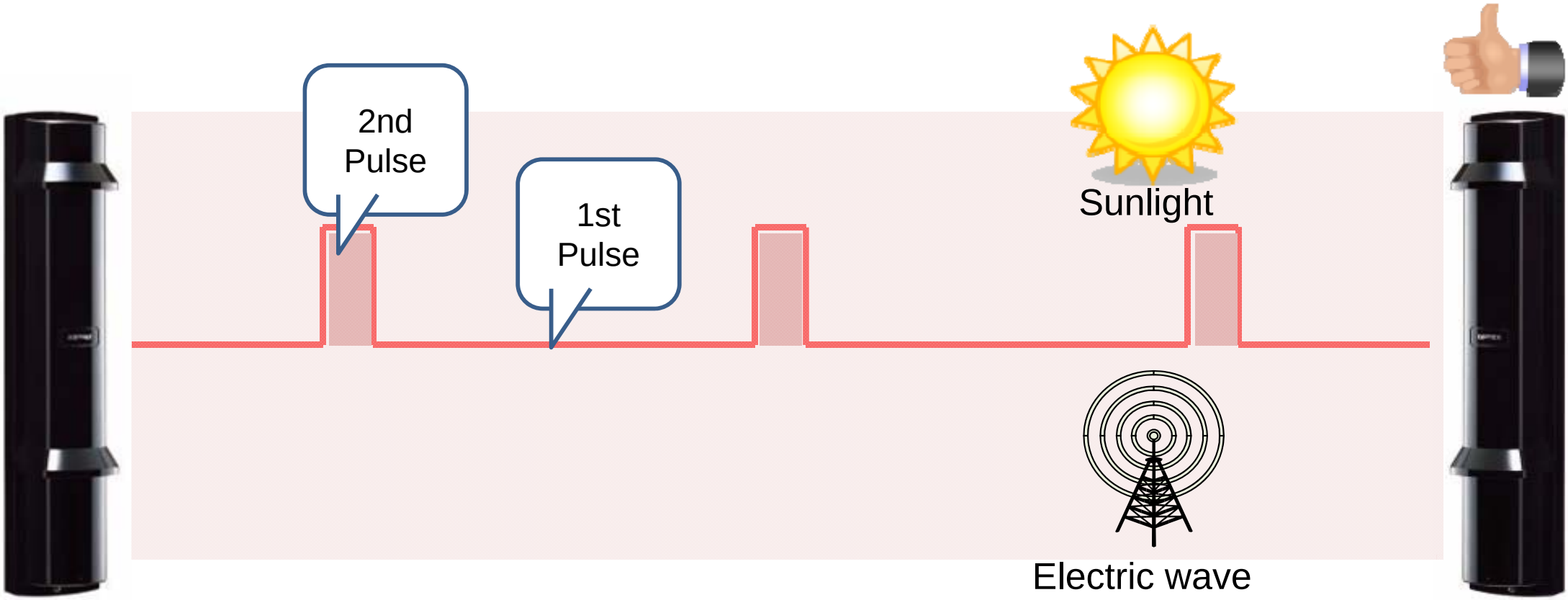
Single Modulation Beam (Conventional Model)



- Sunlight
- Headlight
- Electric wave etc…

Other light sources make the receiver confuse.

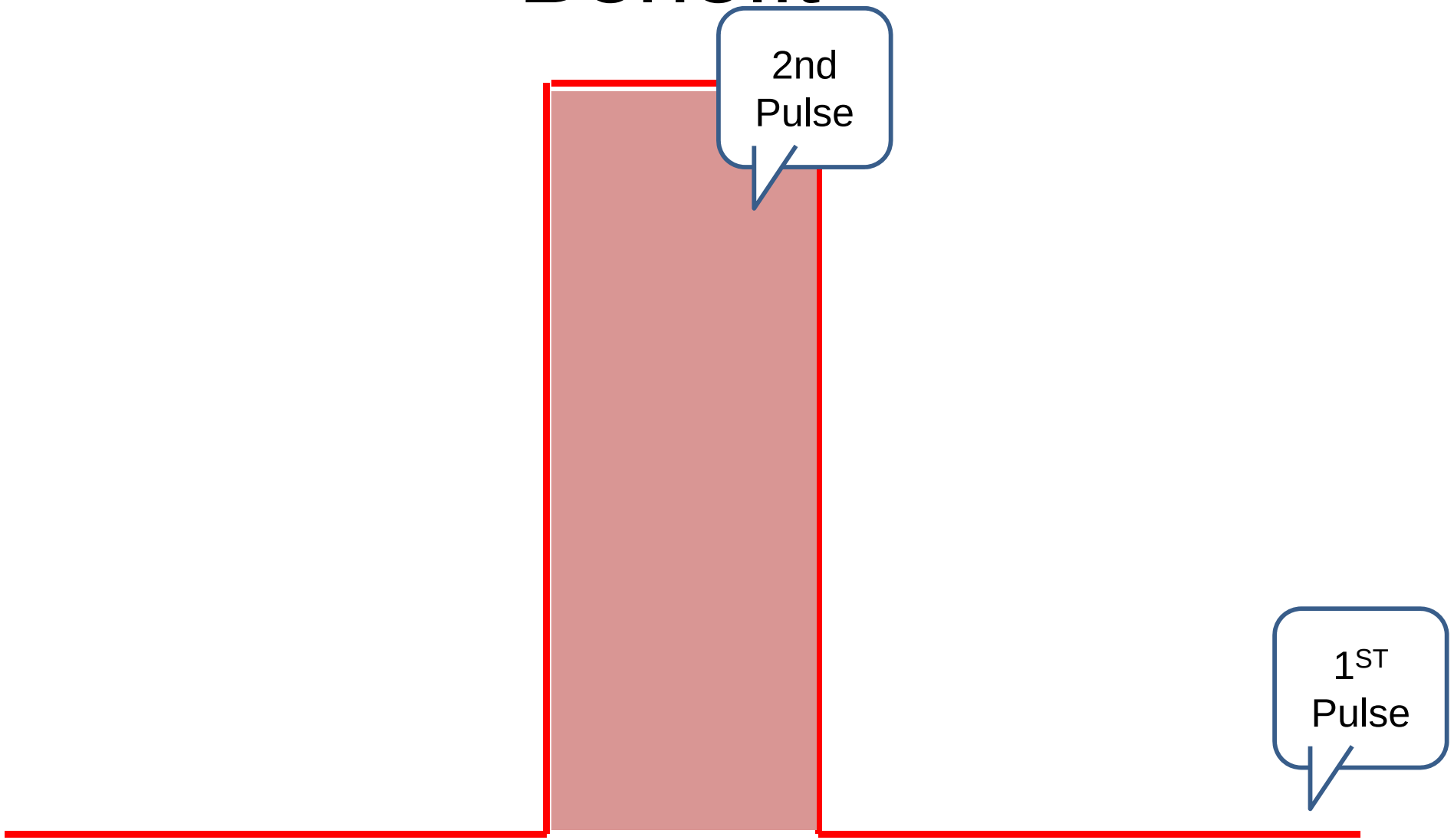
Double Modulation Beam



The Double Modulation can enhances signal discrimination.

This makes much easier and more reliable.

Benefit



The Double Modulation means encrypted signals, so to speak.

1. Double Modulated Beam with 4ch. frequency

OPTEX Sensing Innovation

Double Modulation
is employed
for SL-QDM/QDP!!!

!!!!!!

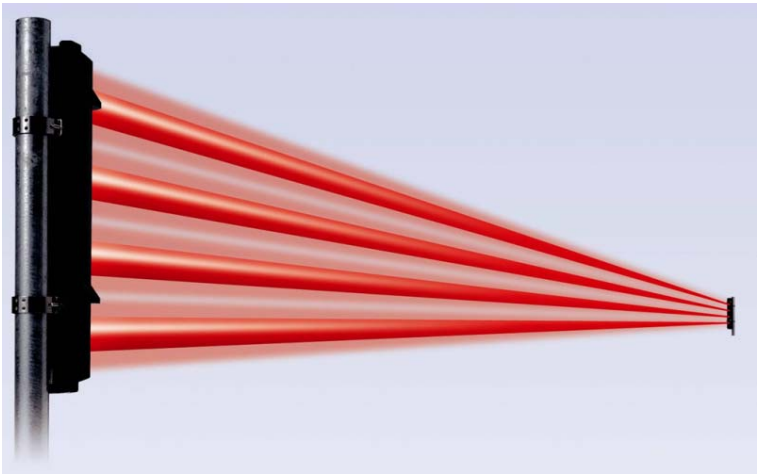
2. Quad Beam with Aspherical Lenses & Wide Beam

- By the Wide and Quad beam, the reliability is increased against possible false alarms caused by birds and falling leaves.

Narrow beam (Twin)

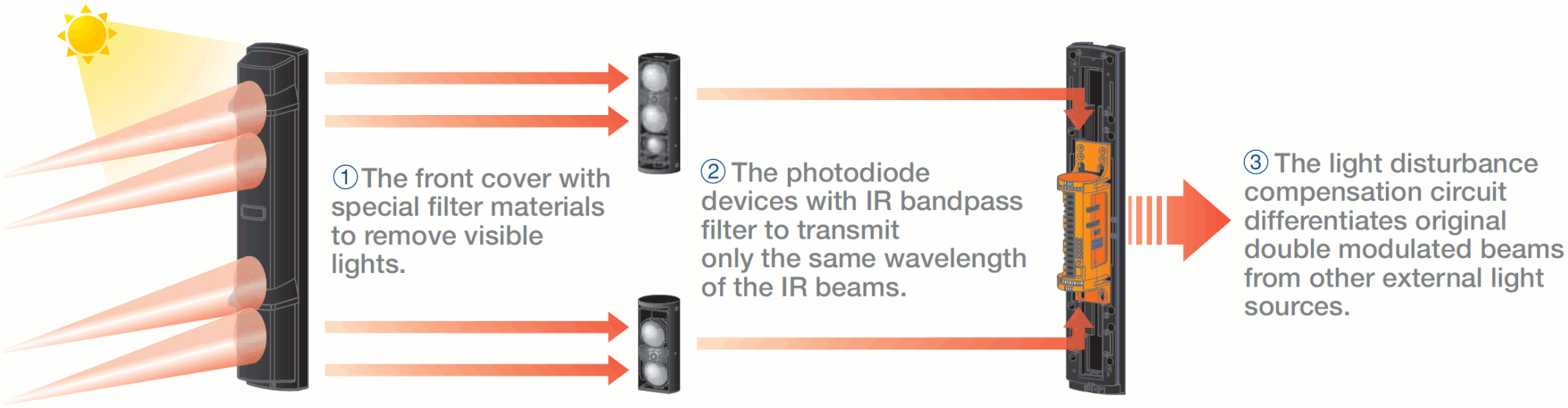
Wide beam (Quad)

- With employing high-grade aspherical lens, SL-series creates more sharply defined and precise active infrared beams compared to ordinary fennel lenses.



3. Sunshine Protection Technology

- By 3 layer step protection, it gives better performance against external light sources (e.g.: Sunshine, mercury-vapor lamps, and fluorescent lights).



Resistance to the false alarm by signal saturation has been increased !

4. A.T.P.C.

QDM only

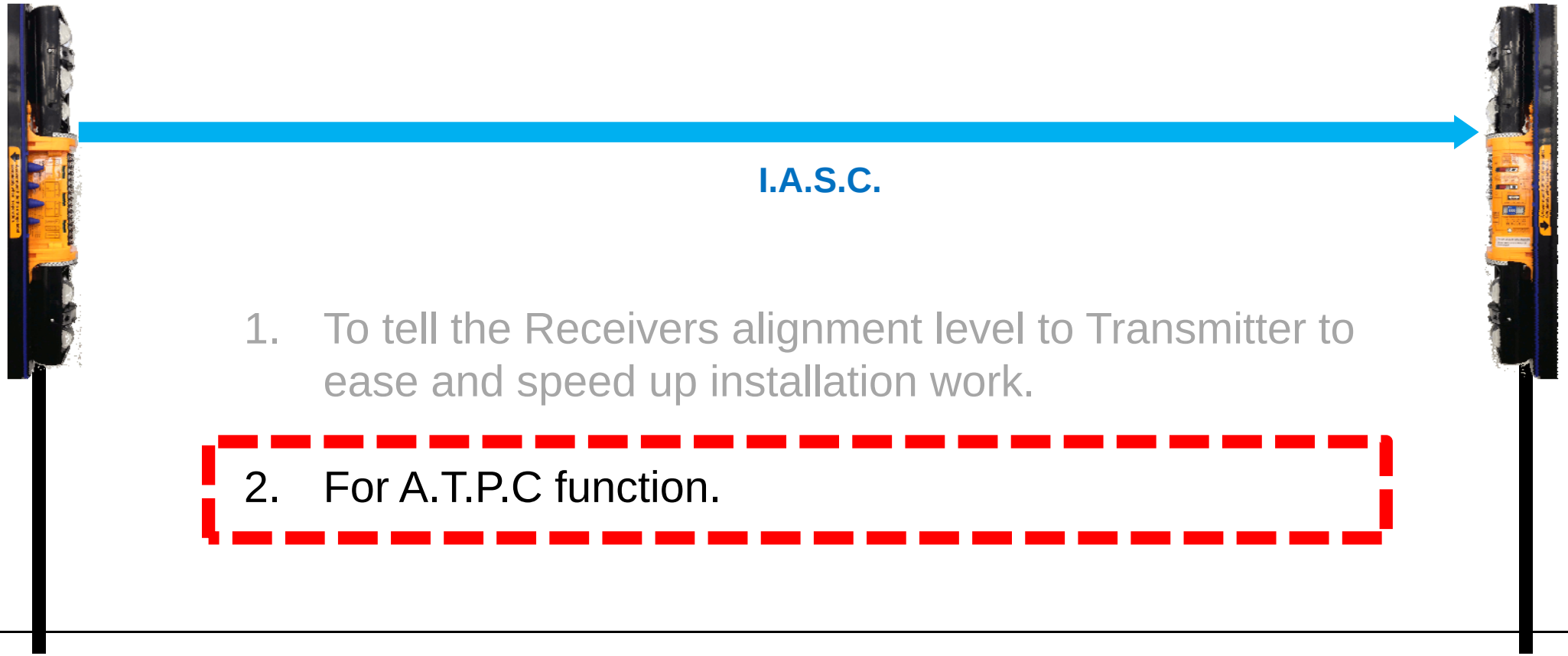
What A.T.P.C. stands for?

answer :

Automatic Transmission Power Control

≪Receiver≫

≪Transmitter≫



1. To tell the Receivers alignment level to Transmitter to ease and speed up installation work.

2. For A.T.P.C function.

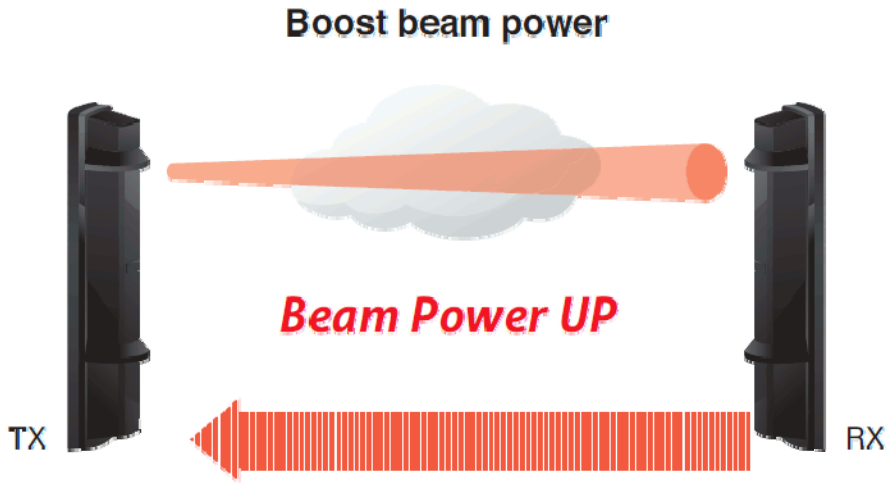
4. A.T.P.C. QDM only

How A.T.P.C works?

- To maintain the optimal performance, QDM automatically controls, adjusts and optimizes the power of the beam by using I.A.S.C communication.

For example…

- It decreases the false alarms caused by :
  - Dense fog or frost

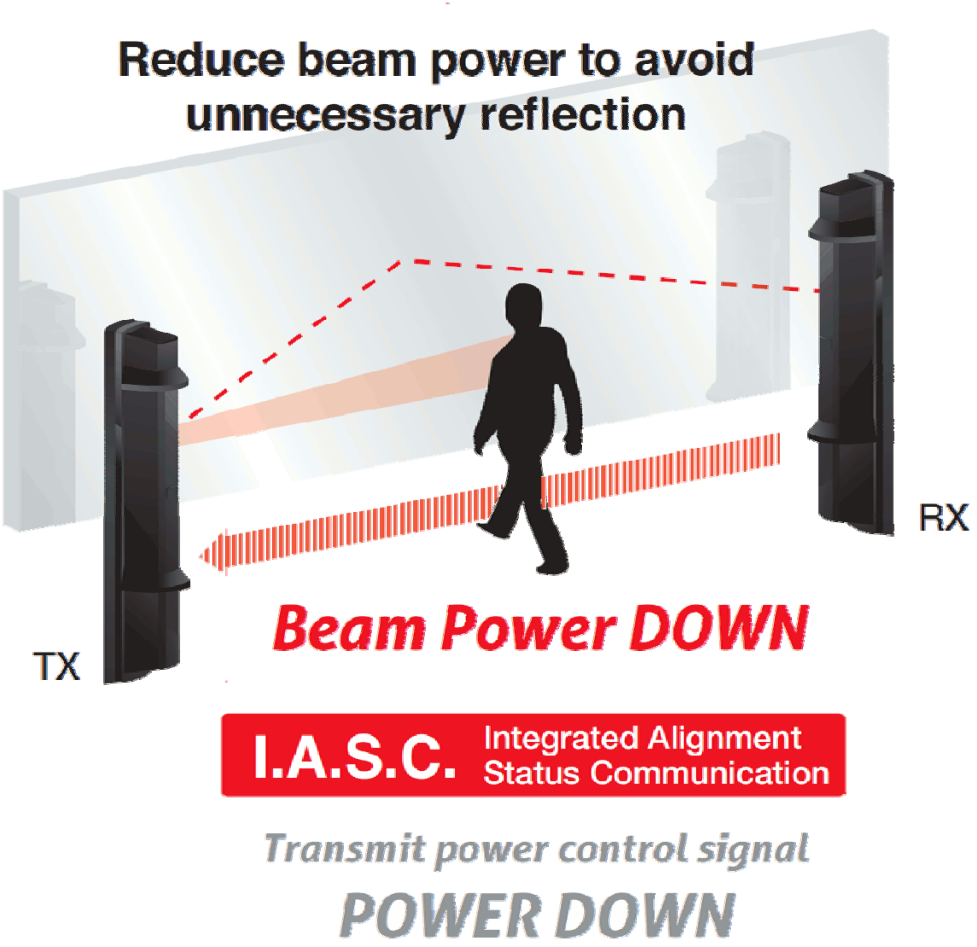


I.A.S.C. Integrated Alignment Status Communication

Transmit power control signal
POWER UP

4. A.T.P.C. QDM only

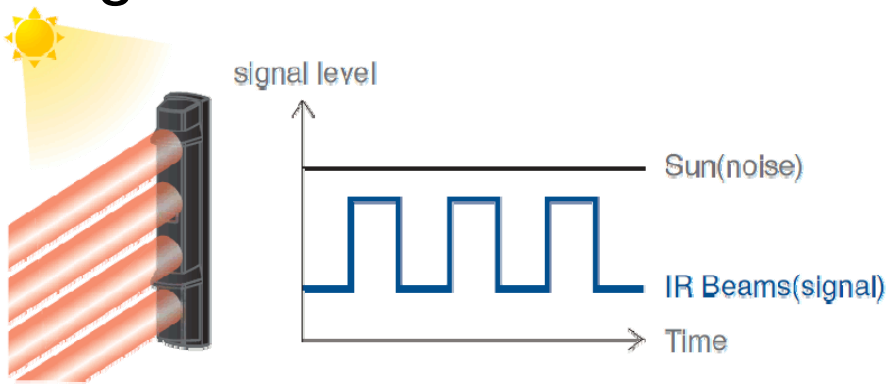
- It decreases missed alarms caused by :
  - Cross talk



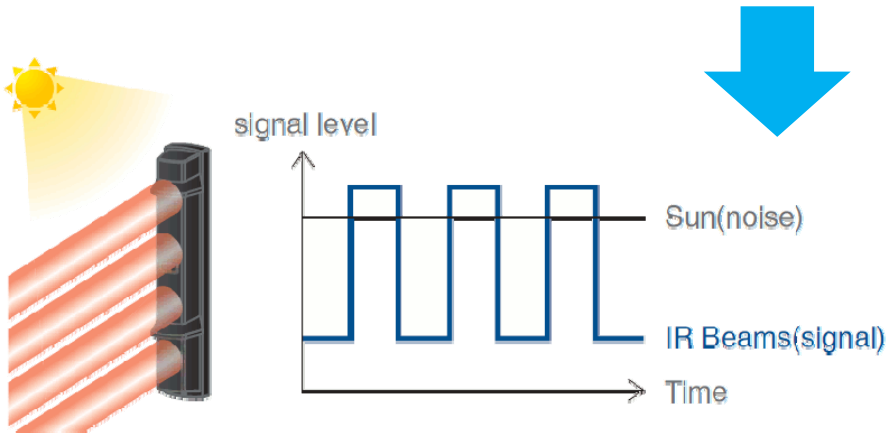
4. A.T.P.C.

QDM only

- It decreases false alarms caused by :
  - Signal saturation



Signal level is decreased due to rising sun or sunset which enter to the receiver at the same angle as the transmitted IR beams.



By A.T.P.C, the receiver sends the signal to transmitter to increase the signal level to avoid signal saturation, so that the false alarm can be avoided.

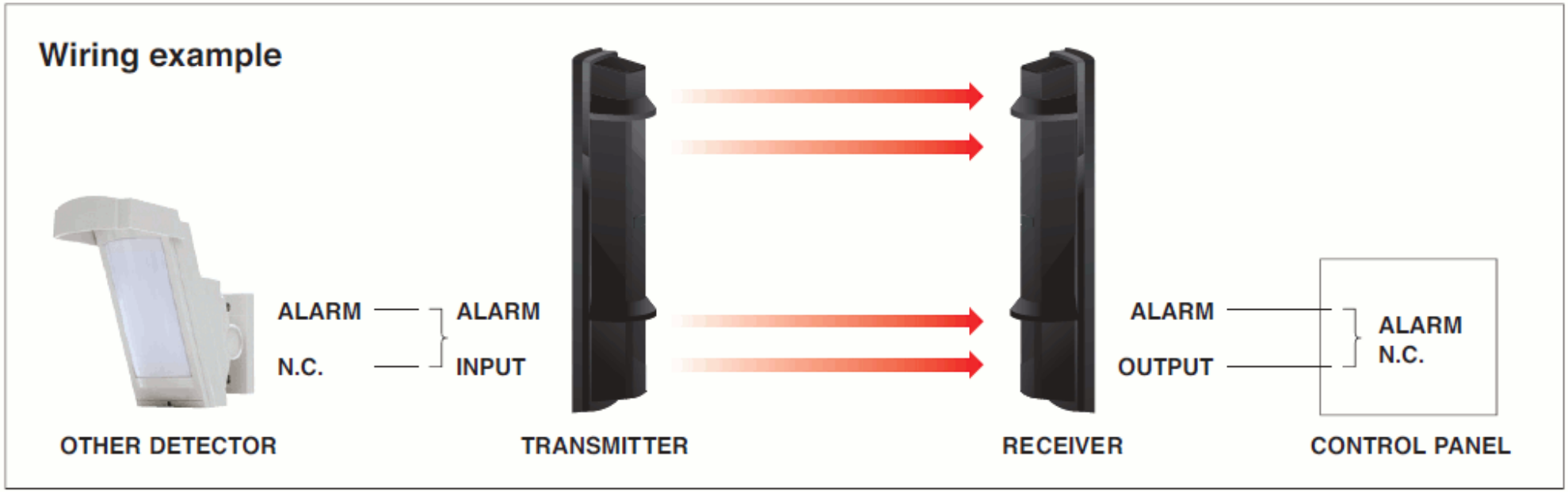
A.T.P.C. is the perfect solution to avoid the false or missed alarm !

5. Re-Transmission Function

QDM only

OPTEX Sensing Innovation

- By using Re-transmission function, QDM can transmit the alarm signal from other detectors to the receiver by stopping beam transmission from the transmitter.



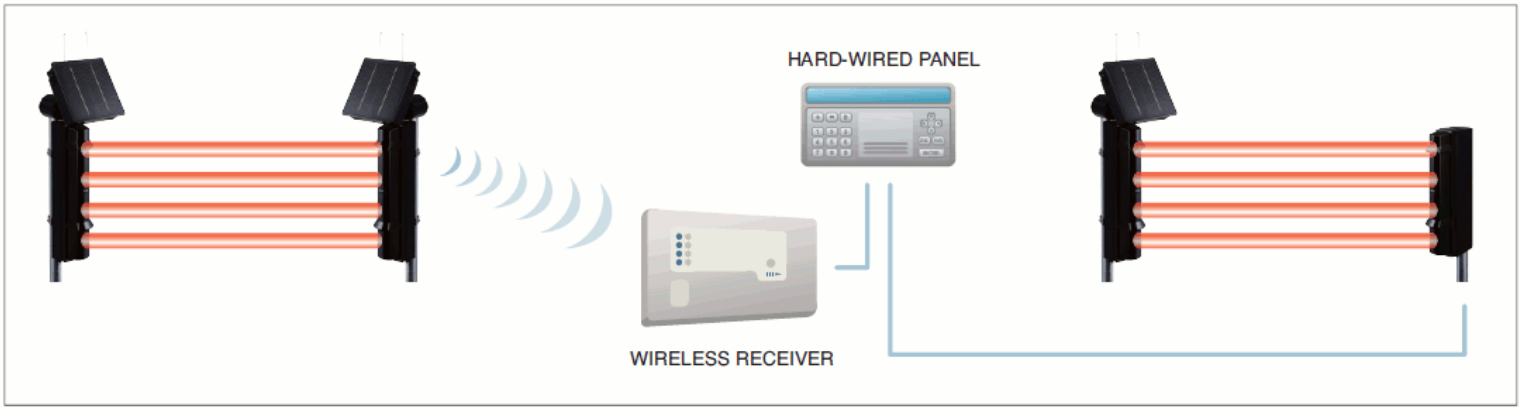
6. Solar Battery Operation (Option)

QDM only

OPTEX Sensing Innovation

SBU-4 Solar Battery Unit (Option)

- Small size and light weight Li-ion battery pack
- Long battery life - Non-sunshine days : approx. 7 days
- Spacious Back Box for wireless transmitter
- Battery common use unit (BCU-4 option)
- Anti-Bird Needle Included



7. Output Terminal

OPTEX Sensing Innovation

SL-QDM

<Transmitter>

(1) ⊕ (2) ⊖ — POWER INPUT 10.5-30VDC [Normal 3.6VDC [SBU-4]*

SPARE

(5) (6) — ALARM INPUT

(7) — LOW BATTERY INPUT (using with SBU-4)*

(8) (9) — TAMPER OUTPUT (N.C.)**

<Receiver>

(1) ⊕ (2) ⊖ — POWER INPUT 10.5-30VDC [Normal] 3.6VDC [SBU-4]*

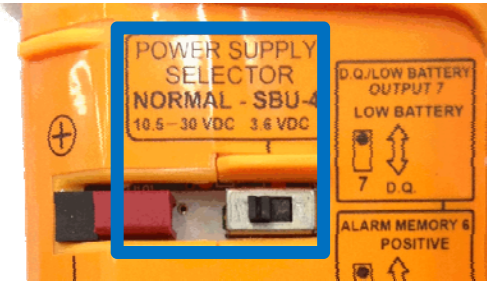
SPARE

(5) N.O. (6) N.C. (7) COM. — D.Q. OUTPUT/ LOW BATTERY OUTPUT* **

(9) N.C. (10) N.O. — ALARM OUTPUT*

(12) — LOW BATTERY INPUT (using with SBU-4)*

(14) — TAMPER OUTPUT** (N.C.)



SL-QDP

<Transmitter>

(1) ⊕ (2) ⊖ — POWER INPUT 10.5-30VDC

SPARE

(5) (6) — TAMPER OUTPUT (N.C.)**

<Receiver>

(1) ⊕ (2) ⊖ — POWER INPUT 10.5-30VDC

SPARE

(5) N.O. (6) N.C. (7) COM. — D.Q. OUTPUT

(9) N.C. (10) N.O. — ALARM OUTPUT*

(11) — ALARM MEMORY INPUT

(12) — SPARE

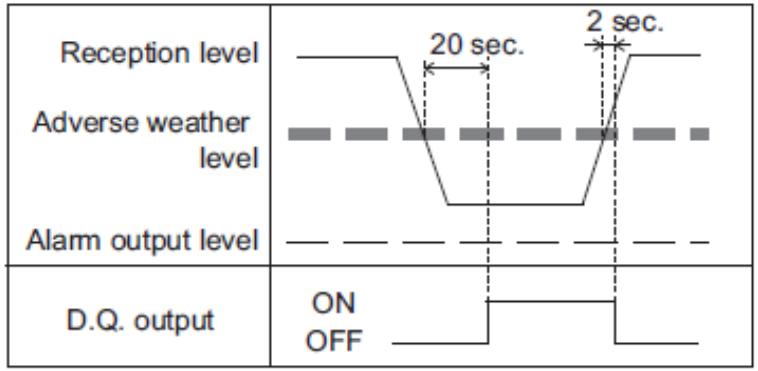
(14) — TAMPER OUTPUT** (N.C.)

7. Output Terminal
- D.Q. output -

D.Q. circuit (Environmental Disqualification)

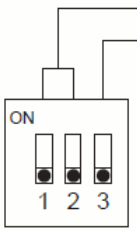
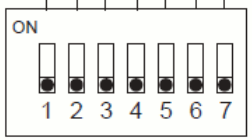
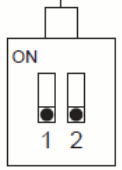
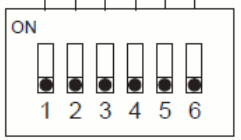
D.Q. output will send a trouble signal when the beam strength reaches below adverse weather levels for more than 20 seconds, due to rain, snow, or heavy fog.
D.Q. output will return to “OFF” if reception is regained for more than two seconds.

< Operating Time Chart >



8. Dip switch setting

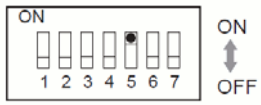
Dipswitch setting

SL-QDM	SL-QDP
<Transmitter> 4 Channel beam frequency selector switch Alarm input switch [Positive/Negative]  <Receiver> 4 Channel beam frequency selector switch Interruption time switch [50/100/250/500ms] Alarm memory switch [Auto/Manual] Alarm memory switch [Positive/Negative] D.Q. (environmental disqualification)/Low battery output switch [D.Q./Low battery]  	<Transmitter> 4 Channel beam frequency selector switch  <Receiver> 4 Channel beam frequency selector switch Interruption time switch [50/100/250/500ms] Alarm memory switch [Auto/Manual] Alarm memory switch [Positive/Negative] 

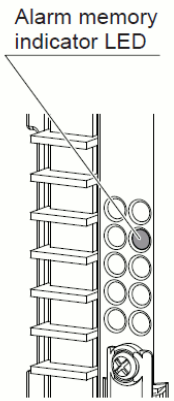
Alarm memory function

When an alarm is activated during alert status, the detector memorizes the alarm activation.
This will allow you to check which detector activated an alarm even when multiple units are installed. In Remote mode, connect control voltage signal terminal (system arming status voltage output terminal) of control panel to ALARM MEMORY INPUT terminal.

< Dip switch >
Receiver



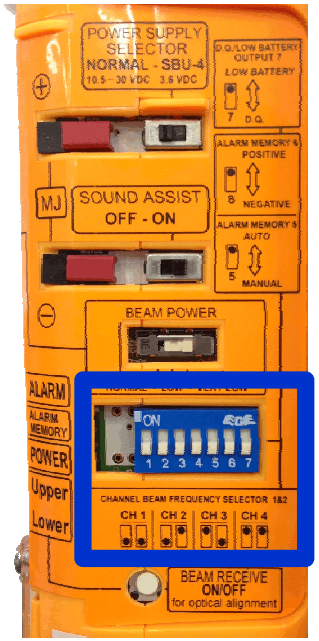
< Indicator LED >

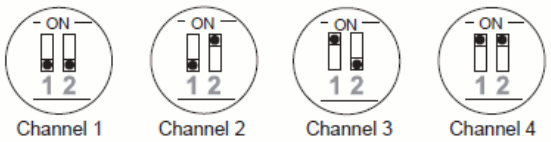


8. Dip switch setting
- 4 channel beam frequency selector -

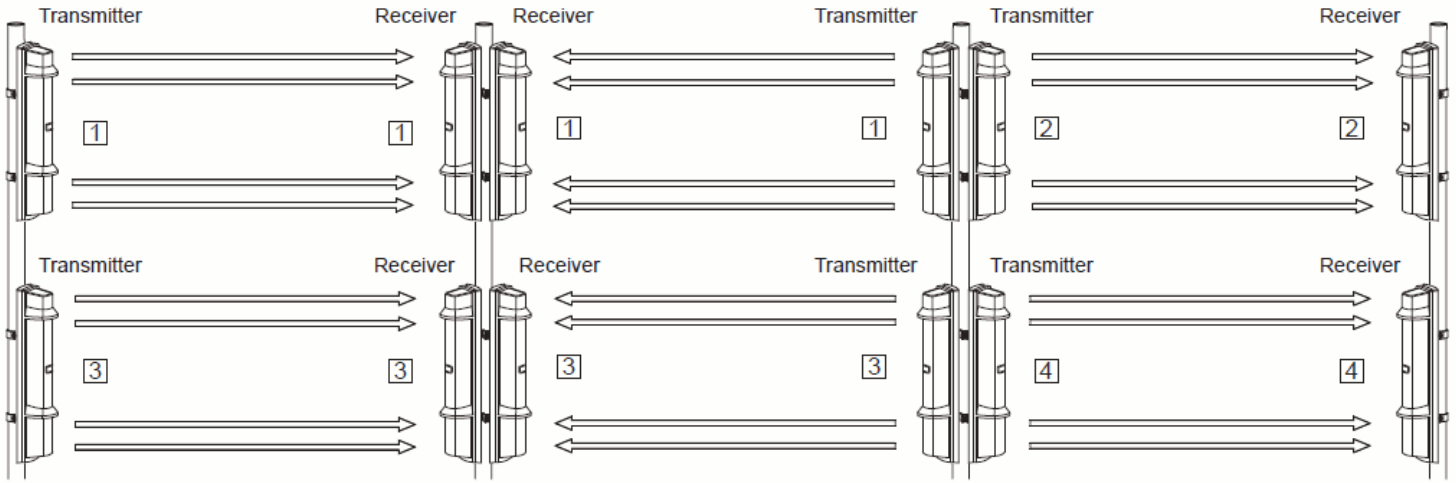
Selectable beam frequency

Necessary to avoid cross-talk in multi-set and/or stacking applications.
See below illustration for double stacking and/or straight in-line installation.

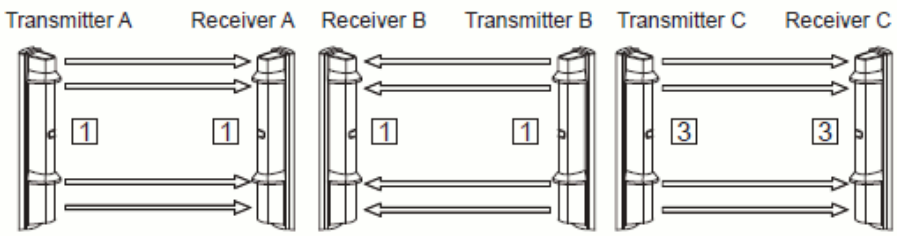


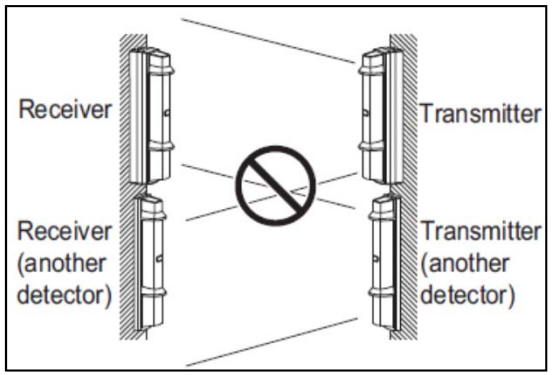


Double stacking installation



Straight in-line installation



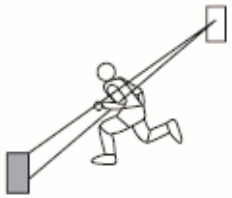
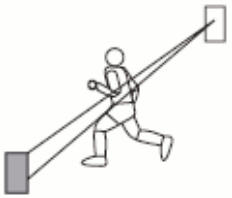
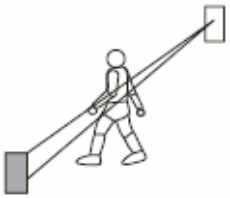
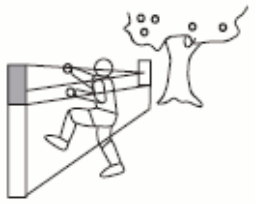


8. Dip switch setting
- Beam interruption adjustment switch -

OPTEX Sensing Innovation

Adjustable interruption time

Set the beam interruption adjustment switch of the Receiver according to the speed of the human object to detect. (Initial setting is at 50 msec for normal work.) It also allows for longer delay time to avoid false triggers by large birds, etc.

Dip switch (Receiver)	ON 1 2 3 4 5 6 7	ON 1 2 3 4 5 6 7	ON 1 2 3 4 5 6 7	ON 1 2 3 4 5 6 7
Typical interruption time setting	Running (50 msec) 	Jogging (100 msec) 	Walking (250 msec) 	Slow movement (500 msec) 

<Note>
* msec ＝ 1／1,000 sec.

50msec＝0.05 sec.
100msec＝0.10 sec.
200msec＝0.20 sec.
350msec＝0.35 sec.
500msec＝0.50 sec.

9. Various optional products

- Accessories -

Various Mounting Options


Wall

Pole (SINGLE)

Pole (SINGLE)

Pole (DOUBLE)

Beam Tower

Anti Bird Cap ABC-4

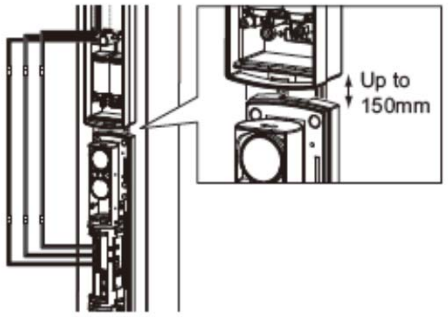
Keep birds and small animals off the detector to reduce false alarms. Stop rain and snow streaming in front of the detector to keep the sensitivity.

Back Cover BC-4

Conceal the back side of pole mounted detector.

Extension Cable with Connector EC-4

Extension cables between the back box and the main unit when installing to the beam tower.



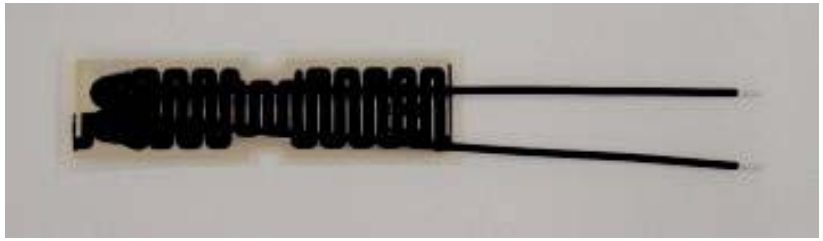
Cable length: 500 mm (19.7 inch)

Conduit Bracket CBR-4

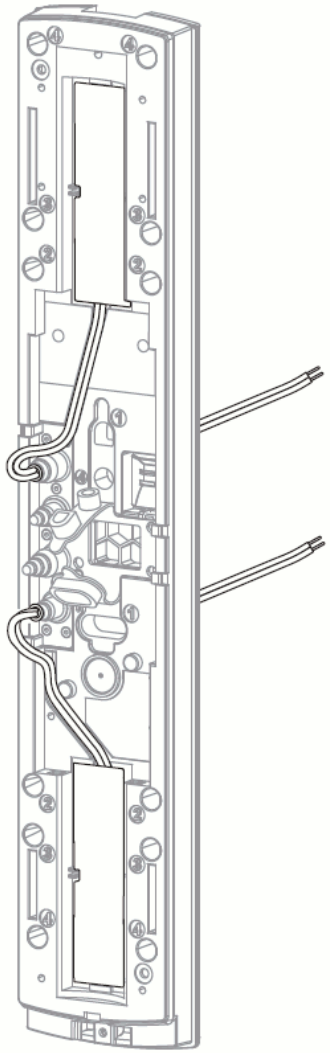
9. Various optional products
- Accessories -

OPTEX Sensing Innovation

Heater Unit



Name	Heating Unit
Model	HU-3
Power supply	24 VAC/DC
Current consumption	210 mA (max.) (per heater)
Max. surface temperature	Approx. 140 °F (60 °C)
Operating temperature	-31 °F to +140 °F (-35 °C to +60 °C)
Weight	Approx. 0.2 oz (6 g) (per heater)
Package contents	Heaters x 2, Connectors x 4 Waterproof material



Anti-frost hood cover
The hoods prevent frost forming on both upper and lower beams.

10. Environmental Durability

- Poly Carbonate Cover -

Front cover is not clouded by ultraviolet ray during a long term. Therefore it will maintain the transparency of IR beams.

10. Environmental Durability
- IP65 Water/Dust Protection -

OPTEX Sensing Innovation

Weather protection IP65
Rubber packing is used for all conceivable points where water or dust may penetrate, such as wiring holes, wire ports and the outer chassis.

IP65

Waterproof.
Protected against water jets from any direction

Dust-tight.
No ingress of dust.

International Protection Code.
It shows the degrees of protection provided by enclosures.

Thank you very much !

Sensing Innovation