



INSTALLATION INSTRUCTIONS

Fully detailed and alternative language versions available online



<https://navi.optex.net/manual/08811/>

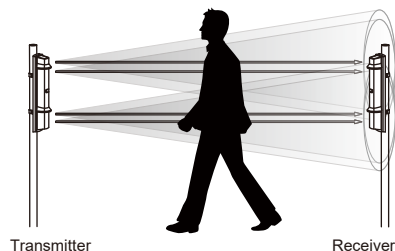
Visit the Web site to find various language versions with full detailed instructions.

Advanced	Standard	Detection range
SL-200QDM	SL-200QDP	60 m/200 ft.
SL-350QDM	SL-350QDP	100 m/350 ft.
SL-650QDM	SL-650QDP	200 m/650 ft.

PHOTOELECTRIC DETECTOR Smart Line™ series



A photoelectric detector consists of an infrared light source that generates IR(Infrared) beams, and an IR receiver that detects the IR beams. The transmitter and receiver are installed on opposite sides of the area to be monitored. The receiver detects when the IR beams are physically interrupted by an intruder, and sends an alarm signal to a control panel.



Features

- Quad high power beams
- Double modulated beam
- 4 channel beam frequency selector
- Smart design
 - Slim body design
 - Easy-to-see vivid interior color for optical alignment
 - IP65*1 waterproof structure
- Alignment level indicator
- Viewfinder with 2X magnification
- Various options
 - (HU-3*1, ABC-4*1, BC-4*1, CBR-4, PSC-4*1)
- [SL-QDM only]
 - Auto Transmit Power Control (A.T.P.C*2) to optimize the beam power
 - Integrated Alignment Status Communication (I.A.S.C*2) to communicate the transmitter and receiver
 - Re-transmitting circuit function
- Beam interruption adjustment function
- D.Q. circuit (environmental disqualification)
- Tamper function
- Beam power control selector
- Alarm memory
- Sound assist function
 - Optical alignment
 - Beam reception status
 - Walk test
- UL/c-UL Listed

*1 not evaluated by UL

*2 not require any additional tool

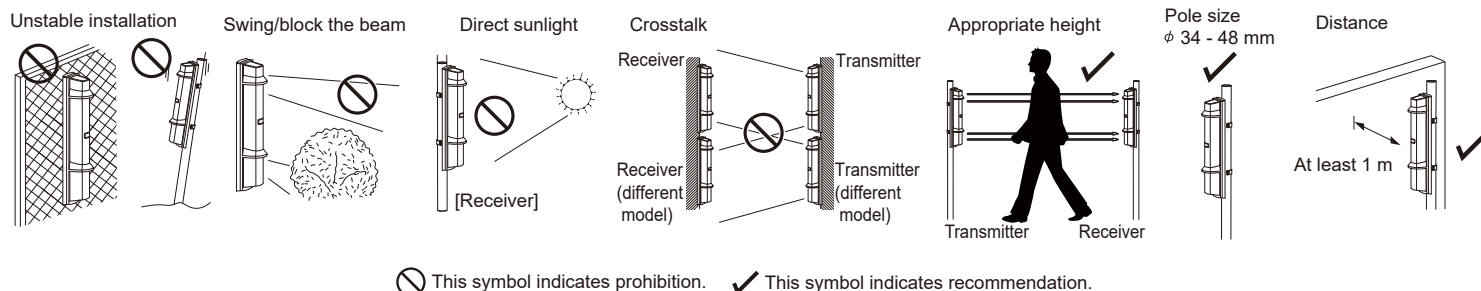
- Read this instruction manual carefully prior to installation.
- After reading, store this manual carefully in an easily accessible place for reference.
- This manual uses the following warning indications for correct use of the product, harm to you or other people and damage to your assets, which are described below. Be sure to understand the description before reading the rest of this manual.

Warning	Failure to follow the instructions provided with this indication and improper handling may cause death or serious injury.
Caution	Failure to follow the instructions provided with this indication and improper handling may cause injury and/or property damage.

- ⊘ This symbol indicates prohibition.
The specific prohibited action is provided in and/or around the figure.
- ❗ This symbol requires an action or gives an instruction.

⚠ Warning	Do not use the product for purposes other than the detection of moving objects such as people and vehicles. Do not use the product to activate a shutter, etc., which may cause an accident.	⊘
	Do not touch the unit base or power terminals of the product with a wet hand (do not touch when the product is wet with rain, etc.). It may cause electric shock.	❗
	Never attempt to disassemble or repair the product. It may cause fire or damage to the devices.	⊘
⚠ Caution	Do not exceed the voltage or current rating specified for any of the terminals during installation, doing so may cause fire or damage to the devices.	⊘
	Do not pour water over the product with a bucket, hose, etc. The water may enter, which may cause damage to the devices.	⊘
	Clean and check the product periodically for safe use. If any problem is found, do not attempt to use the product as it is and have the product repaired by a professional engineer or electrician.	❗

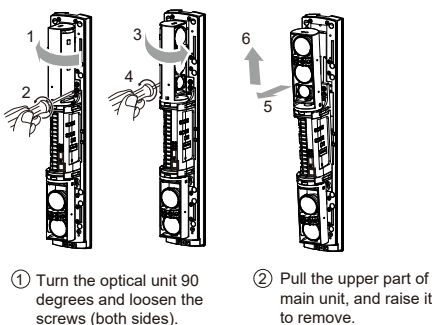
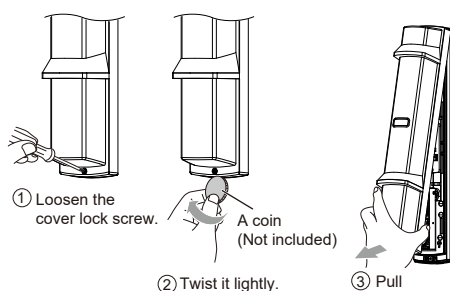
Precautions



Preparation

1 Remove the cover.

2 Remove the main unit from the chassis.



Caution

Do not expose to direct sunlight that may damage the optics during installation.

Terminal

<Transmitter>	(1) ⊕	POWER INPUT
	(2) ⊖	10.5 - 30 V DC [Normal]
	(3)	
	(4)	SPARE
	(5)	ALARM INPUT (SL-QDM only)
	(6)	
	(7)	TAMPER OUTPUT (N.C.)
	(8)	
<Receiver>	(1) ⊕	POWER INPUT
	(2) ⊖	10.5 - 30 V DC [Normal]
	(3)	
	(4)	SPARE
	(5)	N.O.
	(6)	N.C.
	(7)	COM.
	(8)	COM.
	(9)	N.C.
	(10)	N.O.
	(11)	ALARM MEMORY INPUT
	(12)	
	(13)	TAMPER OUTPUT (N.C.)

Wiring

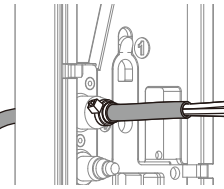
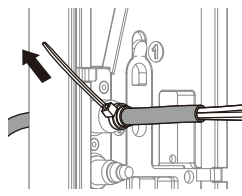
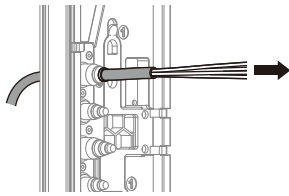
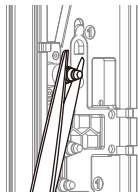
1 Cut the bush to the cable size

2 Run the cable through the bush

3 Tie the cable

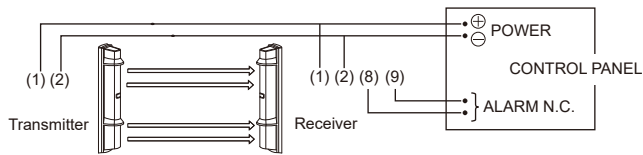
4 Cut off excess ties

5 Connect to the terminals



Refer to "Terminal" on the previous page to make connections to the terminals and refer to "Optical alignment" on the next page to make alignment for the maximum level of light reception.

< Wiring example >



Caution

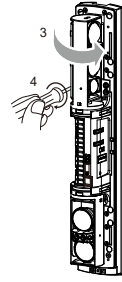
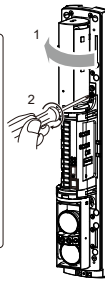
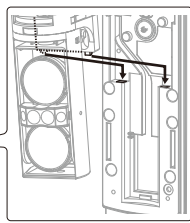
Do not exceed specifications that may cause fire or damage.

Mounting

Side wall
Distance from the side wall: at least 1 m
4x20 self tapping

Distance > 20 mm

83.5 mm for gang box



① Hook on the upper part of the chassis.

② Push the lower part of the cover until it clicks into position.

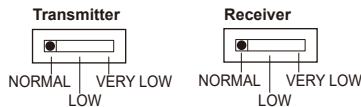
③ Fasten the cover lock screw.

Make function settings and optical alignment before mounting the cover.

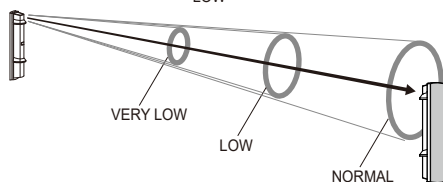
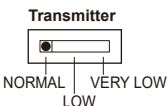
Beam power

Use the beam power control selector to avoid crosstalk for long/stacking installation.

< SL-QDM >

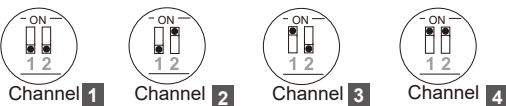
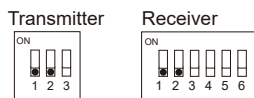


< SL-QDP >

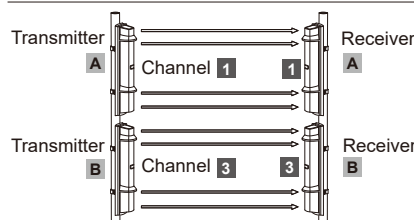


SL-200QDM/QDP		
NORMAL	60 - 30 m (200 - 100 ft)	0 m 15 m (50 ft) 30 m (100 ft) 60 m (200 ft)
LOW	30 - 15 m (100 - 50 ft)	
VERY LOW	Within 15 m (Within 50 ft)	
SL-350QDM/QDP		
NORMAL	100 - 50 m (350 - 175 ft)	0 m 25 m (88 ft) 50 m (175 ft) 100 m (350 ft)
LOW	50 - 25 m (175 - 88 ft)	
VERY LOW	Within 25 m (Within 88 ft)	
SL-650QDM/QDP		
NORMAL	200 - 100 m (650 - 350 ft)	0 m 50 m (175 ft) 100 m (350 ft) 200 m (650 ft)
LOW	100 - 50 m (350 - 175 ft)	
VERY LOW	Within 50 m (Within 175 ft)	

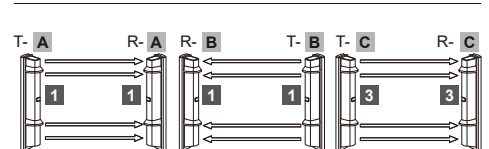
Frequency



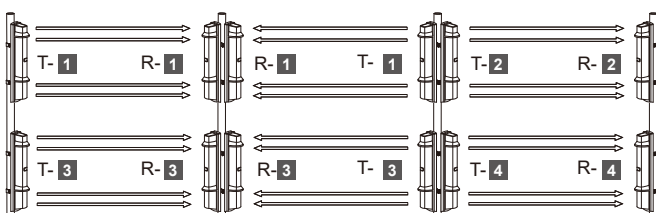
a) Double stacked protection



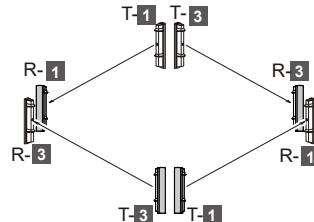
b) Long distance protection



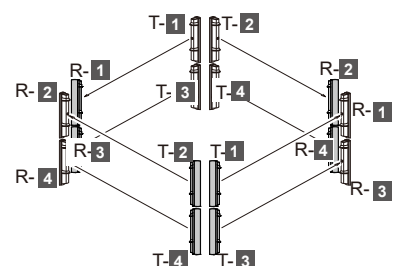
c) Double stacked long distance protection



d) Perimeter protection



e) Perimeter protection in a two-stack configuration



Note >>

- Stacking more than double is not possible.
- Make sure the facing receiver and transmitter are set to the same channel.

Warning

Do not install mixed with other model that may cause false/missing alarm.

Interruption time

	Default	During alignment *			
Dip switch (Receiver)	ON 	ON 	ON 	ON 	ON
Typical interruption time setting	Running (50 msec) 	Jogging (100 msec) 	Walking (250 msec) 	Slow movement (500 msec) 	

Note >>

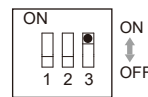
* The detector operates at 100 msec regardless of the switch position during optical alignment.

Re-transmission

SL-QDM only

< Dip switch >

Transmitter



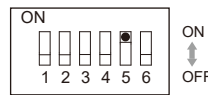
Dip switch 3: Alarm input

POSITION	MODE
ON	Positive (N.C.)
OFF	Negative (N.O.)

Alarm memory

< Dip switch >

Receiver



<Receiver>

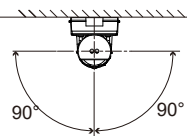
(1) ⊕	POWER INPUT
(2) ⊖	10.5 - 30 V DC [Normal]
(3)	SPARE
(4)	
(5) N.O.	
(6) N.C.	D.Q. OUTPUT
(7) COM.	
(8) COM.	ALARM OUTPUT *
(9) N.C.	
(10) N.O.	
(11)	ALARM MEMORY INPUT
(12)	TAMPER OUTPUT * (N.C.)
(13)	

Connect to the "Arming status" on the control panel

Optical alignment

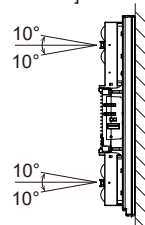
< Horizontal alignment angle >

[TOP VIEW]

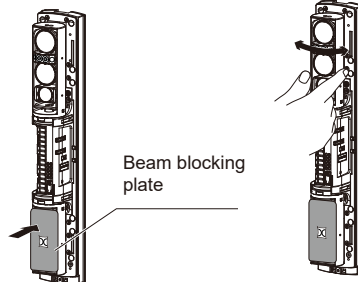


< Vertical alignment angle >

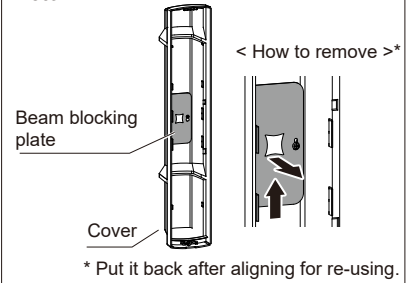
[SIDE VIEW]



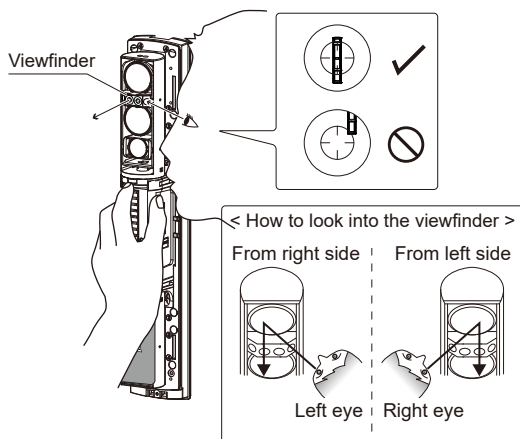
< Using a beam blocking plate >



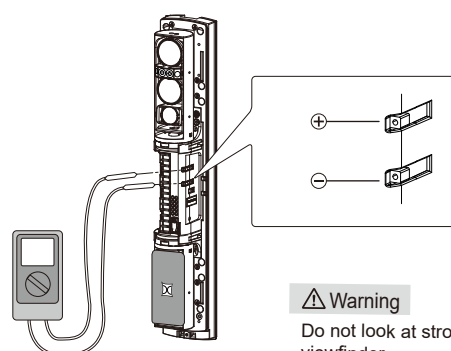
Note >>



< Using a viewfinder >



< Using a voltmeter for fine alignment >



Note >>

Turn the small dial for horizontal alignment.

Turn the large dial for vertical alignment.

- Clockwise: Upward
- Counterclockwise: Downward



Warning

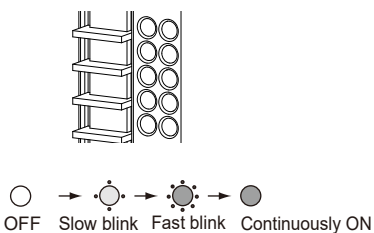
Do not look at strong light sources such as sunlight through the viewfinder.

Caution

Do not touch the lens during optical alignment. **!**

< LED and sound assist (except SL-QDP Transmitter) >

Alignment level indicator LED



Note >>

SL-QDM series: Optical alignment can be performed by opening a cover of either the transmitter or receiver.

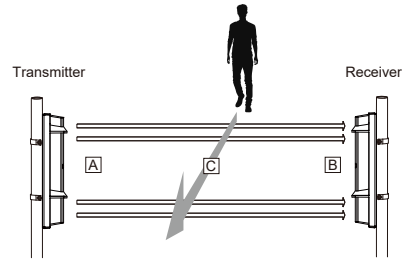
	Poor	Re-align	Fair	Good	Excellent
View finder					
Monitor Jack output	▷ 0.5 V	▷ 1.2 V	▷ 1.5 V	▷ 2.0 V	▷
Indicator LED					
Excellent	○	○ ○ ○ ○ ○ ○	○ ○ ○	○ ○ ○	● ● ● ● ● ●
Good	○	○ ○ ○ ○ ○ ○	● ● ● ● ● ●	● ● ● ● ● ●	● ● ● ● ● ●
Fair	○	○ ○ ○ ○ ○ ○	● ● ● ● ● ●	● ● ● ● ● ●	○ ○ ○ ○ ○ ○
Re-align	○	○ ○ ○ ○ ○ ○	● ● ● ● ● ●	○ ○ ○ ○ ○ ○	○ ○ ○ ○ ○ ○
Poor	○	● ● ● ● ● ●	○ ○ ○ ○ ○ ○	○ ○ ○ ○ ○ ○	○ ○ ○ ○ ○ ○
Sound assist	—	Pulsed tone SLOW			Continuous tone FAST

Checking

Check at following three points

- ☐ A In front of the transmitter
- ☐ B In front of the receiver
- ☐ C At the middle point between the transmitter and the receiver

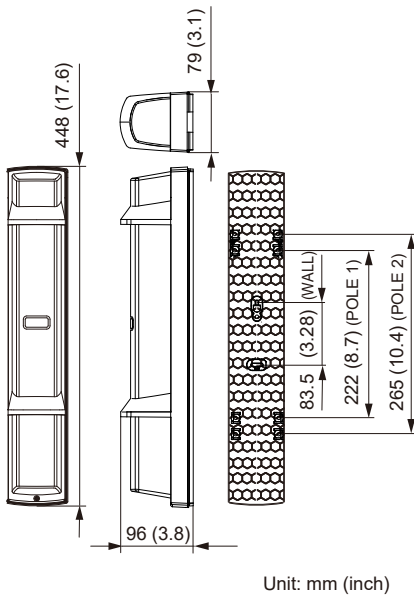
The detector is installed properly when the Alarm indicator LED turns ON and the beep sound rings in the tests at all three points.



Note>>

- Conduct a walk test at least once a year
- Operation check can be performed by the beep sound at interruption for 5 minutes of the tamper button on both the transmitter and receiver are pressed (the covers are closed).

Dimensions



Specifications

Model		ADVANCED			STANDARD		
		SL-200QDM	SL-350QDM	SL-650QDM	SL-200QDP	SL-350QDP	SL-650QDP
Maximum detection range		60 m / 200 ft	100 m / 350 ft	200 m / 650 ft	60 m / 200 ft	100 m / 350 ft	200 m / 650 ft
Maximum arrival distance		600 m / 2,000 ft	1,000 m / 3,500 ft	2,000 m / 6,500 ft	600 m / 2,000 ft	1,000 m / 3,500 ft	2,000 m / 6,500 ft
Detection method		Quad infrared beam interruption detection					
Selectable beam frequency		4 channels					
Interruption time		Variable between 50/100/250/500 ms (4 steps)					
Power source		Normal: 10.5 - 30 V DC			10.5 - 30 V DC		
Current draw 10.5- 30 V DC	Normal	26 mA (T: 11 mA, R: 15 mA)		30 mA (T: 15 mA, R: 15 mA)	17 mA (T: 6 mA, R: 11 mA)		22 mA (T: 11 mA, R: 11 mA)
	Optical alignment	36 mA (T: 16 mA, R: 20 mA)		43 mA (T: 20 mA, R: 23 mA)	21 mA (T: 7 mA, R: 14 mA)		24 mA (T: 10 mA, R: 14 mA)
	Peak	40 mA (T: 16 mA, R: 24 mA)		43 mA (T: 20 mA, R: 23 mA)	24 mA (T: 7 mA, R: 17 mA)		33 mA (T: 10 mA, R: 23 mA)
Output	Alarm output	Form C relay: 30 V DC, 0.2 A					
	Alarm period	2 sec (±1) (Nominal)					
	D.Q. output	Form C relay: 30 V DC, 0.2 A			Form C relay: 30 V DC, 0.2 A		
	Tamper output	N.C. (contact output): 30 V DC, 0.1 A Opens when the cover removed.					
Operating temperature		-35°C - +60°C (-31°F - 140°F)					
Operating humidity		95 % (max.)					
Alignment angle		±90° Horizontal, ±10° Vertical					
Dimension		H x W x D mm (inch): 448 (17.6) x 79 (3.1) x 96 (3.8)					
Weight		2,500 g (Total weight of the transmitter + receiver, excluding accessories)			2,400 g (Total weight of the transmitter + receiver, excluding accessories)		
International protection		IP65					

Compliance

DE < Elektro- und Elektronikgeräte Informationen für private Haushalte >

Das Elektro- und Elektronikgerätegesetz (ElektroG) enthält eine Vielzahl von Anforderungen an den Umgang mit Elektro- und Elektronikgeräten. Die wichtigsten sind hier zusammengestellt.

1. Getrennte Erfassung von Altgeräten
Elektro- und Elektronikgeräte, die zu Abfall geworden sind, werden als Altgeräte bezeichnet. Besitzer von Altgeräten haben diese einer vom unsortierten Siedlungsabfall getrennten Erfassung zuzuführen. Altgeräte gehören insbesondere nicht in den Hausmüll, sondern in spezielle Sammel- und Rückgabesysteme.

2. Batterien und Akkus sowie Lampen
Besitzer von Altgeräten haben Altbatterien und Altkumulatoren, die nicht vom Altgerät umschlossen sind, sowie Lampen, die zerstörungsfrei aus dem Altgerät entnommen werden können, im Regelfall vor der Abgabe an einer Erfassungsstelle vom Altgerät zu trennen. Dies gilt nicht, soweit Altgeräte einer Vorbereitung zur Wiederverwendung unter Beteiligung eines öffentlich-rechtlichen Entsorgungsträgers zugeführt werden.

3. Möglichkeiten der Rückgabe von Altgeräten
Besitzer von Altgeräten aus privaten Haushalten können diese bei den Sammelstellen der öffentlich-rechtlichen Entsorgungsträger oder bei den von Herstellern oder Vertriebern im Sinne des ElektroG eingerichteten Rücknahmestellen unentgeltlich abgeben.
Rücknahmepflichtig sind Geschäfte mit einer Verkaufsfläche von mindestens 400 m² für Elektro- und Elektronikgeräte sowie diejenigen Lebensmittelgeschäfte mit einer Gesamtverkaufsfläche von mindestens 800 m², die mehrmals pro Jahr oder dauerhaft Elektro- und Elektronikgeräte anbieten und auf dem Markt bereitstellen. Dies gilt auch bei Vertrieb unter Verwendung von Fernkommunikationsmitteln, wenn die Lager- und Versandflächen für Elektro- und Elektronikgeräte mindestens 400 m² betragen oder die gesamten Lager- und Versandflächen mindestens 800 m² betragen. Vertrieber haben die Rücknahme grundsätzlich durch geeignete Rückgabemöglichkeiten in zumutbarer Entfernung zum jeweiligen Endnutzer zu gewährleisten.

Die Möglichkeit der unentgeltlichen Rückgabe eines Altgerätes besteht bei rücknahmepflichtigen Vertriebern unter anderem dann, wenn ein neues gleichartiges Gerät, das im Wesentlichen die gleichen Funktionen erfüllt, an einen Endnutzer abgegeben wird. Wenn ein neues Gerät an einen privaten Haushalt ausgeliefert wird, kann das gleichartige Altgerät auch dort zur unentgeltlichen Abholung übergeben werden; dies gilt bei einem Vertrieb unter Verwendung von Fernkommunikationsmitteln für Geräte der Kategorien 1, 2 oder 4 gemäß § 2 Abs. 1 ElektroG, nämlich „Wärmeüberträger“, „Bildschirmgeräte“ oder „Großgeräte“ (letztere mit mindestens einer äußeren Abmessung über 50 Zentimeter). Zu einer entsprechenden Rückgabe-Absicht werden Endnutzer beim Abschluss eines Kaufvertrages befragt. Außerdem besteht die Möglichkeit der unentgeltlichen Rückgabe bei Sammelstellen der Vertrieber unabhängig vom Kauf eines neuen Gerätes für solche Altgeräte, die in keiner äußeren Abmessung größer als 25 Zentimeter sind, und zwar beschränkt auf drei Altgeräte pro Geräteeart.

4. Datenschutz-Hinweis
Altgeräte enthalten häufig sensible personenbezogene Daten. Dies gilt insbesondere für Geräte der Informations- und Telekommunikationstechnik wie Computer und Smartphones. Bitte beachten Sie in Ihrem eigenen Interesse, dass für die Löschung der Daten auf den zu entsorgenden Altgeräten jeder Endnutzer selbst verantwortlich ist.

5. Bedeutung des Symbols „durchgestrichene Mülltonne“



Das auf Elektro- und Elektronikgeräten regelmäßig abgebildete Symbol einer durchgestrichenen Mülltonne weist darauf hin, dass das jeweilige Gerät am Ende seiner Lebensdauer getrennt vom unsortierten Siedlungsabfall zu erfassen ist.

■ EU & UK contact information



<https://navi.optex.net/cert/contact/>



OPTEX INC./AMERICAS HQ (U.S.)
www.optex-america.com

OPTEX (EUROPE) LTD./EMEA HQ (U.K.)
www.optex-europe.com

OPTEX TECHNOLOGIES B.V.
(The Netherlands)
www.optex-europe.com/nl

OPTEX CO., LTD. (JAPAN)
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OPTEX SECURITY SAS (France)
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OPTEX SECURITY Sp. z o.o. (Poland)
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OPTEX PINNACLE INDIA,
PVT., LTD. (India)
www.optexpinnacle.com

OPTEX KOREA CO., LTD. (Korea)
www.optexkorea.com

OPTEX (DONGGUAN) CO., LTD.
SHANGHAI OFFICE (China)
www.optexchina.com

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