

# DeltaPac

MultiTask photoelectric sensor

IO-Link extension

**SICK**  
Sensor Intelligence.



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DeltaPac

**Manufacturer**

SICK AG  
Erwin-Sick-Str. 1  
79183 Waldkirch, Germany  
Germany

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**Original document**

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### 1 About this document

This “IO-Link extension” technical information document is intended to provide instructions for technical personnel of the machine manufacturer or operator on the initial configuration of the DeltaPac MultiTask photoelectric sensor, by providing explanations for all necessary indices.

This “IO-Link extension” technical information document is not intended to provide instructions on commissioning the sensor. The “DeltaPac” (8016159) operating instructions, which are included as a device manual, should be used for this purpose.



#### NOTE

Please also refer to the SICK AG website: [www.sick.com](http://www.sick.com)

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## 2 Configuration

### 2.1 Operating modes

Index decimal	Name	Format (Offset)	Length	Access	Standard factory	Value range
122 (0x7A)	Operating mode	UInt	8 bit	rw	0	0 = A 1 = B 2 = C 3 = D

Table 1: Index 122 (0x7A)

The DeltaPac MultiTask photoelectric sensor with IO-Link represents an extension to the pre-parameterized, automated DeltaPac portfolio and offers the possibility of detecting different packages with a device using four operating modes.

One of the following four operating modes can be selected:

A – PACKAGING

B – FOLDED BOX

C – PACKAGING “OVERSIZE FIT”

D – FOLDED BOX “SLIM FIT”

**Operating mode A** is a setting for primary packaging with smooth, round, and prism-shaped edges, such as the packaging used for beverages, finished products and health and beauty products. This device is also available as a pre-parameterized stand-alone device.

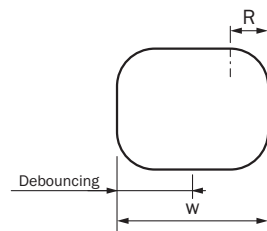


Figure 1: Smooth and round edges

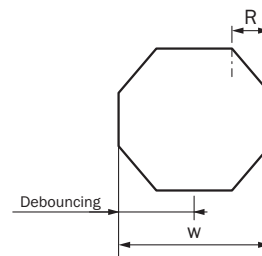


Figure 2: Prism-shaped edges



#### NOTE

Additional information on stand-alone devices can be found at: [mysick.com/de/delta-pac](https://mysick.com/de/delta-pac), e.g., WTD20E-V2414 #1064778.

**Operating mode B** is a setting for secondary packaging with small edges, typically folding boxes, e.g., for medicinal products, cosmetics and luxury goods. This device is also available as a pre-parameterized stand-alone device.

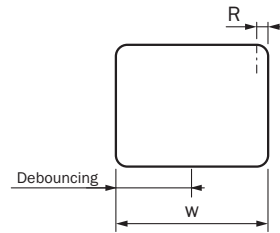


Figure 3: Folded boxes



### NOTE

Additional information on stand-alone devices can be found at: [mysick.com/de/delta-pac](https://mysick.com/de/delta-pac), e.g., WTD20E-V2445 #1065772.

**Operating mode C** is a setting for primary packaging with highly reflective, round, and prism-shaped edges, such as the packages used for beverages.

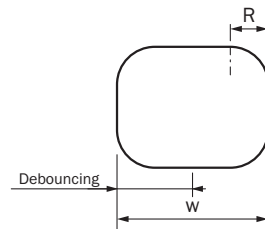


Figure 4: Round edges

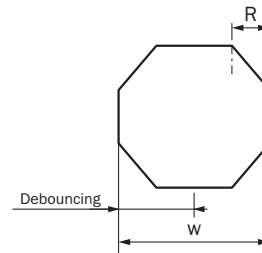


Figure 5: Prism-shaped edges

**Recommendation:** It is recommended that debouncing option “long (extended debouncing)” is used for this operating mode.

**Operating mode D** is a setting for secondary packaging with small edges, including folding boxes for cigarette packaging with uneven or reflective surfaces.

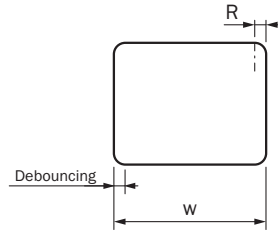


Figure 6: Small edges



#### NOTICE

The on/off delay must be set to 1 ms

Market requirement: Printing units require the smallest possible delay times for the trigger sensor switching signal. This should guarantee a low position tolerance for printing on the packaging.

## 2.2 Logic unit 1

Index decimal	Name	Format (Offset)	Length	Access	Standard factory	Value range
134 (0x86)	Logic unit 1	UInt	8 bit	rw	0	0 = presence 1 = presence with guaranteed pause (= pulse length)

Table 2: Index 134 (0x86)

The DeltaPac MultiTask photoelectric sensor with IO-Link enables the detection of a wide range of package types end to end on the belt. In addition, DeltaPac can also individually detect consecutive packages with gaps between them. This feature is useful if it is not possible to predict how the packages will be arranged during transport on the conveyor belt. In this case there is an increased risk that optical standard sensors will not switch correctly. In such cases, logic unit 1 enables the optical standard sensor to be replaced by DeltaPac.

Thanks to its Delta-S technology, DeltaPac provides a Q1 presence signal with a minimum pause corresponding to the set pulse length (see Index 121 (0x79)). The following figure shows a graphical comparison of the presence signal Q1 with (red) and without (blue) logic unit 1 switched on.

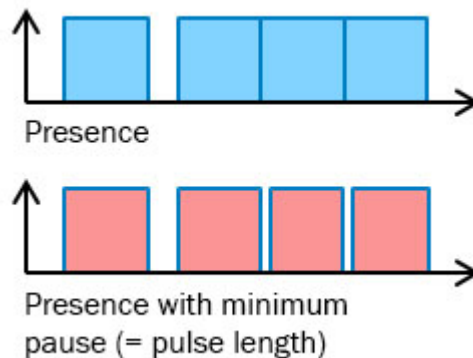


Figure 7: Switching behavior with and without logic unit 1 configured

### 2.3 Logic unit 2

Index decimal	Name	Format (Offset)	Length	Access	Standard factory	Value range
135 (0x87)	Logic unit 2	UInt	8 bit	rw	0	0 = pulse on incoming edge 1 = pulse on outgoing edge

Table 3: Index 135 (0x87)

The DeltaPac MultiTask photoelectric sensor with IO-Link offers the possibility of providing a presence (Q1) and edge signal (Q2) when the object is entering (front of package) or leaving (back of package) the sensor light spot. The pulse is pre-set to the incoming edge.



**Australia**

Phone +61 3 9457 0600  
1800 334 802 – tollfree  
E-Mail sales@sick.com.au

**Austria**

Phone +43 (0)22 36 62 28 8-0  
E-Mail office@sick.at

**Belgium/Luxembourg**

Phone +32 (0)2 466 55 66  
E-Mail info@sick.be

**Brazil**

Phone +55 11 3215-4900  
E-Mail marketing@sick.com.br

**Canada**

Phone +1 905 771 14 44  
E-Mail information@sick.com

**Czech Republic**

Phone +420 2 57 91 18 50  
E-Mail sick@sick.cz

**Chile**

Phone +56 2 2274 7430  
E-Mail info@schadler.com

**China**

Phone +86 4000 121 000  
E-Mail info.china@sick.net.cn

**Denmark**

Phone +45 45 82 64 00  
E-Mail sick@sick.dk

**Finland**

Phone +358-9-2515 800  
E-Mail sick@sick.fi

**France**

Phone +33 1 64 62 35 00  
E-Mail info@sick.fr

**Germany**

Phone +49 211 5301-301  
E-Mail info@sick.de

**Great Britain**

Phone +44 (0)1727 831121  
E-Mail info@sick.co.uk

**Hong Kong**

Phone +852 2153 6300  
E-Mail ghk@sick.com.hk

**Hungary**

Phone +36 1 371 2680  
E-Mail office@sick.hu

**India**

Phone +91-22-4033 8333  
E-Mail info@sick-india.com

**Israel**

Phone +972-4-6881000  
E-Mail info@sick-sensors.com

**Italy**

Phone +39 02 27 43 41  
E-Mail info@sick.it

**Japan**

Phone +81 (0)3 5309 2112  
E-Mail support@sick.jp

**Malaysia**

Phone +603 808070425  
E-Mail enquiry.my@sick.com

**Netherlands**

Phone +31 (0)30 229 25 44  
E-Mail info@sick.nl

**New Zealand**

Phone +64 9 415 0459  
0800 222 278 – tollfree  
E-Mail sales@sick.co.nz

**Norway**

Phone +47 67 81 50 00  
E-Mail sick@sick.no

**Poland**

Phone +48 22 837 40 50  
E-Mail info@sick.pl

**Romania**

Phone +40 356 171 120  
E-Mail office@sick.ro

**Russia**

Phone +7-495-775-05-30  
E-Mail info@sick.ru

**Singapore**

Phone +65 6744 3732  
E-Mail sales.gsg@sick.com

**Slovakia**

Phone +421 482 901201  
E-Mail mail@sick-sk.sk

**Slovenia**

Phone +386 (0)1-47 69 990  
E-Mail office@sick.si

**South Africa**

Phone +27 11 472 3733  
E-Mail info@sickautomation.co.za

**South Korea**

Phone +82 2 786 6321  
E-Mail info@sickkorea.net

**Spain**

Phone +34 93 480 31 00  
E-Mail info@sick.es

**Sweden**

Phone +46 10 110 10 00  
E-Mail info@sick.se

**Switzerland**

Phone +41 41 619 29 39  
E-Mail contact@sick.ch

**Taiwan**

Phone +886 2 2375-6288  
E-Mail sales@sick.com.tw

**Thailand**

Phone +66 2645 0009  
E-Mail tawiat@sicksgp.com.sg

**Turkey**

Phone +90 (216) 528 50 00  
E-Mail info@sick.com.tr

**United Arab Emirates**

Phone +971 (0) 4 88 65 878  
E-Mail info@sick.ae

**USA/Mexico**

Phone +1(952) 941-6780  
1 (800) 325-7425 – tollfree  
E-Mail info@sick.com

**Vietnam**

Phone +84 8 62920204  
E-Mail Ngo.Duy.Linh@sicksgp.com.sg

More representatives and agencies  
at [www.sick.com](http://www.sick.com)