



FORK LIGHT BARRIERS OGU

WITH IO-LINK

FORK LIGHT BARRIERS WITH IO-LINK: OGU

**MORE FLEXIBLE, FASTER, MORE PRECISE, SIMPLER AND
EVEN MORE RUGGED - WITH THE EXACT SAME SIZE.**

For decades, di-soric has been developing fork light barriers that set new standards. We are now offering the fork light barrier 4.0 with an innovative dual operation concept, either over IO-Link with the configuration of all sensor functions including 4 selectable sensor modes or through easy manual switching point adjustment with a potentiometer.

Very easy operation

Adjustment of the switching point and NO/NC changeover using a potentiometer

Backward compatible

with previous di-soric OGU models in terms of design and M8 connection

Even more rugged design

in a powder-coated metal housing* with full encapsulation and IP67, compatible with all OGU and standard mounting options

Push-pull output

pnp or npn function in one device

Ready-to-run: 4 preconfigured sensor modes

- Standard
- High Resolution
- Power
- Speed

Fork openings of 10 - 250 mm

for a wide variety of applications

IO-Link

Selection of the sensor mode or teach-in over IO-Link



THE EVOLUTION: FORK LIGHT BARRIER 4.0

APPLICATION-SPECIFIC CONFIGURATION INSTEAD OF SPECIFIC HARDWARE.

Instead of keeping various forks on hand for different applications, you can save the application-specific configuration, load it into the fork as needed or select the necessary operation mode and get started right away. Device swapping works just as easily.

RELIABLE, HIGH-PERFORMANCE APPLICATIONS USING OGU WITH IO-LINK.

4 SENSOR MODES



Standard

- Switching frequency: 5000 Hz*
- Reproducibility: 0.02 mm*

High Resolution

- Resolution for small parts detection improved by 30%*

Power

- Increased transmitting power and thus increased function reserve with reduced sensitivity to dirt

Speed

- Fast operation at 8000 Hz switching frequency*



DIAGNOSTICS

Qualitative and quantitative diagnostics:

- Analysis of process stability and teach-in quality (qualitative)
- Current process values, min/max, teaching and threshold measured values (quantitative)



EASY MAINTENANCE

- Device swapping without manual intervention or specialized knowledge thanks to IO-Link 1.1 with data storage in the master
- Smart Sensor Profile – fully compliant with standards

* Exemplary values for standard fork light barriers OGU 02x – OGU 12x



SENSOR MODE POWER: HIGH FUNCTION RESERVE

Increased transmitting power and thus increased function reserve with reduced sensitivity to dirt

DIAGNOSTICS: QUALITATIVE PROCESS STABILITY

Qualitative and quantitative diagnostics for the analysis of process stability and teach-in quality (qualitative), process values min / max, teach, switching point (quantitative)



OUR MEDIUM FORMAT. STANDARD IN THE FINEST GRADATIONS.

HIGH RESOLUTION COMBINED WITH AMAZING SPEED AND PRECISION - WITH RED AND INFRARED LEDS - WITHOUT LASERS.

Fork light barriers are the preferred choice wherever small objects or object positions must be detected quickly, precisely and independently of their surface. High switching frequency and maximum resolution means that our medium formats are capable of reliably detecting rapid motion sequences, even of very small parts with diameters starting from 0.2 mm.

The outstanding reproducibility standard of 0.02 mm enables the extremely precise position recognition of objects.

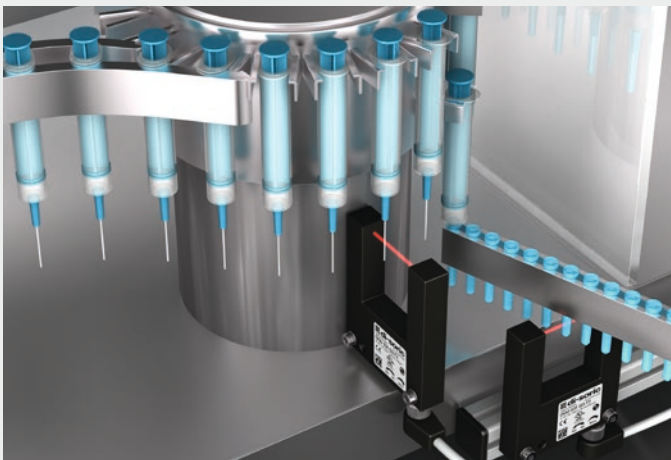
The new OGU fork light barriers, available as red-light or infrared-light variants, achieve virtually the same level of performance as laser light barriers in terms of resolution and reproducibility.



FORK OPENINGS IN INCREMENTS OF 10 MM: 30 . 40 . 50 . 60 . 70 . 80 . 90 . 100 MM

WE HAVE EXACTLY THE FORK YOU NEED IF YOU WANT TO ACHIEVE MAXIMUM PERFORMANCE WITHIN A MINIMAL INSTALLATION SPACE.

In contemporary mechanical engineering, design is playing an ever greater role – our slim OGU fork light barriers in the medium format are available in increments of 10 mm and are suitable for the most diverse machine designs. Thus, you can always find the optimally matching fork light barrier for your planned design.



CANNULA MONITORING

OGU 031 G3-T3

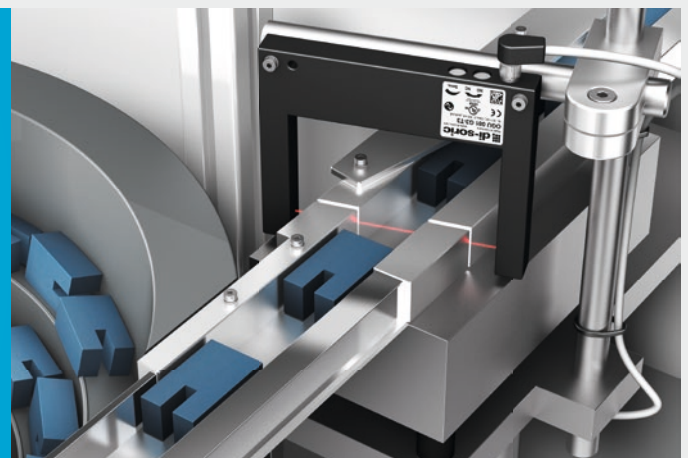
The “High Resolution” sensor mode even enables detection of small parts with diameters down to 0.2 mm.

di-soric fork light barriers use an LED light source to achieve a level of performance close to that of laser light barriers.

ACCUMULATION MONITORING

OGU 081 G3-T3

The “Power” sensor mode reduces cleaning cycles to a minimum.



TRIGGER FOR HIGH-SPEED LABELERS

OGU 081 G3-T3

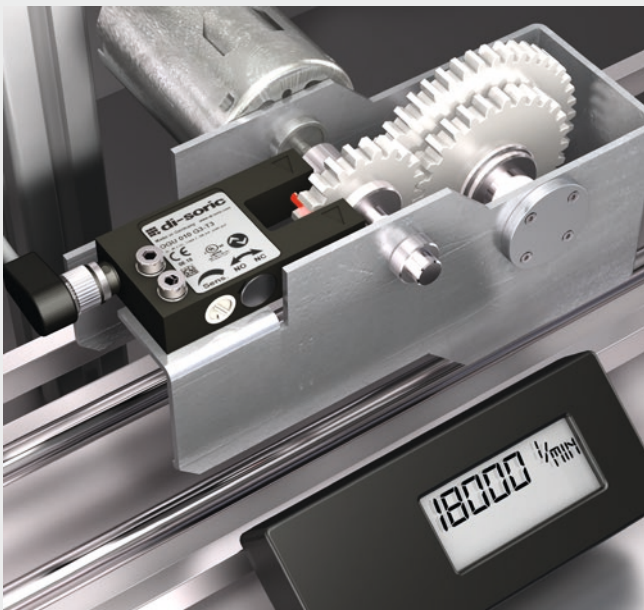
With the “Speed” sensor mode, it is possible to increase the throughput speed to a maximum at a switching frequency of 8,000 Hz – with consistent precision and reproducibility.



OUR SMALL ONES: 10 AND 20 MM. SUPER-FAST ON THE SHORT DISTANCE

SO SMALL AND YET SO TOUGH - CRANK UP YOUR MACHINES.

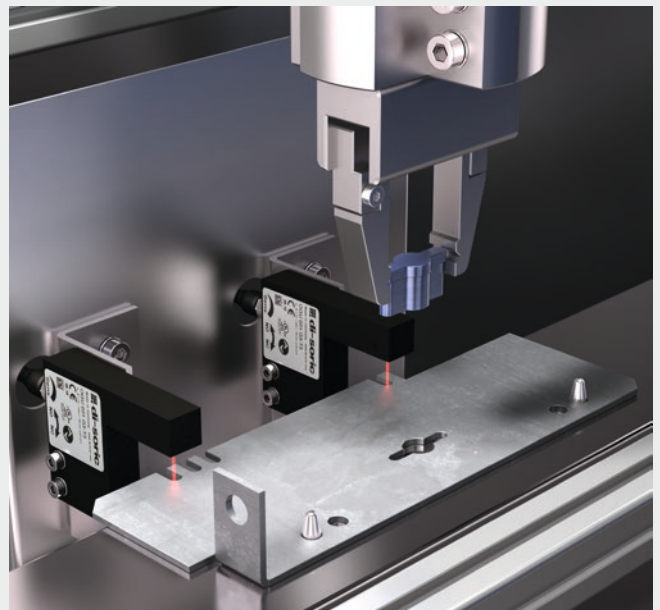
The OGU 010 is not only our smallest fork light barrier but also our fastest: Its switching frequency of 14,000 Hz makes it one of the fastest forks worldwide. Install our fork light barriers, even without the potentiometer being accessible, and simply configure using IO-Link – a greater amount of space cannot be conserved.



High-speed metering application

OGU 010 G3-T3

With the "Speed" sensor mode and a switching frequency of 14,000 Hz, it is possible to measure the speed of small plastic gears on a test bench.



Position monitoring in the device

OGU 021 G3-T3

Configuration using IO-Link and the compact design make it possible to integrate two fork light barriers in the assembly device

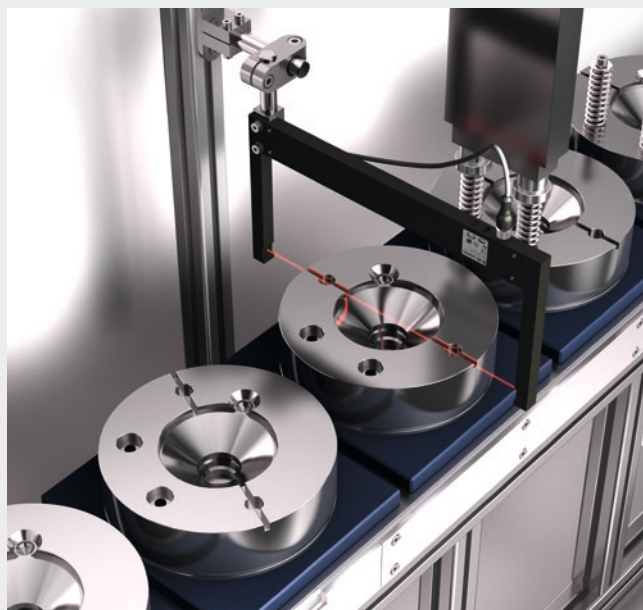
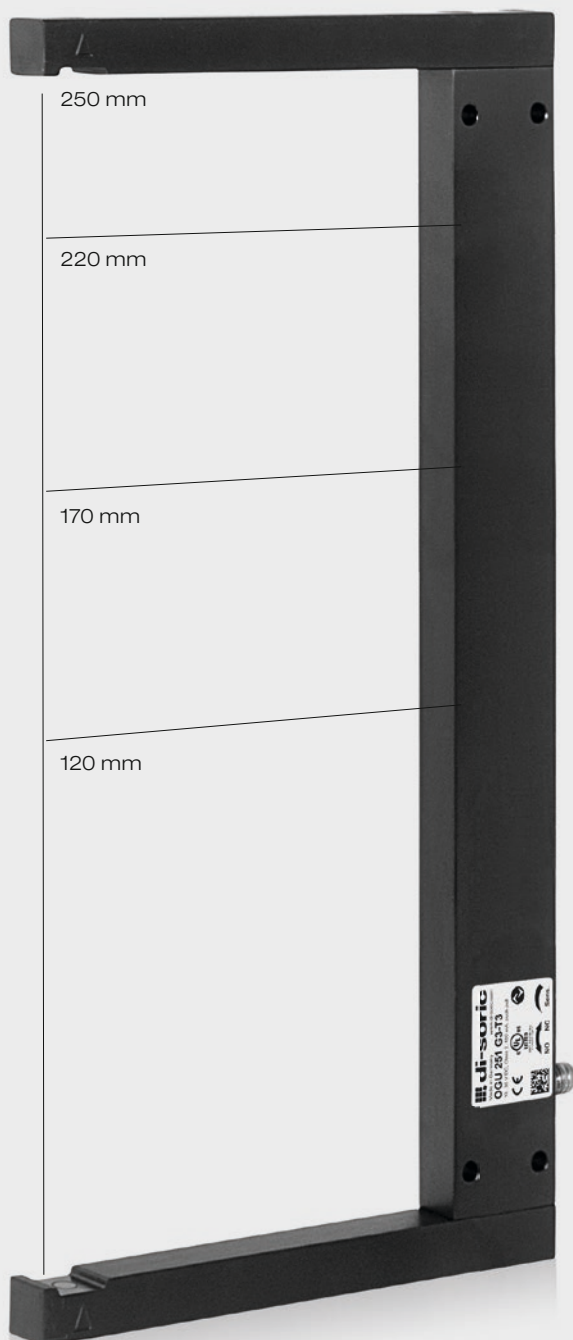


OUR HEAVY HITTERS.

IS IT ALRIGHT IF IT'S A BIT OVER?

**HERE YOU GO! - WHERE OTHERS HAVE GIVEN UP LONG AGO,
WE WILL EVEN ADD A BIT: 120 . 170 . 220 . 250 MM**

The perfect alignment of transmitter and receiver in our large fork light barriers is assured – as is the visible red light, which further eases the setup of your application. However, the fact that even at such fork openings, small parts in the millimeter range are precisely identified with a reproducibility down to 0.03 mm, makes them excellent.



Position monitoring of the groove in the circular piece

OGU 251 G3-T3

Large fork light barriers with red light LED enable fast commissioning. Glossy objects can be monitored with high precision



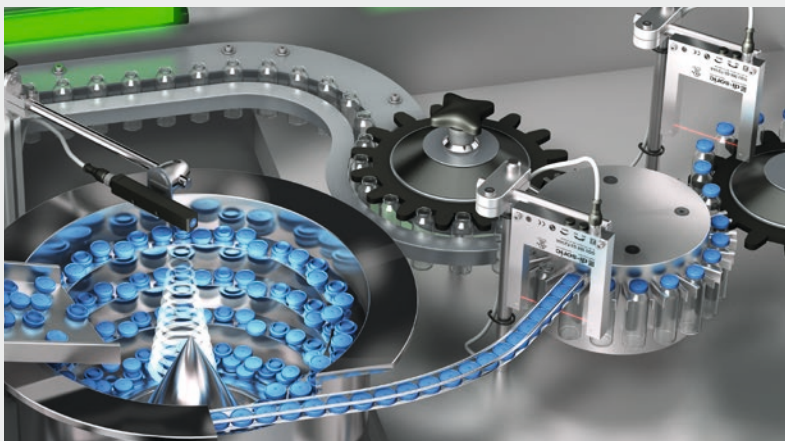
OUR STAINLESS STEEL VARIANTS. PRACTICALLY INDESTRUCTIBLE.

FOR INDUSTRIAL ENVIRONMENTS REQUIRING EXCEPTIONAL FLEXIBILITY AND HIGH PROCESS RELIABILITY.

The OGU V4A sensors are especially well-suited to applications in packaging technology, the pharmaceutical industry, cosmetics industry and product feeding. Frequent batch changes and modifications to critical production parameters can be implemented easily and quickly using the IO-Link configuration. Available fork openings: 30, 50, 80, and 120 mm.

Additional benefits of the OGU V4A fork light barriers in the stainless steel housing:

- Suited to areas with high standards with respect to hygiene and cleanliness
- Preferred field of application: Packaging technology, pharmaceutical industry and cosmetic industry as trigger sensors or for controlling product feeding
- Fast and precise, and therefore ideal for high-performance packaging machines



Feed control and fast trigger sensor in a sealing machine

Product OGU 050 G3-T3/V4A

Fork light barriers with V4A housing for feed control and as fast trigger sensors in pharmaceutical sealing machines

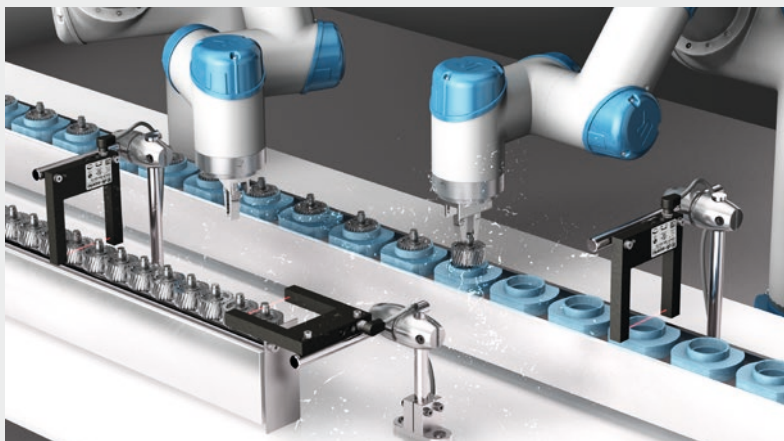
OUR STRONG ONES. FOR WHEN THINGS GET DIRTY.

LONG AFTER OTHER SENSORS HAVE GIVEN UP, THE OGUPS STILL HAVE PLENTY OF RESERVES LEFT.

Available with fork openings of 20, 30, 50 or 80 mm, the OGUP series ensures precise object detection regardless of the surface, even in dirty and oily production environments. With reproducibility of 0.03 mm, the fork light barriers offer a high degree of precision paired with maximum function reserve.

Additional benefits of the rugged OGUP infrared high-performance light barriers:

- Maximum function reserve while maintaining high switching accuracy
- Power sensor mode set by default; the Standard, High Resolution and Speed sensor modes can be freely selected
- Preferred field of application: mechanical engineering applications involving large amounts of dust, coolant or oil



Reliably functioning accumulation and position monitoring

OGUP 050 G3-T3

Fork light barriers of the OGUP series are equipped with infrared high-performance LEDs. This reduces cleaning cycles in a dirty environment to a minimum.

COMPLETE SOLUTIONS USING IO-LINK: TEAMWORK BY DI-SORIC.

SOLUTIONS. CLEVER. PRACTICAL.

IO-Link provides true added value over the entire service life of a system. The installation and commissioning of highly diverse sensors is simpler and faster whenever the use of plug connectors replaces full wiring. IO-Link products from di-soric allow for the creation of flexible, affordable, space-saving systems that will be available to the customer faster than ever. The advantages of an IO-Link are even more evident when it comes to parameter configuration and diagnostics. For the first time, system operators have an affordable standard that enables an unobstructed view and access to all interacting sensors at the process level.



SMART THANKS TO IO-LINK. SAVE TIME AND MONEY.

EASY, FAST AND SAFE.

Field devices with an IO-Link interface feature on-board digital intelligence. This allows them to swap position, process, status and device information easily in a digital format. The sensor can be configured directly using the IO-Link master. Settings can be applied to the sensor directly via drag and drop by means of a control panel.

Even device replacement can be carried out quickly and easily with IO-Link and data storage in the master using the Smart Sensor Profile, without any expert knowledge.



5 REASONS TO CHOOSE OUR OGU WITH IO-LINK.

- 1 COST REDUCTION** thanks to reduced stockkeeping
 - One sensor can provide the solution for various applications by adjusting the configuration. Application-specific sensors are no longer necessary.

- 2 IMPLEMENTATION OF INNOVATIVE MACHINE CONCEPTS** thanks to consistent communication
 - Recipe management in the IO-Link master, remote maintenance, diagnostics, sensor-configuration in accordance with the standardized Smart Sensor Profile







- 3 REDUCTION OF COMMISSIONING TIMES** through standard cabling and data storage in the master
 - Standard plug connectors and push/pull outputs
 - The sensor can be configured directly over the IO-Link master and is saved in the master with IO-Link 1.1

- 4 INCREASED MACHINE PRODUCTIVITY** through configuration and identification
 - Additional functionality integrated directly into the sensor: Sensor modes, teach-in, evaluation of signal values, pulse extension, operation lock

- 5 REVOLUTIONIZING MAINTENANCE** through self-diagnostics and data storage
 - Process stability diagnostics (e.g. function reserve)
 - Easy device swapping without manual intervention or specialized knowledge thanks to data storage in IO-Link 1.1 master

TECHNICAL DATA

OGU WITH IO-LINK

Fork opening in mm	SMALL ONES		MEDIUM FORMAT			
	10	20	30	40	50	60
						
Red light, 660 nm		OGU 021 G3-T3	OGU 031 G3-T3*	OGU 041 G3-T3	OGU 051 G3-T3*	OGU 061 G3-T3
Infrared light, 880 nm	OGU 010 G3-T3	OGU 020 G3-T3	OGU 030 G3-T3		OGU 050 G3-T3	
Resolution (Smallest detectable part)	Ø 0.2 mm (min. Ø 0.1 mm) ¹	Ø 0.3 mm (min. Ø 0.2 mm) ¹	Ø 0.3 mm (min. Ø 0.2 mm) ¹	Ø 0.3 mm (min. Ø 0.2 mm) ¹	Ø 0.3 mm (min. Ø 0.2 mm) ¹	Ø 0.3 mm (min. Ø 0.2 mm) ¹
Reproducibility	0.02 mm	0.02 mm	0.02 mm	0.02 mm	0.02 mm	0.02 mm
Adjustable switching frequency	10000 Hz (bis zu 14000 Hz) ²	5000 Hz (max. 8000 Hz) ²	5000 Hz (max. 8000 Hz) ²	5000 Hz (max. 8000 Hz) ²	5000 Hz (max. 8000 Hz) ²	5000 Hz (max. 8000 Hz) ²
Housing dimensions H / W / D	25 / 45 / 10 mm	40 / 50 / 10 mm	50 / 60 / 10 mm	60 / 70 / 10 mm	70 / 80 / 10 mm	80 / 80 / 10 mm
Housing material*						
Zinc die-cast black powder-coated	■	■	■	■	■	
Aluminum black anodized						■
Switching output	Push-pull/pnp/npn adjustable via IO-Link, 100 mA, NO/NC (switchable via potentiometer or IO-Link)					
Interface	IO-Link V1.1 COM2 Smart Sensor Profile					
Sensitivity adjustment	Using potentiometer or IO-Link					
Sensor modes	Standard – General applications High Resolution – For detection of the smallest objects Power – Increased function reserve Speed – Safe detection of fast-moving parts					
Protection type /protection class	IP67 / III					
Connector	Plug, M8, 3-pin					
Connection cable	TK ...					
	¹ in the High Resolution sensor mode, ² in the Speed sensor mode					



				HEAVY HITTERS			
70	80	90	100	120	170	220	250



OGU 071 G3-T3	OGU 081 G3-T3*	OGU 091 G3-T3	OGU 101 G3-T3	OGU 121 G3-T3*	OGU 171 G3-T3	OGU 221 G3-T3	OGU 251 G3-T3
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OGU 080 G3-T3				OGU 120 G3-T3			
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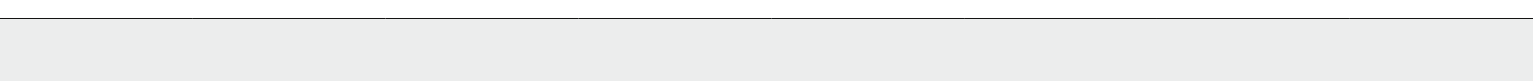
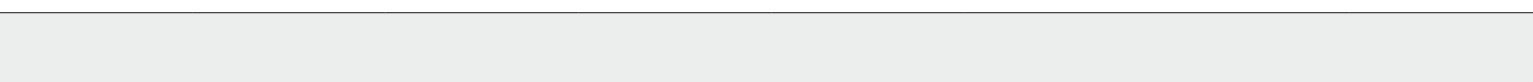
Ø 0.3 mm (min. Ø 0.2 mm) ¹	Ø 0.3 mm (min. Ø 0.2 mm) ¹	Ø 0.3 mm (min. Ø 0.2 mm) ¹	Ø 0.3 mm (min. Ø 0.2 mm) ¹	Ø 0.5 mm (min. Ø 0.3 mm) ¹	Ø 0.5 mm (min. Ø 0.4 mm) ¹	Ø 1.0 mm (min. Ø 0.8 mm) ¹	Ø 1.0 mm (min. Ø 0.8 mm) ¹
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0.02 mm	0.02 mm	0.02 mm	0.02 mm	0.02 mm	0.03 mm	0.03 mm	0.03 mm
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5000 Hz (max. 8000 Hz) ²	5000 Hz (max. 8000 Hz) ²	5000 Hz (max. 8000 Hz) ²	5000 Hz (max. 8000 Hz) ²	5000 Hz (max. 8000 Hz) ²	5000 Hz (max. 8000 Hz) ²	5000 Hz (max. 6500 Hz) ²	5000 Hz (max. 6500 Hz) ²
----------------------------------------	----------------------------------------	----------------------------------------	----------------------------------------	----------------------------------------	----------------------------------------	----------------------------------------	----------------------------------------





90 / 80 / 10 mm	100 / 80 / 10 mm	110 / 80 / 10 mm	120 / 80 / 10 mm	144 / 90 / 12 mm	194 / 140 / 12 mm	244 / 140 / 12 mm	274 / 140 / 12 mm
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	■		■	■	■	■	
■		■					■



TECHNICAL DATA

OGU V4A AND OGUP WITH IO-LINK

Fork opening in mm	OGU V4A IN STAINLESS STEEL			
	30	50	80	120
				
Red light, 660 nm	OGU 031 G3-T3/V4A	OGU 051 G3-T3/V4A	OGU 081 G3-T3/V4A	OGU 121 G3-T3/V4A
Infrared light, 880 nm				
Resolution (Smallest detectable part)	Ø 0,3 mm (min. Ø 0,2 mm) ¹	Ø 0,3 mm (min. Ø 0,2 mm) ¹	Ø 0,3 mm (min. Ø 0,2 mm) ¹	Ø 0,5 mm (min. Ø 0,3 mm) ¹
Reproducibility	0,02 mm	0,02 mm	0,02 mm	0,02 mm
Adjustable switching frequency	5000 Hz (max. 8000 Hz) ²	5000 Hz (max. 8000 Hz) ²	5000 Hz (max. 8000 Hz) ²	5000 Hz (max. 8000 Hz) ²
Housing dimensions H / W / D	50 / 60 / 10 mm	70 / 80 / 10 mm	100 / 80 / 10 mm	144 / 90 / 12 mm
Housing material*				
Stainless steel V4A	■	■	■	■
Zinc die-cast black powder-coated				
Switching output	Push-pull/pnp/npn adjustable via IO-Link, 100 mA, NO/NC (switchable via potentiometer or IO-Link)			
Interface	IO-Link V1.1 COM2 Smart Sensor Profile			
Sensitivity adjustment	Using potentiometer or IO-Link			
Sensor modes	Standard – General applications High Resolution – For detection of the smallest objects Power – Increased function reserve Speed – Safe detection of fast-moving parts			
Protection type /protection class	IP67 / III			
Connector	Plug, M8, 3-pin			
Connection cable	TK ...			
	¹ in the High Resolution sensor mode, ² in the Speed sensor mode, ³ in factory setting sensor mode Power			



HIGH PERFORMANCE OGUP

20

30

50

80



OGUP 020 G3-T3

OGUP 030 G3-T3

OGUP 050 G3-T3

OGUP 080 G3-T3

Ø 2 mm
(min. Ø 0,2 mm)³

Ø 2 mm
(min. Ø 0,2 mm)³

Ø 2 mm
(min. Ø 0,2 mm)³

Ø 2 mm
(min. Ø 0,2 mm)³

0,03 mm

0,03 mm

0,03 mm

0,03 mm

200 Hz
(max. 8000 Hz)²

200 Hz
(max. 8000 Hz)²

200 Hz
(max. 8000 Hz)²

200 Hz
(max. 8000 Hz)²

40 / 50 / 10 mm

50 / 60 / 10 mm

70 / 80 / 10 mm

100 / 80 / 10 mm



SOLUTIONS. CLEVER. PRACTICAL.

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