

# OptoPulse<sup>®</sup> EIL580

The benchmark for incremental encoders.





## Flexible.

Our commitment – the right encoder for every application.  
Primary condition – our modular product design.

*OptoPulse*® EIL580 series provides all current flange designs with solid and hollow shaft diameters from 8 to 15 mm. Versatile connection options and pulse numbers up to 5000 ppr further extend the choice. The modular product design comes with a comprehensive range of accessories.

Varied output stages provide the perfectly matching interface for every control:

5 V, TTL/RS422 / 8...30 V, TTL/RS422

8...30 V, HTL/push-pull / 4.75...30 V, HTL/push-pull

## We have the ideal solution for you.

You need a very special configuration, for example individually modified in mechanical design? With a customized product adapted to your application you will always get the optimum solution in terms of technology.

Our experts gladly provide you with a corresponding quotation.  
Contact us:

[www.baumer.com/worldwide](http://www.baumer.com/worldwide)





## Robust.

*OptoPulse*® EIL580 encoders are outstanding when it comes to durability and robustness: The resultant reliability eliminates potential failures and expensive system downtime.

**Well protected:** Sheltered by a solid housing with massive metal walls, the encoders will defy rough industrial conditions and the reliable ShaftLock bearing feature will prevent any damage caused by high axial shaft loads.

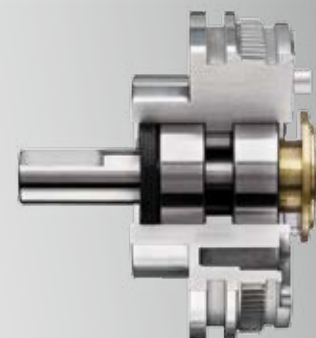
**Extremely solid:** For maximum stability, shaft and clamping ring are not die-cast but made of solid material to ensure safe and resilient mechanical attachment.

**Simply safe:** The encoders are short-circuit proof and protected against reverse polarity, reason why any installation error will not harm the electronics. Plugged PCB connections improve shock and vibration properties and increase operational safety.



## Baumer *ShaftLock*

Baumer invented it: The ShaftLock bearing feature proven for more than 15 years will not fail even under worst conditions. Large high-quality ball bearings in maximum distance to each other prevent the bearing pack from misalignment by high axial shaft loads in operation or at installation. ShaftLock means maximum precision, maximum service life, will prevent code disc and sensing unit from damage and avoid cost-intensive downtime and repair.





## Precise.

Mechanics, sensing unit and electronics of *OptoPulse*® EIL580 encoders are ultra precise. The excellent signal quality will substantially enhance productivity and the level of control in your application.

### Precise mechanics

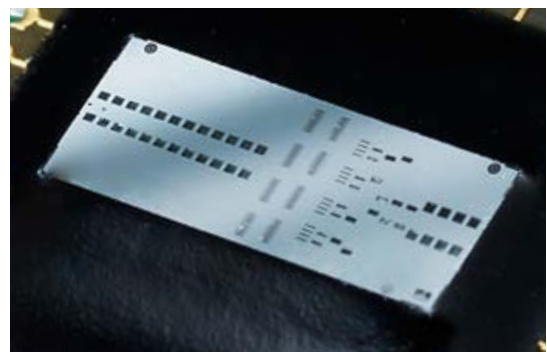
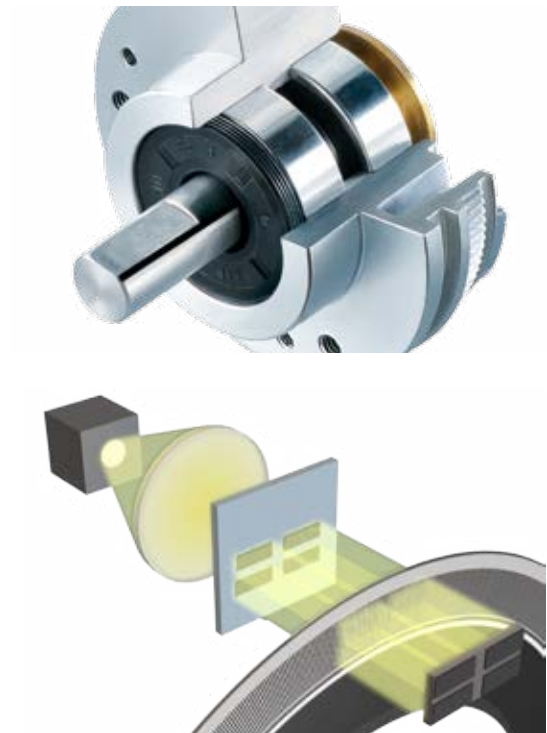
Precision-manufactured mechanics with two high-quality, preloaded bearings is the basis for optimum radial and axial runout properties. The slotted hollow shaft firmly adheres to the motor shaft, will reduce vibration and allows for higher shaft tolerances.

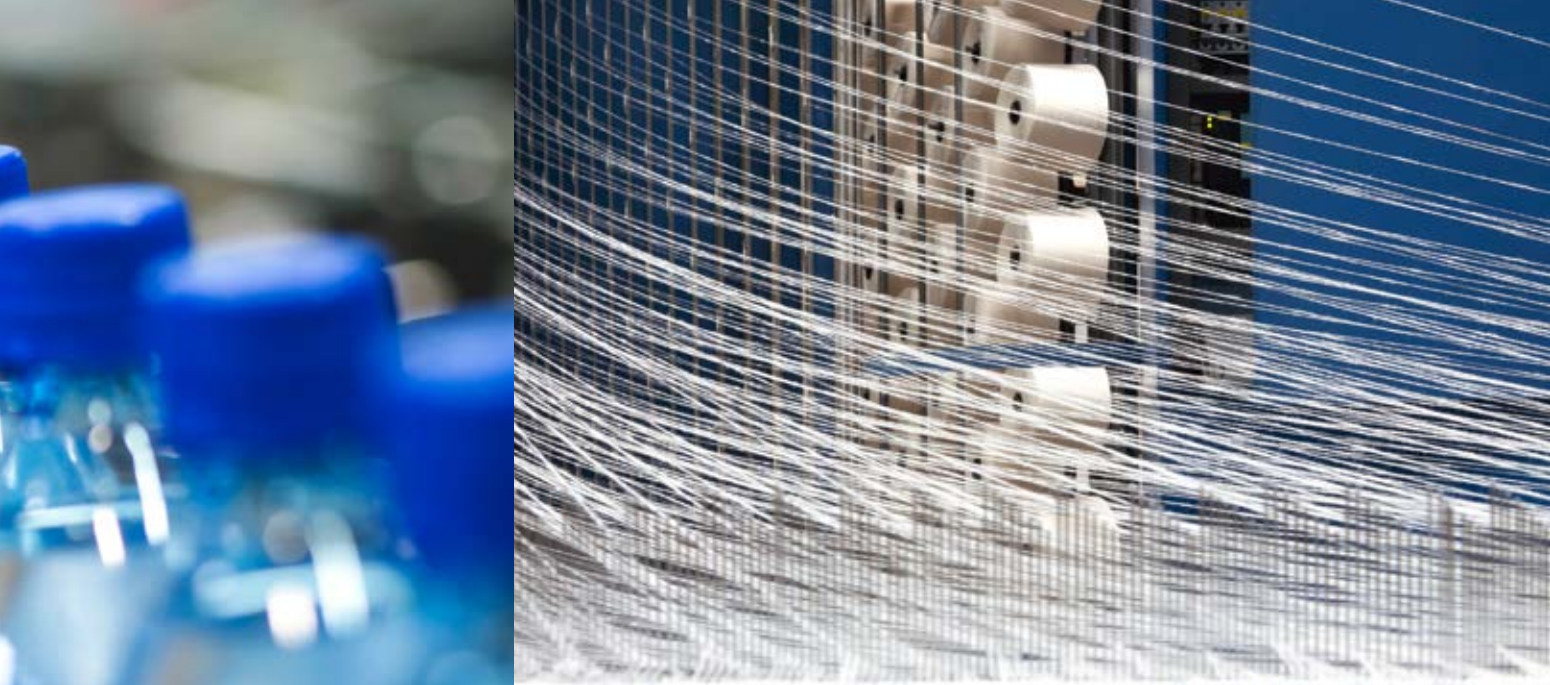
### Precise sensing technique and electronics

The innovative optical sensing technology ensures ultimate accuracy and constantly high signal quality throughout the entire temperature range from  $-40$  to  $+100$  °C.

The heart is a monolithic OptoASIC with high integration density, especially conceived for use in encoders. The code disc with high-precision increments provides reliable measuring results without any interpolation errors. The limited number of discrete components adds on reliability and decisively improves shock and vibration characteristics.

The encoder electronics provides an overall-immunity against strong magnetic fields which for example prevail at magnetic brakes.





## Efficient.

Baumer *OptoPulse*® EIL580 encoders prove themselves by excellent technical properties. Best-in-class technology, a thoroughly cost-optimized product design and lean production processes enable us offering our encoders at a very attractive price-performance-ratio.

Optimal, high-quality accessories complete the package. Your one-stop source for encoders and perfectly matching accessories - in well-known Baumer quality, practice-proven and quickly available.

## Optimal accessories to ease installation. All-time availability.

Your requirements may be as varied as the application conditions. Whether it's all about installation, connection technology or peripheral equipment like measuring wheels: We always provide you with the perfectly matching accessories.





## Prompt availability, first-class service.

Whether as OEM equipment or retrofit – how different your requirements may be, our modular encoders *OptoPulse*® EIL580 will meet them by flexibility. The unique Baumer online Product Finder will easily navigate you to the matching product configuration.

Tracking the matching accessories is as simple as that. The comprehensive range is clearly structured to ensure safe and reliable encoder interaction, for example in terms of electromagnetic immunity.

Our sales and customer support teams will gladly be of help whenever you need assistance and further information on the product. Of course, we are available around the globe – in our locations worldwide there are always competent experts.



## We deliver promptly and dependably.

Numerous stock items in single quantity will be supplied within 24 hours respectively one day ex works. More standard items up to the quantity of 10 will be supplied within 5 working days thanks to optimized production and process coordination.

The product data sheet provides you with more details on standard items.



# OptoPulse® EIL580 – the established standard.

OptoPulse® EIL580 sets a benchmark in incremental encoders with 58 mm diameter. Cutting edge sensing technology merges with particularly robust mechanics and decades of knowhow to create an extraordinary product.

Overall design focus is clearly on maximum service life: Solid die-cast housing with massive 1.5 mm aluminium walls, particularly resilient ShaftLock bearing feature and absolutely safe and reliable connection technology make the encoders optimally prepared for deployment in harsh industrial environments, thus adding the decisive plus to reliability in your application.

The product design is a perfect combination of technical merit and dependable functionality and significantly simplifies installation. With their clear, aesthetic appearance the encoders will decently integrate in your application.

The modular concept creates a product platform with a lot of configurations and variants, all compatible to every current electrical and mechanical standard. At all times, this diversity will provide you with the right encoder – and always at an excellent price-performance ratio.

## OptoPulse® EIL580 – flexible, robust, precise.

- Robust mechanics with ShaftLock bearing feature
- Extraordinary durable
- Optical sensing technology, up to 5000 increments
- Operating temperature from  $-40\text{ °C}$  to  $+100\text{ °C}$
- High protection up to IP 67
- Speed up to 12000 rpm
- Excellent price-performance ratio
- One-stop source for encoders and accessories



High protection



ShaftLock



For high shaft loading



Low temperatures



Magnetic immunity



Shock and vibration proof



High speed



# Product overview *OptoPulse*<sup>®</sup> EIL580



|                       | EIL580-SC  | EIL580-SY   | EIL580-S1   | EIL580-SQ   | EIL580-B                                      | EIL580-T  |
|-----------------------|--|---|---|---|---|---|
| Sensing method        | Optical  |   |   |   |   |   |
| Size                  | 58 mm  |   |   |   |   |   |
| Voltage supply        | 5 VDC $\pm$ 5 %, 8...30 VDC, 4.75...30 VDC   |   |   |   |   |   |
| Output stages         | TTL/RS422 or HTL/push-pull   |   |   |   |   |   |
| Shaft type            | Solid shaft<br>$\varnothing$ 10 mm<br>Clamping flange  | Solid shaft<br>$\varnothing$ 6 mm<br>Synchro flange | Solid shaft<br>$\varnothing$ 11 mm<br>EURO flange B10 | Solid shaft<br>$\varnothing$ 10 mm<br>Square flange | Blind hollow shaft<br>$\varnothing$ 8...15 mm | Through hollow shaft<br>$\varnothing$ 8...15 mm |
| Connection            | Radial, axial: flange connector M23, 12-pin or M12, 8-pin; cable<br>Tangential: cable outlet |   |   |   |   |   |
| Pulse per revolution  | 100...5000   |   |   |   |   |   |
| Operating temperature | -40...+85 °C   |   |   |   |   |   |
| Protection            | IP 67 with shaft seal, IP 65 without   |   |   |   |   |   |
| Shaft loading         | $\leq$ 40 N axial, $\leq$ 80 N radial  |   |   |   |   |   |

## Latest accessory highlights



Varied cable outlet and connector options for any housing design and installation condition



Clip for easy mounting on top or underneath the fan guard with 8 mm grid



Optimally matching stator coupling



Torque support optionally cut to length for universal installation

Learn more about our *OptoPulse*<sup>®</sup> EIL580 encoder series at:  
[www.baumer.com/optopulse](http://www.baumer.com/optopulse)

Find your local partners at: [www.baumer.com/worldwide](http://www.baumer.com/worldwide)



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