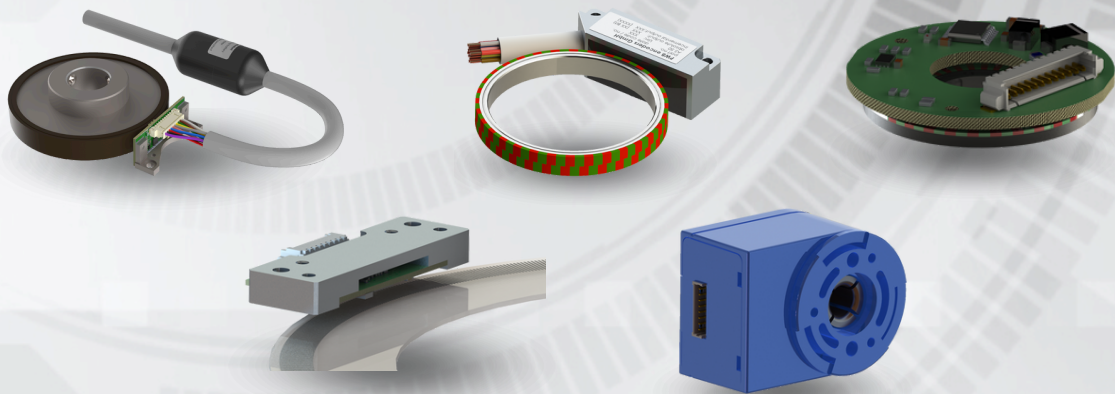




# PRODUCT CATALOGUE



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# We successfully set production technology & innovation in motion.



Our team



Our encoders

*PWB encoders GmbH* is a German company specialising in the development, manufacture and sale of high-quality miniature encoders, encoder discs, encoder rulers and customised motor encoder systems.

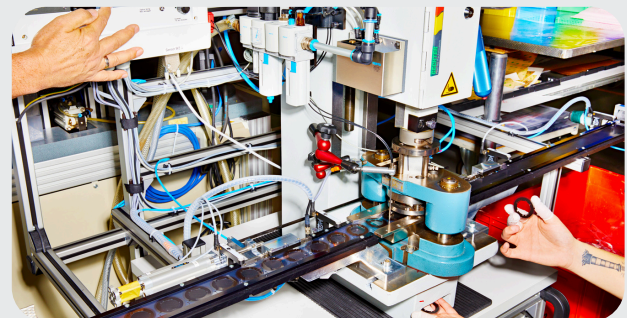
Encoders from PWB encoders are used as measurement sensors for rotational speed and speed, motor feedback and linear movements. The main areas of application are electric drives for medical technology, robotics, packaging technology, measurement technology and automation of all kinds.

*Our strength* lies in the professional development of our own and customised products as well as in our excellent service for our customers.

In case our standard products do not optimally cover an application, PWB encoders is happy to work with its customers to develop customised solutions that optimally meet their requirements and wishes.



Our clean room

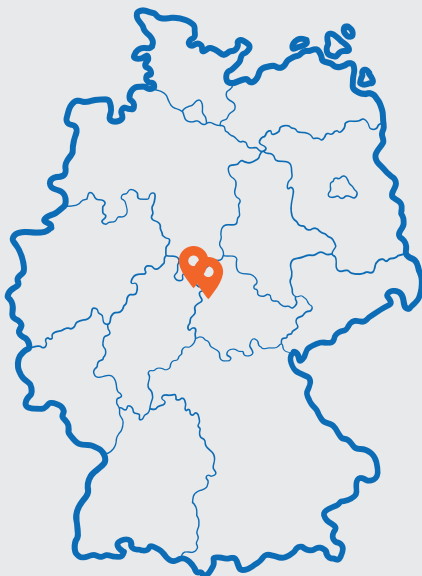


Our production

# PWB - precision works better

**Our motivation** is to integrate the latest technologies into the functionality of our products and to give them a perfect design for a wide range of industries and applications. In this way, we want to make a contribution to the success of our customers. Because we can only be sustainably successful if our customers are. Competent, personalised advice from person to person and collegial cooperation with our business partners are the cornerstones of our continuous growth.

**Made in Germany** and therefore compliance with the highest quality standards is a high priority at PWB encoders. Our products are developed and manufactured in Germany and are used successfully all over the world. Our processes are continuously reviewed and optimised to ensure first-class product quality and excellent customer service. Certification in accordance with DIN ISO 9001:2015 is a fundamental requirement for us.



Our locations

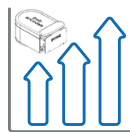
The company, which is based in Eisenach/Thuringia and has a development office in Berkatal/Hesse, was founded in 2009. PWB encoders provides customers with advice and support. With the entire know-how of a strong team, the limits for the use of encoders and encoder discs are extended.

In which areas can we currently support you successfully?

## About us:



Competent encoder manufacturer for customised solutions



Leading mini encoder manufacturer in Europe



European market leader for polyester film encoder discs



Privately run company



Specialist for high-end technological products

# Hollow shaft encoders

optical incremental

Product image	Product name	Outer diameter (mm)	Resolution (ppr)	Shaft diameter (mm)	Channels	Power supply (VDC)
	<b>AE 30</b>	31	100 - 5000	2.0 - 8.0	2 / 3 / 4 / 6	5
	<b>AE 30 F</b>	31	100 - 5000	2.0 - 8.0	2 / 3 / 4 / 6	5
	<b>AE 30 VX</b>	31	100 - 5000	2.0 - 8.0	4	8 - 30
	<b>EBG 38</b>	38	250 - 4096	3.0 - 10.0	6	5 / 8 - 30
	<b>ME 16</b>	16	36 - 230	1.5 - 3.175	1 / 2	5
	<b>ME 22</b>	22	1 - 360	1.5 - 8.0	2 / 4	5
	<b>MEC 22</b>	22	500 - 2048	1.5 - 8.0	2 / 3	5
	<b>MEC 22 HR</b>	22	2000 - 8192	1.5 - 9.52	2 / 3	5
	<b>MEHR 25 C</b>	25	up to 12000	4.0 / 6.0	6	5
	<b>MEHR 25 H</b>	25	up to 12000	4.0 / 6.0	6	5
	<b>MEHR 25 Y01</b>	25	up to 1024	6.0	3	5 / 8 - 30
	<b>MES 25 C</b>	25	250 / 256	4.0 / 6.0	Sin / Cos	5
	<b>MES 25 H</b>	25	250 / 256	4.0 - 6.0	6	5






# Hollow shaft encoders

## magnetic absolute

Product image	Product name	Outer diameter (mm)	Resolution (Bit)	Shaft diameter (mm)	Channels	Power supply (VDC)
	<b>AEM 30</b>	31	up to 36	4.0 - 6.35	SSI, BiSS, SPI	5 / 8 - 24
	<b>MEM 16 M</b>	16	up to 45	1.5 - 3.175	SSI, BiSS, SPI	5
	<b>MEM 22 AE</b>	22	12	2.0 - 8.0	SSI, BiSS, SPI	5 / 8 - 30
	<b>MEM 22 M</b>	22	up to 38	2.0 - 8.0	SSI, BiSS, SPI	5

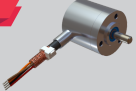


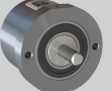
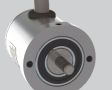
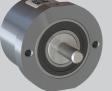
# Hollow shaft encoders

## magnetic incremental

Product image	Product name	Outer diameter (mm)	Resolution (ppr)	Shaft diameter (mm)	Channels	Power supply (VDC)
	<b>MEM 16 IE</b>	16	1 - 1024	1.5 - 3.175	2 / 3	5
	<b>MEM 20</b>	22	64	3.0	2	5
	<b>MEM 22 IE</b>	22	1 - 1024	2.0 - 8.0	3 / 6	5 / 8 - 30
	<b>MEM 25 C</b>	25	1 - 1024	2.0 - 6.0	3	5 / 8 - 30
	<b>MEM 25 H</b>	25	1 - 1024	2.0 - 6.0	3	5 / 8 - 30

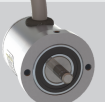
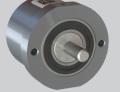
## Shaft encoders

optical incremental

Product image	Product name	Outer diameter (mm)	Resolution (ppr)	Shaft diameter (mm)	Channels	Power supply (VDC)
	<b>GEO 24</b>	24	360	4.0	2	8 - 24
	<b>ME 22 S</b>	22	1 - 360	4.0 - 6.0	2	5
	<b>MEHR 25 K</b>	25	up to 12000	4.0 - 6.0	6	5
	<b>MEHR 25 S</b>	25	up to 12000	4.0 - 6.0	6	5
	<b>MES 25 K</b>	25	250 / 256	4.0 - 6.0	6	5
	<b>MES 25 S</b>	25	250 / 256	4.0 - 6.0	6	5

## Shaft encoders

magnetic incremental

Product image	Product name	Outer diameter (mm)	Resolution (ppr)	Shaft diameter (mm)	Channels	Power supply (VDC)
	<b>MEM 25 K</b>	25	1 - 1024	2.0 - 6.0	3	5 / 8 - 30
	<b>MEM 25 S</b>	25	1 - 1024	2.0 - 6.0	3	5 / 8 - 30

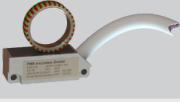
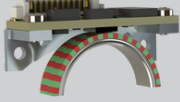
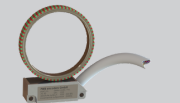

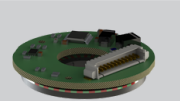
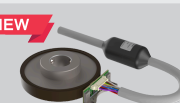
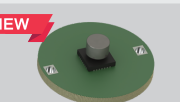
## KIT encoder systems

### optical absolute

Product image	Product name	Outer diameter (mm)	Resolution (Bit)	Shaft diameter (mm)	Channels	Power supply (VDC)
	<b>ABG 26</b>	26	13 / 16 / 18	10	SSI, BiSS, SPI	5
	<b>ABG 69</b>	69	13 / 16 / 18	30	SSI, BiSS, SPI	5
	<b>ABG 138</b>	138	13 / 16 / 18	100	SSI, BiSS, SPI	5

## KIT encoder systems

### magnetic absolute

Product image	Product name	Outer diameter (mm)	Resolution (ppr)	Shaft diameter (mm)	Channels	Power supply (VDC)
	<b>AS 25</b>	24.5	up to 65536 + 18 Bit	10 / 14 / 20	SSI, BiSS, SPI	5 / 8 - 30
	<b>AS 25 M</b>	24.5	up to 65536 + 18 Bit	10 / 14 / 20	SSI, BiSS, SPI	5
	<b>AS 50</b>	50.7	up to 65536 + 18 Bit	39.5 / 44.0	SSI, BiSS, SPI	5 / 8 - 30
	<b>AS 50 M</b>	50.7	up to 65536 + 18 Bit	39.5 / 44.0	SSI, BiSS, SPI	5
	<b>ASA 25</b>	34.3	up to 65536 + 18 Bit	11	SSI, BiSS, SPI	5
	<b>IMEA 64</b>	64	up to 42 Bit	17,0 / 50,0 / 57,8	SSI, BiSS	5
	<b>WEM 20</b>	20	14 Bit	6	SSI, BiSS	5



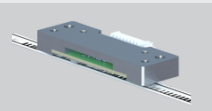
## KIT encoder systems

optical incremental

Product image	Product name	Outer diameter (mm)	Resolution (ppr)	Shaft diameter (mm)	Channels	Power supply (VDC)
	<b>EBG 30</b>	30	up to 102400	10	6	5
	<b>EBG 132</b>	132	up to 500000	100	6	5

## Linear encoders

optical absolute

Product image	Product name	Measuring length (mm)	Step size (µm)	Channels	Power supply (VDC)
	<b>ABG Head Linear</b>	800	16	SSI, BiSS, SPI	5


## Linear encoders

optical incremental

Product image	Product name	Measuring length (mm)	Step size (µm)	Channels	Power supply (VDC)
	<b>EBG Head Linear</b>	500	up to 0.8	6	5
	<b>EBS Head Linear</b>	200	20	Sin / Cos	5

## Linear encoders

magnetic absolute

Product image	Product name	Measuring length (mm)	Step size (µm)	Channels	Power supply (VDC)
	<b>PALM Head</b>	80	312	SSI, BiSS, SPI	5

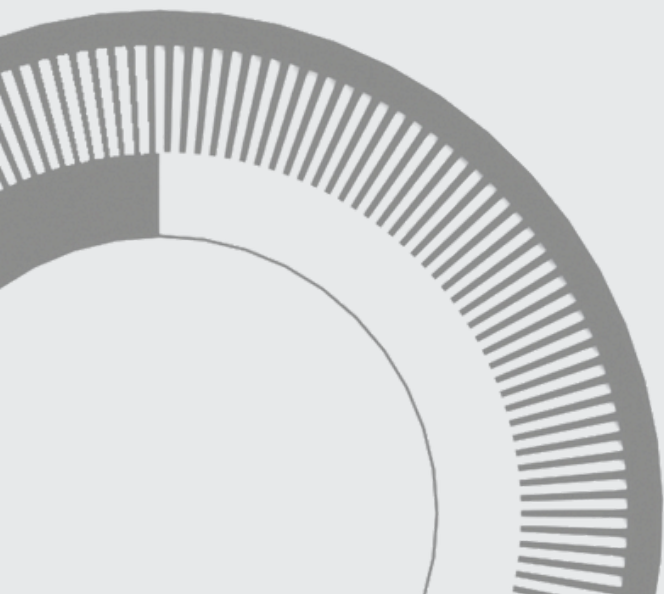
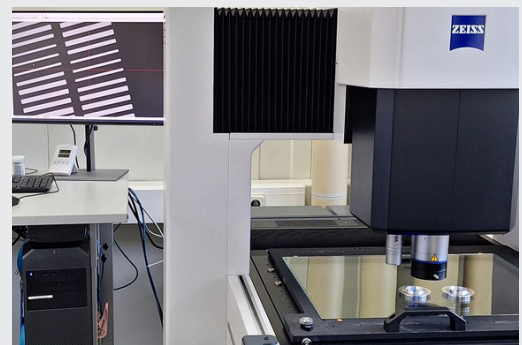
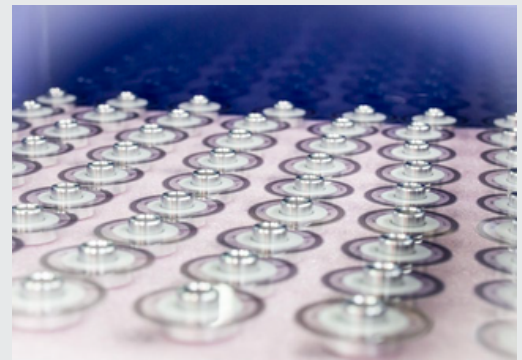
# Production of encoder discs and encoder scales

We manufacture transmissive and reflective encoder discs based on polyester film and polycarbonate. Resolutions of up to 1,270 lpi and tolerances of less than 1  $\mu\text{m}$  for the bar-to-window ratio (optical) and < 10  $\mu\text{m}$  (mechanical - concentricity from inner hole to data track) are achieved. These results are proof of the high standard of our products in terms of technology and production.

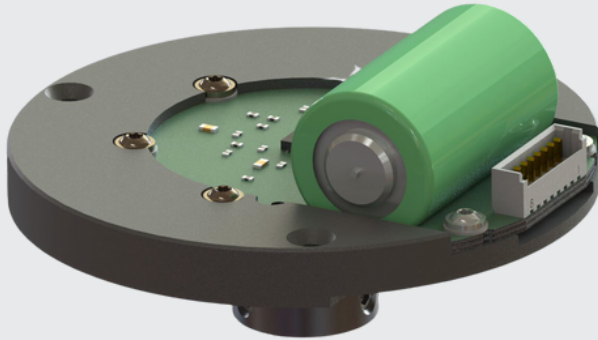
We manufacture according to your requirements - whether prototype, small series or large series. We extend the application possibilities of our encoder discs by using double-sided adhesive foils, stabilising discs and hubs, thus making assembly easier for our customers.

General key figures for our encoder discs:

- Resolution (lpi) max.: 1,270
- Concentricity (mm): 0.015
- Eccentricity (mm): 0.0075
- Bar/window (mm):  $\pm 0.002$
- Pitch (mm):  $\pm 0.001$

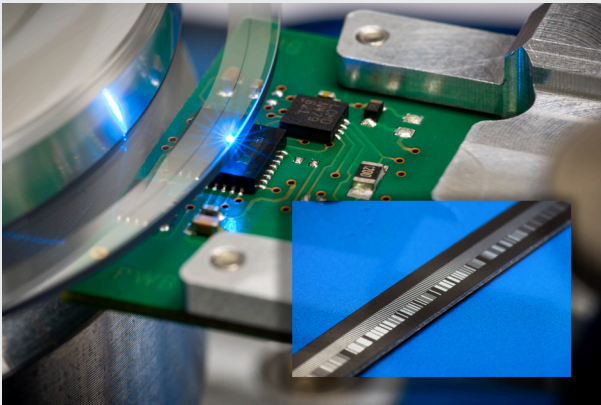


# Customised solutions



Customised encoders: Individual solutions & development

PWB encoders GmbH understands competent customer service to mean dedicated support in the concrete implementation of successful encoder solutions and concepts and close, committed dialogue with you as a customer.



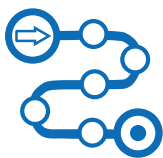
Our holistic service concept:

- Needs & problem analysis
- Solution concepts & product development
- Worldwide logistics
- After-sales & technical support
- Constant, consistent optimisation & innovation

## Our advantages:



In-house development and production



Customised solutions and development projects



Production in air-conditioned clean rooms



Owner of several patents and technical processes



Collegial company structure



REACH and RoHS compliant

# Areas of application

Benefit from our comprehensive industry expertise

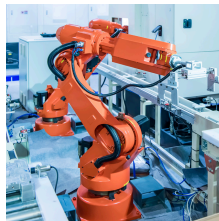
Our products are used millions of times in many industrial and application areas - from robotics and medical technology to optoelectronics. Our products are particularly suitable for applications in handling technology, in electric drives and in general plant and mechanical engineering. Among other things, our encoders are used for the precise acquisition of position and speed data and for the exact control of motion sequences.

Many years of experience in these demanding areas of application are the reason for the high performance and reliability of PWB products.

We currently offer solutions for the following sectors (a selection):



AGVs



Industrial robots



Gripping systems



Printing machines



Welding machines



Measuring systems



Winding machines



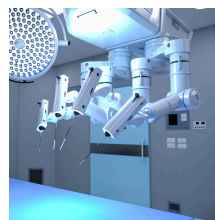
Surveying



Storage systems



Hexapod



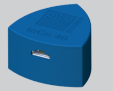

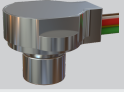
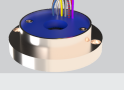

Medical technology



Fully autonomous scrubber dryer robot

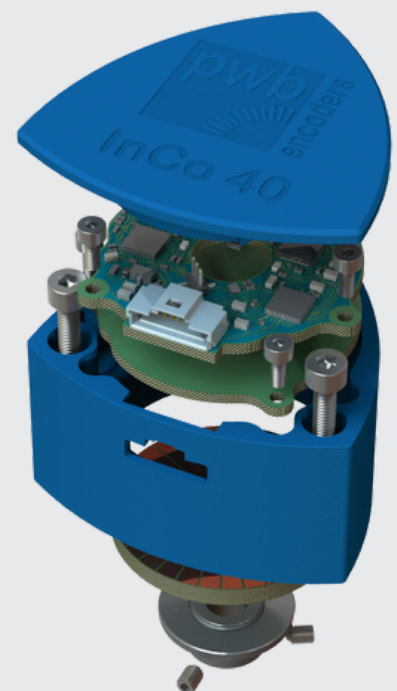


# Our trade fair highlights - SPS 2024

Product image	Product name	Technology	Scanning	Channels	Resolution	Outer diameter (mm)	Shaft diameter (mm)	Power supply (VDC)
	InCo 40 I	inductive	incremental	6	8192 ppr	47	6	5
	InCo 40 A	inductive	absolute singleturn	SSI, BiSS, SPI	18 Bit	47	6	5
	WEM 11	magnetic	absolute singleturn	SSI, BiSS	17 Bit	11	up to 8	3.3
	ASA 42 Y01	magnetic	absolute	SSI, BiSS, ABI, UVW	18 Bit	42	up to 11	5
	OREA 74	optical	absolute singleturn	SSI, BiSS, SPI	18 Bit	74	55	5

## Benefit from inductive technology:

- no susceptibility to foreign particles and dirt
- insensitive to magnetic interference (e.g. brakes)
- reliable and precise
- robust
- high resolution
- application in machine tools, medical devices, aerospace technology, cardan systems and defence technology



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Join our network!



Business card

## Notes:

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