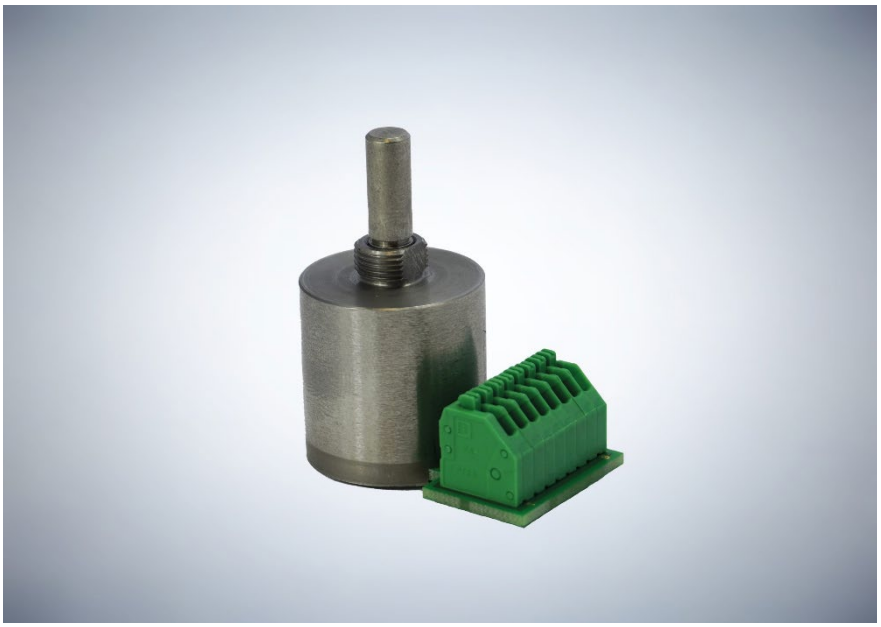
Data Sheet BGE25-24 5V

Part No. 2109100-00



DESCRIPTION

Magnetic rotary pulse encoder for quick and simple adjustment of digital values. This special version includes wear-free magnetic detent and rest, precision ball bearing shaft and an improved follow-up of movement. The direction indication for the BGE25 is ensured by two separate pulse outputs, generated by a wear-free HALL-sensor.

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TECHNICAL DATA

CONSTRUCTION AND MECHANICAL DATA (TYPICAL VALUES, T=23°C)

DETENT ANGLE	15°
DETENT GRADUATION	24
MOUNTING	central mounting
DETENT MECHANISM	magnetic
DETENT TORQUE WITH INDEX TYP.	1 Ncm
BEARING	precision ball bearing(s)
PUSHBUTTON ACTUATING FORCE	5 ± 2.5N
PUSHBUTTON ACTUATING PATH	0,8 ± 0,2 mm
FASTENING TORQUE MAX.	5 Nm
LIFE EXPECTANCY (TYPICAL)	> 20 x 10^6 turns
SHAFT LENGTH	acc. drawing
SHAFT DESIGN	round

ELECTRICAL DATA (TYPICAL VALUES, T=23°C)

OPERATION VOLTAGE	5 VDC ± 10%
CURRENT CONSUMPTION	max. 20 mA
SWITCHING VOLTAGE MAX.	5 VDC ± 10%
SWITCHING CURRENT MAX.	max. 4 mA per output signal
INDICATOR OF REVOLUTION DIRECTION	A/B signal
IMPULSES PER OUTPUT	24 pulses per revolution
CONNECTOR	TERMINAL BLOCK 8POS 45DEG 2.5MM AWG20 to AWG24

ENVIRONMENTAL CONDITIONS

OPERATING TEMPERATURE	-20°C to +70°C (others on request)
STORAGE TEMPERATURE	-40°C to +85°C
HUMIDITY	20% to 75% r.H. not condensing
REACH AND ROHS	conform

OTHER

COMPONENTS	with 6k nut M10x0,75x3mm

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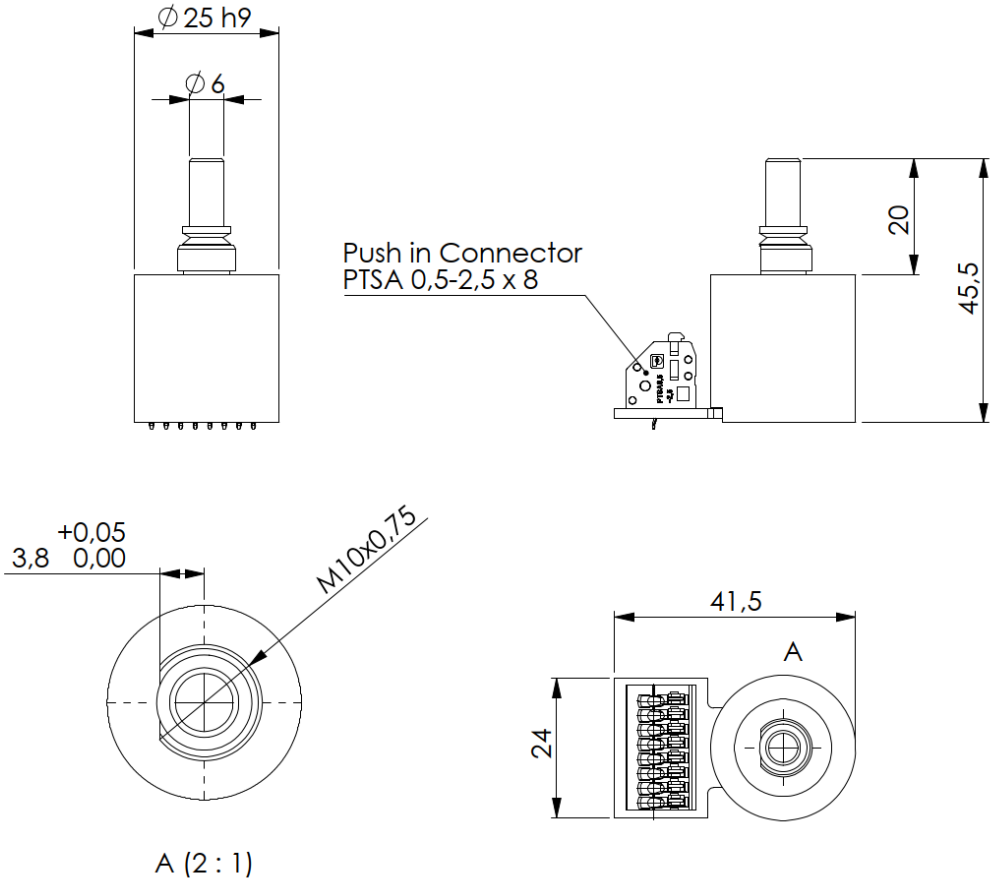
PINOUT AND DRAWINGS

PINOUT AND DESCRIPTION

PIN	SIGNAL	DESCRIPTION
1	GND	Power supply ground
2	VCC	Positive power supply
3	PW	Pulse toggle output
4	DIR	Direction output
5	Pushbutton	Active low pushbutton output
6	Track A	Track A output
7	Track B	Track B output
8	Reset	Active low MCU reset

Voltage levels for power supply and encoder output voltage are defined in table electrical data.

OUTLINE DRAWINGS

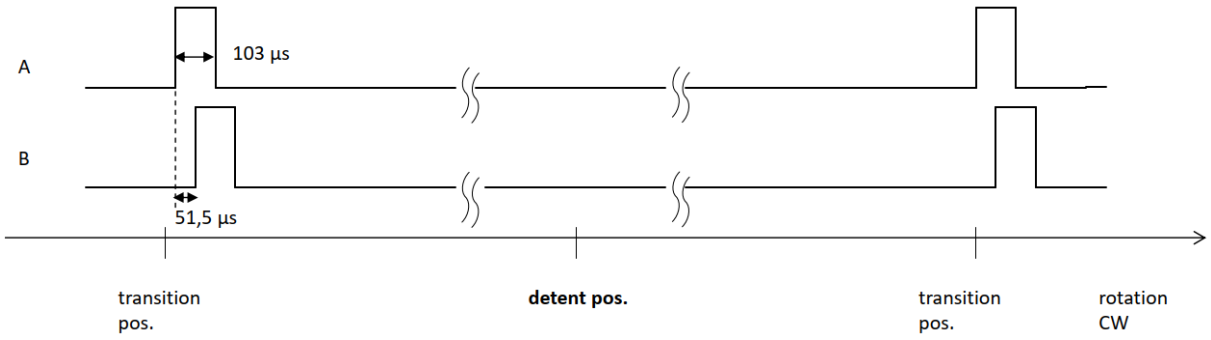


Units in mm

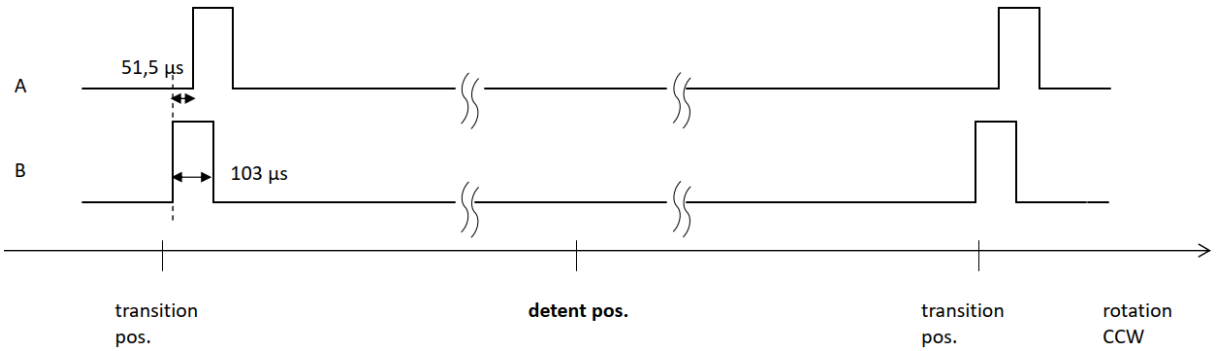
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OUTPUT SIGNALS

Rotation CW for track output (A, B):



Rotation CCW for track output (A, B):



Typical electrical timings:

SYMBOL	CHARACTERISTIC	VALUE
t_{low}	Duration of low status of /A imp and /B imp	22,4 µs +/- 5%
t_{AB}	Delay /A imp -> /B imp (CW) Delay /B imp -> /A imp (CCW)	11,2 µs +/- 5%

SAFETY AND WARNING NOTES

The components are solely for use by technically qualified, professional electronics experts who are familiar to the dangers and application risks associated with handling electrical mechanical components, systems and subsystems. User assumes all responsibility and liability for proper and safe handling and use and agrees with the restrictions and disclaimer at the end of this document.

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DISCLAIMER

The information contained in this document is for general guidance only. The user is responsible for determining the suitability of the technical information referred herein for his application. On delivery of the component, EBE is only obliged to implement those properties set out and agreed upon in this document. Further properties are not included. No guarantee is given. The component has been designed for installation in our customer's products. Manufacturer of the resulting product and consequent liability according to the Product Liability Act lies with the customer. Warranty is limited to below mentioned extent.

The component is not intended for installation in end products for medical, life-saving, or safety-related applications. The use of the component is also not permitted and expressly prohibited in vehicles of any kind (including trailers and watercraft), as a component in aerospace products (including radio transmitter for aerospace purposes), or in offshore structures.

User assumes all responsibility and liability to determine whether the component is subject to any applicable international, federal, state, or local laws and regulations related to user's handling and use of the component and, if applicable, user assumes all responsibility and liability for compliance in all respects with such laws and regulations.

Disclaimer for improper use
The manufacturer accepts no liability for damage resulting from improper, inappropriate, or non-compliant use of the component. Any liability for direct or indirect damage, consequential damage or loss resulting from improper use is excluded. The Customer (user) is obliged to use the component exclusively in accordance with the instructions and information given in this document.

The limitation of liability described above does not apply in the case of mandatory statutory liability such as under the German Product Liability Act (Produkthaftungsgesetz) or in the case that a guarantee is given or in the case of willful deceit or fraudulent misrepresentation or with regard to claims for an injury of the life or limb or health or in the case of intentional or grossly negligent breach of fundamental contractual duties (“wesentliche Vertragspflichten”).

REVISION

REVISION	DATE	DESCRIPTION
1.1	05.05.2026	Update legal notices
1.0	05.05.2025	Initial Data Sheet BGE25-24 5V

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