ESC17 mini ENCODER WITH PUSHBUTTON



DESCRIPTION

Electronic rotary encoder with wear-free HALL-sensing module for signal generation and integrated push button function. Digit-exact fine adjustment through precise mechanical detent with high rotational life. Perfect for use in harsh environments like dust, aggressive atmosphere, etc.

EBE Elektro-Bau-Elemente GmbH
Sielminger Straße 63
70771 Leinfelden-Echterdingen

TECHNICAL DATA

CONSTRUCTION AND MECHANICAL DATA (TYPICAL VALUES, ROOM TEMPERATURE)

DETENT ANGLE	22,5°
DETENT GRADUATION	16
MOUNTING	central mounting
PROTECTION CLASS	IP65 to the frontside
DETENT MECHANISM	mechanic
DETENT TORQUE WITH INDEX	4,5 Ncm ±30%
BEARING	friction
SWITCHING BUTTON ACTUATION FORCE	7 N ±30%
SWITCHING PATH	0.7 mm
FASTENING TORQUE MAX.	2,0 Nm
LIFE EXPECTANCY ROTATION PUSH BUTTON	 typ. > 1.000.000 turns typ. > 1.000.000 pushs
SHAFT LENGTH	acc. drawing (customizable)
SHAFT DESIGN	acc. drawing (customizable)
PUSHBUTTON / SWITCHING FUNCTION	available

ELECTRICAL DATA (TYPICAL VALUES, ROOM TEMPERATURE)

OPERATION VOLTAGE	5 VDC ± 10 %
CURRENT CONSUMPTION	16 mA typ., max. 20 mA
OUTPUT SIGNAL	A/B-signal
OUTPUT VOLTAGE	TTL 5V DC, Push-Pull
OUTPUT CURRENT	max. 5 mA per output
INDICATOR OF REVOLUTION DIRECTION	A/B signal
IMPULSES PER OUTPUT	16 pulses per revolution
PUSHBUTTON	active low
CONNECTOR	ZIF (Molex 2005280060) other on request

ENVIRONMENTAL CONDITIONS

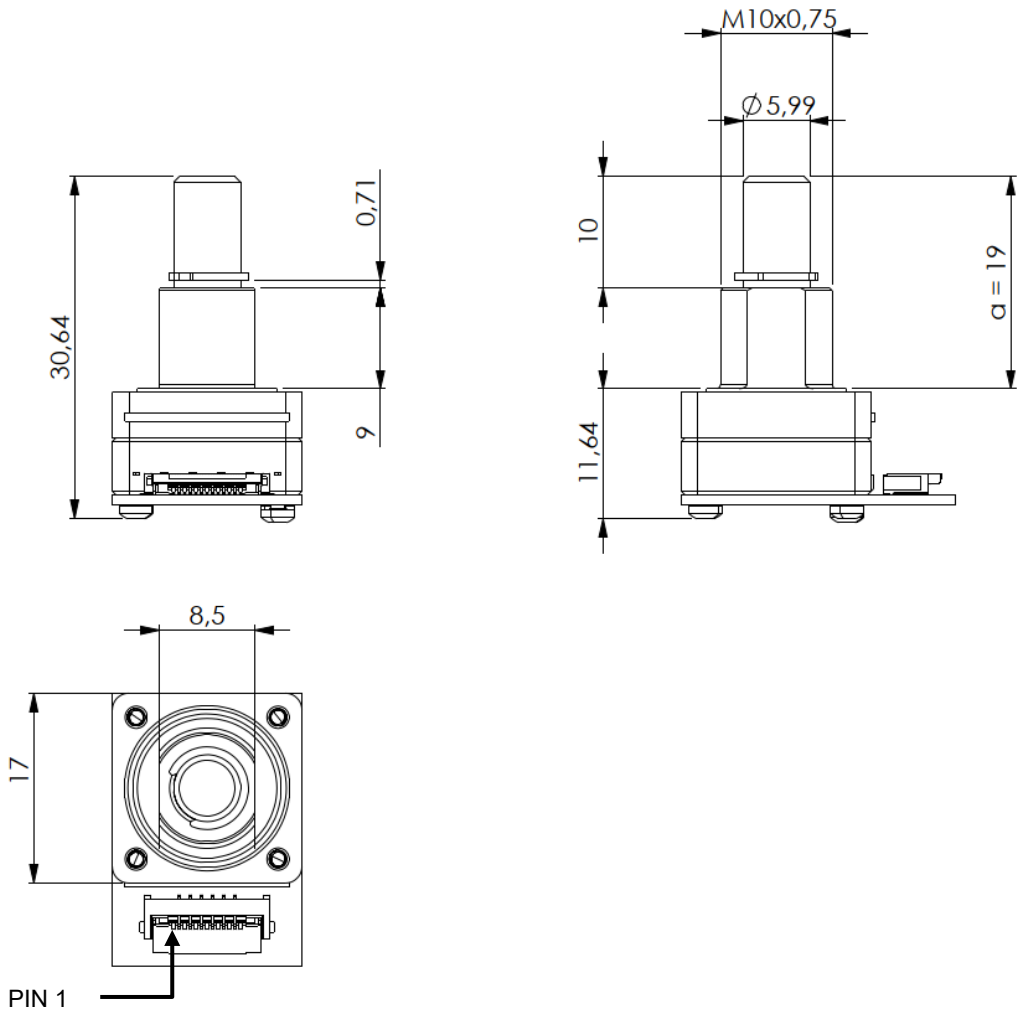
OPERATING TEMPERATURE	-30°C to +85°C (others on request possible)
STORAGE TEMPERATURE	-40°C to +100°C
MAGNETIC INFLUENCE (EN 61000-4-8)	no influence
ESD (EN 61000-4-2)	15kV air, 8kV conducted
REACH AND ROHS	conform

EBE Elektro-Bau-Elemente GmbH
Sielminger Straße 63
70771 Leinfelden-Echterdingen

PINOUT AND DRAWINGS

PINOUT

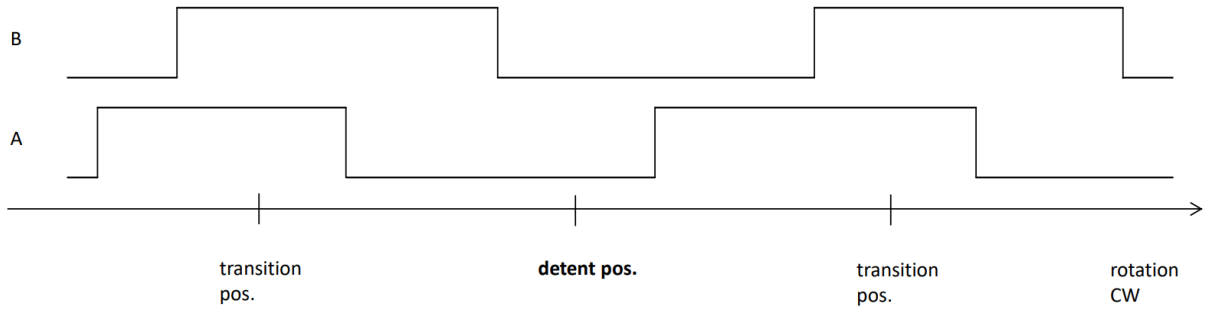
PIN	Signal	Description
1	+5V DC	Positive power supply
2	A	Output signal, track A
3	B	Output signal, track B
4	Pushbutton	Output signal pushbutton, active low
5	GND	Negative power supply
6	ESD	Connect to Protective Earth (PE)for best ESD protection



Units in mm

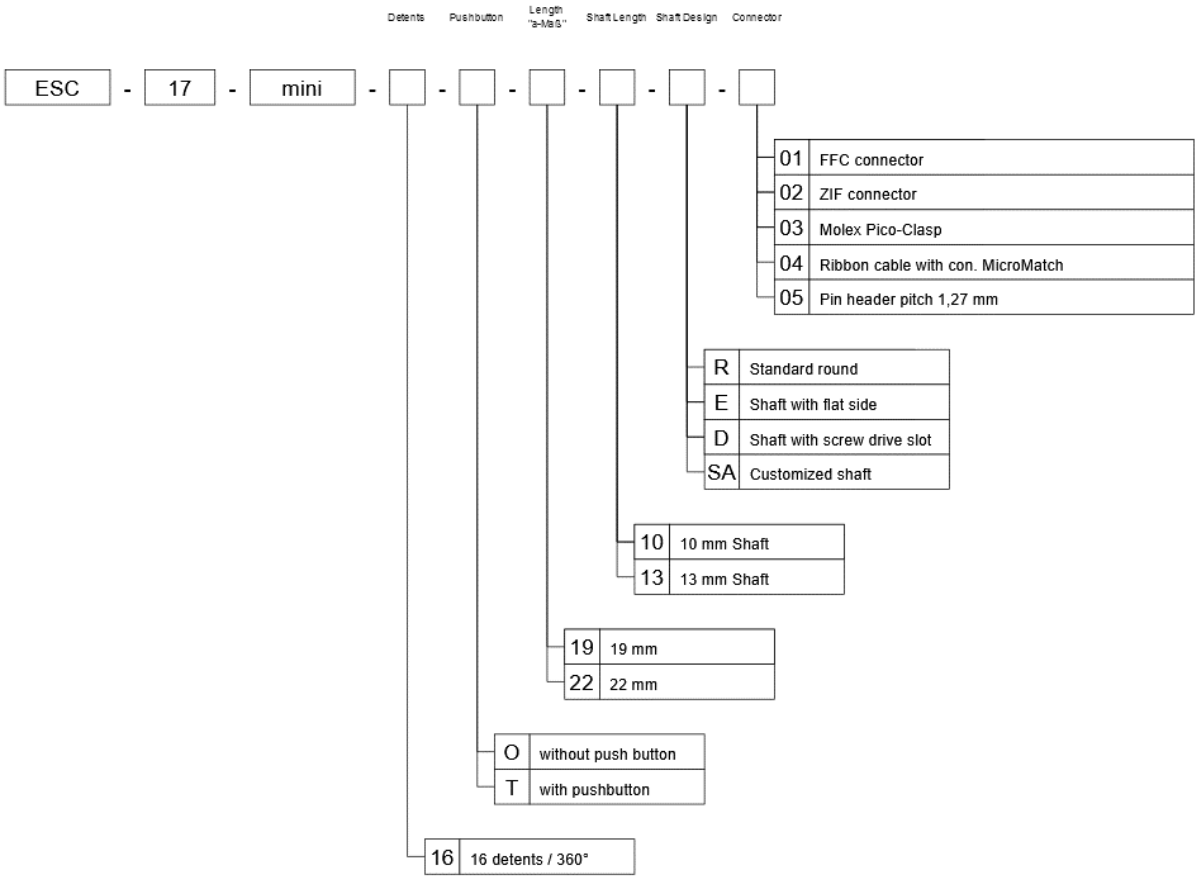
EBE Elektro-Bau-Elemente GmbH
Sielminger Straße 63
70771 Leinfelden-Echterdingen

OUTPUT SIGNAL REVOLUTION CW



The rotary encoder is angle-accurate, therefore the timing of the track A/B signals depends on rotary speed.

PRODUCT VARIATIONS



EBE Elektro-Bau-Elemente GmbH
Sielminger Straße 63
70771 Leinfelden-Echterdingen

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.

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”).

EBE Elektro-Bau-Elemente GmbH
Sielminger Straße 63
70771 Leinfelden-Echterdingen

REVISION

REVISION	DATE	DESCRIPTION
1.5	07.05.2026	Update legal notices
1.4	25.06.2024	Final release
1.3	12.02.2024	Connection Rec.; PIN1 on drawing; Environment Tests; Variants
1.2	07.11.2023	New Operating Temperature +85°C
1.1	08.05.2023	Insertion of Push Button life expectancy
1.0	11.04.2023	Initial Data Sheet ESC17mini mT ZIF

EBE Elektro-Bau-Elemente GmbH
Sielminger Straße 63
70771 Leinfelden-Echterdingen