

Absolute encoders - SSI / BiSS



Shaft with clamping or synchro flange
Single turn 9...19 bit,
Multi turn 0...32 bit

FNC AS 36E Series



Features

- Encoder single - or multiturn /SSI - BiSS
- Magnetic or optical sensing
- Single turn resolution up to 22 bit
- Multi turn 0 ...16 bit
- Optional preset and direction input
- 36 mm diameter body
- 6 mm diameter solid shaft

Technical data - electrical ratings

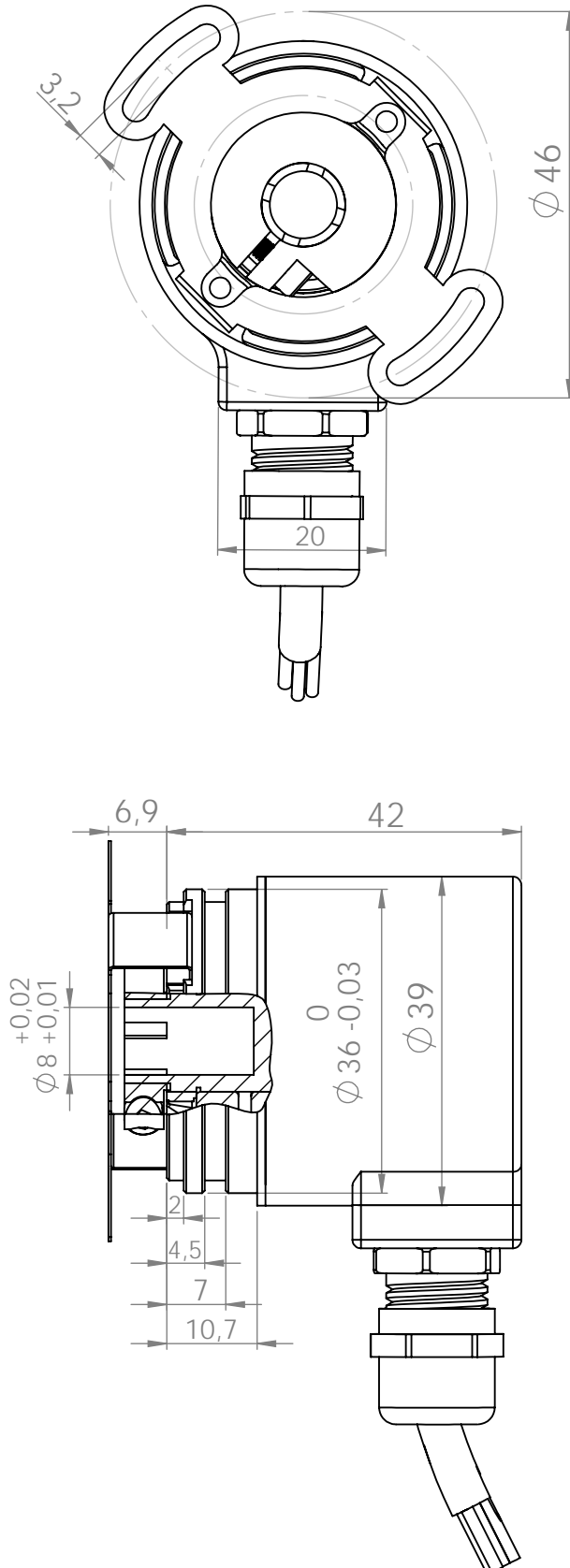
Voltage supply	8VDC to 30VDC
Protection:	Output short circuit protection. Reverse polarity protection (except 5V version)
Consumption w/o load	≤80 mA (24 VDC)
Interface	SSI or BiSS
Resolution (steps/turn)	Magnetic: 14 bit Optic: 21 bit
Absolute accuracy	Magnetic: ±0,1° Optic: ±0,01°
Optoelectronic life time	100.000 (min)
Code	Gray or binary
Inputs	SSI differential clock Direction Electronic zero setting
Output frequency	up to 2MHz (SSI) up to 10MHz (BiSS)
Output circuit	SSI data linedriver RS485
Interference immunity	DIN EN 61000-6-2
Emitted interference	DIN EN 61000-6-4
Approval	CE

Technical data - mechanical design

Dimensions (flange)	Ø 36mm
Shaft loading	≤20 N axial ≤40 N radial
Protection DIN EN 60529	IP 67
Operating speed	≤10000 rpm
Starting torque	≤0.001 Nm (IP 67)
Materials	Housing, Flange : Aluminium Shaft : Stainless steel
Shaft diameter:	6 (other diameters on request)
Bearings lifetime:	2x10 ⁹ rev. at 100% of full rated shaft load (minimum)
Operating temperature	-40...+90°C -40 °F ... +180 °F
Weight approx.	250 g

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Mechanical Dimensions



Absolute encoders - SSI / BiSS




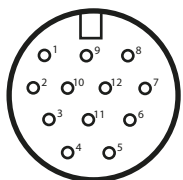
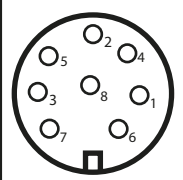
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Cable Connection

Function	Color	Renk	Farbe	Цвет
+VB	 Brown	Kahve	Braun	Коричневый
GND	 White	Beyaz	Weiß	Белый
DATA+	 Orange	Turuncu	Orange	Оранжевый
DATA-	 Orange-Black	Turuncu-Siyah	Orange-Schwarz	Оранжево-черный
CLOCK-	 Blue	Mavi	Gelb	синий
CLOCK+	 Blue-Black	Mavi-Siyah	Gelb-Schwarz	сине-черный
DIRECTION	 Gray-Black	Gri-Siyah	Grau-Schwarz	Серо-черный
PRESET	 Gray	Gri	Grau	Серый
Shield	Black	Siyah	Schwarz	Чернить

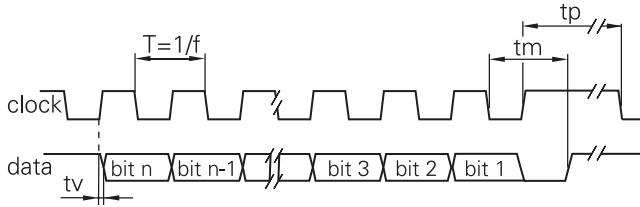
Connector Connection

Function	R2312R	R1208	R1508	R1608
+VB	pin 1	pin 2	pin 2	pin 2
GND	pin 2	pin 1	pin 1	pin 1
DATA+	pin 4	pin 5	pin 5	pin 5
DATA-	pin 6	pin 6	pin 6	pin 6
CLOCK+	pin 3	pin 3	pin 3	pin 3
CLOCK-	pin 7	pin 4	pin 4	pin 4
DIRECTION	pin 9	pin 8	pin 8	pin 8
PRESET	pin 5	pin 7	pin 7	pin 7
Connector				
Pin Design				

** for other connector options visit www.fenac.com.tr

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Pulse Diagram



Clock frequency, f	50...2000 kHz for SSI up to 10MHz for BiSS
Code	Binary or gray
Status and parity bit	On request
Monoflop time tm	>15µs
Clock time out	Programmable at factory

Terminal significance

+Vs	Encoder supply voltage.
0 V	Encoder ground connection relating to +Vs.
Data+	Positive data output.
Data-	Negative data output.
Clock+	Positive SSI clock input.
Clock-	Negative SSI clock input.
Direction	UP/DOWN counting direction input. This input is standart on High. UP/DOWN means ascending output data with clockwise shaft rotation when looking at flange.
Preset	Parameter for setting the encoder to a requested position value assigned to a defined shaft position of the system. The offset of encoder zero point and mechanical zero point is stored in the encoder.
Note	If needed, Include termination resistor R=120 Ohm between Data+ and Data- on control side.

Encoder Part Number

