


Shaft version economy Type ESI 37



- Economical version
- Compact size only $\varnothing 37 \times 33$ mm
- Temperature- and ageing compensation
- Short circuit proof outputs
- Resolution up to 1024 ppr
- Protection up to IP 67
-  available as explosion proof zone 2 and 22

- Bracket and cover made from a new High-Tech-Material (composite material)
- High component integration leads to low profile design, high performance and economical pricing
- "Tube Tech[®]" cable outlet guarantees 10x higher strain relief than traditional cabling methods and ensures IP 67 protection
- 1 1/2" (37 mm) diameter housing suitable for replacing resolvers

Mechanical characteristics:

Speed:	max. 6000 min ⁻¹
Rotors moment of inertia:	approx. 0.4×10^{-6} kgm ²
Starting torque:	< 0.007 Nm
Radial load capacity of the shaft:	20 N
Axial load capacity of the shaft:	10 N
Weight:	approx. 0.1 kg
Protection acc. to EN 60 529:	bearing, shaft: IP 65 cable outlet: IP 67
Working temperature:	-20° C up to +70 °C ¹⁾³⁾
Operating temperature:	-20° C up to +80 °C ²⁾³⁾
Materials:	shaft: stainless steel; housing, bracket: composite PPA, 40% KF (carbon fibre) cable: PVC
Shock resistance acc. to DIN-IEC 68-2-27:	1000 m/s ² , 6 ms
Vibration resistance acc. to DIN-IEC 68-2-6:	100 m/s ² , 10 ... 2000 Hz

Pulse rates available at short notice:

10, 50, 60, 100, 180, 200, 250, 300, 360, 400, 500, 512, 600, 1000, 1024

Other pulse rates available on request

¹⁾ At push pull output and Supply voltage >15 V DC: max. 55 °C
²⁾ At push pull output and Supply voltage >15 V DC: max. 60 °C

³⁾ Non-condensing

Electrical characteristics:

Output circuit:	RS 422 (TTL-compatible)	Push-pull (7272) ³⁾	Push-pull (7272) ³⁾
Supply voltage:	5 V ($\pm 5\%$)	5 ... 30 V DC	10 ... 30 V DC
Power consumption (no load) with inverted signal:	typ. 40 mA / max. 90 mA	typ. 50 mA/ max. 100 mA	typ. 50 mA/ max. 100 mA
Permissible load/channel:	max. ± 20 mA	max. ± 20 mA	max. ± 20 mA
Pulse frequency:	max. 250 kHz	max. 250 kHz	max. 250 kHz
Signal level high:	min. 2.5 V	min. $U_B - 2.0$ V	min. $U_B - 2.0$ V
Signal level low:	max. 0.5 V	max. 0.5 V	max. 0.5 V
Rise time t_r	max. 200 ns	max. 1 μ s	max. 1 μ s
Fall time t_f	max. 200 ns	max. 1 μ s	max. 1 μ s
Short circuit proof outputs ¹⁾ :	yes ²⁾	yes	yes
Reverse connection protection at U_B :	no	no	yes
Conforms to CE requirements acc. to EN 61000-6-1, EN 61000-6-4 and EN 61000-6-3			

¹⁾ If supply voltage correctly applied

²⁾ Only one channel allowed to be shorted-out:
(at $U_B = 5$ V short circuit to channel, 0 V, or $+U_B$ is permitted).

³⁾ Max. recommended cable length 30 m

Applications:

- Substitute for resolvers
- Packaging machines
- Electrical machines
- Vehicles
- Conveyers, elevators
- Semiconductor machines
e.g pick & place, cutting ...
- Material handling
- Special machines.

Rotary Measuring Technology

Incremental shaft encoder

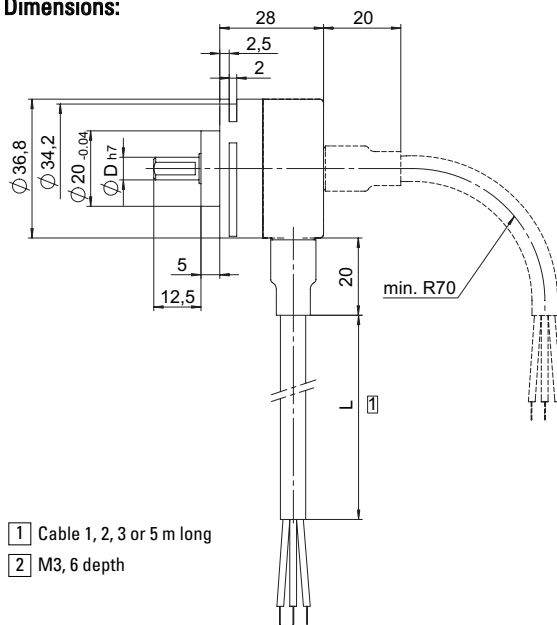
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Signal:	0 V	+U _B	A	\bar{A}	B	\bar{B}	0	$\bar{0}$	Shield
Colour:	WH	BN	GN	YE	GY	PK	BU	RD	

Using RS 422 outputs and long cable distances, a wave impedance has to be applied at each cable end.

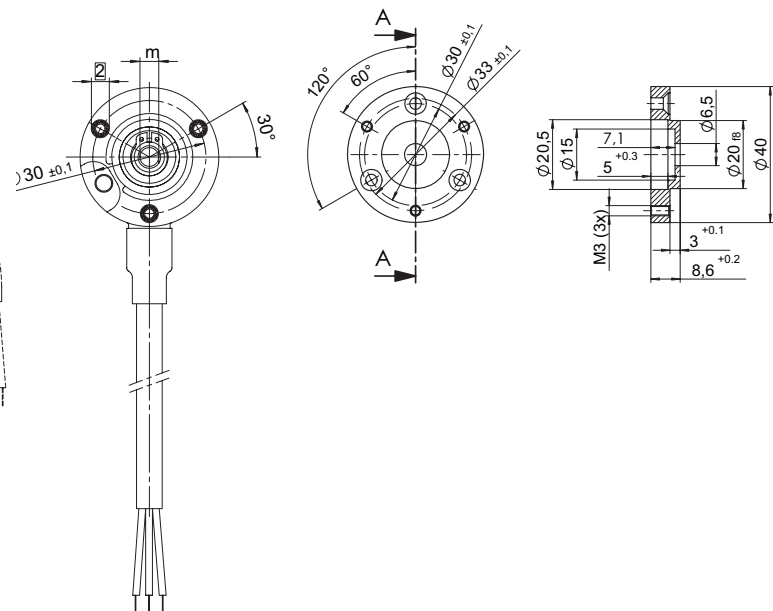
Insulate unused outputs before initial startup.

Dimensions:



- 1 Cable 1, 2, 3 or 5 m long
- 2 M3, 6 depth

Adapting bracket Typ A



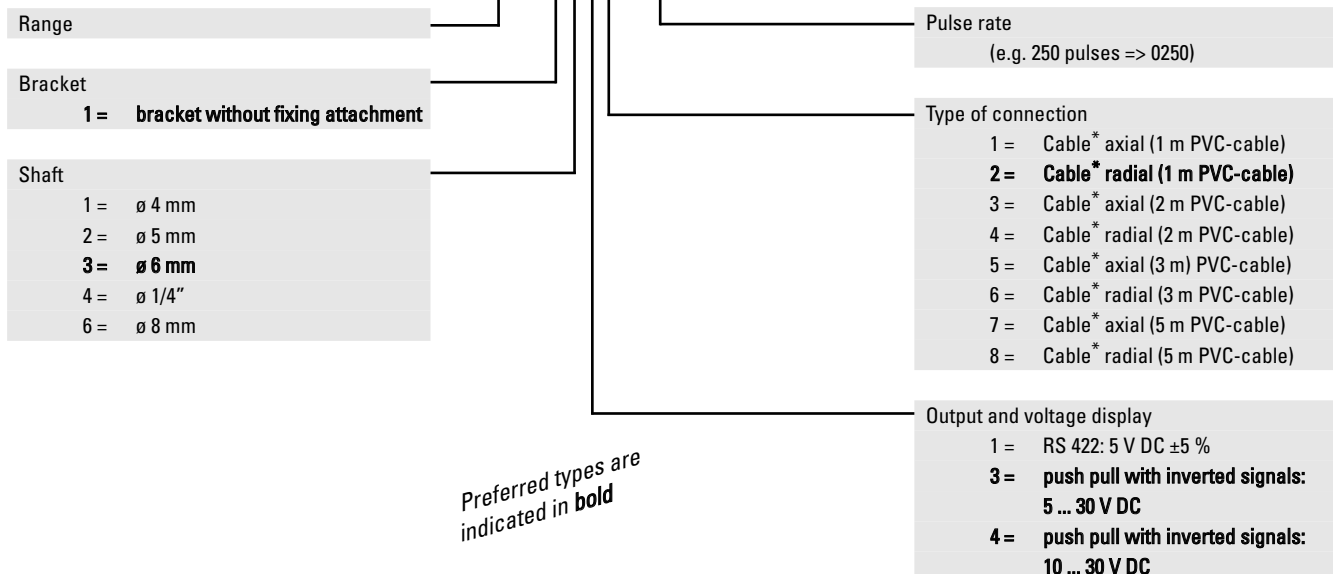
Mounting advice:

The brackets and shafts of the encoder and drive should not both be rigidly coupled together at the same time! We recommend the use of suitable couplings (see Accessories section).

D	4	5	6	7	1/4"	8
m	3.7	4.6	5.5	6.5	5.8	7.5

Order code:

ESI 37.XXXX.XXXX



Preferred types are indicated in **bold**

* "Tube Tech®" cable outlet guarantees 10x higher strain relief than traditional cabling methods plus higher IP-Protection. Other cable lengths on request.