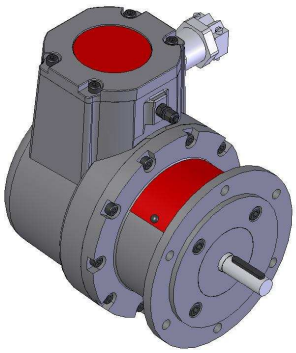
PRECILEC
ZODIAC AEROSPACE

RCI444EX – Explosive atmospheres

Shaft - Incremental Optical Encoder



PRECILEC optical incremental encoders are designed for accurately measuring speed and position of rotating shafts in industrial environment: machine tools, motor drives …
They use a differential optical measurement and a ratio-metric processing of the signal for minimizing the temperature and photodiode aging effects.
Their universal complementary push-pull output interface and their large supply voltage range make them very easy to connect to most of electronic control units with high noise immunity.
This model is intended for use in potentially explosive atmospheres such as gas and dust

CE
RADIO-ENERGIE

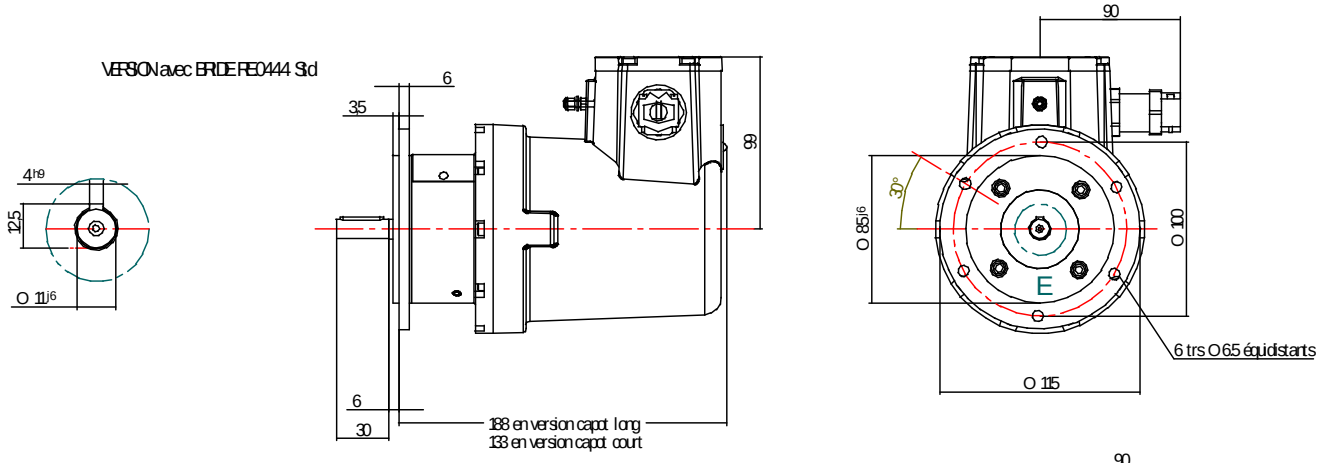
Main features

• Protection degree	Ex II 2GD EExd II C T5 – IP 66 2nd category – Zone 1 and 21
• Agreement laboratory	INERIS
• CE certificate type	03ATEX0052X
• Ambient temparture	80°C
• Temperature rise	Class B: 40 K
• Cables temperature max	100 °C
• Waiting time before opening	35 minutes

• Mounting	Flange – B5 (Standard, ADF,or US) or foot – B3
• Shaft type	According to the flange version
• Body	Aluminium
• Shaft	Steel
• Pulses per turn	1024 or 2048 as standard. All others upon request
• Output signals	A & B with gated Z
• Termination	Terminal Box
• Ambient temperature	+80 °C

Outline drawings

RE.0444 FLANGE – B5 mounting – 11x30 mm shaft – 133 mm length



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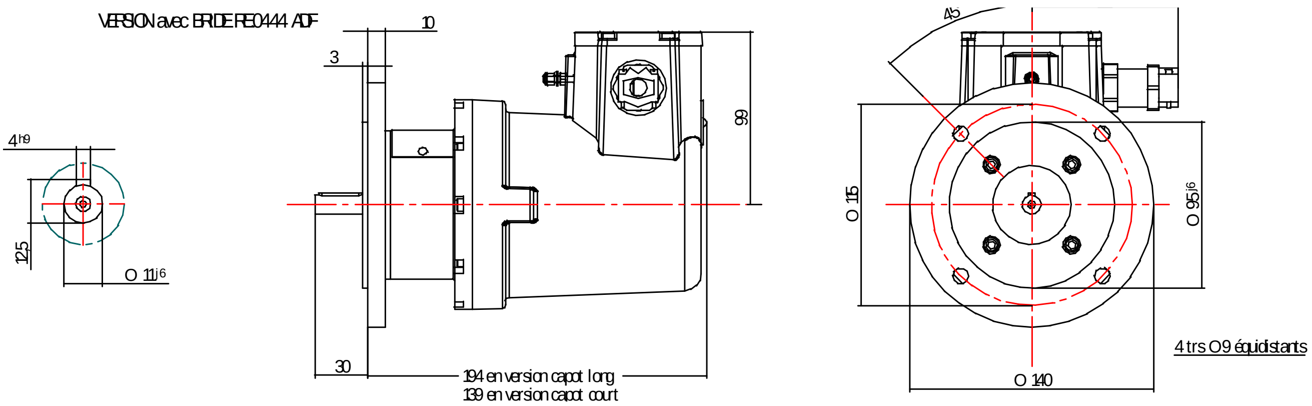
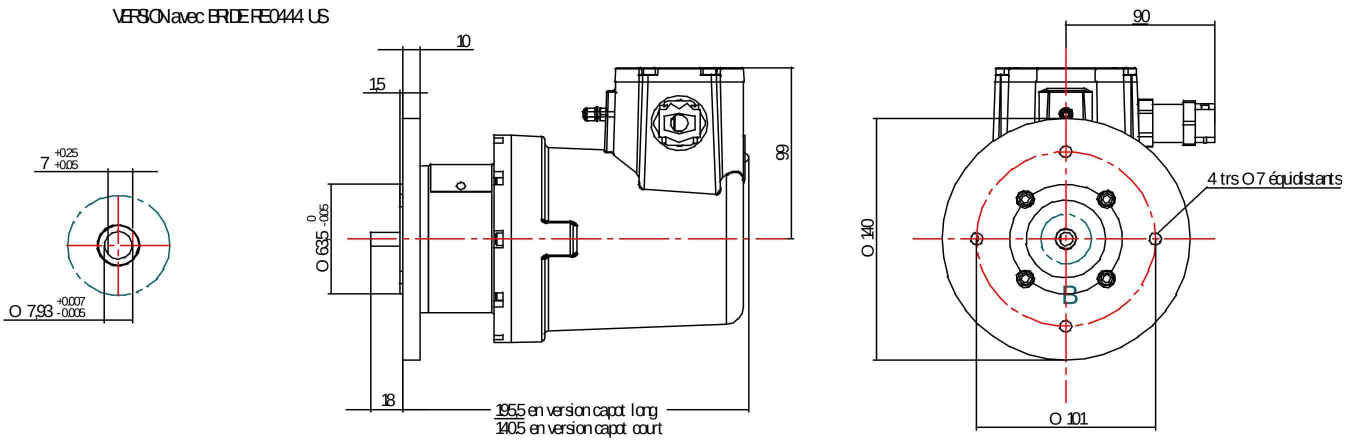
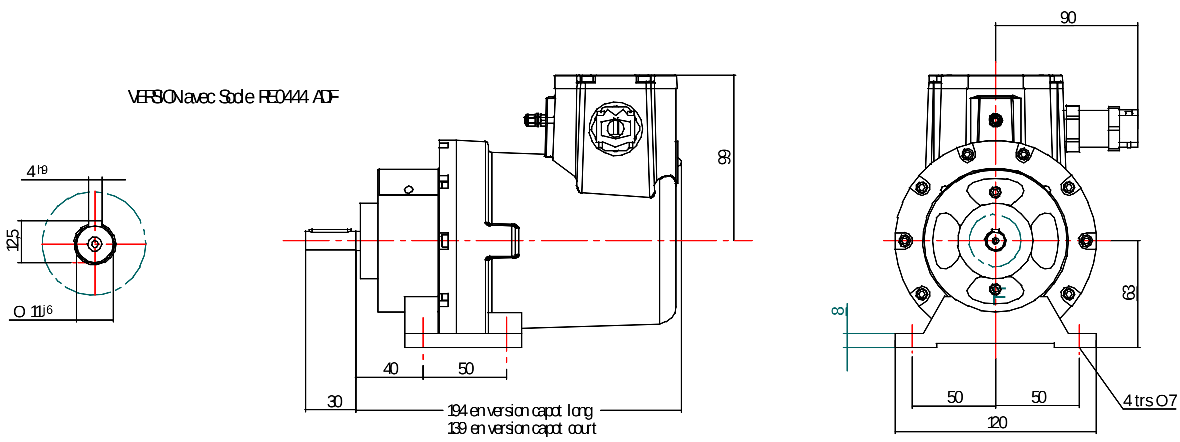
ADF FLANGE – B5 mounting – 11x30 mm shaft – 139 mm length



US FLANGE – B5 mounting – 7,93x18 mm shaft – 140,5 mm length



BASE – B3 mounting – 11x30 mm shaft – 139 mm length



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Shaft - Incremental Optical Encoder

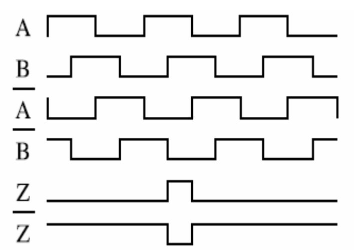
Electrical characteristics

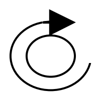
- Supply voltage: 4,5 to 30 Vdc
- Output signals: Universal complementary push-pull (short circuit protected, 7272)
  RS422 compatible with 5 V supply voltage
- Max output frequency: 300 kHz
- Max load current: 20 mA max per channel
- EMC: According to EN 61000-6-2 and EN 61000-6-4

Connections

	Junction box
A	3
A /	6
B	4
B /	7
Z	5
Z /	8
Vcc (+)	2
Gnd (-)	1

Output waveforms





Seen from the shaft

Mechanical characteristics

- Max continuous speed: 6 000 min^{-1}
- Impact strength: 100 g, 6 ms (IEC 68-2-27)
- Oscillating quality: 10 g, 10-2000 Hz (IEC 68-2-6)
- Cable entry: 1/2" NPT
- Ball bearings: 2 x 6002ZZ
- Lubrication: Lifetime greased
- Body color: Black

Ordering code

RCI444EX-BST-4-1024-JBX1

BST = Mounting; 4 = Elec.; 1024 = Resolution; JBX1 = Connection

- **RCI 444EX**: **RADIO-ENERGIE Incremental encoder** intended for potentially explosive atmospheres
- **Mounting**: **BST** (RE.0444 flange and 11x30 mm shaft) mostly used
  ADF (ADF flange and 11x30 mm shaft)
  US (US flange and 7,93x18 mm shaft)
  BAS (Base and 11x30 mm shaft)
- **Electronics**: **5** (11-30 V Push-Pull, 5 V output)
  4 (11-30 V Push-Pull with 11-30 V output)
  (4,5 – 30 V Push-Pull and 5 V RS422 for **1024** and **2048** pulses only)
  3 (5V RS422, 5 V output)
- **Standard resolutions**: **1024**, **2048** standard
  Others resolutions upon request
- **Connections**: **JBX1:** Junction Box, channel A before B - standard
  JBX0: Junction Box, channel B before A

- We reserve the right to modify technical characteristics in the interest of technological advance -

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