RCI444R FS

RE.0444 Flange – 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.

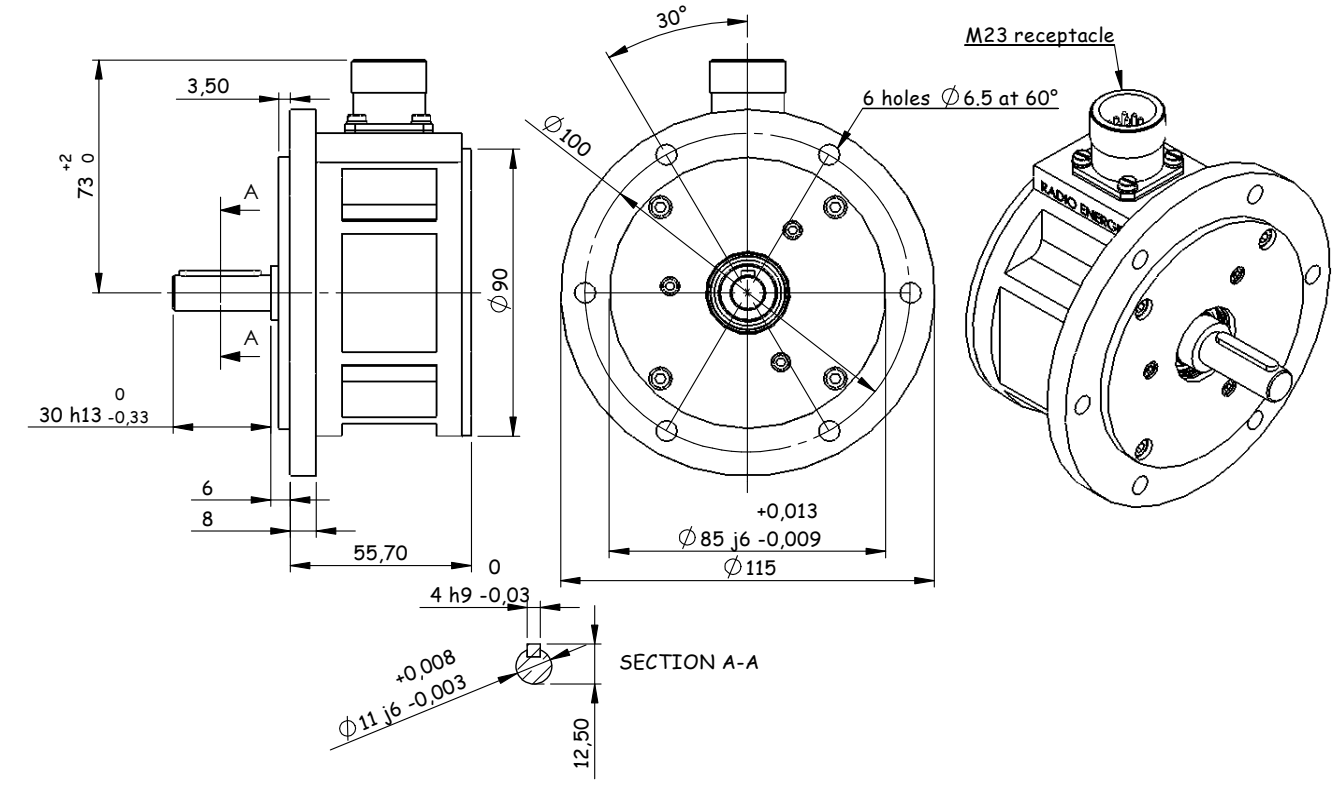
CE
RADIO-ENERGIE

Main features

- Shaft type — Full shaft Ø 7 and 11 mm
- Housing diameter — 115 mm
- Fixation — Standard RE0 444 flange
- Body — Aluminium
- Shaft — Stainless steel
- Pulses per turn — 1024 or 2048 as standard. All others upon request
- Output signals — A & B with gated Z
- Termination — M23 connector 12 pins - Cable - Junction Box – MS310 connector 10 pins
- Operating T° range — - 25°C / + 85°C

Outline drawings

M23 CONNECTOR (23C1 / 23C0 / 23A1 / 23A0)



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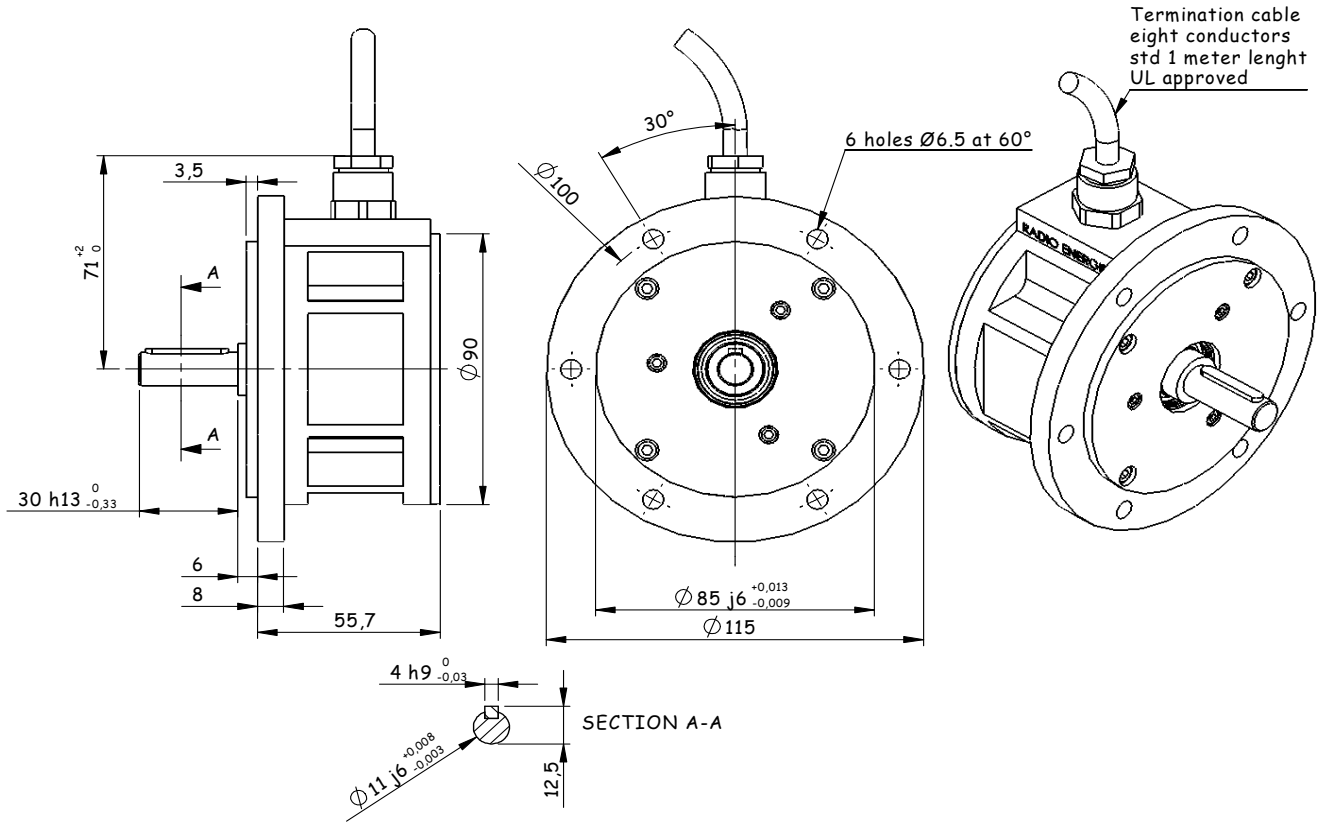
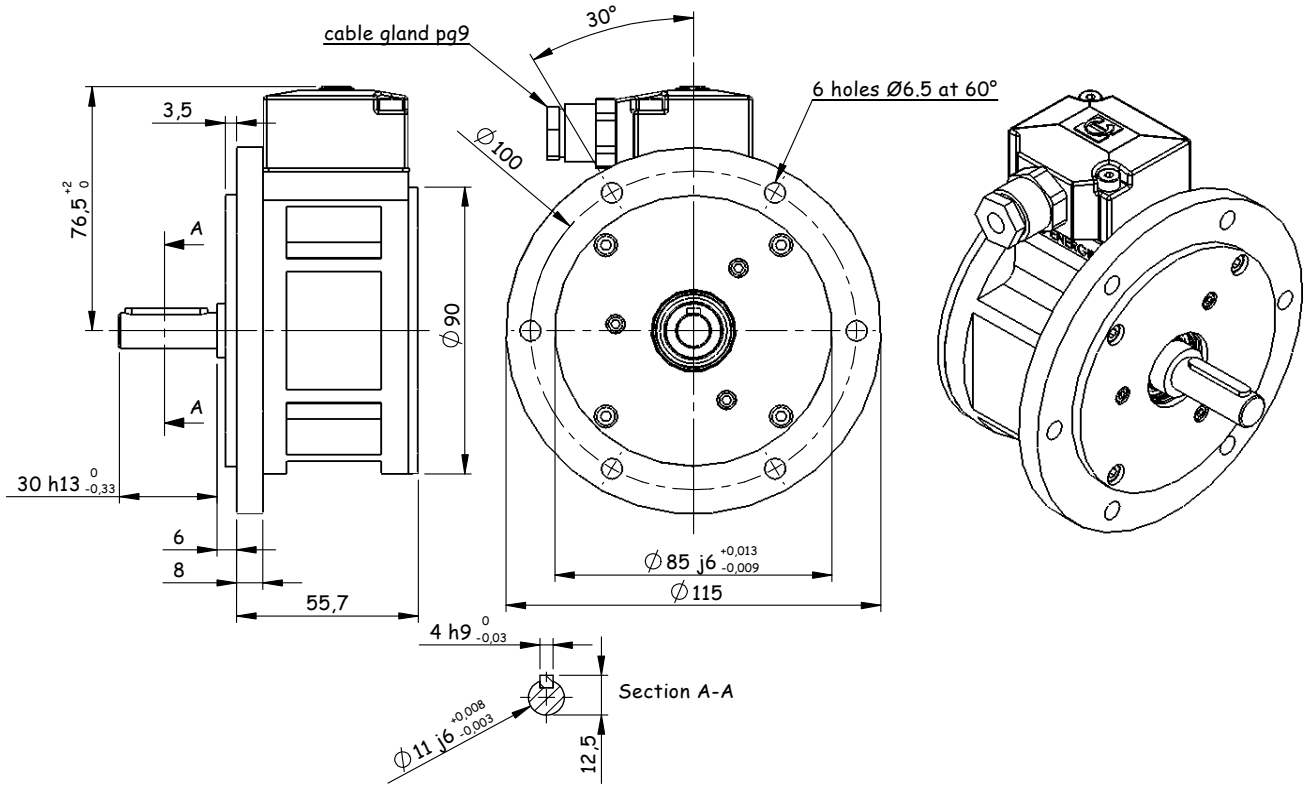
CABLE (CA01 / CB01)



JUNCTION BOX (JBX1 / JBX0)



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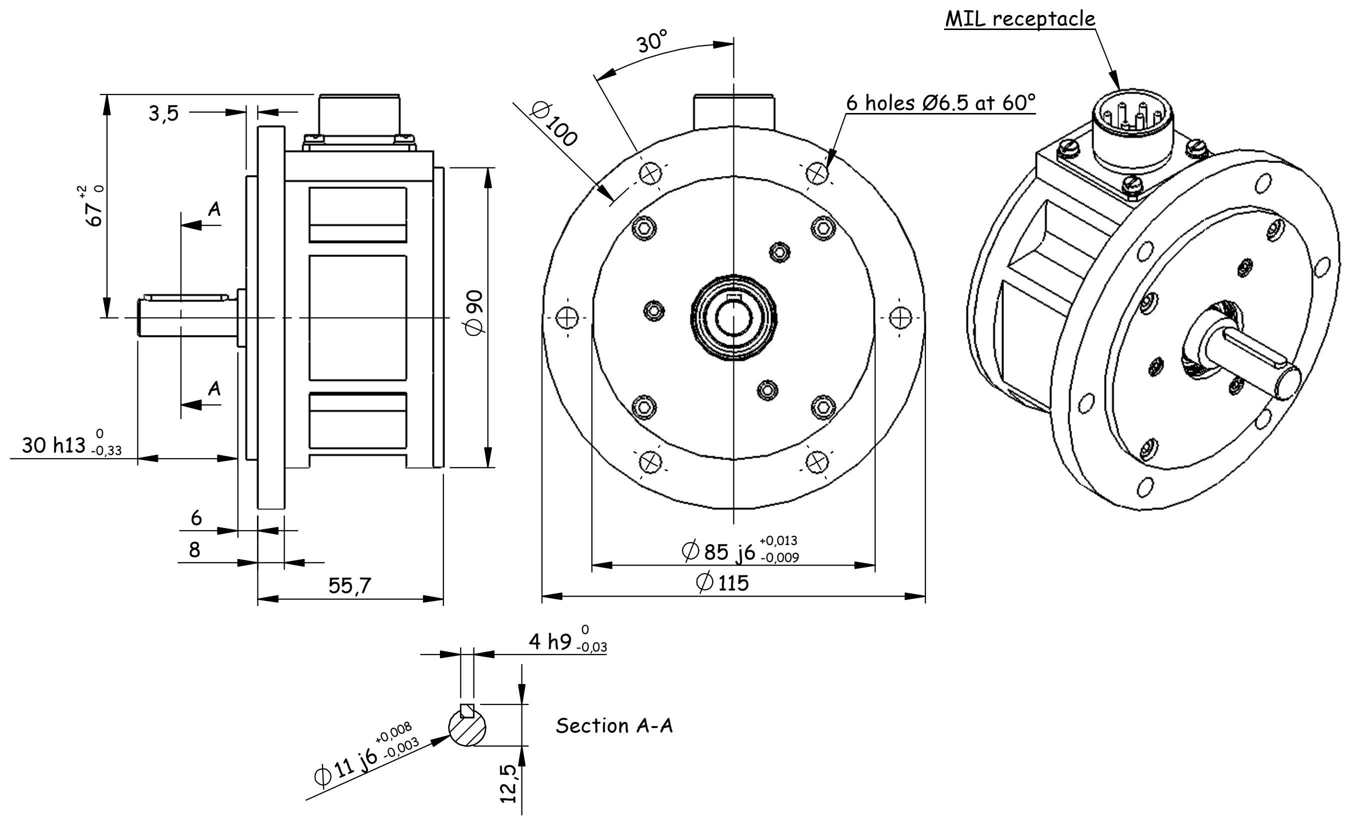
MS310 CONNECTOR (MILP / MIL0 / MIL1)



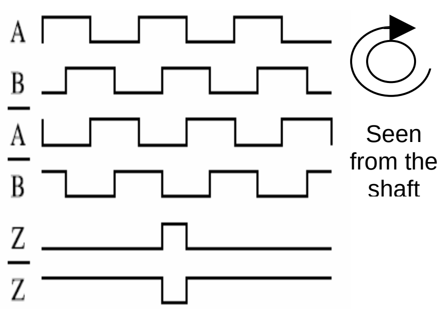
Electrical characteristics

- 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

	Cable UL - 8 wires	M23 – CW	MS310	Junction box
A	white	5	A	3
A /	yellow	6	H	6
B	blue	8	B	4
B /	orange	1	I	7
Z	green	3	C	5
Z /	brown	4	J	8
Vcc (+)	red	12	D	2
Gnd (-)	black	10	F	1
Ground case	Drain	9	G	

Output waveforms



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Mechanical characteristics

- Max continuous speed: 10 000 min^{-1}
- Starting torque: ≤ 0.5 N.cm
- Shaft Inertia: 70 $gr.cm^2$
- Weight: 700 gr
- Protection: IP 65 (IEC 60529) and IP64 at shaft end
- Max shock: 30 g, 11 ms (IEC 68-2-27)
- Max vibrations: 10 g, 10-2000 Hz (IEC 68-2-6)

Ordering code

RCI444R-FS11-4-1024-23C1

Ø Elec. Resolution Connection

- **RCI 444R**: **RADIO-ENERGIE Incremental encoder** dedicated to **R**obust environments
- **Shaft Diameters**: **11** (11 mm) mostly used, **07** (7 mm) standard too
- **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**:
  Connector M23
  23C1 : M23 connector, 12 pins clockwise (CW), channel A before B - standard
  23C0 : M23 connector, 12 pins clockwise (CW), channel B before A
  23A1 : M23 connector, 12 pins counter-clockwise (CCW), channel A before B
  23A0 : M23 connector, 12 pins clockwise (CW), channel B before A
  Junction Box
  JBX1: Junction Box, channel A before B - standard
  JBX0: Junction Box, channel B before A
  Câble
  CA01: cable one meter, channel A before B - standard
  CA02: cable two meters …. **CA10:** cable ten meters (maximum length)
  CB01: cable one meter, channel B before A
  CB02: cable one meter, channel B before A ….. **CB10:** cable ten meters (maximum length)
  Connector MS310
  MILP: MS310 connector, 10 pins, channel A before B, for **1024** and **2048** pulses only
  MIL1: MS310 connector, 10 pins, channel A before B – standard
  MIL0: MS310 connector, 10 pins, channel B before A
  Other connections on request

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