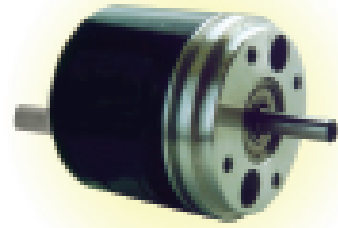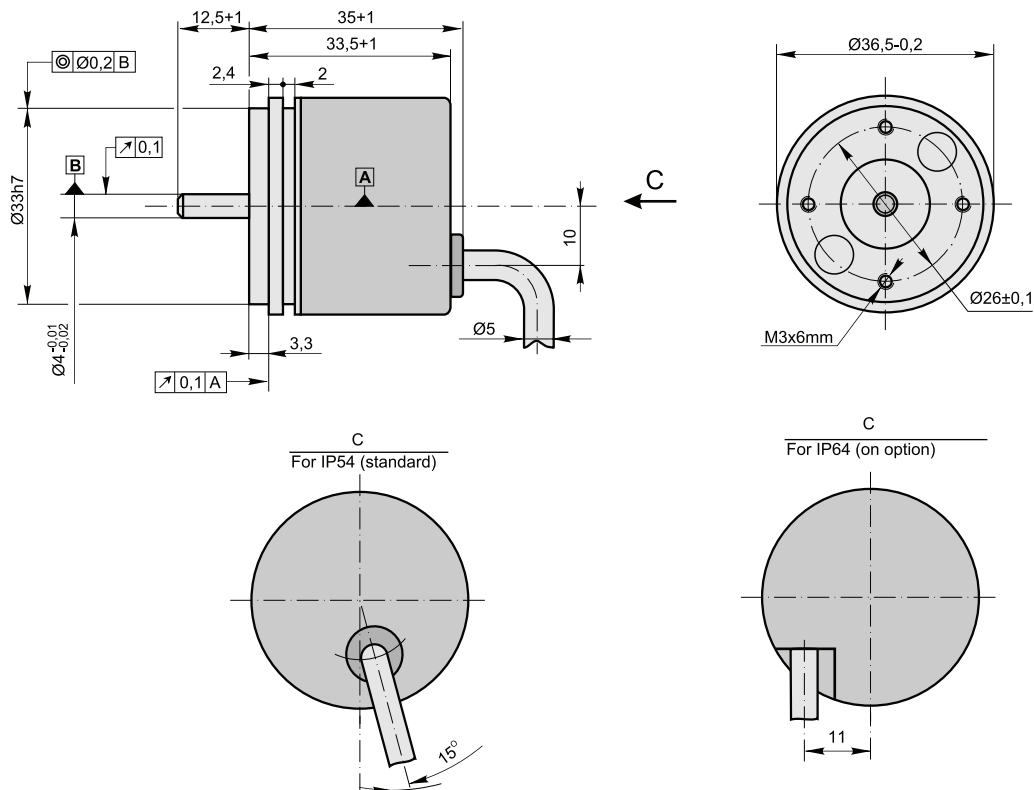![Hesmor logo]

HIDA 36

PRECISION ROTARY ENCODER

The precision rotary encoder **HIDA36** is used to establish an informational link between the key components of machines, industrial robots, comparators and DCC, NC or Digital Readout units. It gives information about the value and direction of the motion components. The encoder is used in automatic control, on-line gauging, in process monitoring systems, etc.

The encoder has three versions of output signals:
- sinusoidal signals, with amplitude approx. 11 μA_{pp};
- sinusoidal signals, with amplitude aprox. 1 V_{pp};
- square-wave signals TTL or HTL.

■ **Mechanical Data**

- Line number on disc (z) 100 200 250 360 500 1000 1024 1500 2000 2500 3600
- Pulse number per shaft revolution for Square-wave version: Z x k, where k=1,2,3,4,5,8,10
- Maximum shaft speed 10000 rpm
- Maximum shaft load:
  - axial 5 N
  - radial (at shaft end) 10 N
- Accuracy (T_1-period of lines on dusc) $\pm 0.1 T_1$ arc. sec
- Starting torque at 20^oC ≤ 0.1 Ncm
- Moment of inertia of rotor < 2 gcm^2

- Protection (IEC 529)
  - housing side IP54
  - shaft side IP64
- Maximum weight without cable 0.07 kg
- Operating temperature -10...+70 ^{o}C
- Storage temperature -30...+80 ^{o}C
- Maximum humidity (without condensation of moisture) 98 %
- Permissible vibration (55 to 2000 Hz) ≤ 100 m/s^2
- Permissible shock (11 ms) ≤ 300 m/s^2

C
For IP54 (standard)

C
For IP64 (on option)

Hesmor

| Version	Sine 11 µApp	Sine 1 Vpp	⎍ TTL; ⎍ HTL
•Power supply (U_p)	+5 V ±5%	+5 V ±5%	+5 V ±5%; +(10 to 30) V
•Maximum consumed current (without load)	80 mA	120 mA	120 mA
•Light source	LED	LED	LED
•Incremental signals	Two sinusoidal I_1 and I_2. Amplitude at 1 kΩ load: - I_1 = 7-16 µA - I_2 = 7-16 µA	Two sinusoidal A and B. Amplitude at 120 Ω load: - A = 0.6-1.2 V - B = 0.6-1.2 V	Square-wave U1, U2 and their inverted $\overline{U1}$, $\overline{U2}$. Signal levels at 20 mA load current: - low ("0" logic) $\leq$ 0.5 V at U_P=+5 V - low ("0" logic) $\leq$ 1.5 V at U_P=10 to 30 V - high ("1" logic) $\geq$ 2.4 V at U_P=+5 V - high ("1" logic) $\geq$ (U_P-2) V at U_P=10 to 30 V
•Reference signal	One quasi-triangle I_0 peak per revolution. Signal magnitude at 1 kΩ load: - I_0 = 2-8 µA (usable component)	One quasi-triangle R per revolution. Signal magnitude at 120 Ω load: - R = 0.2-0.8 V (usable component)	One square-wave U0 and its inverted $\overline{U0}$ per revolution. Signal levels at 20 mA load current: - low ("0" logic) $\leq$ 0.5 V at U_P=+5 V - low ("0" logic) $\leq$ 1.5 V at U_P=10 to 30 V - high ("1" logic) $\geq$ 2.4 V at U_P=+5 V - high ("1" logic) $\geq$ (U_P-2) V at U_P=10 to 30 V
•Maximum operating frequency	(-3 dB) $\geq$ 160 kHz	(-3 dB) $\geq$ 160 kHz	160 kHz
•Direction of signals	I_2 lags I_1 with clockwise rotation (viewed from shaft side)	B lags A with clockwise rotation (viewed from shaft side)	U2 lags U1 with clockwise rotation (viewed from shaft side)
•Maximum rising and falling time			< 0.5 µs
•Standard cable length	1 m, without connector	1 m, without connector	1 m, without connector
•Maximum cable length	5 m	25 m	25 m

Note: If cable extension is used the power supply conductor section should be not smaller than 0.5 mm^2.
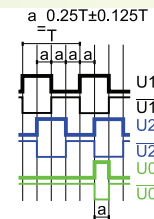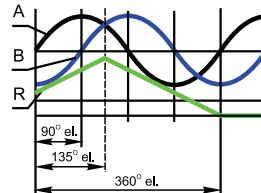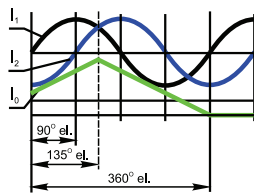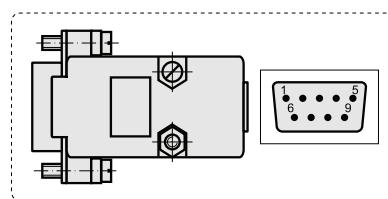

■ Accessories

P12
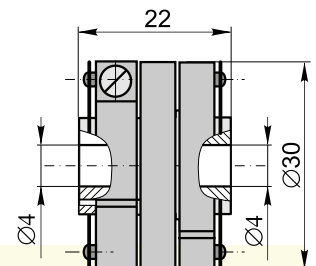12-pin round connector for
Sine 1 Vpp and **Square-wave version**
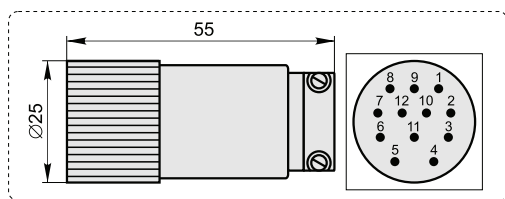
D9
9-pin flat connector
for all version of **HIDA36**

HIDA36 - SC30
Coupling

■ Order form

HIDA 36 – ☐☐☐☐ – ☐☐ – ☐☐☐ / ☐

Line number: **100**... **3600**...	Output: **05L** - 5VDC Line driver TTL **24H**-10...30VDC Line driver HTL **5AC**-5VDC,Analog current sine 11 µApp **5AV**-5VDC,Analog voltage sine 1Vpp	Cable length: **01** - 1m **02** - 2m **03** - 3m ... - ...	Type of connector: **N** - without connector **D9** - flat, 9 pins **P12** - round, 12 pins	Coupling: **HIDA36-SC30**