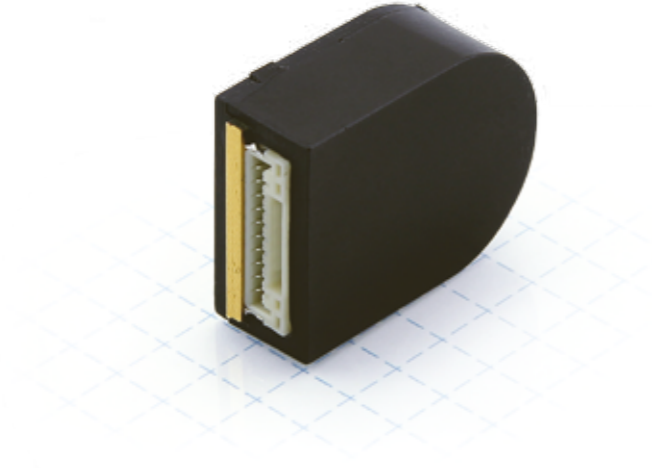


Optical encoder - NOE1 series

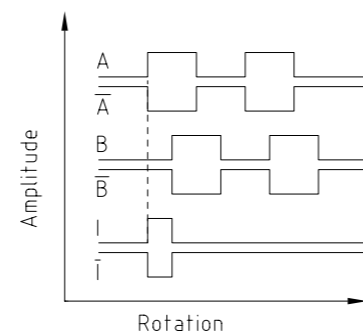


Technical data

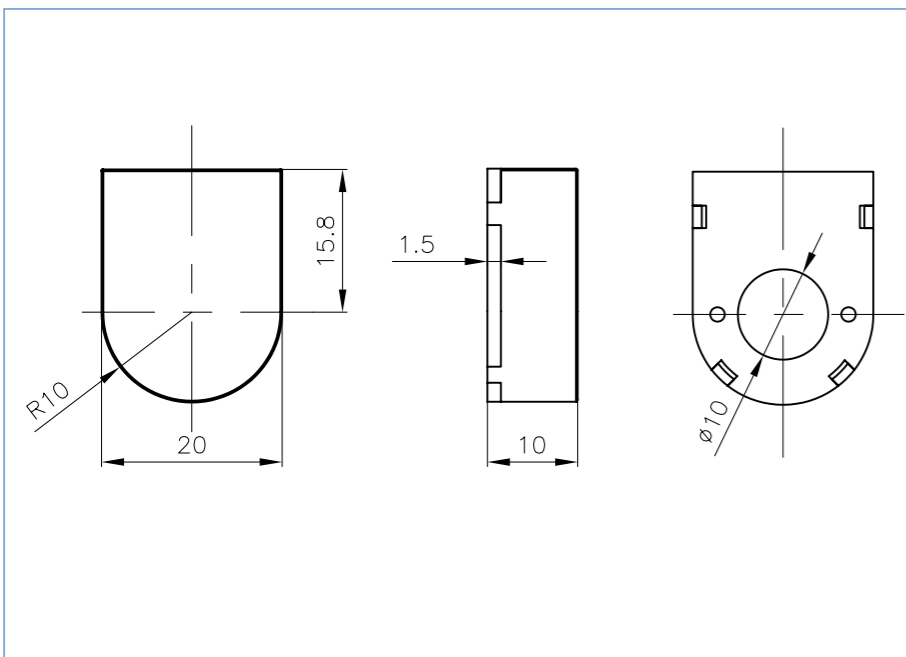
Resolution:	500, 1000, 2000 pulses/rpm
Signal shape:	TTL square wave signal
Output signals:	Phase A, A \bar , B, B \bar , I, I \bar
Operating voltage:	5 V DC (7 V DC max.)
Current consumption:	Type \leq 100 mA
Limit frequency:	60 KHz
Limit speed:	6600 rpm
Pulse width:	180° \pm 50°
Phase shift:	90° \pm 50°
Signal level:	Low 0 V, high operating voltage -0.5 V
Max. output current per channel:	\pm 150mA, recommended working current \pm 20 mA
Operating temperature:	85 to -20 °C
Storage temperature:	85 to -40 °C
Air humidity:	Max. 90%, non-condensing

Output signals

Line controller for 8 connections



NOE1 outline drawing (mm)



Output signals

10 pin JST GH	
NO.	Function
1	GND
2	A
3	A \bar
4	B \bar
5	B
6	I \bar
7	I
8	GND
9	+5V
10	GND

Order identifier

NOE1-05-○

A14 = 500 pulses/rpm (no interpolation) —
 B14 = 1000 pulses/rpm (2x interpolation) —
 C14 = 2000 pulses/rpm (4x interpolation) —

for 5 mm shaft diameter

Gears

Application fields:

The compact and proven gears from Nanotec are ideal for use in the following tasks:

- Increase and matching of the output torques
 $M_{\text{dgear.}} = M_{\text{dMot}} \times i \times \varnothing$
- Reduction of the output torque
 $n_2 = n_{\text{Mot}} / i$
- Quadratic reduction of ext. moments of inertia
 $J_{\text{red}} = J_{\text{ex}} / i^2$
- Reduction of the step angle
 $\alpha_{\text{Outp}} = \alpha_{\text{Mot}} / i$

Advantages

- Large speed reduction bandwidth
- Wide torque spectrum
- High running smoothness
- Maintenance-free due to permanent lubrication
- Versatile combination options

Note: In the selection of the gears, it is essential to pay attention to the following criteria:

- Output torques**
Output torques rise in proportion to the speed reduction and can lead to damage of the gearing (do not exceed max. admissible power take-off values!).
- Radial and axial forces**
Radial and axial forces mainly impair the expected service life of the bearing and the shaft strength in some cases.
- Working temperatures**
Working temperatures affect the thermal loading of the bearing.
- Load types**
Various types of load lead to high gear, shaft and bearing stresses and hence reduce the service life.

Which type of gear is advantageous?

- Planetary gear**
due to the triple meshing, these gears offer the highest torque at comparable volume and have the highest efficiency with concentric shaft output.
- Worm gear**
Enable smooth running performance and, due to the 90° force transfer, have a low installation depth and offer a self-locking torque due to continuous power transmission at higher reduction ratios.