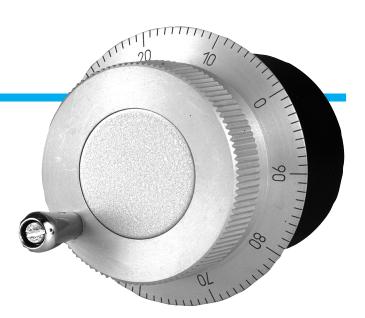# Incremental hand wheel
IRC530, 535, 536, 537 and 539

The manual incremental hand wheel IRC530, 535, 536, 537 and 539 in standard industrial configuration converts rotary movement, which is manually entered using the hand wheel, by means of photoelectric sensing, to sequence of electric rectangular pulses in the signals A and B (or in their negations) each other shifted of 90° electrical. Solid design with the shaft diameter of 10 mm, with bearings and durable positioning mechanism enables using of this encoder in hard conditions, e.g. as a support hand wheel for CNC machines.

The encoder can be supplied with the face panel or without the panel. This encoder can fully replace the encoder IRC505.
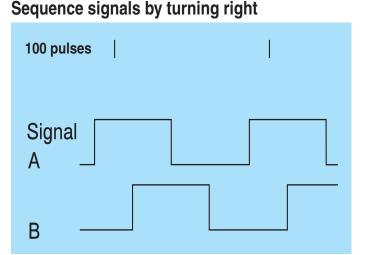
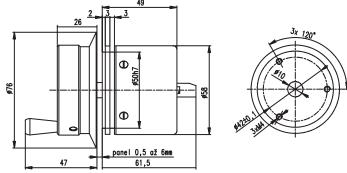| Technical Specification	IRC530	IRC535	IRC535U [1]	IRC536	IRC537	IRC539
Outlet	push/pull	TTL	TTL	Line Driver	1 V pp kompatible[2]	Line Driver
Suply voltageí U_N [V]	+ 10 to + 30	+ 5 ± 10%	+ 5 ± 10%	+ 5 ± 10%	+ 5 ± 10%	+ 10 to + 30
Encoders consuption I_N [mA]	max. 50	max. 40	max. 40	max. 60	max. 100	max. 40
Max. load of outputs I_0 [mA]	± 25	+ 5 / – 1	+ 1,6 / – 2,5	± 20	difer. Zo =120 Ω[3]	± 20
Max. cable lenght [m]	100	5	5	50	50	50
El. signal output levels: U_{OH} [V]	U_{n-3} (– 10 mA)	> 2,4 V (– 40 μA)	> 2,4 V (– 2,1mA)	> 2,5 V (– 10mA)	2 ± 0,2[4]	> 2,5 V (– 10 mA)
U_{OL} [V]	=< 1,2 (10 mA)	< 0,4 V (3,2 mA)	< 0,4 V (100 μA)	< 0,4 V (10mA)	1,5 ± 0,2[4]	< 0,4 V (10mA)
Signals	A, B, Anon, Bnon	A, B	A, B	A, B, Anon, Bnon	A+, B+, A–, B–	A, B, Anon, Bnon
Operation temperature [°C]	0 to + 70					
Numper of pulses	100 per each trace					
Max. vibration according to FCČSN 345791	2 G (0 – 60 Hz)					
Max. rotation	200 m⁻¹					
Max. shaft loads axial/radial	80/80 N					
Protection	IP 54					

Assembly

The encoders are mounted into an equipment with 3 screws M4 or with a groove. The panel thickness of the equipment must be in range of 0.5 to 6 mm. If the centering diameter 50h7 is used to hold the encoder, then the panel thickness can be up to 8 mm.

With respect to use of electrostatic sensing parts, we recommend to connect the encoder without voltage and complying rules for handling with electrostatic sensitive equipment.

[1] Substandard design. [2] A square (quadrature) signal on the levels for entries 1 V pp. Cannot be interpolated. [3] Loading impedance between signal + and signal –, see the recommended wiring IRC307. [4] Amplitude of the differential signal between signal + and signal – : 0,6 ÷ 1,2 V pp (Zo = 120 Ω)

Dimensions for IRC530, 535, 536, 537 and 539

Sequence signals by turning right

The marked span means locked position for 100 pulses.

Data for order
State in the order number of pieces, name and type of the encoder, number of pulses per revolution and delivery date.

Example:
We order 20 pcs of **IRC535/100**. The encoder IRC 535 with 100 pulses per revolution and delivery in four weeks.

Changes in technical parameters reserved

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