

- Measuring wheel encoder
- Metric & US/imperial wheel sizes
- 1 channel output with anti-jitter & rollback functions
- Universal output circuit with quadrature signals (AB)
- Spring loaded arm with up to 30 mm deflection
- Conveyor speed control, cut-to-length & object positioning applications



IR01

ENVIRONMENTAL SPECIFICATIONS

Shock:	250 g, 6 ms acc. to CEI EN 60068-2-27
Vibrations:	10 g, 5-2000 Hz acc. to CEI EN 60068-2-6
Protection:	IP65
Operating temperature range:	-25°C +85°C (-13°F +185°F)
Storage temperature range:	-40°C +100°C (-40°F +212°F) (98% R.H. without condensation)

MECHANICAL SPECIFICATIONS

Dimensions:	see drawing
Wheel circumference:	Order code A = 317,6 mm ± 0,1% max. (US/imperial) Order code B = 250.0 mm ± 0,1% max. (metric)
Spring arm deflection:	30 mm
Shaft rotational speed:	2000 rpm
Starting torque at 20°C:	1 Ncm (typical)
Bearings life:	1 x 10 ⁹ rev. min.
Electrical connections:	M12 4 pin plug, M12 8 pin plug

ELECTRICAL SPECIFICATIONS

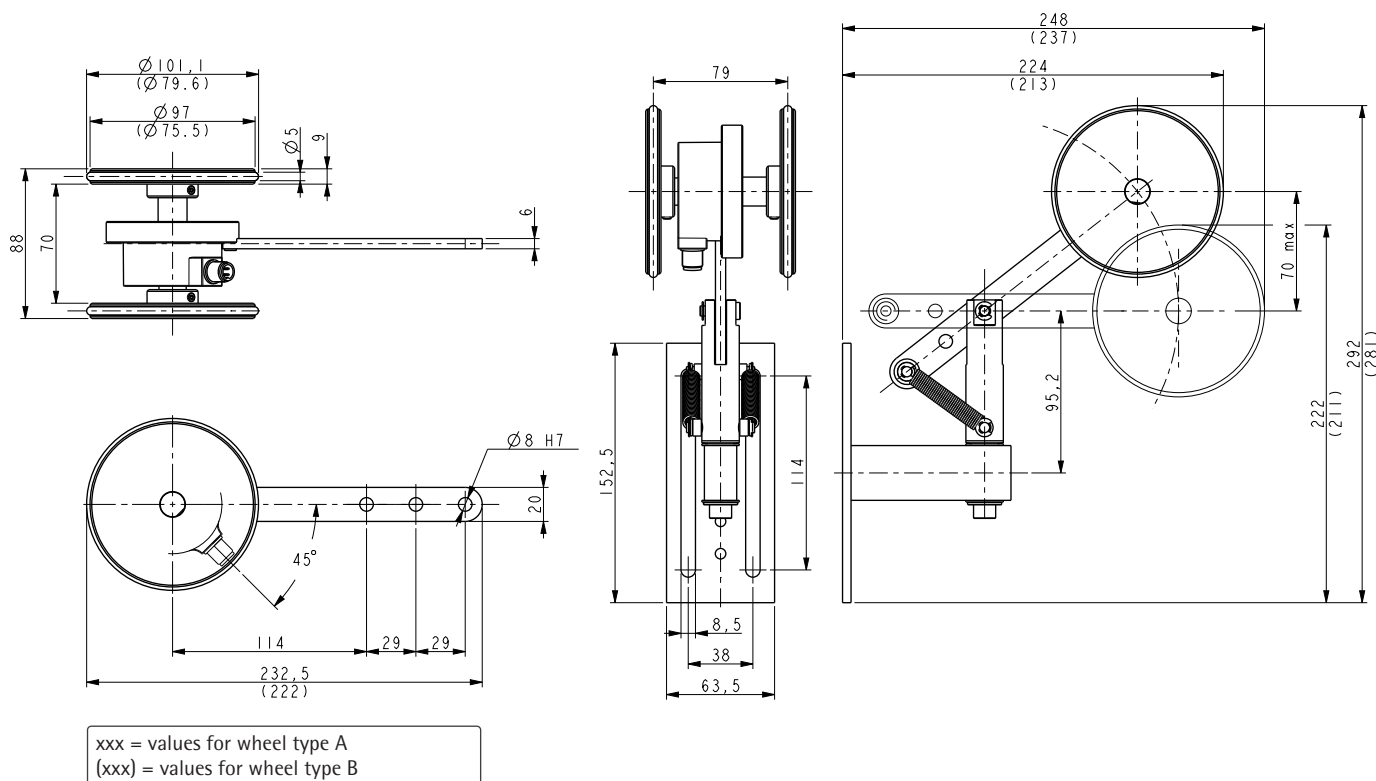
Resolution (PPR):	25, 50, 100, 125, 250, 500, 1000, 1250, 2000, 2500, 5000 <i>(other resolutions on request)</i>
Output signals:	A (with anti-jitter + roll-back functions) AB /AB (quadrature output)
Counting frequency:	50 kHz max.
Output circuits:	NPN o.c., Push-Pull, Universal
Power supply:	+10 +30Vdc, +5 +30Vdc
Consumption:	70 mA (typ.)
Output current (each channel):	40 mA max.
Protection:	against inversion of polarity and short-circuit
EMC:	electro-magnetic immunity, according to: EN 61000-4-2 EN 61000-4-4
Optoelectronic life:	100.000 hrs min.

MATERIALS

Fixing arm:	anodized aluminium, UNI EN AW-6082
Housing:	zamac die cast
Bearings:	ABEC 5
Shaft:	stainless steel, non-magnetic - UNI EN 4305

ACCESSORIES

IR01 type A wheels:	2 wheels type A
IR01 type B wheels:	2 wheels type B
EC-M12F8-LK-M8-050:	cordset 5m, M12 8 pin
EC-M12F8-LK-M8-100:	cordset 10m, M12 8 pin
E-M12F8:	mating conn. M12 8 pin
EC-M12PP-LK-PBS-050:	cordset 5m, M12 4 pin
EC-M12PP-LK-PBS-100:	cordset 10m, M12 4 pin
E-M12FC:	mating conn. M12 5 pin (1 pin unused)



IR01

Order code

IR01	-	XX a	-	XXX b	-	XXX c	-	X d	/Sxxx e
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<p>a OUTPUT CIRCUITS / SUPPLY VOLTAGE</p> <p>N2 = NPN o.c., +10V ÷ +30V Y2 = Push-Pull, +10V ÷ +30V H4 = PP/LD universal circuit, 5V ÷ +30V</p> <p>b RESOLUTION (PPR)</p> <p>250</p>	<p>c OUTPUT SIGNALS</p> <p>MNM = A with anti-jitter + rollback, M12 4 pin conn.</p>	<p>d WHEEL CIRCUMFERENCE</p> <p>A = wheel circumference 317,6 mm B = wheel circumference 250 mm</p>
		e CUSTOM VERSION

Order code

IR01	-	XX a	-	XXXX b	-	XXX c	-	X d	/Sxxx e
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<p>a OUTPUT CIRCUITS / SUPPLY VOLTAGE</p> <p>N2 = NPN o.c., +10V ÷ +30V Y2 = Push-Pull, +10V ÷ +30V H4 = PP/LD universal circuit, 5V ÷ +30V</p> <p>b RESOLUTION (PPR)</p> <p>See electrical specifications</p>	<p>c OUTPUT SIGNALS</p> <p>BCM = AB /AB, M12 8 pin conn.</p>	<p>d WHEEL CIRCUMFERENCE</p> <p>A = wheel circumference 317,6 mm B = wheel circumference 250 mm</p>
		e CUSTOM VERSION

Document release	Date	Description
1.0	July 2024	New order code