

- 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 <sup>9</sup> rev. min.
Electrical connections:	M12 4 pin plug, M12 8 pin plug

### ELECTRICAL SPECIFICATIONS

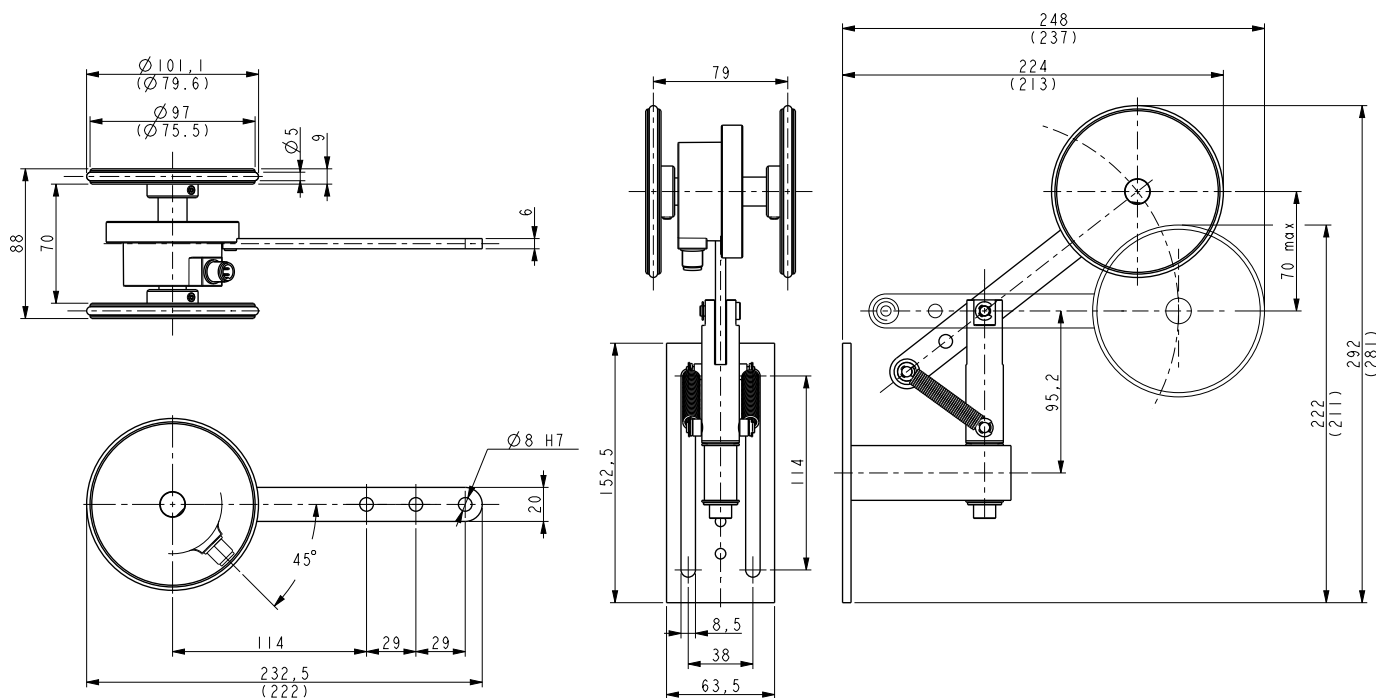
Resolution (PPR):	25, 50, 100, 125, 250, 500, 1000, 1250, 2000, 2500, 5000 <i>(other resolutions on request)</i>
Output signals:	A (with anti-jitter + roll-back functions) AB /AB (quadrature output)
Counting frequency:	50 kHz max.
Output circuits:	NPN o.c., Push-Pull, Universal
Power supply:	+10 +30Vdc, +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

### 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
KIT IR01:	Spare parts: 2 x pins, washer & seeger
EC-M12F8-LK-M8-L050:	cordset 5m, M12 8 pin
EC-M12F8-LK-M8-L100:	cordset 10m, M12 8 pin
E-M12F8:	mating conn. M12 8 pin
EC-M12PP-LK-PBS-L050:	cordset 5m, M12 4 pin
EC-M12PP-LK-PBS-L100:	cordset 10m, M12 4 pin
E-M12FC:	mating conn. M12 5 pin (1 pin unused)



xxx = values for wheel type A  
 (xxx) = values for wheel type B

IR01

Order code

IR01	-	XX (a)	-	XXXXX (b)	-	XXX (c)	-	XX (d)	-	X (e)	X (f)	-	X (g)	/Sxxx (h)
------	---	-----------	---	--------------	---	------------	---	-----------	---	----------	----------	---	----------	--------------

<p><b>(a) OUTPUT CIRCUITS / SUPPLY VOLTAGE</b>                  N2 = NPN o.c., +10V÷ +30V                  Y2 = Push-Pull, +10V÷ +30V                  H4 = PP/LD universal circuit, 5V÷ +30V</p> <p><b>(b) RESOLUTION (PPR)</b>                  00250 = 250 PPR</p>	<p><b>(c) OUTPUT SIGNALS / CONNECTIONS</b>                  MNM = A with anti-jitter + rollback, M12 4 pin conn.</p> <p><b>(d) WHEEL CIRCUMFERENCE</b>                  A0 = wheel circumference 317,6 mm                  B0 = wheel circumference 250 mm</p> <p><b>(e) PROTECTION</b>                  P = IP65</p>	<p><b>(f) OPERATING TEMPERATURE</b>                  T = -20+85°C (-13°F +185°F)</p> <p><b>(g) CONNECTION POSITION</b>                  R = radial connector</p> <p><b>(h) CUSTOM VERSION</b></p>
---	---	---

Order code

IR01	-	XX (a)	-	XXXXX (b)	-	XXX (c)	-	XX (d)	-	X (e)	X (f)	-	X (g)	/Sxxx (h)
------	---	-----------	---	--------------	---	------------	---	-----------	---	----------	----------	---	----------	--------------

<p><b>(a) OUTPUT CIRCUITS / SUPPLY VOLTAGE</b>                  N2 = NPN o.c., +10V÷ +30V                  Y2 = Push-Pull, +10V÷ +30V                  H4 = PP/LD universal circuit, 5V÷ +30V</p> <p><b>(b) RESOLUTION (PPR)</b>                  See electrical specifications</p>	<p><b>(c) OUTPUT SIGNALS / CONNECTIONS</b>                  BCM = AB /AB, M12 8 pin conn.</p> <p><b>(d) WHEEL CIRCUMFERENCE</b>                  A0 = wheel circumference 317,6 mm                  B0 = wheel circumference 250 mm</p> <p><b>(e) PROTECTION</b>                  P = IP65</p>	<p><b>(f) OPERATING TEMPERATURE</b>                  T = -20+85°C (-13°F +185°F)</p> <p><b>(g) CONNECTION POSITION</b>                  R = radial connector</p> <p><b>(h) CUSTOM VERSION</b></p>
---	--	---

Document release	Date	Description
1.0	September 2024	New order code