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INCREMENTAL ENCODER miniaturised series 9.5x43.8

Encoder sized for mounting on our **Manoeuvring Groups listed below**, to fit on the end of the trapezoidal screw with shank prepared $\varnothing 6$ or $\varnothing 10$ with fitting by means of an anti-rotation bracket. Connection with **Visualizer MC 2535.01** that powers the encoder.

We recommend using the **Locking Flange** (see photo on the opposite page) on all our manually operated Groups, a determinant accessory for locking the trapezoidal screw. The locking is necessary to avoid the screw turning with the machine idle in that you would lose the exact position reference of the carriage. This problem does not exist if instead of using an **Encoder** we use an **Absolute Potentiometric Transducer** in that the latter has a real reading of the position in which it is located when the machine is idle, or switched off, but at the cost of a limited range of travel of the Transducer itself.

ELECTRONIC FEATURES:

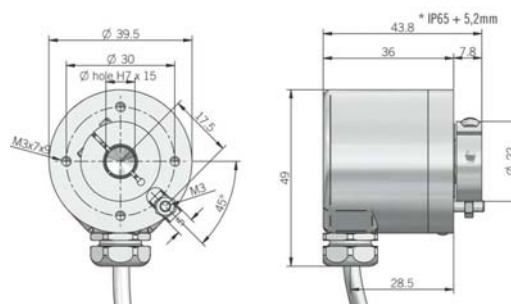
- **Resolution:** 500 impulse/turn
- **Power supply:** 5÷28 V DC
- **Current consumption without load:** max 80 mA
- **Max load current:** 50 mA per channel, 20 mA per channel (line driver).
- **Electronic output configuration:** NPN/NPN open collector, push-pull/line driver.
- **Operating frequency:** max 150 kHz.

MECHANICAL FEATURES:

- **Bore diameter:** $\varnothing 6$ - $\varnothing 10$ mm (optional $\varnothing 8$ - $\varnothing 9,52 = 3/8''$)
- **Enclosure rating:** IP54
- **Max speed:** 3000 rpm
- **Max shaft load:** 5N (0,5 Kg) axial, 5N (0,5 Kg) radial.
- **Shock:** 50 G, 11 ms (IEC 60068-2-27)
- **Vibration:** 10 G, 10÷2000 Hz (IEC 60068-2-6)
- **Bearing life:** 10^9 revolutions
- **Bearings:** 2 ball bearings
- **Shaft material:** stainless steel UN1X10CrNiS1809
- **Body material:** aluminium UNI 9002/5
- **Housing material:** painted aluminium.
- **Operating temperature:** -10/+60 °C
- **Storage temperature:** -25/+70 °C

FITTING INSTRUCTIONS

- 1) Couple the prepared shank of the trapezoidal screw with the Encoder shaft hole ensuring that the anti-rotation bracket is inserted in the slot on the front of the encoder.
- 2) Fix the two components using the special metal ring checking that the encoder remains perfectly aligned with the trapezoidal screw.



Encoder with bracket mounted on Manoeuvring Group.
(for ordering bracket see code/article on page 59)



* **WARNING:** The installation of Encoders on **TR10 to TR16** Groups requires caution because of the size of the Encoder which has a 20mm radius.

USE ON GROUPS WITH TR SCREW	CODE (Encoder without bracket)	ARTICLE	MODEL	EXTERNAL DIMENSIONS	RESOLUTION	WITH ZERO IMPULSE	POWER SUPPLY	ELECTRONIC OUTPUT	Ø BORE (mm) FOR SHAFT	DEGREE OF PROTECTION	MAX ROTATIONAL SPEED	OUTPUT CABLE	WEIGHT
			mod.	Ø ext.	Imp/turn	Z	Vdc	NPN	Ø bore	IP	rpm	mt.	Kg
TR 10x2	* 30CSCEE006	* EL38G/6	EL38	Ø39.5	500	Z	5÷28	NPN	Ø6	IP64	3000	0.5	0,150
TR 10x3	* 30CSCEE006	* EL38G/6	EL38	Ø39.5	500	Z	5÷28	NPN	Ø6	IP64	3000	0.5	0,150
TR 12x3	* 30CSCEE006	* EL38G/6	EL38	Ø39.5	500	Z	5÷28	NPN	Ø6	IP64	3000	0.5	0,150
TR 14x3	* 30CSCEE006	* EL38G/6	EL38	Ø39.5	500	Z	5÷28	NPN	Ø6	IP64	3000	0.5	0,150
TR 14x4	* 30CSCEE006	* EL38G/6	EL38	Ø39.5	500	Z	5÷28	NPN	Ø6	IP64	3000	0.5	0,150
TR 16x4	* 30CSCEE006	* EL38G/6	EL38	Ø39.5	500	Z	5÷28	NPN	Ø6	IP64	3000	0.5	0,150
TR 18x4	30CSCEE010	EL38G/10	EL38	Ø39.5	500	Z	5÷28	NPN	Ø10	IP64	3000	0.5	0,150
TR 20x4	30CSCEE010	EL38G/10	EL38	Ø39.5	500	Z	5÷28	NPN	Ø10	IP64	3000	0.5	0,150
TR 22x5	30CSCEE010	EL38G/10	EL38	Ø39.5	500	Z	5÷28	NPN	Ø10	IP64	3000	0.5	0,150
TR 24x5	30CSCEE010	EL38G/10	EL38	Ø39.5	500	Z	5÷28	NPN	Ø10	IP64	3000	0.5	0,150
TR 25x5	30CSCEE010	EL38G/10	EL38	Ø39.5	500	Z	5÷28	NPN	Ø10	IP64	3000	0.5	0,150
TR 26x5	30CSCEE010	EL38G/10	EL38	Ø39.5	500	Z	5÷28	NPN	Ø10	IP64	3000	0.5	0,150
TR 28x5	30CSCEE010	EL38G/10	EL38	Ø39.5	500	Z	5÷28	NPN	Ø10	IP64	3000	0.5	0,150
TR 30x6	30CSCEE010	EL38G/10	EL38	Ø39.5	500	Z	5÷28	NPN	Ø10	IP64	3000	0.5	0,150
TR 32x6	30CSCEE010	EL38G/10	EL38	Ø39.5	500	Z	5÷28	NPN	Ø10	IP64	3000	0.5	0,150
TR 35x6	30CSCEE010	EL38G/10	EL38	Ø39.5	500	Z	5÷28	NPN	Ø10	IP64	3000	0.5	0,150
TR 36x6	30CSCEE010	EL38G/10	EL38	Ø39.5	500	Z	5÷28	NPN	Ø10	IP64	3000	0.5	0,150

The encoders listed above are the most commonly used from the standard series; if required other versions of these encoders with different technical features are listed in the *Eltra* catalogue.

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INCREMENTAL ENCODER Ø63.5x42.3

Encoder sized for mounting on our largest **Manoeuvring Groups** listed below, to fit on the end of the trapezoidal screw with shank prepared Ø14 with fitting by means of an anti-rotation bracket. Connection with **Visualizer MC 2535.01** that powers the encoder.

For this item also, when used on our Groups with manual movements, we recommend the use of a **Locking Flange** with which provides the benefits described on the previous page, or alternatively consider using an **Absolute Potentiometric Transducer** although it provides far less range of travel (see technical descriptions on the following pages).

ELECTRONIC FEATURES:

- **Resolution:** 500 impulse/turn
- **Power supply:** 5÷28 V DC
- **Current consumption without load:** max 100 mA
- **Max load current:** 50 mA per canale, 20 mA per canale (line driver).
- **Electronic output configuration:** NPN/NPN open collector, push-pull/line driver.
- **Operating frequency:** max 300 kHz.

MECHANICAL FEATURES:

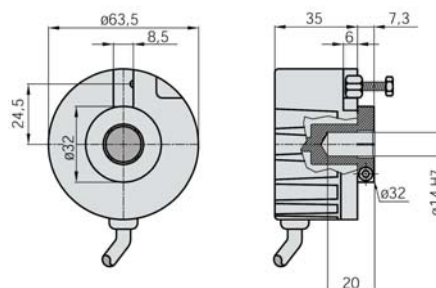
- **Bore diameter:** Ø14 mm (opz. Ø8 - Ø10 - Ø12 - Ø15 - Ø9,52 = 3/8")
- **Enclosure rating:** IP54
- **Max speed:** 3000 rpm
- **Shock:** 50 G per 11 msec (with plastic disk)
20 G per 11 msec (with glass disk)
- **Vibration:** 10 G, 10÷2000 Hz
- **Bearing life:** 10⁹ revolutions
- **Bearings:** n°2 ball bearings.
- **Shaft material:** stainless steel AISI 303
- **Body material:** aluminium UNI 5076
- **Housing material:** PA 66 reinforced with glass fibre.
- **Operating temperature:** 0/+60 °C
- **Storage temperature:** -25/+70 °C

FITTING INSTRUCTIONS

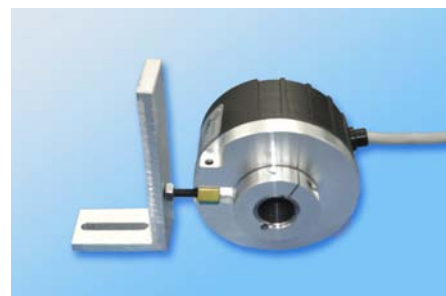
- Please see previous page.

MANOEUVRING GROUP FOR MANUAL MOVEMENTS AND LOCKING FLANGE.

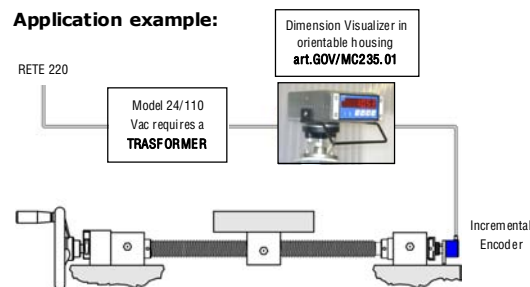
The Locking Flange is an indispensable accessory for Manoeuvring Groups with incremental Encoder and Visualizer in that, if tightened before switching off the machine, it prevents any movement that would falsify the effective position of the carriage on the Visualizer. When the machine is next switched on the Visualizer will always indicate the last position reading taken before switching off. To avoid the problem, not using the Locking Flange, **absolute potentiometric transducers**, or **optical scales** can be used, visualized incrementally, that can be repositioned with "zero line - r EF" (see items on the following pages).



Encoder with anti-rotation bracket adaptable for each individual support.
(for ordering bracket see code/article on page 59)



Application example:



Manoeuvring Group for manual or motorised movements with supports and trapezoidal screw.

USE ON GROUPS WITH TR SCREW	CODE (Encoder without bracket)	ARTICLE	MODEL	EXTERNAL DIMENSIONS	RESOLUTION	WITH ZERO IMPULSE	POWER SUPPLY	ELECTRONIC OUTPUT	Ø BORE (mm) FOR SHAFT	DEGREE OF PROTECTION	MAX ROTATIONAL SPEED	OUTPUT CABLE	WEIGHT
			mod.	Ø est.	Imp/giro	Z	Vdc	NPN	Ø bore	IP	rpm	mt.	Kg
TR 40x7	30CSCEE114	EL63 GB/14	EL63	Ø63.5	500	Z	5÷28	NPN	Ø14	IP54	3000	1.5	0,350
TR 45x8	30CSCEE114	EL63 GB/14	EL63	Ø63.5	500	Z	5÷28	NPN	Ø14	IP54	3000	1.5	0,350
TR 46x8	30CSCEE114	EL63 GB/14	EL63	Ø63.5	500	Z	5÷28	NPN	Ø14	IP54	3000	1.5	0,350
TR 50x8	30CSCEE114	EL63 GB/14	EL63	Ø63.5	500	Z	5÷28	NPN	Ø14	IP54	3000	1.5	0,350
TR 55x9	30CSCEE114	EL63 GB/14	EL63	Ø63.5	500	Z	5÷28	NPN	Ø14	IP54	3000	1.5	0,350
TR 60x9	30CSCEE114	EL63 GB/14	EL63	Ø63.5	500	Z	5÷28	NPN	Ø14	IP54	3000	1.5	0,350

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