



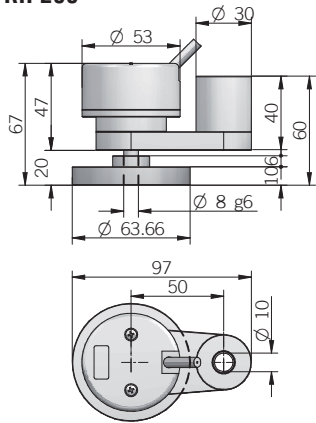
OTHER PRODUCTS

SPECIAL PRODUCTS FOR DIFFERENT APPLICATION'S NEEDS.

Complementing the extensive range of incremental, absolute and linear transducers, Eltra also offers specific products and adaptation boards to match precise factory automation application needs.

ELTRA's linear sensors feature absolute positioning, greater reliability, easy control, noise reduction, robustness, increased productivity, reduced shock and stress on mechanical parts, high precision for high performances, cost-effective solutions.

RH 200



dimensions in mm

| ELECTRICAL SPECIFICATIONS | |
|-----------------------------------|---|
| Resolution | from 50 to 5000 ppr |
| Power supply ¹ | 5 = 4,5 ... 5,5 V DC 5/28 = 4,5 ... 30 V DC (reverse polarity protection) |
| Current consumption without load | 100 mA max |
| Max load current | C / P = 50 mA / channel L / RS = 20 mA / channel |
| Electrical interface ² | NPN open collector (AEIC-7273, pull-up max +30 V DC) push-pull / line driver HTL (AEIC-7272) line driver RS-422 (AELT-5000 or equivalent) |
| Max output frequency | 105 kHz up to 1024 ppr 500 kHz from 2000 ppr |
| Counting direction | A leads B clockwise (shaft view) |
| Electromagnetic compatibility | according to 2014/30/EU directive |
| RoHS | according to 2015/863/EU directive |
| UL / CSA | certificate n. E212495 |

¹ as measured at the transducer without cable influences
² for further details refer to OUTPUT LEVELS on TECHNICAL BASICS section
³ measured on the transducer flange
⁴ condensation not allowed

| CONNECTIONS | | |
|-------------|-------------|---------------|
| Function | Cable C / P | Cable L / RS |
| +V DC | red | red |
| 0 V | black | black |
| A+ | green | green |
| A- | / | brown or grey |
| B+ | yellow | yellow |
| B- | / | orange |
| Z+ | blue | blue |
| Z- | / | white |
| ⏏ | shield | shield |

| MECHANICAL SPECIFICATIONS | |
|---------------------------------------|---|
| Shaft diameter | ø 8 mm |
| Enclosure rating | IP 54 (IEC 60529) |
| Max rotation speed | 3000 rpm |
| Shock | 50 G, 11 ms up to 2500 ppr (IEC 60068-2-27) |
| Vibration | 10 G, 10 ... 2000 Hz (IEC 60068-2-6) |
| Starting torque (at +20°C / +68°F) | < 0,01 Nm (1,42 Ozin) |
| Bearing stage material | EN-AW 2011 aluminum |
| Housing material | PA66 glass fiber reinforced |
| Shaft material | 1.4305 / AISI 303 stainless steel |
| Support material | EN-AW 2011 aluminum |
| Wheel material | EN-AW 2011 aluminum |
| Bearings | n.2 ball bearings |
| Bearings life | 10 ⁹ revolutions |
| Operating temperature ^{3, 4} | -10° ... +70°C (+14° ... +158°F) |
| Storage temperature ⁴ | -25° ... +70°C (-13° ... +158°F) |
| Encoder + support weight | 250 g (8,82 oz) |
| Wheel weight | 90 g (3,17 oz) |

| RESOLUTIONS |
|--|
| 50* - 100 - 200 - 250 - 400 - 500 - 512 - 1000 - 1024 - 2000 - 2048 - 2500 - 4096 - 5000 |
| *available without zero pulse please directly contact our offices for other pulses, preferred resolutions in bold |

OTHER PRODUCTS | RH 200 A / B / C



RL - RM 500 A / B / C
MEASURING WHEELS

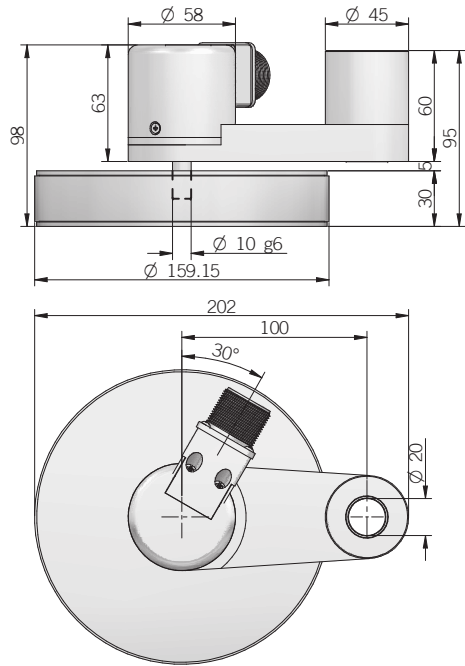
MAIN FEATURES

- Measuring wheel series designed for specific industrial applications where is required to measure a linear movement (i.e. continuous sheet cutting machines of wood, textiles, glass, etc.).
- The body is entirely designed of aluminium and mounted using an oscillating arm pivoted on the shaft. The weight of the metric wheel keeps a stable contact with the material, allowing an accurate measurement of both length and speed. Wheel surface can be in crossed-knurl aluminium, special anti-oil or anti-sliding rubber.
- 3 channel encoder (A / B / Z) up to 10000 ppr
 - Power supply up to +28 V DC with several electrical interfaces available
 - Up to 500 kHz output frequency
 - Model RM with internal coupling
 - Cable or connector output



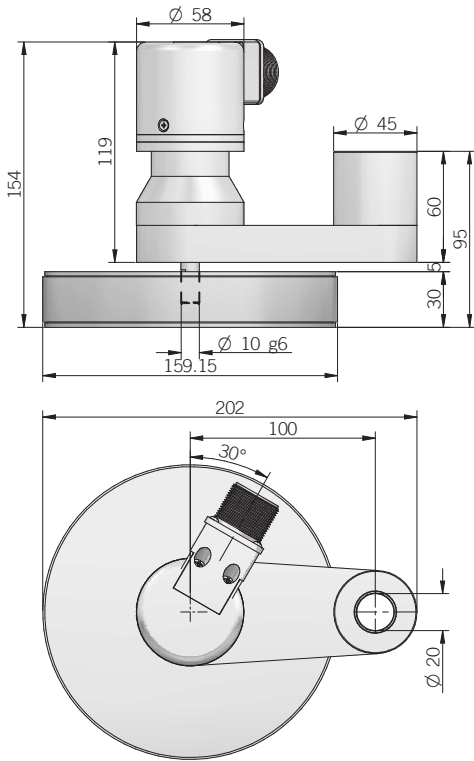
| ORDERING CODE | RL500 | A | 500 | S | 5/28 | P | 10 | X | 3 | P | R | .XXX |
|---------------|---|---|-----|---|------|---|----|---|---|---|---|------|
| | MODEL 500 mm measuring wheel - RL series RL500 500 mm measuring wheel - RM series RM500 | | | | | | | | | | | |
| | WHEEL SURFACE smooth A knurled B rubber belt C without wheel / | | | | | | | | | | | |
| | RESOLUTION (mod. RL) ppr from 10 to 2500 (mod. RM) ppr from 1 to 10000 refer to the available pulses list | | | | | | | | | | | |
| | ZERO PULSE without zero pulse S with zero pulse Z | | | | | | | | | | | |
| | POWER SUPPLY (with L electrical interface) 5 V DC 5 5 ... 28 V DC 5/28 | | | | | | | | | | | |
| | ELECTRICAL INTERFACE NPN open collector C push-pull P line driver L power supply 5/28V - output RS-422 RS | | | | | | | | | | | |
| | SHAFT DIAMETER mm 10 | | | | | | | | | | | |
| | ENCLOSURE RATING IP 64 X IP 66 S | | | | | | | | | | | |
| | MAX ROTATION SPEED 3000 rpm 3 | | | | | | | | | | | |
| | OUTPUT TYPE cable (standard length 1,5 m) P preferred cable lengths 2 / 3 / 5 / 10 m, to be added after DIRECTION TYPE (eg. PR5) MIL connector M JIS-C-5432 connector J M12 connector M12 M23 connector H IP40 IEC 60130-9 connector C female connector included, without female please add 162 as variant code | | | | | | | | | | | |
| | DIRECTION TYPE axial A radial R | | | | | | | | | | | |
| | VARIANT custom version XXX | | | | | | | | | | | |

RL 500



dimensions in mm

RM 500



ELECTRICAL SPECIFICATIONS

| | |
|-----------------------------------|---|
| Resolution | from 1 to 10000 ppr |
| Power supply ¹ | 5 = 4,5 ... 5,5 V DC 5/28 = 4,5 ... 30 V DC (reverse polarity protection) |
| Power draw without load | 800 mW |
| Max load current | C / P = 50 mA / channel L / RS = 20 mA / channel |
| Electrical interface ² | NPN open collector (AEIC-7273, pull-up max +30 V DC) push-pull / line driver HTL (AEIC-7272) line driver RS-422 (AELT-5000 or equivalent) |
| Max output frequency | 250 kHz up to 6000 ppr 500 kHz from 7200 ppr |
| Counting direction | A leads B clockwise (shaft view) |
| Electromagnetic compatibility | according to 2014/30/EU directive |
| RoHS | according to 2015/863/EU directive |
| UL / CSA | certificate n. E212495 |

¹ as measured at the transducer without cable influences

² for further details refer to OUTPUT LEVELS on TECHNICAL BASICS section

³ measured on the transducer flange

⁴ condensation not allowed

RL SERIES RESOLUTIONS

10 - 20 - 50 - 100 - 150 - 200 - 250 - 300 - **360** - 400 - **500** - **512** - 600 - 720 - **1000** - **1024** - 1200 - 1440 - **2000** - **2048** - 2500

RM SERIES RESOLUTIONS

1 - 2 - 4 - 5 - 10 - 15 - 16 - 20 - 25 - 30 - 32 - 40 - 50 - 60 - 70 - 80 - 90 - **100** - 120 - 128 - 150 - 200 - 240 - 250 - 256 - 300 - **360** - 400 - 480 - **500** - **512** - **600** - 625 - **720** - 750 - 800 - 900 - **1000** - **1024** - 1200 - 1250 - 1440 - 1500 - 1600 - 1800 - **2000** - **2048** - **2500** - 3000 - **3600** - 4000 - 4096 - **5000** - 6000 - **7200** - 8000 - 8192 - 9000 - **10000**

please directly contact our offices for other pulses, preferred resolutions in bold

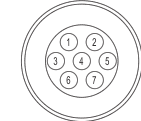
MECHANICAL SPECIFICATIONS

| | |
|--------------------------------------|--|
| Shaft diameter | ø 10 mm |
| Enclosure rating | X = IP 64 (IEC 60529) S = IP 66 (IEC 60529) |
| Max rotation speed | 3000 rpm |
| Shock | 50 G, 11 ms (IEC 60068-2-27) |
| Vibration | 10 G, 10 ... 2000 Hz (IEC 60068-2-6) |
| Starting torque (at +20°C / +68°F) | mod. RL / RM IP64 < 0,03 Nm (4,25 Ozin) mod. RL / RM IP66 < 0,06 Nm (8,50 Ozin) |
| Bearing stage material | EN-AW 2011 aluminum |
| Housing material | PA66 glass fiber reinforced |
| Shaft material | 1.4305 / AISI 303 stainless steel |
| Support material | EN-AW 2011 aluminum |
| Wheel material | EN AB 43100 |
| Bearings | n.2 ball bearings n.2 ball bearings on support (mod. RM) |
| Bearings life | 10 ⁹ revolutions |
| Operating temperature ^{3,4} | -10° ... +70°C (+14° ... +158°F) |
| Storage temperature ⁴ | -25° ... +70°C (-13° ... +158°F) |
| Encoder + support weight | 1000 g (35,27 oz) |
| Wheel weight | mod. A/B 900 g (31,75 oz) mod. C with rubber belt 850g (30 oz) |

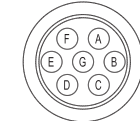
CONNECTIONS

| Function | Cable C / P | Cable L / RS | 7 pin J C / P | 7 pin J L / RS no Zero | 7 pin M C / P | 7 pin M L / RS no Zero | 10 pin J L / RS with Zero | 10 pin M L / RS with Zero | 5 pin M12 C / P | 8 pin M12 L / RS | 12 pin H | 5 pin C C / P | 8 pin C L / RS |
|----------|-------------|---------------|---------------|------------------------|---------------|------------------------|---------------------------|---------------------------|-----------------|------------------|----------|---------------|----------------|
| +V DC | red | red | 6 | 4 | F | D | 4 - 5 | D - E | 2 | 7 | 12 | 5 | 7 |
| 0 V | black | black | 1 | 6 | A | F | 6 | F | 4 | 1 | 10 | 1 | 8 |
| A+ | green | green | 3 | 1 | C | A | 1 | A | 3 | 6 | 5 | 2 | 1 |
| A- | / | brown or grey | / | 3 | / | C | 7 | G | / | 5 | 6 | / | 2 |
| B+ | yellow | yellow | 5 | 2 | E | B | 2 | B | 1 | 4 | 8 | 4 | 3 |
| B- | / | orange | / | 5 | / | E | 8 | H | / | 3 | 1 | / | 4 |
| Z+ | blue | blue | 4 | / | D | / | 3 | C | 5 | 2 | 3 | 3 | 5 |
| Z- | / | white | / | / | / | / | 9 | I | / | 8 | 4 | / | 6 |
| ≡ | shield | shield | 7 | 7 | G | G | 10 | J | housing | housing | 9 | / | / |

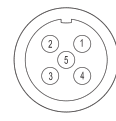
J connector (7 pin)
JIS-C-5432 Size 16
solder side view FV



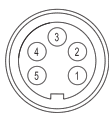
M connector (7 pin)
Amphenol MS3102-E-16-S
solder side view FV



M12 connector (5 pin)
M12 A coded
solder side view FV



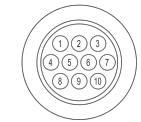
C connector (5 pin)
IEC 60130-9
solder side view FV



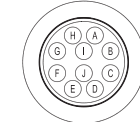
H connector (12 pin) - M23 CCW
Hummel 7.410.000000 -
7.002.912.603
solder side view FV



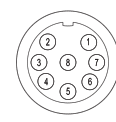
J connector (10 pin)
JIS-C-5432 Size 16
solder side view FV



M connector (10 pin)
Amphenol MS3102-E-18-1
solder side view FV



M12 connector (8 pin)
M12 A coded
solder side view FV



C connector (8 pin)
IEC 60130-9
solder side view FV

