

MAIN FEATURES

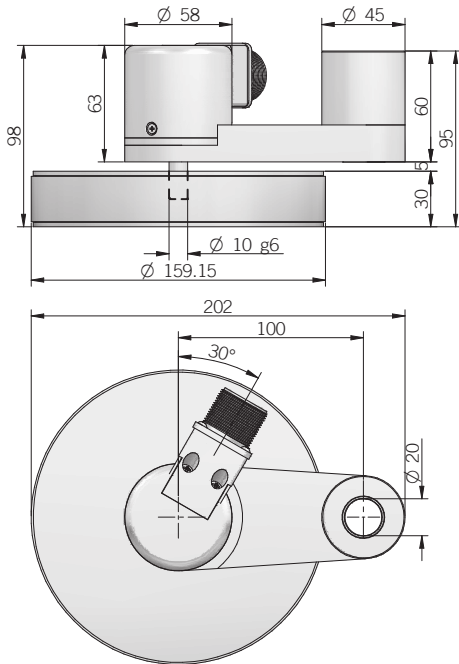
Measuring wheel series designed for specific industrial applications where is required to measure a linear movement (i.e. continuous sheet cutting machines of wood, textiles, glass, etc.). The body is entirely designed of aluminium and mounted using an oscillating arm pivoted on the shaft. The weight 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

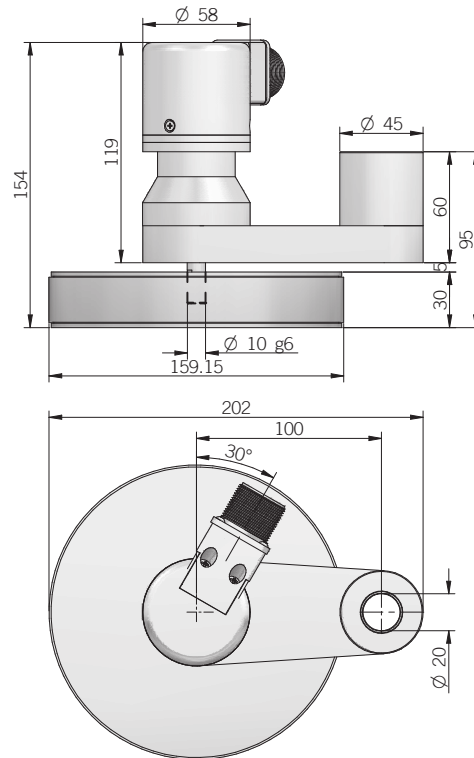


ORDERING CODE	RL500	A	500	S	5/28	P	10	X	3	M	R	.162	+XXX
	MODEL 500 mm measuring wheel - RL series RL500 500 mm measuring wheel - RM series RM500												
	WHEEL SURFACE smooth A knurled B rubberized C without wheel /												
	RESOLUTION (mod. RL) ppr from 10 to 2500 (mod. RM) ppr from 1 to 10000 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 5/28 V DC - 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 plug connector M JIS-C-5432 plug connector J M12 plug connector M12 M23 plug connector H IP40 M16 plug connector C												
	DIRECTION TYPE axial A radial R												
	SOCKET socket not included .162 to be reported only with connector output (eg. M12R.162), for socket see Accessories												
	VARIANT custom version XXX												

RL500



RM500



dimensions in mm

ELECTRICAL SPECIFICATIONS

Resolution	from 1 to 10000 ppr
Power supply¹	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 interface²	NPN open collector (AEIC-7273, pull-up max +30 V DC) push-pull / line driver HTL (AEIC-7272 or similar) line driver RS-422 (AELT-5000 or similar)
Max output frequency	250 kHz up to 6000 ppr / 500 kHz from 7200 ppr
Counting direction	A leads B clockwise (shaft view)
Index signal	180°e (gated A)
Mean time to dangerous failure (MTTF_p)³ according to EN ISO 13849-1	200 years
Mission time (Tm)³	20 years
Diagnostic coverage (DC)³	0%
Cable type	shielded - fixed installation conductors section 0,22 mm ² / AWG 24 bending radius min 60 mm
Electromagnetic compatibility	according to 2014/30/EU directive
RoHS	according to 2011/65/EU directive
UL / CSA	file n. E212495

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	∅ 10 mm
Enclosure rating IEC 60529	X = IP 64 S = IP 66
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)	< 0,03 Nm (4,25 Ozin) with X enclosure rating < 0,06 Nm (8,50 Ozin) with S enclosure rating
Bearing stage material	aluminum
Housing material	PA66 glass fiber reinforced
Shaft material	stainless steel
Support material	aluminum
Wheel material	aluminum
Surface material	Smooth / Knurled = aluminium Rubberized = PUR 50 ± 7 Shore A
Bearings	n.2 ball bearings n.2 ball bearings on support (mod. RM)
Bearings life	10 ⁹ revolutions
Operating temperature^{4,5}	-10° ... +70°C (+14° ... +158°F)
Storage temperature⁵	-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)

¹ as measured at the transducer without cable influences

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

³ this product is not a safety component, for further details refer to TECHNICAL BASICS section

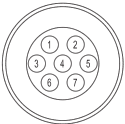
⁴ measured on the transducer flange

⁵ condensation not allowed

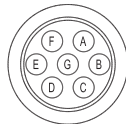
CONNECTIONS

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	/	/	9	/	/

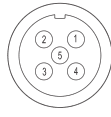
J connector (7 pin)
JIS-C-5432 Size 16
front view



M connector (7 pin)
Amphenol MS3102-E-16-S
front view



M12 connector (5 pin)
M12 A coded
front view



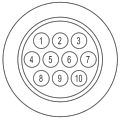
C connector (5 pin)
Amphenol C091 M16
front view



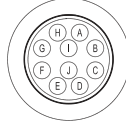
H connector (12 pin) - M23 CCW
Hummel 7.410.000000 - 7.002.912.603
front view



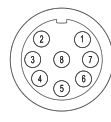
J connector (10 pin)
JIS-C-5432 Size 16
front view



M connector (10 pin)
Amphenol MS3102-E-18-1
front view



M12 connector (8 pin)
M12 A coded
front view



C connector (8 pin)
Amphenol C091 IEC 60130-9
front view

