

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**
 see table for pulses availability

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**

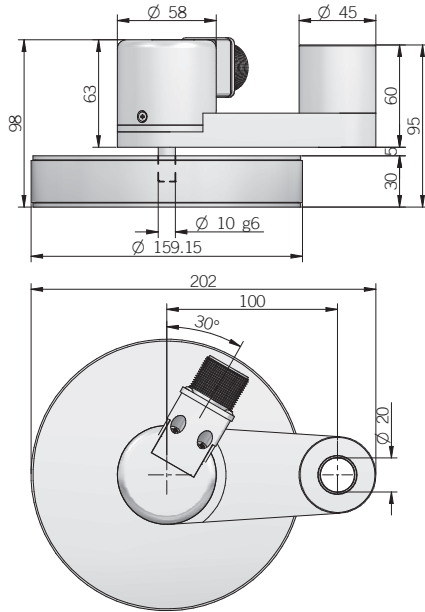
ENCLOSURE RATING
 IP 64 **X**
 IP 66 **S**

MAX ROTATION SPEED
 3000 rpm **3**

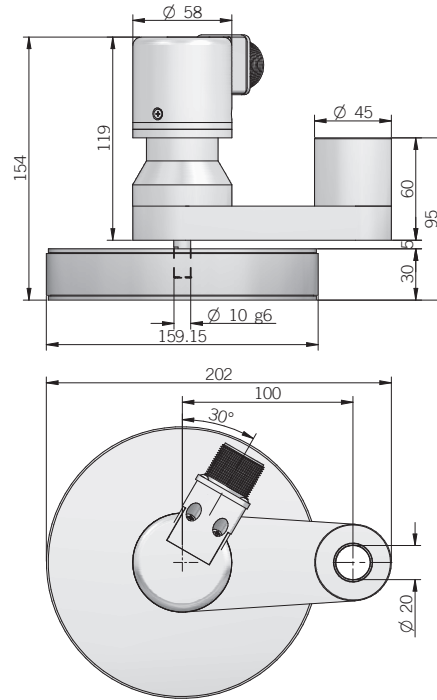
OUTPUT TYPE
 cable (standard length 1,5 m) **P**
 preferred cable lengths 2 / 3 / 5 / 10 m, to be added after DIRECTION TYPE (eg. PR5)
 MIL connector **M**
 JIS-C-5432 connector **J**
 M12 connector **M12**
 M23 connector **H**
 IP40 IEC 60130-9 connector **C**
 female connector included, without female 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	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
Output type*	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 2011/65/EU directive
UL / CSA certificate	E212495

* for further details please see OUTPUT LEVELS under TECHNICAL BASICS section

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

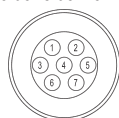
MECHANICAL SPECIFICATIONS

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	2 ball bearings 2 ball bearings on support (mod. RM)
Bearings life	10 ⁹ revolutions
Operating temperature	-10° ... +70°C (+14° ... +158°F)
Storage temperature	-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)

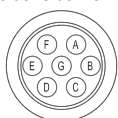
CONNECTIONS

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
Ch. A	green	green	3	1	C	A	1	A	3	6	5	2	1
Ch. A-	/	brown	/	3	/	C	7	G	/	5	6	/	2
Ch. B	yellow	yellow	5	2	E	B	2	B	1	4	8	4	3
Ch. B-	/	orange	/	5	/	E	8	H	/	3	1	/	4
Ch. Z	blue	blue	4	/	D	/	3	C	5	2	3	3	5
Ch. Z-	/	white	/	/	/	/	9	I	/	8	4	/	6
⏏	shield	shield	7	7	G	G	10	J	housing	housing	9	/	/

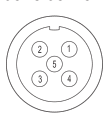
J connector (7 pin)
JIS-C-5432 Size 16
solder side view FV



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



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



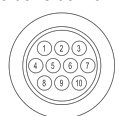
C connector (5 pin)
IEC 60130-9
solder side view FV



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



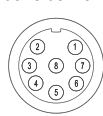
J connector (10 pin)
JIS-C-5432 Size 16
solder side view FV



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

