



## MHM5 SERIES

SSI ABSOLUTE MULTI-TURN ENCODER, MHM510-SSIR RANGE



### Features

MHM510, standard encoder Ø58mm with SSI interface:

- Robust and compact design
- Solid shaft version Ø 10 mm (06 mm available upon request)
- Precision ball bearings with sealing flange
- High temperatures performances  $-40^{\circ}\text{C} \dots +85^{\circ}\text{C}$
- Code disc made of unbreakable and durable plastic
- Mechanical memorisation of the number of turns by gears
- Resolution: 13 bits = 8192 steps/turn (max 16 bits)
- Number of Turns : 12 bits = 4096 turns (max 14 bits)
- Polarity inversion and short circuit protection
- Highly integrated circuit in SMD-technology

## SPECIFICATIONS

### Mechanical

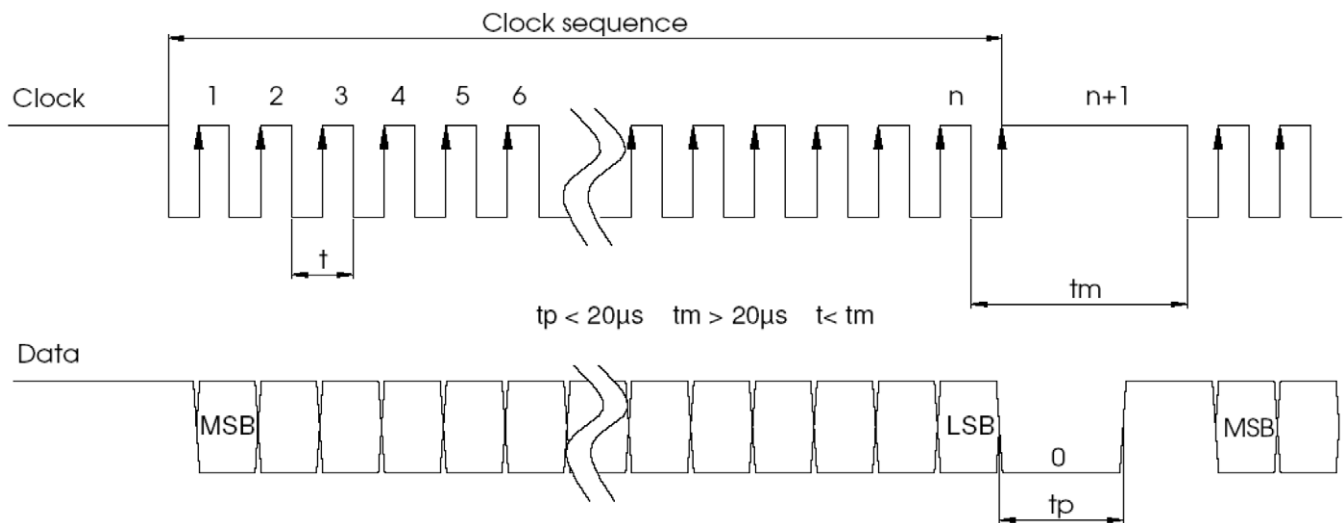
<b>Material</b>	<b>Cover:</b> Aluminum
	<b>Body:</b> Aluminum
	<b>Shaft:</b> Stainless Steel
<b>Max. Shaft Loading</b>	<b>Axial:</b> 40 N
	<b>Radial:</b> 110 N
<b>Shaft Inertia</b>	$\leq 30 \text{ g.cm}^2$
<b>Torque</b>	$\leq 3 \text{ N.cm}$
<b>RPM (Continuous Operation)</b>	6 000 tr/min
<b>Shock (EN 60068-2-27)</b>	$\leq 100 \text{ g}$ (half-sinus, 6 ms)
<b>Shock (EN 60028-2-29)</b>	$\leq 10 \text{ g}$ (half-sinus, 16ms)
<b>Vibrations (EN 60068-2-6)</b>	$\leq 10 \text{ g}$ (10Hz... 1 000Hz)
<b>Weight</b>	600 g
<b>Operating Temperature</b>	$-40 \dots +85^{\circ}\text{C}$
<b>Storage Temperature</b>	$-40 \dots +85^{\circ}\text{C}$
<b>Humidity</b>	98 % without Condensation
<b>Protection Class (EN 60529)</b>	IP65: cover

<b>Lifetime in 10<sup>8</sup> Revolutions with F<sub>a</sub> / F<sub>r</sub> (Axial / Radial)</b>		
40 N / 60 N	40 N / 80 N	40 N / 110 N
25	10	4

## Electrical

<b>Clock input</b>	via opto-coupleur
<b>Data output</b>	line - driver according RS422
<b>Clock frequency</b>	100kHz – 2MHz
<b>Accuracy</b>	+ ½ LSB
<b>Supply voltage</b>	4,75 – 30Vdc
<b>Cycle time (Reset)</b>	< 150 µs
<b>Turn on time</b>	< 1 s
<b>Power consumption</b>	max 1W
<b>Electrical life-time</b>	> 10 <sup>6</sup> h
<b>EMC</b>	EN 61000-6-4 EN 61000-6-2

## SSI TRANSMISSION

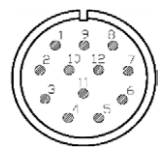


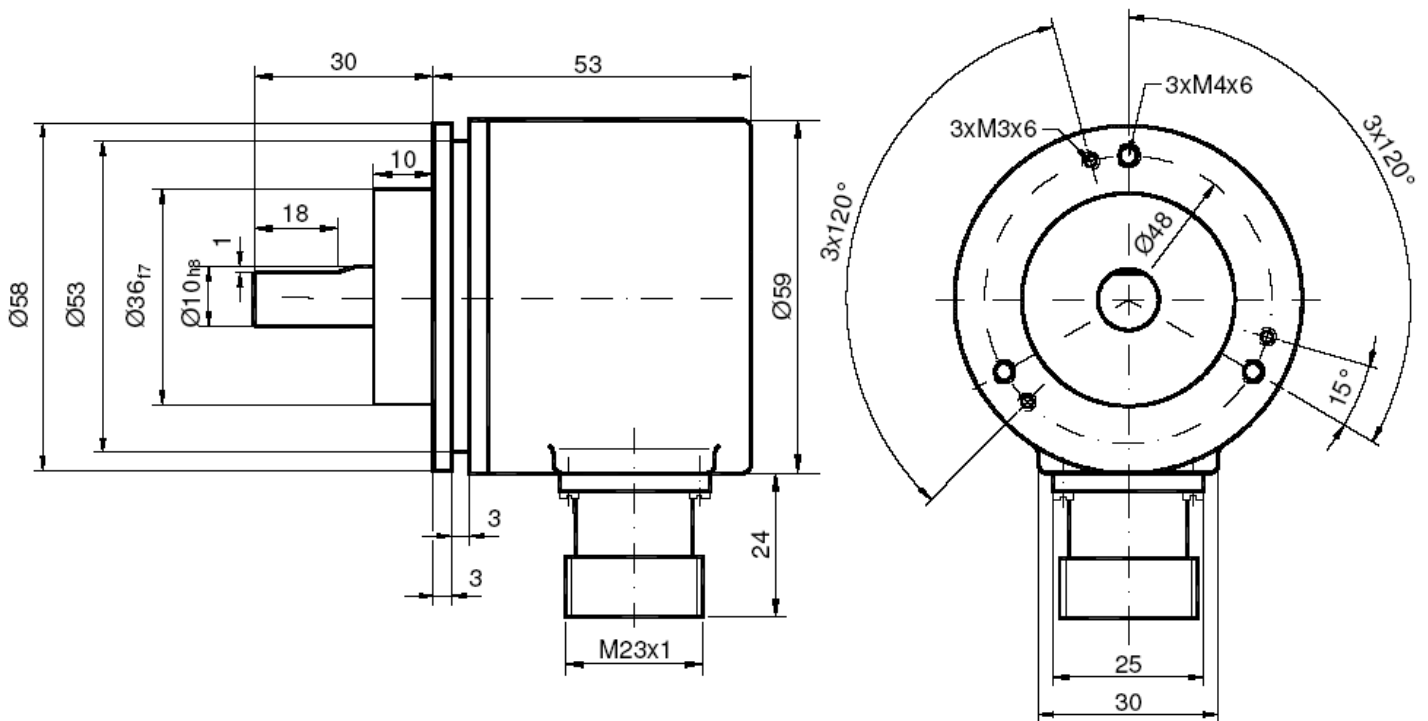
<b>Driver</b>	Driver meets EIA standard RS422 ; transmission rates up to 10 Mbits/s
<b>Transfer</b>	Transfert distance up to 1200m
<b>Transmission</b>	Balanced transmission provides high noise immunity
<b>Pair Lines</b>	Shielded and twisted pair lines are essential to attain extremely high noise immunity

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Type	CLK -	CLK +	DATA +	DATA -	DIRECTION	Reset	+ Ub 4,75-30Vdc	GND
S1	1	2	3	4	8	9	11	12

Pinning Encoder  
(Male)





Encoder counting direction for clockwise rotation (looking onto the shaft)	
0 (input = NC or GND)	Up counting
1 (input = +Ub or ≥ 4,5V)	Down counting

RESET of the position (Preset value = 0)	
0 (input = NC or GND)	Position
1 (input = +Ub or ≥ 4,5V)	Reset on down level (100ms)

## ORDERING REFERENCE

Example : MHM510-SSIR-001

	<b>MHM5</b>	<b>S1</b>	<b>01</b>	<b>G</b>	<b>12</b>	<b>13</b>	<b>B</b>	<b>15</b>	<b>0</b>	<b>PRL</b>
<b>Family</b>										
MHM5 Absolute multi turn encoder										
<b>Reset Function</b>										
S1										
<b>Version</b>										
01										
<b>Code</b>										
G: Gray										
<b>Number of Turns</b>										
12: 2 <sup>12</sup> (4096)										
<b>Resolution (pos./turn)</b>										
13: 2 <sup>13</sup> (8192)										
<b>Clamp Flange</b>										
C										
<b>Shaft Diameter</b>										
10: 10mm										
<b>Mechanical Options</b>										
0: Without mechanical options										
<b>Connector</b>										
PRL: Radial M23 connector										

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Mailing Address: Sensata Technologies, Inc., 529 Pleasant Street, Attleboro, MA 02703, USA

### CONTACT US

#### Americas

+1 (800) 350 2727  
sensors@sensata.com

#### Europe, Middle East & Africa

+33 (3) 88 20 8080  
position-info.eu@sensata.com

#### Asia Pacific

sales.isasia@list.sensata.com  
China +86 (21) 2306 1500  
Japan +81 (45) 277 7117  
Korea +82 (31) 601 2004  
India +91 (80) 67920890  
Rest of Asia +886 (2) 27602006  
ext 2808