

MHK5 | SSI ABSOLUTE MULTI-TURN ENCODER



Features

MHK510 encoder Ø58mm with SSI interface:

- Robust and compact conception
- Ø 15 mm blind shaft, reduction hubs available
- 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
- SSI transmission, GRAY code
- Resolution : 13 bits = 8192 steps/turn
- Number of turns : 12 bits = 4096 turns
- Polarity inversion and short circuit protection
- Highly integrated circuit in SMD-technology

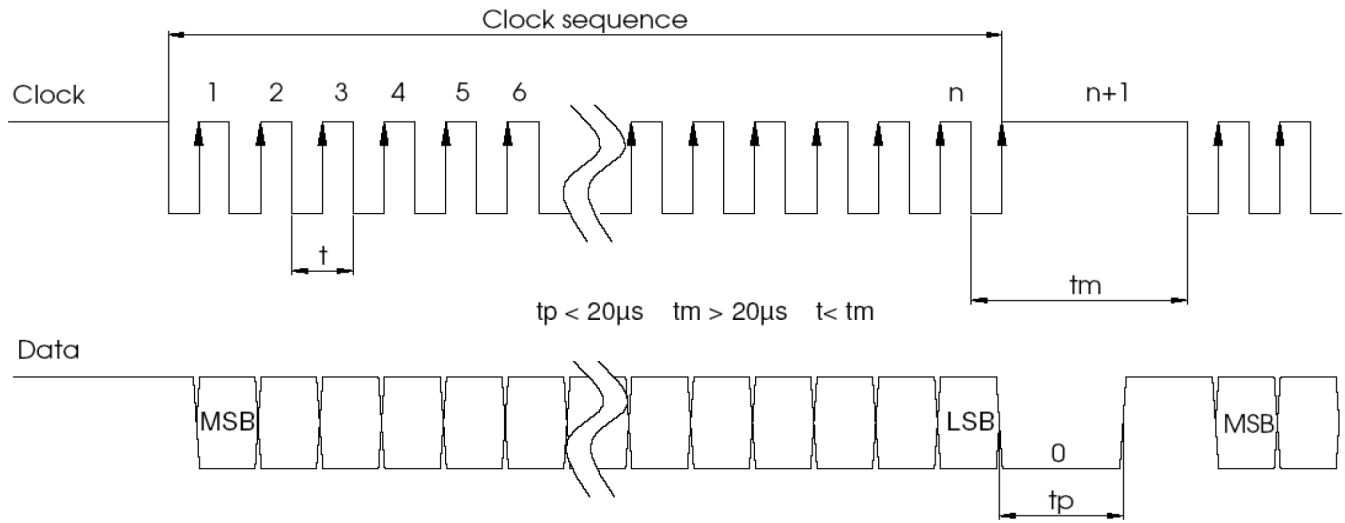


SPECIFICATIONS

Material (Stainless Steel Option)	Cover: Aluminum Body: Aluminum Shaft: Stainless Steel
Max. Shaft Loading	Axial: 40 N Radial: 110 N
Shaft Inertia	$\leq 30 \text{ g.cm}^2$
Torque	$\leq 3 \text{ N.cm}$
RPM (continuous operation)	6,000 RPM
Shock (EN 60068-2-27)	$\leq 100 \text{ g}$ (halfsinus, 6 ms)
Shock (EN 60028-2-29)	$\leq 10 \text{ g}$ (half-sinus, 16ms)
Vibration (EN 60068-2-6)	$\leq 10 \text{ g}$ (10Hz... 1 000Hz)
Weight (Aluminum Version)	600 g
Operating Temperature	$-40 \dots +85^{\circ}\text{C}$
Storage Temperature	$-40 \dots +85^{\circ}\text{C}$
Humidity	98 % without condensation
Protection (EN 60529)	IP65

Electrical

Clock Input	via opto-coupleur
Data Output	line - driver according RS422
Clock Frequency	100kHz – 2MHz
Accuracy	+ ½ LSB
Supply Voltage	4,75 – 30Vdc
Cycle Time (Reset)	< 150 µs
Turn On Time	< 1 s
Power Consumption	max 1W
Electrical Lifetime	> 10 ⁵ h
EMC	EN 61000-6-4 EN 61000-6-2



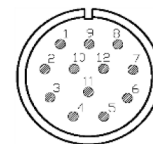
Driver	Driver meets EIA standard RS422 ; transmission rates up to 10 Mbits/s
Transfer	Transfert distance up to 1200m
Transmission	Balanced transmission provides high noise immunity
Pair Lines	Shielded and twisted pair lines are essential to attain extremely high noise immunity



ELECTRICAL CONNECTION ON M23 CONNECTOR, 12 PINOUTS

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

Pinning Encoder
(Male)



INPUTS

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

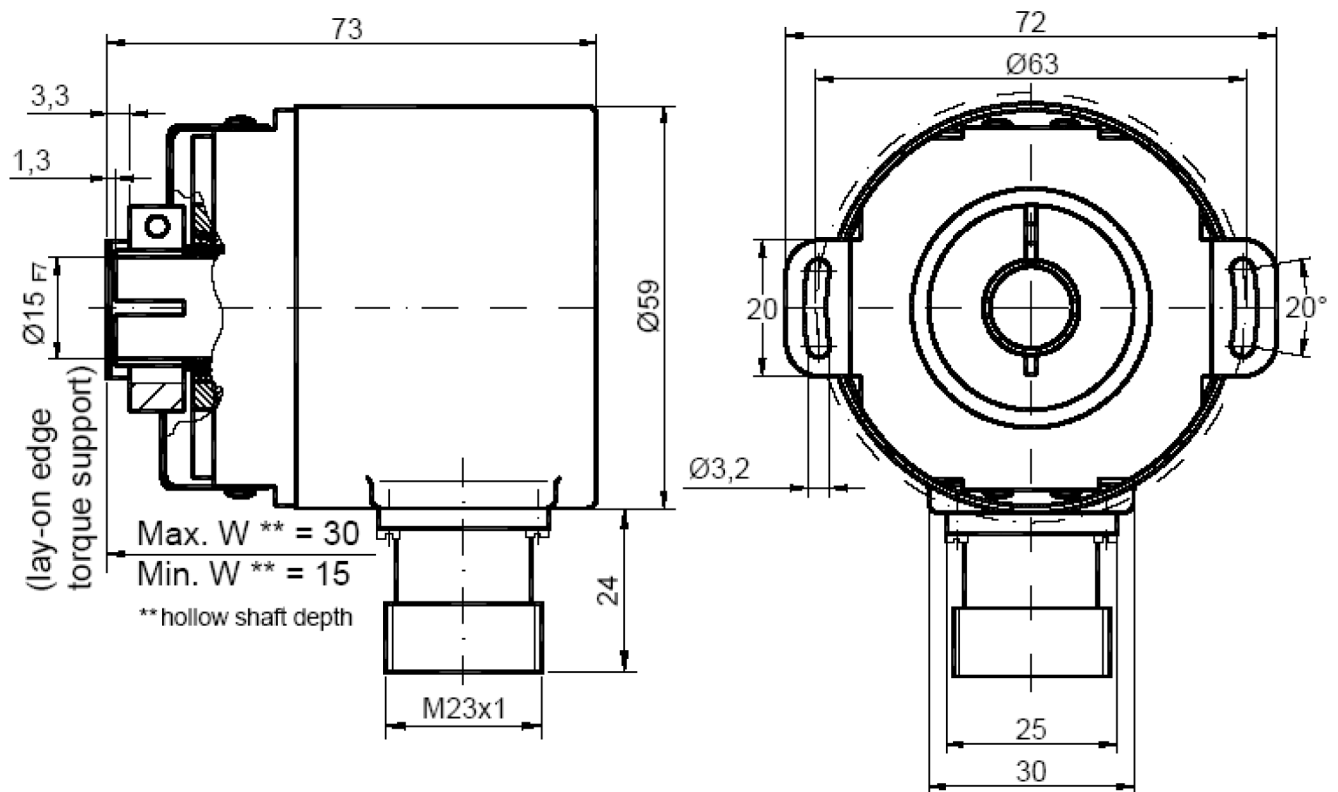
RESET of the position	
0 (input = NC or GND)	Position
1 (input = +Ub or $\geq 4,5V$)	Reset on down level (100ms)



DIMENSIONS

Dimensions in mm

MHK515-SSIR (radial 12 pinouts M23)



Allowed Shaft Movements	Axial	Radial
Static	± 0.3 mm	± 0.5 mm
Dynamic	± 0.1 mm	± 0.2 mm

Shaft diameter can be reduced to 12mm, 10mm or 8mm by reduction ring (by inserting them into the hollow shaft)



ORDERING OPTIONS

Example: MHK5-S1-01-G-12-13-B-15-0-PRL

	MHK5	S1	01	G	12	13	B	15	0	PRL
Family										
MHK5 Absolute multi turn encoder										
Reset Function										
S1										
Version										
01										
Code										
G: Gray										
Number of Turns										
12: 2¹² (4096)										
Resolution (pos./turn)										
13: 2¹³ (8192)										
Shaft										
B: Blind Shaft										
Shaft Diameter										
15: 15mm										
Mechanical Options										
0: Without mechanical options										
Connector										
PRL: Radial M23 connector										



AGENCY APPROVALS & CERTIFICATIONS



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