

GURLEY MODEL M58

ABSOLUTE ENCODER WITH SSI OUTPUT

MOTION TYPE:

ROTARY

USAGE GRADE:

INDUSTRIAL

OUTPUT:

ABSOLUTE

MAX RESOLUTION:

SINGLE-TURN: 2^{21}

MULTI-TURN: $2^{18} + 2^{40}$



INDUSTRIAL RUGGEDNESS, SINGLE OR MULTI-TURN

Major Features and Advantages:

- Up to 21-bit single-turn resolution available
- Up to 58-bit (18-bits/turn + 40-bit turns) gearless multi-turn resolution available
- Standard synchro flange
- SSI interface standard (RS-485) - 4 MHz clock frequency
- Accuracy: +/- 30 arcsec

The Model M58S with SSI output is a heavy-duty absolute rotary encoder with optical technology and standard SSI (RS485) interface, used in a wide variety of position sensing applications for measuring angles and distances.

It is available as a single-turn encoder with up to 21 bits of resolution (2,097,152 steps per revolution), or as a standard multi-turn with a range of 18-bit words/turn + 40-bit turns. The optical technology and magnetic sensors (for counting turns) allow the encoder to be gearless. A back-up battery is located inside the encoder and assures true absolute position even power is disrupted.

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ISO
9001
CERTIFIED

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SPECIFICATIONS

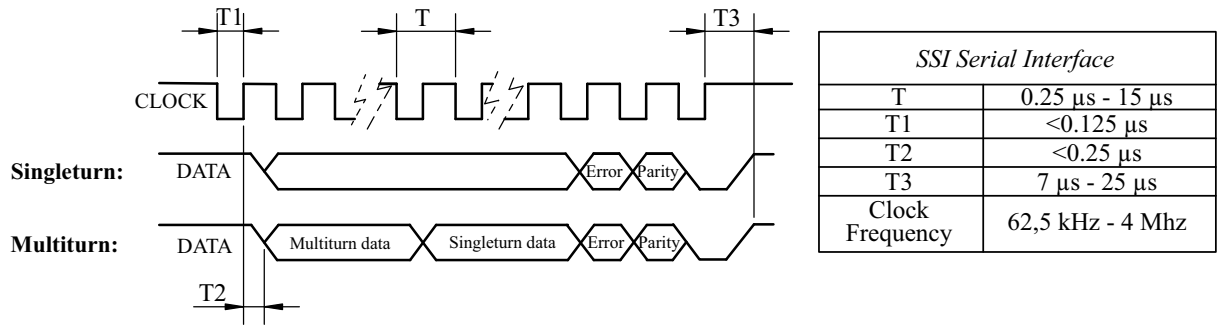
ELECTRICAL	
Clock frequency	62.5 kHz to 4 MHz
Data output	Line-driver according to RS 485
Operating frequency	4 MHz max
Accuracy	+/- 30 arcsec
Supply voltage	+5 VDC ±0.25 V
Current consumption	50mA max
Output code format	Gray code or Natural Binary
MECHANICAL	
Moment of inertia	≤15 gcm ² (2.1 x 10 ⁻⁴ in-oz-s ²)
RPM	Max. 12,000 (mechanical)
Shock	≤100g (11 ms)
Sealing protection	IP65 (IP67 optional)
Humidity, %rh, non-condensing	98
Vibration	≤10g (55 Hz to 2,000 Hz)
Max shaft loading	Axial 10 N (2 lb); Radial 20 N (4 lb)
Starting torque @ 20C	≤0.01 Nm (1.4 in-oz)
Maximum weight, oz (g)	10.6 (300) without cable
ENVIRONMENTAL	
Operating temperature	- 10°C to + 70°C (14°F to 158°F)
Storage temperature	- 30°C to + 80°C (-22°F to 176°F)
Humidity	98 % (non-condensing)
Light source	LED
Maximum cable length	25m

As part of our continuous product improvement program these specifications are subject to change without notice.



SYNCHRONOUS SERIAL INTERFACE (SSI)

SSI Serial Interface



ELECTRICAL INTERFACE

Function		Wire color (CONN = P)	DE-9P (CONN = S)	M23 (CONN = M)
Clock -	INP	Light Blue	3	4
Clock +	INP	White	2	3
Data +	OUT	Green	6	5
Data -	OUT	Orange	7	6
V = +5 V or 10-30 V	PWR	Red	5	2
GND	PWR	Blue	9	1
Shield		Shield	1	Housing

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ORDERING INFORMATION

M58

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SHAFT IN OC RES OF TURNS BASE TEMP CABLE EXIT CONN DIA SF

SHAFT - Shaft type

S Solid shaft

BASE - Base mounting options

A Synchro/face, M23 connector (BASE A only)
B Synchro/face, cable clamp connector
C Synchro/face, side-exit cable

IN - Input voltage

5 +5 VDC input voltage

TEMP Temperature

N -10 to 70 Celsius

OC - Output code

B Natural Binary
G Gray code

CABLE - Cable length, inches

40 40" Standard
00 With BASE code A

RES - Resolution/turn

09 - 18 9-bits - 18-bits/revolution

EXIT - Cable exit or connector location

T Top exit
S Side exit

OF - Output format

S SSI

CONN - Connector type

P Pigtails (no connector)
S DE-9P
M M23 (see wiring table)

TURNS - Number of turns

00 Single-turn
09 - 40 9-bit - 40-bit revolutions

DIA - Shaft diameter

06M 6 mm shaft diameter

SF - Special Features

N No special features
Issued at time of order to cover special customer requirements

SPECIAL CAPABILITIES

For special situations, we can optimize catalog encoders to provide higher frequency response, greater accuracy, wider temperature range, reduced torque, non-standard line counts, or other modified parameters. In addition, we regularly design and manufacture custom encoders for user-specific requirements. These range from high-volume, low-cost, limited-performance commercial applications to encoders for military, aerospace and similar high-performance, high-reliability conditions. We would welcome the opportunity to help you with your encoder needs.

WARRANTY

Gurley Precision Instruments offers a limited warranty against defects in material and workmanship for a period of one year from the date of shipment.

