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RST 59 - SSI

Absolute single-turn encoder

- shockproof up to 200 g
- electronical adjustment
- high code change frequency
- 18 bit resolution

Technical data

Resolution	18 Bit
Steps/Turn	262.144 S/T
Turns	1
Code	Gray, Binary
Interface	SSI

Electrical data

Operating voltage	UB = 10...30 VDC
Current consumption	Max. 80 mA (w/o load), at 24 VDC
Code change frequency	26 MHz
SSI Pulse frequency	62,5 kHz bis 1,5 MHz
Monoflop time	20µs
Pulse break	Min. 25 µs
Accuracy	± 0,01°

Inputs

Level High	> 0,7 UB
Level Low	< 0,3 UB

Connection: zeroing input with 10 kohms against GND. The change of rotation is only in the factory possible. Delivery status CW

Outputs

SSI Data	RS 422

Mechanical data

Speed (mechanical)	≤ 10.000 min $^{-1}$
Speed (electrical)	≤ 6.000 min $^{-1}$
Start-up torque	< 0,015 Nm
Shaft loading	< 40 N radial < 20 N axial
Moment of inertia	18,4 x 10^{-7} kgm^2

Material

Housing	Steel
Flange	Aluminium
Weight	approx. 600 g

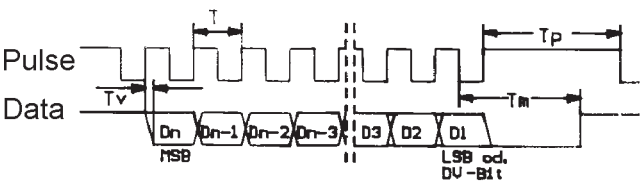
Ambient conditions

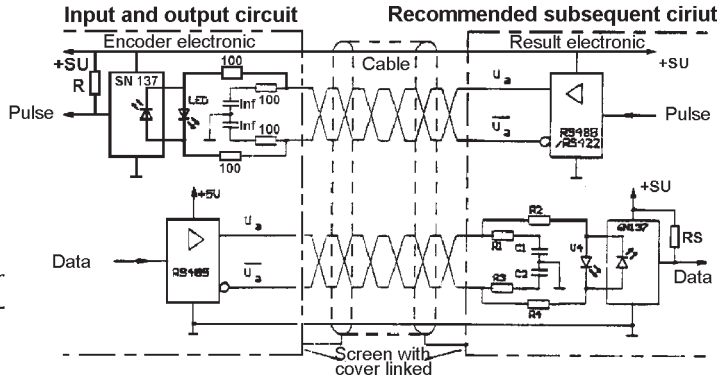
Vibration	DIN EN 60068-2-6 ≤ 100 ms^{-2} (10..2000 Hz)
Shock	DIN EN 60068-2-27 ≤ 500 m/s^2,11 ms
Operating temperature	- 20... + 85° C
Storage temperature	- 20... + 85° C
Humidity	Max. relative humidity 95 % no-condensing
Protection type	IP 64
Interference resistance	DIN EN 61000-6-2
Emitted interference	DIN EN 61000-6-4

Contact description

1 UB	Encoder power supply connection
2 GND	Encoder ground connection. The voltage drawn to GND is UB.
3 Pulse +	Positive SSI pulse input. Pulse - forms a current loop with pulse +. A current of approx. 7 mA in direction of Pulse + input generates a logical 1 in positive logic.
4 Data +	Positve, serial data output of the differential line driver. A High level at the output corresponds to logical 1 in positive logic.
5 Adjustment	Zero setting input for setting a zero point at any desired point within the entire resolution. The zeroing process is triggered by a High pulse (pulse duration≥ 100 ms) For maximum interference immunity, the input must be connected to GND after zeroing.
6 Data -	Negative, serial data output of the differential line driver. A High level at the output corresponds to logical 0 in positive logic.
7 Pulse -	Negative SSI pulse input. Pulse - forms a current loop with pulse +. A current of approx. 7mA in direction of Pulse - input generates a logical 0 in positive logic.
8	not in use
9	not in use
10	not in use
11	not in use
12	not in use

SSI (Synchron serielles Interface)





PIN - assignment RST 59 - SSI

Signal	PIN	Cable colour
UB	1	brown
GND	2	white
Pulse +	3	green
Data +	4	pink
Nulljustage	5	black
Data -	6	gray
Pulse -	7	yellow
not in use	8	-
not in use	9	-
not in use	10	-
not in use	11	-
not in use	12	-

Instructions:

Zero adjustment for setting a zero point at any desired point within the entire resolution.
The zeroing process is triggered by a High pulse (pulse duration ≥ 100 ms).

For maximum interference immunity, the input must be connected to GND after zeroing.

Please refer to the supply voltage stated on the nameplate.
Do not occupy any signals which are not required.

Type key of encoder

Encoder type	Bit/Turn	Turns	Code	Voltage	Flange	Output
RST 59	18 = 262.144 S/T	01 = 1 T	G = Gray	3 = 10 - 30 VDC	W 1 = 10 mm shaft clamping flange	KS = Cable radial
RST 59			B = Binary			SS = 12pol. plug radial
RST 59						
RST 59						
RST 59	**18**	**01**	_____	**3**	**W1**	_____

Dimension and cutout RST 59 - SSI