

Quality - made in Germany



## RSE 58 - SSI

### Absolute multi-turn encoder

- shockproof up to 200 g
- PC-programmable (RS 232)
- electrical adjustment
- total resolution parameterizable
- Singleturn resolution up to 13 Bit
- Multiturn resolution up to 29 Bit

#### Technical data

Code	Gray, Binary
Max.resolution	<b>Singleturn</b> 10 Bit = 1.024 S/T 13 Bit = 8.192 S/T <b>Multiturn</b> 26 Bit = 1.024 S/T x 65.536 T 29 Bit = 8.192 S/T x 65.536 T

#### Electrical data

Operating voltage	UB = 10...30 VDC
Current consumption	Max. 100 mA (w/o load), at 24 VDC

Code change frequency	Max. 800 kHz
SSI pulse frequency	62,5 kHz to 1,0 MHz
Monoflop time	20 µs
Pulse break	25 µs
Accuracy	± 0,025° with 400 kHz ± 0,05° with 800 kHz

#### Inputs

Control signals	CW/CCW and adjustment
Level High	> 0,7 UB
Level Low	< 0,3 UB

#### Connection:

UP/DOWN input with 10 kohms against UB, zeroing input with 10 kohms against GND  
 Optocoupler input for electrical isolation.

SSI-pulse

#### Outputs

SSI data	RS 485 - Driver
Special outputs	
Level High	> UB - 3,5 V (with I = 15 mA)
Level Low	< 0,5 V (with I = 15 mA)

#### Mechanical data

Speed (mechanical)	≤ 10.000 min <sup>-1</sup>
Speed (electrical)	≤ 6.000 min <sup>-1</sup>
Start-up torque	< 0,015 Nm
Shaft loading	≤ 40 N radial 20 N axial
Moment of inertia	2 x 10 <sup>-6</sup> kgm <sup>2</sup>

#### Material

Housing	Steel
Flange	Aluminium
Weight	approx. 600 g

#### Ambient conditions

Vibration	DIN EN 60068-2-6 ≤ 100 m/s <sup>2</sup> , 16...2000 Hz
Shock	DIN EN 60068-2-27 ≤ 2.000 m/s <sup>2</sup> , 6 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

#### The following characteristics of the encoder are programmable:

- Code-Art Gray / Binary
- Direction of turn CW/CCW
- Electrical adjustment
- Steps per revolution
- Total resolution
- Special bits in the SSI-protocol
- Number of data bits (conditional)
- Monoflop time (conditional)

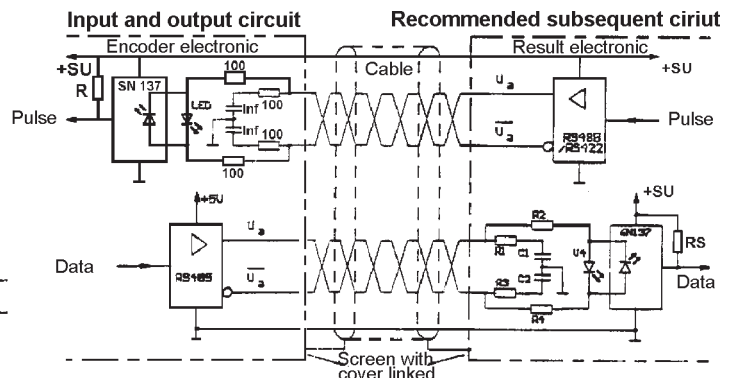
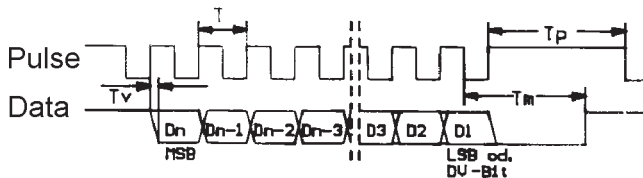
**Contact description 8pol. plug**

- 1 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.
- 2 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.
- 3 Data + Positive, serial data output of the differential line driver. A High level at the output corresponds to logical 1 in positive logic.
- 4 Data - Negative, serial data output of the differential line driver. A High level at the output corresponds to logical 0 in positive logic.
- 5 Adjustment Electronic adjustment (takeover of the pre-programmed value) can be done by generating a steep edge from GND to UB (is activated with a falling edge). Adjustment must be done after selecting the direction of rotation (CW/CCW). Set to GND for max. immunity after adjustment. Impulse length  $\geq 100$  ms.
- 6 CW/CCW CW/CCW determines the direction of turn. From the point of view of the shaft CW means that the code increases when the shaft turns to the right. When the GND is added, the code changes to CCW (descending sequence). The unit leaves the factory in CW.
- 7 GND Encoder ground connection.
- 8 UB Encoder power supply connection.

**Contact description 5pol. plug**

- 1 UB Interface power supply connection
- 2 Rx D Receiving input of the encoder for the RS 232 programming interface
- 3 GND Prog Mass connection of the interface
- GND B
- TxD Transmitting output of the encoder for the RS 232 programming interface

**SSI (Synchron serielles Interface)**



# Connection assignment RSE 58 - SSI

PIN	5pol. plug*	8pol. plug
1	UB	Pulse +
2	RxD	Pulse -
3	GND Prog	Data +
4	GND B	Data -
5	TxD	Adjustment
6	-	CW/CCW
7	-	GND B
8	-	UB

**Instructions:**  
 Programming the sensor is via the RS232 (please request our programming handbook), the programming software, and the connection cable from sensor ↔ PC (if you wish, the sensors can be pre-programmed before they leave our factory).

CW/CCW determines the direction of turn. From the point of view of the shaft CW means that the code increases when the shaft turns to the right. When the GND is added, the code changes to CCW (descending sequence). The unit leaves the factory in CW.

Electronic adjustment (takeover of the pre-programmed value) can be done by generating a steep edge from GND to UB (is activated with a falling edge). Adjustment must be done after selecting the direction of rotation (CW/CCW). Set to GND for max. immunity after adjustment. Impulse length ≥100 ms.

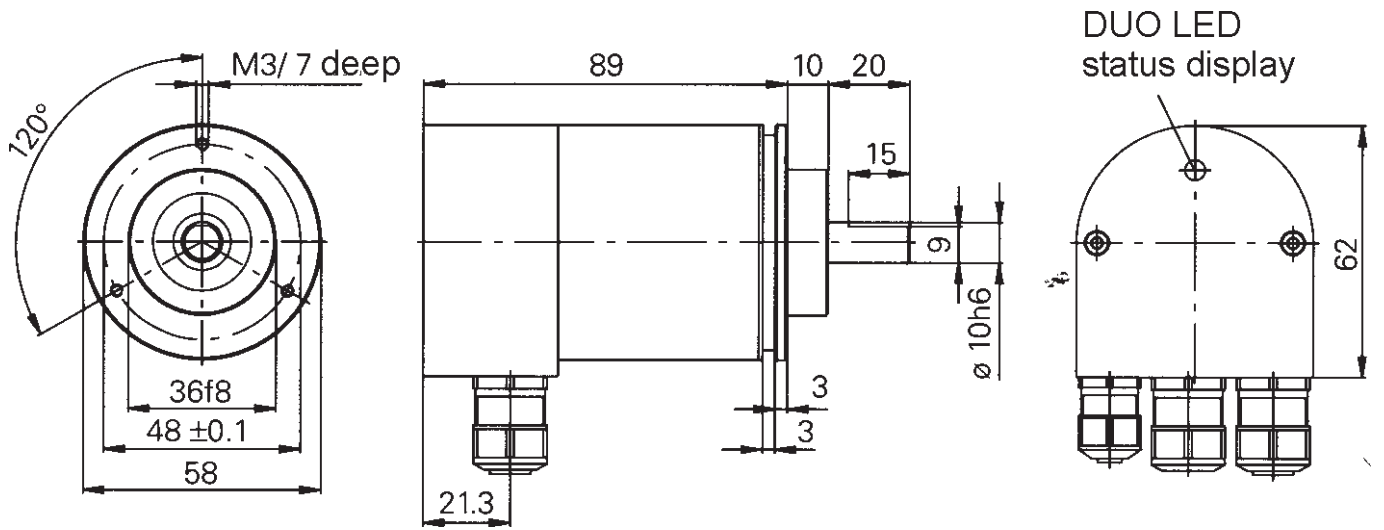
Please refer to the supply voltage stated on the nameplate.

## Type key of encoder

Encoder type	Steps/T - Turns	Voltage	Code	Flange	Output
RSE 58	10 = 10 Bit 1.024 S/T x 1 T	3 = 10 - 30 VDC	P = programmable	W1 = 10 mm shaft clamping flange	DS = Bus cover sideways movement out
RSE 58	26 = 26 Bit 1.024 S/T x 65.536 T			V6 = 6 mm shaft servo flange	
RSE 58	13 = 13 Bit 8.192 S/T x 1 T				
RSE 58	29 = 29 Bit 8.192 S/T x 65.536 T				
RSE 58	_____	3	P	_____	DS

# Dimension and cutout RSE 58 - SSI

10 mm shaft, clamping flange



Optional: 6 mm shaft, servo flange

