

Quality - made in Germany



RSE 59 - SSI

Absolute multi-turn encoder

- shockproof up to 200 g
- PC-programmable (RS 232)
- electronical adjustment
- total resolution parameterizable
- Singleturn resolution up to 18 Bit
- Multiturn resolution up to 31 Bit

Technical data

| | |
|------------------------|---|
| Code | Gray, Binary |
| Max. resolution | Singleturn 18 Bit = 262.144 S/T Multiturn 31 Bit = 262.144 S/T x 8.192 T |
| Electrical data | |
| Operating voltage | UB = 10...30 VDC |
| Current consumption | Max. 100mA (w/o load), at 24 VDC |
| Code change frequency | Max. 26 MHz |
| SSI pulse frequency | 62,5 kHz to 1,0 MHz |
| Monoflop time | 20 µs |
| Pulse break | 25 µs |
| Accuracy | ± 0,01° |
| Inputs | |
| Control signals | CW/CCW and adjustment |
| Level High | > 0,7 UB |
| Level Low | < 0,3 UB |
| Connections: | UP/DOWN input with 10 kohms against UB, zeroing input with 10 kohms against GND |
| SSI-pulse | Optocoupler input for electrical isolation. |
| 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 ⁻¹ |
| Speed (electrical) | ≤ 6.000 min ⁻¹ |
| Start-up torque | < 0,015 Nm |
| Shaft loading | ≤ 40 N radial 20 N axial |
| Moment of inertia | 2 x 10 ⁻⁶ kgm ² |

Material

| | |
|---------|---------------|
| Housing | Aluminium |
| Flange | Aluminium |
| Weight | approx. 600 g |

Ambient conditons

| | |
|-------------------------|---|
| Vibration | DIN EN 60068-2-6 ≤ 100 m/s ² , 16...2000 Hz |
| Shock | DIN EN 60068-2-27 ≤ 2.000 m/s ² , 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
- Electronical adjustment
- Steps per revolution
- Total resolution
- Special bits in the SSI-protocol
- Number of data bits (conditional)
- Monoflop time (conditional)

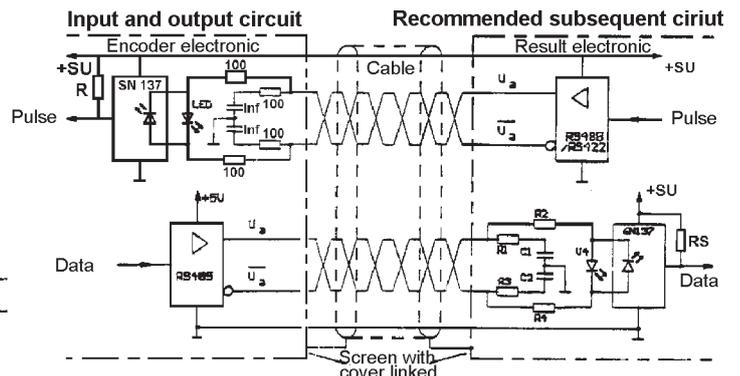
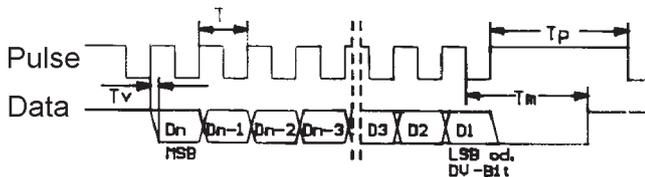
Contact description 8pol. plug

- 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 ≥ 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 RxD 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 59 - 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 59 | 18 = 18 Bit 262.144 S/T x 1 T | 3 = 10 - 30 VDC | P = programmable | W1 = 10 mm shaft clamping flange | DS = Bus cover sideways movement out |
| RSE 59 | 31 = 31 Bit 262.144 S/T x 8.192 T | | | V6 = 6 mm shaft servo flange | |
| RSE 59 | — | 3 | P | — | DS |

