

Multiturn Type 5862 SSI, programmable



- Electronic multiturn gear with intelligent sensing technology (IST)
- Resolution: up to 8192 (13 bits) per revolution, 4096 (12 bits) revolutions
- Programmable parameters include*: code type, resolution per revolution, total resolution, direction of rotation (cw or ccw), zero point
- Only 66 mm clearance needed

- Housing \varnothing 58 mm
- Shaft \varnothing 6 or \varnothing 10 mm
- SSI interface, additional interfaces include RS 485 and OEM specific protocols
- Protection IP 65
- Shock resistant up to 250 g
- Contactless multiturn stage
- Four programmable outputs
- With optional incremental track 2018 ppr.

* with optional programming kit (Ezturn®) see accessories

Mechanical characteristics:

Speed:	max. 6 000 min ⁻¹
Rotor moment of inertia:	appr. 1,8 x 10 ⁻⁶ kgm ²
Starting torque shaft version:	< 0,01 Nm
Radial load capacity of shaft: ²⁾	80 N
Axial load capacity of shaft: ²⁾	40 N
Weight:	appr. 0,4 kg
Protection acc. to EN 60 529:	IP 65
Working temperature:	-20° C ... +70 °C
Operating temperature:	-20° C ... +80 °C
Shaft:	stainless steel
Shock resistance acc. to DIN-IEC 68-2-27	2500 m/s ² , 6 ms
Vibration resistance acc. to DIN-IEC 68-2-6:	100 m/s ² , 10 ... 2000 Hz

²⁾ for shaft version only (at shaft end)

Electrical characteristics:

Interface type:	Synchronous-Serial (SSI)	SSI with incremental track (A, B)
Supply voltage (U _B):	5,0 ... 30 V DC ³⁾⁴⁾	
Output driver:	RS 485	RS 422
Current consumption type.:	89 mA	20 mA
(no load) max.:	138 mA	-
Permissible load/channel:	max. +/-20 mA	20 mA
Update rate:	max. 1600/s	-
SSI pulse rate min./max./pulse frequency:	100 kHz/500 kHz	200 kHz
Signal level high:	type. 3,8 V	4,5 V
Signal level low (I _{Load} = 20 mA):	type. 1,3 V	0,5 V
Rise time t _r (without cable):	max. 100 ns	max. 200 ns
Fall time t _f (without cable):	max. 100 ns	max. 200 ns
Short circuit proof outputs: ¹⁾	yes ²⁾	Yes
Reverse connection protection at U _B :	yes	Yes
Conforms to CE requirements acc. to EN 50082-2, EN 50081-2 and EN 55011 Class B		
Performance against magnetic influence acc. to EN61000-4, 5		

¹⁾ when U_B supply voltage correctly applied U_B

²⁾ Only one channel at a time: When U_B = 5 V DC, short-circuit to output, 0 V and + U_B is permitted. When U_B < 5 V DC short-circuit to output and 0 V is permitted.

³⁾ Optional status bit

⁴⁾ Please note: the minimum voltage supply must be 5.0 V DC

Divisions and code types available at short notice:

- 24 Bit Binary / Gray
- 25 Bit Binary / Gray

Other divisions and code types on request

Patented "Integrated Technology®" uses single board construction, deliberate assembly techniques, and two ASIC design:

- Shock up to 250gs
- Higher vibration specs and thermal shock performance
- Lower parts count, elimination of potentiometers
- Higher resistance to EMI

Electronic multiturn increases performance, eliminates gears

- Reliability - No backlash errors, resistant to EMI, lower parts count
- Higher life - No mechanical wear, lower internal temperature
- Higher performance - Higher operating speeds
- Lower profile - compact size, hollow shaft
- Economical - Lower cost

Patented "Intelligent Sensing Technology®"

- Multiturn design that protects encoder from EMI and increases battery life to 10 years.
- The battery outlasts both application requirements and system components (LEDs & bearings)
- Redundant multiturn sensors and counters increase reliability & life
- Active system output monitoring using digital filters to compare data to logical & target bits.

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Control inputs:

Up/down input to switch counting direction

As a standard, absolute encoders deliver increasing code values when the shaft rotates clockwise (cw), when looking from the shaft side. When the shaft rotates counter-clockwise (ccw), the output delivers decreasing code values. If a corresponding signal (high) is applied to this input when switching on the power supply, this feature is reversed. Clockwise rotation will deliver decreasing code values while

counter-clockwise rotation will deliver increasing code values. Response time: at 5-30 V DC supply voltage, 10 ms.

SET input

This input is used to reset (to zero) the encoder. A control pulse (high) sent to this input allows storing the current position value as new zero position in the encoder.

Note :

before activating the SET input after supplying the encoder with the supply voltage, a counting direction (cw or ccw) must be defined univocally on the Up/down input! Response time: at 5-30 V DC supply voltage, 10 ms.

Switching level of the control inputs:

low	max. 25% U_B
high	min. 60% U_B , max. U_B
Max. current input	$\leq 0,5$ mA

HW-Setting	SW-Setting	Function
cw	cw	cw
ccw	cw	ccw
cw	ccw	ccw
ccw	ccw	ccw

Encoder outputs

Output	Default-function:
A1:	battery control*
A2:	not activated*
A3:	not activated*
A4:	not activated*

*programmable with the optiona programming software Ezturn®

Electrical characteristics of the outputs:

Permissible load/channel:	$\pm 9,0$ mA
Signal level	high: min. $U_B - 3,0$ V low: max. 1,5 V
Rise time:	max. 240 μ s
Fall time:	max. 300 μ s

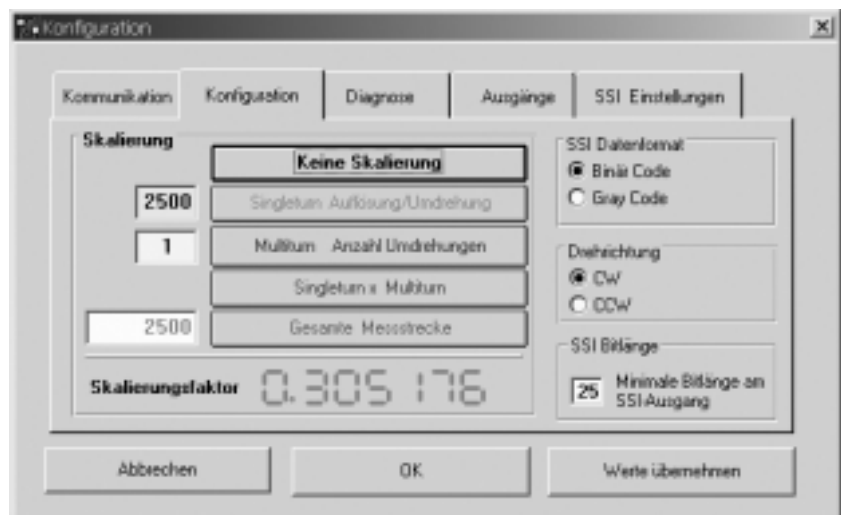
The outputs are not activated in the factory setting (default). They can be activated and defined with the optional Ezturn® programming software e.g. limit switch, overspeed and temperature control etc.

Programmable function with optional Ezturn® software

Programmable features with optional a programming tool Ezturn®:

- Type of code
- Resolutions per revolution
- Number of revolution
- Total resolution
- Direction of rotation
- Offset for mechanical zero point compensation etc....

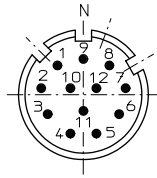
Programming tool Ezturn



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Top view of mating side::

12 pin plug



Order code:

8.5862.XXXX.XXXX

Range		SSI-Interface*
Flange	1 = Clamping flange 2 = Synchronous flange	2001 = 4096 x 4096 (24-Bit), Binary 2002 = 8192 x 4096 (25-Bit), Binary 2003 = 4096 x 4096 (24-Bit), Gray 2004 = 8192 x 4096 (25-Bit), Gray
Shaft (ø x L)	1 = ø 6 mm x 10 mm 2 = ø 10 mm x 20 mm	RS 485-Interface, halfduplex 3001 = ESC protocol, max. 38400 baud
Interface	2 = SSI 5 ... 30 V DC 3 = RS 485, halfduplex 5 ... 30 V DC 5 = SSI, 5 ... 30 V DC, with incremental track 2048 ppr.	*This factory set (default) resolution can be re-programmed by using the Ezturn® software.
Type of connection	1 = Axial cable (1 m PVC-cable) 2 = Radial cable (1 m PVC-cable) 3 = Axial 12 pin plug 4 = Radial 12 pin plug 5 = Axial cable (2 m PVC-cable) 6 = Radial cable (2 m PVC-cable) 7 = Axial cable (3 m PVC-cable) 8 = Radial cable (3 m PVC-cable) 9 = Axial cable (5 m PVC-cable) A = Radial cable (5 m PVC-cable) B = Axial cable (8 m PVC-cable) C = Radial cable (8 m PVC-cable) D = Axial cable (10 m PVC-cable) E = Radial cable (10 m PVC-cable) F = Axial cable (15 m PVC-cable) G = Radial cable (15 m PVC-cable)	

Accessories:

Corresponding mating connector to connection type 3 +4
Order code 8.0000.5012.0000

Programming kit Ezturn® includes
- Interface converter
- Connection cable with the interface converter encoder – PC
- 90-250 V AC power supply
- CD-ROM with Ezturn® software
Order code 8.0010.9000.0004

Further accessories see encoder catalogue, accessories chapter