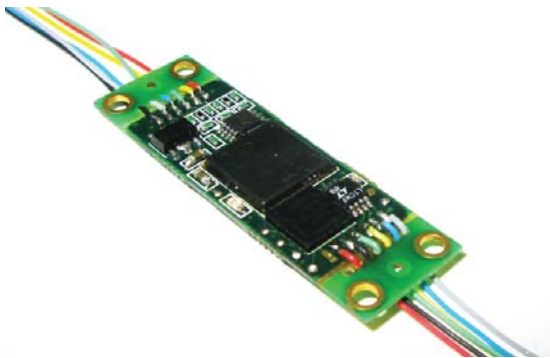


SC2SSi - Analog to SSi interpolator for absolute position, Electric Encoder™



The Analog to SSi Interpolator - **SC2SSi** provides (SSi) conversion of the native analog signals to full rotation absolute position and Synchronous Serial interface.

The SC2SSi provides:

- Real time servo feedback
- Setup and Configuration via (RS-422 & NCP)
- Online monitoring

Electrical	
Supply voltage	5V ± 5%
Interconnection	250 mm Teflon - insulated, loose AWG-32 wires
Current consumption	~ 180 mA
Environment - common to all types	
Operating temperature range	-40°C to +85°C
Relative humidity	<98 % - non condensing
Shock endurance	IEC 60068-2-27 ; 100 g for 11 ms
Vibration endurance	IEC 60068-2-6 ;20 g 10 – 2000 Hz

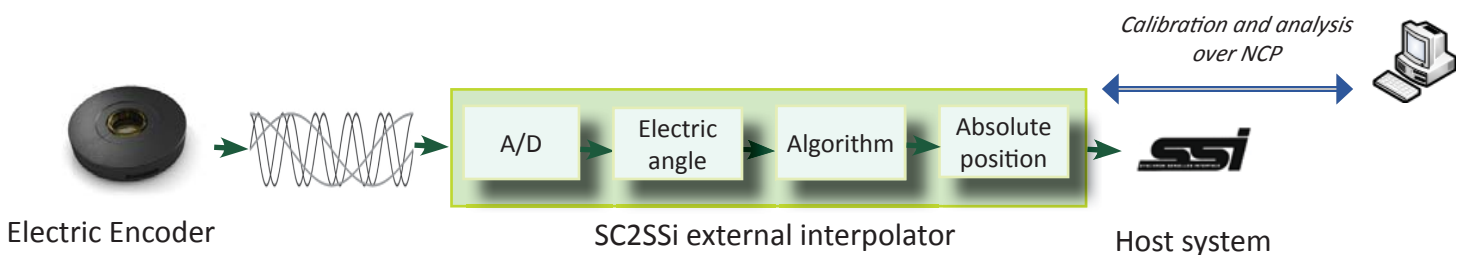
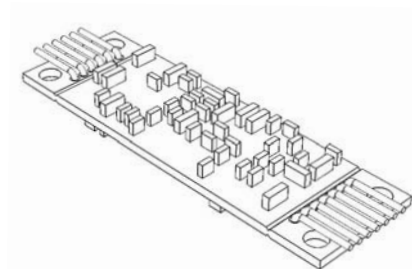
The SSi transmits the absolute position data from the Electric Encoder™ in response to the controller clock pulses. The Electric Encoder™ and controller are linked by clock and data differential signal lines.

The final performance in terms of accuracy and resolution are according to the original characteristics of the Electric Encoder™ and the interpolator setup.

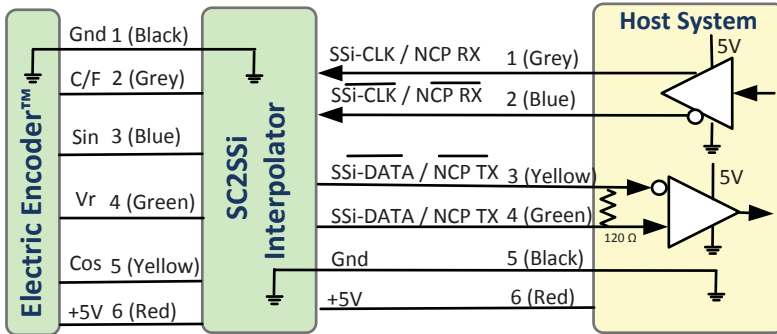
Figure 1 illustrates the timing diagram used by the **SC2SSi**.

The digital SC2SSi interpolator provides advanced calibration and monitoring options using the **NCP (Netzer Communication Protocol)** and factory supplied software tools as the SSi explorer.

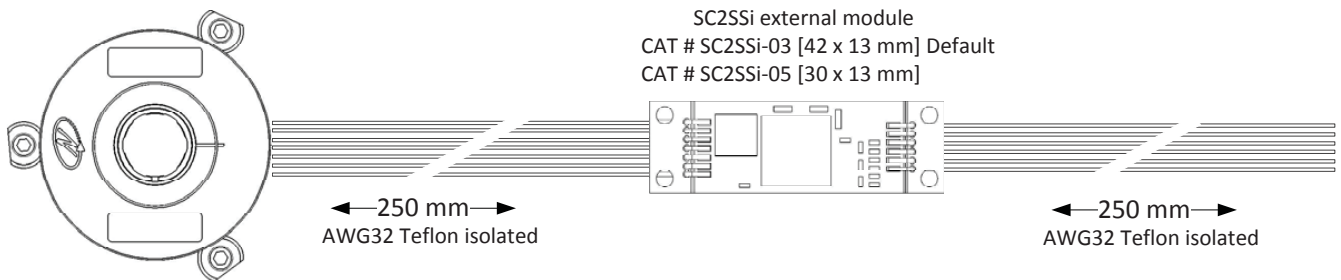
Output signal parameters	
Output code	Binary
Data - SSi	Differential RS-422
Clock - SSi	Differential RS-422
Monoflop time	25 µSec
Clock Frequency	0.5 ÷ 2.5 MHz
Maximum payload	According to encoder



SC2SSi



SC2SSi - Wires color code			
#	Name	Color	Function
1	Clock +	Grey	SSi Clock
2	Clock -	Blue	
3	Data -	Yellow	SSi Data
4	Data +	Green	
5	GND	Black	Ground
6	+5V	Red	Power supply



Ordering should be placed with the associated Electric Encoder™ , please refer to the Electric Encoder™ data sheet for information and ordering options.

SC2SSi

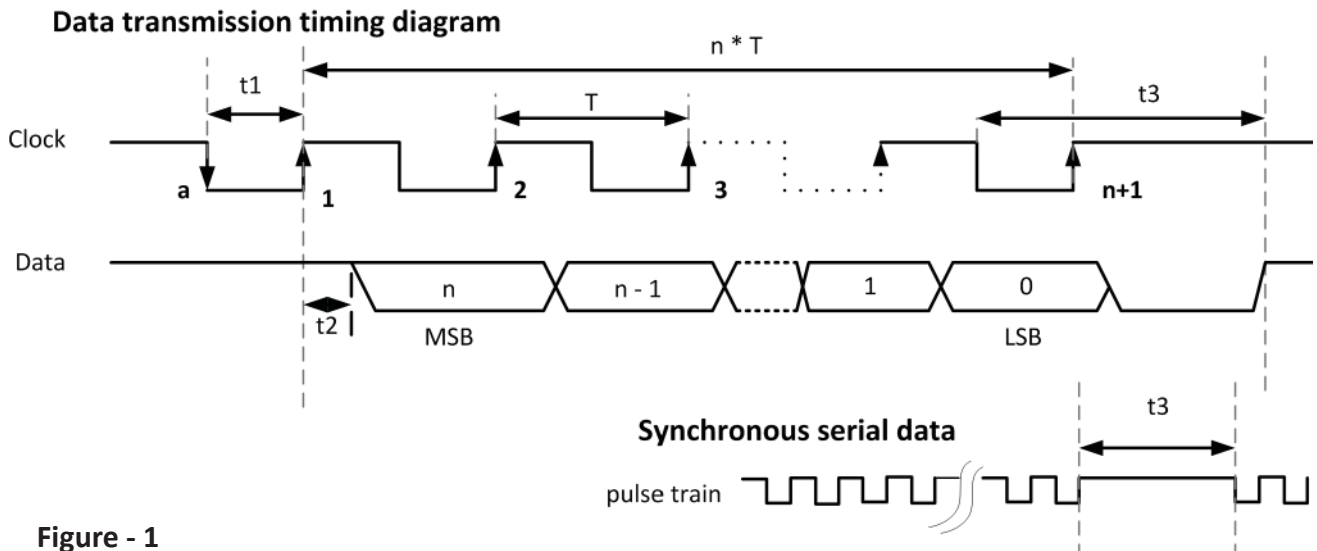


Figure - 1

n = total number of data bits.

T = clock period (sec) - user defined.

$1/T$ = clock frequency $0.1 \div 2.5$ MHz (user defined).

t_1 = minimum time required for the encoder to freeze data ($\geq 500\text{nsec}$)

t_2 = data transmission delay (increases with cable length)

t_3 = monoflop time - the required delay to refresh position data between subsequent position reads.



Position calibration & signal analysis with SSi interface:

The Electric Encoder™ processing capabilities enable calibration, built-in tests (BIT) and advanced setup, using the available software tools, such as:

- Simple calibration procedure using the SSi Explorer (CAA , Offsets , Zero position setting).
- Field aid for validating proper mechanical mounting.

