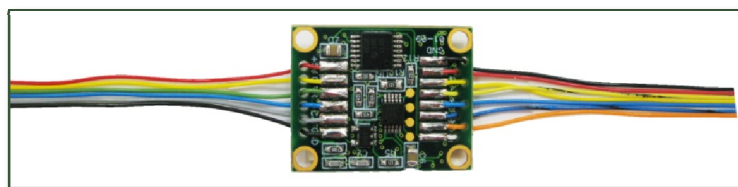




# SC2AqB, analog to incremental AqB interpolator

## DS, Absolute Position, Rotary Electric Encoder™



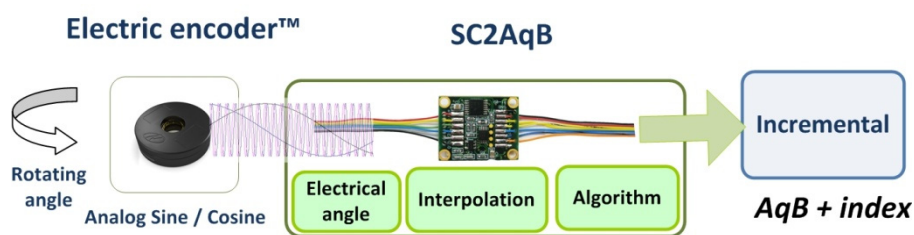
The **Analog to AqB** interpolator (**SC2AqB**) provides incremental AqB output + single index to the Electric Encoder™.

The interpolator provides post processing functionality to the Raw analog signal of the electric Encoder™ (Electric Angle) to counts per revolution.

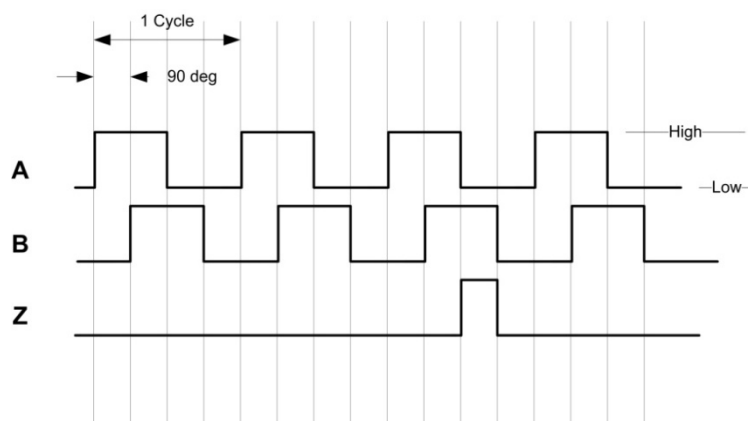
- Real time servo feedback
- Available with predefined resolution

<i>Electrical</i>	
Supply voltage	+4.6 to +5.5 V
Current consumption	< 170 mA
Interconnection	25 cm Teflon-coated, loose AWG-32 wires
<i>Environment</i>	
Operating temperature range	-20 +80 °C
Relative Humidity	<98 % non condensate
Protection	IP 40
<i>Mechanical</i>	
Dimensions	25 x 20 x 5 mm 20 x 20 x 5 mm

The interpolator act as intelligent converter of the analog Electric Encoder™ signals to Digital incremental AqB + index , the converter performs the post processing algorithms and translates the electrical angle to mechanical counts + single index. The final performance in terms of accuracy and resolution are according to the original characteristic of the encoder and the convertor setup based on interpolation with 12 bit A/D.



<i>Functional</i>	
Angular max. resolution	By Encoder
Accuracy	By Encoder
Maximum operational speed	By Encoder
Output signal latency	250 µSec
Incremental output – Differential	RS-422
Phase shift A to B	90°
Measurement range	full rotation
Index pulse width (Adjustable)	½ A
A B signal phase relation (on CW rotation seen from the top)	A leads B

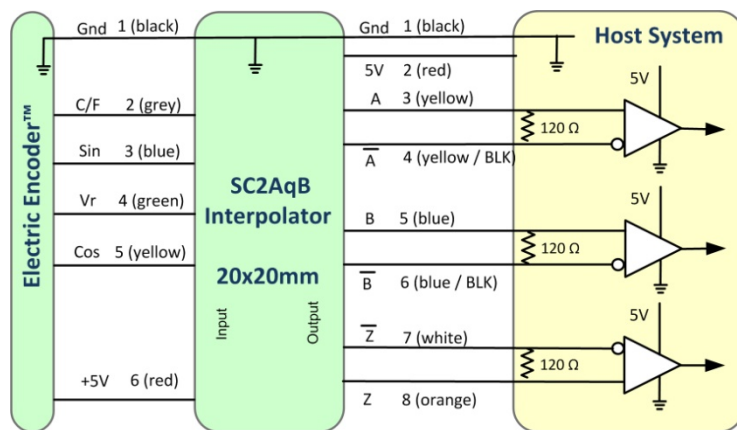


**Wires color coding (input)**

1	GND	Black	Ground
2	C/F	Gray	Coarse / Fine
3	Sine	Blue	Sine signal
4	Vr	Green	V reference
5	Cosine	Yellow	Cosine signal
6	+5V	Red	Power supply

**Wires color coding (output), 20x20 Module**

1	+5V	Red	Supply voltage
2	GND	Black	Ground (Supply return)
3	A	Yellow	Incremental AqB
4	A-	Yellow/Black	
5	B	Blue	
6	B-	Blue/Black	
7	Z-	White	Index
8	Z	Orange	

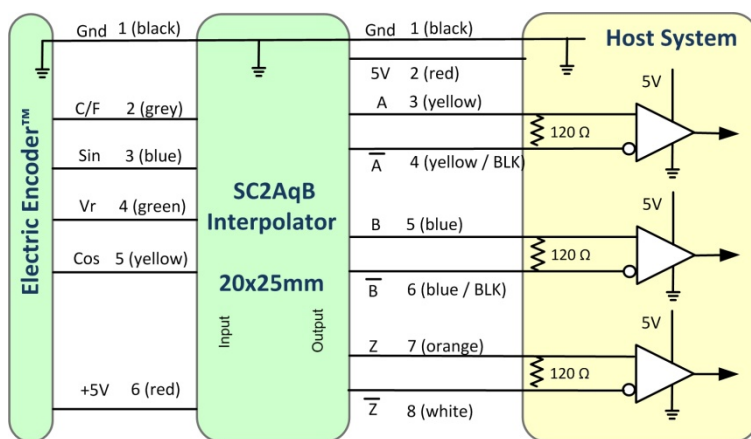


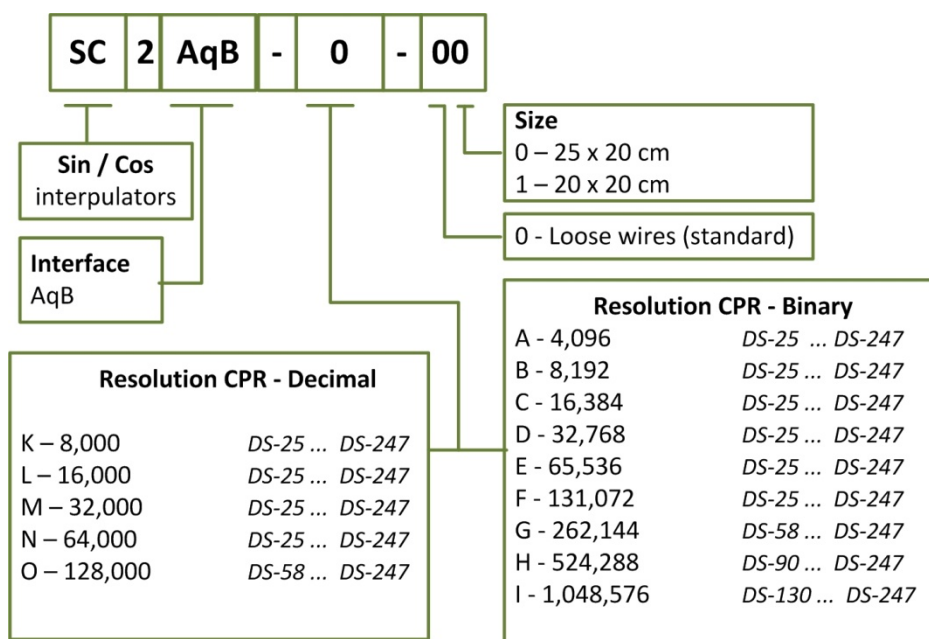
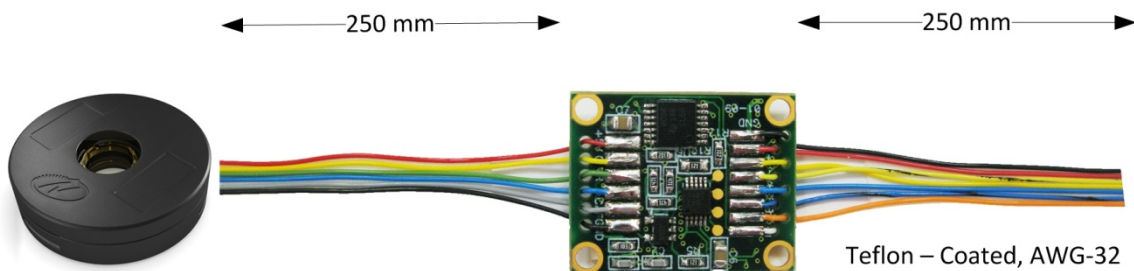
**Wires color coding (input)**

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5	Cosine	Yellow	Cosine signal
6	+5V	Red	Power supply

**Wires color coding (output), 20x25 module**

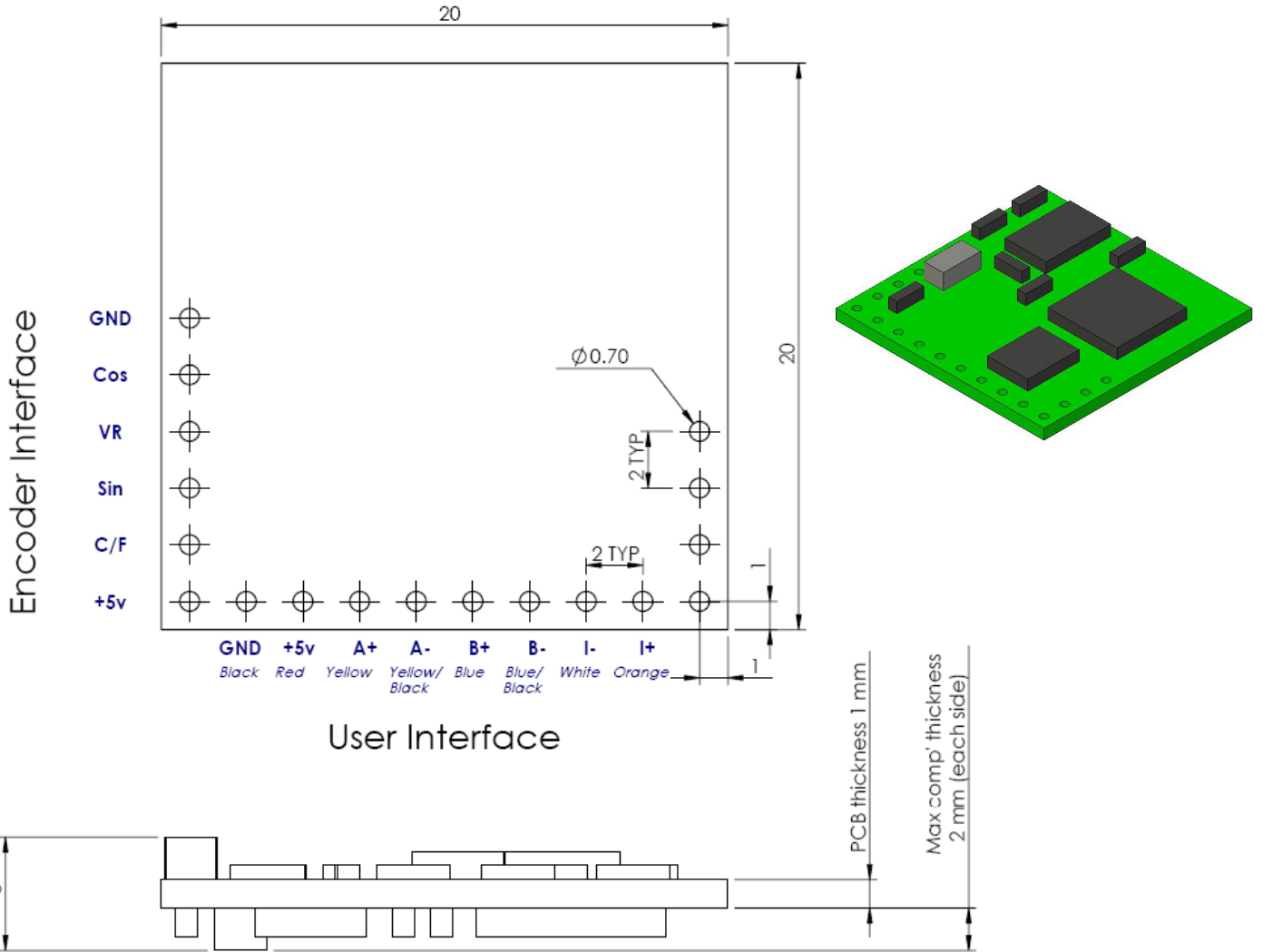
1	+5V	Red	Supply voltage
2	GND	Black	Ground (Supply return)
3	A	Yellow	Incremental AqB
4	A-	Yellow/Black	
5	B	Blue	
6	B-	Blue/Black	
7	Z	Orange	Index
8	Z-	White	





**Related Documents**  
**AN-05 - Accuracy, Resolution, and Repeatability.**

SC2AqB-X-01



SC2AqB-X-00

