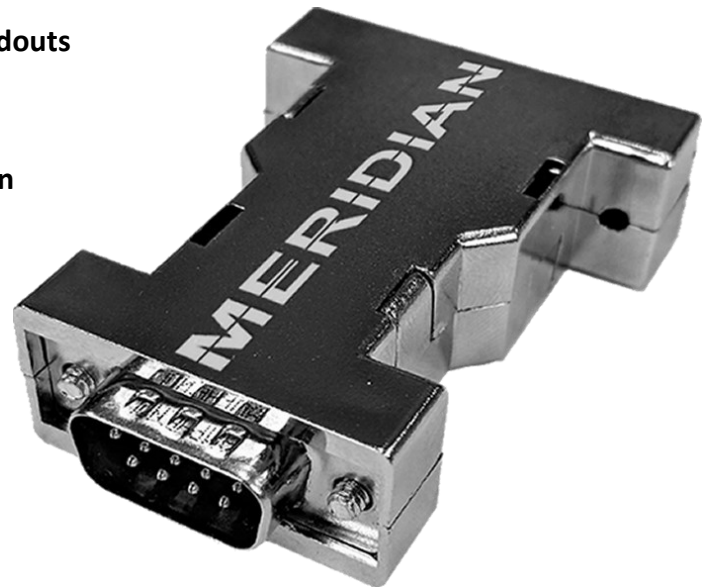


## PRODUCT DATA SHEET

### Signal Adapter (SA 1xxx)

The SA 1xxx series of adapters are designed to interface 11 $\mu$ App and 1Vpp incremental signals to TTL digital readout systems. Featuring a male D15 input and a male D9 output connector, the SA quickly installs in-line between the measuring device and the display. With eight available interpolation factors, the SA can provide high resolution TTL to the display even when using a low resolution measuring device such as a tape scale.

- Ideally suited for adapting analog scales to TTL digital readouts
- 11 $\mu$ App and 1Vpp versions available
- Ten interpolation factors to match desired scale resolution  
0.5x, 1x, 2x, 2.5x, 5x, 10x, 20x, 25x, 50x, 100x
- TTL output channels will Tri-State upon signal failure
- Easy Plug-n-Play installation
- Low current draw



## Technical Specifications

PRODUCT	SA 107x	SA 187x
<b>PRODUCT SPECIFICATIONS</b>		
Input Signal	11 $\mu$ App	1Vpp
Output Signal	TTL	TTL
<b>ELECTRICAL SPECIFICATIONS</b>		
Maximum Input Frequency <sup>1)</sup>	55Khz for 0.5x, 1x & 2x	24Khz for 2.5x, 5x, 10x, 20x, 25x, 50x & 100x
Maximum Output Frequency	55Khz for 0.5x, 1x & 2x	83Khz for 2.5x, 5x, 10x, 20x, 25x, 50x & 100x
Useable Input Amplitude	2 $\mu$ A — 32 $\mu$ A	0.2V — 3.2V
TTL Tri-State	Yes (on overspeed or low input amplitude)	
TTL Minimum Edge Separation	4.0 $\mu$ s for 0.5x, 1x & 2x	3.0 $\mu$ s for 2.5x, 5x, 10x, 20x, 25x, 50x & 100x
Reference Pulse Width	90°	
<b>PHYSICAL SPECIFICATIONS</b>		
Dimensions ( L x W x H )	2.46in [62.4mm] x 1.65in [42.0mm] x 0.64in [16.2mm]	
Weight	0.9oz	
IP Rating	IP 30	
<b>POWER SPECIFICATIONS</b>		
Supply Voltage	3.7v — 6.5v DC	
Maximum Current Consumption	120mA	115mA
<b>CONNECTIONS</b>		
Input	D15 Male	
Output	D9 Male	

1) Due to the SA's built-in accumulator buffer, the stated input frequencies can be achieved on all models, regardless of interpolation factor, without data loss. Accumulated pulses are buffered and then output continuously at the maximum output frequency until the accumulator is empty.

# SA 1xxx

**INPUT SIGNAL TYPE**

11 $\mu$ App = 0  
1Vpp = 8

**OUTPUT SIGNAL TYPE**

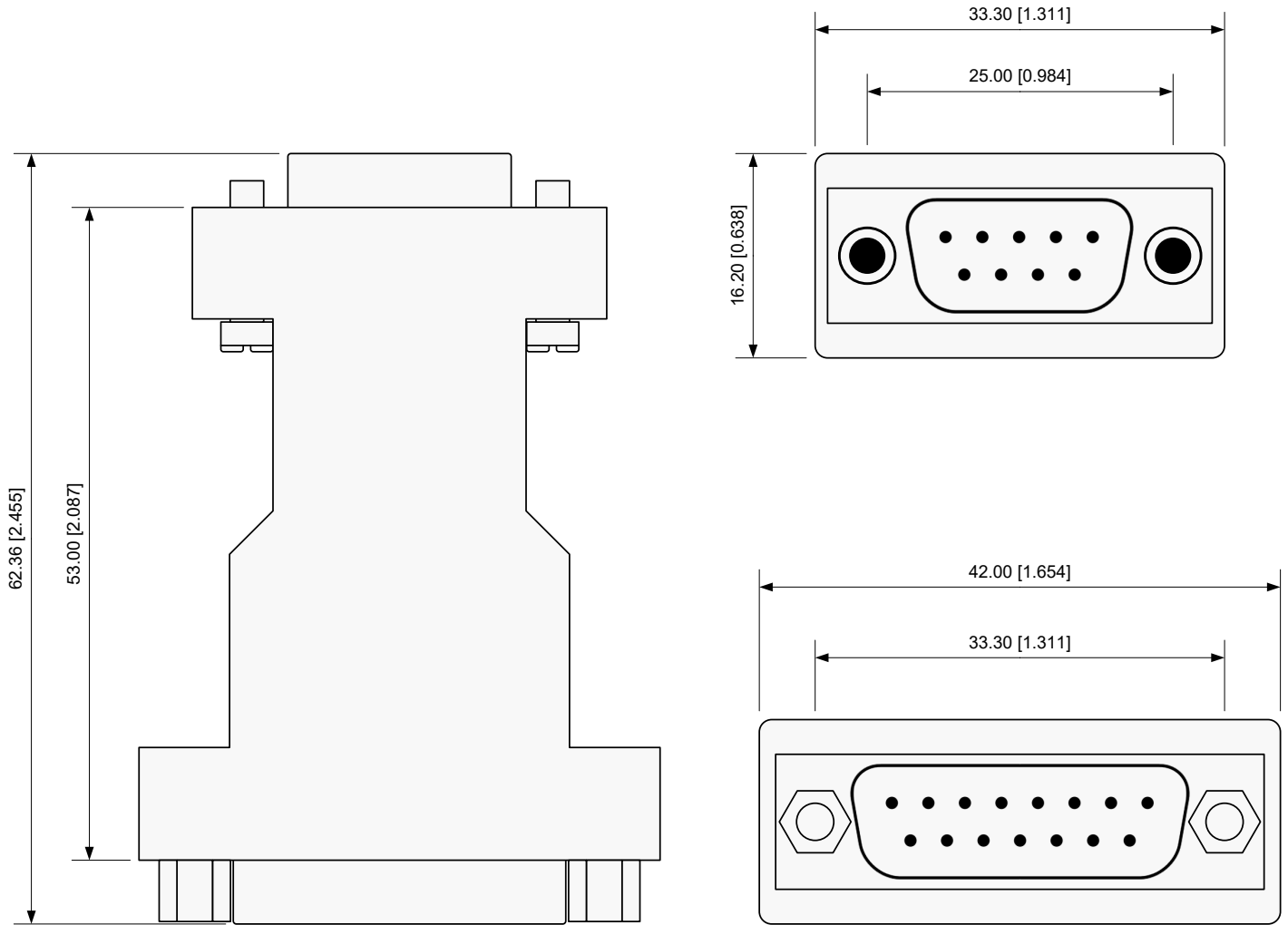
TTL = 7

**INTERPOLATION FACTOR**

1x = 0  
2x = 1  
5x = 2  
10x = 3  
20x = 4  
25x = 5  
50x = 6  
100x = 7  
0.5x = 8  
2.5x = 9

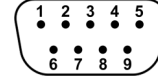
## Dimensions

All dimensions are in mm [in].



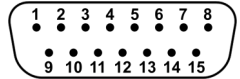
## Electrical Connections

### D9 MALE ( TTL )



1	2	3	4	5	6	7	8	9
NC	A+	A-	B+	B-	0V	5V	R-	R+

### D15 MALE ( 11 $\mu$ App / 1Vpp )



	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
<b>11<math>\mu</math>App</b>	5V	0V	A+	A-	Internal Shield	B+	B-	$\infty$	NC	R+	NC	R-	$\infty$	NC	$\infty$
<b>1Vpp</b>	5V	0V	A+	A-	NC	B+	B-	$\infty$	NC	R+	NC	R-	$\infty$	NC	$\infty$

$\infty$  = Reserved / Do Not Use

NC = Not Connected

