



## BBG-MTR-RPTR1

## Synchro to Digital Display



*\*actual product may differ*

### *Description*

The BBG-MTR-RPTR1 Digital Display can accept Synchro, NMEA, and RS-422.

The digital display has one (1) Synchro Input channel. It is designed to digitally display an analog synchro or serial input channel. Unit(s) can be factory configured to display other application specific signals. Serial input channel and serial output channels are available upon request.

### *Applications*

- Navigation Systems
  - Speed
  - Heading
  - Roll
  - Pitch
- Industrial Machine Interfaces
- Meteorology Instruments
  - Wind Direction
  - Wind Speed
- Contact Us for Other Applications

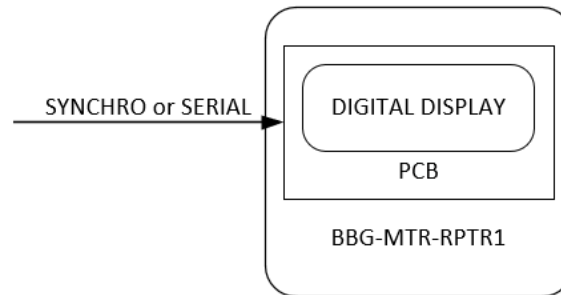
### *Features*

- RS-422/NMEA Isolated Inputs
- Four Character Seven Segment 1.5" LED Display
- AC/DC Power Input:
  - 85VAC – 264 VAC
  - 47Hz – 63Hz
- Synchro Input:
  - 11.8VAC to 90VAC
  - 60Hz
- Standard Baud Rates:
  - 4800, 9600, 19200, 38400

## **BBG Incorporated**

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*Chart*

The BBG-MTR-RPTR1 is factory configured to receive an analog synchro or digital serial signal and display the information digitally on an LED display. The display is designed for excellent readability under all lighting conditions. The display has three (3) 1.5-inch seven segment digits and one (1) 1-inch seven segment digit. The digits are red to minimize the effect on night vision. The input can be scaled to display Heading, Roll, Pitch, or Speed in multiple ranges and is configurable by the user via switch 1 in combination with factory options. The display brightness is adjustable using the panel mounted potentiometer.

*Technical Specifications*

Parameter	Value	Units
<b>Input Power</b>		
Power Supply	85 – 264	Volts AC
	60	Milli-Amps
	264 Volts AC	Absolute Maximum DC Voltage
<b>Input</b>		
Synchro	11.8 – 90	V <sub>L-L</sub>
	47 – 400	Hz
Serial	NMEA-0183	RS-422
<b>Output</b>		
Channel 1	Four Digits	Red LED Seven (7) Segment
Channel 2	NMEA-0183	RS-422
<b>Temperature Range</b>		
Operating	0 to +50	C°
Storage	-65 to +150	C°
<b>Dimensions</b>		
	8.9x4.96x3.94	In
	226x126x100	mm



## OVERVIEW

The Synchro or digital input is converted to a digital signal and scaled as configured for viewing on the built-in LED display.

## INPUTS/OUTPUTS

The BBG-MTR-RPTR1 can be bulkhead mounted, or it can be panel mounted with an additional piece of mounting hardware.

### Inputs

#### Power Input:

The BBG-MTR-RPTR1 is factory configured to receive its power through the reference lines of the synchro input. When synchro is used as the input, no other power sources are required. If a serial input is used, R1 and R2 must be connected to an acceptable power supply as indicated in the unit specifications.

#### Synchro Input:

The BBG-MTR-RPTR1 is factory configured to receive a 90 V<sub>L-L</sub>, 60 HZ analog synchro signal. The scaling is configurable.

#### Serial Input:

The BBG-MTR-RPTR1 can be factory configured to receive serial messages, and display the received data on the built-in digital display.

### Outputs

#### Digital Display:

The BBG-MTR-RPTR1 digital display outputs specific information based on configuration. Brightness can be adjusted via an adjustment knob located on the unit.

#### Serial Output:

The BBG-MTR-RPTR1 also has a serial output port that can be configured to repeat serial data received on the serial input port, convert synchro input to digital serial out, convert incoming serial messages to a different format and retransmit, or filter incoming serial messages.

## Factory Default Switch (S1) Settings

#### **Baud Rate: 38400 BPS**

S1 Position 1 = OFF (1), 2 = OFF (1)

#### **Display Mode: Synchro Heading**

S1 position 3 = OFF (1), 4 = ON (0), 5 = ON (0)

**Scale: Don't Care** (Heading always 1x, 360)

S1 position 6 = ON (0), 7 = ON (0), 8 = ON (0)



## CONNECTOR LIST

Inputs and outputs are available at terminal located on the PCB and can be connected as described below:

I/O CONNECTOR TYPE: DIN Terminal Blocks

CONNECTOR MATE: Ferrules

<b>Terminal</b>	<b>Connection Description</b>
TB1 – 1	Reference Input (R2)
TB1 – 2	Reference Input (R1)
TB1 – 3	Synchro Signal (S1)
TB1 – 4	Synchro Signal (S2)
TB1 – 5	Synchro Signal (S3)



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**CONFIGURATION**

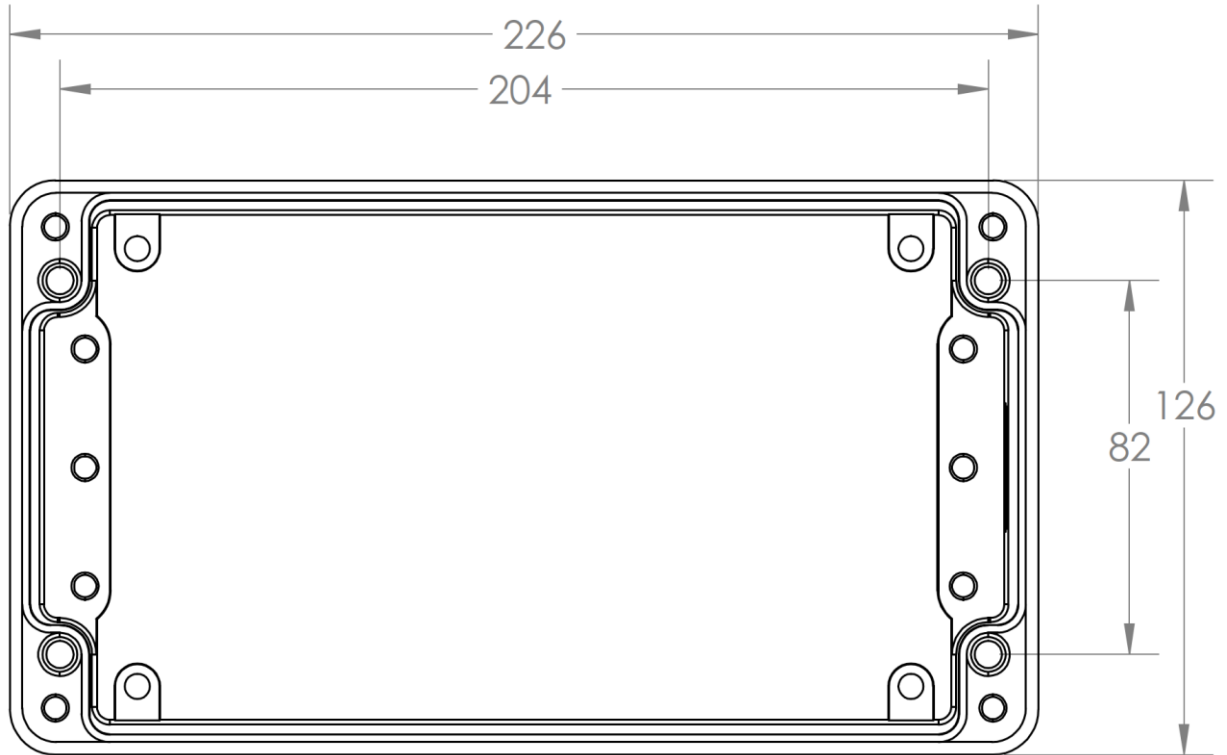
S1 controls the mode and baud rate.

<b>BBG-MTR-RPTR1 SWITCH SELECTION</b>									
S1									Description
	8	7	6	5	4	3	2	1	
<b>BAUD</b>	X	X	X	X	X	X	0	0	4800 Baud Rate
	X	X	X	X	X	X	0	1	9600 Baud Rate
	X	X	X	X	X	X	1	0	19200 Baud Rate
	X	X	X	X	X	X	1	1	38400 Baud Rate
<b>INPUT</b>	X	X	X	X	X	0	X	X	Serial Input Only – Ignores Synchro Input
	X	X	X	X	X	1	X	X	Use Synchro input if valid, otherwise use Serial input
<b>MODE</b>	X	X	X	0	0	X	X	X	Heading (360°, 1x)
	X	X	X	0	1	X	X	X	Roll (±90°, 2x)
	X	X	X	1	0	X	X	X	Pitch (±90°, 2x)
	X	X	X	1	1	X	X	X	Speed
<b>SCALE SPEED</b>	0	0	1	1	1	X	X	X	Speed 0-40 Knots
	0	1	0	1	1	X	X	X	Speed -50 to 50 Knots (Synchro)
	0	1	1	1	1	X	X	X	Speed -10 to 90 Knots
	0	0	0	1	1	X	X	X	Speed 0 to 100 Knots
									Reserved
<b>1 = OFF, 0 = ON, X = Don't Care</b>									

**Note: Higher baud rate options can be factory configured if desired.**



**DIMENSIONS**



Dimensions in mm.

