



BTX-SB Series -Digital Transmitters

Features

- Full digital 5/10W transmitter
- 2200 to 2400MHz, 100kHz step
- 100kbps to 20Mbps
- IRIG-106 Tier I PCM/FM
- MSK, GMSK, GFSK by configuration
- Supplementary functions (Randomizer/PRBS)
- Easy configuration by the dedicated software

The BTX-SB series are S-band full-digital FM transmitters for telemetry. Besides the RF circuits, most functional blocks are built into the integrated processor while the analog parts are subject to minimal use. The transmitters are thereby impervious to environmental changes and age, unlike many other analog transmitters. The other key features are as follows.

Frequency band

Users have a 200MHz programmable tuning range within 2200MHz to 2400MHz in steps of 100kHz. The frequency stability is within $\pm 0.0002\%$. Users can select the output power of either 5W or 10W when ordering.

Data rate

The transmit data rate is adjustable between 100kbps and 20Mbps in steps of 1kbps. Users can select from two digital interfaces, the RS422 or TTL. The input bit stream is either asynchronous or synchronous with the clock provided by the user.

Waveform

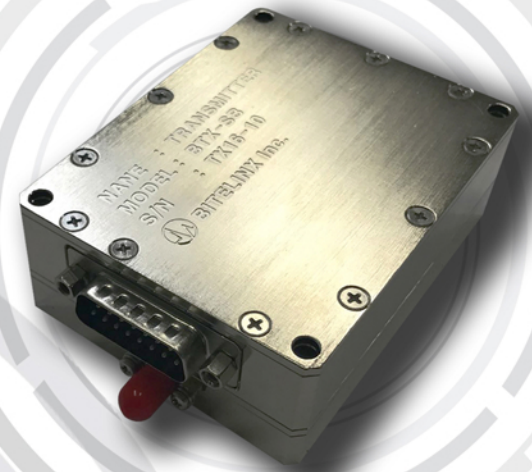
Basically the IRIG-106 Tier I waveform, PCM/FM, is the default. Depending on the application, users can select another from among MSK, GMSK and GFSK by reconfiguring the transmitters with the software since they are all full-digital so as to be highly flexible. The built-in PCM encoder allows for conversion of the input stream into one of the six codes specified in the IRIG-106.

Supplementary functions

In addition to functioning primarily as a transmitter, the BTX-SB series are equipped with several useful functions including a Randomizer for energy dispersion and PRBS Pattern Generator for BER test. The Randomizer also helps the receiver track the optimal transmit time by enriching the transition of a dull transmit stream.

Dedicated software

The dedicated GUI software allows users to easily configure the transmitter in accordance with the operational purpose. It completes the SDR nature of the transmitters.





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Electrical specifications

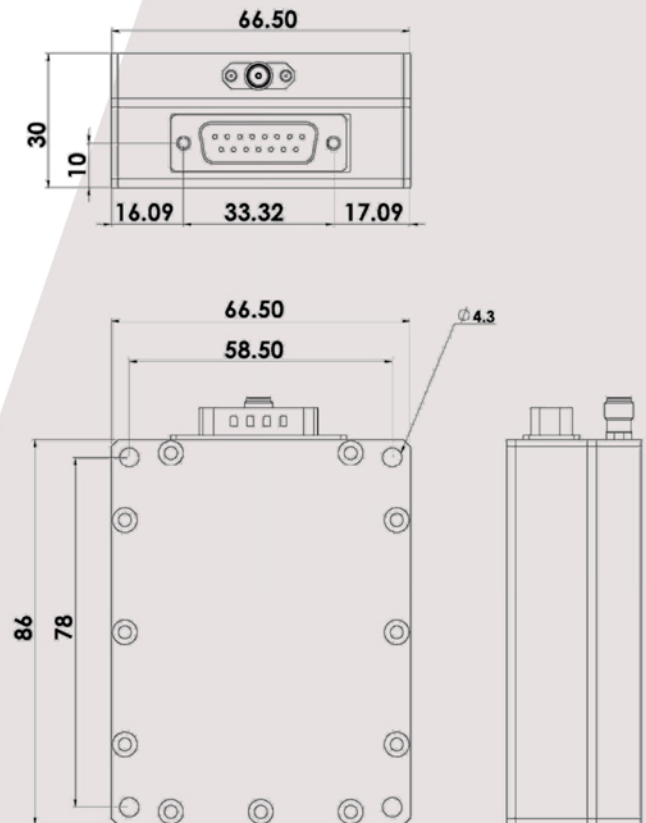
Frequency range	2,200 ~ 2,400MHz
Tuning step	100kHz
Frequency stability	±0.0002%
RF output power	5W or 10W
Data rate	0.1 ~20Mbps
Waveforms	PCM/FM,MSK, GMSK, GFSK
Supplementary	PCM codes(NRZ-L/M/S, BiΦ -L/M/S), Randomizer(Order15), PRBS9/15
Input signals	RS232 or RS422
Impedance	50Ω
Interface	RF : SMA Digital : DSUB15
Primary power	5W : 28V± 4VDC, 1.6A 10W : 28V± 4VDC, 2.5A

Environmental specifications

Operating temperature	-40 ~ +70°C
Storage temperature	-55 ~ +85°C
Altitude	30.000fts
Vibration	0.1g ² /Hz 20~2,000Hz/X-Y-Z axis
Shock	20g,11msec/X-Y_Z axis
Humidity	95% (pH : 6.5 ~ 7.5)

Dimensions & weight

Dimensions	66.5 X 86 X 30mm ³
Weight	320g



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