Digital Instruments

SB-V01

rail mount timing equipment for industrial application

The **SB-V01 rail mount timing equipment for industrial application** provide accurate time reference along your network and provide ultra reliable Time Code to the users which require synchronization using IRIG B.
SB-V01 is self-contained in small DIN mount box that make it suitable for Power generation and distribution application, and for any kind of industrial automation application which require precise time information.

The unit is a Multi reference timing equipment that can use as time source External IRIG B Time code (both electrical and/or optical), PTP/IEEE-1588v2, NTP, moreover the unit can be equipped with GPS receiver in order to became Master or Grandmaster clock.

Features

· Zilog eZ80F91 @ 50 MHz CPU
· 2 MB SRAM
· Embedded RZK + ZTS Operative Systems
· 1x 10/100 Network Interface via RJ45
· Support up to 10 PTP request per second
· Support up to 1000 NTP Client
· IEEE1588v2 compliant
· Integrated GPS receiver as option
· Multi reference source (IRIG B Optical and electrical, NTP/SNTP Client, PTP/IEEE-1588 client, GPS Receiver)
· 2x IRIG B 00x outputs
· 2x IRIG B 12X outputs
· 2x optical IRIG B outputs
· AC or DC power supply
· Status led's, integrated web server and SNMP for management

GNSS (optional)

Receiver: 1,575.42 MHz – 12 Channels,
Tracking: 12 satellite correlation,
PPS Accuracy: < 50 nsec,
Acquisition time: 4 minutes,
Stability when locked: +/- 1E-12 after 24 hours,
Antenna connector TNC

Interfaces

AC/DC Power option, 70-260 Vac/Vdc
SNMP protocol and integrated Web Server
1 Ethernet shielded RJ45, 10/100 BaseT (also used for management)
1 Time of Day (ToD) output via RS232
1 IRIG-B input (00x/12x) via SMA autosensing
1 IRIG-B input (00x only) via ST
1 RS232 and RS422 serial port via DB9 connector
1 PPS output via SMA connector (optional)
1 10MHz output via SMA connector (optional)
2 IRIG-B output (00x) via SMA (software defined)
2 IRIG-B output (12x) via SMA (software defined)
- 15Vpp High ± 5%
- 4Vpp Low

2 IRIG-B output (00x only) via ST

IEEE 1588 v2 PTP Output

PTP output client capacity: up to 500 clients
Up to 128 messages per second per client
1-step (2-step clock optional)
PTP Profiles
- C37.238-2011 Precision Time Protocol in Power System Applications
- ITU-T G.8265.1 Frequency Profile (IPV4)
- Default Profile (IEEE 1588 v2)

Best Master Clock Algorithm (BMCA), with Default Profile

IEEE 1588 v2 PTP Input

IPV4
1-step (2-step clock optional)
PTP Profiles
- C37.238-2011 Precision Time Protocol in Power System Applications
- ITU-T G.8265.1 Frequency Profile (IPV4)
- Default Profile (IEEE 1588 v2)

NTP

Protocol: NTPv4
Role: Master Clock Stratum 1 (with GPS) – slave clock Stratum 2

Time and Frequency Accuracy

When locked to GNSS:
Time within 100ns of UTC (ITU-T G.8272 sec. 6 for PRTC)
Frequency: compliant to G.811 frequency accuracy.

Holdover Performance

OCXO: 1E-10 / day (optional)
TCXO: 1PPM

Holdover values are approximated and assume operation at constant temperature, no initial frequency or phase offset, and that the unit has been powered for two weeks and locked to GNNS for three consecutive days.

Synchronous Ethernet

SyncE can be used as a frequency input and can be generated as an output (as Master)
Conforms to relevant sections: ITU-T G.8261, G.8262 and G.8264 ESMC

Network Support

IPV4
ICMP (RFC 792)
HTTP
SNMP
IEEE 1588 v2 PTP
NTP
DSCP

Mechanical

Size:	Height:	112,3	mm
	Width:	71,7	mm
	Depth:	160,0	mm