



OVERVIEW

Time synchronizing signals need to be communicated to devices that are diversified in their characteristics and operation.

Signal Converters are viable solution through which network of various devices can be connected to a centralized time synchronizing system. SERTEL manufactures wide range of converters that are accredited and delivers top performance.

Converters eliminate the challenge of time synchronizing diversified systems that are interoperable with each other. Transportation of data through set of rules forms the basis for communication at all industrial sectors.

The protocols are grouped depending on their features and equipments that use them. Converters bridges systems that follow wide range of standard protocols.

Translating the receiving information into another format forms the basis of converters. These are very essential in maintaining the network of varied devices to function in unison with time.

OPERATION

Network Time Protocol (NTP) is a common need for Ethernet connected devices such as management systems, IEDs and others. T-CON-300-I2N successfully delivers the time stamping signal in NTP/SNTP format.

The IRIG-B serial protocol uses bit strings of approximately 100 bits repeated every second that carry time and control information.

IRIG-B is defined in code format IRIG-B xyz, where x is the modulation type, y is the frequency and z is the coding. There are two common IRIG-B protocol types: IRIG-B Amplitude Modulated (AM), IRIG-B Unmodulated (TTL/DCLS).

The number of NTP output ports in the converter varies and has separate IP addresses. Each port can time synchronize the devices when it is connected to a LAN network.

KEY FEATURES

- Dedicated NTP ports supporting entire area of LAN.
- Unique IP address can be assigned to Each NTP/SNTP Ports
- Supports NTP/v4/v3/v2, SNTP, NTP Unicast/Broadcast/Multicast*.
- Supports HTTP/SSL/HTTPS, SHS, SCP, IPv4, IPv6 network security protocols.
- Supports network devices such as Routers, switches, Checkpoint firewalls.
- All types of Operating Systems are supported.
- Packed in 1U of compact size (customizable).
- Universal Power supply: 90 to 260V AC/DC
- Necessary Sertel Config Management software will be provided.
- Friendly user interface with plug- and-play feature.
- With the help of converter its possible to have uniform time across plant premises by generating various time formats, with help of single Master source.
- Any number of NTP/SNTP dedicated ports can be generated
- Low cost maintenance with durable performance

IRIGB TO NTP/SNTP
T-CON-300-I2N



SERTEL ELECTRONICS PVT LTD
 Old Mahabalipuram Road, Perungudi, Chennai, Tamilnadu, India 600 096.
 Ph: (91(44)23454060, 91(44)23454062
 sales@sertelelectronics.com



SERTEL ELECTRONICS UK LTD
 Rutland House, 148 Edmund Street, Birmingham, B3 2FD, UK
 Ph: +44 (0) 121 861 6479
 enquiryuk@serteliser.com



SERTEL INSTRUMENTS INC
 Saskatoon, Saskatchewan Canada

IRIGB TO NTP/SNTP T-CON-300-I2N

TECHNICAL SPECIFICATIONS

I2N Converter

Model	T-CON-300-I2N
Interface	AM / TTL (Normal High)
Input connector	BNC/PHOENIX
Output Rate	Every second
Power Supply	90-260 V AC/DC

Display	LED Indications
LED Indication	Power ON Signal Input Signal Output

No of Ports	Dual NTP/SNTP Ports [Each Port Will have Unique IP Address] Number of Ports are customizable based on requirements
-------------	--

Design	1U rack-mount bracket designed for 19 Inch Cabinets Fabricated Heatsinks IP40 (Ingress Protection Rating)
--------	---

Configuration Software

Platform	HTTPS/SSL Browser-based configuration
----------	---------------------------------------

ENVIRONMENT

Storage Temperature	-40 to +85 °C
Operating Temperature	-10 to +55 °C
Humidity	0 – 95% RH, non-condensing
Power Drain	45W max
Power Supplies*	1x or 2x Power Supplies High Voltage - AC/DC 90-370 VDC 80-260 VAC Low Voltage - DC 40-110 VDC *Feature Available only on Specific requests and suitable price points
Ingress Protection	IP40

MECHANICAL SPECIFICATION

Dimensions	1U(H) x 485(W) x 185(D) mm (Or) 2U(H) x 485(W) x 185(D) mm (Or) 3U(H) x 485(W) x 185(D) mm *Size Depends on number of outputs
------------	--

Mounting	Panel/Table Top/Wall/Din Rail
----------	-------------------------------

Weight	2.0 KG
--------	--------

Oscillator Options

*Feature Available only on Specific requests and suitable price points

Rubidium	TBC*
TCXO	TBC*
OCXO	TBC*



SERTEL ELECTRONICS PVT LTD

Old Mahabalipuram Road, Perungudi,
Chennai, Tamilnadu, India 600 096.
Ph: (91(44)23454060, 191(44)23454062
sales@sertelelectronics.com



SERTEL ELECTRONICS UK LTD

Rutland House, 148 Edmund Street,
Birmingham, B3 2FD, UK
Ph: +44 (0) 121 861 6479
enquiryuk@serteliser.com



SERTEL INSTRUMENTS INC

Saskatoon,
Saskatchewan Canada

INPUT

External IRIG-B	TTL/AM, BNC [F] / PHOENIX
Input	DC IRIG-B Input (BNC)

OUTPUT

Ethernet Connections	RJ45 1GbE/Fast Ethernet SFP 1GbE/Fast Ethernet *Feature Available only on Specific Requests and suitable price points
Output Signal	NTP/SNTP *FO – NTP/SNTP ST Fiber (62.5/125 μm) multi-mode / Single Mode
Connector	RJ45 [COPPER] FO - ST Fiber*

CLOCK ACCURACY TO UTC

NTP Timestamp	< 50 μs (Depends on Network Architecture for more accuracy)
---------------	---

NETWORK TIME SERVER OPTION

NTP/SNTP	Stratum 1 NTP & SNTP Time server Multicast & Broadcast capability	PRP	IEC 62439-3 (2016) Separate MAC Address, IP Address can be assigned to each port.
SNMP	V1, V2C & V3 support can be independently enabled Configurable V1, V2C community names & security groups Fully configurable via SNMP;	Security	User-Defined Access Control Lists (ACL)
Protocols supported	ARP, UDP, ICMP, DHCP, SNMP, HTTPS, IPV4	Notifications	SNMP trap generation V1, V2C & V3 SNMPv3 traps can be authenticated Syslog (RFC-3164 & 5424 verities)

TEST AND STANDARDS

Dry Heat Test	IEC 60068-2-2	Electrostatic Discharge Immunity Test	IEC 61000-4-2,2008
Cold Test	IEC 60068-2-1	Radiated Susceptibility Test	IEC 61000-4-3,2010
Damp Heat (Steady State) Test	IEC 60068-2-3	Electrical Fast Transient Immunity	IEC 61000-4-4,2012
Sinusoidal Vibration Test	IEC 60068-2-6	High Energy Surge Immunity Test	IEC 61000-4-5,2014
Dielectric Strength Test	IEC 60255-5-0	Conducted RF Immunity Test	IEC 61000-4-6,2013
Pulse Magnetic Field Test	IEC 61000-4-9,2016	Power Frequency Magnetic Field Test	IEC 61000-4-8,2009
Radiated RF Power Disturbance	CISPR 14-1,2009	Damped Oscillatory Sinusoidal Immunity Test	IEC 61000-4-18,2011
Voltage Fluctuation and Flicker Emission Test	IEC 61000-3-3,2013	Voltage Dips and Interruption Immunity Test	IEC 61000-4-11
Harmonics, Inter Harmonics and Low Frequency Immunity Test	IEC 61000-4-13,2002		

*Feature Available only on Specific requests and suitable price points
*Output ports & Input Ports are customizable based on the requirements
*Product development is continuous process, subject to change without prior notice



SERTEL ELECTRONICS PVT LTD

Old Mahabalipuram Road, Perungudi, Chennai, Tamilnadu, India 600 096.
Ph: (91(44)23454060, 91(44)23454062
sales@sertelcelectronics.com



SERTEL ELECTRONICS UK LTD

Rutland House, 148 Edmund Street, Birmingham, B3 2FD, UK
Ph: +44 (0) 121 861 6479
enquiryuk@sertelserver.com



SERTEL INSTRUMENTS INC

Saskatoon, Saskatchewan Canada