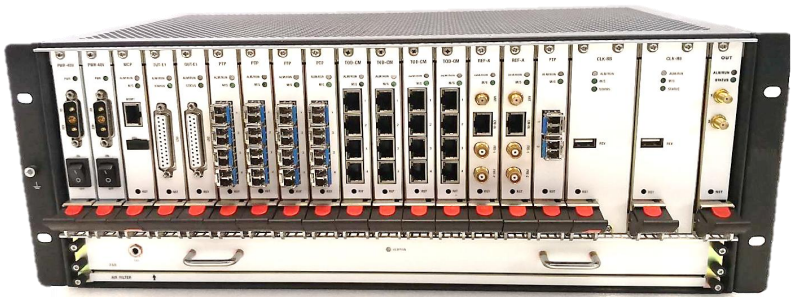
地面北斗 Ground Beidou 泰富科技 Taifu Tech.

Satellite Common View Device - TFT3001-CV

High Precision Rubidium/OCXO Core Sync Device

Timing is the first requirement of human information interaction since ancient times. Nowadays, information technology and communication technology are constantly updated with each passing day, and the requirements for time-frequency synchronization of various systems are getting higher and higher. For example, today's 5G communication network requires the time source, time transmission, and end device, time synchronization performance to reach 10 to 30ns. In order to cope with the deployment of future networks, our company has specially developed the TFT3001-CV high-precision synchronous products.



TFT3001-CV series high-precision synchronization equipment can be widely used in communication, power, military and other systems, with time frequency tracing, local clock tame, time transmission and time frequency output functions. TFT3001-CV Supports configuration and maintenance-free functions, and provides a network management platform and indicator display. The timing network can be a star, chain and complex models. The equipment output performance meet 5ns accuracy, it can be widely used in telecommunications, electric power and military communication, provide a reliable and high-performance time-frequency synchronization signals.

- Suitable in 19 inch rack (4U);
- Support 7*24 hours uninterrupted service;
- Support Ethernet NMS management;
- Support dual -48V DC redundant power;
- Support PTP, NTP, SyncE output;
- Support Satellite common view;

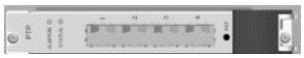
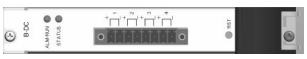
- Support IEEE 1588v2 default profile, ITU-T G.8275.1, ITU-T G.8275.2, ITU-T G.8265.1 profile.
- Support PTP/NTP bounding, PTP and NTP output can be configured at the same port;
- NTP concurrent output capability 600000 times per second;
- IPv4 and IPv6 supported at NTP/PTP

TFT3001-CV Application Case

- Synchronization and Time-as-a-Service (TaaS) applications with the high availability
- PTP & Sync-E Timing Distribution at the edge of mobile backhaul and fronthaul Telecom networks for frequency and phase synchronization
- Synchronization delivery within buildings for indoor small cell radio base stations
- Synchronization of legacy network architectures based on NTP and SSU
- Time as a service (TaaS) into data center, financial, health and media networks
- Railway transit network synchronization
- Broadcast system, intelligent hospitals, financial system, civil aviation system, smart city synchronization
- Smart Power Grid synchronization

TFT3001-CV Slot Layout

PWR	PWR	MCP	OUT	OUT	OUT	OUT	OUT	OUT	OUT	OUT	OUT	OUT	OUT	IN/OUT	IN/OUT	IN/OUT	CLK	CLK
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18

TFT3001-CV Cards / Modules		
	PTP Module	In/Output configurable. 4x SFP ports 5W (norm working condition) 232(L) * 100(W) * 20(H) mm
	NTP Module	Output module. 4x SFP ports 5W (norm working condition) 232(L) * 100(W) * 20(H) mm
	1PPS + TOD	Output module. 4x RJ45 RS422 ports 5W (norm working condition) 232(L) * 100(W) * 20(H) mm
	E1 Module	Output module. DB25 port (32x outputs) 5W (norm working condition) 232(L) * 100(W) * 20(H) mm
	B-DC Electrical	Output module. 4x BNC @TTL 5W (norm working condition) 232(L) * 100(W) * 20(H) mm
	B-OPT Optical	Output module. 4x ST-Optical 5W (norm working condition) 232(L) * 100(W) * 20(H) mm
	B-AC	Output module. 4x BNC 5W (norm working condition) 232(L) * 100(W) * 20(H) mm
	REF-CV	Common view module. 1*GNSS, 1*1PPS+TOD, 1*1PPS, 1*2M; 5W (norm working condition) 232(L) * 100(W) * 20(H) mm

TFT3001-CV Holdover performance

If external source is not available, TFT3001-CV will use embedded OCXO or Rubidium clock as working clock. OCXO or Rubidium option clock performance show as below:

Item	OCXO	Rubidium
Frequency stability	±3E-10 per day	±5E-12 per day
Temperature stability	±1.5E-10 @-40℃~75℃	±6E-10 @-20℃~50℃
Phase holdover	30us per day	500ns per day
Aging(30 days after powered on)	±3E-10 per day	±5E-12 per day
	±5E-9 per month	±5E-11 per month

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TFT3001-CV key feature

- Suitable in 19 inch rack(4U);
- Support 7*24 hours uninterrupted service;
- Support Ethernet NMS management;
- Support dual -48V DC redundant power;
- Support PTP, NTP, SyncE output
- Support IEEE 1588v2 default profile, ITU-T G.8275.1 profile.
- Support PTP/NTP bounding, PTP and NTP output can be configured at the same port;
- NTP concurrent output capability 600000 times per second;
- IPv4 and IPv6 supported at NTP/PTP port;

Supported Network Protocol

- IEEE1588v2(PTP)
- ITU-T G.8264, G.8273.2.
- ITU-T G.8275.1, G.8275.2, G.8265.1
- RFC 1059 (NTPv1), RFC 1119 (NTPv2), RFC 1305 (NTPv3), RFC 5905 (NTPv4)
- ARP
- IPv4/IPv6
- FTP
- Telnet/SSH
- SNMP

TFT3001-CV In/Out interface

- 1~3*GNSS(GPS/BDS/GLONASS/GALILEO) input;
- 1~8*2MHz/2Mbps input;
- 1~3*1PPS+TOD input;
- 1~3*10MHz input;
- 4~48*PTP/NTP output;
- 4~48*IRIG-B output;
- 4~48*1PPS+TOD output;
- 32~384*2MHz/2Mbps output;

Phase & Frequency Accuracy

- 10MHz Frequency Performance: better than 1E-13/day when locked to GNSS
- 1PPS Phase Performance: better than ±5ns when locked to GNSS

Management Port

- CLI local management via serial port (USB)
- Telnet configure or monitor device
- HTTP based visible management
- SNMP based centralized management

Environment

- Dimension: 435.8mm x 176.7mm x 305mm (WxHxD)
- Operation temperature (ambient): -5 to +60°C
- Storage temperature: -40 to +70°C
- Humidity: 0 to 95% (non-condensation)
- Dual DC PSU: -48VDC (Tolerant -36 ~ -72VDC).