泰富科技
Taifu Tech.

Fiber sync device- TFT 3101

Pico second level fiber 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 TFT3101 series of high-precision synchronous products.

TFT3101 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. TFT3101 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 500ps 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

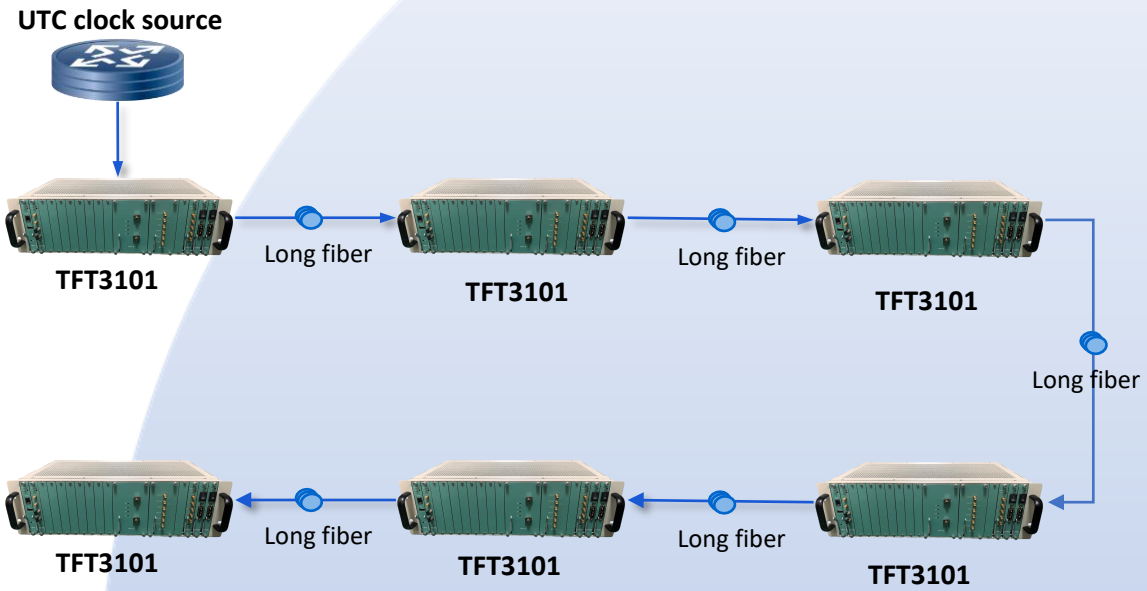
- Ground Beidou technology used on backbone link;
- PTP/NTP/SyncE output on same port;
- Support IEEE 1588, ITU-T G. 8275.1;
- NTP/PTP port support IPv4 and IPv6.

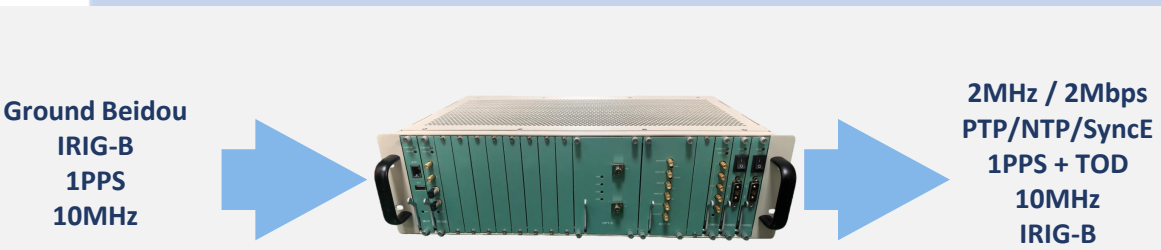
地面北斗 Ground Beidou 泰富科技 Taifu Tech.

TFT 3101 Application case

- Synchronization and Time-as-a-Service (TaaS) applications with the high availability;
- PTP & Sync-E Timing Distribution at the backbone Telecom networks for frequency and phase synchronization;
- 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.

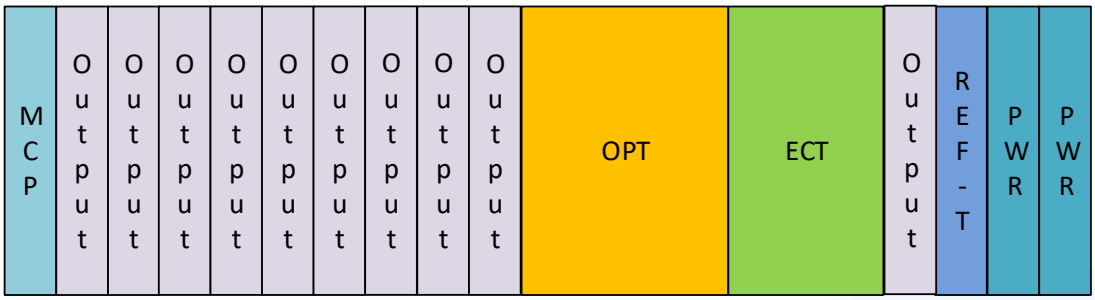
Network structure：



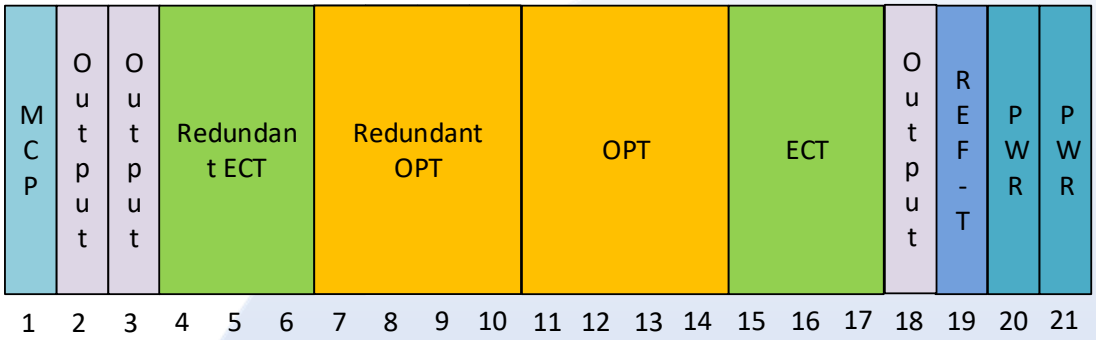


TFT 3101 Slot layout

Single optical card and electrical card mode



Redundent optical card and electrical card mode



Supported cards:

Cards	Function
PWR-48V	Power card
MCP	Main control card
REF-T	2*IRIG-B、1*1PPS+TOD time of day input card
ECT-M	Electrical signal transmit card, include 1*10MHz, 1*1PPS input
ECT-S	Electrical signal receive card, include 2*10MHz, 2*1PPS output
OPT-M	Optical signal transmit card, include 1*GBD optical output
OPT-MS	Optical signal transmit and receive card, include 1*GBD optical input and 1*GBD optical output
10MHz	4*10MHz output card
IRIG-B	4*IRIG-B output（2 optical port、2 electrical port）
PTP/NTP/SyncE	4*PTP/NTP/SyncE output card
1PPS+TOD/2M	2*1PPS+TOD and 2*2M mixed output card

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TFT3101 Key feature

- Suitable in 19 inch rack(3U);
- Support 7*24 hours uninterrupted service ;
- Support remote Ethernet management ;
- Support dual -48V DC redundant power ;
- Support PTP, NTP, SyncE output;
- Support IEEE 1588, ITU-T G.8275.1 protocols;
- PTP/NTP/SyncE can be configurated on same port;
- IPv4 and IPv6 supported at NTP/PTP/Mgmt port;

Supported protocols

- IEEE1588v2(PTP)
- ITU-T G.8264.
- 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

Phase and Frequency performance

- Transmitted distance: more than 3000km;
- 1PPS time deviation: less than 500ps;
- 1PPS stability(TDEV): less than 100ps@1s, 30ps@10s;
- 2MHz/E1 frequency deviation: less than 3.5E-15/d;
- 2MHz/E1 frequency stability(ADEV): less than 3E-11/s, 5E-12/10s, 3E-14/1000s.

Management port

- CLI local management via serial port (USB)
- HTTP based visible management
- SNMP based centralized management

Environment

- Environment : 442mm x 133mm x 264mm (WxHxD)
- Operation temperature (ambient):0 ~ +40°C
- Storage temperature : -30 ~ +65°C
- Humidity: 0 to 95% (non-condensation)
- Dual DC PSU: -48VDC (Tolerant -36 ~ -72VDC).