

# TMS6015

## PTP Grandmaster synchronized by NMEA/1PPS

*IEEE-1588 PTPv2 Grandmaster*

*NTP server stratum 1*

*Protected configuration on SDCARD*

*HTTPS Monitoring  
Control through a web-based interface*

*Monitoring with SNMP V2c, V3*

*Dedicated 10 " rugged rack*

The TMS6015 is a rack mounted equipment able to provide a high stability time source on an Ethernet TCP / IP network.

The TMS6015 is a time server that uses either the Network Time Protocol (NTP) or the Precise Time Protocol (PTP) to synchronize computers connected on the network.

### *PTP Grandmaster*

The TMS6015 supports PTPv2 protocol and acts as a PTP grandmaster. PTP clients can synchronize to PTP with an accuracy better than 10 us (PTP accuracy is dependent upon 1PPS input stability).

### *NTP Server*

The TMS6015 also provides an NTP service in request / response mode in stratum 1 when it is synchronized to the reference time source.

The client computers can be synchronized with an accuracy better than 5 ms.

### *Synchronization*

The TMS6015 is synchronized on NMEA with RS422 for electrical format and 1PPS with TTL or ICD-GPS-060 for electrical format with an accuracy better than  $\pm 100$ ns.

### *Remote monitoring*

The remote monitoring of the TMS6015 is done via the network, using:

- The SNMP standard protocol (MIB provided)
  - The standard SSH protocol
  - HTTP/HTTPS

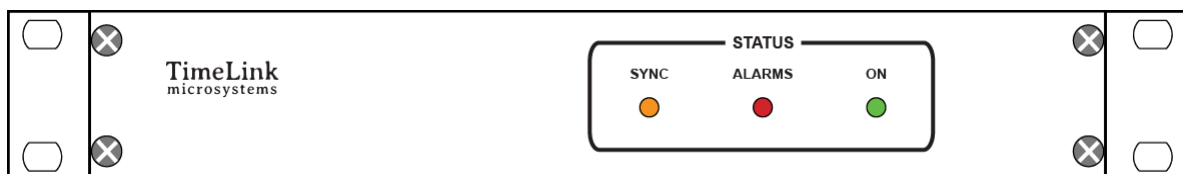
A TCP frame containing the time and status of the TMS6015 is emitted every second.

### *Configuration*

The entire configuration of the TMS6015 is contained in a removable SDCARD memory for easy system configuration and equipment update. In case of equipment replacement, the current configuration can be simply transferred by plugging the SDCARD in the new equipment minimizing the MTTR.

### *Internal Oscillator*

An internal OCXO allows a 1x10<sup>-9</sup>/day stability reference.



TMS6015 Front Panel

## Specifications

### Network Interface

IEEE 802.3. 100/1000 Ethernet physically isolated

### NTP (Network Time Protocol)

NTP (RFC 1305), NTP (RFC 1361) using UDP 123 port Server configuration V3, V4 or automatic V3/V4

### PTP (Precision Time Protocol)

PTP v2 IEE1588-2008  
Default PTP profile

### HTTP/HTTPS

Advanced web interface for control and monitoring based on Events.

### SNMP (Simple Network Management Protocol)

(RFC 1155, 1157, 1213) V2c, V3  
SNMP provides the equipment status to the network administrator.  
For security reasons no configuration changes can be made with this protocol.

### Input Electrical format

NMEA RS422  
1PPS TTL or 1PPS ICD-GPS-060

### Syslog

Syslog and remote syslog are available

### Connectors

1 x SubD9 for NMEA and 1PPS inputs  
1 x RJF21B network connector  
1 x JAEGER 038 0351 06 Power supply terminal (Female 042 953 006 provided)  
1 x USB B Female for Console

### 1PPS Accuracy

$\pm 100$  ns over PPS

### Console

A console link for equipment maintenance and configuration is available on the back panel. The TMS6015 allows a direct connection in USB. This USB connection is dedicated to a serial link.

### Internal Oscillator

internal OCXO in free running mode :  
 $< 1 \times 10^{-9}$  / day  
 $< 4 \cdot 10^{-8}$  / month  
 $< 3 \cdot 10^{-7}$  / year  
Stability in locked mode :  
Permanently  $< 5 \cdot 10^{-11}$

### Power Supply

Power supply range 9-18V DC with fuse  
Power consumption  $< 30$  W

### MTBF

$> 100\,000$  h

### Temperature

Operating temperature:  $-20^{\circ}$  to  $60^{\circ}$  C  
Storage temperature:  $-20^{\circ}$  to  $70^{\circ}$  C  
Operating relative humidity: 10% to 90% (non-condensing)  
Storage relative humidity: 5% to 95% (non-condensing)

### Dimensions

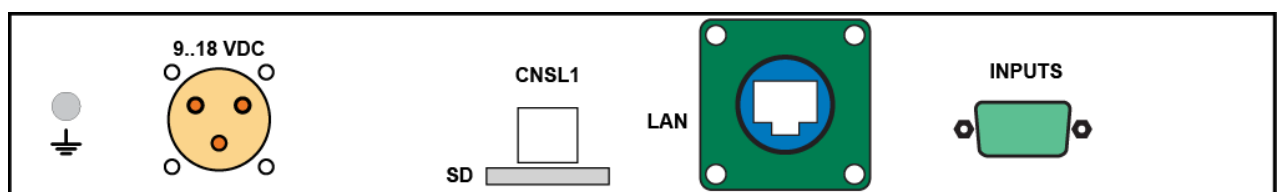
**Rack 10"**, Height 63 mm, Depth 245mm (265mm including connectors)

### Weight

$< 3$  Kg

### Certification

Certified CE, ROHS, REACH, ITAR Free & EAR99



TMS6015 Back Panel

### Command code:

*TMS6015: Standard*

*Please contact us for any further options needed*