C&H Technologies, Inc. • 445 Round Rock West Drive • Round Rock, TX 78681-5012

(512) 733-2621 • FAX (512) 733-2629 • www.chtech.com

CAUTION
This product requires a PXI/cPCI Chassis with replaceable card guides per the Eurocard mechanical specification

PX469S GPS Timing Module

The PX469S provides GPS timing in an ANSI standard M-module format. Up to 12 satellites can be simultaneously tracked to provide extremely accurate output timing. The module can be used to discipline precision oscillators to provide long-term clock stability. The PPS output signal is software controlled to be always ON, always, OFF, or only ON when certain accuracy conditions are met.

This unit also features a position for adding one single wide M Module.

Overview:

The module's GPS timing receiver provides simultaneous tracking of up to 12 satellites and outputs of precision 1PPS or 100PPS signals.

The module provides extensive control and status including:

- Satellite tracking
- Latitude and longitude
- Height
- Time
- Automatic Site Survey

The PPS output is software selectable to 1PPS or 100PPS. The output is actively monitored and its status is provided visually through a front panel LED, electrically through a front panel signal, and via software through a register or interrupt. The TRAIM (Time-Receiver Autonomous Integrity Monitoring) algorithm can be enabled to ensure the timing solution integrity.

Antenna Requirements:

Active antenna module with external gain of 18-36dBm measured at the GPS receiver RF connector. Bias power is switch selectable for 3V or 5V operation (80mA maximum current draw).

Front Panel I/O:

- PPS output: MMCX Jack
- Antenna: SMA Jack
- External Power: 9-pin DSUB
- PPS Active: 9-pin DSUB
- LEDs for PPS active and external power applied

Internal Connectors:

- Internal MMCX connector for PPS output eases integration with other M-modules.
- External power pass-through allows other modules to be powered externally

CPCI/PXI Compliance

Complies with PCI spec. 2.0 R3.0 and PCI spec 2.2

5V and 3.3V signaling voltage (VIO) supported

5V only power supply

33MHz PCI data bus

Five trigger lines compliant with PXI Specification 2.1

Form Factor: Size 3U

Applications

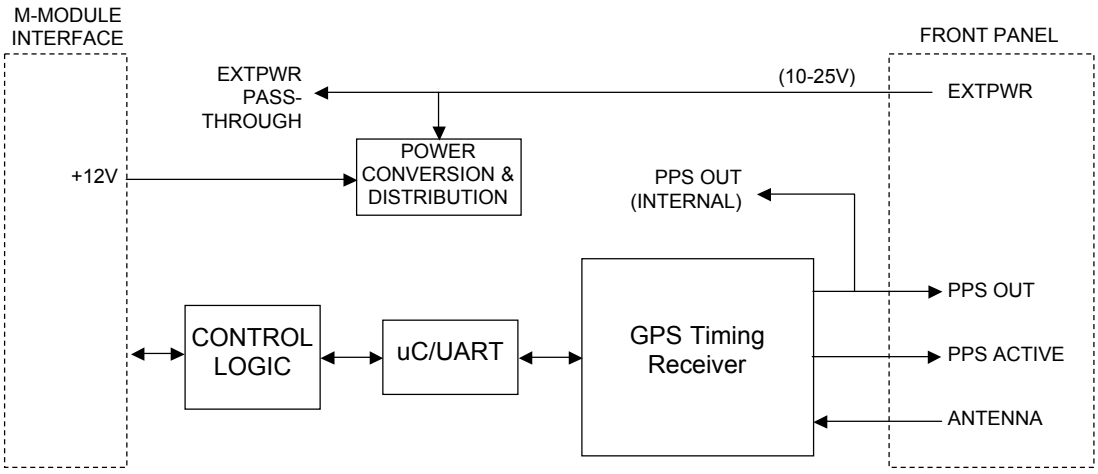
- Oscillator disciplining
- Long-term clock stability

Ordering Information

Part Number	11030280-0001
Optional Antenna with 15 meter cable	11029044-0001

Additional Information

User Manuals can be found on our website at www.chtech.com.



Specifications:

GPS Timing Receiver Characteristics:

Receiver channels	12
Tracking capability (simultaneous satellites)	12
Operating Frequency	1575.42MHz
Position Accuracy	<25 meter SEP [1]

Acquisition Time:

Hot	<25 sec
Warm	<50 sec
Cold	<200 sec
Internal Reacquisition	<1 sec

Position Accuracy:

Selective availability disabled	<25 meters SEP [1]

Timing Accuracy: [2]

Using clock granularity message		
	1σ average	<2ns
	6σ average	<6ns
Without clock granularity message		
	1σ average	<10ns
	6σ average	<20ns

PPS ACT Output Electrical Characteristics:

Output Level	V_{OH} into high-Z	2.4V min
	V_{OL} into high-Z	0.5V max
Output Impedance		3 - 7 Ω typ
Output Source/Sink Current		±24mA

PPS Output Electrical Characteristics:

Output Level	V_{OH} into 50Ω	2.0V min
	V_{OL} into 50Ω	0.4V max
Output Impedance		50±3 Ω
Output Source/Sink Current		±50mA
Propagation delay from M12+ output		3.5-9.0ns
Skew (FP output to internal output)		300ps max
Rise/Fall (0.8V to 2.0V / 2.0V to 0.8V)		1.5ns max

External Power Supply: [3]

Input Voltage	+10 to +30Vdc

Power:

+5V	0.4 A
+12V	0.13 A
-12V	0 A
EXTPWR Input Voltage [4]	40V max
EXTPWR Pass-through current	2A max

Temperature:

Operating	0°C to 50°C
Storage	-40°C to 70°C

Notes:

1. SEP (Spherical Error Probability)
2. 1PPS or 100PPS with position-hold active
3. Module power can be supplied from the PXI I/F +12V connection or from an external power supply
4. Absolute maximum to prevent damage