Time and Frequency
GPS Reference Module for Model 9100
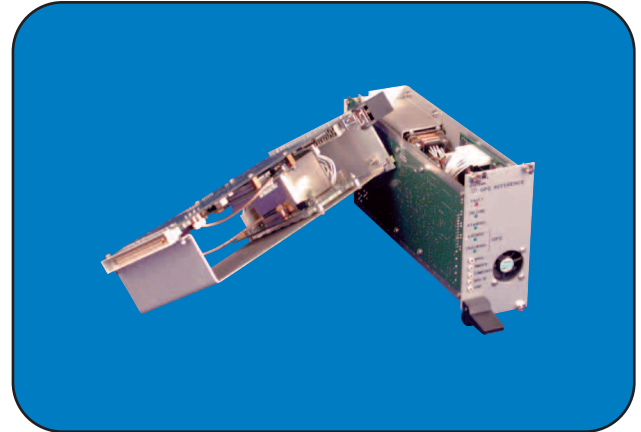# Model: 9101

TRAK

Application - Defense (Military) ■ SatCom ■ Wireless

Description:

This module contains a GPS timing receiver and either a rubidium oscillator or double oven crystal oscillator. These oscillators are disciplined by GPS and provide all Model 9100 system references. Output reference signals are distributed, through back plane buses to various modules. Front panel test points fault and status indicators are provided. An active antenna is included. This antenna features 35 dB gain, with triple filtering for reliable GPS operation in high near RF field areas.

Specifications:

GPS Reference Module, Model 9101-3
With Rubidium Oscillator

Long Term Freq. Stability Locked to GPS	$<1 \times 10^{-12}$ (24 Hour Average)
Short Term Freq. Stability Locked to GPS	$<3 \times 10^{-11}$ (1 Second)
Phase Accuracy With GPS	50 - 100 ns, After 1 Hour From Power Up
Holdover Freq. Stability	$<2 \times 10^{-11}$/Day, After 72 Hours Locked to GPS
Holdover Phase Accuracy	1 Day, ± 2 µsec 5 Days, ± 10 µsec, After 72 Hours Locked to GPS

GPS Reference Module, Model 9101-5
With Double Oven Crystal Oscillator

With the exception of performance specifications, this GPS Reference module is functionally equivalent to the rubidium model.

Long Term Freq. Stability Locked to GPS	$<1 \times 10^{-12}$ (24 Hour Average)
Short Term Freq. Stability Locked to GPS	$<1 \times 10^{-12}$ (1 second)
Phase Accuracy With GPS	50 - 100 ns, After 1 Hour From Power Up
Holdover Freq. Stability	$<1 \times 10^{-10}$/Day, After 72 Hours Locked to GPS
Holdover Phase Accuracy	1 Day, ± 7 µsec, After 72 Hours Locked to GPS

10 MHz Phase Noise, System Output:

	Rubidium	D.O. Crystal
10 Hz	-100 dBc	-115 dBc
100 Hz	-125 dBc	-135 dBc
1 KHz	-140 dBc	-145 dBc
10 KHz	-145 dBc	-150 dBc
100 KHz	-145 dBc	-150 dBc

Specifications subject to change without notice.

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