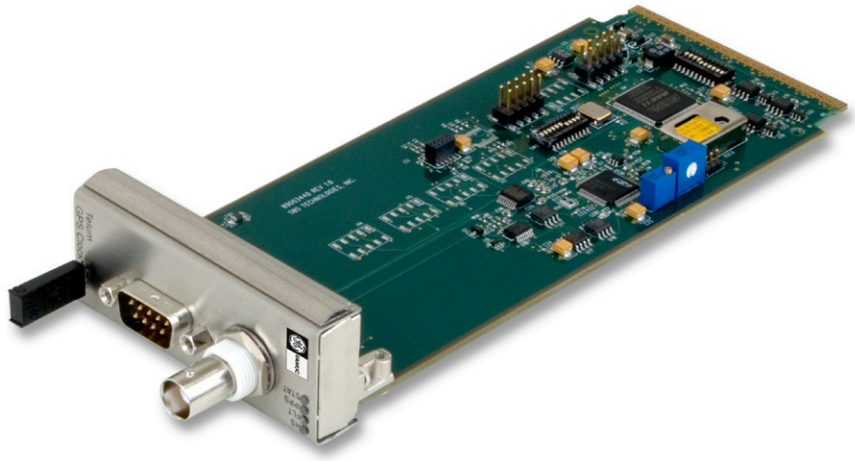
GE Fanuc
Intelligent Platforms



Telum™ GPSTC-AMC

GPS Clock AdvancedMC™

Features

Interface Support

- TCVCXO oscillator with Stratum 3 stability of 0.37 MHz
- Highly stable 30.72 MHz clock output
- RS-232 DB9 connector for connection to off-the-shelf GPS clock receivers
- 50 ohm BNC connector for connection to GPS derived 1 PPS clock input
- Phase error detection of ±10 nS

AdvancedMC Support

- AMC.0 R2.0
- Drives CLK1 and CLK3 output signal of ATCA carrier blade
- AMC.0 Module Management Controller (MMC)
- AMC.0 hot swap capability
- IPMI v1.5

Primary Application

- WiMAX base stations

Product Reliability

- High MTB
- Technical support for OEM

The Telum™ GPSTC-AMC is the industry's first GPS clock AdvancedMC module designed to provide a highly stable 30.72 MHz clock output that is phase aligned to Global Positioning System (GPS) derived 1 pulse per second (PPS) input. This GPS clock AdvancedMC provides extremely precise, highly reliable GPS clock synchronization for applications such as WiMAX base stations.

The GPSTC-AMC implements a temperature compensated voltage controlled crystal oscillator (TCVCXO) with a 30.72 MHz center frequency and a minimum Stratum 3 stability of 0.37 parts per million (PPM). The oscillator output is phase aligned to a 1 PPS clock input that is derived from the GPS satellite network. This very low jitter onboard crystal oscillator enables the microprocessor to filter out the short term jitter that often affects GPS derived 1 PPS clocks while taking advantage of its long term precision. Additionally, phased error detection is implemented between the 1 PPS input and the 30.72 MHz output with a phase accuracy of ±10nS. If the 1 PPS GPS input is lost, the Telum GPS clock AdvancedMC can free run, generating a 1 PPS output derived from the onboard 30.72 MHz crystal oscillator.

Intelligent Platform Management Interface (IPMI) & Hot Swap Compliance

An Intelligent Platform Management Interface (IPMI) subsystem initializes board level parameters, monitors board voltage and temperature conditions, maintains system status, and manages hot swap operation. A microcontroller is used as the IPMI intelligence and connects to the AdvancedMC management bus. The Telum GPSTC-AMC is hot swap capable and field replaceable in accordance with AMC.0.

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Telum GPSTC-AMC GPS Clock AdvancedMC

Specifications

AMC Clock Interconnect
- CLK1
- CLK3

Onboard Resources
- Crystal oscillator
- AMC.0 compliant MMC

Form Factor
- AMC.0 r2.0

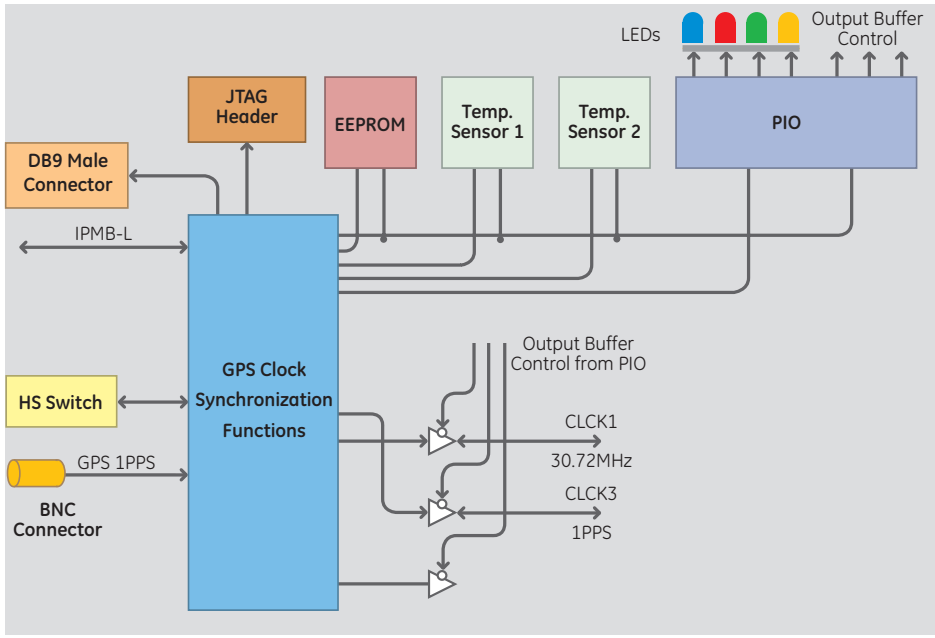
Power Requirements
- +12.0V (payload)
- Less than 10 watts

Weight
- 0.128kg (0.28 pounds)

Environmental
- Operating temperature: 0ºC to +55ºC
- Storage temperature: -40ºC to +85ºC
- Storage relative humidity: 5 – 95% non-condensing

Regulatory Compliance
- Emissions
  - FCC 47 CFR Part 15 Class A (USA)
  - EN 55022:1998, A1:2000,
- A2:2003 Class A ITE(EU)
  - CES -003 Issue 4 Class A (Canada)
  - AS/NZ CISPR 22:2002
  - VCCI Class A ITE
  - Class A (Aus. New Zealand)
  - VCCI Class A ITE
- Immunity
  - EN 55024:1998/A1:2001/A2:2003 (EU)
- CE Mark
- Safety
  - UL60950-1 (USA)
  - CSA 22.1 No. 60950-1-03 (Canada)
  - EN 60950-1 (EU)

Block Diagram



Ordering Information

15021-301: Telum GPSTC-AMC GPS clock AdvancedMC, multimode; full-size front panel
15021-305: Telum GPSTC-AMC GPS clock AdvancedMC, multimode; mid-size front panel

About GE Fanuc Intelligent Platforms

GE Fanuc Intelligent Platforms is a leading global provider of embedded computing solutions for a wide range of industries and applications. Our comprehensive product offering includes many types of I/O, single board computers, high performance signal processors, fully integrated, rugged systems including flat panel displays, plus high speed networking and communications products. The company is headquartered in the U.S. and has design, manufacturing and support offices throughout the world. Whether you're looking for one of our standard products or a fully custom solution, GE Fanuc Intelligent Platforms has the breadth, experience and 24/7 support to deliver what you need. For more information, visit www.gefanuc.com.

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Additional Resources

For more information, please visit the GE Fanuc Intelligent Platforms web site at:

www.gefanuc.com