

Highlights

- (16) Tri-Speed Ports w/ Layer 2/3 Management
- Switch Connected FPGA
- 2 PCM - 1 Input, 1 Output (RS-422)
- CH7 PCM Encoder & Decoder
- GPS Receiver, IRIG Time Input/Output AM/DC w/ 1PPS
- H/W IEEE-1588 Clocks w/ Grand Master Capability
- Audio Video Bridging (AVB) capability
- Programmable Discrete Inputs/Outputs
- Capacitor Backed Clock w/ ~30 Hour Hold Time



Overview

The iES-16 integrated Ethernet Switch, is a rugged 16 port layer 2/3 managed gigabit Ethernet switch with end node timing and discrete signal capabilities for demanding environments on airborne, shipboard & ground vehicles. Acting as a gateway, the iES provides IRIG 106 Chapter 7 PCM conversion which allows the unit to function as an Ethernet-to-telemetry encoder and telemetry-to-Ethernet decoder.

Switch traffic filtering capabilities include; Port User Limit Control, VLAN/ MAC Address (Static MAC Table), Packet/Bit Rate Limiters, Port Based and Frame Type and IP Filtering (ACL, Static/Dynamic Multicast). Audio Video Bridging (AVB) capability is also supported.

A switch connected FPGA provides built-in IRIG 106 Chapter 7 PCM encoding & decoding. This allows PCM output of VLAN, mirrored or filtered Ethernet switch traffic or from the PCM input decoded Ethernet back out the switch Ethernet ports. A programmable FPGA tied directly into the switch with two 1G interfaces provides line-rate packet processing capabilities. Discrete outputs (programmable or data driven) can be used to control end node devices, on or off the network, as well as feedback into the iES-16 from discrete inputs.

With multiple time sources and outputs, the iES-16 provides end node device IRIG time signals. iES-16 contains a high time accuracy internal GPS receiver & a capacitor backed hardware based 1588v2 time engine both able to drive the internal IRIG-A/B/G Time Code Generator for time outputs. The 1588v2 time engine provides 1-4 independent clocks (ordinary, boundary, transparent, 1/2 step, peer-to-peer or end-to-end).



Highlight Specifications



28VDC -
MIL-STD-704A or
MIL-STD-1275E



Width 5.17"
Length 7.15"
Height 2.59"



MIL-STD-810F
Shock/Vibe
Gun Fire/Sand
Rain/+ More



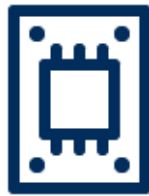
~4 Pounds



-40C to +75C
MIL-STD-810F



(16) 10/100/1000
Ethernet Ports
Layer 2/3
Managed



FPGA w/
Switch Interfaces
for Protocol
Transforms



GPS Receiver
Capacitor Backed
Clock



IRIG A/B/G
1PPS, DC & AM
IEEE-1588v2
Grand Master,
Master, Slave



1 Input (RS-422)
1 Output (RS-422)
Chapter 7
Encoder/Decoder



RS-232



Discrete I/O
10 Outputs
5 Input

Full Specifications @ telspandata.com/iES16

Ordering Info:

iES-16-1—integrated Ethernet Switch, 16 Port
iES-16-2—integrated Ethernet Switch, 16 Port, No 704 Hold Up

Options

iES-PCM—Add Ethernet to HDLC/CH7 PCM (Encode/Decode)
iES-16-BCS—iES-16 Breakout Cable Set