

The TELEGRID Environmental Sensor Unit (ESU) is a high-security networked system designed to operate in an unmanned tactical environment. It services multiple sensor types including Temperature/ Humidity sensors, Pressure sensors, Accelerometer, Gyroscope and Liquid sensors. The ESU features insulation between sensors interfaces and a patent pending restart circuit that automatically initiates system restart based on specific parameters.

The ESU accommodates two Ethernet network connections over copper or fiber media using SFP connectors. Additional service interfaces include serial ports (balanced and un-balanced), Controlled Area Network (CAN) bus, and direct GPIO interface lines to the internal Main Processor.

The ESU was developed using TELEGRID's Embedded Security Framework (ESF), a structured collection of encryption and authentication modules designed to accelerate the design and development of embedded systems in line with DISA Security Technical Implementation Guides (STIGs).



Operational Features

- Rugged design for autonomous environments
 - Complete separation and insulation between all service interfaces
 - Automatic re-start in case of temporary power failure (Patent Pending)
 - Designed to meet MIL-STD 810G
- Additional service interfaces include serial port (balanced and un-balanced), CAN, GPIO
- Supports fiber or copper Ethernet connections to higher layer data and control planes
- Internal and remote sensors include Temperature/ Humidity sensors, Pressure sensors, Accelerometer, Gyroscope, and Liquid sensors. Additional sensors available upon request
- FIPS 140-2 Level 1 compliant
- Includes Internet Protocol Security (IPsec) for VPN connectivity
- Supports Authentication, Authorization and Accounting (AAA)
- Access control includes Role-Based (RBAC), Object-Base (OBAC) and Attribute-Base (ABAC)



Embedded Security Features

Cryptography	
FIPS 140-2 Level 1 Compliance	Yes
Public / private key pair generation / certificate signing request	Yes
Symmetric Key Cryptography	Yes
Hashing	Yes
Random Number Generation	Yes
Protocols	
HTTPS	Yes
IPSec	Yes
TLS (version 1.1 minimum per NIST SP 800-52)	Yes
SSH (v2)	Yes
NTPv3 / v4 compliant	Yes
SNMPv3 / v2c	Yes
Syslog	Yes
Public Key Infrastructure (PKI)	
Supports Multiple Public Key Infrastructures	Yes
Certificate revocation checking (OCSP and CRL)	Yes
Supports PKI-based Two Factor authentication	Yes
Authentication, Authorization, Accounting (AAA)	
Supports Centralization Authentication and Authorization	Yes
802.1x Support	Yes
Auditing	
Audit log / trail	Yes

TELEGRID Technologies, Inc.
 23 Vreeland Road
 Florham Park, NJ 07932
 (973) 994-4440
 sales@telegrid.com