ASELPINE | DCDU

DATA COLLECTION AND DISTRIBUTION UNIT

#Avionics

MIL-STD-1553 & ARINC-429 & RS-485 & O/G DISCRETE
COLLECTION & DISTRIBUTION
TIME-SENSITIVE NETWORKING (TSN) & IEEE 802.3 STANDARD ETHERNET

aselsan

ASELPINE | DCDU

DATA COLLECTION AND DISTRIBUTION UNIT

Data Collection and Distribution Unit (aselPINE DCDU) will provide a deterministic ethernet (TSN) interface for avionic systems to communicate with other systems on the network.

aselPINE DCDU collects the information from MIL-STD-1553, ARINC-429, RS-485 and O/G Discrete channels, performs predetermined processing on the
received information and forwards the processed information to the corresponding communication interface, deterministic ethernet interface or related communication channel.

aselPINE DCDU manages the communication on MIL-STD-1553, ARINC-429, RS-485, O/G Discrete Interfaces according the data received from deterministic ethernet (TSN) interfaces.

aselPINE DCDU supports Redundant Operation in each of its communication channels that are defined in the configuration file with its pair aselPINE DCDU.

Supported Standards
- IEEE Std 802.3-2018
- IEEE Std 802.1AS-2020
- IEEE Std 802.1Qci-2017
- IEEE Std 802.1Qbv-2015
- IEEE Std 802.1CB-2017

Functional Interface
- Channel Based Redundancy for Each Interfaces
- Capability to Perform Pre-Defined Processing on the Data Received from Communication Interfaces
- BC, RT and BM modes of MIL-STD-1553 Supported
- ICMP Error & Query Message Reporting
- Per-Stream Filtering and Policing in Each Ingress Port
- Frame Replication & Elimination Support

Time Synchronization
- PTP Relay Instance and Grandmaster PTP Instance Support
- External Port Configurations Support
- Up to 3 gPTP Time Domains Support
- 1PPS and BCD Time Code Support According to ICD-GPS-060B

Configuration
- ARINC 615A-3 Compliant Data Loading
- Selectable Configuration modes via Configuration O/G Inputs

Monitoring
- SNMPv2c for Status Monitoring

Interfaces
- 2x 10/100/1000 Mbit/s Full Duplex Ethernet
- 11x ARINC-429 Rx & 9x ARINC-429 Tx Interface
- 22x RS-485 Interface & 3x RS-232 Interface
- 3x MIL-STD-1553/WMUX Interface
- 53x O/G Discrete Input & 55x O/G Discrete Output Interface
- 8x Addressing & Configuration O/G Input
- 1x 1PPS Input & 1x BCD_TIME_Code Input

Physical Specifications
- Dimensions: 150 mm (W) x 240 mm (H) x 210 mm (L)
- Weight: < 3.25 kg

Technical Specifications
- Power Input: 28 VDC (Nominal)
- Power Consumption: 40W (Nominal) / 50W (Maximum)
- Power hold-up for short time power interrupts

Environmental Conditions
- Operating Temperature and Altitude: -40°C / +71°C, 55.000 ft
- Storage Temperature: -55°C / +85°C

Qualifications
- DO-160G

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