

BVR™ Data Concentrator Units (DCUs)

Industry-leading signal-conversion and data-concentration technology, featuring:

- Proven airborne reliability
- Compact, low-weight designs
- Versatile I/O and databus management
- Self calibration, self testing

Versatile Gen 3 DCU with up to 250 I/O channels and multiple circuit interface options



The BVR Gen 3 DCU from Esterline offers a mature design base to meet demanding concentrator requirements. Originally developed for the UH-60 Blackhawk helicopter, as part of the Common Avionics Architecture System (CAAS) program, it has proven its reliability over thousands of flight hours in the harshest conditions.

With up to 250 channels and many circuit interface options, it is ideal for customization in complex high-volume, high-connectivity applications such as maintenance data computers and airframe sensor data concentrators.

Esterline is an industry leader in developing aircraft data collection, conversion, and routing solutions. We deliver the elements you need to implement rugged, scalable, fault-tolerant data networks.

DCUs collect discrete inputs, analog signals, and digital data from sensors and equipment throughout the aircraft, then convert them to digital format for streaming over the databus of the flight-control or aircraft-management system (typically ARINC 429, ARINC 664/AFDX, CAN bus, Ethernet, MIL-STD-1553, RS-422, RS-485).

Main advantages include reduced cabling and minimal signal interference, as well as improved robustness and survivability, through distributed redundancy and the elimination of single points of failure.

We optimize DCU reliability, weight, and size by engineering all our units to systematically reduce component count and connections. We implement state-of-the-art electronics technologies, including:

- Embedded passives
- System on a chip
- Configurable I/O
- FPGA circuit integration

Our electronics are so compact that the final form factor is driven by customer requirements for the number of I/O pinouts and associated connectors.

With our depth of expertise in electronics design, software, and mechanical engineering, as well as manufacturing and testing, we are able to deliver solutions perfectly suited to your platform requirements.

BVR Gen 3 250-channel DCU

Features

- Proven interface circuits
- Under 1 Amp current draw
- No forced air cooling
- ENV / EMI / HIRF / lightning tested
- Sensor-specific software modules
- Mature design base
- DO-160
- DO-178B Level A software
- MIL-STD-461
- MIL-STD-704
- MIL-STD-810

Inputs and outputs

Signal	I/O type	Destination type	Configuration quantity
Discrete	Input	Ground/open; 28 VDC/open; chip detector	171
Analog	Input	AC ratio (3); 0-10 VDC (12); 0-100 mVDC (2); frequency (5); resistive (3); synchro (1)	26 total
Serial	Input	RS-422, ARINC 429	22
Discrete	Output	Ground/open; 28 VDC/open	16
Analog	Output	N/A	0
Serial	Output	RS-422, ARINC 429	12

Circuit interface options

- Resistive
- DC analog (0-100 mV, 0-10 V, 0-50 V)
- 10 VAC ratio
- Synchro
- RS-422
- ARINC 429, 717
- Frequency (0-100 Hz, 100 Hz - 20 kHz)
- Discrete input (Ground/open, 28 VDC/open)
- Discrete output (Ground/open, 28 VDC/open)
- 10 VDC analog output
- Thermocouple
- Chip detector
- Lamp driver
- Fiber optic
- MIL-STD-1553
- Solid-state relay
- Ethernet
- Multi-wire discrete input
- Analog (0-1 Amp)

For more information about BVR data concentrator units, call us at 815-874-2471 or email bvr.sales@esterline.com.

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