



ANALOG & DIGITAL SIGNAL ACQUISITION

REMOTE DATA CONCENTRATOR

United Kingdom | United States | Australia



CAPABILITIES

- Extremely compact and lightweight — weighs as little as 0.55 lb. (0.25 kg)
- Captures analog and discrete sensor inputs at remote locations
- Safety-critical soft-core processor for customer loadable analysis software
- Programmable gain amplifiers
- Firmware-defined data acquisition
- Internal ambient temperature sensor & vibration immune triaxial thermal accelerometer
- Qualified to DO-160G & MIL-STD-810F/461F/704F
- Design assurance to DO-254

RDC AT A GLANCE

The Remote Data Concentrator (RDC) is a miniature data acquisition unit designed for extremely harsh environments that can be located at the aircraft signal source. The RDC enables a distributed data acquisition architecture collecting as many as 32 sensor inputs from multiple locations on the airframe transmitting data via ARINC 429 to avionics systems such as Flight Data Recorders (FDR), Health and Usage Monitoring System (HUMS) and other systems requiring critical aircraft data.

Locating the RDC close to signal sources simplifies the installation, improves signal accuracy and enables access to data that may otherwise prove difficult to obtain. The RDC operation is automatic upon application of aircraft or battery power.

The RDC's rugged aluminium flange-mount housing with captive hardware, along with MIL-DTL-38999 connectors, provides an environmentally sealed enclosure ideal for most operational requirements. This includes both commercial and military fixed-wing and rotary-wing aircraft with the housing bonding directly to the airframe.

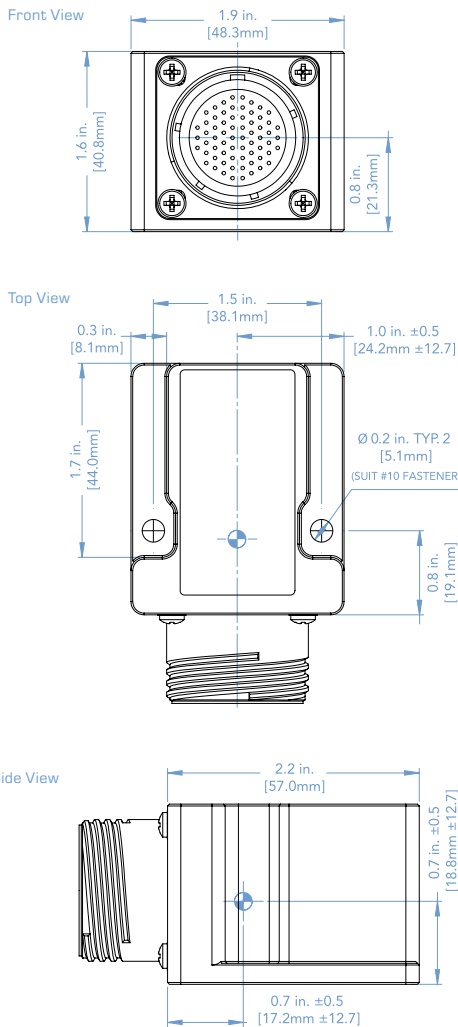
In addition to capturing existing sensor data, the RDC offers two auxiliary voltage or current outputs, 28 VDC for powering accelerometers and a regulated 10 VDC for powering potentiometers and strain gauges, allowing for the addition of extra sensors on the airframe that may provide useful maintenance data.

RDC SPECIFICATIONS

Miniature and lightweight analog and digital data acquisition unit.

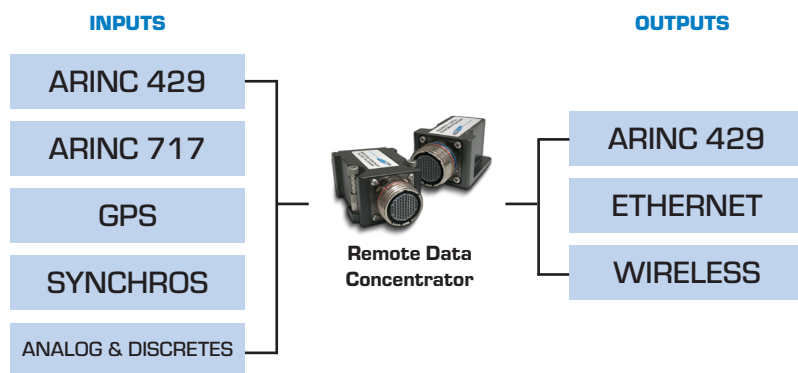


RDC Dimensions



Type	Description
Physical Dimensions (in.)	1.4 in. H (min.) x 3.9 in. D x 4.6 in. W
Physical Dimensions (mm.)	35mm H x 100mm D x 115mm W
Weight	1.5 lb. nominal
Inputs (up to 24 bit w/ 2 megasamples/second/channel)	ARINC 429, ARINC 717, MIL-STD-1553 Analogs, Discrettes, Synchros, LVDT, Remote Data Concentrator (RDC)
Output	ARINC 429, ARINC 717
Power (Input Power)	28 VDC
Power (Consumption)	5 Watts
Main Connector	MIL-C-38999 Series II, 66-pin
Environmental Certifications	DO-160G & MIL-STD-810F/461F/704F
Operating Temperature	-55 °C to 70 °C
Non-operating Temperature	-55 °C to 85 °C
Humidity	100%
Operational Altitude	55,000 ft.
Operational Shock	20 g
EMI/EMC	DO-160G, MIL-STD-461F/704F
Reliability	>12,000 operating hrs. MTBF
Cooling	Passive convection
Additional Capabilities	<ul style="list-style-type: none"> Quick Access Recorder (QAR) 115 VAC, 400 Hz power Available 4.3-inch EMI-shielded touchscreen LCD with optional NVG Class A capability Internal, non-volatile memory (up to 64 GB)

RDC Functional System Block Diagram



Flight Data Systems

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