

Curtiss-Wright Acra KAM-500



Curtiss-Wright is the largest rugged aerospace data acquisition provider in the world, with decades of experience as a trusted, proven leader in aviation technology. The Acra KAM-500 data acquisition system (DAS) is one of our most widely installed aerospace lines with over 14,000 systems shipped worldwide to date. The rugged DASs are highly versatile, consisting of one or more data acquisition units (DAU). Each DAU can be filled with any combination of over a hundred commercial off-the-shelf (COTS) modules to quickly produce a custom solution to meet a program's need.

- + Choose from a broad range of field-proven modules to meet your specific program requirements
- + Scale or upgrade easily by adding modules to empty slots or connecting a network of multiple chassis
- + Compatible with a wide range of Curtiss-Wright recorders, telemetry and RF systems, imaging systems and ground station solutions

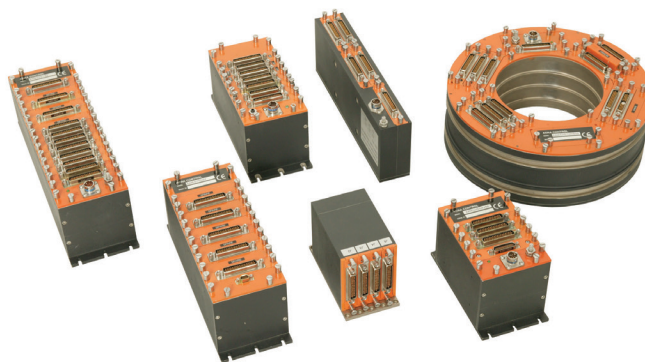


Figure 1: The KAM-500 is available in many shapes and sizes

KAM-500 Architecture

KAM-500 DAUs consist of a 3- to 13-slot chassis with integral power supplies, a backplane for internal data transmission, a chassis controller (bus control unit), and user modules.

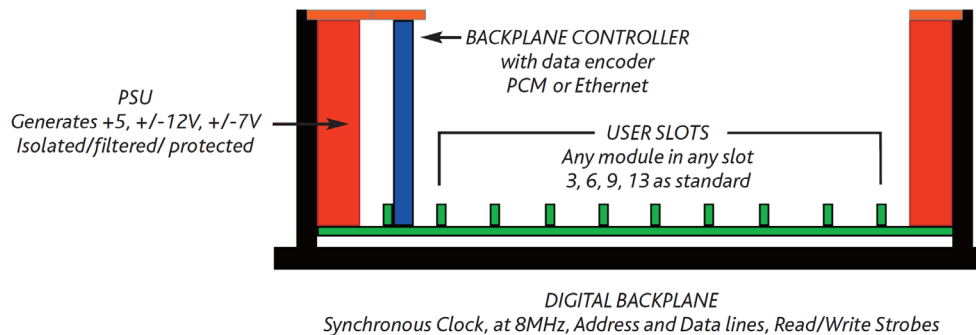


Figure 2: The KAM-500 is fully modular, where any module can be placed in any slot

KAM-500 User Modules

We offer hundreds of existing user modules that can be placed into the chassis in any configuration and are available with minimal lead time to accelerate your time to market. Due to the flexible nature of the KAM-500 design, additional modules can be quickly added to empty chassis slots for additional functionality, protecting your investment as your requirements evolve.

- | | | |
|---------------------------------|----------------------------|------------------------------------|
| + Analog voltage | + Video | + Serial, RS-232/422/485 |
| + Strain gauge | + Discrete (28V/open etc.) | + AFDX |
| + Potentiometer | + MIL-STD-1553 bus | + ARINC-717 |
| + Thermocouple | + ARINC-429 bus | + Internal recorders |
| + Resistive temperature devices | + Ethernet monitor | + Removable CompactFlash recorders |
| + Accelerometer | + Ethernet switch | + Data processing (Linux) |
| + Synchro, LVDT, RVDT | + CANBus | + Wireless sensor interface |
| + Audio | + Firewire | |

[See the full list of standard modules.](#)

The KAM-500 bus control unit (BCU) can output data as Ethernet in iNET-X or IENA formats, or alternatively as pulse code modulated (PCM) data. This data can be stored on an external recorder, transmitted via wireless or radio link, or processed by an onboard computer. The BCU also can act as an IEEE-1588 time code grandmaster or can synchronize to external GPS time with the aid of a time-code user module.

A KAM-500 DAU can be used as a standalone unit or several can be connected together to operate as a complex synchronized system.

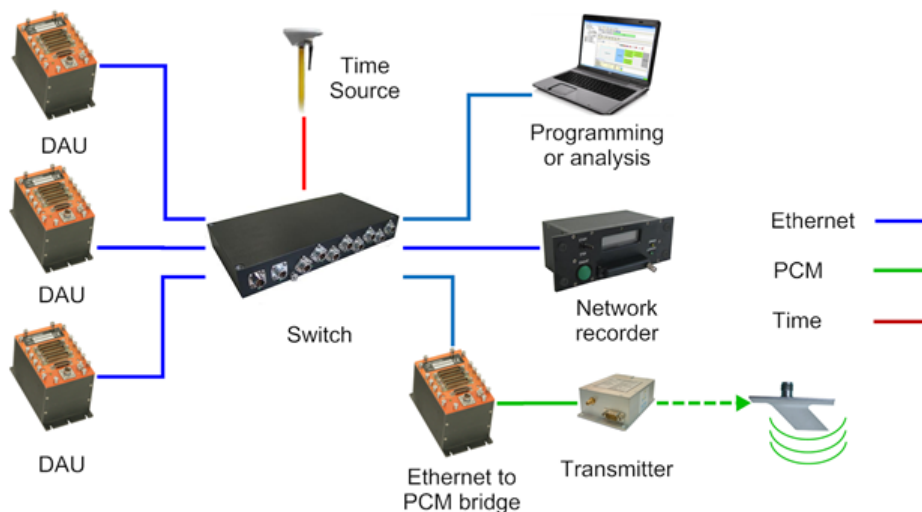
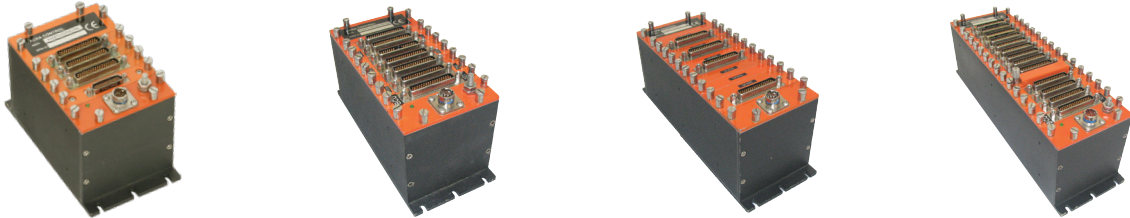


Figure 3: The KAM-500 system can work on its own or in a system with many more devices

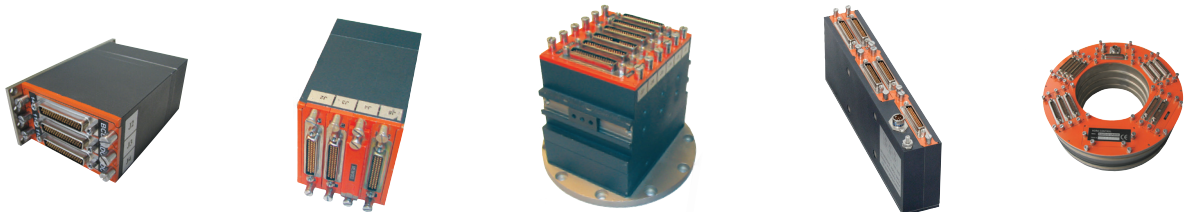
Standard Chassis Options



Chassis	CHS/03U	CHS/06U	CHS/09U	CHS/13U
User Slots	3	6	9	13
Dimensions	3.9 x 5.5 x 3.2" 99 x 140 x 80 mm	3.9 x 7.2 x 3.2" 99 x 182 x 80 mm	3.9 x 8.8 x 3.2" 99 x 224 x 80 mm	3.9 x 11.0 x 3.2" 99 x 280 x 80 mm
Mass*	2.87 lb 1.30 kg	2.75 lb 1.70 kg	4.74 lb 2.15 kg	5.95 lb 2.70 kg

*For a typical fully loaded chassis

Alternative Chassis Options



Chassis	CHS/02F	CHS/03F	CHS/04L	CHS/04L	CHS/012R
User Slots	2	3	5	4	12
Dimensions	3.3 x 5.4 x 2.1" 84 x 137 x 50 mm	3.3 x 4.8 x 2.5" 84 x 122 x 64 mm	4.6 x 5.5 x 3.9" 118 x 140 x 92 mm	3.9 x 9.5 x 1.6" 99 x 242 x 40 mm	3.9 x 9.8" 99 x 250 mm
Mass*	1.79 lb 0.81 kg	1.97 lb 0.89 kg	3.43 lb 1.56 kg	3.27 lb 1.48 kg	8.28 lb 3.75 kg

*For a typical fully loaded chassis

Environmental Qualification

The KAM-500 product range has been qualified to MIL-STD-810, MIL-STD-461, and DO-160. Typical categories include

- + Temperature
- + Altitude
- + Vibration
- + Shock
- + Waterproofness
- + Humidity
- + RF emissions
- + RF susceptibility
- + Indirect lightning
- + Power input
- + Voltage spikes

A full list can be found in the [KAM-500 Environmental Handbook](#).