

KAM/CHS/06U

Acra KAM-500 chassis - 6 user-slots

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Overview

The KAM/CHS/06U is a six user-slot Acra KAM-500 chassis, which along with the housing and backplane, includes a power supply module which regulates power supplies for the backplane (isolated 28V nominal in).

The backplane has six connectors for user-modules, which are polarized to prevent the insertion of the backplane controller module. The backplane distributes power and connects address, data and control lines to the user modules.

The only ICs on the backplane are demultiplexers for user-module select signal. Any user-module can be placed in any user-slot in any combination.

2.0A is available for bridge excitation.

Key Features

- Power supply unit and six user-slots
- 18 to 40 VDC isolated power supply
- Rugged aluminum housing
- 8 MHz x 16-bit digital backplane
- Operates as master or slave in distributed system
- LED power-on indicator

Applications

- Flight test instrumentation systems

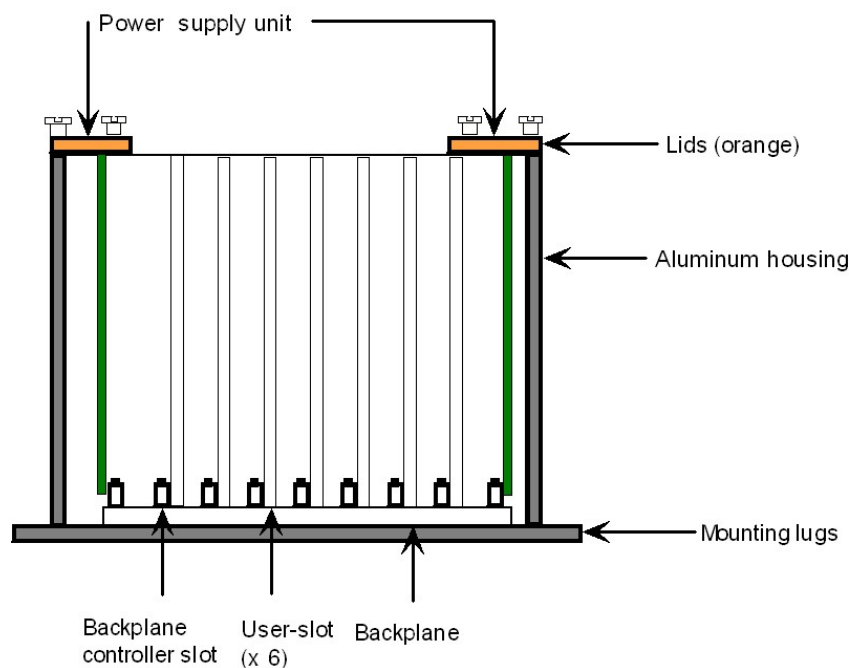


Figure 1: KAM/CHS/06U with PSU and six user-slots

Specifications

All values provided in the following specification tables are valid within the operating temperature range specified under “Environmental ratings” in the “General specifications” table.

| TABLE 1 | | General specifications | | | | |
|---------------------------|------|------------------------|------|-------|--|--|
| PARAMETER | MIN. | TYP. | MAX. | UNITS | CONDITION/DETAILS | |
| User slots | – | – | 6 | – | | |
| Dimensions | | | | | Design metric is millimeters. | |
| height | – | 98.5 | – | mm | Includes module retention screws and ground bolt. | |
| height | – | 3.88 | – | in. | Includes module retention screws and ground bolt. | |
| length | – | 182 | – | mm | Includes mounting lugs. | |
| length | – | 7.17 | – | in. | Includes mounting lugs. | |
| width | – | 80 | – | mm | Excludes heat sinks. | |
| width | – | 3.15 | – | in. | Excludes heat sinks. | |
| Mass | | | | | Design metric is kilograms. | |
| no modules | 1.0 | 1.2 | 1.4 | kg | Includes power supply. For variations of the chassis listed in “Specifications” on page 2, the mass ranges +/-200 g. | |
| no modules | 2.2 | 2.65 | 3.09 | lb | Includes power supply. | |
| fully populated | 1.5 | 1.7 | 1.9 | kg | Typical module weight of 75 g. | |
| fully populated | 3.31 | 3.75 | 4.19 | lb | Typical module weight of 2.61 oz. | |
| Environmental ratings | | | | | See <i>Environmental Qualification Handbook</i> . | |
| operating temperature | -40 | – | 85 | °C | Chassis base/side plate temperature. | |
| storage temperature | -55 | – | 125 | °C | | |
| Finish | | | | | Electroless nickel-plated. | |
| top parts | – | – | – | – | Painted REINORANGE RAL2004. | |
| base, side and end plates | – | – | – | – | Painted black GRIGIO SCURO OPACO C604. | |
| Chassis material | – | – | – | – | Aluminum alloy 6082-T6 (Din No: AIMgSi1). | |

Details and dimensions of this chassis as shown the following figure, refer to all variations of the chassis listed in “Ordering information” on page 5; the 9-way micro-miniature PSU connector is the only difference.

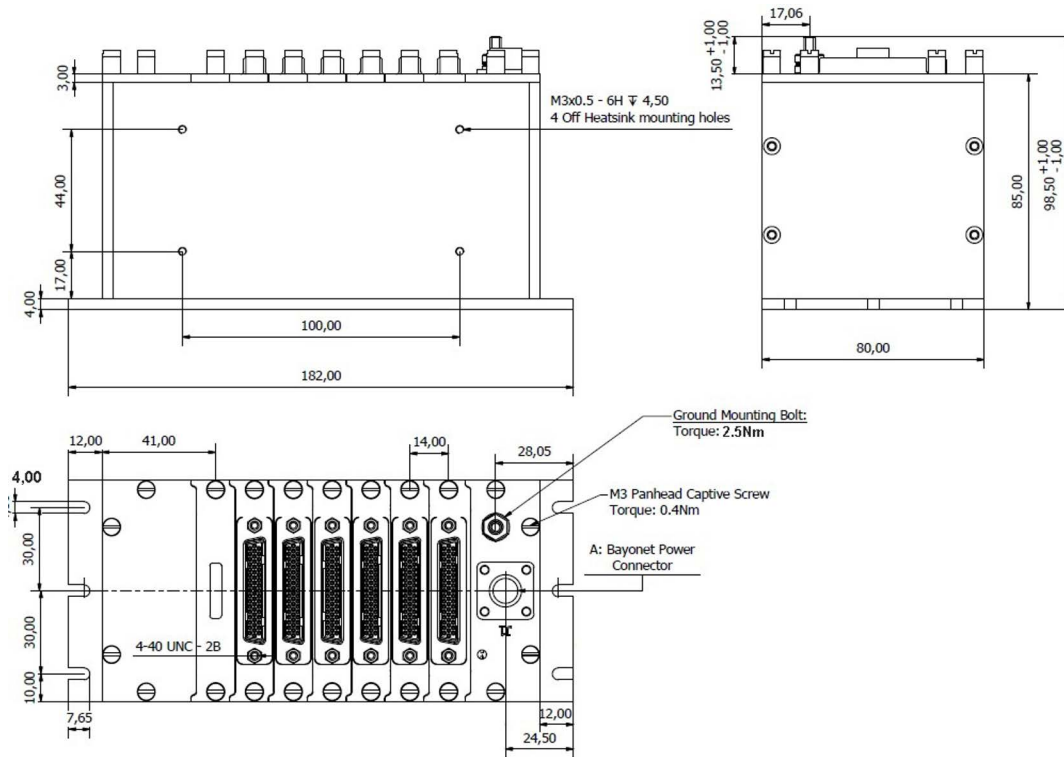


Figure 2: KAM/CHS/06U mechanical drawing

Getting the most from the KAM/CHS/06U

Where space permits, it is recommended that one or two heat sinks (ACC/HSK/001/06U) be used. Heat sinks must be ordered separately.

Slot J2 is always reserved for the backplane controller module. A controller is required in slot J2 for control and programming of user-modules.

Connector pinout of the KAM/PSU/012/B and KAM/PSU/012/B/NC supplied with the KAM/CHS/06U and KAM/CHS/06U/NC

| PIN | NAME | SEE SPECIFICATIONS TABLE | COMMENT |
|-----|---------|--------------------------|-------------------------------------|
| 1 | POWER+ | Nominal 28V supply | Isolated internally; aircraft power |
| 2 | POWER- | Return for nominal 28V | Isolated internally; aircraft power |
| 3 | CHASSIS | Chassis | |
| 4 | GND | Internal ground | |
| 5 | +12V | Internal +12V | Current depends on internal loading |
| 6 | +5V | Internal +5V | Current depends on internal loading |

Connector pinout of the KAM/PSU/011/B supplied with the KAM/CHS/06U/MM

| PIN | NAME | SEE SPECIFICATIONS TABLE | COMMENT |
|-----|--------|--------------------------|-------------------------------------|
| 1 | POWER+ | Nominal 28V supply | Isolated internally; aircraft power |
| 2 | POWER- | Return for nominal 28V | Isolated internally; aircraft power |
| 3 | +12V | Internal +12V out | Current depends on internal loading |
| 4 | -12V | Internal -12V out | Current depends on internal loading |
| 5 | GND | Internal ground | |
| 6 | +5V | Internal +5V out | Current depends on internal loading |
| 7 | GND | Internal ground | |
| 8 | DNC | | Not connected |
| 9 | DNC | | Not connected |

Ordering information

| PART NUMBER | DESCRIPTION |
|------------------|---|
| KAM/CHS/06U/E | Acra KAM-500 chassis - 6 user-slots |
| KAM/CHS/06U/E/MM | Acra KAM-500 chassis - 6 user-slots (micro-miniature connector) |
| KAM/CHS/06U/E/NC | Acra KAM-500 chassis - 6 user-slots (no brown out capacitor) |

By default, the standard mating connector, (CON/PSU/007/FL/100 for KAM/CHS/06U; or ACC/ASY/007/04 for KAM/CHS/06U/MM), is included with each chassis in the shipment. Its part number will be added to the Confirmation of Order unless an alternative option is specified (see the *Cables* data sheet). In this data sheet, KAM/CHS/06U refers to all variations of the chassis listed in the Ordering information table above. Spare lids (ACM/LID/001) for unused user-slots can be supplied. These are optional items and must be ordered separately; refer to Related products.

Revision history

| REVISION | DIFFERENCES | STATUS |
|---------------|--|----------------------------------|
| KAM/CHS/06U/E | PSU upgraded to 5A on +5V power line | Recommended for new programs |
| KAM/CHS/06U/D | PSU upgraded to 4A on +5V power line | Not recommended for new programs |
| KAM/CHS/06U/C | Includes KAM/PSU/010 with diode for power-up | Not recommended for new programs |
| KAM/CHS/06U/B | Includes KAM/PSU/007 | Not recommended for new programs |
| KAM/CHS/06U | First release | Not recommended for new programs |

Supporting software

| SOFTWARE | DETAILS |
|--------------|---|
| DAS Studio 3 | User interface for setup and management of data acquisition, network switches, recorders and ground stations in an integrated environment |
| KSM-500 | This module is supported by the KSM-500 suite of software tools |

Related products

| MODULE | DETAILS |
|------------------|---|
| ACM/LID/001 | Spare user-slot lids and spare screws for the Acra KAM-500 system |
| ACC/HSK/001/06U | Optional heat sinks for the Acra KAM-500 system |
| BAC/PSU/007 | Backshell for CON/PSU/007 |
| CON/PSU/007 | 6-way nickel-plated bayonet standard PSU mating connector |
| KAM/PSU/011/B | Power supply unit for Acra KAM-500 chassis (+5V, $\pm 7V$ and $\pm 12V$) - 9-way connector |
| KAM/PSU/012/B | +5V, $\pm 7V$ and $\pm 12V$ power supply unit for Acra KAM-500 chassis with 6-way connector |
| KAM/PSU/012/B/NC | +5V, $\pm 7V$, and $\pm 12V$ power supply unit for Acra KAM-500 chassis with glitch capacitors removed |

Related documentation

| DOCUMENT | DETAILS |
|-------------|--------------------------------------|
| DOC/DBK/001 | Acra KAM-500 Databook |
| DOC/MAN/018 | KSM-500 Databook |
| DOC/MAN/030 | DAS Studio 3 User Manual |
| DOC/HBK/002 | Environmental Qualification Handbook |
| TEC/NOT/016 | Power dissipation |

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