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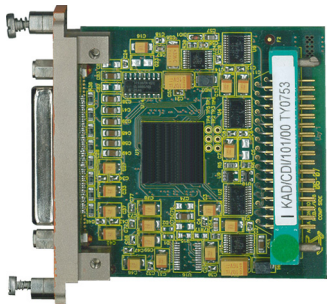
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Find the *Curtiss-Wright / ACRA Control KAD/CDI/101/00* at our website: *Click HERE*

KAD/CDI/101

Interface module for the cockpit display unit (OBE/CDU/001)

CURTISSWRIGHTDS.COM



Key Features

- Remote control of KAM/MEM/103 and KAD/MEM/004 event logging

Applications

- Data acquisition control

Overview

The KAD/CDI/101 controls recording on a KAM/MEM/103 or KAD/MEM/004 module. The KAD/CDI/101 is the Acra KAM-500 interface for the OBE/CDU/001 and supplies power to the OBE/CDU/001.

When the event switch on the OBE/CDU/001 is toggled from off to on, the KAD/CDI/101 triggers the Acra KAM-500 to log data on a KAM/MEM/103 or a KAD/MEM/004 module.

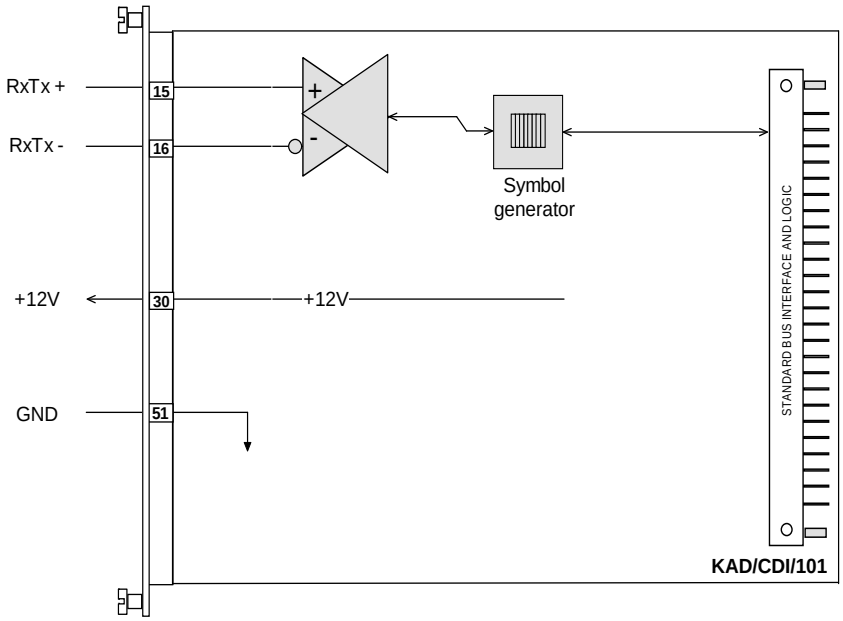


Figure 1: Data link of the KAM/CDI/101

Specifications

TABLE 1	General specifications				
PARAMETER	MIN.	TYP.	MAX.	UNITS	CONDITION/DETAILS
Slots	–	–	1	–	Can be placed in any user-slot in any combination.
Mass					
	–	70	–	g	
	–	2.46	–	oz	Design metric is grams.
Height above chassis					For recommended clearance requirements see the *CON/KAD/002/CP* data sheet for KAD modules, and see the *ACC/CON/008/04* data sheet for MicroKAM and KAM modules.
bare connector	–	–	11	mm	
bare connector	–	–	0.43	inch	Design metric is millimeters.
Access rate	–	–	2	Msps	Maximum combined access rate for read and write.
Power consumption					
+5V	115	–	130	mA	
±7V	0	–	0	mA	
±12V	0	–	0	mA	
total power	0.575	–	0.65	W	
Environmental ratings					See *Environmental Qualification Handbook*.
operating temperature	-40	–	85	°C	Chassis base/side plate temperature.
storage temperature	-55	–	105	°C	

TABLE 2	RS-485				
PARAMETER	MIN.	TYP.	MAX.	UNITS	CONDITION/DETAILS
Channels	–	–	1	–	
Signaling rate					
RxTx +/-	–	–	1	Mbps	
Input voltage					
absolute operating range	-20	–	25	V	For correct operation the voltage on the signal pins must remain within these limits.
logic 0	–	–	-0.2	V	V_{IN+} - V_{IN-}.
logic 1	-0.2	–	–	V	V_{IN+} - V_{IN-}.
overvoltage protection	-25	–	25	V	Voltages outside of this range can damage input.
ESD protection	–	15	–	kV	Human Body Model.
Output voltage					
absolute operating range	-20	–	25	V	
logic 0	–	–	0.8	V	V_{0+} - V_{0-} ; R_{LOAD} = 100Ω.
logic 1	2	–	–	V	V_{0+} - V_{0-} ; R_{LOAD} = 100Ω.
short circuit current	-250	–	250	mA	
short circuit duration	∞	–	–	s	Only one output may be shorted at a time.

TABLE 2	RS-485 (continued)				
PARAMETER	MIN.	TYP.	MAX.	UNITS	CONDITION/DETAILS
Input resistance					
between inputs	–	–	10	MΩ	Module powered on.
between inputs	100	–	–	kΩ	Module powered off.
between inputs	–	120	–	Ω	Module powered on and inputs terminated.
between inputs	–	120	–	Ω	Module powered off and inputs terminated.
each input to GND	–	–	5	MΩ	Module powered on.
each input to GND	50	–	–	kΩ	Module powered off.
Output resistance					
between inputs	–	–	10	MΩ	Module powered on.
between inputs	100	–	–	kΩ	Module powered off.
between inputs	–	120	–	Ω	Module powered on and inputs terminated.
between inputs	–	120	–	Ω	Module powered off and inputs terminated.
each input to GND	–	–	5	MΩ	Module powered on.
each input to GND	50	–	–	kΩ	Module powered off.

Getting the most from the KAD/CDI/101

The KAD/CDI/101 is the interface module for the OBE/CDU/001 (for more information, see the OBE/CDU/001 data sheet). The KAD/CDI/101 outputs a Status register which triggers recording on a memory module. To see this Status register in the list of parameters for a memory module, it must be in the list of Sampling Strategy parameters.

Depending on the switch side, Event off or Event on (see the following figure), the Status value is one of the following:

- Status value off - 0000 0000 0000 0000
- Status value on - 1000 0000 0000 0000

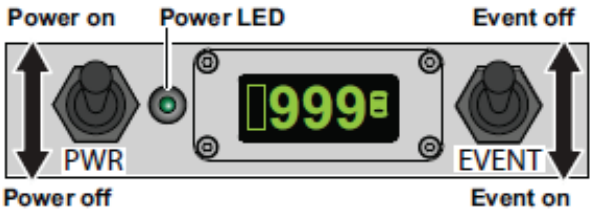


Figure 2: Status switch sides (Event off/Event on)

The Status must be set in the trigger condition of a memory module (see the following figure).

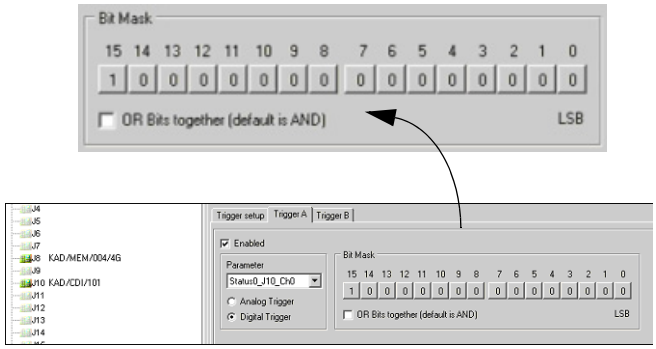


Figure 3: Setting the trigger condition of the memory module

When an event is ended, by turning the EVENT switch to Event off (see Figure 2 on page 4), logging ends only when the memory module has filled the set number of 32K blocks used per event.

NOTE: The Status register, which triggers recording, can be used (inverted) to reverse the on state of the switch. In this scenario, every time the KAD/CDI/101 or OBE/CDU/001 is powered on, the memory module starts logging until the end condition, such as the number of blocks to log. This is caused by the default value of the Status being set at 0x0 at power-on. This effect can be minimized by keeping the Stop Conditions with Log For [2] blocks.

Connector pinout of the KAD/CDI/101

PIN	NAME	SEE SPECIFICATIONS TABLE	COMMENT
1	DNC		Do not connect
2	DNC		Do not connect
3	DNC		Do not connect
4	DNC		Do not connect
5	DNC		Do not connect
6	DNC		Do not connect
7	DNC		Do not connect
8	DNC		Do not connect
9	DNC		Do not connect
10	DNC		Do not connect
11	DNC		Do not connect
12	DNC		Do not connect
13	DNC		Do not connect
14	DNC		Do not connect
15	RxTx+	RS-485	Bi-directional
16	RxTx-	RS-485	Bi-directional
17	DNC		Do not connect
18	DNC		Do not connect
19	DNC		Do not connect
20	DNC		Do not connect
21	DNC		Do not connect
22	DNC		Do not connect
23	DNC		Do not connect
24	DNC		Do not connect
25	DNC		Do not connect
26	DNC		Do not connect
27	DNC		Do not connect
28	DNC		Do not connect
29	DNC		Do not connect
30	+12V		DC supply for OBE/CDU/001
31	DNC		Do not connect
32	DNC		Do not connect
33	DNC		Do not connect
34	DNC		Do not connect
35	DNC		Do not connect
36	DNC		Do not connect
37	DNC		Do not connect
38	DNC		Do not connect
39	DNC		Do not connect
40	DNC		Do not connect
41	DNC		Do not connect
42	DNC		Do not connect
43	DNC		Do not connect
44	DNC		Do not connect
45	DNC		Do not connect
46	DNC		Do not connect
47	DNC		Do not connect
48	DNC		Do not connect
49	DNC		Do not connect
50	DNC		Do not connect
51	GND	Internal ground	
52	CHASSIS	Chassis	Double-density connector only

Ordering information

PART NUMBER	DESCRIPTION
KAD/CDI/101	Interface module for the OBE/CDU/001 with 52-way double density top connector
KAM/CDI/101	Interface module for the OBE/CDU/001 with 51-way micro-miniature top connector

By default, the standard mating connector (CON/KAD/002/CP for KAD modules; or ACC/CON/008/04 for KAM modules) is included with each module 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, KAD/CDI/101 refers to both the KAD and KAM version of the module.

Revision history

REVISION	DIFFERENCES	STATUS
KAD/CDI/101	First release	Recommended for new programs

Supporting software

SOFTWARE	DETAILS
KSM-500	This module is supported by the KSM-500 suite of software tools

Related documentation

DOCUMENT	DETAILS
DOC/DBK/001	Acra KAM-500 Databook
DOC/HBK/002	Environmental Qualification Handbook
DOC/MAN/018	KSM-500 Databook

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