

V505

4-channel Communications Interface

The V505 is a single-width, C-size, register-based, VXIbus module that interfaces a VXIbus chassis to as many as four separate RS-232 serial ports. Sixteen data rates are available.



Efficient transfer of data blocks with 1024 x 8 line buffers

APPLICATIONS

Hardware-in-the-loop simulation
Aerospace test cells
Automotive test cells

FEATURES

- Four independent RS-232 ports
- 1024 by 8 character buffers on input and output
- 16 transmission speeds from 50 to 19,200 baud
- Hardware handshaking signals
- Programmable XON/XOFF handshaking
- Software selectable control character recognition
- Programmable configuration parameters

GENERAL DESCRIPTION

The V505 is a single-width, C-size, register-based, VXIbus module that interfaces a VXIbus chassis to as many as four separate RS-232 serial ports. Sixteen data rates are available. They are software programmable on a per-channel basis as are the number of data bits (from five to eight), the number of stop bits (one or two), parity error checking, and control character recognition capabilities.

Two 1024-character buffers are provided for each channel, one for input and one for output. These buffers provide elastic communications between the VXIbus mainframe and remote devices. As a diagnostic aid, input data can be echoed back to the output as well as sent to the computer. The echo feature is programmable.

On output transfers, the V505 continues to transmit a block of data at the selected Baud rate until the output buffer is empty. The output buffer can be refilled by writing and checking for a buffer-full condition.

For input transfers, the input buffer is filled and an interrupt is generated. The interrupt is detected by a computer which reads the input buffer and checks for an end-of-block condition. This condition means that either the input buffer is empty or that the End-of-Block character has been read. The software-selectable End-of-Block character allows the user to specify a single bit pattern or character (a Carriage Return, for example) which, when detected, can be used to generate an interrupt. The interrupt is defined by the user and can indicate a variety of conditions (as with the Carriage Return, that a line of text is available to be read by the computer).

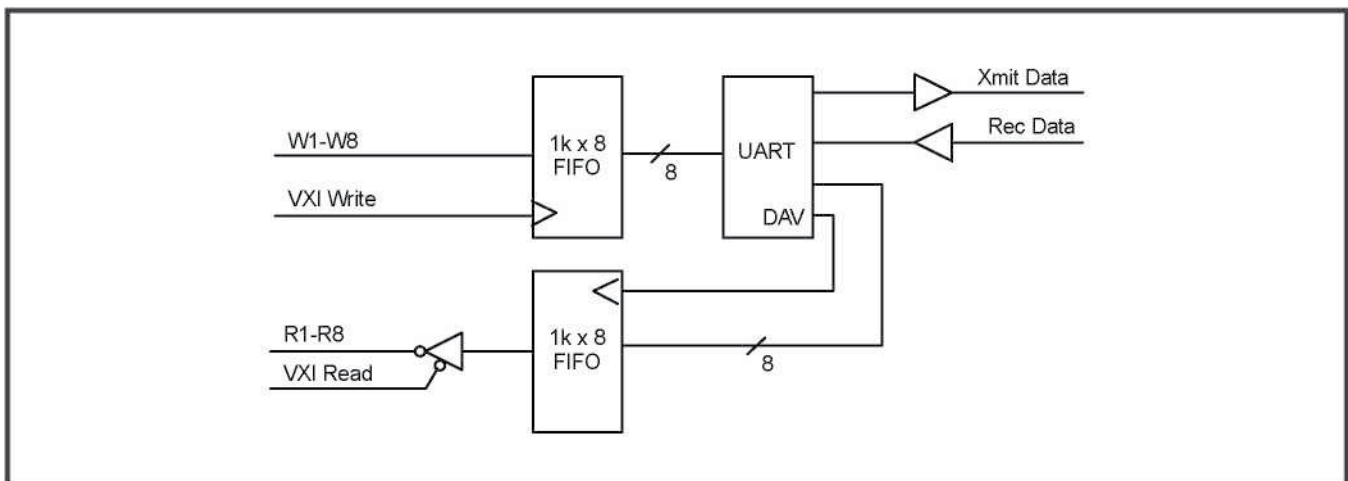
Data-Terminal-Ready (DTR) and Data-Set-Ready (DSR) control signals establish an automatic handshake with the remote RS-232 device. For incoming data streams, the DTR output is negated if the input buffer becomes full and cannot accept another character. DTR is reasserted once the input buffer is read and adequate storage space is available for more data. For outgoing data streams, data transmission is halted if the remote device negates the DSR signal, and commences again (assuming there is still data to transmit) when DSR is reasserted. Additionally, the XON/XOFF protocol can be enabled and disabled. Once enabled, this protocol performs a software handshake similar to the hardware DTR/DSR handshake, and is transparent to the user.

A light-emitting diode (LED) on the V505 front panel flashes whenever software addresses the module. An Interrupt LED is on whenever an interrupt source is pending in the module. Connections to the remote devices are made through four 9-pin "D" type connectors on the front panel.

The V505 supports both static and dynamic configuration. Access to the data is through memory locations indicated by the Offset Register within the VXIbus Configuration Register set, using A24/A16, D16 data transfers.

Item	Specification
RS-232	
Number of channels	4 independent ports
Transmission rates	16 programmable rates per port: 50, 75, 110, 134.5, 150, 300, 600, 1200, 1800, 2000, 2400, 3600, 4800, 7200, 9600, and 19,200 Baud
Number of data bits	5, 6, 7, or 8; programmable per channel
Number of stop bits	1 or 2; programmable per channel
Parity error detection	Even or odd; programmable per port
End-of-block character	Programmable 8-bit
Input echo	Programmable
Handshaking	Hardware DTR/DSR, software xon/xoff
Output Connector Type	9P "D"
Mating Connector	KineticSystems Model 5930-Z1A
Power Requirements	
+5V	3.0 A, typical
+24 V	40 mA, typical
-24 V	40 mA, typical
Environmental and Mechanical	
Temperature range	0°C to +50°C
Operational	-25°C to +75°C
Storage	0 to 85%, non-condensing to 40°C
Relative humidity	10CFM
Cooling requirements	340 mm x 233.35 mm x 30.48 mm
Dimensions	(C-sized VXIbus)
Front-panel potential	Chassis ground

V505 Data Paths (one channel shown)





RELATED PRODUCTS

Model 5856-Bxyz Cable—9S "D" to Unterminated
Model 5930-Z1A Connector—9S "D"

ORDERING INFORMATION

MODEL	DESCRIPTION
V505-BA11	4-channel Communications Interface4-channel Communications Interface

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KineticSystems Company, LLC

900 N. State St.
Lockport, IL 60441-2200

Toll-Free (US and Canada):

phone 1-800-DATA NOW
1-800-328-2669

Direct:

phone +1-815-838-0005
fax +1-815-838-4424

Email:

mkt-info@kscorp.com

To find your local sales representative or distributor or to learn more about KineticSystems' products visit:

www.kscorp.com