KD485
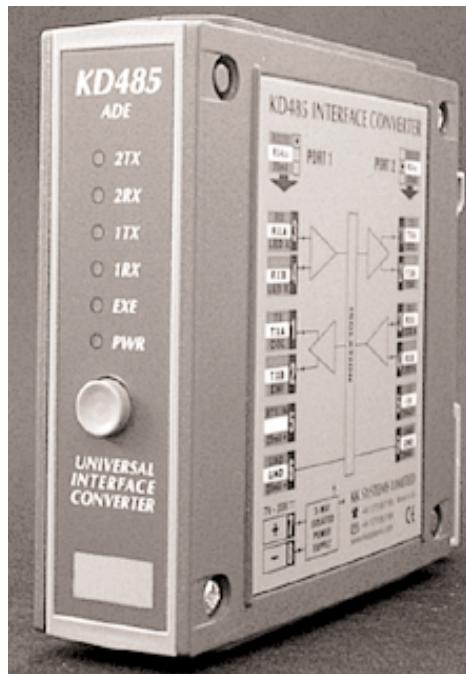
UNIVERSAL
ISOLATED
INTERFACE
CONVERTER

KD485 - ADE

KD485-ADE Universal Isolated Interface Converter

- **Automatic driver enable on RS485**
- **30-115200 baud, low-EMC drivers**
- **Universal RS422/485 2/4-wire interface with varistor protection**
- **7V to 25V DC powered**
- **Isolation 100% tested @ 2kV AC**

Overview

The KD485 is a multi-purpose interface converter designed to satisfy a wide range of industrial datacomms requirements.

One common application is the connection of multi-dropped RS485 devices to an RS232 system. Most currently available converters require the RS232 device to control its RTS signal to enable/disable the RS485 driver, but some RS232 systems do not have this capability. The KD485-ADE avoids RTS control:

Features

The KD485-ADE has the following features:

- DIN-rail enclosure with screw terminals; fits 35mm symmetric and 32mm asymmetric rails
- DC power input: a regulated or unregulated DC supply in the range +7V to +25V
- Two serial ports: port 1 and port 2; port 2 is isolated (i.e. floating) from the rest of the KD485
- Port 1 is RS232; port 2 is RS422/485; other combinations of interfaces are available to order
- Port 2 is a multi-mode port: it supports RS422 (4-wire) and RS485 (2 - and 4-wire) Low-EMC RS422/485 drivers
- Internal pull-up and pull-down resistors ensure that RS485 bus floats to a valid state when not driven

KD485-ADE

The KD485-ADE inserts a CPU (with two serial ports) into the data path. Several standard application programs ("Modes") are provided in a built-in ROM:
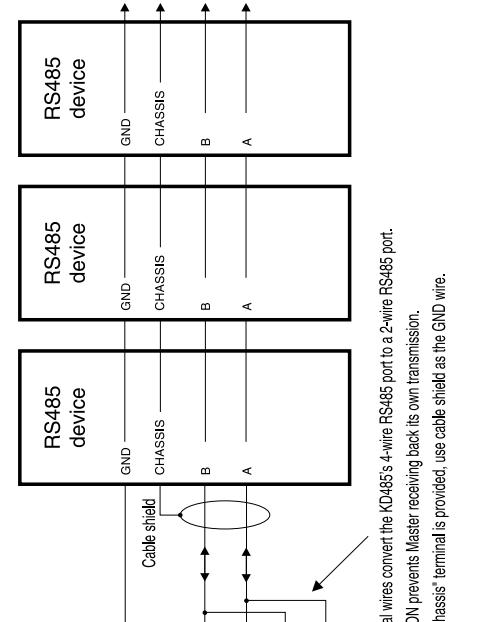
Mode 0: emulates KD485-STD; also offers baud rate and character format conversion.

Mode 1: as above, plus Auto Driver Enable. The RS485 driver is automatically controlled according to the presence of data from the RS232 host.

Mode 2: RS485-to RS232 Addressable Adaptor. This makes possible the connection of up to approximately 50 RS232 devices to a 2/4-wire RS485 bus, through which they can be polled by a single Master.
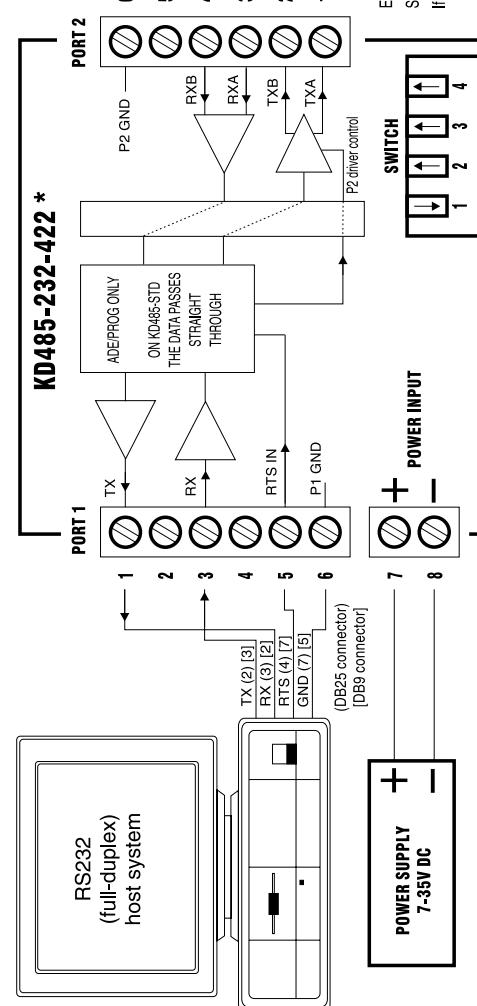RS232 devices which emit data continuously are also supported. The RS485 address and an optional lead-in byte are fully configurable.
PC-based configuration programs for DOS and Windows are included.

RS232 to 2-wire RS485 (half-duplex, multidrop) conversion

Configuration

The KD485-ADE uses a user-accessible switch to set port 1 into a 9600-baud dumb-terminal "Executive" mode where various configuration and test functions are accessible via a command-line user interface. These include a Test Slave device which interrogates any RS485 Slave and returns response, in ASCII or hex.

A Windows-based configuration program with pull-down menus is also supplied.

Two standard configuration files, for EI Bisynch and Modbus protocols, are supplied on disk.

Ordering information

Basic Product	Type	PSU	Input	Output
KD485				

Basic Product	
KD485	Universal isolated interface converter

Type	
ADE	Standard
PROG	Programmable

PSU	
00	No PSU
PS	PSU (bulkhead mounting)
PSDIN	PSU (DIN rail mounting)

Input	
232	RS232
4XX	RS485/RS422 (2 or 4 wire)

Output	
232	RS232
4XX	RS485/RS422 (2 or 4 wire)

Special order KD485 versions

The two ports can be populated in any combination of RS232 or 422/485.
For example, a KD485-ADE with two RS422/485 ports is designated KD485-ADE-422-422. This product can be used to connect a 2-wire bus to an existing 4-wire bus, with both buses having multiple slaves operating.

Specification

DC power:	+7V to +25V DC, 60/100/100mA typ. (+12V DC preferred)
Port parameters:	baud rates: 30, 37.5, 50, 75, 100, 110, 134.5, 150, 300, 600, 1200, 2000, 2400, 3600, 4800, 7200,9600, 19200, 38400, 115200; stop bits: 1, 2; handshakes: none, xon/xoff
Interfaces:	Port 1 RS232; Port 2 RS422/485; any other combination available to order
Isolation:	Functional; Port 2 is isolated from rest of KD485; 64V PK (100% tested at >2000V AC rms for 1s). Not authorised for use where injury could result from isolation failure
Environmental:	Operating 0 to +50°C; storage -25°C to +70°C; RH 0 to 90% non-condensing
CE compliance:	Emissions EN50081-2 immunity EN50082-2
Dimensions:	23mm (W) x 75mm (H) x 100mm (L) approx, in rail-mounted position

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