MIC-24/CL

Current Loop Interface Converter

ORDERING

MIC-24/CL/A/*

Active Unit, Interface converter for current loop

* Specify **60** for optional 60 mA, factory set (Default is 20 mA)

MIC-24/CL/P/+

Passive Unit, Interface converter for current loop

\+ Specify **F** for female 25-pin connector
Specify **M** for male 25-pin connector

P/S-AC/12/800

90 to 264 VAC external power supply for MIC-24/CL/A



Specifications are subject to change without prior notice.

RAD

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253-100-04/00

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FEATURES

- Conversion of RS-232/V.24 to current loop, bidirectional
- Distances up to 6.5 km / 4 miles
- Data rates up to 19.2 bps
- Full or half duplex
- 20 mA current loop, 60 mA optional
- Active or passive units
- LEDs indicating RD, TD activity (active only)
- DCE/DTE switch
- Miniature, lightweight
- Easy to install

APPLICATIONS

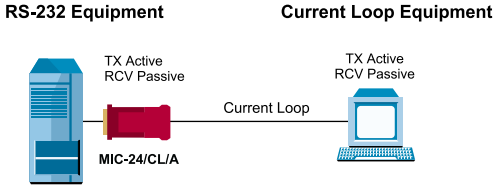

Figure 1. MIC-24/CL/A Active Unit with Passive Receive

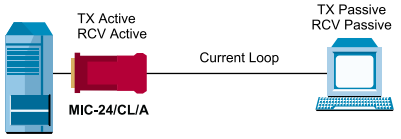

Figure 2. MIC-24/CL/A Active Unit with Active Receive

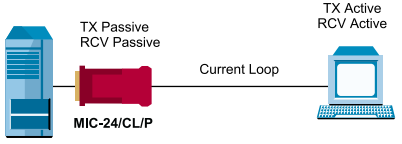

Figure 3. MIC-24/CL/P Passive Unit

DESCRIPTION

- MIC-24/CL enables communication between equipment with current loop interface and devices with RS-232 / V.24 interface. MIC-24/CL operates bidirectionally, full or half-duplex, converting the RS-232 / V.24 voltage levels to loop closure or loop opening.
- MIC-24CL is available in two models, for active and passive current loop transmissions:

  MIC -24/CL/A (active) allows both the transmitter and the receiver to supply the current loop source or only the transmitter to supply the source (strap-selectable, see *Figures 1,2*. The active unit operates with 20 mA (60 mA optional ordering) and requires a standard external power supply of 12V. LED indicators, POWER, TD and RD, monitor the data flow for transmit and receive signals.

  MIC -24/CL/P (passive) always accepts the supplied loop current from both transmit and receive lines (see *Figure 3*). The passive unit operates with 20 or 60 mA, without requiring an external power source. Its power is derived from the RS-232 / V.24 data and control source signals.
- Both models feature a DCE/DTE switch to simplify installation and eliminate the need for cross cables.

SPECIFICATIONS

- **Data Transmission**
  Asynchronous, full or half duplex
- **Range**
  Up to 6.5 km / 4 miles
- **Interface**
  RS-232/V.24
  Active Unit: Current loop 20 mA
  60 mA optional
  Passive Unit: Current loop 20 or 60 mA
- **Data Rates**
  Up to 19.2 kbps
- **Connectors**
  One miniature D-25 pin male connector (the passive model also includes an optional female connector, *see Ordering*).
  4-screw terminal block
  DC power connector (active unit only)
- **LEDs**
  Active unit: POWER, TD (transmit)
  RD (receive)
- **Power**
  Passive unit: no AC power supply required, uses ultra-low power derived from the RS-232/V.24 data and control signals
  Active unit: requires standard external power supply of 12 ± 2V at 150 mA. Alternatively, power can be supplied to pin 9 of the DB-25 connector, without external power supply.

- **Physical**
  Length: 110 mm / 4.3 in
  Width: 55 mm / 2.1 in
  Height: 22 mm / 0.9 in
  Weight: 75 g / 2.6 oz
- **Environment**
  Temperature: 0-50°C / 32-122°F
  Humidity: Up to 90%, non-condensing

Declaration of Conformity

Mfr. Name: RAD Data Communications Ltd.
Mfr. Address: 12 Hanechoshet St.
Tel Aviv 69710
Israel

declares that the products:

Product Name: MIC-24/CL/A, MIC-24/CL/P

Conform to the following standard(s) or other normative document(s):

EMC: EN 55022 (1994): Limits and methods of measurement of radio disturbance characteristics of information technology equipment.
EN 50082-1 (1992): Electromagnetic compatibility - Generic immunity standards for residential, commercial and light industry.

Supplementary Information:
The product herewith complies with the requirements of the EMC Directive 89/336/EEC and the Low Voltage Directive 73/23/EEC. The product was tested in a typical configuration.

Tel Aviv, January 30th 1996

Haim Karshen
VP Quality

European Contact: RAD Data Communications GmbH, Lyoner Strasse 14, 60528 Frankfurt am Main, Germany

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INSTALLATION

Caution. *This is a delicate instrument. Be careful when setting jumpers or performing any actions within the product so that you do not break or shake any components.*

MIC-24/CL is easy to configure and install. Review Table 1 and Figure 4 for the factory settings as the unit may already be strapped to suit your application. If not, follow these steps:

1. Open the unit by pressing the marked places on the sides, starting at the cable end.

Table 1. Strap Selection

Strap	Function	Factory Setting
DCE/DTE	Designates if unit is configured as a DCE or DTE	DCE
ACTIVE/ PASSIVE (on the active unit only)	Selects the Receive circuitry to be either active (supplying current) or passive (sinking current).	ACTIVE

2. Set the DCE/DTE switch to the required position. When set to **DCE**, the unit is configured as a DCE for connection to a computer or terminal. When set to **DTE**, it operates as a DTE.

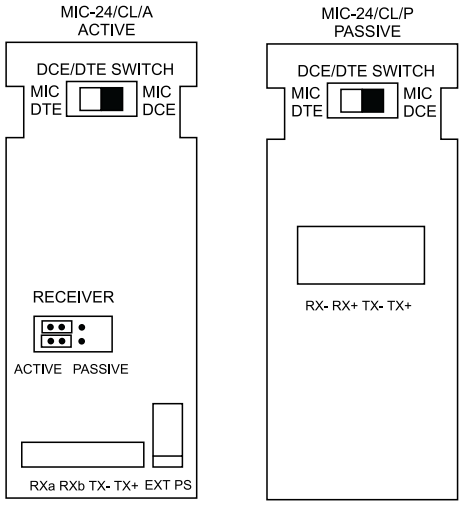

Figure 4. Strapping Diagram

3. In the MIC-24/CL/A (active unit), set the double RECEIVER strap to the position for the Receive circuitry to be active or passive. When RECEIVER is set to ACTIVE, “Rxa” is the positive lead and “Rxb” is the negative lead. When RECEIVER is set to PASSIVE, the polarity is reversed: “RXa” is the negative lead and “RXb” is the positive lead.

4. Connect the 4-wire line to the screw terminal block: transmit pair to “TX” and receive pair to “RX”, maintaining polarity.

   Note: Remote “TX” should be connected to local “RX” and vice versa.

5. Close the unit by pressing the two halves of the cover together.

6. Plug the unit directly into the 25-pin connector of the RS-232/V.24 equipment and fasten with the screws.

Note*: For the MIC-24/CL/A unit, plug in the power connector and check that the POWER LED is on.*

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