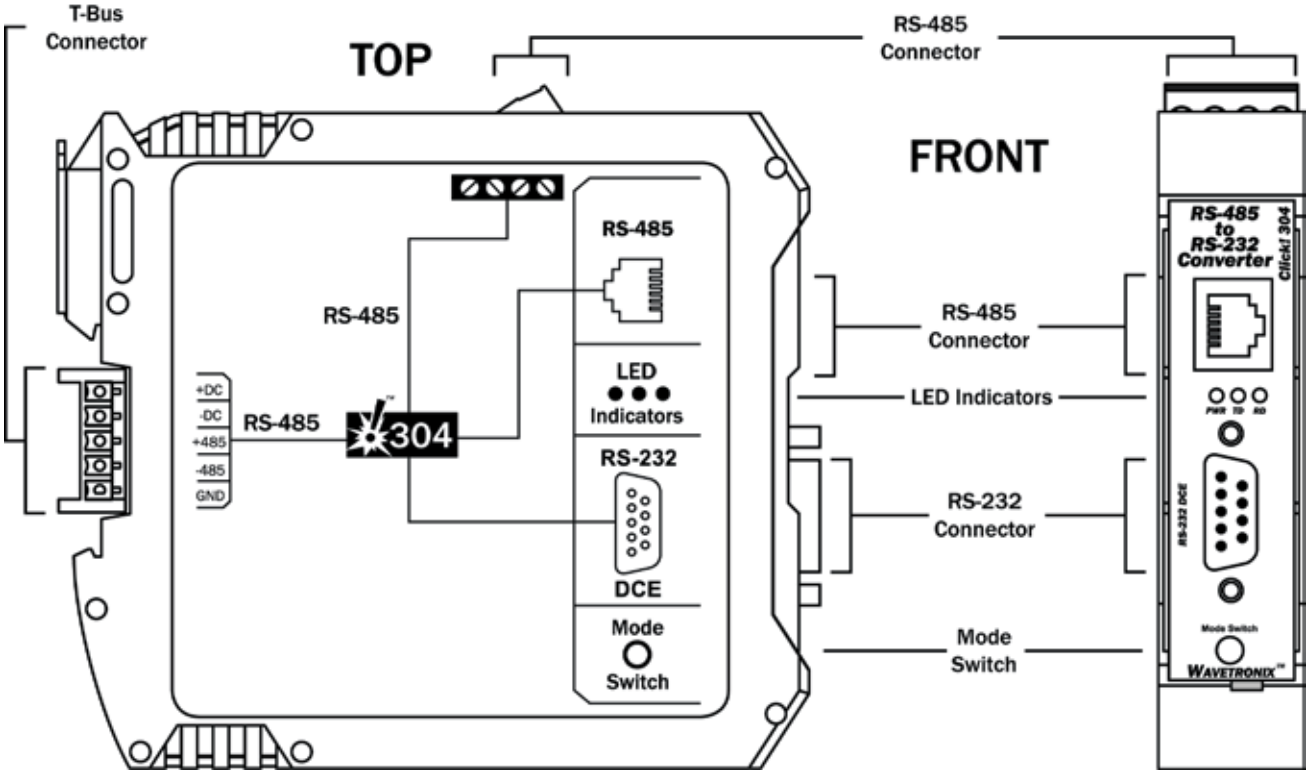
RS-232 to RS-485 Converter

The Click!™ 304 converts half-duplex RS-232 communication to RS-485 communication and vice versa. It also auto-detects baud rates and features LEDs that light up when data is successfully transmitted or received.

Features

- Converts data between RS-232 and RS-485
- Mounts to a DIN rail for quick and easy installation
- Autobauds to serial port devices
- Meets NEMA TS2 1998 environmental specifications
- Conformal coated
- Remote upgradeable
- Pluggable screw terminals can be removed for prewiring and are red-keyed to minimize incorrect wiring
- Can be configured using Click! Supervisor software
- Uses less than 1 W of power at 24 volts
- Push-button on the front of the device can reset to factory defaults or start autobaud process
- Activity-indicating LEDs show when the device has power and when it is transmitting and receiving data



Click!™

Technical Specifications

Physical
- Weight: 0.2 lbs. (0.1 kg)
- Physical dimensions: 4.5 in. × 4 in. × 0.9 in. (11.4 cm x 10.2 cm x 2.3 cm)
- Ambient operating temp: -29°F to 165°F (-34°C to 74°C)
- Humidity: up to 95% RH

Mounting
- DIN rail–mountable
- Hot-swappable

Power
- Power supply voltage: 10 to 30 VDC
- Power consumption: 0.25 W

Connections
- Device has the following connection points:
  - Power: 5-position connector for connecting from the T-bus
  - RS-232: One pluggable screw terminal and a DB-9 connector
  - RS-485: 5-position connector for connecting from the T-bus as well as one pluggable screw terminal and an RJ-11 jack

Communication
- Converts RS-232 to RS-485 and vice versa

Baud Rates
- Supports the following baud rates:
  - 1200 bps
  - 2400 bps
  - 4800 bps
  - 9600 bps
  - 19200 bps
  - 38400 bps
  - 57600 bps
  - 115200 bps

Configuration Features
- Push-button on faceplate does the following:
  - Resets device to factory defaults
  - Autobauds device to match the baud rate of the attached serial device
- LEDs:
  - Red LED illuminates when device has power
  - Green LED (TD) illuminates when data is transmitted
  - Yellow LED (RD) illuminates when data is received

Ordering Information

Part Number — WX-CLK-304

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Website: www.wavetronix.com

Pocket PC & PC Configuration Software
- Comes with Click! Supervisor, configuration software with the following features:
  - Runs on both a Pocket PC and a Windows desktop or laptop PC (Windows 2000 and newer)
  - Configures serial communication settings including the serial baud rates
  - Can remotely and directly upgrade the device firmware to add new features to the device
  - Allows users to save a configuration to a file, and to open existing files and save to a device, allowing a common configuration to be easily programmed into many devices
  - Has customizable drivers that are stored as XML files that describe the graphical user interface for that driver

Remote Upgradeability
- Flash memory can be remotely upgraded to add functionality to the firmware when new features have been developed to improve the performance of the installation

NEMA TS2-1998 Testing
- Complies with the applicable standards stated in the NEMA TS2-1998 Standard
- Test results available for each of the following tests:
  - Shock pulses of 10g, 11 ms half sine wave
  - Vibration of .5 Grms up to 30 Hz
  - 300 V positive/negative pulses applied at one pulse per second at minimum and maximum DC supply voltage
  - Stored at -49°F (-45°C) for 24 hours
  - Stored at 185°F (85°C) for 24 hours
  - Operation at -29.2°F (-34°C) and 10.8 VDC
  - Operation at -29.2°F (-34°C) and 26.5 VDC
  - Operation at 165.2°F (74°C) and 26.5 VDC
  - Operation at 165.2°F (74°C) and 10.8 VDC

Testing

- Passes manufacturer's test before shipping

Extended Support

- Extended support options are available from Wavetronix; contact a Wavetronix representative for more information

Warranty

- One-year warranty against material and workmanship defect

Click! 304 Bid Specification

1.0 General. This item shall govern the purchase and installation of a serial converter module (SCM) equivalent to the Wavetronix Click!™ 304. The SCM shall be used to convert half-duplex RS-232 communication to 2-wire half-duplex RS-485 communication and vice versa. Test results and other documentation demonstrating performance and capabilities shall be provided.

2.0 Product Description. The SCM shall be a converter module for use with radar vehicle sensing devices (RVSD) equivalent to the Wavetronix SmartSensor™. The SCM shall be capable of converting half-duplex RS-232 communication and 2-wire half-duplex RS-485 communication and vise versa. All serial ports shall pass data on one port to all other ports.

3.0 Physical. The SCM shall not exceed 0.2 lbs. (0.1 kg) in weight.

The SCM shall not exceed 4.5 in. × 4 in. × 0.9 in. (11.4 cm x 10.2 cm x 2.3 cm) in its physical dimensions.

The SCM shall operate in the temperature range of -29°F to 165°F (-34°C to 74°C).

4.0 Mounting. The SCM shall mount to a DIN rail with hot-swappable power and communication buses for quick installation and replacement.

5.0 Power. The SCM shall operate using 0.25 W of average power at 10 VDC to 30 VDC.

6.0 Connections. The SCM shall include the following connections for power and communication:

6.1 Power. The SCM shall include a 5-position connector, with two contact points reserved for connecting power through the bus.

6.2 RS-232. The SCM shall feature a DB-9 connector and a pluggable screw terminal for RS-232 communication.

6.3 RS-485. The SCM shall feature an RJ-11 jack and a pluggable screw terminal for RS-485 communication. The 5-position connector shall have three contact points reserved for connecting RS-485 through the bus.

7.0 Communication. The SCM shall have the following communication capabilities:

7.1 Serial Protocol Conversion. The SCM shall allow communications with any serial device that has a serial connection by converting 2-wire half-duplex RS-485 communication to half-duplex RS-232 communication, and vice versa.

8.0 Baud Rates. The SCM shall support baud rates of 1200 bps, 2400 bps, 4800 bps, 9600 bps, 19200 bps, 38400 bps, 57600 bps and 115200 bps.

9.0 Configuration Features. The SCM shall have a push-button on the faceplate of the unit that:

- Resets to SCM factory defaults
- Autobauds the SCM to match the baud rate of the attached serial device

The front of the SCM shall include a red power LED, as well as TX and RX LEDs that shall illuminate when corresponding data is successfully transmitted or received.

10.0 Configuration Software. The SCM shall be provided with configuration software that:

- Runs on both a Pocket PC and a Windows desktop or laptop PC (Windows 2000 and newer)
- Configures serial communication settings including the serial baud rates
- Can remotely and directly upgrade the SCM firmware to add new features to the SCM
- Allows users to save a configuration to a file, and to open existing files and save to a device, allowing a common configuration to be easily programmed into many devices
- Has customizable drivers that are stored as XML files that describe the graphical user interface for that driver

11.0 Remote Upgradeability. The SCM shall have flash memory that can be remotely upgraded to add functionality to the firmware when new features have been developed to improve the performance of the installation.

12.0 NEMA TS2-1998 Testing. The SCM shall comply with the applicable standards stated in the NEMA TS2-1998 Standard. Test results shall be made available for each of the following tests:

- Shock pulses of 10g, 11 ms half sine wave
- Vibration of 0.5 Grms up to 30 Hz
- 300 V positive/negative pulses applied at one pulse per second at minimum and maximum DC supply voltage
- Cold temperature storage at -49°F (-45°C) for 24 hours
- High temperature storage at 185°F (85°C) for 24 hours
- Low temp, low DC supply voltage at -29.2°F (-34°C) and 10.8 VDC
- Low temp, high DC supply voltage at -29.2°F (-34°C) and 26.5 VDC

- High temp, high DC supply voltage at 165.2°F (74°C) and 26.5 VDC
- High temp, low DC supply voltage at 165.2°F (74°C) and 10.8 VDC

13.0 Testing. Before shipping, each SCM shall have passed a manufacturer's test.

14.0 Extended Support. Extended support options shall be available. Contact the manufacturer representative for more information.

15.0 Warranty. The SCM shall be warranted to be free from material and workmanship defects for a period of one year from date of shipment.