Serial CsCAN Network Gateway Module
Product Specifications and Installation Data

1 INTRODUCTION

1.1 Features

- Microprocessor Controlled Serial Gateway
- Implements CsCAN Protocol Release 4.0
- 9-Pin Female D RS232 Port for PC Host Connection
- Isolated CAN Port for CsCAN Network Connection
- 1000V Isolation
- Wide Range DC Voltage Input Power

1.2 Overview

The HE200CGM200 (CGM200) is an intelligent Serial Gateway,which lets a PC access a CsCAN Network, by using one of the PC's RS232 serial COM ports.

A CsCAN Network consists of up to 253 CsCAN nodes (such as the HE200PLC188) communicating as described in the "CsCAN Protocol Specifications."

In a CsCAN Network, each attached device is assigned a unique node address (ID) to arbitrate network communication.

According to CsCAN Protocol, these IDs can be assigned in the range 1 to 253, with 0 reserved for a Gateway. Therefore, up to 254 devices (including the Gateway) can be logically attached to the network. Note that networks with more than 64 total devices require the use of repeaters (HE200CGM100).

Finally, the CGM200 Gateway's 1000V isolation virtually eliminates problems associated with ground potential differences, which are inherent in long cable drops on many local area networks.

1.3   Specifications

These CGM200 specifications are preliminary, and are subject to change without notice.

I/O SPECIFICATIONS

PARAMETER	MINIMUM	MAXIMUM	UNITS
CsCAN Baud Rates	125	125	KHz
RS232 Port to CsCAN Network Port Isolation	1000		Vdc

POWER LOAD SPECIFICATIONS

PARAMETER	MINIMUM	MAXIMUM	UNITS
Input Voltage	8	32	Vdc
Input Power		2.2	Watts

ENVIRONMENTAL SPECIFICATIONS

PARAMETER	MINIMUM	MAXIMUM	UNITS
Operating Temperature	0	+60	Deg C
Storage Temperature	-40	+85	Deg C
Humidity (Non-condensing)	5	95	% RH

2   LEDs / CONNECTORS

2.1   LED Indicators

There are four LED indicators on the CGM200:

Indicator	Color	Description
CsCAN Port A DATA	Red	Not used
CsCAN Port B DATA	Red	ON when CSCAN Port B is active
RS232 Port RX	Red	ON when RS232 Port receives data
RS232 Port TX	Green	ON when RS232 Port transmits data

2.2   Connector Pinouts

The V-, GND and AV- signals are common to each other. The CsCAN
Port B connector signals are isolated from all other signals.

Power Connector

Pin	Signal	Description
1	V-	Input power supply ground
2	V+	Input power supply Voltage

RS232 Port Connector

Pin	Signal	Description	Direction
1	DCD	Always high	Out
2	TXD	Transmitted Data	Out
3	RXD	Received Data	In
4	DTR	Ignored	In
5	GND	Ground	-
6	DSR	Always high	Out
7	CTS	Clear to Send	In
8	RTS	Request to Send	Out
9	RI	Always high	Out

CsCAN Port A Connector - Not used

CsCAN Port B Connector

| Pin	Signal	Description
1	BV-	CsCAN Port B return for pins 2 and 3
2	BD+	CsCAN Port B Data +
3	BD-	CsCAN Port B Data -
4	BSHLD	CsCAN Port B Cable shield

3 INSTALLATION

3.1 Power Connection:

The Gateway is powered by 8 to 32VDC and requires about 2.2 Watts. The power supplied to the repeater must be isolated from ALL other system power supplies. For example, the repeater is NOT to be powered from the 33VDC power terminals on the HE200PLC188 conveyer controller. A simple solution is to use an Archer 273-1652 AC Adapter available from Radio Shack®. This device provides 12VDC at 500mA.

3.2 CsCAN Connection

The following diagram shows how to properly wire multiple nodes together on the CsCAN Network:
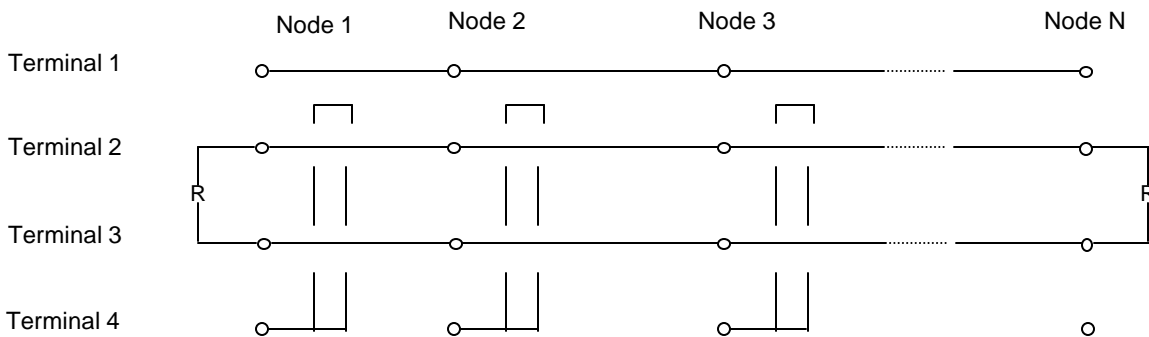

Figure 1 – Wiring Multiple Nodes

CsCAN Wiring Rules:

1. A CsCAN Network should be wired in a daisy-chained fashion, such that there are exactly two physical endpoints on the network.

2. The two nodes at the physical endpoints, should have 120 ohm terminating resistors connected across terminals 2 and 3.

3. The data conductors (terminals 2 and 3) should be a 24 AWG shielded twisted pair, with 120 ohm characteristic impedance.

4. Notice that for a section of cable between two nodes, the cable shield is connected to terminal 4 at one end of the cable only.

5. A CsCAN Network (without repeaters) should be limited to 64 nodes with a maximum cable length of 1500 ft.

6. Up to four CsCAN network segments (which adhere to the above five rules) can be connected together using three repeaters (CGM100). In this manner, a CsCAN network can be extended to 253 nodes with a total cable distance of 6000 ft.

7. Each CsCAN unit is assigned a unique Network ID (Local PLC number) by the HEPLC programming software via the PLC's programming port, or by HEX rotary switches. The Serial Gateway is always ID 0.

3.3   CsCAN Serial Gateway Wiring:

For wiring purposes, a Serial Gateway can be thought of as a smart RS232 to CsCAN converter as follows:
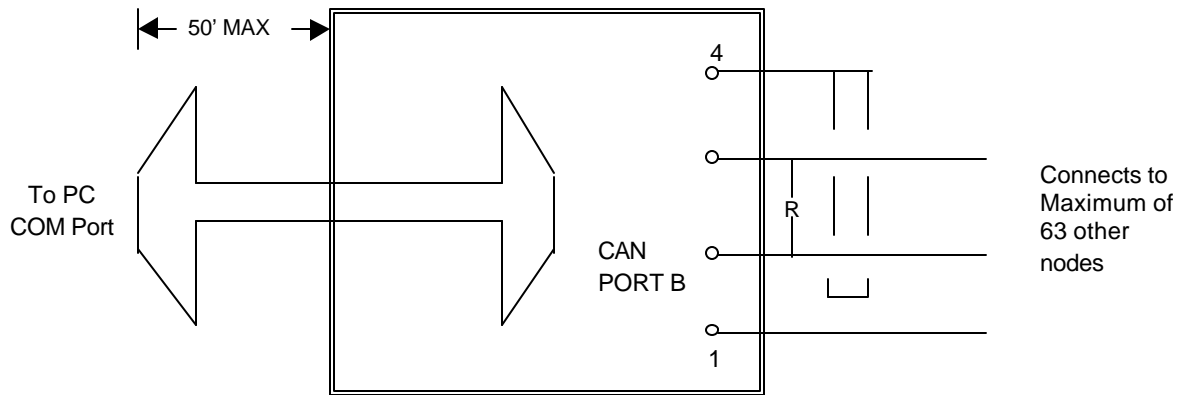
4   INSTALLATION / SAFETY

All applicable codes and standards are to be followed in the installation of this product.

5   TECHNICAL ASSISTANCE

For assistance, contact Technical Support at the following locations:

North America:
(317) 916-4274 or visit our website at www.heapg.com.

Europe:
(+) 353-21-4321-266

NOTES