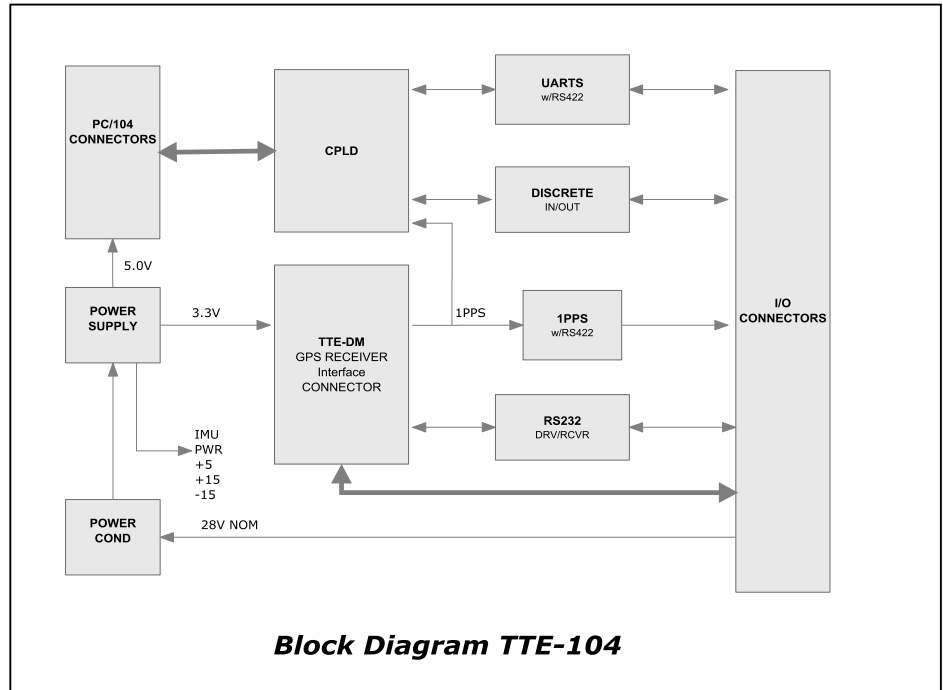


The TTE-104 is a carrier board that provides an attachment for a GPS receiver.

FEATURES:

- PC104 interface
- I/O connections for 4 COM ports (RS422)
- I/O connections for 4 discretes (input/output)
- Interfaces to an IMU appropriate for the GPS receiver
- Interfaces to GPS receiver - Interstate Electronics TruTrak™ Dual Frequency MCM (TTE-DM)
- PCB fabrication per IPC 6012B Class 3/A
- PCB inspection per IPC-A-600
- Board Assy per IPC -A-610 Class 3



Ruggedized boards are constructed using 8-layers and are approximately 90 mils thick.

I/O connectors use locking mating connectors.

Board starts a PC/104 stack and includes a built in +5V stack Power Supply. Stack power for +/- 12V is not included.



Top View



Bottom View

INPUT/OUTPUT PIN ASSIGNMENTS

Pin Number	Description
J1-1	IMU_DATA_IN(+)
J1-2	+15V
J1-3	IMU_DATA_IN(-)
J1-4	GROUND
J1-5	IMU_CLK_OUT(+)
J1-6	-15V
J1-7	IMU_CLK_OUT(-)
J1-8	GROUND
J1-9	GROUND
J1-10	+5.0V

Pin Number	Description
J6-1	COM1_RXD(+)
J6-2	COM1_TXD(+)
J6-3	COM1_RXD(-)
J6-4	COM1_TXD(-)
J6-5	GROUND
J6-6	GROUND
J6-7	COM2_RXD(+)
J6-8	COM2_TXD(+)
J6-9	COM2_RXD(-)
J6-10	COM2_TXD(-)
J6-11	COM3_RXD(+)
J6-12	COM3_TXD(+)
J6-13	COM3_RXD(-)
J6-14	COM3_TXD(-)
J6-15	GROUND
J6-16	GROUND
J6-17	COM4_RXD(+)
J6-18	COM4_TXD(+)
J6-19	COM4_RXD(-)
J6-20	COM4_TXD(-)

Pin Number	Description
J3-1	XDO1 Discrete Out 1
J3-2	XDO2 Discrete Out 2
J3-3	1PPS(+) RS422 - One Pulse per Second POS
J3-4	1PPS(-) RS422 - One Pulse per Second NEG
J3-5	XDO3 Discrete Out 3
J3-6	XDO4 Discrete Out 4
J3-7	XDIN1 Discrete In 1
J3-8	XDIN2 Discrete In 2
J3-9	XDIN3 Discrete In 3
J3-10	XDIN4 Discrete In 4
J3-11	GROUND
J3-12	ZEROIZE Buffered ZEROIZE Signal to TTE-DM
J3-13	DM_20 HVSI_IN(+) USER port 1
J3-14	DM_22 HVSI_OUT(+) USER port 1
J3-15	DM_24 HVSI_IN(+) USER port 2
J3-16	DM_19 GPS RESET
J3-17	DM_21 HVSI_IN(-) USER port 1
J3-18	DM_23 HVSI_OUT(-) USER port 1
J3-19	DM_25 HVSI_IN(-) USER port 2
J3-20	DM_27 HVSI_OUT(-) USER port 2
J3-21	DM_29 HVSI_IN(-) USER port 3
J3-22	DM_31 HVSI_OUT(-) USER port 3
J3-23	DM_33 HVSI_IN(-) USER port 4
J3-24	DM_101 GPIO_18
J3-25	DM_103 GPIO_20
J3-26	DM_102 GPIO_19
J3-27	DM_104 GPIO_21
J3-28	DM_35 HVSI_OUT(-) USER port 4
J3-29	DM_16 RS232 SIC_IN Nav port 4
J3-30	DM_15 RS232 SIC_OUT Nav port 4
J3-31	DM_28 HVSI_IN(+) USER port 3
J3-32	DM_26 HVSI_OUT(+) USER port 2
J3-33	DM_32 HVSI_IN(+) Nav port 4
J3-34	DM_30 HVSI_OUT(+) USER port 3
J3-35	DS101 DTD_RX IN (RS232)
J3-36	DM_34 HVSI_OUT(+) USER port 4
J3-37	DS101 DTD_FCO OUT (RS232)
J3-38	DS101 KDP_PROGRAM
J3-39	DS101 DTD_TX OUT (RS232)
J3-40	DS101 DTD_FCI IN (RS232)

Pin Number	Description
J5-1	+28VDC
J5-2	GROUND
J5-3	+28VDC
J5-4	GROUND
J5-5	+28VDC
J5-6	GROUND

Input voltage range for the +28VDC input is 18 to 36VDC.

The internal Power Supply provides approximately 13 Watts of PC/104 stack power over the Operating Temp range increasing to 35 Watts if the ambient temperature does not exceed 70 degrees C and a heat sink is used.

The internal Power Supply shares the available power output wattage with the +5V and +/- 15VDC IMU power outputs. Approximately 43% of the available power can be used for the IMU +/- 15VDC while the remaining 57% is available for the PC/104 stack and the IMU 5VDC requirements. In any case the combined load of the PC/104 stack and the IMU load should be kept below the available power output.



TTE-104

Operating Temperature -40° to $+85^{\circ}\text{C}$

Product Specification

Feature Descriptions

- Discrete Inputs/Outputs
- Four contact closure discrete inputs.
- Four open drain N-Channel MOSFET discrete outputs rated at 40V. Maximum current is 2 amps.
- Four RS422 COM ports and an associated EXAR XR16C854 UART. Transmit and receive 128 byte FIFOs. Data rates to 460800 BAUD.
- Interrupt generation from the GPS 1PPS, with an external RS422 1PPS output.
- RS232 Drivers and Receivers for the GPS receiver COM port.
- Docking connector and built in power supply for an Interstate Electronics TTE-DM GPS receiver. The TTE-DM is not supplied with the TTE-104. It must be purchased separately.
- Polarity reversal protection for the +18VDC to +36 VDC power input. Common mode power input noise filter with surge protection.
- Address and Interrupt assignments can be tailored to customer specs
- Designed and manufactured to IPC class 3 standards.
- Rugged 90 MIL thick circuit board.
- Conformal coating option.

Ordering Information

Model MCI2011002 RevA
or
Model MCI2011002 RevA/C for conformal coating