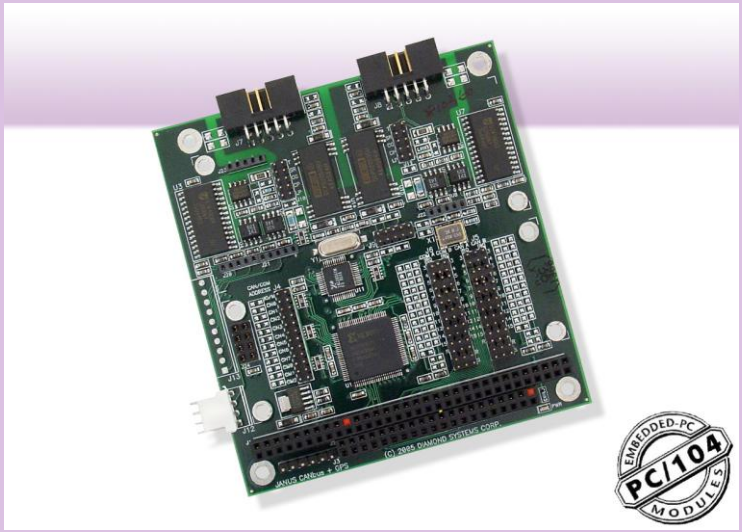
JANUS-MM

Dual CAN Port PC/104 Module

Plus a Carrier for Wireless and GPS Plug-in Modules



Highly Integrated Communications Board

The Janus-MM combines dual CAN interfaces with sockets for wireless communications and GPS to create a complete I/O subsystem.

Configuration Flexibility

To best meet the requirements of your application, Janus-MM can be ordered with any combination of the desired I/O: dual CAN, GSM/GPRS socket modem, Lassen GPS (SKII or iQ).

Noise Immunity

Each port is independently isolated from the system to eliminate sensitivity to noise and ground shifts in the network.

Rugged Design

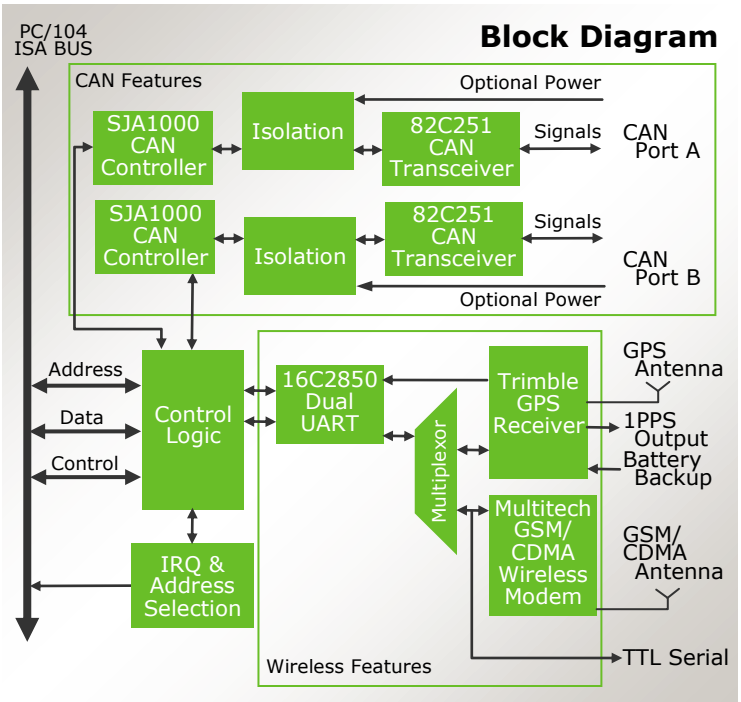
Janus-MM was designed for rugged applications such as automotive or on-vehicle. Extended temperature operation of -40°C to +85°C is tested and guaranteed. Also, 0Ω jumper-bypass resistors can be installed in any configuration.

Shortened Development Time

Diamond offers CAN drivers for Windows CE and Linux. These drivers enable you to develop your application software quickly.

- 2-in-1 CAN plus Wireless/GPS board
- Dual CAN 2.0B interfaces
- Philips SJA1000T controllers
- Channel to channel and channel to system isolation
- CAN drivers available
- Socket for GSM/GPRS and CDMA wireless communication modules
- Socket for Lassen SKII and IQ GPS receiver modules providing location tracking and timing data
- 1 pulse per second precision output from GPS receiver
- Connector provided to supply backup power for the GPS almanac
- 0Ω jumper-bypass resistors for ruggedized applications
- PC/104 form factor
- Extremely rugged -40°C to +85°C (-40°F to +185°F) operating temperature

Block Diagram



JANUS-MM: Dual CAN + Wireless Carrier

DIAMOND SYSTEMS CORPORATION

Specifications

CAN CIRCUIT		
CAN channels	2, 2.0B	
Controller	Philips SJA1000T	
Transceiver	Philips 82C251	
Isolation	500V channel to channel	
Transceiver power	5V, on-board loop	
Clock rate	16MHz	
Data rate	1Mbps	
Bus interface	Memory or I/O	
		WIRELESS MODULES
Manufacturer	MultiTech SocketModem	
Types	GSM/GPRS: F4 or F4-ED	CDMA: N1, N2, N3, or N11
Frequency	850/1900 or 900/1800MHz	800/1900MHz
Packet data	Up to 85.6kbps	Up to 153.6kbps
Circuit-switched data	Up to 9600bps	Up to 14,400bps
GSM Class	Class 1 & class 2 group 3 fax	Class 2 group 3 fax
SMS	SMS capability	
Antenna	MMCX antenna connector and SIM socket	
Operating temp	-30°C to +70°C	
GPS MODULES		
Manufacturer	Trimble Navigation	
Types	Lassen SKII 8-channel receiver Lassen iQ 12-channel receiver	
Frequency	L1	
Protocols	TSIP, NMEA, and TAIP	
Update rate	1Hz	
Output	1 pulse per second precision output	
Battery backup	Battery backup option for faster warm start capability	
Antenna	SKII: SMB antenna connector iQ: H.FL-R-SMT low-profile antenna connector	
Operating temperature	-40°C to +85°C	
GENERAL		
Dimensions	PC/104 form factor 3.55" x 3.775" (90mm x 96mm)	
PC/104 bus	16-bit stackthrough ISA bus	
Power supply	+5VDC ±10% at 77mA (Janus-MM board only)	
Operating temperature	-40°C to +85°C (-40°F to +185°F) (Janus-MM board only)	
Weight	2.1oz (60g) (Janus-MM board only)	
RoHS	Compliant	

Lassen SKII GPS Module

Lassen iQ GPS Module

GSM/GPRS SocketModem Module

Janus-MM with GPS and Wireless modem Modules Installed

Key Features

Janus-MM's dual CAN ports use the Philips SJA1000T CAN controller and 82C251 transceiver, for full CAN2.0B functionality. Each port is independently isolated from the system to eliminate sensitivity to noise and ground shifts in the network. Jumper options include slew rate control, transceiver power source (on-board or loop power), address, and interrupt settings. Both memory and I/O addressing are supported. For ruggedized applications, 0Ω jumper-bypass resistors can be installed in any configuration.

Janus-MM includes sockets and support circuitry for GSM/GPRS and CDMA wireless communication modules from MultiTech, as well as 8-channel and 12-channel GPS receivers from Trimble Navigation. A built-in dual UART circuit provides the necessary interface to the modules. A connector is provided to supply backup power for the GPS almanac. The add-on modules are available separately based on your desired configuration.

Wireless & GPS Add-on Modules

Janus-MM supports the addition of various modules for location identification and wireless communications. One wireless module and one GPS module can be installed simultaneously on a single Janus-MM board. These modules are purchased separately and installed on the board with the included hardware kit. Transition cables are available for each module to connect between the module and the enclosure wall.

Diamond Systems provides antennae and transition cables for both the Wireless Modem and GPS modules used on the Janus-MM board. These antennae and cables are provided with the Janus Developer's Kits (DKs) when the kit is ordered with one or more modules, and may also be ordered separately.

GPS Antenna & Transition Cable

Wireless Antenna & Transition Cable

Ordering Information

JNMM-COMBO-XT	Janus Dual CAN + Carrier PC/104 Module
JNMM-GPS-*g*	Janus-MM, SKII / iQ module, dual CAN
JNMM-WSM-*w*	Janus-MM, wireless modem, dual CAN
JNMM-DUO-*g*-*w*	Janus-MM, GPS & wireless, dual CAN
JNMM-GPS-*g*-DK	Janus-MM, SKII / iQ module, dual CAN, antenna
JNMM-WSM-*w*-DK	Janus-MM, wireless modem, dual CAN, antenna
JNMM-DUO-g-w-DK	Janus-MM, GPS & wireless, dual CAN, antenna
JNMM-CAN2-XT	Janus-MM dual CAN ports only
JNMM-GPS-*g*-XT	Janus-MM, SKII / iQ module, no CAN
CK-GPS-*g*	Antenna Kit for SKII / iQ modules
CK-WSM-01	Antenna Kit for SocketModem modules
	{*g* = iQ or SK; *w* = N1, N2, N3, or N11}