320 Channel PMC CPU, Central Processing Unit

The PMC CPU, part number 00-01015-120/-240, is the main component of Intellitec's Programmable Multiplex Control family. This is the next generation for the PMC family and replaces the following part number, 00-00800-022/-240. For additional information, please refer to the following technical brief, document Tehnical Application Brief _july_08.

The PMC CPU controls remote I/O modules through Intellitec's multiplex communications system (Pat. No. 4,907,222 and 6,011,997). This multiplex system allows the CPU, I/O Modules and switch panels to be wired together with two wires.

This CPU is identical to its' predecessor having two identical, 4-pin, Amp Mate-N-Lok connectors. Pin 1 provides a fused 12 volt power source to power things like switch back lighting. Pins 2 and 3 are the multiplex signals (two loops of 160 channels each) which communicate instructions to and from each of the I/O modules, Pin 4 is multiplex communication ground.

All the harnesses are connected with AMP, Mate-N-Lok connectors to reduce installation time and errors. Combine the Programmable Multiplex Control Central Processing Unit with the Intellitec standard, semi-custom or custom modules, and you can create the exact system configuration that you want, from basic to all encompassing.

What is a PMC System

A system can be as small as one CPU and one I/O module, or it can communicate with up to 32 I/O modules. Each module can have a combination of up to 10 inputs, or outputs.

Multiple modules can be wired to a single connector. All input, or switch information is gathered through the remote modules and directly communicated to the CPU. The CPU then interprets the inputs, determines the states of all outputs and communicates that information to the remote modules via the PMC communications link (pins 2 and 3).

How Does the CPU Communicate to Modules

The PMC system communicates continually at a relatively slow rate of 4 kHz. Each input/output is updated every .040 seconds. The multiplex signal, communicates to the output modules with a large change in signal voltage.
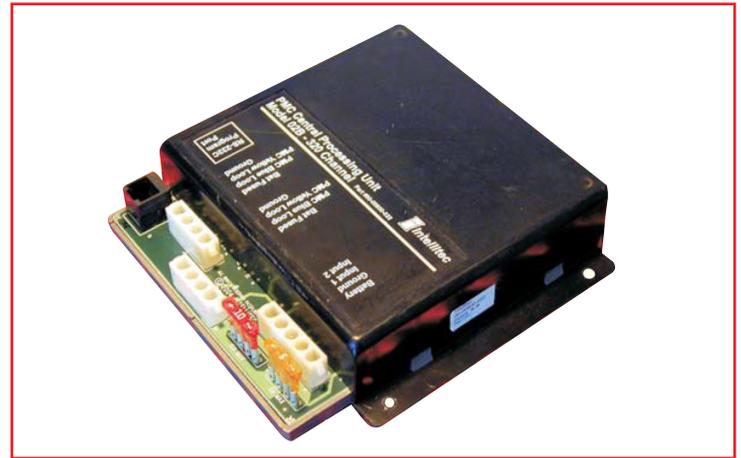
This slow communications rate and large signal voltage change makes the PMC system extremely resistant to interference from EMI and RFI. Because of the low communications frequency and large signal change, communication can take place without fear of interference over any economical wire and eliminates the need for special cables and connectors.

The approximate module dimensions are 6.375" X 6.250" X 1.875" (16.2mm X 15.9mm X 4.8mm). The module should be installed in a protected environment inside of the vehicle.

PMC CPU Features

TheCPUhas the following features:
+ 32 modules fully programable and addressable
+ Total of 320 channels of configurable inputs and outputs
+160 channels of Programmable Timers (These timers can function as on/delay, off/delay, flasher and interval timers, eliminating the need for special flasher modules, mirror heat timers, wiper delays, load managers, etc.)
+160 Virtual Channels available for more complex application development (Provides the capability to write very complex logic relationships between the channels.)

+Sleep Mode operation with improved low power consumption (Allowing for the system to be constantly live with insignifcant drain on the vehicle battery.)

+Reduction in time for transferring and retrieving PMC application files (The application program resides in Flash memory and is retained when power is removed from the CPU.)

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The CPU RS-232C communications port and Windows software is used to setup or program the vehicle specific requirements. The port can also be used to perform system diagnostics. If a lap top isn't available most diagnostics can be performed with a volt meter.

Through the use of Intellitec's WinPMC II Windows based software program and the connection of a PC to the RS-232C port, the user can easily set up the relationships between the switch inputs, timers and outputs.

Specifications

Part Number	00-01015-120	00-01015-240
Voltage	12V	24V
Voltage Range	up to +16 Volts	+10 Volts to 36 Volts
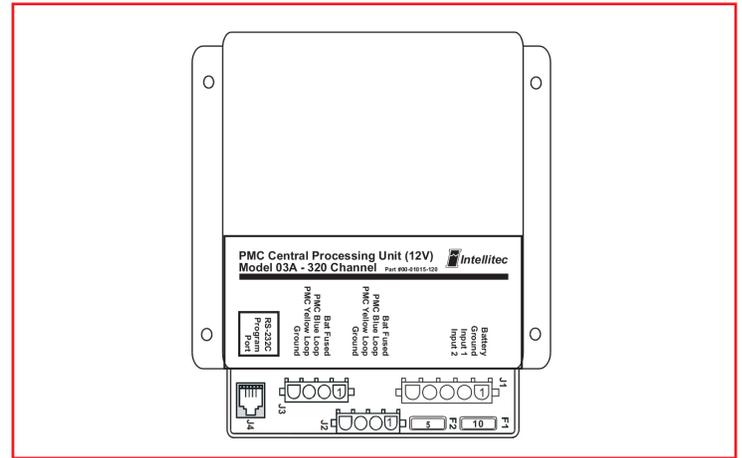
CONNECTOR PIN DESIGNATIONS

J4	RS-232C	PC Communications (Note 1)
J2-J3	PMC Communications	(All three connectors identical)
Pin 1	Fused Power for remote backlighting	16 awg Min. Fuse F2 5 Amps Max.
Pin 2	Multiplex Signal Blue Loop	16 awg Min. (see Chapter 3 of the Users Guide)
Pin 3	Multiplex Signal Yellow Loop	16 awg Min. (see Chapter 3 of the Users Guide)
Pin 4	Communications Ground	14 awg Min. (Make no other connections)
J1-1	Battery	Fuse F1 10 Amps Max.
J1-2	Ground	
J1-3	Aux In 1 (+12V disables sleep mode)	Sleep Mode 4.7K Input Impedance
J1-4	Aux In 2 (+12V disables sleep mode)	Sleep Mode 4.7K Input Impedance

MATING CONNECTIONS

Designator	Function	Connector	Mating Part #	Contact, Typical
J1	CPU Power	5 Pin Amp Mate-N-Lok	1-480763-0	350919-3 for 14-18 AWG
J2	PMC Com	4 Pin Amp Mate-N-Lok	1-480702-0	350919-3 for 14-18 AWG
J3	PMC Com	4 Pin Amp Mate-N-Lok	1-480702-0	350919-3 for 14-18 AWG
J4	RS-232C		RJ11	(Note 1)

SYSTEM CAPACITY	
Program Memory	EPROM
User Memory	Non Volatile
Module Capacity	32
I/O per Module	10
Total I/O Control	320
Virtual Channels	160
Timer Channels	160
COMMUNICATIONS	
CPU/Module	PMC two wire 4KHZ
EMI/RFI	High Immunity
User PC Program	WinPMCII

For further information on this product, please contact Intellitec.

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