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320 Channel PMC CPU 00-00800-022 Central Processing Unit

The PMC CPU is the main component of Intellitec's Programmable Multiplex Control family. It 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 has 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.

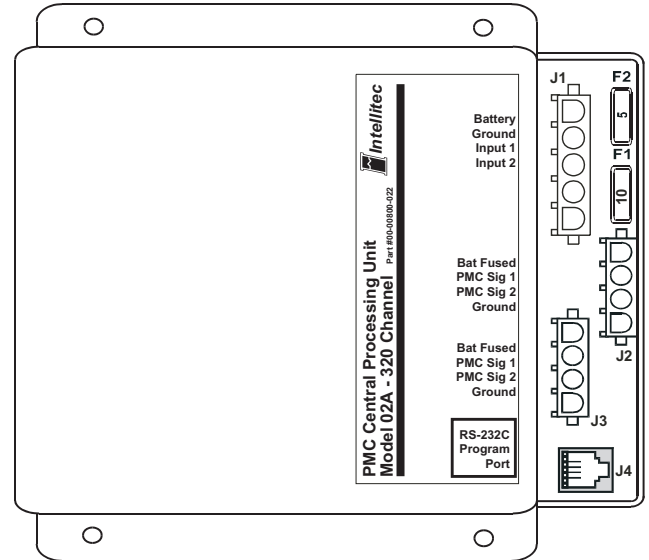
A system can be as small as one CPU and one I/O module, or it can communicate with up to 32 I/O modules. Each module can have a combination of up to 10 inputs, or outputs.

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).

This CPU also has 160 timer channels built-in. The timers are setup by the Windows software. These timers can function as on/delay, off/delay, flasher and interval timers. PMC eliminates the need for special flasher modules, mirror heat timers, wiper delays, load managers, etc. In addition there are also 160 virtual channels which provide the capability to write very complex logic relationships between the channels.

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.

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. Four high speed channels are available to control elements requiring a higher speed.



The CPU includes a sleep mode. The sleep mode reduces the overall system operating current, allowing the system to be constantly live with insignificant drain on the vehicle battery.

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. If desired, Intellitec can ship CPU modules to the OEM with their program already loaded.

If your customer needs a modification, a CPU can be programmed at your desk and shipped overnight. The plugs are designed so that the CPU can only be plugged in one way. The CPU may also be reprogrammed over and over again. In the PMC system, the only module that needs programming is the CPU. This program resides in non-volatile memory and is retained when power is removed from the CPU.

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. 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.



| SPECIFICATIONS | | | |
|-------------------------|-----------------------------|-----------------------|-------------------|
| Part Number | 00-00800-022 | | |
| Nominal Vehicle Voltage | +12 Volt or +24 Volt system | | |
| Voltage Range | +10 Volts to 36 Volts | | |
| SYSTEM CAPACITY | | COMMUNICATIONS | |
| Program Memory | EPROM | CPU/Module | PMC two wire 4KHZ |
| User Memory | Non Volatile | EMI/RFI | High Immunity |
| Module Capacity | 32 | User PC Program | WinPMC II |
| I/O per Module | 10 | | |
| Total I/O Control | 320 | | |
| Virtual Channels | 160 | | |
| Timer Channels | 160 | | |

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) |

Note 1: Communications to PC is accomplished via Cable and Program Key, included in the programming kit.

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Over the years of running a mobile RV repair service, having a dedicated place to access service manuals for all the different appliances and components found on RVs was something that I always had a desire to create.

I hope this resource makes your RV repairs easier, as it has mine, but please be careful and follow proper safety practices when attempting to repair your own RV.

If in doubt, please consult with a professional RV technician!



DARREN KOEPP - OWNER, MY RV WORKS, INC.

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