

# CPU Module

## for the MOSCAD RTU

The CPU module is the core of the MOSCAD RTU. The module contains the operating system code, provides RAM for run-time variables and historical data and provides FLASH memory for the Application Program.



### FEATURES/BENEFITS

#### C-language Programming

The C programming language may be used to code functions and routines which may be compiled and downloaded into the Series 300 or 400 CPU.

- ▶ Existing C-language functions may be reused in the MOSCAD CPU or new functions created.
- ▶ Programming techniques supported by the C-language may be used in the MOSCAD CPU.

#### Data I/O

The Application Program may take advantage of the two on-module RS-232 ports and the communications port. Smart sensors with RS-232 I/O may be directly connected. Data to/from other sites may be communicated via two-way radio or by traditional wireline modem technologies.

- ▶ These are additional ways to move data to/from the CPU and the resident Application.

#### Communications Protocol

The communications protocol was specifically developed for two-way radio communications. It conforms to the ISO *Open System of Interconnection* recommendation (all seven layers) and permits remote-to-central and direct peer-to-peer communications.

- ▶ The packet-type protocol permits:
  - Operating data to be moved from any RTU to any other unit in the system.
  - The programming ToolBox at any RTU to download the appropriate Application Program to any other RTU in the system.
  - The programming ToolBox at any RTU to upload the diagnostic files from any other RTU in the system. All this happens quickly and efficiently, by wirelines or by two-way radio.

#### Third-Party Protocols

The CPU module may use some third-party protocol for its communication needs. These protocols include MODBUS, X.25, and others.

- ▶ Systems may be created by using products from numerous manufacturers.

#### Packaging

The CPU module is packaged in a plastic housing that plugs and locks into the motherboard. RJ-45 connectors, and matching cables permit easy connection to DTE/DCE/printer devices.

- ▶ Modularity allows the MOSCAD RTU to easily expand as system requirements change.

#### CPU is a Computer

The CPU module is a computer with RAM and ROM memory, a fully-functional and fast processor, a real-time clock and serial data I/O ports.

- ▶ It can be programmed to:
  - Accomplish the familiar Programmable Logic Controller (PLC) tasks.
  - Be an interface among existing data devices thereby constructing a single data system.
  - Use a wide spectrum of communications media when constructing a single data system.
  - Perform many other functions.

#### Ladder Logic

The MOSCAD CPU is programmed by using an advanced version of the familiar Ladder Logic language. The programming ToolBox offers a collection of software programs that facilitate this task.

- ▶ The logic variables are defined according to the requirements of the system and programmer.
- ▶ The individual logic statements are coded by using the powerful coding icons.
- ▶ The I/O variables are linked to physical I/O points.
- ▶ The entire code structure is compiled into the exact same PROM code that would be created by a Pascal or C programming language compiler.

GENERAL SPECIFICATIONS		
<b>Order:</b>	Series 200:	Plant installed: V424; Spare: F6932
	Series 300:	Plant installed: Standard; Spare: F6933
	Series 400:	Plant installed: V426; Spare: F6936
	Math Coprocessor:	Plant installed: V445; field installed: FRN5670
	1.2 MB RAM:	Plant installed: V449; field installed: FRN5671
	1.2 MB RAM and Math Coprocessor:	Plant installed: V446; field installed: FRN5672
<b>Clock/Memory:</b>	Series 200:	EPROM: 512k; RAM: 64k; FLASH: 256k; Clock: 16.6 MHz @ 100 ppm
	Series 300:	EPROM: 1024k; RAM: 256k; FLASH: 256k; Clock: 16.6 MHz @ 30 ppm
	Series 400:	RAM: 256k; FLASH: 1280k; Clock 16.6 MHz @ 30 ppm
<b>Ports:</b>	Port 1:	RS-232 @ up to 19.2 kbps, or RS-485 @ up to 19.2 kbps
	Port 2:	RS-232 @ up to 19.2 kbps with full DTE/DCE support
	Port 3:	Radio: Direct-FM @ up to 4.8 kbps; or
		AFSK @ up to 2.4 kbps; or DPSK @ 1.2 kbps; or Intrac @ 0.6 kbps; or Wireline: Sync or Async; or RS-232 @ 0.6-19.2 kbps
<b>Power:</b>	5 Vdc:	Provides up to 2.0 amp to associated I/O modules
	12 Vdc:	Series 200: consumes 120 ma Series 300 and Series 400: consumes 130 ma
<b>Environment:</b>	Humidity:	0 to 90% @ +50°C
	Temperature:	-30 to +60°C

Specifications subject to change without notice.



### Support Services

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