

## Micro III Control Panel

The FES Systems, Inc. Micro III Control Panel is the product of choice for many industrial control applications. This panel combines the best features of FES' industry leading Micro IIE and MicroMASTER control panels and greatly expands upon their capabilities to lead FES controls and the industry through the 21st century. A proven hardware design provides features and expansion capabilities that allow the Micro III to be a cost-effective solution in many applications previously served by PLC's.

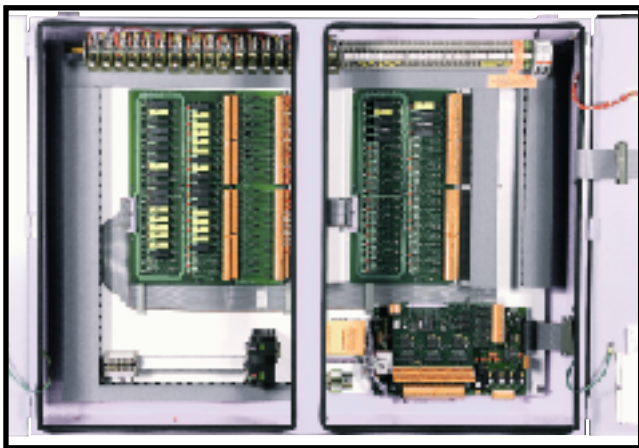


Applications include:

- Compressor Sequencing
- Condenser Control
- Vessel monitoring and control
- Evaporator control
- Single compressor control
- Multi-unit compressor control
- Other applications that require automation

(See individual product brochures for product details and availability)

The Micro III incorporates the FES high-speed peer-to-peer ComMENT network interface to make external data acquisition a breeze. The panel can also be supplied in various configurations to accommodate additional relays, switches, and other general-purpose components that may be needed to complete an application. All enclosures are NEMA 4, with a UL Type 4 label.



### Display

The Micro III high contrast super-twist LCD display with yellow/green LED backlight offers:

- Long life and reliability
- Operation in harsh industrial refrigeration environments which include heavy vibration and temperature extremes.
- Alphanumeric/graphic 128 x 160 pixel resolution; allowing for more data (approximately 16 lines of 24 characters), various font sizes, reverse video, and simple graphic representations.
- A large display viewing area of 3.7" x 2.9" (92.8mm x 74.2mm)

### Keypad

The expansive Micro III keypad has 46 tactile feel keys that provide:

- Direct access to displays and functions without "menu searches" or numeric entries for selections.
- A full numeric section; with up, down, left and right cursor keys, edit and entry keys, and change display, alarm, and clear keys.
- Two advanced sections totaling 24 keys; each with LED status indication to show present selections and insertable legends for key descriptions based on the product functionality.



## I/O Rack

An electrician-friendly digital I/O rack provides 40 slots (expandable to 2 racks – total of 80 slots) for industry standard solid state isolated modules.

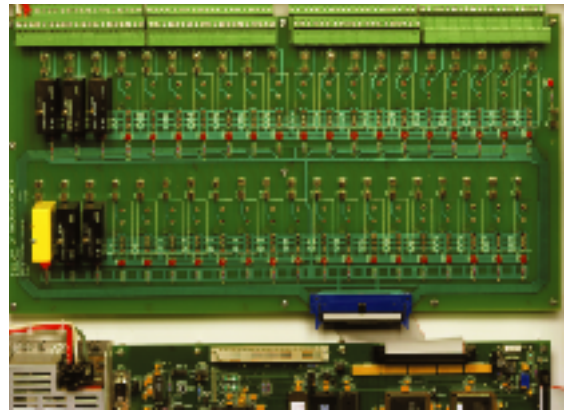
All digital I/O positions can accept either input or output modules as determined by the software operating in the panel.

Each I/O point is provided with a glass fuse that gives visual indication when blown.

Each I/O rack includes an on-board fuse tester with a LED indication.

A hand-off-auto board with plug-in switches is available as an option. Field wiring connections unplug from the I/O board and HOA option board; allowing for board replacement without removing wiring terminations.

Two screw type terminals are provided for each connection point to allow for more field wiring connections to be made without additional external terminals.

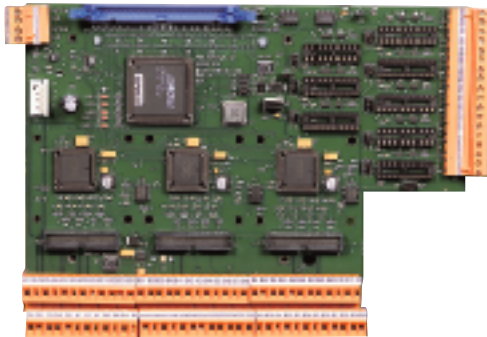


## Power Supply

The modular power supply provides auto selection for 90-230 VAC and 50 or 60 Hz control power.

## Micro-III Processor Board

**Microprocessor Basics:** The Micro III is powered by a Motorola microprocessor, using a battery-backed RAM to hold set-point and failure data, and flash memory to hold program software and configuration information. Flash memory allows for software changes to be downloaded via serial communications without "chip" replacements. Micro III download software and instructions are available free at [www.fessystems.com](http://www.fessystems.com). The real-time clock is maintained with a replaceable lithium battery.



**Communications:** The Micro III supports the high-speed peer-to-peer COMMENT network interface with easily wired screw terminal connections. The board also supports a 9-pin RS-232 or a 5-terminal screw-type connector RS-422 serial interface port. The RS-232/422 serial interface is currently used for program downloads to flash memory.

**Analog Inputs:** The Micro III supports 16 analog input channels (expandable to 40 channels) with 12-bit resolution. Each channel is jumper selectable for 1-5 VDC, 4-20 mA, or ICTD input. Two channels have special circuitry, one for a side valve pot and one for direct connection of a 5 amp motor current CT.

**Analog Outputs:** The Micro III supports 4 analog output channels (expandable to 12 channels) of 16-bit resolution. The channels are jumper configurable as isolated (4-20 mA loop externally powered) or non-isolated (4-20 mA loop powered from the Micro III).

**Line Voltage Detection:** Sophisticated integral line voltage detection circuitry allows for AC line voltage from 65 VAC to 245 VAC to be continuously monitored and displayed.

**LED Status Indicators:** Six LED's (5 additional on I/O expander) provide indication of proper Micro III operation, COMMENT network communications, software download status and troubleshooting.

### Environmental Data:

**Operating Conditions:** 0-95% RH, +14°F to +122°F (-10°C to +50°C) standard; contact FES for custom ranges

**Dimensions:** 24" w x 30" h x 8" d Standard (single I/O rack), with oversized panels available.

