



Multi-Applications Field Process Manager

Functional characteristics

The FM-AA01 is the device that manages all the field processes of the different applications and the interactions among the applications. The most important capability is the peer-to-peer communications of the FM-AA01 present in the system which allows a totally "server independent" integrated security system. The main characteristics of FM-AA01 are:

- ◆ CPU GEODE SCx200 266MHz processor (Pentium II class)
- ◆ 128Mbyte RAM
- ◆ 64Mbyte CompactFlash memory
- ◆ LAN 10/100BaseT communications port (Fast Ethernet)
- ◆ Manages 2 separate FD-BUS backbones
- ◆ Optically isolated RS485 on FD-BUS-B for interfacing with third-party terminals
- ◆ 32bit PCMCIA slot (Cardbus) for expansion with high speed devices (WIFI, ADSL)
- ◆ Host USB port for expansion with low-speed devices (modem, WEB cam, Bluetooth, biometric sensors)
- ◆ RS232 serial port for diagnosis and configuration (BIOS)
- ◆ Autonomous clock & calendar
- ◆ Tamper (anti-opening) protection
- ◆ Linux operating system
- ◆ Programming language:Java™
- ◆ Encrypted communications (SSL) on Ethernet LAN

Protection

The equipment is protected against the following events:

- ◆ polarity reversal on cables (RJ45) connecting to the FD-BUS
- ◆ voltage surge in the power supply

Modes of Operation

The FM-AA01 module is part of the Orangelink system and can perform Field Manager functions. It can control either OrangeLink Field Devices and third party's devices on both the FD-BUS A and FD-BUS B backbones (from 300 baud to 115 Kbaud). The two backbones can communicate at two different speeds at the same time. The normal speed for OrangeLink Field Devices is 115 Kbaud. The module is fully configurable remotely over the LAN.

Applications are activated as soon as the FM-AA01 has received the configuration database from its supervisor. Once it has received the database, the FM-AA01 is able to operate autonomously even without the LAN.

Visual indicators

The most common indications are as follows:

- ◆ Status LED, lit steady yellow when BIOS initialization is complete
- ◆ Red status LED for Ethernet, flashes when communicating in 100BaseT mode (goes off once for each message)
- ◆ Green status LED for Ethernet, flashes when communicating in 10BaseT mode (goes off once for each message)
- ◆ Green status LED for FD-BUS A, flashes when transmitting over the A backbone (flashes once for each message)
- ◆ Red status LED for FD-BUS A, flashes when receiving over the A backbone (flashes once for each message)
- ◆ Green status LED for FD-BUS B, flashes when transmitting over the B backbone (flashes once for each message)
- ◆ Red status LED for FD-BUS B, flashes when receiving over the B backbone (flashes once for each message)
- ◆ Link status LED, lit red when shutdown is complete

Technical Details

Parameter	Description
Dimensions	155x85x55mm (9 DIN units)
Weight	430g
Supply voltage	From 8V _{DC} to 14V _{DC}
Power consumption	From 350mA (CPU 10%) to 650mA (CPU 100%) 1000mA max.
Operating temperature	0 ↔ 40°C
Relative humidity	Up to 95% without condensation
Mounting	Horizontally on DIN bar
Processor	Geode SC3200 at 266MHz
Main memory	64Mbyte DRAM
Storage memory	64Mbyte CompactFlash (removable)
Communications interfaces	<ul style="list-style-type: none"> - Fast Ethernet 10/100 BaseT - RS485 serial bus (FD-BUS A) - Optically isolated RS485 serial bus (FD-BUS B) - RS232 serial port (COM1) - USB host
User interfaces	<ul style="list-style-type: none"> - Operation mode selector on 4 bits - BIOS status LED (red + green) - Ethernet status LED (red=100BaseT, green=10BaseT) - Application / link status LED (red + green) - RS485 FD-BUS A status LED (red=RX, green=TX) - RS485 FD-BUS B status LED (red=RX, green=TX)
Internal interfaces	<ul style="list-style-type: none"> - JTAG port (used at production only) - VGA video output (used at production only) - Jumpers (5) for Power Out from FD-BUS/A to FD-BUS/B - Connector for type I PCMCIA card (Cardbus) - Connector for type I CompactFlash cartridge - Jumper to enable battery (rechargeable) for maintaining CMOS RAM and clock
FD-BUS A communication line	<ul style="list-style-type: none"> - Differential RS485 serial interface - Baud rate (nominal) 11,5000 baud - Master mode (through COM3)
FD-BUS B communication line	<ul style="list-style-type: none"> - Differential RS485 serial interface with floating ground (optically isolated) - Baud rate (nominal) 11,5000 baud - Master mode (through COM3 or COM5)
Other functions	<ul style="list-style-type: none"> - Tamper switch for alarm if casing is opened - Remote power supply status monitoring
Compliance	 Directives 89/336/EEC, 93/68/EEC, 92/31/EEC EN60950, EN 55022, EN 55024