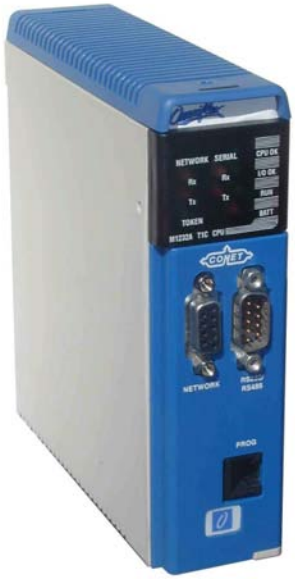
# MAXIFLEX CPU's

Models M1211, M1212, and M1214 Programmable CPU's

DATASHEET



**FEATURES**

- **Designed for Remote I/O Systems**
- **System sizes from 2 to 15 I/O modules per CPU**
- **Powerful programming language.**
- **Simple network configuration options.**
- **Optional integral CONET or radio modem Port**
- **Serial Port for third party communications**
- **Battery backed Real-time Clock**

The MAXIFLEX M121X CPU's are designed specifically for remote I/O applications, offering powerful industrial network communications features with ease of use.

All local data is accessible through 3250 Data Interchange Registers accessible from the user program and from the network.

All system configuration data and dynamic data can be read and written through this convenient table interface.

This CPU includes an optional CONET network interface. CONET is a rugged local area network designed to operate in harsh electrical environments, and on unspecified cabling. Distances up to 10km can be achieved making possible the retrieval of data from the corners of the factory in very large , geographically spread-out installations.

Many other features such as a built-in realtime clock, battery backup for temporary dynamic data, and a RS232/485 serial port are standard in this product.

## APPLICATIONS

- **Point-to-Point Telemetry systems with analog and digital data in both directions over a single pair of wires.**
- **Remote I/O for SCADA software packages using CONET to send data over distances up to 10km.**
- **I/O expansion into existing DCS installations through the CONET network and Modbus gateways.**
- **Third party network interfaces to the DCS over CONET to achieve a rugged plant intranet.**
- **Radio linked RTU out-stations with up to 240 I/O per out-station.**
- **High Density Analogue Data Acquisition systems such as boiler skin temperature monitoring with direct sensor connections.**
- **Distributed Alarm Systems with Time-stamping to 10 milliseconds at source.**
- **Dialup monitoring of remote installations for metering, asset management or security applications.**

# SPECIFICATIONS

## Communications Ports

### Programming Port (on all models)

| | |
|---|---|
| Type | Asynchronous RS232 serial port |
| Protocols | Supports the Conet programming protocol which allows remote programming and full system data access through the programming port. |
| Standard Baud Rate | Preset at 9,600 baud |
| Maximum cable length | 5 meters |
| Connection | RJ11 jack. Use with Model M1831 2 metre long programming cable for connection to PC serial port (9 pin). |

### Serial Port (on all models)

| | |
|---|---|
| Type | Asynchronous RS232/485 serial port |
| Protocols | Supports Modbus ASCII and RTU as standard, but other protocols may be downloaded to the CPU. |
| Baud Rate | 300 – 19,200 baud. |
| Maximum cable length | 15 meters (50ft) in RS232 mode<br>1200m (4000ft) in RS485 mode |
| Connection | 9 pin sub-miniature DB9 (male). |

### CONET twisted pair network Port (On M1212 model only)

| | |
|---|---|
| Type | Token passing peer-to-peer industrial LAN. |
| | |
| Baud Rates | 62.5 kBaud on Standard Baud Rate<br>7800 Baud on Slow Baud Rate. |
| Maximum cable length | 10km |
| No of nodes on one network | 126 |

### CONET/m Radio network Port (On M1214 model only)

| | |
|---|---|
| Type | Four wire half-duplex 600 ohm audio interface. |
| Modulation | Minimum Shift Keying (MSK). |
| Signalling | E & M signalling |
| Baud Rate | 1200 baud |
| No of nodes on one network | 255 |
| Digipeating | Up to six levels. |

## Memory

| | |
|---|---|
| User Program | 16k EEPROM |
| User Variables | 10k Battery Backed RAM |
| Data Interchange Table | 3250 16 bit Registers on CPU |

## Front Panel Indicators

| | |
|---|---|
| CPU OK (Green) | On = CPU Healthy<br>Flashing or Off = CPU faulty |
| I/O OK (Green) | On = I/O OK<br>Flashing = I/O does not match configuration.<br>Off = I/O configuration not set. |
| RUN (Green) | On = Application Program Running<br>Off = No application program or application program not running |
| BATT (Red) | Off = Lithium Battery healthy<br>On = Lithium Battery required replacing. |
| | (Battery used for real-time clock and User Data retention.) |
| Serial Tx (Red) | On = data is waiting to be sent out serial port.<br>Off = no data waiting to be sent. |
| Serial Rx (Amber) | On = Data is being received on serial port.<br>Off = No data being received. |
| Network Tx (Red) | Flashes for each CONET network data message received (to the correct address.) |
| Network Rx (Amber) | Flashes for each CONET network data message sent. |
| Network Token (Green) | Flashes at a rate proportional to the speed that the token is passed along the network. |
| Network Fault Indication | All three Network LED's flash simultaneously if the Node Address is incorrectly set. |

## Real Time Clock

| | |
|---|---|
| Resolution | 10 milliseconds |
| Accuracy | 1 minute per month |
| Battery Life | Greater than 1 year with power off.<br>Greater than 5 years with power on. |
| Battery Type | 3.6V Lithium wafer Cell Model TL-5186 |

## Environmental

| | |
|---|---|
| Operating Temperature | -25°C to +60°C (-13°F to +140°F) |
| Storage Temperature | -40°C to +70°C (-40°F to +158°F) |
| Humidity | 95% max. at 40°C (104°F) non-condensing. |
| Protection | Electronics conformally coated |

## Logic Power Consumption

| | |
|---|---|
| From Logic Power Supply | 250mA from 5Vdc max. |

## Mass

| | |
|---|---|
| Excluding Packaging | 390g (13.8oz) |
| Including Packaging | 480g (16.9oz) |

## Ordering Information

| Model | Order Code |
|---|---|
| Standard CPU | M1211 |
| Conet CPU (with Conet twisted pair network Port) | M1212 |
| Conet/m CPU (with Conet/m radio network Port | M1214 |