

## MM.IP-PC-101-44-VDC

Anyone who can surf the web, now can do sensor monitoring, control, data logging, and email alerts without any training or custom software. All you need is a web browser running on any laptop, PDA, or cell phone anywhere in the world.

The Maverick IP Sensor Appliance incorporates a web server, analog/digital inputs and relay outputs. Power the appliance with any 24VAC transformer, plug it into a hub/router, launch any web browser, punch in the default IP and connect. No custom software to load, no discovery routines, no custom cables, or training. The IP Sensor Appliance serves up static web pages with dynamic data updates every second or two. Most users can set up and utilize the appliance without any training or support in less than 5 minutes due to the innovative and familiar web browser based configuration. The Maverick is an ideal low cost solution for light commercial, residential and remote monitoring applications. The appliance can also be used to enhance existing HVAC control systems by adding email alerts and data logging to critical points.



FC CE RoHS



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## MM.IP-PC-101-44-VDC

**GENERAL:** The Maverick IP Sensor Appliance has an embedded lean TCP-IP stack including HTTP, SMTP, DHCP, DNS, FTP, and ARP. The Maverick also has XML embedded with formatted input & output data. In this way, the Maverick can communicate directly with any IT system which has an XML parser. Similarly, any simple JavaScript can be used to communicate and acquire HTML data.

These unique features enable the Maverick to function as a extremely low cost XML & HTML node for large enterprise IT systems. **INPUTS & OUTPUTS:**

The Maverick is available in two I/O versions - First version has 8 analog or digital inputs and the second has 4 analog or digital inputs and 4 relay outputs. The analog inputs can be specified to be voltage or current inputs. On voltage input versions, the appliance can be field configured for 0-5 or 0-10 VDC inputs. Both analog versions (voltage or current) accept 10 VDC maximum as digital input. The output relays are rated for 5 Amps @ 250 VAC and can be used for pilot duty or light load switching directly. Any input can be assigned to control relays 1 through 4. An output can be controlled by an input, and/or by time based control. If an output has both input and time control, the time based control will force the output on and override the input during "ON" time. However, if time based control is off, input control will take over and force the output on if the value is above/below set point. The most powerful feature the Maverick has is browser initiated manual control. Any output can be controlled remotely with a web browser running on a cell phone, PDA or a laptop. In this way, if an email alert is received, the user can remotely control the output manually and handle the emergency. Using email alerts, the load can be operated

manually until a convenient time to dispatch a service technician. **EMAIL ALERTS:**

Biggest short coming of all existing control systems is their inability to directly send email alerts and alarms. The Maverick appliance has a very user friendly email alert capability and can send email alerts to up to two different addresses. Email alerts can be configured on all inputs and the Maverick also has the capability to attach a comma separated log file to the email alert. In this way, the user does not only receive an alert but also can parse the log file and know why the alert is coming.

The Maverick appliance can also send email alerts in case of a power outage. The appliance logs the time the power went out and when the power is restored, sends an email with time stamp when the power went out and when it was restored.

Similarly, the appliance can be configured to send an email if the DHCP IP assignment has been changed. In this way, if the Maverick is running as a DHCP client, it can keep the users abreast of it's DHCP IP assignment and the user does not have to discover the appliance.

**DATA LOGGING:** The appliance can log 2048 samples for each input. The logging interval can be from 1 second to 99.99 hours. Data is logged in a standard CSV file and can be reviewed with Notepad, Wordpad, Excel or any other software application which can open comma separated files. The Maverick also uses a JavaScript which runs on the web browser to display the logged data as a graph. The X scale (sensor value) and the Y scale (time) on the graph can be adjusted. As a result, the graph can be plotted to show only the relevant data.

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## MAVERICK BROWSER SCREEN SHOTS:

**IP Sensor Appliance: MAMAC UNO** May 9, 2008

Configuration | Password/Check

**MAMAC SYSTEMS**

Main  
Manual Control  
Data Logging  
Configuration

**INPUT VALUES**

Sensor 1: Lab Temp : 78.3 F  
Sensor 2: Lab Humidity : 18.8 % RH  
Sensor 3: Shaft Pressure : 3.4 "H<sub>2</sub>O  
Sensor 4: Fan Current : 25.8 Amps

**OUTPUT VALUES**

Output 1: Supply Fan : On  
Output 2: DR Cooling : On  
Output 3: Humidifier : Off  
Output 4: Exhaust Fan : On

**EMAIL ALERT STATUS**

Sensor 1: Alert  
Sensor 2: Alert  
Sensor 3: Normal  
Sensor 4: Normal

**MANUAL CONTROL STATUS**

Output 1: Automatic  
Output 2: Automatic  
Output 3: Automatic  
Output 4: Manual

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Main page with complete status of every input & output

**IP Sensor Appliance: MAMAC UNO** May 9, 2008

Configuration | Password/Check

**MAMAC SYSTEMS**

Main  
Manual Control  
Data Logging  
Configuration

**NETWORK**

DHCP: ☐ Enabled ☒ Disabled

Static IP Address: 192.168.1.10  
Subnet Mask: 255.255.255.0  
Gateway IP Address: 192.168.1.1  
DNS Server IP Address: 192.168.1.1

**EMAIL**

Email #1:   
Email #2:   
Email #3:   
Email From: appliance@mamacsys.com  
Email Server: ☒ DNS ☐ SMTP IP  
SMTP Server: 6.6.6.6  
SMTP IP Change Email: ☐ Enabled ☒ Disabled  
Power Recycle Email: ☐ Enabled ☒ Disabled

Save  
Send Test Email

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Network & email configuration

**IP Sensor Appliance: MAMAC UNO** May 9, 2008

Configuration | Password/Check

**MAMAC SYSTEMS**

Main  
Manual Control  
Data Logging  
Configuration

**GENERAL**

Current Time & Date: 13:38:03, Friday, May 9, 2008  
Firmware Version: 1.13  
MAC Address: 00-50-C3-10-54-39  
Model ID: MAMAC UNO  
Main Page Refresh Rate: 1 Sec

**LOGIN**

Username:   
Password:   
Re-Enter Password:   
Save

**TIME & DATE**

Time: 13:38:03 (24hr)  
Date: May 9 2008  
Day: ☐ Sun ☐ Mon ☐ Tue ☐ Wed ☐ Thu ☐ Fri ☐ Sat

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Password & Time configuration

**IP Sensor Appliance: MAMAC UNO** May 9, 2008

Configuration | Inputs | Output 1

**MAMAC SYSTEMS**

Main  
Manual Control  
Data Logging  
Configuration

**Input 1**

Name: Lab Temp  
Min Value: 0.0  
Max Value: 100.0  
Units: F

**Email Alert Configuration**

Alert Enabled: ☒ On ☐ Off  
Lower Value: 69.0  
Upper Value: 70.0  
Alert Width: 1 Sec  
Attach Log: ☐ On ☒ Off

**Email Alert Configuration**

Output Control: ☐ Lower Value or Input 1  
Lower Value: 67.0  
Upper Value: 69.0 Sec  
Relay on: ☐ Relay off: ☐ Off

Save

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Input & email alert configuration

**IP Sensor Appliance: MAMAC UNO** May 9, 2008

Configuration | Logging Setup

**MAMAC SYSTEMS**

Main  
Manual Control  
Data Logging  
Configuration

**Input 1 Log**

☒ Enabled ☐ Disabled  
Max Samples: 1000  
Sample Rate: 00:01:00 (10 Min/Sec)  
Save Log 1

**Input 2 Log**

☒ Enabled ☐ Disabled  
Max Samples: 1000  
Sample Rate: 00:01:00 (10 Min/Sec)  
Save Log 2

**Input 3 Log**

☒ Enabled ☐ Disabled  
Max Samples: 1000  
Sample Rate: 00:01:00 (10 Min/Sec)  
Save Log 3

**Input 4 Log**

☒ Enabled ☐ Disabled  
Max Samples: 1000  
Sample Rate: 00:01:00 (10 Min/Sec)  
Save Log 4

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Logging setup

**IP Sensor Appliance: MAMAC UNO** May 9, 2008

Configuration | Outputs

**MAMAC SYSTEMS**

Main  
Manual Control  
Data Logging  
Configuration

**OUTPUT CONFIGURATION**

Output 1: XXXX  
Output 2: XXXX  
Output 3: XXXX  
Output 4: XXXX

**TIME CONTROL**

Output 1

Start	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Start	00:00	00:00	00:00	00:00	00:00	00:00	00:00
Stop	00:00	00:00	00:00	00:00	00:00	00:00	00:00

Output 2

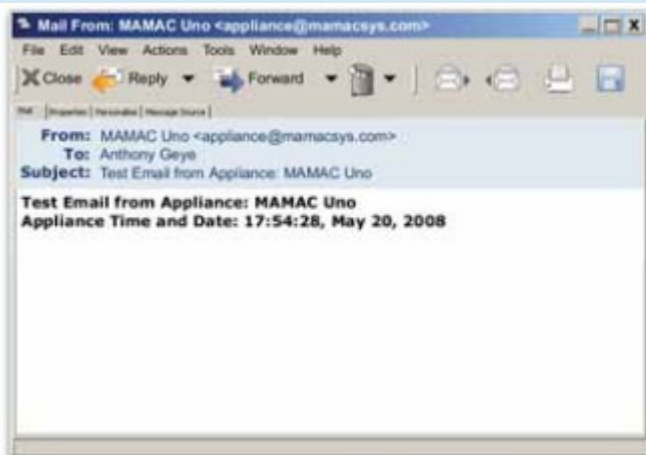
Start	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Start	00:00	00:00	00:00	00:00	00:00	00:00	00:00
Stop	00:00	00:00	00:00	00:00	00:00	00:00	00:00

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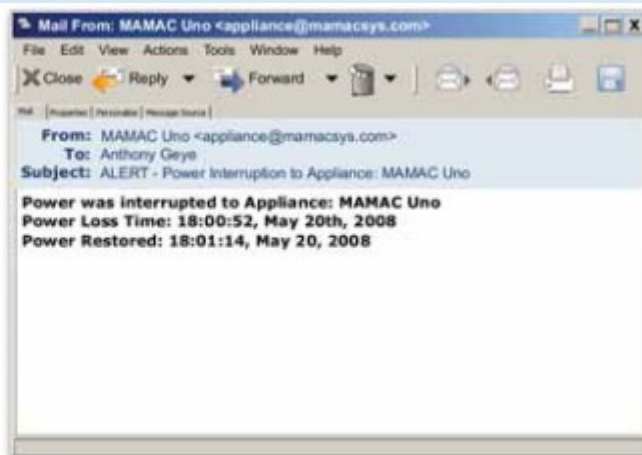
Output configuration

## MM.IP-PC-101-44-VDC

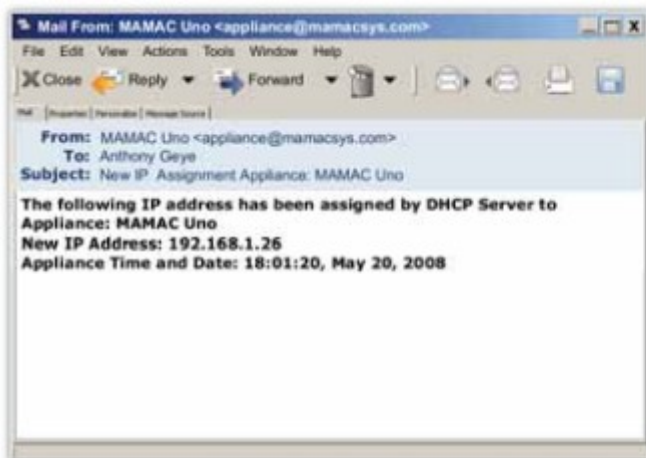
### EMAIL ALERT SCREEN SHOTS



Test email



Power cycle email



DHCP Assignment



Email Alert





## SENSOR APPLIANCE

### MM.IP-PC-101-44-VDC

#### SPECIFICATIONS:

**Supply Voltage:** 24 VAC/VDC  
**Supply Current:** 250 mA (6 VA)  
**Input Impedance:** 125K ohms (VDC or Digital)  
 250 ohms (4-20 mA)  
**Digital Input:** 10.00 VDC maximum  
**Output Relay Rating:** 250 VAC @ 5.0 Amps  
 UL Listed  
**Ethernet:** 10-Base T  
**IP Assignment:** Static or DHCP  
**Email:** SMTP to two email addresses  
**Data Logging:** 2048 samples each input  
**Logging Interval:** 1.0 second to 99.99 hours  
**Environmental:** 10-90%RH non-condensing  
**Operating Temp:** -40°F-125°F (-40°C-52°C)  
**Storage Temp:** -40°F-150°F (-40°C-66°C)  
**Enclosure:** UL 94V-5-O Polycarbonate plastic  
**Termination:** Removable terminal blocks 16 Ga  
 max, RJ-45 Ethernet jack  
**Weight:** 0.5 lbs. (.25 kg)

#### CONFORMANCE & TESTING:

##### RoHS Compliant

##### FCC Testing -

- Rule Part 15, Subpart B - Unintentional Radiators Class B Limits 15.107 & 15.109

##### EMC/EMI Testing -

- BS EN 55022:1998, CISPR 22:1997 Amendments 1 & 2
- BS EN 55024:1998 CISPR 24:1997 Amendments 1 & 2
- EN 61000-3-3: Limitations of voltage fluctuations and flicker in low-voltage supply systems <16A
- EN 61000-4-2: Electrostatic Discharge (ESD)
- EN 61000-4-3: Radiated, radio frequency, Electromagnetic field immunity test
- EN 61000-4-4: Electrical Fast Transient/burst immunity test (EFT)
- EN 61000-4-5: Surge Immunity Test (Mains)
- EN 61000-4-6: Immunity to conducted disturbances, induced by radio frequency fields
- EN 61000-4-11: Voltage dips, short interruptions & voltage variations immunity test

#### ORDERING INFORMATION: IP-PC-101-

CONFIGURATION	INPUT
<b>44</b> (4 inputs 4 relay outputs)	<b>mA</b> (4-20 mA 2-wire)
<b>80</b> (8 inputs only)	<b>VDC</b> (0-5 VDC or 0-10 VDC field selectable)

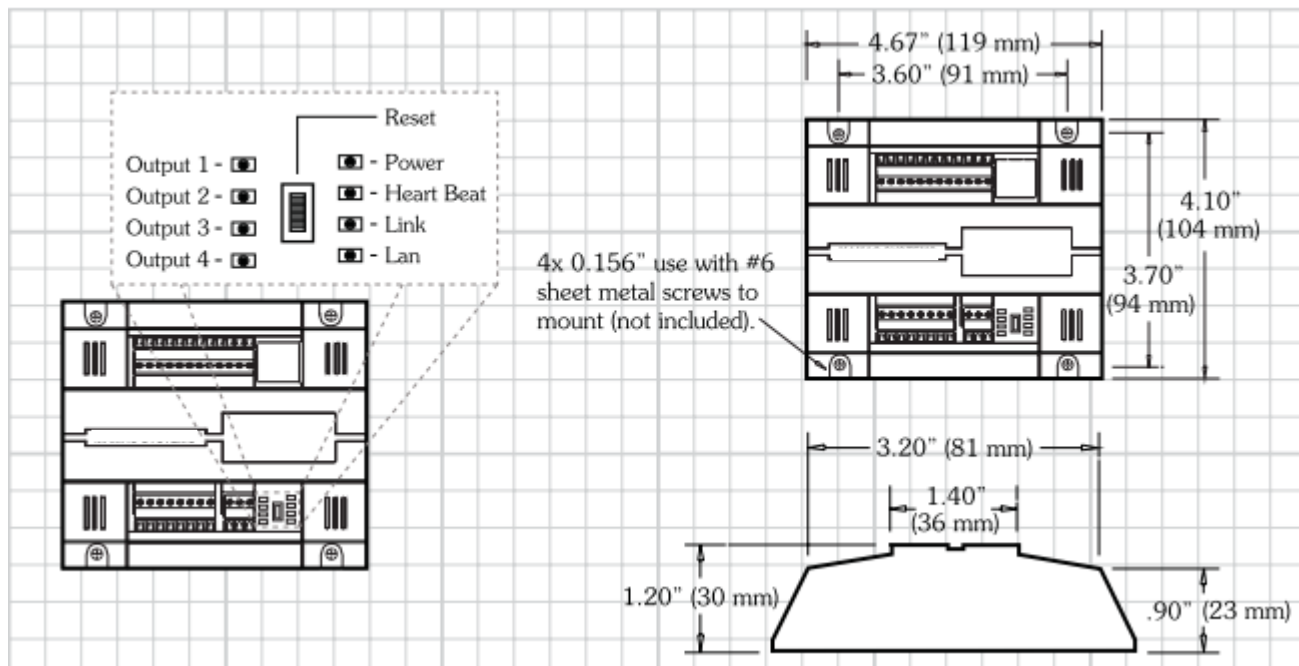
**Example: IP-PC-101-44-VDC:** 4 VDC Inputs and 4 Relay Outputs

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## MM.IP-PC-101-44-VDC



**WARRANTY:** ASIT ITALIA SRL warrants its products to be free of defects in material and workmanship for a period of two (2) years from date of shipment. If a unit is malfunctioning, it must be returned to the factory for evaluation. A return authorization number (RMA) will be issued by the customer service department and this number must be written or prominently displayed on the shipping boxes and all related documents. The defective part should be shipped freight pre-paid to the factory. Upon examination by ASIT ITALIA SRL if the unit is found to be defective, it will be repaired or replaced at no charge to the customer. However, this warranty is void if the unit shows evidence of being tampered with, damaged during installation, misapplied, misused, or used in any other operating condition outside of the unit's published specifications. ASIT ITALIA SRL makes no other warranties or representations of any kind whatsoever, expressed or implied, except that of title. All implied warranties including any warranty of merchantability and fitness for a particular purpose are hereby disclaimed. User is responsible to determine suitability for intended use.

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