Datasheet

mFi™

Machine-to-Machine Management System

Models: mPort, mPort-S, mPower, mPower Mini, mPower Pro, mFi-CS, mFi-DS, mFi-THS, mFi-MSC, mFi-MSW

Automated Machine Control

Sensor Data Collection and Analytics

Plug and Play Installations

UBIQUITI NETWORKS

Overview

mFi™ is a Machine-to-Machine management system from Ubiquiti Networks, Inc. The mFi hardware can be managed and monitored from the mFi Controller software. The mFi Controller software allows you to create rules that trigger actions based on data from your mFi sensors. For example, motion detection could turn a light on, or a high temperature reading could trigger a fan. The mFi platform is compatible with third-party devices, making the options unlimited!

Features

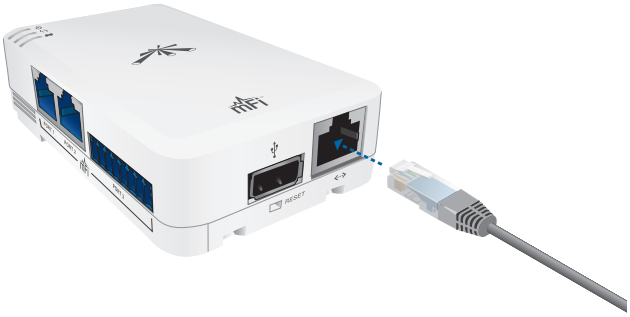
Plug and Play Installation Use standard Ethernet cable to connect machines and sensors. Use WiFi to seamlessly connect mFi nodes to your IP network. Unlimited device scalability.

Powerful Functionality Create powerful relationships between sensors, machines, and powered devices.

Cloud and Mobile Support Access multiple mFi networks from any remote location through a web browser. New devices can instantly be discovered and provisioned through the cloud.

Sophisticated User Experience From auto-detection of machines through intuitive and powerful rule creation, the mFi Controller transforms a machine network into an automated symphony.

Hardware



mPort™

There are two mPort models available for connecting devices to the mFi network. The mPort has two mFi RJ45 connectors and a terminal block connector. The mPort Serial features RS232/422/485 serial connectivity through a standard DB9 serial port or a terminal block connector. Both have built-in WiFi and Ethernet to connect to the IP network.

mSensor™

Ubiquiti offers a variety of sensors to connect to the mPort and your mFi network. These sensors connect to the mPort using a standard RJ45 cable, except for the mFi-DS, which connects using a terminal block connector.

- mFi-MSW – Wall Mount Motion Sensor
- mFi-MSC – Ceiling Mount Motion Sensor
- mFi-THS – Temperature Sensor
- mFi-CS – Current Sensor
- mFi-DS – Door Sensor

mPower™

There are three mPower models available. All feature independent, switchable AC ports and energy monitoring.

- mPower Mini – 1-Port Power Outlet
- mPower – 3-Port Power Outlet
- mPower Pro – 8-Port Power Outlet

Software

The mFi Controller software is designed to work with the Ubiquiti Networks mFi product line and third party devices. The software interface design is based on the popular and easy-to-use UniFi™ software interface. The mFi Controller software allows you to manage your mPort, mPower, mSensor, and third-party devices from your web browser.

Features

Machine Auto Detection The mFi Controller software will auto-detect and provision mFi devices and connected machines on the machine network.

Advanced Analytics Powerful graphing with user-defined views provides in-depth analysis of the machine network.

Events and Alerts User-defined event recording and alerts provide feedback on machine network activity.

Remote Control Capability Remotely control the power and functionality of the machine network.

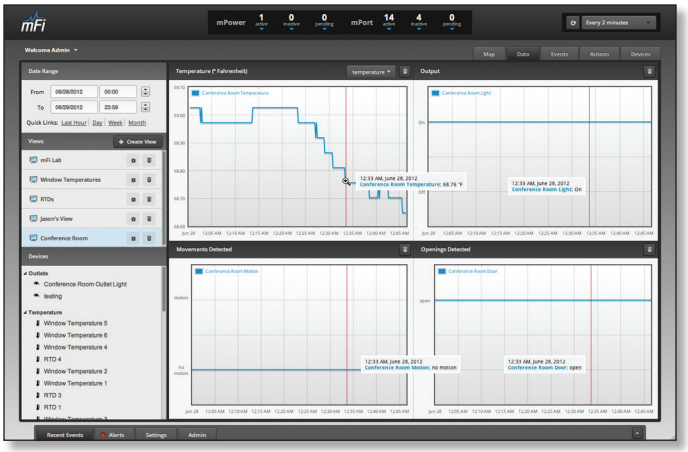
Remote Terminal Support Terminal command windows support unlimited machine network scalability through a single interface.

System Requirements

- Microsoft Windows 7, Windows Vista, Windows XP, Mac OS X, or Ubuntu Linux 12.04. 64-Bit Operating System Recommended (32-bit only supports 2 GB database)
- Web Browser: Mozilla Firefox, Google Chrome, or Microsoft Internet Explorer 8 (or above)
- Java Runtime Environment 1.6 (1.6.0_26 or above recommended)
- Flash Player 10
- 2 GB RAM or higher is highly recommended

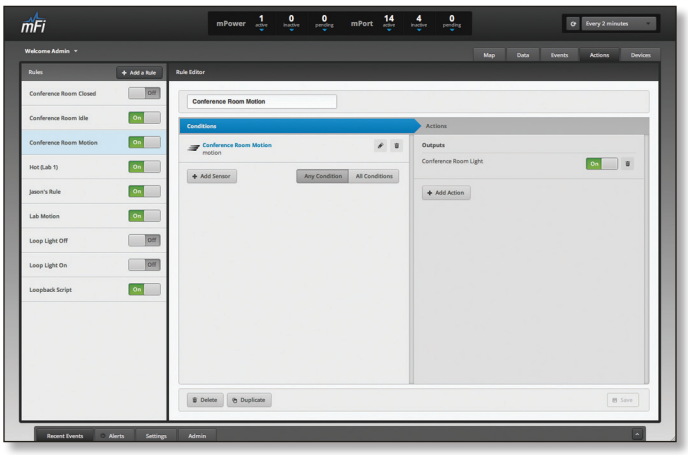
Maps

Upload map images of your location(s) for a visual representation of your machine network.



Customizable Data Views

Display information on your machines and sensors in a customizable view with selected times and date ranges.



Advanced Rule Creation

Create powerful relationships and automation in your machine network with complete freedom.

mPort Specifications

mPort

mPort	
Dimensions	100 x 60 x 27.5 mm (H x W x D) 100 x 60 x 36.5 mm (with Bracket)
Weight	4.2 oz (with Bracket)
Power Supply	24V, 0.5A Surge Protection Integrated PoE Adapter (Included)
Max. Power Consumption	3 W
Networking Interface	(1) 10/100 Ethernet Port
Ports	(2) mFi RJ45 Ports (1) mFi Terminal Block Port
Antenna	Internal
Output Power	18 dBm
WiFi Standards	802.11b/g/n
Memory	16 MB RAM, 8 MB Flash
LEDs	3 LEDs (Power, Ethernet, Status)
Mounting	Wall-Mount Bracket (Included)
Operating Temperature	-10° to 70° C
Operating Humidity	5 to 80% Condensing

mPort Serial

mPort-S	
Dimensions	100 x 60 x 27.5 mm (H x W x D) 100 x 60 x 36.5 mm (with Bracket)
Weight	119 g (with Bracket)
Power Supply	24V, 0.5A Surge Protection Integrated PoE Adapter (Included)
Max. Power Consumption	3 W
Networking Interface	(1) 10/100 Ethernet Port
Ports	(1) DB9 Serial Port (1) Terminal Block Serial Port
Antenna	Internal and External, Antenna included
Output Power	18 dBm
WiFi Standards	802.11b/g/n
Serial Protocols	RS232, RS422, RS485
Memory	16 MB RAM, 8 MB Flash
LEDs	3 LEDs (Power, Ethernet, Status)
Mounting	Wall-Mount Bracket (Included)
Operating Temperature	-10 to 70° C
Operating Humidity	5 to 80% Condensing

Sensor Specifications

mFi-MSC	
Dimensions	134.5 x 134.5 x 30.5 mm
Weight	136 g
RF Immunity	10V/m at 80 MHz to 2 GHz
Warm Time	2 Minutes
Angle of View	360°
Cone of Detection	110° Wide Angle
Ports	(1) mFi RJ45 Port
Mounting	Ceiling-Mount Bracket (Included)
Mounting Height	Up to 4.5 m (15 ft.)
Operating Temperature	0 to 50° C
Operating Humidity	5 to 95% Condensing

Ceiling Mount
Motion Sensor

mFi-MSW	
Dimensions	146 x 66 x 52 mm
Weight	127 g
RFI Immunity	Avg. 10 V/m (80 to 2,000 MHz)
Detection Range	10 x 10 m, 110° @ 25° C
Ports	(1) mFi RJ45 Port
Mounting	Wall/Ceiling-Mount Bracket (Kits included)
Mounting Height	2.3 m Typical
Operating Temperature	-10° to 45° C
Operating Humidity	95% RH Max.

Wall Mount
Motion Sensor

Sensor Specifications

Temperature Sensor

mFi-THS	
Dimensions	100 x 85 x 27.8 mm
Weight	80 g
Temperature Range	-10 to 50˚C
Accuracy at +25˚C, 50% RH	±0.5˚C
Temperature Accuracy from -10 to +50˚C	Max. ±1.3˚C
Response Time	<15 Seconds
Ports	(1) mFi RJ45 Port
Operating Temperature	-20 to 60˚C
Operating Humidity	0 to 95% Condensing

Current Sensor

mFi-CS	
Dimensions	32 x 57 x 22 mm
Size of Opening	13 x 13 mm
Weight	50 g
Ports	(1) mFi RJ45 Port
Input Current	0 to 100A
Load	Linear*
Core Material	Ferrite
Bobbin	Nylon
Mechanical Strength	Number of Switching Operations ≥ 1000 Times (Tested at 20° C)
Dielectric Strength (Between Shell and Output)	6000VAC/1 min.
Fire Resistance Rating	UL94-V0
Operating Temperature	-25 to 70° C
Operating Humidity	≤85% Condensing

* Non-linear loads are approximated as linear loads (sine wave).

mFi-DS	
Dimensions	50 x 9.5 x 7.7 mm (Magnet) 50 x 9.5 x 7.7 mm (Switch)
Weight	350 g (Magnet and Switch)
Contact Form	Form A (SPST)
Maximum Rating	1.0A @ 28VDC
Initial Contact Resistance	0.3 Ω Maximum
Operating Range	20 mm (Typical)
Wiring	Screw Terminal
Mounting	Adhesive or Screws (Included)
Operating Temperature	-10 to 60° C
Operating Humidity	≤80% Condensing

Door Sensor

mPower Specifications

mPower Pro	
Dimensions	241.3 x 116.9 x 41.27 mm
Weight	790 g
Ports	(1) Ethernet
Mounting	Wall-Mount Bracket (Kit Included)
WiFi Standards	802.11b/g/n
Memory	16 MB RAM, 8 MB Flash
Operating Temperature	-10 to 45° C
Humidity	95% RH Max.

8-Port
mFi Power Strip

mPower	
Dimensions	241.3 x 116.9 x 41.27 mm
Weight	790 g
Mounting	Wall-Mount Bracket (Kit Included)
WiFi Standards	802.11b/g/n
Memory	16 MB RAM, 8 MB Flash
Operating Temperature	-10 to 45° C
Humidity	95% RH Max.

3-Port
mFi Power Strip

mPower Mini	
Dimensions	110.8 x 71 x 36 mm

1-Port
mFi Power Outlet

TOUGHCable™

OUTDOOR CARRIER CLASS SHIELDED

Protect your networks from the most brutal environments with Ubiquiti Networks' industrial-grade, shielded Ethernet cable, TOUGHCable.

Increase Performance
Dramatically improve your Ethernet link states, speeds, and overall performance with Ubiquiti TOUGHCables.

Extreme Weatherproof
Designed for outdoor use, TOUGHCables have been built to perform even in the harshest weather and environments.

ESD Damage Protection
Protect your networks from devastating electrostatic discharge (ESD) attacks.

Extended Cable Support
TOUGHCables have been developed to increase power handling performance for extended cable run lengths.

TOUGHCable Connectors

Specifically designed for use with Ubiquiti TOUGHCables and available in 100-pc. bags, TOUGHCable Connectors protect against ESD attacks and Ethernet hardware damage, while allowing rapid field deployment without soldering.

Bulletproof your networks

TOUGHCable is currently available in two versions: PRO Shielding Protection and CARRIER Shielding Protection.

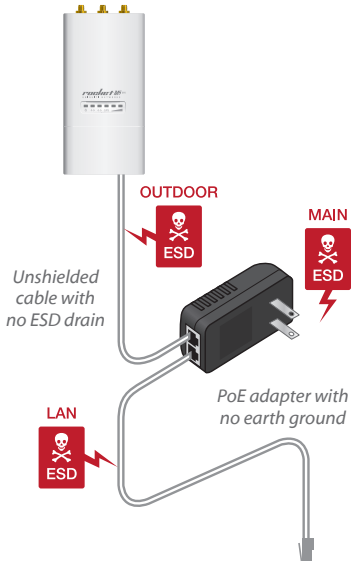
TOUGHCable PRO is a Category 5e, outdoor, carrier-class shielded cable with an integrated ESD drain wire.

TOUGHCable CARRIER is a Category 5e, outdoor, carrier-class shielded cable that features an integrated ESD drain wire, anti-crosstalk divider, and secondary shielding. It is rated to provide optimal performance on Gigabit Ethernet networks.

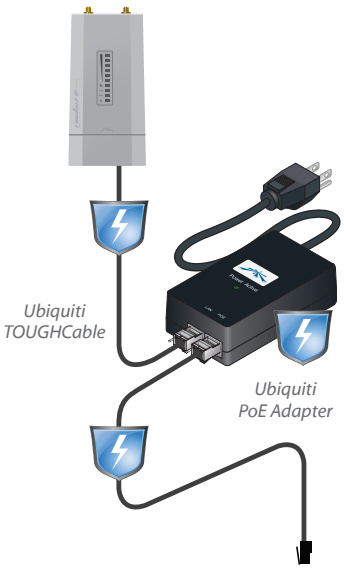
Additional Information:

- 24 AWG copper conductor pairs
- 26 AWG integrated ESD drain wire to prevent ESD attacks and damage
- PE outdoor-rated, weatherproof jacket
- Multi-layered shielding
- Available in lengths of 1000 ft (304.8 m)

ESD attacks are the leading cause for device failures. The diagram below illustrates the areas vulnerable to ESD attacks in a network.



By using a grounded Ubiquiti Power over Ethernet (PoE) Adapter along with Ubiquiti TOUGHCable and TOUGHCable Connectors, you can effectively protect against ESD attacks.



For further information, please visit www.ubnt.com.

All specifications in this document are subject to change without notice.

UBIQUITI NETWORKS

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