MachineLink 3G

Flexible M2M communications

Vodafone
Power to you

The Vodafone MachineLink 3G is a compact HSPA+ router for M2M applications that provides optimised IP data network access anywhere there's 2G or 3G network coverage.

What it does

Vodafone MachineLink 3G features built-in Ethernet for plug-and-play IP connectivity and high-performance internal antennae in a compact and stylish casing, with an optional external antenna connector. Freed from the constraints of a fixed landline connection and designed to work anywhere in the world, the MachineLink 3G's wide operating temperature range, flexible power-up options and built-in mounting versatility make it perfect for virtually any M2M application.

Package contents

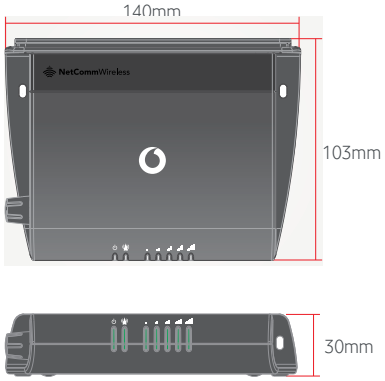
In the box:

- 1 x Vodafone MachineLink 3G router
- 1 x 1.5m yellow Ethernet cable 8P8C
- 1 x DIN rail mounting bracket
- 1 x DC terminal block
- 1 x Quick start guide and safety manual

Available accessories:

- AC/DC power adaptor with four or six (depending on region) interchangeable plugs
- Standard or extended-temperature power adaptors
- External antenna

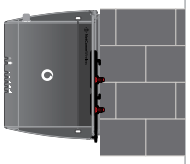
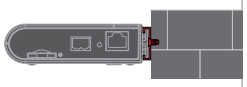
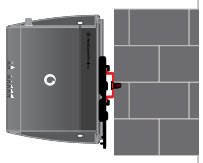
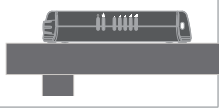
Weight and dimensions



Weight: 180g

Mounting options

The Vodafone MachineLink 3G can be installed quickly and easily in a variety of locations.

Description	
Option 1 Mount flat against the wall	
Option 2 Mount perpendicular to the wall	
Option 3 Mounted via DIN rail bracket	
C Section DIN rail mount Slide onto a rail	
Top hat DIN rail mount Mount on a bracket and slide onto a rail	
Desk mount Stand on a desk	

Processor and storage
- Powerful 450MHz ARM9 processor with 64MB DDR2 RAM
- 256MB flash memory storage (120MB available on-board storage space)

Operating system
- Embedded Linux 3.6

Cellular
- Bands: UMTS/HSDPA/HSUPA: 800/850/900/2100/1900 MHz and GSM/GPRS/EDGE: 850/900/1800/1900 MHz
- Profile managed packet data connections
- Default profile is plug-and-play auto configuring APN – instantly access private or internet APNs right out of the box
- Roaming algorithm with prioritisation for cost-effective and flawless network connection around the world
- NAT disable for framed route configuration
- Transparent bridge mode using PPPoE to allow the router to transparently forward Public WAN IP address to a downstream device
- SIM security management (PIN configuration, enable and disable)
- Automatic and manual cellular band selection, and operator selection

Peak data speed
- HSPA+ data rates: DL: 14.4 Mbps, UL: 5.76 Mbps
- UMTS data rates: DL/UL: max. 384 kbps
- EDGE class 12: DL/UL: max. 237 kbps
- GPRS class 12: DL/UL: max. 85.6 kbps

Connectivity
- 1x (RJ-45) 802.3af Power over Ethernet (PoE) 10/100 Base-TX Port with Auto MDIX

SIM card reader
- Lockable tray reader with push button release
- Supports Mini USIM/SIM format (2FF)

Reset button
- Reset button (recessed, requiring pen/paperclip) with three functions: reboot, reboot into recovery mode, and reset unit to factory defaults

Antennae
- 2x Internal cellular antennae (1 x main antenna and 1 x receive diversity antenna)
- 1x SMA connector for optional external main antenna (including mechanical RF switch for auto changeover to external antenna)

LED indicators
- 7x tri-colour LEDs. Power, Network and 5x Signal Strength indicators
- Easy, clear LED status display for connection status, connected network type, and connection errors

Network and routing
- Static Routing, RIP (v1/v2), Port Forwarding, DMZ
- Dynamic DNS
- VRRP for redundant router failover
- DHCP Server, including :
  - Address reservation by MAC address
  - Custom DNS server definitions
  - DHCP relay and DHCP list display in Web-UI
  - Advanced DHCP option configuration (option 42 NTP, option 66 TFTP, option 150, option 160)

Software development kit
- Develop and install custom software applications
- Open Linux standard development environment
- Develop applications/scripting in standard ANSI C/Shell script and LUA
- Package manager built into web UI for app installation/removal
- API (C, LUA and Shell libraries) to the unit's internal Runtime Database to allow full status monitoring configuration and control of the device from custom applications

VPN
- PPTP Client for VPN connectivity to remote PPTP VPN Server
- IPSec tunnel termination (for up to 5 tunnels)
- GRE Tunnelling
- OpenVPN (Client, Server and P2P)

Administration and configuration
- Web-based User Interface (HTTP/HTTPS) for full device status and configuration
- Password-protected configuration file backup and restore for quick device configuration and cloning
- Telnet Command Line Interface for status monitoring, configuration and control
- SNMP v1/v2 including cellular specific MIB, configuration and firmware download
- TR-069 Client for remote device configuration, configuration backup and restore, and firmware upgrade
- SMS Client (Send/Receive) including inbox, outbox
- Ping monitor watchdog (reset connection on repeated ping failure)
- Diagnostic Log Viewer (remote and local)
- System status and security logs
- NTP server support for device system clock network time sync
- User guide stored on the device and accessible via the web-based UI (HTTP/HTTPS)
- Advanced diagnostics and control via SMS
  - Query status information such as signal strength, WAN IP, uptime and more
  - Execute commands via SMS – such as reboot, reset to defaults, go offline, and many more
  - Secure SMS management using sender whitelisting and password management
  - SMS acknowledgement replies for queries and commands

Event Alert Engine
- Receive proactive network & device alerts
- User configurable
- Support for SMS / SMTP

Firmware management
- Firmware upgrade locally via LAN or remotely Over-The-Air (HTTP/HTTPS, SNMP, TR-069)
- Extensive firmware image storage on device with dynamic install

Temperature
- Operating temperature range -40°C to +80°C
- Operating humidity range 0-95% (RH)
- Storage temperature range -40°C to +85°C
- Storage humidity range 0-95% (RH)

Power supply
- DC power input via 2 pin connector (8 - 35 DC) or optionally via 802.3af Power over Ethernet (PoE)
- Recommended power input rating of 6W via DC Jack (e.g. 12V 1.5A), or Class 3 Power Level via PoE
- Field terminable power input via screw type terminal block included (No 3 flathead screwdriver required)
- 60V load dump protection on DC input jack
- Dual power mode supported (PoE primary, seamless failover to DC Jack on PoE loss)

Dimensions, weight and mounting
- Device dimensions (excluding external antenna): 140mm (L) x 103mm (W) x 30mm (D) / 180g
- Wall mount support in multiple orientations via embedded mounting holes
- DIN Rail mount support via plastic bracket included in box (top hat section rail TH 35 IEC60715)
- C Rail mount support via mounting rail built into housing (C section rail C30 IEC60715)

Regulatory compliancy
- FCC, IC, PTCRB, CE, REACH, RoHS, E-mark, WEEE, GCF, ICASA, LOA, CoC, RCM/A-Tick, JRF/TELEC & JPA/JATE, CCC, SRRC, NAL, NCC, BSMI

Only Vodafone can offer you a complete M2M solution on a global scale.

For more information about our M2M solutions, please contact your Vodafone account manager,
email. **m2m@vodafone.com**,
or visit **m2m.vodafone.com**

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