

# MachineLink 3G

Flexible IoT communications

**Vodafone**  
Power to you



The Vodafone MachineLink 3G is a compact HSPA+ router for IoT 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 IoT application.

## Package contents

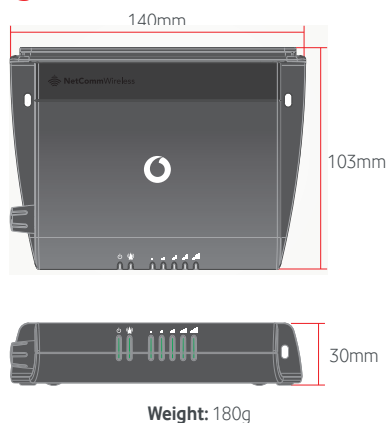
### In the box:

- 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



## Mounting options

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

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

### Processor and storage

- Powerful 450MHz ARM9 processor with 128MB 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 Tunneling
- 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
- CE
- ICASA
- E-mark
- RoHS
- WEEE
- REACH
- GCF
- PTCRB
- RCM
- NCC
- BSMI
- SRRC
- CCC
- NAL
- JRF
- JPA
- IP rating (41)
- CB
- CITC
- SASO
- IFETEL
- NOM
- OFCA
- SIRIM
- Telefonica
- iDA
- BTK

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

For more information about our IoT solutions, please contact your Vodafone account manager, email. [iot@vodafone.com](mailto:iot@vodafone.com), or visit [www.vodafone.com/iot](http://www.vodafone.com/iot)