

WI-MOD-645M 4G/LTE Cellular WiFi Modem and Router

Secure Industrial Cellular and WiFi connectivity for IIoT applications



The WI-MOD-645M is an LTE CAT-1 industrial grade 3G/4G/4GX Wifi Modem Router, based on the latest OpenWrt platform. Low-power LTE CAT-1 router, with download speeds of up to 10Mbps and upload speeds of up to 5Mbps, which allows a smooth migration from 3G to 4G LTE, with the benefits of a lesser latency and improved network coverage.

The WI-MOD-645M enables users to quickly create a secure and fast wireless network. It features a built-in Wi-Fi N300 with speeds of up to 300 Mbps, one Ethernet WAN port for fixed internet connection and one Ethernet LAN port, as well as a GPIO with four digital output ports. Among some of the other features include, VPN IPSEC, PPTP, L2TP and Open VPN to establish a secure connection over the 3G/4G network.

The durable and rugged design makes this router an ideal choice for remote harsh environments. The compact design, easy integration and advanced built-in features make it suitable for a wide range of industrial M2M applications, including industrial automation, building automation, smart metering, security, surveillance, transportation, health, mining and environmental monitoring.

Features

- 3G/4G/LTE Connectivity including Band 28
- Compact design for easy integration into machines or electrical cabinets
- SMS to control router online/offline, reboot, status, IO alarm, WiFi state
- Integrated RS232 Serial Server
- Automatic fallback to 3G networks
- LAN/WAN Fallback for redundant networks
- WiFi for remote hotspot and mobile applications
- IPSec & OpenVPN Client & Server, L2TP, PPTP
- GRE, Port Forward, DMZ
- Enhanced security for both cyber and data transmission
- 2 x 10/100M LAN / WAN Ports
- Antenna diversity for WiFi and Cellular bands
- 5-40VDC input range with wide operating temperature

Applications

- Water / wastewater pump control connectivity
- Irrigation monitoring and control
- Secure remote access to equipment
- Utility metering
- Wellhead monitoring
- Video Surveillance
- Pipeline management
- IIoT Deployments
- Smart grid networking
- Secure Peer to Peer networks

Ordering Data

Type	Order Number
WI-MOD-645M-4	7940109138

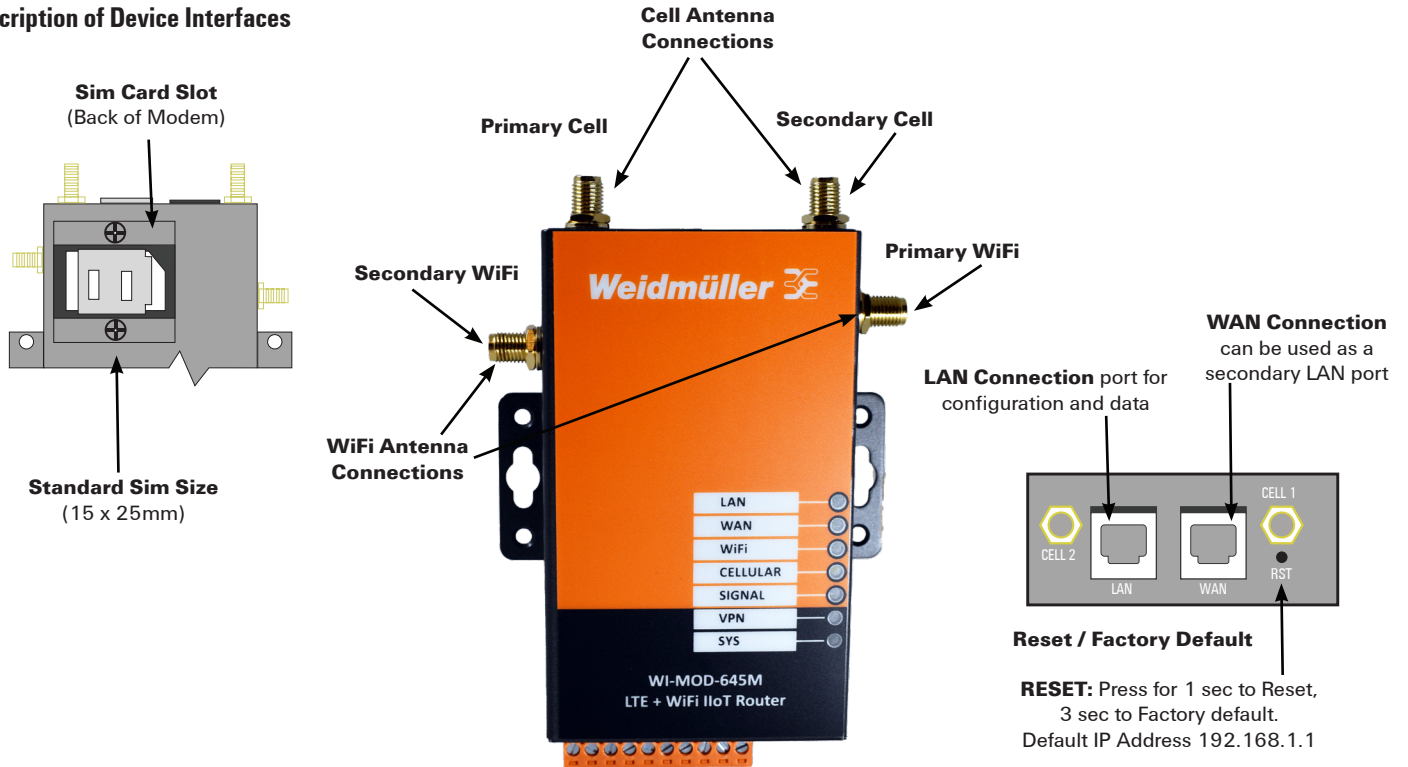
Technical Data

Cellular - Radio	
Cell Category	Cat 4 Cat 1
LTE	B2/B4/B5/B12/B13/ B14/B66/B71
WCDMA	B2/B4/B5
GSM/EDGE	N/A
Carrier	Verizon/AT&T/FirstNet, T-Mobile/ U.S. Cellular/Rogers/Telus
WiFi	802.11b/g/n; 300Mbps RF Power; 20dBm 100Mw Access Point/ Client / WDS
Networking	
VPN	OpenVPN, IPSec, L2TP, PPTP, Server and Client Supported
Protocols Supported	TCP, UDP, SMTP, POP, ICMP, FTP, PPP, PPPoE, DHCP, DDNS, DNS, SNMP, WPS, DMZ, Syslog, (local and remote), NAT, xDSL,
Fahrenheit	NTP, QoS, SNMP, Dynamic routing (OSPF, OSPF6, RIP, RIPng, BGP)
Security	64/128 bits WEP, 802.1x, WPA and WPA2 TKIP, AES, Encryption, WPA1/2-802.1x, EAP- TLS, TTLS, LEAP, PEAP, Username and password, Access control base WAN/LAN, Access control base source IP, PAP-CHAP / IP filtering /Radius Client
VLAN	ID Tagging supported
Fail over redundancy	Auto-dial feature, keep alive link, Cellular (2G/3G/4G), RJ45 WAN (xDSL, DHCP, Fixed IP), WiFi client,
Serial Server	RS232 terminal to IP Server
SMS	SMS call to control router to be online, offline, reboot, status info, alarm, IO, WiFi on, WiFi off

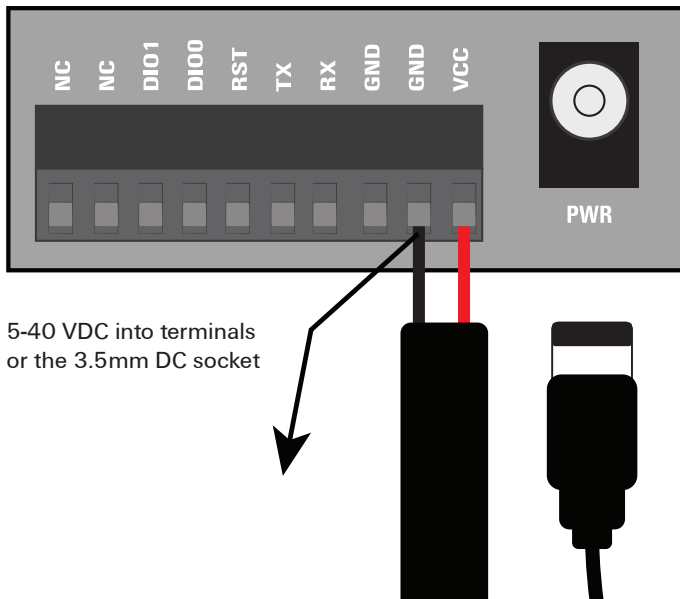
Interfaces	
LAN	2 x 10/100M RJ45
Serial	1 x RS232 Terminal Interface
Antenna	2 x WiFi SMA (Diversity Support), 2 x Cellular SMA
I/O	4 x DIO Input / Output (0-3.3VDC) SMS Monitor & Control
LED	SYS, VPN, SIGNAL, CELL, WAN, LAN, WiFi
Power	
Input Power	5-40VDC
Current Consumption	Idle 122mA@12VDC, Max 208mA@12VDC
Power Connection	2.5mm DC Jack or Terminal block
General data	
Operating Temperature	-40 to +85deg Celsius -40 to +185deg
Humidity	95% non-condensating
Weight	220grams / 8ounce
Dimensions	100mm x 60mm x 21mm,
Mounting	Panel mount (optional DIN rail mount)
Sim Card	Standard (15 x 25mm)
Approvals	
RCM, CE, FCC, UL, IC, RoHS	



Description of Device Interfaces



Power Supply

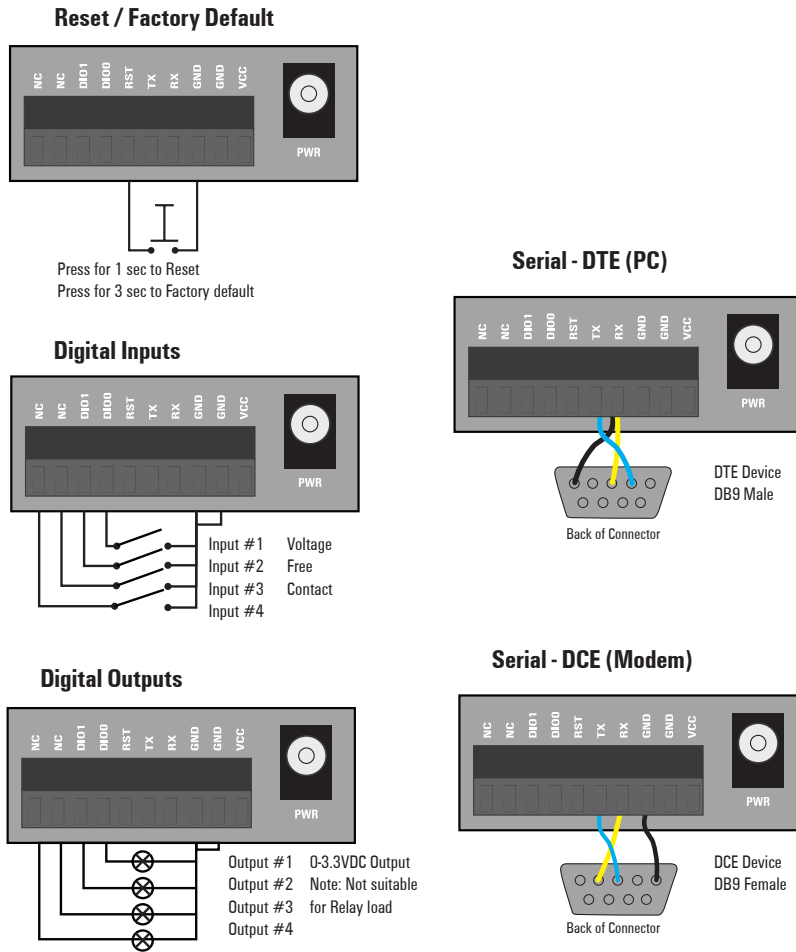


Signal	Description	Note
VCC	5-40V DC input, 5 50V optional	Current: 12V/1A
GND	Ground	
GND	Ground	
T	Transmit Data	RS232 Serial T
R	Receive Data	RS232 Serial R
RST	Reset	The Reset Pin has the same function as the reset button. Short both the RST and GND terminals for 3 seconds and the modem will restore to factory defaults. Holding for 1 second will reboot the modem.
DIO0	General purpose I/O 0	Digital Input / Output 1
DIO1	General purpose I.O 1	Digital Input / Output 2
NC	General purpose I.O 2	Digital Input / Output 3
NC	General purpose I.O 3	Digital Input / Output 4

Onboard I/O

The WI-MOD-645M includes 4 x configurable I/O's, which can be used as either Inputs or Outputs for SMS monitoring and controlling. When used as Digital Inputs they are voltage free connections. Digital Outputs are a 0-3.3VDC Output and are not suitable for driving relays.

Pin assignment



Powering up and SIM card

Before powering the modem up, please ensure the SIM card is inserted, and the antennas are connected. The SIM card holder for the WI-MOD-645M is located on the rear of the modem under the cover held in with 2 x screws and accommodates a standard 15 x 25mm SIM.

Mounting

The modem can be mounted flat on a panel using the side plate mounting holes or by using DIN Rail mount clips, which can be supplied as an accessory and are screwed to the side mounting plates. The mounting clips are screwed through the side plate mounting holes and provide a clip-on / clip-off mounting solution for the TS 35mm (1.38") x 7.5mm (0.3") standard DIN Rail.



Dimensions



Information

Information is available for download on the web at www.weidmuller.com.

Let's connect.

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Subject to technical changes

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