

## M400 Series Cellular Modem Datasheet



### >>| Product Introduction

The M400 series Cellular Modem is a complete wireless data modem providing global cellular network connectivity; where cellular signal available, with 4G/3G/2G fallback capabilities for ensured access to the internet anywhere, providing RS232/RS485/USB port option.

The M400 is an easy to install productivity tool designed to provide maximum accessibility to the mobile professional allowing quick access to the internet for real-time business transactions, email, web browsing and more.

E-Lins' mobile data products are widely used in more than twenty industrial fields, such as power control, water schedule, traffic, oil field, weather forecast, environmental protection, street lamp control, post, bank and many other areas.

### >>| Hot Spot

Built-in 2G/3G/4G industrial cellular module, insert SIM/UIM card to work directly;

Built-in sim/uim card slot;

Broadband M2M communications

SIM failover/standby APN

3G/4G failover for fixed line broadband connections

Rapid service deployment applications

Support At command

RS232/RS485/USB/RJ45 port option

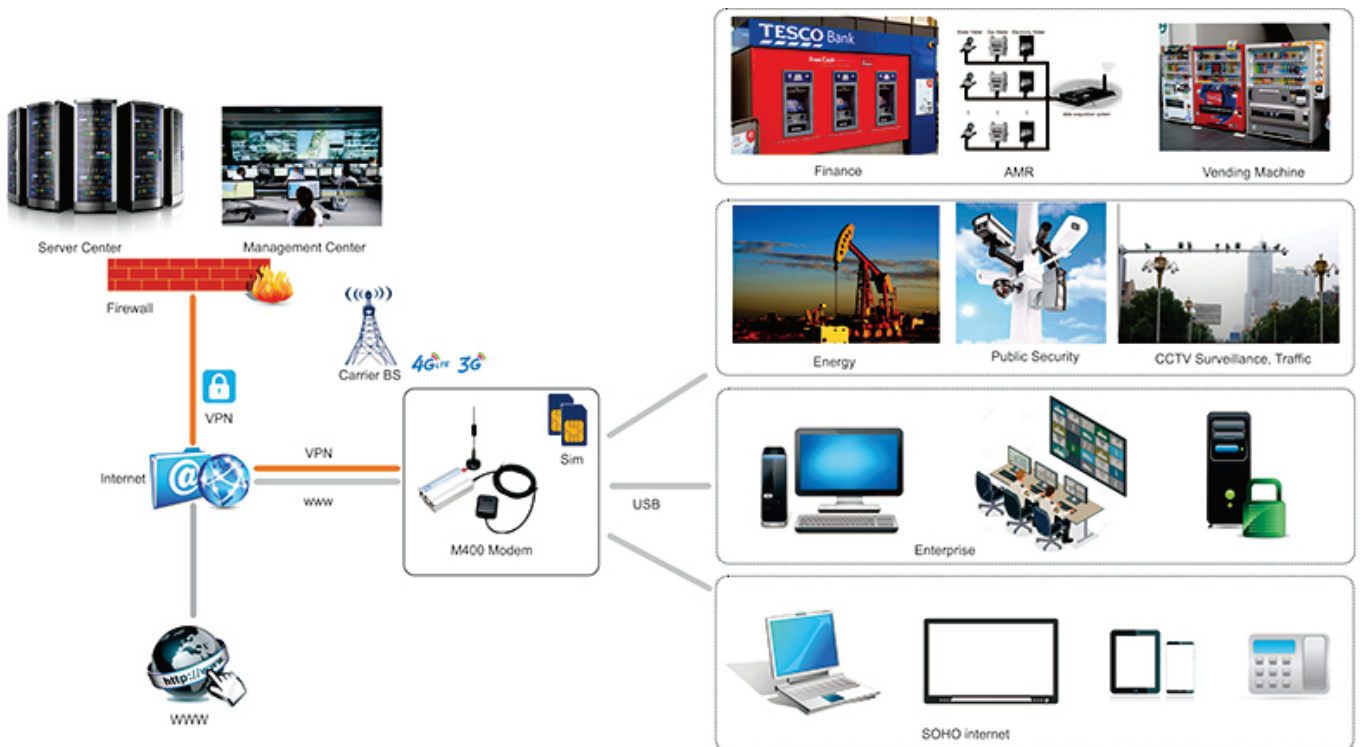
#### **Option Features:**

Voice Supported

Built-in TCP/IP Stack

GPS

## >>| Typical Diagram



## >>| Industrial Application

- Remote Data Monitor and Control
- CCTV, security surveillance
- Water, gas and oil flow metering and schedule
- AMR (automatic meter reading)
- Power station monitoring and control
- Remote POS (point of sale) terminals, ATM,
- Traffic signals monitor and control, Traffic info guidance
- Oil field, weather forecast, environmental protection, street lamp monitoring and control
- Early Warning of Mountain Torrent
- Fleet management
- Power distribution network supervision
- Central heating system supervision
- Weather station data transmission
- Hydrologic data acquisition

- Vending machine
- Telemetry, SCADA
- Vehicle logistics and diagnostics controlling
- Parking meter and Taxi Monitor
- Telecom equipment supervision (Mobile base station, microwave or optical relay station)

## >>| Specification

Wireless	
<b>Mobile Networks</b>	4G LTE (FDD/TDD) UMTS WCDMA (HSUPA/HSDPA/HSPA/HSPA+/DC-HSPA+) GSM EDGE/GPRS CDMA1x CDMA2000 EVDO Rev 0, Rev A, Rev B TD-SCDMA/TD-LTE
<b>Cellular Frequency</b>	4G FDD LTE: Band 1 – 2100Mhz Band 2 – 1900Mhz Band 3 – 1800Mhz Band 4 – AWS(1700/2100Mhz) Band 5 – 850Mhz Band 7 – 2600MHz Band 8 – 900Mhz Band 9 – 1700Mhz Band 12 – 700Mhz Band 13 – 700Mhz Band 14 – 700Mhz Band 17 – 700Mhz Band 18 – 850Mhz Band 19 – 800Mhz Band 20 – 800Mhz Band 21 – 1500Mhz Band 25 – 1900Mhz G Block Band 26 – 850Mhz Band 28 – 700Mhz Band 29 – 700Mhz (SDL) Band 30 – 2300Mhz Band 31 – 450Mhz Band 32 – 1500Mhz (SDL) Band 66 – 1700Mhz

	<p>And other more FDD band...</p> <p>4G TDD LTE (TD-LTE): Band 48 – 3600Mhz (CBRS) Band 46 – 5200Mhz Band 43 – 3700Mhz Band 42 – 3500Mhz (CBRS) Band 41 – 2500/2600Mhz Band 40 – 2300Mhz Band 39 – 1900Mhz Band 38 – 2600Mhz And other more TDD band...</p> <p>UMTS/HSPA/HSUPA/HSPA/HSPA+/DC-HSPA+ (WCDMA/FDD): 2100MHz(B1)/1900MHz (B2)/1800MHz (B3)/ 1700MHz /AWS (B4)/850MHz (B5)/900MHz (B8)/800MHz (B6)/1800MHz (B9)/850MHz (B19)</p> <p>Quad-band EGSM 850/900/1800/1900Mhz;</p> <p>CDMA1x/EVDO: 800/1900Mhz, option for 450Mhz;</p> <p>3G TD-SCDMA: 2010~2025MHz/1880~1920MHz</p> <p>Notes: There are many different band and frequencies. Please confirm the detailed band and frequency with your carriers before order.</p>
<b>Data</b>	
<b>Bandwidth</b>	<p>4G LTE FDD LTE: downlink 100Mbps / 150Mbps / 300Mbps / 600Mbps / 1200Mbps; uplink 50Mbps / 150Mbps / 300Mbps / 600Mbps; TDD LTE: 150Mbps downlink, 50Mbps uplink;</p> <p>DC-HSPA+: Downlink 42Mbps, Uplink 5.76Mbps; HSPA+(H): Downlink 21Mbps, Uplink 5.76Mbps; HSPA+(L): Downlink 14.4Mbps, Uplink 5.76Mbps; HSUPA: Downlink 7.2Mbps, Uplink 5.76Mbps; HSDPA: Downlink 7.2 Mbps, Uplink 384k bps;</p>

	WCDMA/UMTS: Downlink/Uplink 384 kbps;  EDGE: Downlink 384 kbps, Uplink 118 kbps; GPRS: Downlink 108 kbps, Uplink 42.8 kbps;  CDMA1x: Downlink/Uplink 153.6kbps; CDMA EVDO: Rev B: 14.7Mbps downlink, 5.4Mbps uplink Rev A: 3.1Mbps downlink, 2.4Mbps uplink Rev O: 2.4Mbps downlink, 153.6kbps uplink  3G TD-SCDMA: 2.8Mbps  Notes: the bandwidth is peak value. Real value depends on carrier network support.
<b>Interface</b>	
<b>Antenna</b>	50Ω SMA female interface, external replaceable Version without GPS: 1 Unit Version with GPS: 2 Unit
<b>Serial port</b>	DB9 or DB15 (RS232/RS485 optional) or terminal block
<b>Led</b>	Power indicator Data indicator
<b>UIM/SIM</b>	1.8V/3V
<b>SIM card slot</b>	Yes, one unit
<b>USB</b>	USB 2.0 female, Mini USB
<b>GPS/GNSS</b>	Supported (For version support GPS/GNSS only)
<b>Voice port (option)</b>	Supported (For version support only)
<b>Power</b>	
<b>Power supply</b>	DC7V-36V, typical DC9V1A
<b>Power consumption</b>	Peak: 700mA@+9VDC Average: 85mA@+9VDC Idle: 30mA@+9VDC

Software	
<b>OS</b>	Windows, Linux, Mac OS, IOS, Symbian, Android, other OS support USB/Serial port
<b>At command</b>	Support at command; Packed with GUI software
<b>TCP/IP Stack (option)</b>	Supported (For version support only)
Physical	
<b>Operating Temperature</b>	Work temperature: -35°C to 75°C, option for -30°C to 80°C; Storage temperature: -40°C to 85°C;
<b>Humidity</b>	95% Maximum (Non-condensing)
<b>Dimensions</b>	Item (L x B x H): 83mm*53mm*25mm Packaging (L x B x H): 260mm x 190mm x 65mm
<b>Weight</b>	Item: 180g Packaging: 1.6 lbs
<b>Electromagnetic compatibility</b>	anlistatig test: Class 3 Radio electromagnetism test: Class 3
Others	
<b>Warranty</b>	1 Year, can extend to 5 years
<b>Package</b>	The M400 Series Modem USB cable DB9 cable Power Adapter Antenna Other accessories depends on option features

## >>| Order Part Number

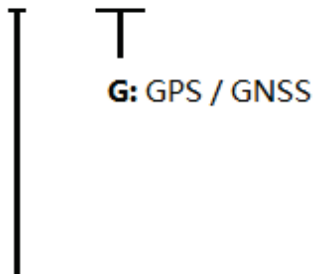
M400 Series Modem Order Models								
Part Number	4G LTE	3G	2G	USB	Serial	GPS	Market	Marks
M400t-F1	Y	Y	Y	Y	Y	O	Asia, Europe, South America, Africa	CAT3 or CAT4 or CAT6
M400t-F4	Y	Y	Y	Y	Y	O	North America	CAT3 or CAT4 or CAT6

M400t-F5	Y	Y	Y	Y	Y	O	Japan	CAT3 or CAT4 or CAT6
M400t-TF1	Y	Y	Y	Y	Y	O	customized for some operators	CAT4
M400t-TF2	Y	Y	Y	Y	Y	O	customized for some operators	CAT4
M400u		Y	Y	Y	Y	O	Global	HSUPA/HSDPA UMTS/2G
M400d		Y	Y	Y	Y	O	Global	HSDPA/UMTS/2G
M400e		Y	Y	Y	Y		Global	EDGE/GPRS/GSM
M400g		Y	Y	Y	Y		Global	GPRS/GSM
M400gsm		Y	Y	Y	Y		Global	GSM

Y = supported

O = option

### M400 X --- XXX (option features)



**t:** 4G LTE version. Support FDD LTE or TDD LTE or FDD+TDD LTE, back compatible to 3G and 2G

**w:** 3G WCDMA HSPA version, support HSUPA/HSDPA/UMTS/EDGE/GPRS/GSM

**p:** 3G WCDMA HSPA+ version, support HSPA+/HSUPA/HSDPA/UMTS/EDGE/GPRS/GSM

**eva:** 3G CDMA2000 EVDO version, support EVDO RevA/EVDO Rev0/CDMA1x

**evb:** 3G CDMA2000 EVDO version, support EVDO RevB/EVDO RevA/EVDO Rev0/CDMA1x

**td:** 3G TD-SCDMA version, support TD-HSUPA/TD-HSDPA/TD-SCDMA/EDGE/GPRS/GSM

**e:** 2G EDGE version, support EDGE/GPRS/GSM

**g:** 2G GPRS version, support GPRS/GSM

**c:** 2G CDMA version, support CDMA1x

#### Notes:

1) option feature can be select one or all

2) for LTE version, please confirm your LTE band and Network Carrier with order to avoid wrong selection