

OnCell 3120-LTE-1 Series

Industrial LTE Cat 1 cellular gateways



Features and Benefits

- Low power consumption (40 mW in standby)
- GuaranLink for reliable cellular connectivity
- Dual cellular operator backup with dual-SIM
- Rugged hardware design well suited for hazardous locations (ATEX Zone 2/ IECEx)
- VPN secure connection capability with IPsec, GRE, and OpenVPN protocols

Certifications



Introduction

The OnCell 3120-LTE-1 Series is a set of reliable, secure, low power consumption LTE gateways with state-of-the-art global LTE Cat 1 coverage. These LTE cellular gateways provide reliable connections from remote serial and Ethernet devices to a cellular network so that your applications can be easily implemented for IIoT remote-access scenarios. With its efficient power saving features, the OnCell 3120-LTE-1 Series lowers power consumption to less than 40 mW when in standby mode which can be managed using schedules. To enhance industrial reliability, the OnCell 3120-LTE-1 features GuaranLink to ensure robust cellular connectivity.

Remote Access Gateway with VPN and Network Security

- Managed by centralized IP management software, OnCell Central Manager
- Secure and reliable VPN support with NAT/OpenVPN/GRE/IPsec functionality
- Cybersecurity features based on IEC 62443-4-2

Industrial-grade Reliability

- Rugged hardware design well suited for hazardous locations (ATEX, C1D2, IECEx)
- GuaranLink for reliable cellular connectivity
- -30 to 70°C wide operating temperature
- Low power consumption: Less than 40 mW in standby mode

Specifications

Cellular Interface

Cellular Standards	LTE CAT-1, HSPA, UMTS, EDGE, GPRS, GSM
LTE Data Rate	10 MHz bandwidth: 10.2 Mbps DL, 5.2 Mbps UL
HSPA Data Rates	7.2 Mbps DL, 5.76 Mbps UL
Band Options (EU)	LTE Band 1 (2100 MHz) / LTE Band 3 (1800 MHz) / LTE Band 8 (900 MHz) / LTE Band 20 (800 MHz) / LTE Band 28 (700 MHz) UMTS/HSPA 2100 MHz / 900 MHz GSM 900 MHz / 1800 MHz
Band Options (AU)	LTE Band 3 (1800 MHz) / LTE Band 5 (850 MHz) / LTE Band 8 (900 MHz) / LTE Band 28 (700 MHz) UMTS/HSPA 2100 MHz / 850 MHz / 900 MHz
No. of SIMs	2
Cellular Antenna Connectors	2 SMA female

Ethernet Interface

10/100BaseT(X) Ports (RJ45 connector)	2
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USB Interface

No. of USB Ports	1
USB Connector	USB Type A
USB Standards	USB 2.0

Serial Interface

No. of Ports	1
Connector	DB9 male
Serial Standards	RS-232/422/485
Data Bits	5, 6, 7, 8
Stop Bits	1, 1.5, 2
Parity	None, Even, Odd, Space, Mark
Baudrate	75 bps to 921.6 kbps
Console Port	RS-232 (TxD, Rx D, GND), 4-pin header output (115200, n, 8, 1)

Serial Signals

RS-232	TxD, Rx D, RTS, CTS, DTR, DSR, DCD, GND
RS-422	Tx+, Tx-, Rx+, Rx-, GND
RS-485-2w	Data+, Data-, GND
RS-485-4w	Tx+, Tx-, Rx+, Rx-, GND

Ethernet Software Features

Management	OnCell Central Manager, GuaranLink, DHCP server, DDNS, ARP, Telnet, TCP/IP, UDP, SMTP, Remote SMS Control, Syslog, SNMPv1/v2c/v3, Serial Console, Telnet Console, Web Console, Wireless Search Utility
Firewall	Filter: MAC, IP protocol, port-based, Access IP list
Routing	NAT, Port forwarding
Security	HTTPS
Time Management	SNTP Client

IPsec VPN

Authentication	PSK/X.509/RSA
Encryption	DES, 3DES, AES, MD5, SHA-1, DH2, DH5
Concurrent VPN Tunnels	5

OpenVPN

OpenVPN	OpenVPN (client and server), Tunnel mode (routing) and TAP mode (bridge)
Encryption	Blowfish CBC, DES CBC, DES-EDE3 CBC, AES-128/192/256 CBC
Concurrent VPN Tunnels	5

Power Parameters

Input Current	0.8 A (max.)
Input Voltage	9 to 36 VDC
Power Consumption	5 W (typ.)
Power Connector	Terminal block
Reverse Polarity Protection	Supported
Power Button	Reset button

Physical Characteristics

Housing	Metal
IP Rating	IP30
Dimensions	128.5 x 26 x 89.1 mm (5.06 x 1.02 x 3.51 in)
Weight	550 g (1.22 lb)
Installation	DIN-rail mounting, Wall mounting (with optional kit)

Environmental Limits

Operating Temperature	Standard Models: 0 to 55°C (32 to 131°F) Wide Temp. Models: -30 to 70°C (-22 to 158°F) ¹
Storage Temperature (package included)	-40 to 85°C (-40 to 185°F)
Ambient Relative Humidity	5 to 95% (non-condensing)

Standards and Certifications

EMC	EN 55032/24, EN 61000-6-2/-6-4
EMI	CISPR 22, FCC Part 15B Class A
EMS	IEC 61000-4-6 CS: 10 V; 150 kHz to 80 MHz IEC 61000-4-8: 30 A/m IEC 61000-4-2 ESD: Contact: 4 kV; Air: 8 kV IEC 61000-4-3 RS: 80 MHz to 1 GHz: 10 V/m IEC 61000-4-4 EFT: Power: 2 kV; Signal: 1 kV IEC 61000-4-5 Surge: Power: 2 kV; Signal: 1 kV
Freefall	IEC 60068-2-32
Hazardous Locations	ATEX, IECEx, Class I Division 2
Radio Frequency	FCC, PTCRB
Cellular Standards	EN 301489-1/17 EN 301511 EN 301908-1 AS/CA S042 EN 62311(MPE SAR)
Safety	UL 60950-1, UL 62368-1
Shock	IEC 60068-2-27
Vibration	IEC 60068-2-6

1. When continuously operating in temperatures below -25°C (-13°F), the device may experience a very brief loss of cellular connectivity. The device will automatically attempt to reconnect and should have no impact on performance.

MTBF

Time	585,775 hrs
Standards	Telcordia SR332

Warranty

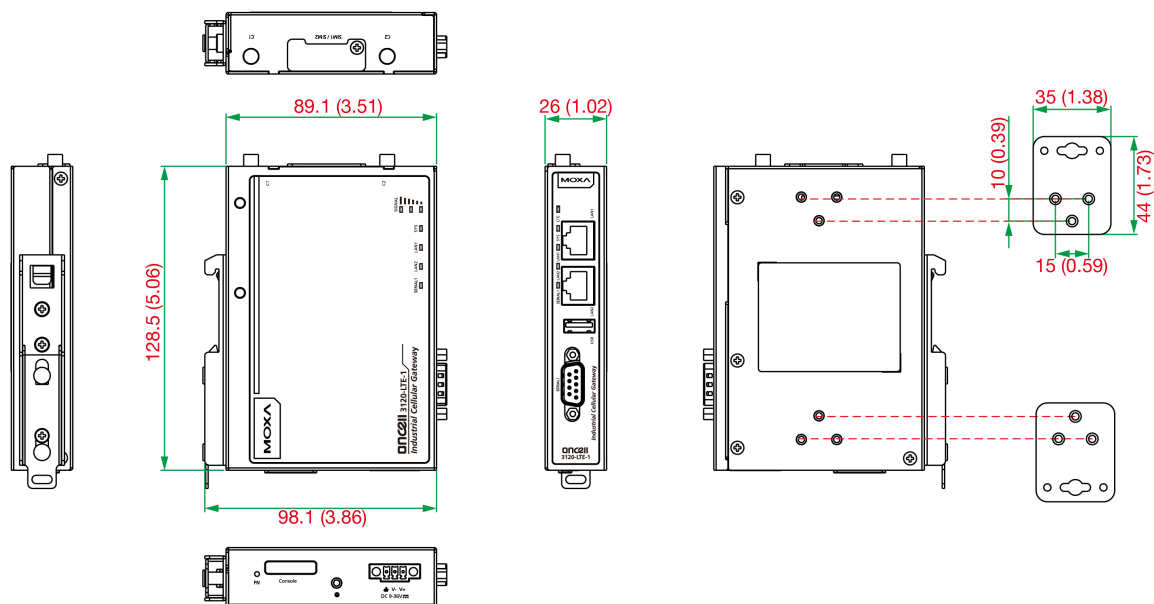
Warranty Period	5 years
Details	See www.moxa.com/warranty

Package Contents

Device	1 x OnCell 3120-LTE-1 Series LTE cellular gateway ²
Documentation	1 x quick installation guide 1 x warranty card
Installation Kit	1 x DIN-rail kit

Dimensions

Unit: mm (inch)



Ordering Information

Model Name	Cellular Standard	LTE Band	Operating Temp.	Mounting
OnCell 3120-LTE-1-EU	LTE Cat 1	B1 (2100 MHz) / B3 (1800 MHz) / B8 (900 MHz) / B20 (800 MHz) / B28 (700 MHz)	0 to 55°C	Wall, DIN rail
OnCell 3120-LTE-1-EU-T	LTE Cat 1	B1 (2100 MHz) / B3 (1800 MHz) / B8 (900 MHz) / B20 (800 MHz) / B28 (700 MHz)	-30 to 70°C	Wall, DIN rail
OnCell 3120-LTE-1-AU	LTE Cat 1	B3 (1800 MHz) / B5 (850 MHz) / B8 (900 MHz) / B28 (700 MHz)	0 to 55°C	Wall, DIN rail
OnCell 3120-LTE-1-AU-T	LTE Cat 1	B3 (1800 MHz) / B5 (850 MHz) / B8 (900 MHz) / B28 (700 MHz)	-30 to 70°C	Wall, DIN rail

2. An activated nano SIM card (not included) must be provided by a third party Cellular Service Provider.

Accessories (sold separately)

Antennas

ANT-LTEUS-ASM-01	GSM/GPRS/EDGE/UMTS/HSPA/LTE, omni-directional rubber duck antenna, 1 dBi
ANT-LTE-ASM-02	GPRS/EDGE/UMTS/HSPA/LTE, omni-directional rubber duck antenna, 2 dBi
ANT-LTE-ASM-04 BK	LTE Stick antenna that covers 704-960/1710-2620 MHz providing omnidirectional radiation with a gain of 4.5 dBi.
ANT-LTE-ASM-05 BK	LTE stick antenna that covers 704-960/1710-2620 MHz with a gain of 5 dBi.
ANT-LTE-ANF-04	GSM/GPRS/EDGE/UMTS/HSPA/LTE, omni-directional outdoor antenna, 4 dBi, IP66
ANT-LTE-OSM-03-3m BK	Multi-band antenna that covers 700-2700 MHz. Specially designed for 2G, 3G, and 4G applications. Magnetic mounting is available.
ANT-LTE-OSM-06-3m BK MIMO	Multi-band antenna that covers 700-2700/2400-2500/5150-5850 MHz frequencies. Screw-fastened mounting and full IP67 waterproofing are available.

Wireless Antenna Cables

CRF-SMA(M)/N(M)-300	N-type (male) to SMA (male), CFD200 cable, 3 m
A-CRF-SMSF-R3-100	Cellular magnetic-base SMA connector with 1-meter RF cable

Wall-Mounting Kits

WK-36-02	Wall-mounting kit, 2 plates, 6 screws, 36 x 67 x 2 mm
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