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
- Cellular WAN and Ethernet WAN backup mechanism for a complete path redundancy
- 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. The OnCell 3120-LTE-1 also supports Modem mode which enables legacy systems to control the device using AT commands. 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
- WAN backup between cellular and Ethernet
- -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

Band Options (US)	LTE Band 2 (1900 MHz) / LTE Band 4 (1700MHz (AWS)) / LTE Band 5 (850 MHz) / LTE Band 12 (700 MHz) / LTE Band 13 (700 MHz) / LTE Band 14 (700 MHz) / LTE Band 66 (1700 MHz) / LTE Band 71 (600 MHz) UMTS/HSPA 1900 MHz / 1700 MHz / 850 MHz
No. of SIMs	2
SIM Format	Nano SIM
Cellular Antenna Connectors	2 SMA female

Ethernet Interface

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

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, RxD, GND), 4-pin header output (115200, n, 8, 1)

Serial Signals

RS-232	TxD, RxD, 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	GuaranLink, DHCP server, DDNS, ARP, Telnet, TCP/IP, UDP, SMTP, Remote SMS Control, Power Saving, Syslog, SNMPv1/v2c/v3, Serial Console, Telnet Console, Web Console, OnCell Central Manager, Wireless Search Utility
Firewall	Filter: MAC, IP protocol, port-based, Access IP list
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

NAT

Features	NAT loopback, 1-to-1, N-to-1, Port forwarding

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)
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 61000-4-2 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 IEC 61000-4-6 CS: 10 V; 150 kHz to 80 MHz IEC 61000-4-8: 30 A/m
Freefall	IEC 60068-2-32
Hazardous Locations	ATEX, IECEx, Class I Division 2

Radio Frequency	PTCRB, FCC ID SLE-LE910CXNF
Radio	RCM, KC, NCC
Carrier Approvals	Verizon AT&T
Cellular Standards	EN 301511 EN 301908-1 EN 62311(MPE SAR) AS/CA S042 EN 301489-1/-52
Safety	IEC 60950-1, IEC 62368-1, UL 60950-1, UL 62368-1
Shock	IEC 60068-2-27
Vibration	IEC 60068-2-6
Green Product	RoHS, CRoHS, WEEE

MTBF

Time	585,775 hrs
Standards	Telcordia SR332

Warranty

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

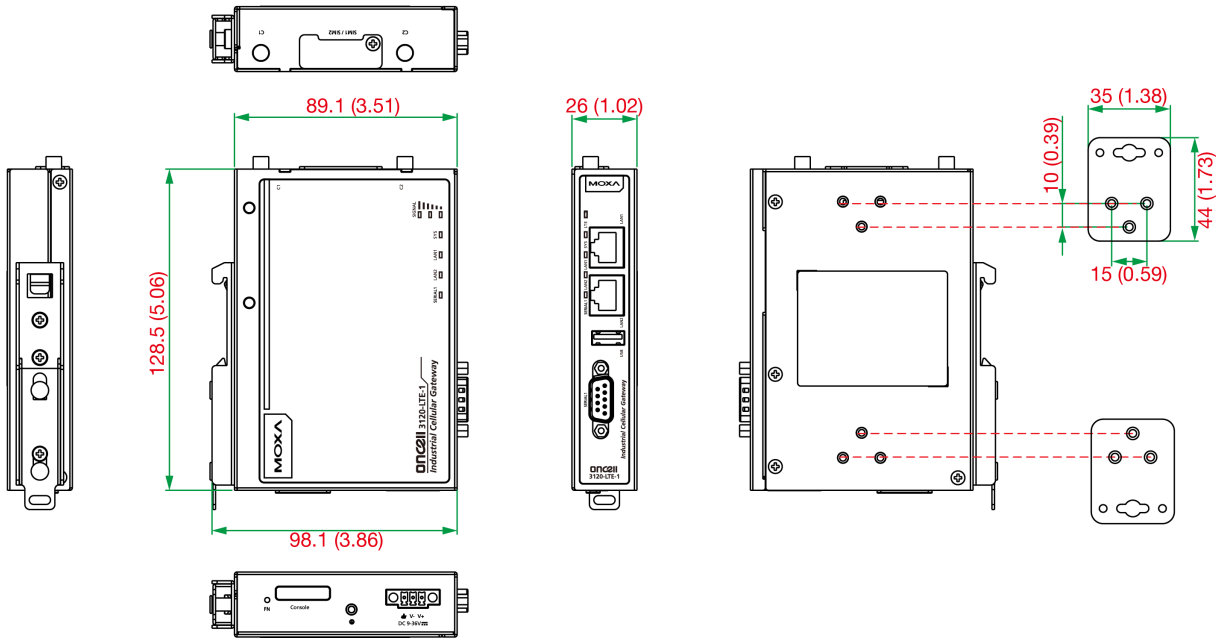
Package Contents

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

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

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
OnCell 3120-LTE-1-US	LTE Cat 1	B2 (1900 MHz) / B4 (1700 MHz) / B5 (850 MHz) / B12 (700 MHz) / B13 (700 MHz) / B14 (700 MHz) / B66 (1700 MHz) / B71 (600 MHz)	-0 to 55°C	Wall, DIN rail
OnCell 3120-LTE-1-US-T	LTE Cat 1	B2 (1900 MHz) / B4 (1700 MHz) / B5 (850 MHz) / B12 (700 MHz) / B13 (700 MHz) / B14 (700 MHz) / B66 (1700 MHz) / B71 (600 MHz)	-30 to 70°C	Wall, DIN rail

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-ANF-04	GSM/GPRS/EDGE/UMTS/HSPA/LTE, omni-directional outdoor antenna, 4 dBi, IP66

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, 1 m

Mounting Kits

WK-35-04	2 plates (35 x 44 x 2.5mm) with 6 screws (FTSx6 M3x4mm)