

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
---------------------------------------	---

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	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

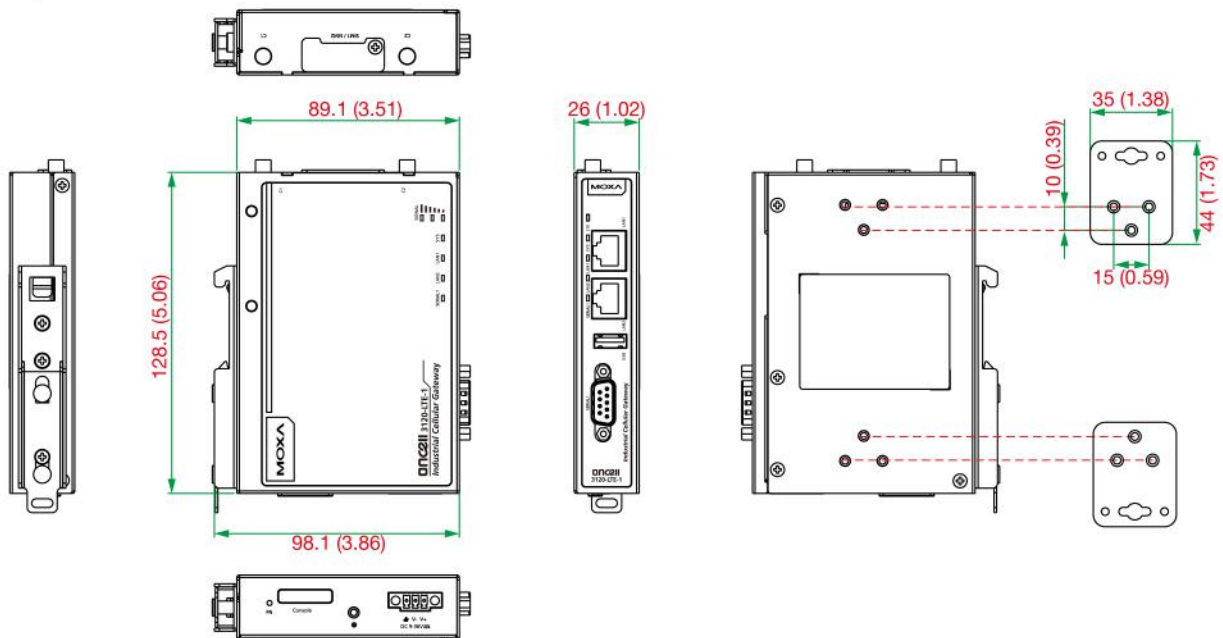
Warranty Period	5 years
Details	See www.moxa.com/warranty

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
----------	---

© Moxa Inc. All rights reserved. Updated Dec 31, 2019.

This document and any portion thereof may not be reproduced or used in any manner whatsoever without the express written permission of Moxa Inc. Product specifications subject to change without notice. Visit our website for the most up-to-date product information.