

OnCell 3120-LTE-1 Series

Industrial LTE Cat. 1 cellular gateways



Features and Benefits

- Dual SIM failover and auto connection recovery for reliable cellular connectivity
- Connect legacy RS-232/422/485 serial devices over Ethernet networks
- Centralized monitoring and remote access with Moxa Remote Connect (MRC)
- Low power consumption (40 mW in standby)

Certifications



Introduction

The OnCell 3120-LTE-1 Series is a range of LTE Cat.1 cellular gateways built for reliable connectivity, easy maintenance, and quick deployment in diverse environments. These gateways deliver stable Serial/Ethernet-to-cellular connections and ensure optimal reliability with GuaranLink cellular auto-recovery.

With MRC Quick Link Ultra, operators gain complete visibility and secure remote control over both the OnCell gateway and its connected end devices, allowing for faster troubleshooting, minimal downtime, and more reliable industrial operations.

Designed for edge applications, the OnCell gateways features power-saving technology that reduces standby consumption to below 40 mW via scheduling control, making them ideal for power-constrained remote applications. Full support for serial interfaces (RS-232/ 422/485) and flexible operation modes (Real COM, Reverse Real COM, RFC 2217, TCP Server/Client, UDP), these gateways ensure seamless compatibility with serial devices. Certification for IECEx, ATEX, and CID2 certifications also make the OnCell gateways suitable for hazardous and demanding applications, such as oil and gas.

Specifications

Cellular Interface

Cellular Standards	LTE Cat. 1 HSPA UMTS EDGE GPRS GSM
Data Rate	10 MHz bandwidth: 10.2 Mbps DL, 5.2 Mbps UL
Frequency Bands Supported	-EU(-T) models: LTE Band 1 (2100 MHz) / LTE Band 3 (1800 MHz) / LTE Band 7 (2600 MHz) / LTE Band 8 (900 MHz) / LTE Band 20 (800 MHz) / LTE Band 28A (700 MHz) UMTS/HSPA 900 MHz / 1800 MHz / 2100 MHz GSM 900 MHz / 1800 MHz -AU(-T) models: LTE Band 1 (2100 MHz) / LTE Band 3 (1800 MHz) / LTE Band 5 (850 MHz) / LTE Band 8 (900 MHz) / LTE Band 9 (1800 MHz) / LTE Band 18 (850 MHz) / LTE Band 19 (850 MHz) / LTE Band 26 (850 MHz) / LTE Band 28 (700 MHz) UMTS/HSPA 2100 MHz / 850 MHz / 800 MHz / 900 MHz -US(-T) models: 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 x SMA female
Ethernet Interface	
10/100BaseT(X) Ports (RJ45 connector)	2
Standards	IEEE 802.3 for 10BaseT IEEE 802.3u for 100BaseT(X)
Input/Output Interface	
Buttons	Reset button
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
Bitrate	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
Operation Modes	
Standards	Real COM mode RFC2217 mode Reverse Real COM TCP Server mode TCP Client mode UDP mode
LED Interface	
LED Indicators	SIGNAL, SYS, LAN1, LAN2, SERIAL

Ethernet Software Features

Management	DHCP Server DDNS Syslog Power Saving Wireless Search Utility
Network Protocols	ARP Telnet TCP/IP UDP SMTP SNMPv1/v2c/v3
Security	HTTPS
Time Management	SNTP Client
Tunneling	GRE
VPN	IPsec OpenVPN

Wireless Software Features

Management	GuaranLink Send SMS SMS Remote Control Moxa Remote Connect (MRC)
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Firewall

Filter	MAC address Ports IP address
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NAT

Features	NAT loopback Port forwarding
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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

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

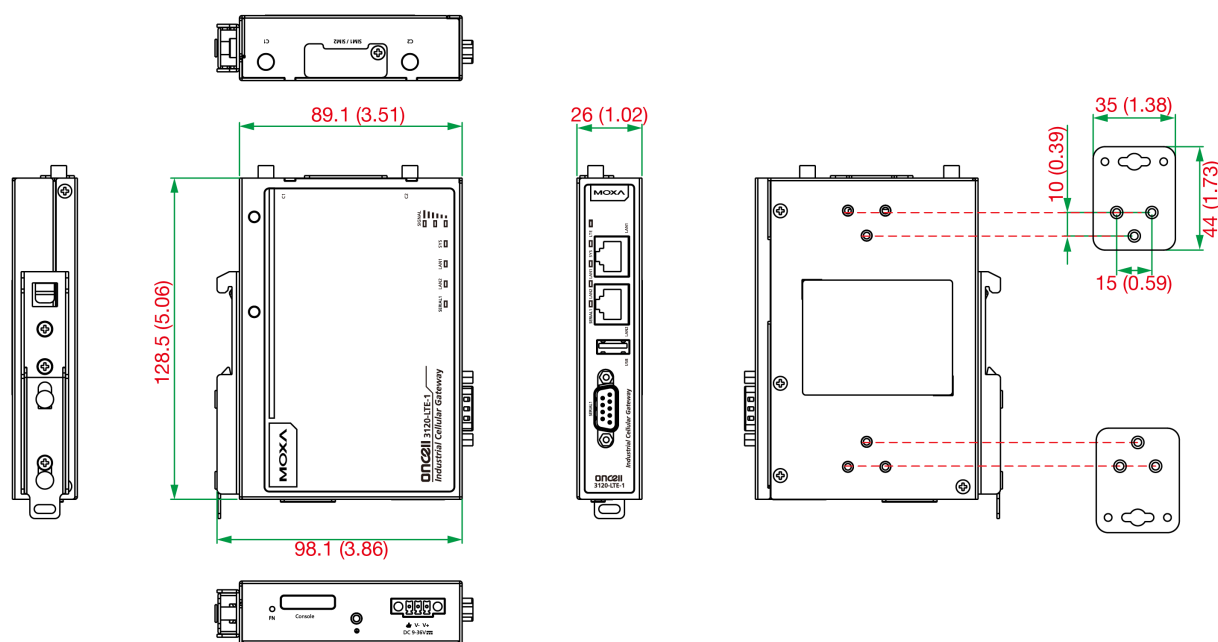
EMC	EN 55032/35 EN 61000-6-2/-6-4
EMI	CISPR 32, FCC Part 15B Class A
EMS	IEC 61000-4-2 ESD: Contact: 4 kV; Air: 8 kV IEC 61000-4-3 RS: 80 MHz to 1 GHz: 10 V/m IEC 61000-4-4 EFT: Power: 1 kV; Signal: 1 kV IEC 61000-4-5 Surge: Power: 1 kV; Signal: 1 kV IEC 61000-4-6 CS: 10 kHz to 150 MHz; Signal: 80 V IEC 61000-4-8: 30 A/m
Freefall	IEC 60068-2-32
Hazardous Locations	ATEX IECEX Class I Division 2
Radio	RCM UKCA FCC ID: SLE-LE910CXNF ¹ TELEC: 007-AH0035 ¹ JATE: ADF-190023007 ¹ KC: R-C-MXA-OnCell-3120 NCC: CCAF224G0100T1 SRRC: 26C71PK6L616
Carrier Approvals	PTCRB Verizon AT&T
Cellular Standards	EN 301 511 EN 301 908-1 EN 62311(MPE SAR) AS/CA S042 EN 301489-1/-52
Cybersecurity	EN 18031-1
Safety	IEC 60950-1 IEC 62368-1 UL 60950-1 UL 62368-1
Shock	IEC 60068-2-27

1. leveraging module certification

Vibration	IEC 60068-2-6
Green Product	RoHS, CRoHS, WEEE
MTBF	
Time	585,775 hrs
Standards	Telcordia Standard SR-332
Warranty	
Warranty Period	5 years
Details	See www.moxa.com/warranty
Package Contents	
Device	1 x OnCell 3120-LTE-1 Series LTE cellular gateway
Installation Kit	1 x DIN-rail kit
Documentation	1 x quick installation guide 1 x warranty card

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) / B7 (2600 MHz) / B8 (900 MHz) / B20 (800 MHz) / B28A (700 MHz)	-0 to 55°C	Wall, DIN rail
OnCell 3120-LTE-1-EU-T	LTE Cat 1	B1 (2100 MHz) / B3 (1800 MHz) / B7 (2600 MHz) / B8 (900 MHz) / B20 (800 MHz) / B28A (700 MHz)	-30 to 70°C	Wall, DIN rail
OnCell 3120-LTE-1-AU	LTE Cat 1	B1 (2100 MHz) / B3 (1800 MHz) / B5 (850 MHz) / B8 (900 MHz) / B9 (1800 MHz) / B18 (850 MHz) / B19 (850 MHz)	-0 to 55°C	Wall, DIN rail

Model Name	Cellular Standard	LTE Band	Operating Temp.	Mounting
		MHz) / B26 (850 MHz) / B28 (700 MHz)		
OnCell 3120-LTE-1-AU-T	LTE Cat 1	B1 (2100 MHz) / B3 (1800 MHz) / B5 (850 MHz) / B8 (900 MHz) / B9 (1800 MHz) / B18 (850 MHz) / B19 (850 MHz) / B26 (850 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)

Storage Kits

ABC-02-USB	Configuration backup and restoration tool, firmware upgrade, and log file storage tool for managed Ethernet switches and routers, 0 to 60°C operating temperature
ABC-02-USB-T	Configuration backup and restoration tool, firmware upgrade, and log file storage tool for managed Ethernet switches and routers, -40 to 75°C operating temperature

Antennas

ANT-LTEUS-ASM-01	GSM/GPRS/EDGE/UMTS/HSPA/LTE, 1 dBi, omnidirectional rubber-duck antenna
ANT-LTE-ASM-02	GPRS/EDGE/UMTS/HSPA/LTE, 2 dBi, omnidirectional rubber-duck antenna

Wireless Antenna Cables

A-CRF-SMSF-R3-100	Wireless antenna cable with SMA (male) to SMA (female) connectors, magnetic base, RG-174 type, 1 m
A-CRF-SMSF-L1-300	Wireless antenna cable with SMA (male) to SMA (female) connectors, magnetic base, LMR195 type, 3 m
A-CRF-SMSF-C2-300	Wireless antenna cable with SMA (male) to SMA (female) connectors, CFD-200 type, 3 m
A-CRF-SMSF-C2-500	Wireless antenna cable with SMA (male) to SMA (female) connectors, CFD-200 type, 5 m

Mounting Kits

WK-35-04	Wall-mount kit with 2 plates (35 x 44 x 2.5 mm), 6 screws (FTS x 6 M3 x 4 mm)
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