EDG 4000 SERIES SMART GATEWAY MODEMS

PRIVATE BROADBAND FOR CRITICAL INFRASTRUCTURE

Today's Critical Infrastructure enterprises require robust communications to watch over and control their far-flung physical plant and remote equipment.

Whether you run an electric utility that needs to securely monitor its reclosers and instantly respond to downed power lines; a city water department that needs to communicate with its AMI smart meters; or an energy producer keeping track of fluid levels, pressure sensors and emissions — they all require fast, reliable, secure broadband connectivity.

The availability of wireless broadband spectrum in the 900 MHz band resulting from the FCC's recent actions now allows critical infrastructure providers to deploy private LTE networks that enable secure and resilient electric grids.

INTRODUCING THE EDG 4000 SERIES SMART GATEWAY MODEMS

The EDG 4200 and EDG 4600 are secure, customizable, multi-purpose, smart gateway modems for Critical Infrastructure deployments.

The EDG 4000 series can be used in conjunction with Motorola Solutions' fixed LTE 900 MHz infrastructure, other private 900MHz networks, Citizens Broadband Radio Service (CBRS) networks and public carrier networks.

MOTOROLA SOLUTIONS

EDG 4200 AND EDG 4600

The EDG 4200 and EDG 4600 are highly secure Internet of Things (IoT) gateway modems and all-in-one multi-purpose edge devices. They can connect multiple IoT sensors and aggregate data from those endpoints, as well as provide enough processing power to run smart applications and enable time-critical intelligence and decision making directly at the edge.

They can broadcast across multiple network technologies too. They can be configured with multiple SIM card slots with the associated radio modules, that provide flexibility to work across different networks.

There are advantages to connecting to different networks. Firstly, it supports failover and failback between Private LTE and Carrier LTE, and failover and failback within

Private LTE bands (between CBRS and 900MHz). Secondly, not all the data needs to be treated equally; it needs to travel over the most appropriate network for the type of data it is. The EDG 4200 and EDG 4600 can capture and transmit time-sensitive, mission critical, low speed/throughput data on 900MHz Private LTE (Cat-4/M/NB), as well as high throughput business critical data over CBRS.

The EDG 4600 builds on the capabilities of the EDG 4200, with the ability to transmit at higher power, up to 2W Transmitter Power Output, over 900 MHz Private LTE. This helps reach out to deep rural area assets. This means you need fewer LTE sites, and can benefit from the associated reduction in deployment costs.

EDG 4200

Ethernet ports
RF connectors
Serial ports
Console port

EDG 4600

Ethernet ports
RF connectors
Serial ports
Console port

EDG 4200
TOP VIEW

5.0"
12.7 cm

5.0"
12.7 cm

EDG 4600
TOP VIEW

6.5"
16.5 cm

5.0"
12.7 cm

FRONT VIEW

1 ETHERNET 2   RF 1   RF 2   RF 3   GND
STATUS
1 SERIAL 2   CONSOLE   ALARM   DC
                                NC   - +
MOTOROLA SOLUTIONS

FRONT VIEW

1 ETHERNET 2   RF1 RF2 RF3 RF4
STATUS
A SERIAL B   CONSOLE   RF5 RF6   GND
MOTOROLA SOLUTIONS   NC
                              ALARM   DC

2.0"
5.1 cm
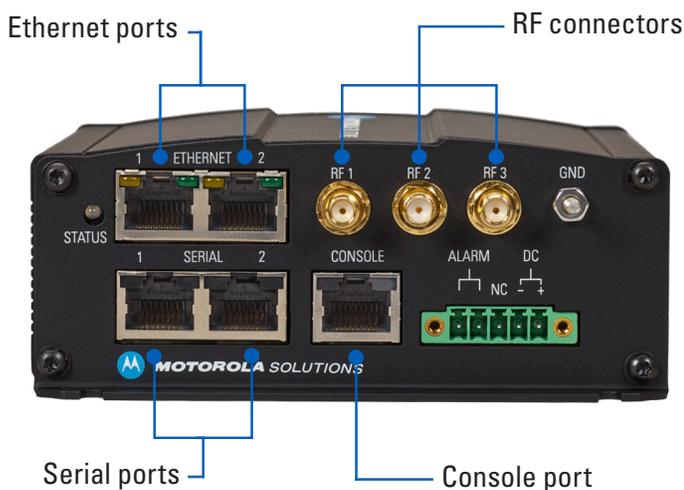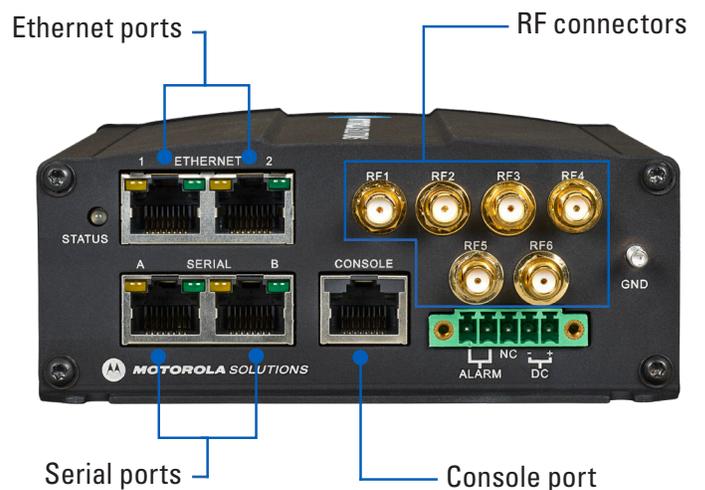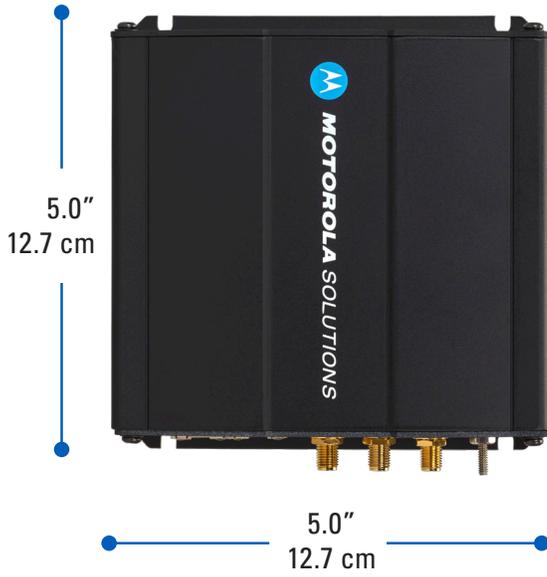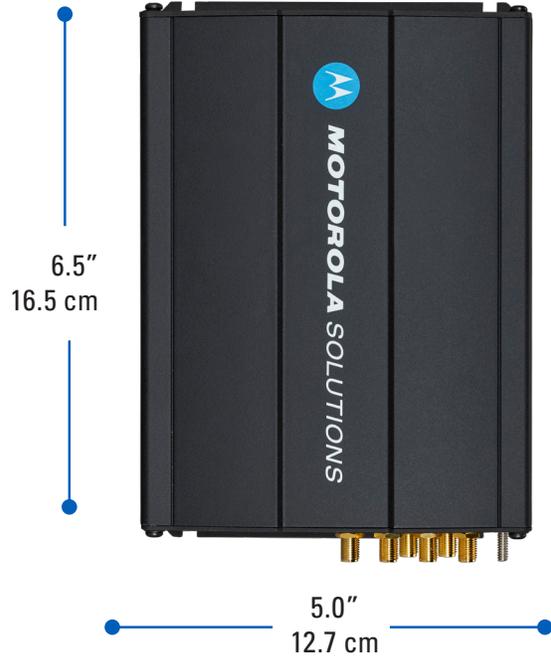
SPECIFICATIONS

NETWORK INTERFACES

	EDG 4200 and EDG 4600	
RF Connectors	Up to 6 SMA connectors, 50 Ohm	
Communications Modules	Select 1, 2, or 3 modules: • LTE/CBRS • Cat-M/NB-IoT • Wi-Fi 802.11 a/b/g/n/ac	
LTE Support	Verizon, AT&T and FirstNET 900 MHz (897.5-900.5 / 936.5-939.5) CBRS Band 48 Cat-M1/NB1 (Carrier and 900MHz)	
CBRS	OnGo certified	
Wi-Fi	802.11 ac/a/b/g/n 2.4 GHz and 5 GHz	
Serial Ports	1 RS-232/RS-422/RS-485 1 RS-232 only	
Ethernet Ports	2 RJ-45 ports (10/100/1000 Mbps) with 802.3af PoE PD	
Console	1 console port	
Digital Interfaces	GPIO, UART, I2C (Optional)	
	EDG 4200	**EDG 4600**
SIM Support	Up to 3 SIM card slots, with network failover	Up to 5 SIM card slots, with network failover
Transmitter Output Power	200mW	Selectable from 200mW to 2W for the 900 MHz LTE frequency, 200mW for all other available frequencies

SECURITY AND ENCRYPTION

	EDG 4200 and EDG 4600	
Coprocessor	Onboard cryptographic coprocessor with secure key storage	
Encryption	AES encryption (FIPS 197), FIPS 140 Capable, NIST-certified, hardware-based cryptographic, calculation algorithms	
VPN	GRE tunnels, IPSec, DMVPN	
Authentication	X.509 certificate support, 802.1x (Radius)	
Embedded Sensors	External tamper switch with message alerts, GPS with PPS, 9-axis accelerometer with gyroscope	

PHYSICAL

	EDG 4200 and EDG 4600	
Input Voltage	9-60 VDC or 802.3af PoE PD	
Enviornmental Temperature	Operating temperature : -13°F to 158°F (-25°C to + 70°C) Storage temperature: -40°F to +185°F (-40°C to + 85°C)	
Humidity	5% to 95% non-condensing	
	EDG 4200	**EDG 4600**
Weight (maximum)	1 lb (454 g)	2.2 lb (1 kg)
Size (WxDxH)	5" x 5" x 2" (12.7 x 12.7 x 5.1 cm)	5" x 6.5" x 2" (12.7 x 16.5 x 5.1 cm)
Power Consumption	Typical: 2-4 W Sleep mode: 400 mW Peak: 12 W	Typical: 15 W Sleep mode: 400 mW Peak: 30 W

COMPUTING

	EDG 4200 and EDG 4600
Processor	Dual-core Freescale ARM Cortex A9 SoC
Memory	1 GB DDR3 SDRAM
Storage	8 GB eMMC
Firmware	Serial configuration EEPROM
Operating System	Linux, OpenWRT
Application Hosting Environment	Docker containers, LXC containers
Expansion	Mini-PCIe and m.2 expansion card slots
Self-Test Functions	Power-on, CPU and register, interrupt, memory integrity, DMA controller, device interface, transmit and receive, loopback interface, system error/overload, system reset/reboot

ROUTER AND GATEWAY

	EDG 4200 and EDG 4600
Bridging/Switching	Fully managed switch support (802.1q)
Routing Protocols	BGP, MPLS, RIPv2, EIGRP, LDP, IS-IS, OSPF
Network and Transport Layer Protocols	IPv4 (RFC 791, 826, 1918), IPv6 (RFC2460), IPv6-to-IPv4 and IPv4-to-IPv6, UDP (RFC 768), TCP (RFC 793), DHCP IPv6/IPv4 relay/client/server
Service and Application Layer Protocols	MODBUS over TCP/UDP/Serial, DNP3 over TCP/UDP/Serial, IEC 60870-S-101/104 protocol translation
Quality of Service (QoS)	3GPP TS 23.203 and 3GPP TS 23.207 802.1p

REGULATORY COMPLIANCE

	EDG 4200 and EDG 4600
Radio Frequency	FCC 47 CFR Part 15
Environmental	RoHS
Utility	IEEE 1613 C37.90 high-voltage impulse
Safety	UL 62368-1 UL 121201 Class 1, Division 2 - Intrinsic Safety

DEVICE MANAGEMENT

	EDG 4200 and EDG 4600
Protocols Supported	SNMP v1, v2c and v3, CoAP, MQTT
Local Management	Supported
Remote Management	Supported
User Interface	Web browser-based GUI

For more information, visit: motorolasolutions.com/PrivateBroadband

MOTOROLA SOLUTIONS