CUBIC | DTECH

M3-SE

ENTERPRISE COMPUTE AND NETWORKING PLATFORM FOR THE TACTICAL EDGE

Photo credit Sgt. Jerry Deavila. THE APPEARANCE OF U.S. DEPARTMENT OF DEFENSE (DOD) VISUAL INFORMATION DOES NOT IMPLY OR CONSTITUTE DOD ENDORSEMENT.

Low SWaP

100k Modules Deployed Globally

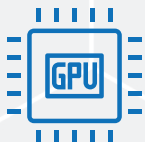**Low Cost of Ownership**

Virtual Server Compatible

Deploy Fast
Configure and deploy mission hardware and software platforms in just a few clicks with DVICE software

Modular & Scalable
Industry-leading modularity and scalability for enterprise processing, storage and networking at the edge

AI & Machine Learning Ready
Powerful embedded GPU, ideal for artificial intelligence, machine learning applications, and neural networks

Chassis-less Design
Integrated stacking system removes the need for a chassis and increases flexibility in system configuration

Smart Battery Power
Power management & battery backup make the M3-SE ideal for power-constrained environments

Built Tough
Hardened aluminum construction certified to meet MIL-STD, CE and RoHS for deployments around the world

M3-SE

Take your Enterprise to the Tactical Edge

Combining enterprise-class computing and networking with industry leading scalability, the M3-SE is a base-band platform ideal for remote operating bases that require multiple advanced applications and a large number of users.

Designed to meet adapting mission requirements with performance usually only available with larger 19-inch rack-mounted systems, the M3-SE provides a low Size Weight and Power solution delivering Intel or Nvidia processing, Cisco networking, and large capacity storage to the tactical edge.

Engineered to operate without the need for a chassis, cases or a dedicated backplane, the M3-SE provides best-in-class scalability and modularity. Modules can be interchanged quickly and easily to meet specific requirements, scaling from a few modules all the way up to a powerful datacenter.

The M3-SE is the compute and networking platform of choice for allied forces around the world. Class-leading performance, scalability, and lower total cost of ownership are just a few of the reasons the M3-SE platform has been widely adopted for mounted and dismounted operations.

M3-SE Router Module

The M3-SE modular router family delivers rugged, reliable routing and switching functionality at the tactical edge, with scalable throughput options to support the needs of modern mobile network deployments. M3-SE routers are packed with capabilities field users rely on such as Power over Ethernet (PoE) for user phones, instant zeroization for fast physical security, and Cisco's onboard encryption processing engine for streaming voice, video, and data traffic over secure VPN tunnels.

As Software-Defined Networking (SDN) becomes more prevalent, M3-SE routers accommodate network administrators looking to deploy hardware or software solutions. Whether the mission calls for a simple embedded router with one uplink, or a complex network fabric with multiple interconnections, the M3-SE family has a device to meet the needs of the operators. Benefiting from the popular M3-SE modular design,

the M3-SE router family shares the same form factor and pass-through power connectors, allowing users to upgrade their current M3-SE router and network deployments with minimal changes to system design. This modular approach delivers great flexibility, as users can easily add networking capabilities based on mission requirements without the need to replace existing networking or compute hardware.

Features

- Support for Gigabit Ethernet (GE) and 10GE SFP+
- Virtual network compatibility
- Console port with Command Line Interface

- Zeroize button
- Compatible with all M3-SE modules
- Stackable and top mounting versions available

Router Specifications

Module	M3-SE-RTR3	M3-SE5	M3-SE4
Processor Type			
Processor	Cisco ESR6300	Cisco ESR6300 Cisco ESS3300	ESS3300 6th Gen Intel Core i7-7600U
Interfaces			
PoE	100W	100W	100W
Number of Ports	2 x GE / SFP Layer 3 WAN 4 x GE Layer 2 LAN PoE+ on all RJ45 ports	**Router**: 2 x GE/SFP Layer 3 WAN ports 4 x GE Layer 2 LAN ports (1 internal) 1 x Console Port 1 x USB 3.0 Port **Switch:** 8 x GE ports (1 x internal, 7 x RJ45) 2 x 10GE SFP Ports 1 x Console Port (RJ45 or MiniUSB) 1 x SD Slot PoE+ on all RJ45 ports	2 x GE / SFP Layer 3 Router WAN 3 x GE Layer 2 Router LAN 7 x GE Layer 2 Switch LAN 2 x 10GE SFP+ Layer 2 Switch LAN PoE+ on all RJ45 ports
Removable Config Storage Support	ESR6300: USB	ESS3300: SD ESR6300: USB	ESS3300: SD
RAM	4GB DDR4	ESS3300: 4GB DDR4 ESR6300: 4GB DDR4	ESS3300: 4GB DDR4 Compute Unit: 32GB DDR4
Ancillary	1 x DC IN 1 x DC OUT 1 x Console RJ45 Port 1 x Console USB Port 1 x Zeroize Button 1 x Fischer USB 3.0 Port	1 x DC In Port 1 x Main Power On/Off Switch 1 x Zeroize Button (Erases User-Selected Information) 1 x Blackout Switch 1 x SD Card Slot	1 x DC IN 1 x DC OUT 1 x Console RJ45 Port 1 x Console USB Port 1 x Zeroize Button 1 x Fischer USB 3.0 Port 1 x SD Card Slot
Licensing Information			
Available Licenses	Cisco Network Essentials & Network Advantage, DEF (50Mbps), PERF (250Mbps), BOOS (2Gbps)w	Cisco Network Essentials & Network Advantage, DEF (50Mbps), PERF (250Mbps), BOOS (2Gbps)	Cisco C8000V Adv. Enterprise (5Mbps - 500Mbps)
Power Specifications			
Power Consumption	10.08 W minimum / 15.9 W maximum without PoE	25.2 W minimum / 37.8 W maximum without PoE	22.3 W minimum / 48.7 W maximum without PoE
Power Input	10-30 VDC	10-30 VDC	10-30 VDC
Power Output	10-30 VDC	10-30 VDC	10-30 VDC
Physical Specifications			
Depth (in / cm)	5.06 / 12.85	5.06 / 12.85	5.06 / 12.85
Width (in / cm)	10.25 / 26.04	10.25 / 26.04	10.25 / 26.04
Height (in / cm)	1.81 / 46.5	2.38 / 6.51	2.4 / 6.01
Weight (lbs / kgs)	2.2 / 0.98	2.00 / 0.91	2.1 / 0.95
Storage (°F/°C)	-4 to 158 / -20 to 70	-4 to 158 / -20 to 70	-4 to 158 / -20 to 70
Operating Temperature (°F/°C)	32 to 140 / 0 to 60	32 to 140 / 0 to 60	32 to 140 / 0 to 60
Certifications			
Designed to Meet Certifications	MIL-STD-810H, MIL-STD-461F, CE, and RoHS Compliant	MIL-STD-810H, TAA Compliant	MIL-STD-810H, TAA Compliant

* All Cisco router throughput speeds are determined by licensing. DODIN testing condition of fielding (CoF) specifies usage of up to 100mbs for use in U.S. DOD networks when using the Cisco ESR-5921 virtual router with a 500Mbs license throughput.

Notes:

Software Defined Networking such as Cisco C8000V, CSR1000V and Juniper SRX are supported on our Compute modules.

M3-SE Switch Module

The M3-SE modular switch family delivers trusted network switching functionality at speeds up to 10 Gigabits to support applications that require high levels of data throughput. Developed in partnership with established leaders in switching technologies, including Cisco, the M3-SE switch family offers a low SWaP connectivity solution suitable for a wide range of missions.

Modules are available with features including PoE, SFP+ ports, console ports, and zeroize buttons. These high-performance switches are designed to meet military standards and are built for use in extreme environments, operating across a wide range of temperatures. Benefiting from the popular M3-SE modular design, the M3-SE switch family shares the same form factor and pass-

through power connectors, allowing users to upgrade their current M3-SE server and network deployments with minimal changes to system design. This modular approach delivers solution flexibility, as users can easily add networking capacity based on mission requirements without the need to replace existing hardware.

Features

- Ruggedized high-speed network switches
- Support for up to 1GE & 10GE SFP+
- Console port with Command Line Interface
- Zeroize button for secure, rapid configuration eraseure

- Compatible with all M3-SE modules
- Pass-through connector for chassis-less and cable-less stacking
- Available in black and desert tan
- Backed by Cubic's world class 5 year warranty

Switch Specifications

Module	M3-SE-SW24G	M3-SE-SW10C
Processor Type		
Processor	Cisco ESS3300	Cisco ESS9300
Interfaces		
PoE	100 W 400 W with a M3-SE-POE module added to the stack	No PoE Available (SFP+ Only)
Number of Ports	24 x GE Ports (PoE+) 2 x SFP+ Ports	10 x 10GE SFP+ Ports 1 x 1GE OOB MGMT Port
Ancillary	1 x Console Port 1 x Micro USB Console Port 1 x DC In	1 x USB 2.0 Port 1 x Micro-USB Console Port 1 x RJ45 Serial Console Port 1 x SD Card Slot 1 x Blackout Toggle Switch 1 x Alarm RJ-11 Port 1 x Zeroize Initiation Button
Power Specifications		
Power Consumption	15 W min. / 30 W max. without PoE	20 W min. / 50 W max.
Power Input	10–30 VDC	10–30 VDC
Physical Specifications		
Depth (in / cm)	5.06 / 12.85	5.06 / 12.85
Width (in / cm)	10.25 / 26.04	10.25 / 26.04
Height (in / cm)	2.76 / 6.99	2.76 / 6.99
Weight (lbs / kgs)	3.4 / 1.54	2.8 / 1.3
Storage (°C)	-40 to +70	-20 to 70
Operating Temperature (°C)	-10 to 60	0 to 60
Certifications		
Designed to Meet Certifications	RoHS, MIL-STD-810H, MIL-STD-461F, DoDIN APL	RoHS, MIL-STD-810H, MIL-STD-461F, DoDIN APL

M3-SE Server Module

The M3-SE server family provides compute and storage functionality suitable for command post locations that require multiple advanced applications. The servers have been designed to meet growing mission requirements with performance usually only available with larger 19-inch rack servers.

Class-leading power-to-performance ratios, scalability, and low total cost of ownership combined with Virtual Server and VSAN Support ensure the M3-SE servers deliver unrivaled capabilities in a small form factor to users operating at the tactical edge.

Designed in collaboration with users, several servers are available, including a specialized ISR server with an integrated video capture card and a server engineered with a large storage capacity to host multiple virtual environments.

Features

- Enterprise-class servers designed to operate in austere environments
- Range of Intel processors available, including Xeon and I7
- Support for multiple Solid-State Drives for greater storage and redundancy
- Compatible with industry-standard hardware and software
- Certified for use with VMware ESXi and VSAN applications

Server Specifications

Module	M3-SE-SVR4	M3-SE-SVR4-ISR	M3-SE-VSVR5
Processor/Cores/Speed			
Processor	Intel® Quad Core™ I7	Intel® Quad Core™ I7	Intel® 16 Core Xeon D
CACHE	32MB	32MB	32MB
Computer Specifications			
RAM (GB)	32	32	128
Storage Slots	2	2	10
TPM	2.0	2.0	2.0
Interfaces			
Display Port	2	2	0
Console Port (RJ45)	1	1	1
VGA Port	0	0	1
SATA Drive Slots	2	2	10
SAS Drive Slots	0	0	10
Hardware RAID	No	No	Yes
GE Port	4	4	4
Network Management	1	1	1
SDI Digital Video Input	No	Yes	No
10GE	2	2	2
Side CFast Port (VMware ESXi boot)	No	No	Yes
Power Specifications			
Power Input	10-30 VDC	10-30 VDC	10-30 VDC
Power Consumption	30 Watts Min/ 75 Watts Max	30 Watts Min/ 75 Watts Max	50 Watts Min/ 119 Watts Max
Physical Specifications			
Depth (in / cm)	5.06 / 12.85	5.06 / 12.85	6.75 / 17.15
Width (in / cm)	10.25 / 26.4	10.25 / 26.4	10.25 / 26.4
Height (in / cm)	2.5 / 6.25	2.5 / 6.25	4.25 / 10.8
Weight (lbs / kgs)	3.85 / 1.75	4.05 / 1.84	7.3 / 3.3
Storage (°C)	-30 to 70	-30 to 70	-20 to 70
Operating Temperature (°C)	-10 to 60	-10 to 60	0 to 60
MTBF	TBD	TBD	> 83,000 h
Certifications			
Designed to meet	MIL-STD-810H	MIL-STD-810H	CE, RoHS, MIL-STD-810H, MIL-STD-461F

Additional Detail

The M3-SE Server family is fully fielded with units across the globe due to its high reliability and superior performance. The key to the VSVR5 is the battery-backed hardware RAID controller which allows the server to continue to write to disk even after a power failure, preventing corruption in data and improving backup resiliency. Cubic offers a free 5 year factory warranty on all M3-SE modules.

Other Modules

M3-SE4 A combination of the Cisco ESS3300 and Cisco C8000V Embedded Sevices Router.

M3-SE Power Modules

The M3-SE power modules deliver consistent and reliable power to the M3-SE server and networking systems. The modules have been designed for use in austere environments where clean power sources are not readily available.

Created in collaboration with users and deployed by allied forces worldwide, the M3-SE power modules deliver regulated and conditioned power to M3-SE modules stacked via a pass-through power connector, removing the need for power cables between modules. Several modules are available, each engineered to provid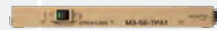e a unique range of features for users operating at the tactical edge, including the remote power switch, hot-swap battery backup, and a range of AC and DC inputs/outputs. Benefiting from the popular M3-SE design, the M3-SE power modules share the same form factor and pass-through power connectors, allowing users to upgrade their current M3-SE server and network deployments with minimal changes to system design.

Features

- Modular power supplies for austere environments
- Several modules available offering a unique range of features
- Hot-swap battery backup
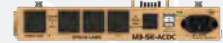- Remote power switch
- MIL-STD-810H, CE, and RoHS certified

Module	M3-SE-TPA1	M3-SE-MPA2	M3-SE-PA
Interfaces & Features			
	12 VDC Output Port	12 VDC Output Port	10 - 30 VDC Input Port
	Power Switch	24 VDC Output Port	Battery Status Lights
		Power Switch	
Power Specifications			
Power Input Voltage	Supplied via pass-through power connector	Supplied via pass-through power connector	10-30 VDC
Power Output Voltage	Regulated 12 VDC	Regulated 12 VDC & 24 VDC and stack power	Stack power only, no dedicated power output
Power Consumption	Determined by connected devices. 2 W idle, 50 W Maximum	Determined by connected devices. 4 W idle, 100 W Maximum	5.0 W When battery is charged/ 23 W when charging the batteries
Battery Capacity	No Battery	No Battery	98 W/h
Maximum Power Load - AC	No AC Input	No AC Input	No AC Input
Maximum Power Load - DC	No DC Input	No DC Input	70W Maximum
Maximum Power Load - Battery	No Battery	No Battery	115 W Maximum (8 Amps @ 14.4 VDC)
AC Convenience Outlets	No AC Outlets	No AC Outlets	No AC Outlets
Pass-through Power Output			
AC Source	No AC Input	No AC Input	No AC Input
DC Source	No DC Input	No DC Input	+10-30 VDC source matches 10-30 VDC output
Battery Source	No Battery	No Battery	115 W Maximum (8 Amps @ 14.4 VDC)
Internal Components			
	12 VDC Regulator	12 VDC Regulator	24 VDC Regulator
		24 VDC Regulator	Battery Charger
			1 x Lithium Ion 98 W/h battery
Physical Specifications			
Depth (in / cm)	5.06 / 12.85	5.06 / 12.85	5.06 / 12.85
Width (in / cm)	10.25 / 26.04	10.25 / 26.04	10.25 / 26.04
Height (in / cm)	1.09 / 2.77	1.47 / 3.73	1.41 / 3.58
Weight (lbs / kgs)	1.1 / 0.5	1 / 0.45	2.8 / 1.27
Storage (°C)	-20 to 70	-20 to 70	-20 to 70
Operating Temperature (°C)	0 to 60	0 to 60	0 to 60
MTBF	Exceeds 468,000 hours (calculated)	Exceeds 468,000 hours (calculated)	Exceeds 300,400 hours (calculated)
Top Bushings for Stacking	No - Top Module Only	Yes - Any Position	Yes - Bottom Module Only
Certifications			
Designed to meet	MIL-STD-810H	MIL-STD-810H	MIL-STD-810H & JITC

M3-SE Power Modules (cont.)

Power Specifications

Module	M3-SE-PA-P-CF1	M3-SE-PA2	M3-SE-ACDC
Interfaces & Features			
	10 - 30 VDC Input Port	10 - 30 VDC Input Port	AC Power Input Port
	AC Power Input Port	Remote Power Switch	AC Convenience Outlets
	Battery Status Lights	Battery Status Lights	5 VDC 1 AMP Charging USB Ports
	Hot Swap Battery Bay	Hot Swap Battery Bay	
Power Specifications			
Power Input Voltage	100–240 VAC AND 10–30 VDC	10–30 VDC	85-264 VAC
Power Output Voltage	Stack power only, no dedicated power output	Stack power only, no dedicated power output	85-264 VAC , 5 VDC on USB ports when module is plugged in
Power Consumption	5.0 W When battery is charged/ 23 W when charging the batteries	5.0 W When battery is charged/ 26 W when charging the batteries	0 W Minimum/8.9 W Maximum
Battery Capacity	196 W/h (2x98W/h Li-Ion batteries)	196 W/h (2x98W/h Li-Ion batteries)	No Battery
Maximum Power Load - AC	175 W Maximum	No AC Input	200 W Maximum
Maximum Power Load - DC	150W Maximum	150W Maximum	No DC Input
Maximum Power Load - Battery	150 W Maximum	2150 W Maximum	No Battery
AC Convenience Outlets	No AC Outlets	No AC Outlets	4 Outlets, 10 A Maximum shared between all outlets
Pass-through Power Output			
AC Source	+24 VDC	No AC Input	+24 VDC
DC Source	+10-30 VDC, output matches external source	+10-30 VDC, output matches external source	No DC Input
Battery Source	115 W Maximum (8 Amps @ 14.4 VDC)	115 W Maximum (8 Amps @ 14.4 VDC)	No Battery
Internal Components			
	AC to DC Power Supply	24 VDC Regulator	AC to DC Power Supply
	24 VDC Regulator	Battery Charger	24 VDC Regulator
	Battery Charger	2 x Lithium Ion 98 W/h batteries	
	2 x Lithium Ion 98 W/h batteries		
Physical Specifications			
Depth (in / cm)	6.75 / 17.15	5.06 / 12.85	2.03 / 5.16
Width (in / cm)	10.25 / 26.04	10.25 / 26.04	10.25 / 26.04
Height (in / cm)	2.63 / 6.68	2.34 / 5.94	5.06 / 12.85
Weight (lbs / kgs)	5.9 / 2.68	4.1 / 1.86	2.6 / 1.18
Storage (°C)	-20 to 70	-20 to 70	-20 to 70
Operating Temperature (°C)	0 to 60	0 to 60	0 to 60
MTBF	Exceeds 477,000 hours (calculated)	Exceeds 493,000 hours (calculated)	Exceeds 310,800 hours (calculated)
Top Bushings for Stacking	Yes - Bottom Module Only	Yes - Bottom Module Only	Yes - Any Position
Certifications			
Designed to meet	MIL-STD-461F, MIL-STD-810H, CE, RoHS	MIL-STD-461F, MIL-STD-810H, RoHS	MIL-STD-810H

M3-SE GPU-P Module

The M3-SE-GPU-P is a highly rugged, small form factor graphics processing unit (GPU)module designed to enable artificial intelligence and highperformance analytics at the extreme tactical edge.

Powered by dual NVIDIA GPUs, the module delivers class-leading performance in a low power, compact and easily transportable solution. The high throughput Ethernet connections combined with the dual processors enable parallel processing of distinct data streams, boosting throughput and allowing basic clustering operations. An integrated deep learning engine and support for the NVIDIA JetPack SDK make the module ideal for artificial intelligence, machine learning applications and neural network development.

Benefiting from the popular M3-SE modular design, the M3-SE-GPU-P shares the same form factor and pass-through power connectors, allowing users to upgrade their current M3-SE server and network deployments with minimal changes to system design. This modular approach delivers great flexibility, as users can easily add GPU capabilities based on mission requirements, without the need to replace existing server or compute hardware.

Features

- 2 x Nvidia Jetson Xavier GPU units
- 2 x GE ports (RJ45)
- 4 x 10 GE SFP ports
- 2 x Serial Console ports (RJ45)

- DeepStream SDKs, as well as CUDA®, cuDNN, and TensorRT software libraries
- Compatible with all M3-SE modules

M3-SE-GPU-P Specifications

M3-SE Stack with
M3-SE-GPU-P module

Interfaces
2 x Serial Console ports (1 x RJ45 per Engine)
2 x USB-C ports (1 x per Engine)
2 x Reset buttons (1 x per Engine)
2 x Recovery buttons (1 x per Engine)
2 x 1 GE ports (1 x RJ45 per Engine)
4 x 10 GE SFP ports (2 x per Engine)
2 x Power buttons (1 x per Engine)
1 x Blackout switch
1 x Zeroize button
1 x Main Power switch
1 x External DC Power Input

Physical Specifications	
Depth (in / cm)	10.15 / 25.78
Width (in / cm)	10.25 / 26.04
Height (in / cm)	2.375 / 6
Weight (lbs / kgs)	4.88 / 2.21
Storage (°C)	-40 to +70
Operating Temperature (°C)	0 to 60

Internal Components
2 x NVIDIA Jetson Xavier GPU modules

Power Specifications	
Power input	10 to 30 VDC
Power consumption	22.65 W Minimum / 118.65 W Maximum

Certifications	
Trade Act Agreement compliant	
Designed to Meet:	CE MIL-STD-810H MIL-STD-461F RoHS

Warranty
Includes Cubic, industry-leading, 5-Year Hardware Warranty.

Components

1. Twin NVIDIA Jetson AGX Xavier GPU's
2. RJ45 Console
3. Power Button
4. RST Button
5. 1 x 1 GE Port / 2 x 10 GE SFP Ports
6. Stacking Power Connector
7. Zeroize Button
8. Main Power Button
9. DC Input/Output
10. Blackout Switch
11. Recovery Button
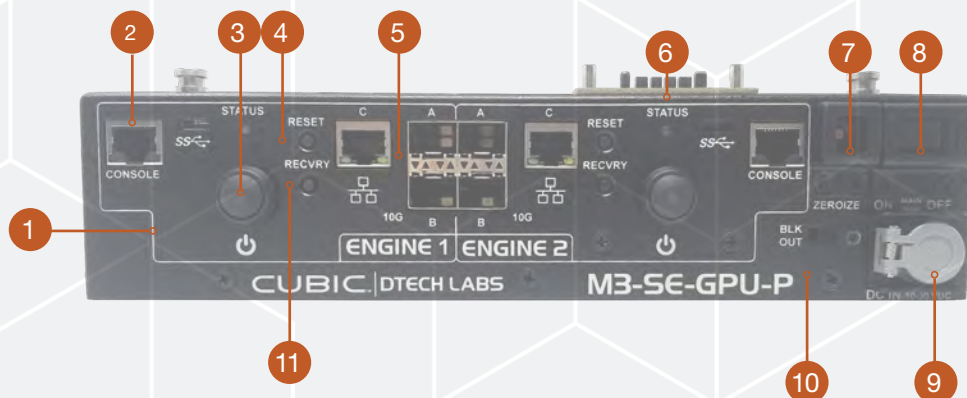
M3-SE MFGW Module

The M3-SE-MFGW is a low power and high capacity Radio Over IP (RoIP) crossbanding gateway. Based on the popular Vocality RoIP platform and available with an optional integrated LTE modem, the M3-SE-MFGW module provides the ability to cross-band up to eight separate radio networks from different manufacturers regardless of radio band, frequency, or technology.

Fully compatible with a wide range of third-party radio dispatch solutions and leading Push-To-Talk over Cellular apps, the M3-SE-MFGW allows users to maximize their existing Land Mobile Radio investment.

Benefiting from the popular M3-SE modular design, the M3-SE-MFGW shares the same form factor and pass-through power connectors, allowing users to upgrade their current M3-SE server and network deployments with minimal changes to system design. This modular approach delivers excellent flexibility, as users can easily add networking capabilities based on mission requirements without the need to replace existing networking or compute hardware.

Features

- E&M ports for up to 8 Tactical and LMR Radios
- Optional 4G/LTE Cellular Modem
- WAN & LAN Operations
- Supports Unicast & Multicast Voice Operations
- Easy to use web-based interface
- Supports Radio Over IP (RoIP)

M3-SE-MFGW Specifications

Interfaces

Interfaces
2 x GE Router Interface
8 x E&M Interfaces
8 x Remotely Controllable Serial Ports
4G LTE Cellular Radio (Optional)
2 x SMA Cellular Antenna Terminals
2 x USB 2.0 Ports

Physical Specifications

Physical Specifications	
Depth (in / cm)	5.06 / 12.85
Width (in / cm)	10.25 / 26.04
Height (in / cm)	1.78 / 4.52
Weight (lbs / kgs)	1.8 / 0.82
Storage (°C)	-40 to +70
Operating Temperature (°C)	0 to 50
MTBF	175,000 h

Power Specifications

Power Specifications	
Power input	10–30 VDC
Power consumption	10 W typical/15 W maximum

Certifications

Certifications	
Trade Act Agreement compliant	
Designed to Meet:	MIL-STD-810H RoHS FIPS-140-2*

Warranty

Warranty
Includes standard DTECH Labs, industry-leading, 5-Year Hardware Warranty

Supported LTE Cellular Bands

Supported LTE Cellular Bands
B1, B2, B3, B4, B5, B7, B8, B12, B13, B14, B20, B28, B38, B40, B41, B66, B71

Components

1. Cellular SMA #1 (Optional)
2. Serial Ports 1 through 4
3. E&M Ports 1 through 8
4. Serial Ports 5 through 8
5. Cellular SMA #2 (Optional)
6. Gigabit RJ-45 Ethernet Ports
7. USB 2.0 Ports
8. Power Switch
9. DC Input
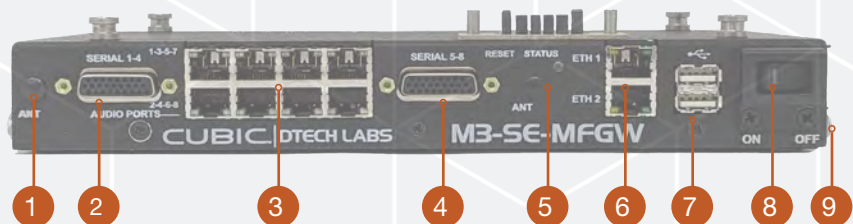
*The M3-SE Multi-Function Gateway from Cubic Corporation has successfully completed FIPS 140-2 compliance testing (performed by an independent, accredited testing laboratory) and is now undergoing final review by the Cryptographic Module Validation Program (CMVP)

M3-SE-TFOCA10G Module

The M3-SE-TFOCA enables connectivity between military-grade fi ber optic networks that utilize the commonly used TFOCA connector. The module includes two TFOCA connectors and two Gigabit Ethernet ports allowing seamless connectivity between RJ45 and TFOCA connector types.

Benefiting from the popular M3-SE modular design, the M3-SE-TFOCA shares the same form factor and pass-through power connectors, allowing users to upgrade their current M3-SE server and network deployments with minimal changes to system design. This modular approach delivers excellent flexibility, as users can easily add networking capabilities based on mission requirements without the need to replace existing networking or compute hardware.

Features

- E&M ports for up to 8 Tactical and LMR Radios
- Optional 4G/LTE Cellular Modem
- WAN & LAN Operations

- Supports Unicast & Multicast Voice Operations
- Easy to use web-based interface
- Supports Radio Over IP (RoIP)

M3-SE-TFOCA10G Specifications

Interfaces
1 GE copper RJ45 port
SFP+ port, 10 GE and 1 GE Ethernet
2 x TFOCA-II ports (with link state propagation)
DC I/O Port

Physical Specifications	
Depth (in / cm)	6.48 / 16.46
Width (in / cm)	10.25 / 26.04
Height (in / cm)	2.25 / 5.71
Weight (lbs / kgs)	2.65 / 1.2
Storage (°C)	-20 to +70
Operating Temperature (°C)	0 to 60
MTBF	Exceeds 300,000 h on module, excluding the SFP+ plugin

Certifications	
Trade Act Agreement compliant	
Designed to Meet:	CE MIL-STD-810H MIL-STD-461F RoHS

Internal Components	
Independent converters	
Port 1	1 Channel, 10 GE or 1 GE TFOCA-II to 10 GE
Port 2	1 Channel, 10 GE TFOCA-II Single-Mode to 10 GE SFP+

Power Specifications	
Power input	10–30 VDC
Power consumption	6 W total

Warranty
Includes standard DTECH Labs, industry-leading, 5-Year Hardware Warranty.

Components

1. Port 1 10 GE Single Mode Fiber
2. Port 2 10 GE Multi Mode Fiber
3. Power Switch
4. DC IN

MISSION-ENGINEERED. MISSION-PROVEN. MISSION-FORWARD.

Because of ongoing enhancements, specifications may change. Contact your sales representative for current information.

DTECH Mission Solutions | 18

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