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FXM HP 650

Rugged UPS Module



- 650W/VA UPS designed to operate in extreme environments and provide maximum flexibility
- Advanced next-generation control and monitoring platform with high resolution color touchscreen LCD display with advanced local UI
- Built-in data loggers to monitor performance logs, user configurable alarms and advanced equation editing for custom data and actions
- Integrated USB host for local firmware upgrades, configuration updates, backup, restoration and cloning
- Wide range Automatic Voltage Regulation (AVR) lengthens battery life by providing protection without transferring to backup mode during voltage surge or sag
- Independently programmable control and reporting dry contacts allow monitoring and controlling of key functions

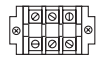

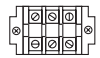


The FXM HP UPS continues the longstanding excellence in Battery Backup Systems by ensuring equipment in security, communications, traffic, industrial environments, and many other critical applications remains safe and protected from power disturbances and outages.

Thanks to its powerful programmable temperature compensated battery charger, the FXM UPS is capable of providing the runtime and extended battery life you need. The FXM HP colored LCD touchscreen display provides access to multiple configurable tabs for quick system status, overview and configuration without the need of a laptop.

Multiple communication ports including two Ethernet connections permits simultaneous local craft access as well as permanent LAN/WAN connectivity. A USB key may also be used to quickly backup and restore site configuration settings and data logs. Enhanced security using modern encryption technology ensures proper authentication and privacy for remote connection with the UPS. Environmental conditions and other equipment can be monitored via a single IP interface via CAN port using Alpha® Analog Digital Input Output (ADIO) devices.

FXM HP 650-24 Rugged UPS Module

Electrical	
120VAC Model	
Battery:	String Voltage: 24VDC Battery Breaker Rating: 80A Maximum Charging Current: 10A
Input:	Nominal Voltage: 120VAC Voltage Range: 85 to 171VAC Frequency: 50Hz or 60Hz (Autodetect Frequency is the default configuration, can also be manually configured.) ±5% Maximum Current: 8.25A (@Nominal voltage and max battery charging current) AC Breaker Rating: 10A
Output:	Waveform: Pure sinewave Nominal Voltage: 120VAC Voltage Regulation: ±10% on line mode, ±2% on inverter mode Power at 55°C: 650VA/Watts@60Hz Frequency: Output frequency = Input frequency Frequency Tolerance, Backup Mode: ±0.3 Hz
230VAC Model	
Battery:	String Voltage: 24VDC Battery Breaker Rating: 80A Maximum Charging Current: 10A
Input:	Nominal Voltage: 210/220/230/240VAC Voltage Range: 153 to 322VAC Frequency: Nominal: 50Hz or 60Hz (Autodetect Frequency is the default configuration, can also be manually configured.) ±5% Maximum Current: 4.4A (@ Nominal voltage and max battery charging current) Input Breaker Rating: 5.5A
Output:	Waveform: Pure sinewave Nominal voltage: 210/220/230/240VAC (same as input) Voltage regulation: ±10% on line mode, ±2% on inverter mode Power at 55°C: 650VA/Watts@230/240V Frequency: Output frequency = Input frequency Frequency Tolerance: Backup Mode: ±0.3 Hz
Communication Interface	
Protocol:	SNMP: SNMP v3 via Ethernet. Compatible with subscription and discovery services TCP/IP: IPv4 or IPv6 Email: SMTP via Ethernet
Security:	Password: 256-bit Encryption Secured Web Interface: SSL for HTTPS
Display:	Full graphic LCD, 480x272 pixels, Resistive touch screen
Ports:	<ul style="list-style-type: none"> 2 x RJ45: Ethernet 1 x RJ11: Battery Temperature Compensation 1 x RJ12: for Alpha CAN devices 1 x USB-A: For upgrades or file management via a standard USB flash drive 1 x USB-Mini B: For soft shutdown using MegaTec protocol complaint client
Indicators:	<ul style="list-style-type: none"> Solid Green: Line Mode, Flashing Green: Inverter mode Yellow/Amber: Minor alarms Red: Major/Critical alarms
Dry Contacts:	Programmable NO/NC (250VAC, 1A)*, 3 user inputs, ATS
Factory Default:	<ul style="list-style-type: none"> C1: On Battery C2, C3: Low Battery + No Line C4: Load Shed Timer 1 C5: Alarm C6*: 24VDC @ 500mA C7: User Inputs <ul style="list-style-type: none"> S1: Self test S2: User Input S3: Shutdown(EPO) C8: ATS (24VDC @10mA)
* C6 is factory configurable only	

Mechanical	
Dimensions:	mm: 89H x 432W x 229D inches: 3.47H x 17W x 9DD
Weight:	11.3kg/25lbs
Environmental	
Operating Temp Range*:	-40 to 74°C (-40 to 165°F)
Humidity:	Up to 95% (non condensing)
Altitude (m/ft):	Up to 3700 (12,000)**
Audible noise @ 25°C***:	45dBa @ 1 meter (39in)
MTBF (hours):	250K + as per Telcordia SR-332, 100% duty cycle, full load, @ 40°C
BTU/Hr:	Normal mode: 13.26Watts/45.26BTU/HR
	Backup mode: 120VAC Model: 205.15Watts/700BTU/HR 230VAC Model: 205Watts/699.49BTU/HR
*120VAC/60Hz module derates after 55°C (131°F). 230VAC module derates after 55°C (131°F) @220/230/240V. Derates 1.4% per °C past listed temperature range until a maximum of 74°C. Refer to manual for non listed voltage settings. **Derates 2°C per 300m (1000ft) above 1400m (4500ft) *** Measured at 25°C ambient temperature	
Performance	
Typical Transfer Time:	<5ms
Load Crest Factor:	3:1 (load dependent)
Lightning/Surge Protection:	ANSI/IEEE C62.41.2-2002, Criteria A & B
*At nominal AC Input, full load and at 25°C ambient temperature	
Power Connector Options	
120VAC, 24VDC Battery Bus Models	
Input:	Output:
Standard (0170023-002)  Terminal Block	 Terminal Block
230VAC, 24VDC Battery Bus Models	
Standard (0170023-201)  Terminal Block	 Terminal Block
Agency Compliance	
Electrical Safety:	UL 1778, CAN/CSA-C22.2 No. 107.3, EN 62040-1**
Marks:	
EMC:	CFR Title 47 FCC Part 15 – Class A, ICES-003 – Class A, EN 62040-2 – UPS Category C2**
RoHS:	Yes
**Applies to 230VAC version only	



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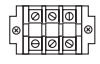


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02/2021
#0480065-00 REV A

FXM HP 650-48 Rugged UPS Module

Electrical	
120VAC Model	
Battery:	String Voltage: 48VDC Battery Breaker Rating: 50A Maximum Charging Current: 10A
Input:	Nominal Voltage: 120VAC Voltage Range: 85 to 171VAC Frequency: 50Hz or 60Hz (Autodetect Frequency is the default configuration, can also be manually configured.) ±5% Maximum Current: 10.5A (@ Nominal voltage and max battery charging current) AC Breaker Rating: 15A
Output:	Waveform: Pure sinewave Nominal Voltage: 120VAC Voltage Regulation: ±10% on line mode, ±2% on inverter mode Power at 55°C: 650W/VA Frequency: Output frequency = Input frequency Frequency Tolerance, Backup Mode: ±0.3 Hz
Communication Interface	
Protocol:	SNMP: SNMP v3 via Ethernet. Compatible with subscription and discovery services TCP/IP: IPv4 or IPv6 Email: SMTP via Ethernet
Security:	Password: 256-bit Encryption Secured Web Interface: SSL for HTTPS
Display:	Full graphic LCD, 480x272 pixels, Resistive touch screen
Ports:	<ul style="list-style-type: none"> • 2 x RJ45: Ethernet • 1 x RJ11: Battery Temperature Compensation • 1 x RJ12: for Alpha CAN devices • 1 x USB-A: For upgrades or file management via a standard USB flash drive • 1 x USB-Mini B: For soft shutdown using MegaTec protocol compliant client
Indicators:	<ul style="list-style-type: none"> • Solid Green: Line Mode, • Flashing Green: Inverter mode • Yellow/Amber: Minor alarms • Red: Major/Critical alarms
Dry Contacts:	Programmable NO/NC (250VAC, 1A)*, 3 user inputs, ATS
Factory Default:	<ul style="list-style-type: none"> • C1: On Battery • C2, C3: Low Battery + No Line • C4: Load Shed Timer 1 • C5: Alarm • C6*: 48VDC @ 500mA • C7: User Inputs <ul style="list-style-type: none"> • S1: Self test • S2: User Input • S3: Shutdown(EPO) • C8: ATS (48VDC @ 10mA)
* C6 is factory configurable only	

Mechanical	
Dimensions:	mm: 89H x 432W x 229D inches: 3.47H x 17W x 9D
Weight:	11.3kg (25lbs)
Environmental	
Operating Temp Range*:	-40 to 74°C (-40 to 165°F)
Humidity:	Up to 95% (non condensing)
Altitude (m/ft):	Up to 3700 (12,000)**
Audible noise @ 25°C***:	45dBa @ 1 meter (39in)
MTBF (hours):	250K + as per Telcordia SR-332, 100% duty cycle, full load, @ 40°C
BTU/Hr:	Normal mode: 13.5Watts/46.06BTU/HR Backup mode: 110Watts/375BTU/HR
120VAC module derates after 55°C (131°F). Derates 1.4% per °C past listed temperature range until a maximum of 74°C. *Derates 2°C per 300m (1000ft) above 1400m (4500ft) *** Measured at 25°C ambient temperature	
Performance	
Typical Output Voltage THD (resistive load):	<3%
Typical Efficiency* (resistive load):	>98%
Typical Transfer Time:	<5ms
Load Crest Factor:	3:1 (load dependent)
Lightning/Surge Protection:	ANSI/IEEE C62.41.2:2002, Criteria A & B
*At nominal AC Input, full load and at 25°C ambient temperature	
Power Connector Options	
120VAC Model	
Input:	Output:
Standard 0170023-101	 Terminal Block
	 Terminal Block
Agency Compliance	
Electrical Safety:	UL 1778, CAN/CSA-C22.2 No. 107.3
Marks:	
EMC:	CFR Title 47 FCC Part 15 – Class A, ICES-003 – Class A
RoHS:	Yes



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