

# MERCURYFLEX

## MERCURY 2U MODULES WITH HOT-SWAP SHELF

The MercuryFlex™ is the ideal power solution for high-value, mission-critical applications in the semiconductor, industrial, and military markets. MercuryFlex™ provides fully programmable, wide-range DC output while operating from universal AC input. With a high-speed CAN-Bus interface providing full control of output voltage, current, and power, along with real-time readback of unit operating input voltage, temperature, alarm status, and output voltage and current, the Mercury Flex provides optimal integrations and optimization opportunities for complex systems. Now available in single-phase and 3-phase input options.

### MAIN CHARACTERISTICS:

- ✓ Modular / scalable product
- ✓ Blind-mate / hot hot-swap compatible
- ✓ Constant Voltage, Constant Current, or Constant Power operating modes
- ✓ Full Power Factor Correction (Low Input Harmonic Currents)
- ✓ SEMI F47 Compliant with 20ms Holdup at Full Power
- ✓ On-board CAN bus and Shelf Level Ethernet Controller

### BENEFITS

#### REDUCED SYSTEM COMPLEXITY AND TIME TO MARKET

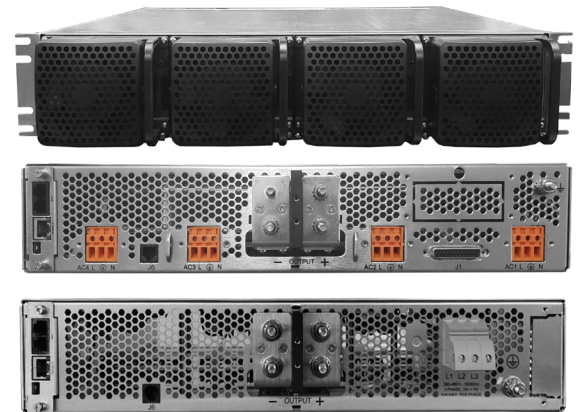
Wide range of models and fully adjustable outputs. Multiple control modes provide ultimate application flexibility.

#### HIGH RELIABILITY FOR CRITICAL APPLICATIONS

Astrodyne TDI's comprehensive reliability assurance processes, including design to the rigorous requirements of NAVSO P3641A, HALT, DFMEA, and our unique Highly Accelerated Stress Screening (HASS) on 100% of production units, assure the ultimate in unit reliability and performance.

#### HIGH POWER DENSITY

Up to 15.2kW power in a 2U high, 19" rack space.



### FEATURES

#### UNIVERSAL AC INPUT

90VAC – 264VAC 1-Phase with full power factor control  
342VAC – 528VAC 3-Phase 4 wire

#### WIDE RANGE OUTPUTS

28V (3V -28V)  
56V (5V -56V)  
125V (10V -125V )  
180V (10V -180V )  
250V (10V-250V)  
450V (15V-450V)

Up to 3.8KW power per module  
Up to 160A current per module (28V model)

**ISOLATED AUXILIARY OUTPUT:** 12VDC @ .15A

#### DIGITAL REMOTE CONTROL

CAN Bus 2.0B provides extensive command and reporting features (Browser based interface available)

#### PARALLEL AND REDUNDANT OPERATION

Automatic current sharing, output fault isolation device, and hot hot-swap compatible

#### INPUT VOLTAGE TRANSIENT IMMUNITY

SEMI 47 Compliant, including 20ms holdup time  
EN61000-4-4 and -5, severity level 4

#### HIGH MTBF

1-Phase: >1M hours  
3-Phase: >250,000 hours

#### VARIABLE SPEED FAN CONTROL

Minimizes audible noise and maximizes fan life



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### PARAMETERS

### 1Ø MERCURY-FLEX

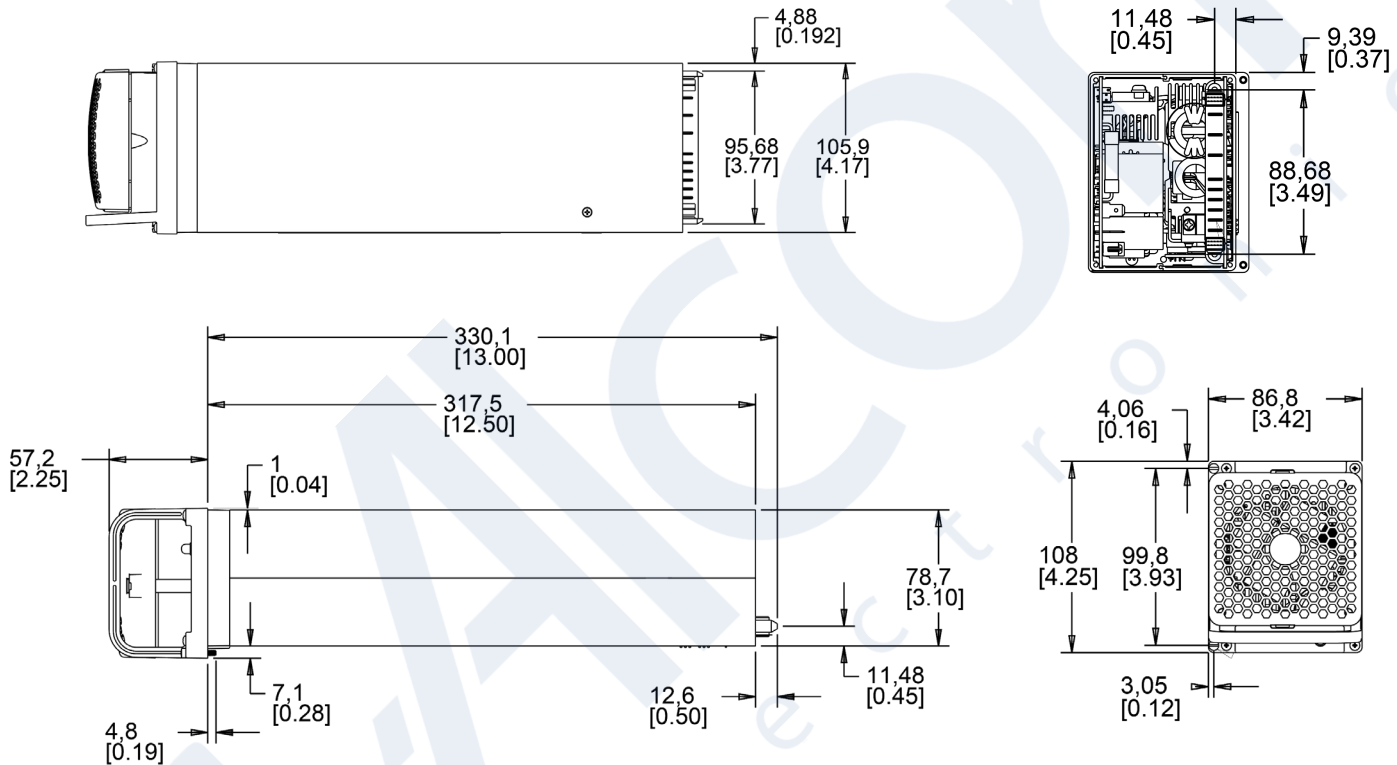
### 3Ø MERCURY-FLEX

<b>Input AC</b>	90-176 or 176-260VAC auto range	342VAC – 528VAC 3-Phase 4 wire
<b>AC Frequency</b>	47-63Hz	
<b>Max Input Current</b>	27A RMS, 50A	7.1A RMS, 60A
<b>Power Factor</b>	>.97	>.90
<b>Outputs, DC</b>	Main Output: (Five standard models) 28V (3V-28V), 56V (5V-56V), 125V (10V-125V), 180 (10V-180V), 250V (10V-250V), 450V (15V-450V)	
<b>Output Power</b>	3,800W Max (Vin 176VAC 264VAC)	
<b>Efficiency</b>	>91%	
<b>Ripple/Noise</b>	<1% p-p of Vout max	
<b>Load Regulation</b>	2% of Vout max, from no load to full load (Current share V Droop)	
<b>Electronic Alarms</b>	The unit provides digital alarm signals and controls via CAN interface (250 k-bits/second)	
<b>Visual Indicators</b>	Output OK: A front panel Green “Output OK” LED will be lit if the unit main output is within the acceptable range	
<b>Digital Command/Status</b>	CAN Address is set by two digital bits (high or low-impedance resistors) externally provided to the module main connector	
<b>Protection Features</b>	Input UV, Input OV(MOV), Input OI(fuse), Output OV, Output CL, Over Temperature	
<b>Operating Temperature</b>	-30 to +55°C (full rated)	
<b>Storage/Transportation</b>	-40 to +85°C	
<b>Humidity</b>	0% to 95% RH, non-condensing	
<b>Isolation</b>	In to Out: 3000 VAC RMS In to GND: 1625 VAC RMS Out to GND: Up to 1674 VAC RMS	In to Out: 4243 VAC or 6KVDC for 28 & 56V 2830VAC or 4KVDC for the rest models In to Signals: 4243 Vac or 6KVdc Out to GND: N/A for 28V and 56V model 2830 Vac or 4KVdc for the rest models In to GND: 2830 VAC RMS or 4000VDC Out to GND: Up to 2830 VAC or 4000VDC
<b>Regulatory/Safety C = Conducted</b>	UL 62368-1: 2 <sup>nd</sup> Edition, EN 62368-1 /A11:2014, IEC 62368-1: 2 <sup>nd</sup> Edition CE Marked (LVD), ROHS/WEEE: EN50419: 2005 Directive 2002-96/EC Annex IV(OJ)(L)37/38,13.02.03	
<b>EMC</b>	EMI (C): FCC Part 15, Sub Part J, Class A EN55022, class	
<b>Harmonics</b>	Compliant to EN61000-3-2	
<b>AC Line Sag</b>	Compliant to SEMIF47-0706	
<b>Dimensions (inches)</b>	Module: 4.25” x 3.42” x 15.15” Shelf :18.19” x 3.46” x 16.5”	Module: 4.25” x 3.42” x 15.20” Shelf :18.98” x 3.46” x 21.70”
<b>Cooling</b>	Internal Variable Speed Fan, front air input	
<b>Warranty</b>	2 Years	

# MERCURYFLEX

## MERCURY 2U MODULES WITH HOT-SWAP SHELF

### 1Ø MERCURY FLEX 2U RECTIFIER



#### MODEL NUMBER

#### PART NUMBER

#### DESCRIPTION

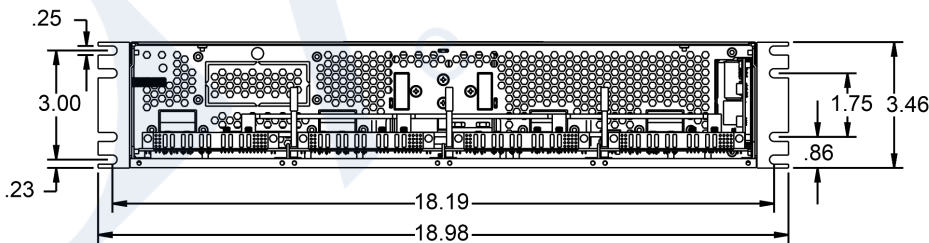
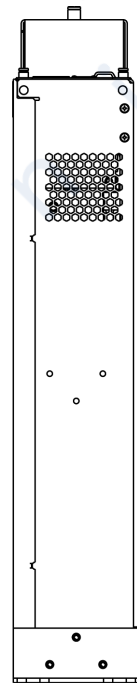
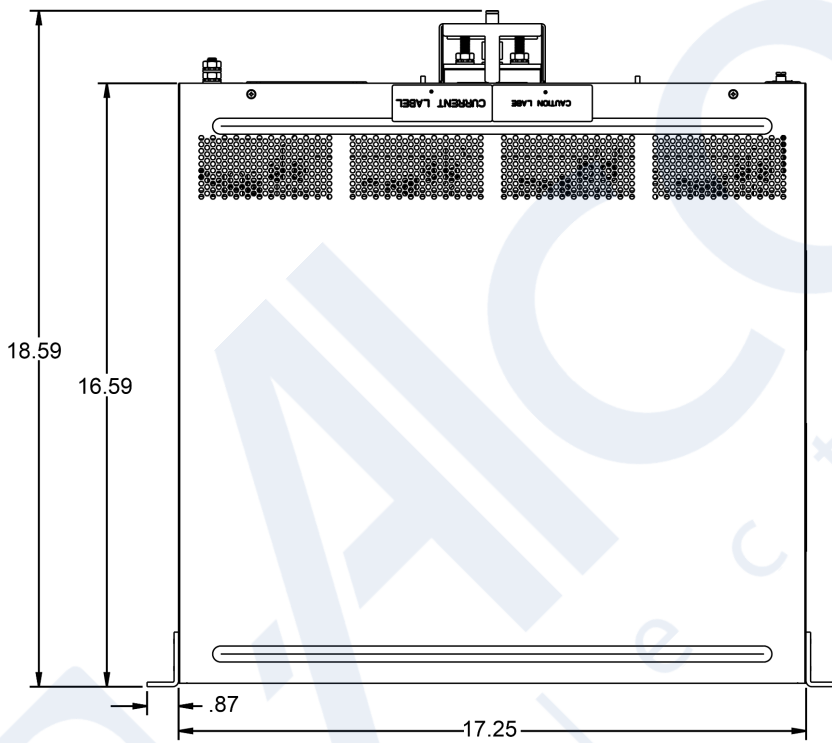
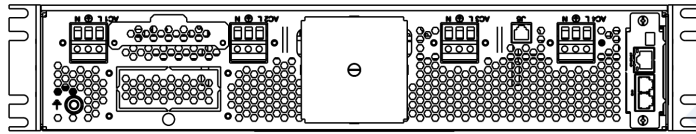
MODEL NUMBER	PART NUMBER	DESCRIPTION
MER38WRB-F028D00LF	T100106170-F028D00LF	RECTIFIER, 3.8KW 2U 0-28 V 160A DROOP ROHS
MER38WRB-F056D00LF	T100106170-F056D00LF	RECTIFIER, 3.8KW 2U 0-56 V 70A DROOP ROHS
MER38WRB-F125D00LF	T100106170-F125D00LF	RECTIFIER, 3.8KW 2U 0-125 V 34.5A DROOP ROHS
MER38WRB-F180D00LF	T100106170-F180D00LF	RECTIFIER, 3.8KW 2U 0-180 V 24A DROOP ROHS
MER38WRB-F250D00LF	T100106170-F250D00LF	RECTIFIER, 3.8KW 2U 0-250 V 17.5A DROOP ROHS
MER38WRB-F450D00LF	T100106170-F450D00LF	RECTIFIER, 3.8KW 2U 0-450 V 10.2A DROOP ROHS



# MERCURYFLEX

## MERCURY 2U MODULES WITH HOT-SWAP SHELF

### 1Ø 2U SHELF ASSEMBLY



#### MODEL NUMBER

#### PART NUMBER

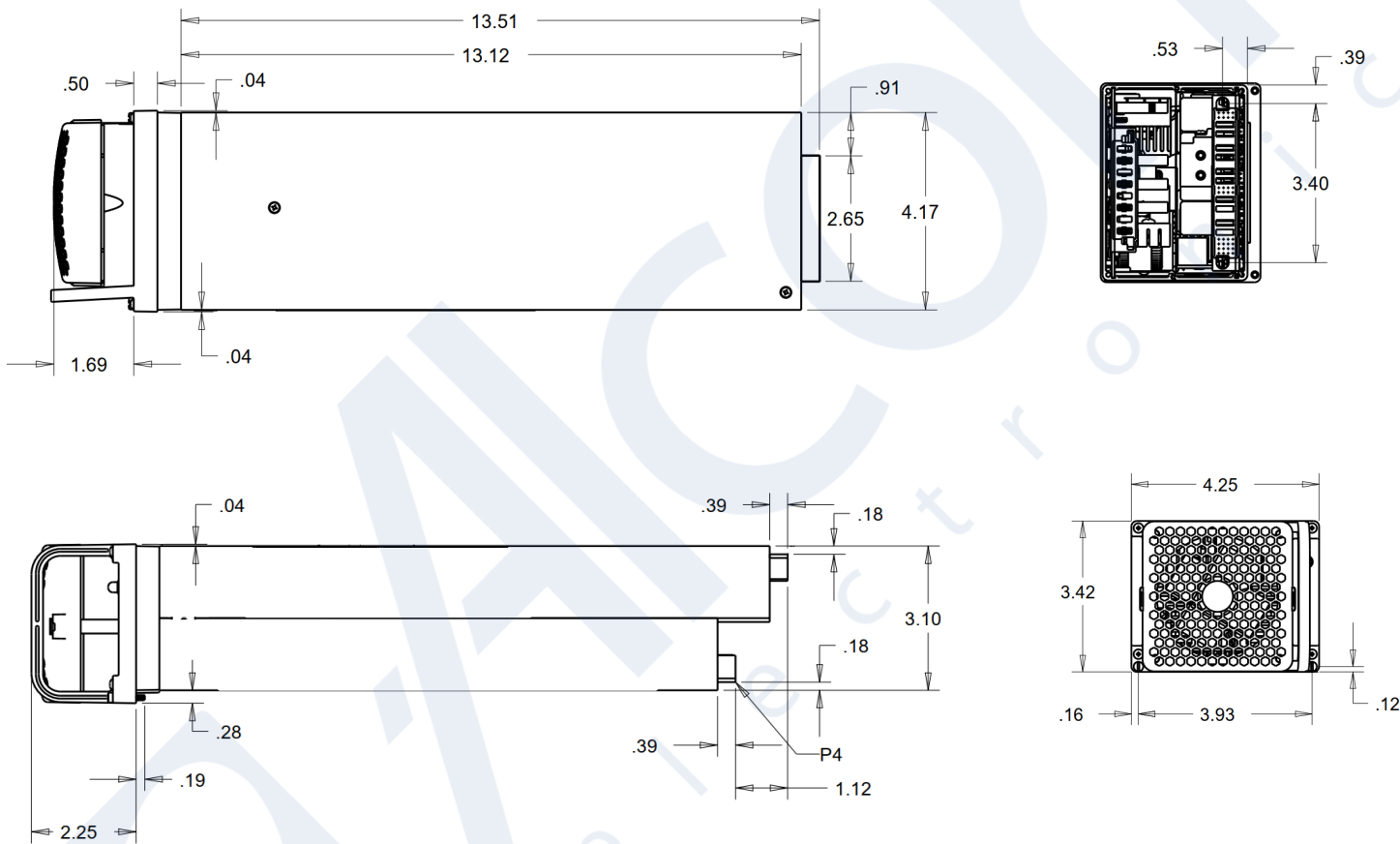
#### DESCRIPTION

MODEL NUMBER	PART NUMBER	DESCRIPTION
MES38WRB-FHVD01ALF	T100106667-FHVD01ALF	SHELF, MER FLEX HV, 2U, 4 TB M-CONTROLLER
MES38WRB-FHVD01BLF	T100106667-FHVD01BLF	SHELF, MER FLEX HV, 2U, 1 TB M-CONTROLLER
MES38WRB-FLVD01ALF	T100106667-FLVD01ALF	SHELF, MER FLEX LV, 2U, 4 TB M-CONTROLLER
	T100106667-FLVD01BLF	SHELF, MER FLEX LV, 2U, 1 TB M-CONTROLLER

# MERCURYFLEX

## MERCURY 2U MODULES WITH HOT-SWAP SHELF

### 3Ø MERCURY FLEX 2U RECTIFIER



**PART NUMBER**

**DESCRIPTION**

T100122899-F028D00LF	<i>*COMING SOON</i>	3Ø RECTIFIER, 3.8KW 2U 0-28 V 160A DROOP ROHS
T100122899-F056D00LF	<i>*COMING SOON</i>	3Ø RECTIFIER, 3.8KW 2U 0-56 V 70A DROOP ROHS
T100122899-F125D00LF		3Ø RECTIFIER, 3.8KW 2U 0-125 V 34.5A DROOP ROHS
T100122899-F180D00LF		3Ø RECTIFIER, 3.8KW 2U 0-180 V 24A DROOP ROHS
T100122899-F250D00LF	<i>*COMING SOON</i>	3Ø RECTIFIER, 3.8KW 2U 0-250 V 17.5A DROOP ROHS
T100122899-F450D00LF	<i>*COMING SOON</i>	3Ø RECTIFIER, 3.8KW 2U 0-450 V 10.2A DROOP ROHS

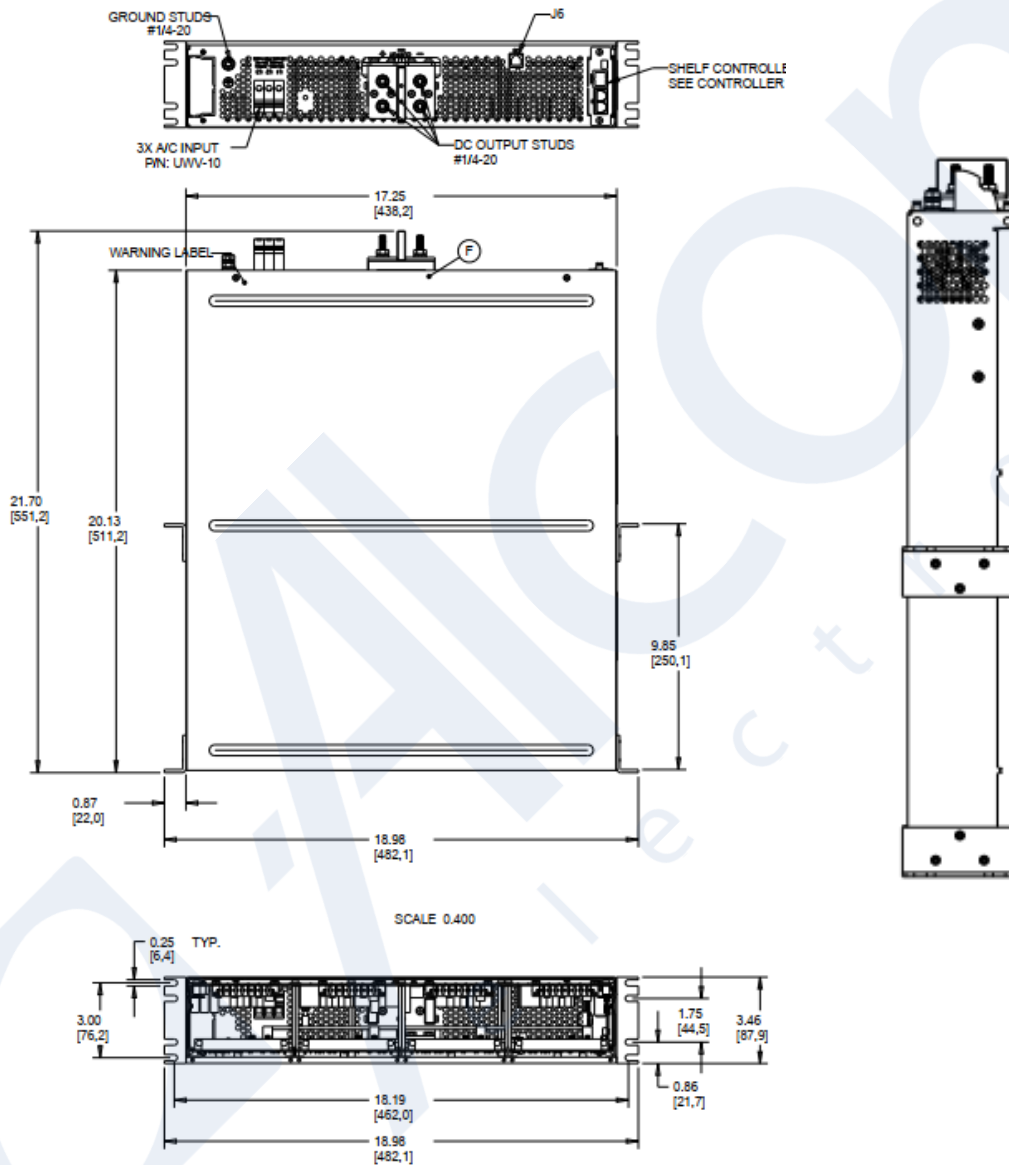




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## MERCURY 2U MODULES WITH HOT-SWAP SHELF

### 3Ø 2U SHELF ASSEMBLY



MODEL NUMBER

PART NUMBER

DESCRIPTION

HVMES38WRB-FLVD02BLF	T100123163-FLVD02BLF	3Ø SHELF, MER FLEX HV, 2U, 4 TB M-CONTROLLER
HVMES38WRB-FMVD02BLF	T100123163-FMVD02BLF	3Ø SHELF, MER FLEX HV, 2U, 1 TB M-CONTROLLER
HVMES38WRB-FHVD02BLF	T100123163-FHVD02BLF	3Ø SHELF, MER FLEX LV, 2U, 4 TB M-CONTROLLER