

# APC Symmetra Rack-Mount (2 – 12 KVa)

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# Symmetra Rack-mount 2-12 kVA

## Bringing Symmetra's proven reliability, availability and ease of use to the rack.

APC is bringing all of the time-tested advantages of Symmetra to the rack. With more servers, storage products, networking and telecom equipment becoming rack-based, the need is increasing for innovative rack-mounted power solutions. Symmetra RM meets this need with innovative rack-optimized solutions that range from 2 kVA to 12 kVA, with N+1 redundancy in just 8U or 15U of rack space. A 16kVA N solution is also available in just 15U of rack space.

Symmetra RM is an ideal solution for small to medium size datacenters, branch office locations, mission-critical networking equipment or any other customer requiring a rack based product within this power range. The 2-6 kVA N+1 units provide a 8U rack optimized solution for a typical single rack scenario. On the other hand, the 8-12 kVA N+1 (or 16kVA N only) units provide a 15U rack optimized solution for either multiple racks of equipment or single racks with high density enterprise level equipment. In addition to the advantages of hot-swappability and redundancy, rack users can also benefit from Symmetra's self diagnosing, scalable components and integrated Web/SNMP management features.

With APC Symmetra RM, you'll get all the benefits of Symmetra plus:

### Rackmountability :

Saves premium datacenter floor and U space, while providing a secure environment.

### Flexible built-in runtime options :

The Symmetra RM 2-6 kVA N+1 units allow Battery Modules to be placed in vacant Power Module bays to increase runtime without using more rack space.

### Flexible Extended Runtime options:

All Symmetra RM units (2-12 kVA, N+1) are compatible with both rackmount and tower extended run options. The Symmetra RM Extended Run solution allows customers to grow runtime in increments of 4 Battery Modules in 4U of rack space. This solution affords the same level of intelligence that all Symmetra extended runtime solutions provide. Various extender cables are available to customize the solution. See page 15.

### Plug and Play Capability :

All Symmetra RM units come standard with field replaceable PDU's. A variety of backplate PDU (listed on Page 19 ) and external PDU options (both from APC or third party vendors) allow direct plug-in of a wide variety of loads.

### Form Factor Flexibility :

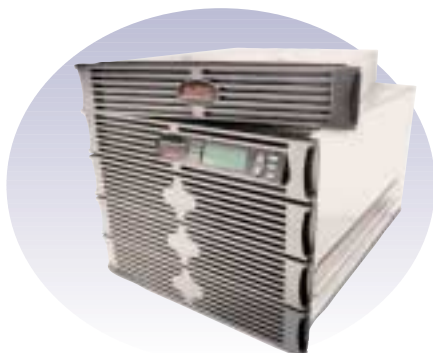
The Symmetra RM 2-6 kVA units and Symmetra RM Extended Run solutions are designed to blend with your IT environment. By using the Optional Floor-mount Kit (part # SYOPT1) with included castors, the unit can be converted to a freestanding, movable unit, allowing flexibility as your needs change.



*Symmetra RM 8-12kVA  
N+1 (or 16kVA N only)*



*Symmetra RM  
2-6kVA N+1*



### Symmetra RM 5kVA Step-down Transformer (Part #SYTF2)

The Step-down Transformer converts 208 VAC output into 120 VAC output for powering computer loads in North and South America. It also acts as a Rackmount PDU solution by providing 12 NEMA 5-15/5-20 receptacles. One SYTF2 can be placed in each rack with 120V equipment, being protected by Symmetra RM units. The Step-down Transformer (SYTF2) is color-matched to the new Symmetra Rack-mount. The Step-down Transformer can be purchased as a bundle with the Symmetra RM by ordering -P1 or -P2 part numbers. It can also be purchased separately by ordering SYTF2. A 15-foot line cord is also available for the SYTF2 by ordering SYOPT9.

*Symmetra RM 2-6kVA, with optional Step-Down Transformer on top*

# Symmetra Rack-mount Accessories and Option Kits

## Extended Run Options

Voltage (in)	Product Information	Part No:
208 or 240	RM Extended Run cabinet, holds up to (4) SYBT2 Battery Modules	SYRMXR4
	RM Extended Run cabinet, pre-populated with (2) SYBT2 Battery Modules	SYRMXR2B4
	RM Extended Run cabinet, pre-populated with (4) SYBT2 Battery Modules	SYRMXR4B4
	Battery Module for 2-6kVA RM models	SYBT2
	Battery Module for 8-12kVA RM models	SYBT3
	15ft Extender Cable from RM models to SYXR4-BM or SYXR12-BM	SYOPT3
	4ft Extender Cable from RM Models to SYRMXR4	SYOPT4
220/230/240	RM Extended Run cabinet, holds up to (4) SYBT2 Battery Modules	SYRMXR4I
	RM Extended Run cabinet, pre-populated with (2) SYBT2 Battery Modules	SYRMXR2B4I
	RM Extended Run cabinet, pre-populated with (4) SYBT2 Battery Modules	SYRMXR4B4I
	Battery Module for 2-6kVA RM models	SYBT2
	Battery Module for 8-12kVA RM models	SYBT3
	15ft Extender Cable from RM models to SYXR4I-BM or SYXR12I-BM	SYOPT3I
	4ft Extender Cable from RM Models to SYRMXR4I	SYOPT4I
200	RM Extended Run cabinet, holds up to (4) SYBT2 Battery Modules	SYRMXR4J
	RM Extended Run cabinet, pre-populated with (2) SYBT2 Battery Modules	SYRMXR2B4J
	RM Extended Run cabinet, pre-populated with (4) SYBT2 Battery Modules	SYRMXR4B4J
	Battery Module for 2-6kVA RM models (Japan only)	SYBT2FR



*Symmetra RM 4U Rackmount Battery Cabinet*

4-Bay Cabinet Specifications:
Dimensions: 19.3x24x27" (49x61x69cm)
Weights: (fully configured) Net: 324lb/147.3kg Shipping: 384lb/174.5kg

## Mounting Options

Product Information	Part No:
Floor Mount Kit for 8U rack-mount models (includes caster kit - SYOPT11)	SYOPT1
4U Extension for SYOPT1 for RM Extended Run Frame	SYOPT2
2U Extension of SYOPT1 for SYTF2	SYOPT10
Caster Kit for 2-6kVA models	SYOPT11
2-Post rack-mounting Kit for Symmetra RM 2-6kVA or 4U RM XR frame (see SYOPT8 for "-P1" models)	SYOPT6
2-Post rack-mounting Kit for Symmetra RM Step-down Transformer (SYTF2 or SYTF2J)	SYOPT7
2-Post rack-mounting Kit for Symmetra RM 2-6kVA (208V/120V output models only. Bundle of SYOPT6 and SYOPT7)	SYOPT8



*Symmetra RM 2-6kVA shown with Floor-mount Kit (SYOPT1).*

## Backplate and Power Distribution Unit (PDU) Options

Voltage (in)	Product Information	Part No:
208 or 240 V	Backplate with (8) IEC 320 C13 & (2) IEC 320 C19 receptacles and jumper cables (use 1 for 2-6kVA models and up to 3 with 8-12kVA models)	SYPD5
	Output Hardwiring Kit for 2-6kVA models	SYPD6
	Backplate with (3) L6-20R (use 1 for 2-6kVA models and up to 3 with 8-12kVA models)	SYPD7
220/230/240V	Output Hardwiring Kit for 2-6kVA models	SYPD9

## Other Accessories

Voltage (in)	Product Information	Part No:
208 or 240 V	Step-down transformer	SYTF2
	15 ft Input line cord for SYTF2	SYOPT9
200 V	Step-down transformer	SYTF2J

**Symmetra™ Rack-mount Product Specifications**

Regional availability: North America; South America; Japan\*

Regional availability: Middle East; Asia; Africa; Australia; South America

Symmetra Rack-mount	208 VAC (Output)			120; 208 VAC (Output)			220; 230; 240 VAC (Output)		
System Part No.	SYH2K6RMT	SYH4K6RMT	SYH6K6RMT	SYH2K6RMT-P1	SYH4K6RMT-P1	SYH6K6RMT-P1	SYH2K6RMI	SYH4K6RMI	SYH6K6RMI
200/100V System Part No.*	SYH2K6RMJ	SYH4K6RMJ	SYH6K6RMJ	SYH2K6RMJ-P1	SYH4K6RMJ-P1	SYH6K6RMJ-P1			
<b>Output</b>									
Capacity	2kVA/1.4kW	4kVA/2.8kW	6kVA/4.2kW	2kVA/1.4kW	4kVA/2.8kW	6kVA/4.2kW	2kVA/1.4kW	4kVA/2.8kW	6kVA/4.2kW
Output Voltage	208 (240 configurable)			120; 208			220; 230; 240		
Max Configurable Power with additional Power Modules*	6kVA/4.2kW			6kVA/4.2kW (max 5kVA of 120VAC)*			6kVA/4.2kW		
Output Connections	(2) NEMA L6-20R, (1) NEMA L6-30R			(2) NEMA L6-20R, (12) NEMA 5-20R**			(8) IEC 320 C13; (2) IEC 320 C19		
Efficiency at full load	89%			85%			89%		
By pass	Internal Bypass (Automatic & Manual)								
Output voltage Distortion	typically <5% at full load (linear or non-linear)								
Output frequency (synched to mains)	57-63 Hz*						47-53 Hz		
Output frequency (not synched)	60 Hz*						50 Hz		
Crest Factor	up to 5:1								
<b>Input</b>									
Nominal input Voltage	208 or 240 (200 for "J" models)			208			220; 230 ; 240		
Input Frequency	50/60 Hz +/- 5 Hz (auto-sensing)								
Input Connection	NEMA L6-30P						Hardwire (3-wire)		
Input Voltage range	155-276 V at 100% load								
Input Power Factor at full load	0.98								
Battery Type	Maintenance-free, sealed lead-acid battery with suspended electrolyte; leakproof.								
Typical recharge time	4 hours								
Replacement Battery Module*	(1) SYBT2	(2) SYBT2	(3) SYBT2	(1) SYBT2	(2) SYBT2	(3) SYBT2	(1) SYBT2	(2) SYBT2	(3) SYBT2
Interface port	DB-9; RS-232; Smart-Slot Card (2)								
Management Software included	PowerChute Network Shutdown; Web/SNMP Management Card ships standard with each unit								
Control panel	Multi-function LCD status & control console in multiple languages								
Audible Alarm	Alarm when on-battery; distinctive low battery alarm; configurable delays								
Emergency Power Off (EPO)	Yes								
Power Module Bays (total/filled)	4/1	4/2	4/3	4/1	4/2	4/3	4/1	4/2	4/3
Battery Module Bays (total/filled)	3/1	3/2	3/3	3/1	3/2	3/3	3/1	3/2	3/3
Dimensions HxWxD*** (in/cm)	8U/14x19x27.25in /35.6x48.3x69.2cm			10U/17.5x19x27.25in/44.5x48.3x69.2cm			8U/14x19x27.25in/35.6x48.3x69.2cm		
Weight net (lbs/kg)	164lb/74.5kg	229lb/104.1kg	294lbs/133.6kg	259lb/118kg	324lb/155kg	389lb/177kg	164lb/74.5kg	229lb/104.1kg	294lbs/133.6kg
Weight shipping	185lb/84.1kg	256lb/116.4kg	327lb/148kg	295lb/134kg	366lb/166kg	437lb/199kg	185lb/84.1kg	256lb/116.4kg	327lb/148kg
Operating Temperature	0-40 C/ 32-104 F								
Operating Relative humidity	0-95%								
Operating Elevation	0-10000 feet/ 0-3000m								
Storage Temperature	-15 to 45C/ 5 to 113F								
Storage Relative Humidity	0-95%								
Storage Elevation	0-50,000 feet/0-15,000m								
Audible noise at 3 feet (1 m)	60dBA								
On-line thermal dissipation (BTU/hr)	590	1181	1771	843	1686	2529	590	1181	2529
Approvals	CSA; FCC A; UL 1778						C-tick; EN 50091-2; VDE		
Warranty	2 years, repair or replace (1 year for battery modules in India)								
"T" level for Service Option pricing	T6	T6	T6	T6	T6	T6	T8	T8	T8

\* These units are for our Japanese customers whose input voltage is 200Volts. The following specifications supercede the above, unless otherwise noted all other specifications remain the same. Max Configurable Power: 3.5kVA of 100VAC for -P1 units; Output frequency (synch'd to mains): 57-63Hz or 47-53Hz; Output frequency (not synch'd to mains): 60 or 50Hz; Replacement Battery Module: SYBT2FR.

\*\*Also referred to as 5-20RA (Canada) or T-Slot, and can be used as both 5-15R or 5-20R.

\*\*\*Depth is measured from the front rail to the rear of the unit.

# Symmetra™ Rack-mount Product Specifications

Regional availability: North America; South America

Regional availability: Middle East; Asia; Africa; Australia; South America

Symmetra Rack-mount	208 VAC (Output)			120; 208 VAC (Output)		220; 230; 240 VAC (Output)	
System Part No.	SYP8K12RMT	SYP12K12RMT	SYP8K12RMT-P1	SYP12K12RMT-P1	SYP12K12RMT-P2	SYP8K12RMI	SYP12K12RMI
<b>Output</b>							
Capacity	8kVA/5.6kW	12kVA/8.4kW	8kVA/5.6kW	12kVA/8.4kW	12kVA/8.4kW	8kVA/5.6kW	12kVA/8.4kW
Family	Symmetra RM						
Output Voltage	208 (240 configurable)			120/208V		220,230,240V	
Max Configurable Power with additional Power Modules	12kVA/8.4kW (N+1), 16kVA/11.2 kW (N only)						
Output Connections	(6) NEMA L6-20R, (3) NEMA L6-30R, Hardwiring	(6) NEMA L6-20R, (2) NEMA L6-30R, 12 NEMA 5-20R*, Hardwiring			(6) NEMA L6-20R, (1) NEMA L6-30R, 24 NEMA 5-20R*, Hardwiring	(24) IEC 320 C13; (6) IEC 320 C19	
Efficiency at full load	91%			87%		91%	
By pass	Internal Bypass (Automatic & Manual)						
Output voltage Distortion	typically <5% at full load (linear or non-linear)						
Output frequency (synched to mains)	57-63Hz					47-53%	
Output frequency (not synched)	60Hz					50 Hz	
Crest Factor	up to 5:1						
<b>Input</b>							
Nominal input Voltage	208 or 240			208		220,230,240V	
Input Frequency	50/60 Hz +/- 5Hz. (auto sensing)						
Input Connection	Hardwire (3-wire)						
Input Voltage range	155-276V						
Input Power Factor at full load	0.98						
Battery Type	Maintenance - free, sealed lead acid battery with suspended electrolyte, leakproof						
Typical recharge time	3 hrs.						
Replacement Battery Cartridge	(2) SYBT3	(3) SYBT3	(2) SYBT3	(3) SYBT3	(3) SYBT3	(2) SYBT3	(3) SYBT3
Interface port	DB-9; RS-232; Smart-Slot Card (2)						
Management Software included	PowerChute Network Shutdown, Web/SNMP Management Card ships standard						
Control panel	Multi-function LCD status & control console in Multiple Languages						
Audible Alarm	Alarm when on-battery; distinctive low battery alarm; configurable delays						
Emergency Power Off (EPO)	Yes						
Power Module Bays (total/filled)	4/2	4/3	4/2	4/3	4/3	4/2	4/3
Battery Module Bays (total/filled)	4/2	4/3	4/2	4/3	4/3	4/2	4/3
Dimensions HxWxD** (in/cm)	15U/26.25x19x27.2" 66.7x48.3x69.1cm		17U/29.75x19x27.2" 75.75x48.3x69.1cm		19U/33.25x19x27.2" 84.46x48.3x69.1cm		15U/26.25x19x27.2" 66.7x48.3x69.1cm
Weight net (lbs)	358	452	453	547	642	358	452
Weight shipping	398	492	503	597	692	398	492
Operating Temperature	0-40 C/32 - 104 F						
Operating Relative humidity	0-95%						
Operating Elevation	0-10000 feet/0-3000m						
Storage Temperature	-15 to 45C/5 to 113F						
Storage Relative Humidity	0-95%						
Storage Elevation	0-50,000 ft/0-15,000m						
Audible noise at 3 feet (1 m)	62dBA						
On-line thermal dissipation (BTU/hr)	1889	2834	2855	4282	4282	1889	2834
Approvals	CSA; FCC A; UL 1778					C-tick; EN 50091-2;VDE	
Warranty	2 years, repair or replace(1 year for battery modules in India)						
"T" level for Service Option pricing	T7	T7	T7	T7	T7	T9	T9

\*Also referred to as 5-20RA (Canada) or T-Slot, and can be used as both 5-15R or 5-20R.

\*\*Depth is measured from the front rail to the rear of the unit.

# Symmetra Rack-mount 2-12kVA Configuration Guide

## Step 1

Use your input and output requirements to determine the correct Symmetra product family.

Input/Output considerations					
Input voltage	208/240VAC	208/240VAC	230VAC	100/200VAC	100/200VAC
Output voltage	208/240VAC	120/208/240VAC	230VAC	200VAC	200VAC
Input/Output frequency	60 Hz	60 Hz	50/60 Hz	60 Hz	60 Hz
Output connections	Outlets only	Outlets only	Outlets only	Outlets only	Outlets only

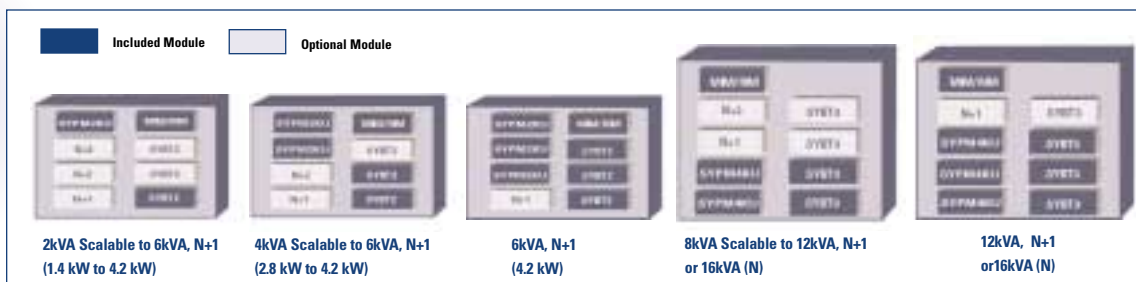
## Step 2

Determine the part number based on your current and future load requirements.

Current kVA	Future kVA					
2	6	SYH2K6RMT	SYH2K6RMT-P1	SYH2K6RMI	SYH2K6RMJ	SYH2K6RMJ-P1
4	6	SYH4K6RMT	SYH4K6RMT-P1	SYH4K6RMI	SYH4K6RMJ	SYH4K6RMJ-P1
6	6	SYH6K6RMT	SYH6K6RMT-P1	SYH6K6RMI	SYH6K6RMJ	SYH6K6RMJ-P1
More info on page		16	16	16	16	16
8	12	SYP8K12RMT	SYP8K12RMT-P1	SYP8K12RMI		
12	12	SYP12K12RMT	SYP12K12RMT-P2	SYP12K12RMI		
More info on page		17	17	17		

## Step 3

Add redundancy (N+1): Purchase an additional Power Module (SYPM2KU or SYPM4KU).



## Step 4 Select appropriate runtime for your application.

Unit → scalable to	Load kVA/kW	Standard configuration	Std + (1) SYBT2*	Std + (2) SYBT2*	Std + (1) SYRMXR4B4*	Std + (2) SYRMXR4B4*	Std + (3) SYRMXR4B4*	Std +(4) SYRMXR4B4*
2 (1.4) → 6 (4.2) kVA (kW)	2/1.4	12m	31m	51m	1.5h	3h	4.5h	6h
4 → 6 kVA (2.8 → 4.2 kW)	2/1.4	29m	48m	1.1h	1.8h	3.2h	4.6h	6.1h
	4/2.8	12m	22m	31m	52m	1.5h	2.3h	3h
6kVA (4.2kW)	2/1.4	46m	1.1h**	n/a	2h	3.4h	4.7h	6.2h
	4/2.8	21m	30m**	n/a	1h	1.7h	2.4h	3.1h
	6/4.2	12m	19m**	n/a	38m	1.1h	1.6h	2.1h
Unit → scalable to	Load kVA/kW	Standard configuration	Std + (1) SYBT3*	Std + (2) SYBT3*	Std + (1) SYRMXR4B4*	Std + (2) SYRMXR4B4*	Std + (3) SYRMXR4B4*	Std + (4) SYRMXR4B4*
8 → 16kVA (5.6 → 11.2kW)	4/2.8	15m	27m	40m	51m	1.5h	2.2h	3h
	6/4.2	8m	15m	26m	31m	58m	1.4h	1.9h
	8/5.6	5m	10m	16m	21m	40m	1h	1.3h
12 → 16kVA (8.4 → 11.2kW)	4/2.8	26m	38m	n/a	1h	1.7h	2.4h	3.1h
	8/5.6	10m	15m	n/a	27m	46m	1.1h	1.4h
	12/8.4	5m	8m	n/a	15m	27m	40m	54m

\* Note: See page 15 for correct extended run model number based on input voltage.

\*\* Not applicable for N+1 configuration.

## Step 5

Determine Manageability and Accessory requirements (see page 9)

- SmartSlot Accessory (only 1 additional)  
 Other Options       PDUs

## Step 6

Determine Serviceability requirements (see page 19)

- Extended Warranty       On-Site Service  
 System Start-up       Network Integration