

MODULYS XS From 2.5 to 20 kVA









OBJECTIVES

The aim of these specifications is to provide:

- The information required to choose the right uninterruptible power supply for a specific application.
- The information required to prepare the system and installation site.

The specifications are intended for:

- Installation engineers.
- Design engineers.
- Engineering consultants.

INSTALLATION REQUIREMENTS AND PROTECTION

Connection to the mains power supply and to the load(s) must be made using cables of suitable size, in accordance with current standards. If not already present, an electrical distribution panel which can isolate the network upstream of the UPS must be installed. This electrical distribution panel must be equipped with a protection device (or two, if there is a separate bypass line) of an appropriate rating for the power drawn at full load.

For detailed information, see the installation and operating manual.



1. ARCHITECTURE

1.1 RANGE

MODULYS XS is a full range of high performing UPS system designed to:

- ensure 24/7/365 availability and business continuity for mission critical applications
- avoid data losses and downtime of company operations,
- reduce the electrical infrastructure's total cost of ownership,
- adopt a sustainable development approach.

MODULYS XS										
Module power		2.5 (kVA/kW) 5.0 (kVA/								
Phase in / phase out		1/1 1/1 and 3/1								
Number of power modules	1	2 3 4 1 2 3								
System Rated power (kVA/kW)	2.5	5	7.5	10	5	10	15	20		
MC6	•	•	•	•	•					
MC9	•	•	•	•	• • • •					
RM3	•	•	•		•	•	•			
RM4	•	•	•	•	•	•	•	•		
TC3	TC3 • • • • • •									
Matrix table for model and kVA powe	er rating									

MODULYS XS has been specifically designed to meet the demands of loads in specific application contexts, in order to optimise the features of the product and facilitate its integration within the system.



2. FLEXIBILITY

2.1 POWER RATINGS FROM 2.5 TO 20 kVA/kW

The equipment has been designed with a minimum direct and indirect footprint (the actual space occupied by the unit and the space required around it for maintenance, ventilation and access to the operating mechanisms and communication devices).

The detailed design also provides easy access for maintenance and installation.

The air inlet is on the front, with outflow from the rear side; this means other equipment or external battery enclosures can be placed alongside the UPS unit.

MODULYS XS MC	;				
	Dimensions	Width [mm]	Depth [mm]	Height [mm]	weight (kg)
MC6	Dimensions MC6 MC9 UYS XS RM	550	635	1060	90
MC9		550	635	1460	120
MODULYS XS RM					
RM3		449 (19")	570	575	44
RM4		449 (19")	570	708	50



	Dimensions	Width [mm]	Depth [mm]	Height [mm]	weight (kg)	
MODULYS XS TC	3					VA
TC3		600	600	1400	140	MODULYS XS From 2.5 to 20 k

ADDITIONAL MODULE

MODULYS XS Por	wer Module							
2.5 kW Power Module		446	475	131	14			
5 kW Module		446	475	131	18			
MODULYS XS Ba	ttery Module							
Battery Module		446	475	131	10			
Battery Pack long life		100	330	115	9			
Battery Pack normal life		100	330	115	9			
Battery for TC3 100 Ah		Mount	Mounted inside the TC3 cabinet					



2.2 FLEXIBLE BACK-UP TIME

Different extended back-up times are possible by using battery modules with a enhanced battery charger. Selection of the back-up time is flexible thanks to the wide range of battery packs.

2.2.1 MODULYS XS (MC systems)

Back up time in minutes @ typical load

System powe	r (kVA/kW)	2.5	5	7.5	10		5	10	15	20
Module Rated	d power	2	2.5 (k\	/A/kW	()			5 (kV	A/kW)	
	2	8	C	onsult						
	3	14			45			-		
	4	21	8	-			8	_		
	5	27	11		1		12	C	onsult	us
	6	35	14	8	-	2	14		onourt	
	7	42	17	10		10	17		1	
	8	49	21	12	8	MC-6/MC-9	21	8		
	9	57	24	14	10		24	10		
	10	65	27	16	11	NO	28	12		
	11	73	31	18	13	Ĭ	31	13		
	12	81	35	21	14	U	35	14	8	
	13	90	38	23	16		38	16	9	
	14	98	42	25	17		42	17	10	
	15	105	46	27	19		46	19	12	
	16	114	49	30	21		49	21	12	8
Battery pack	17	123	52	32	23		53	23	13	9
number	18	132	57	35	24		57	24	14	10
	19	140	61	37	25		61	26	16	11
	20	148	65	39	27		66	28	17	12
	21	157	69	42	29		69	29	17	
	22	167	73	44	31		73	31	19	
	23	176	76	47	33		77	33	20	
	24	185	81	49	35	2	81	35	21	
	25	194	86	51	36	MC-9	86	36		
	26	202	90	54	38	Ĭ	90	38		
	27	209	94	57	40		94	40	-	
	28	220	98	60	42		98	42		
[29	229	101	63			102			
	30	30 238 105 65 105 Cons			onsult					
	31	248	109				109		onsuit	us
	32	256	114				114			
	33	264	<u> </u>	onsult						
	34	272		onsuit	u5					

Typical load = 70% Pn



2.2.2 MODULYS XS (RM systems)

Back up time in minutes @ typical load

System powe	er (kVA/kW)	2.5	5	7.5	10		5	10	15	20	
Module Rate	d power	2	2.5 (k\	/A/kW	7)		5 (kVA/kW)				
	2	8				-					
	3	14		_		RM-3/RM-4					
	4	21	8	Conc	ult us	<u>.</u>	8				
	5	27	11	COIIS		3/1	12				
	6	35	14	8		R	14				
Potton (pool	7	42	17	10			17		-		
Battery pack number	8	49	21	12	8	4	21	8	Cons	ult us	
number	9	57	24	14			24				
	10	65	27	16		-	28				
	73	31	Cons	ult us	RM-4	31					
	12	81	35	CONS	un us		35				
	13	90				4					
	14	98									

Typical load = 70% Pn

2.2.3 MODULYS XS (TC System)

Back up time in minutes @ typical load

System powe	ər	2.5	5	7.5	5	10	15
Module Ra (kVA/kW)	ited power	2.5	(kVA/	kW)	5 (kVA/k	W)
Battery	100 Ah	118	50	28	50	19	10
Capacity	200 Ah	271	118	72	118	50	28

Typical load = 70% Pn



3. STANDARD FEATURES AND OPTIONS

Availability

O Available as option (installation on site)

STD Standard feature

	MC	RM	тс	Notes
Communication Option				
ADC+SL card (Advanced Dry Contact + Serial Link)	0	0	0	
External temperature sensor	0	0	0	ADC+SL card
Remote touchscreen display	0	0	0	ADC+SL card
BACnet/IP interface card	0	0	0	
Modbus TCP interface card	0	0	0	
Net Vision card (professional WEB/SNMP interface for UPS	0	0	0	
monitoring) EMD				
(Environmental Monitoring Device: tempera- ture, humidity, 2 dry contacts)	0	0	0	Net Vision card
Electrical Option				
Dual Input	STD	STD	STD	
Tropicalization	STD	STD	STD	
External maintenance bypass	0	0	0	

Required option



4. SPECIFICATIONS MC6 / MC9

4.1 INSTALLATION PARAMETERS

Installation parame	nters									
System Rated power (kV	/A/kW)		2.5	5	7.5	10	5	10	15	20
Module Rated power (kV	/A/kW)			2	.5			Į	ō	
Number of Modules			1	2	3	4	1	2	3	4
Phase in/out			1,	/1			1/1 c	or 3/1		
Active power		kW	2.5	5	7.5	10	5	10	15	20
Rated/maximum rectifier input currer (EN 62040-3)		А	12/15	24/30	36/44	47/59	24/30	47/59	71/87	95/118
Rated bypass input curre	ent (1)	А	11	22	33	44	22	44	65	87
Inverter output current @	230 V Pn	А	11	22	33	44	22	44	65	87
Recommended air flow o	m³/h	160	320	480	640	240	480	720	960	
Acoustic noise @ 70% P	Acoustic noise @ 70% Pn			46	49	52	45	48	51	54
		W	220	440	660	880	420	840	1260	1680
Power dissipation in non	ninal conditions	kcal/h	189	378	567	757	361	722	1083	1445
		BTU/h	751	1501	2252	3003	1433	2866	720 9 51 5 1260 16 1083 14 5 4299 57 1440 19 1238 16	5732
	、 · · · ·	W	250	500	750	1000	480	960	1440	1920
Power dissipation (max conditions ⁽³⁾	in the worst	kcal/h	215	430	645	860	413	825	1238	1651
		BTU/h	853	1706	2559	3412	1638	3276	4913	6551
	Width	mm				55	50			
Dimensions MC6/MC9	C6/MC9 Depth mm 635									
	Height	mm				1060,	/ 1460			
Single unit Clearances	Operational	mm				Rear 300	0 lateral 0			
Single unit Clearances	Maintenance	mm				Front 100	0 top 800			
Weight MC6/MC9		kg				90 /	120			

1. Considering nominal bypass current calculated @ 230 V, considering a continuos overload of 110%.

2. Considering nominal input current (230 V, battery charged) and rated output active power.

3. Considering maximum input current (low input voltage, battery charged) and rated output active power.

4.2 ELECTRICAL CHARACTERISTICS

Electrical characteristics - Rectifie	r Inpu	ıt									
System Rated power (kVA/kW)		2.5	5	7.5	10	5	10	15	20		
Module Rated power (kVA/kW)			2	.5			Į	5			
Number of Modules		1	2	3	4	1	2	3	4		
Rated mains supply voltage	V		230 1	oh + N				oh + N oh + N			
Voltage tolerance	V		320 to 48						76 (±20%) 80 (±20%)		
Voltage tolerance at derated load	V	up to 150 @ 70% of nominal load					up to 150 1ph + N up to 260 3ph + N @ 70% of nominal load				
Rated frequency	Hz				50,	/60					
Frequency tolerance					±1	0%					
Current Total harmonic distortion (THDi)			≤ 6% ≤ 5.4%					.4%			
Power factor (at full load and rated volt-age)		≥ 0.98									
Max inrush current at start-up					<	In					



System Rated power (kVA/kW)	2.5	5	7.5	10	5	10	15	20
Module Rated power (kVA/kW)		2	.5		5			
Number of Modules	1	2	3	4	1	2	3	4

Electrical characteristics - Bypass									
Bypass frequency variation speed	Hz/s		1 Hz/s						
Bypass rated voltage			Nominal output voltage ±15%						
Bypass rated frequency	Hz	50/60 Hz (selectable)							
Bypass frequency tolerance		±2% (±8% with genset)							
	5 min	13	25	38	51	25	51	77	100
Bypass current overload (A)	1 min	15	30	44	59	30	59	88	117
	20 sec	19	39	59	79	39	79	117	156

Electrical characteristics -Inverter									
Rated output voltage	V		208 ⁽¹⁾ /220/230/240 (selectable)						
Output voltage tolerance			Static: ±3% VFI-SS (EN 62040-3 compliant)						
Rated output frequency	Hz		50/60 Hz (selectable)						
Output frequency tolerance		$\pm 0.1\%$ on mains power failure							
Load crest factor		≥ 2.3							
Voltage total harmonic distortion THDV				<	3.5% witl	n linear lo	ad		
Invertex averteed (AAA) in permet mode	5 min	2.75	5.5	8.25	11	5.5	11	16.5	22
Inverter overload (kW) in normal mode	10 sec	3.25	6.5	9.75	13	6.5	13	19.5	26
Short-circuit inverter current (A) (when AUX MAINS is not present)	0 to 60 ms	25	50	75	100	50	100	150	200

Electrical characteristics - Efficiency							
Double conversion efficiency	up to 92.8%						
EcoMode efficiency	99%						

Electrical characteristics - Environ	Electrical characteristics - Environment									
Storage temperatures	°C	-5 to +50 (15 to 25 for better battery life)								
Working temperature	°C	0 to +40 (15 to 25 for better battery life)								
Maximum relative humidity (non-condensing)		95%								
Maximum altitude without derating	m (ft)	1000 (3300)								
Degree of protection		IP20								
Colour		RAL 7016								

Electrical characteristics - Battery		
Standard max. recharge current	А	2.4 per Battery Module

1. Up to 90% Pn



4.3 RECOMMENDED PROTECTIONS

System Rated power (kVA/kW)		2.5	5	7.5	10	5	10	15	20
Module Rated power (kVA/kW)				.5		5			
Number of Modules		1	2	3	4	1	2	3	4
RECOMMENDED PROTECTION DE	EVICES - I	Rectifie	r ⁽¹⁾						
C curve circuit breaker (1ph/3ph)	А	16	32	50	63	32/13	63/26	100/32	125/50
gG fuse (1ph/3ph)	А	16	32	50	63	32/12	63/25	100/32	125/50
RECOMMENDED PROTECTION DE	EVICES - (General	bypass	(2)					
Conditional short circuit current rating (lcc)	kA		1	0			1	0	
C curve circuit breaker	А	16	32	40	63	32	63	100	125
gG fuse	А	16	32	40	63	32	63	100	125
RECOMMENDED PROTECTION DE	EVICES - I	nput re	sidual c	urrent	circuit (l	RCD) br	eaker ⁽³)	
Input residual current circuit breaker	А			0.	1 A Seleo	ctive type	В		
RECOMMENDED PROTECTION DE	EVICES - (Output (4)						
C curve circuit breaker (3)	А	2	4	6	8	4	8	13	16
B curve circuit breaker (3)	А	4	8	12	16	8	16	25	32
CABLES - Maximum cable section	(5)								
Rectifier terminals	mm				5	i0			
Bypass terminals	mm		50						

1. Rectifier protection should only be considered in the event of separate inputs. Recommended values to avoid unwanted tripping with UPS at full power. When the bypass and rectifier inputs are combined (common input), the general input protection rating must be the highest of the two (bypass or rectifier).

2x 95 50

mm

mm

2. Recommended values to avoid unwanted tripping with UPS at full power. When the bypass and rectifier inputs are combined (common input), the general input protection rating must be the highest of the two (bypass or rectifier).

3. RCD is not necessary when the UPS is installed in a TN-S system. RCD is not permitted on TN-C systems. If an RCD is required a B-type should be used. Must be coordinate with residual current circuit breakers downstream of the UPS connected to the UPS output.

4. Protection tripping downstream of the UPS with inverter short circuit current (Worst case = AUX MAINS not present). In the Normal case, with AUX MAINS present, fault clearing is determined by the Mains short-circuit capability.

5. Use cable with tin-plated eyelets for the connection



Battery terminals (5)

Output terminals

5. SPECIFICATIONS RM3 / RM4

5.1 INSTALLATION PARAMETERS

Installation parame	Installation paramenters										
RM3 System Rated pow	ver (kVA/kW)		2.5	5	7.5		5	10	15		
RM4 System Rated pow	ver (kVA/kW)		2.5	5	7.5	10	5	10	15	20	
Module Rated power (kv	/A/kW)			2	.5			Ę	5		
Number of Modules			1	2	3	4	1	2	3	4	
Phase in/out				1,	/1			1/1 c	or 3/1		
Active power		kW	2.5	5	7.5	10	5	10	15	20	
Rated/maximum rectifie (EN 62040-3)	r input current	А	12/15	24/30	36/44	47/59	24/30	47/59	71/87	95/118	
Rated bypass input curre	ent (1)	А	11	22	33	44	22	44	65	87	
Inverter output current @ 230 V Pn		А	11	22	33	44	22	44	65	87	
Recommended air flow o	capacity	m³/h	160	320	480	640	240	480	720	960	
Acoustic noise @ 70% P	n	dBA	43	46	49	52	45	48	51	54	
		W	220	440	660	880	420	840	1260	1680	
Power dissipation in nomi	nal conditions (2)	kcal/h	189	378	567	757	361	722	1083	1445	
		BTU/h	751	1501	2252	3003	1433	2866	4299	5732	
	、	W	250	500	750	1000	480	960	1440	1920	
Power dissipation (max conditions ⁽³⁾) in the worst	kcal/h	215	430	645	860	413	825	1238	1651	
		BTU/h	853	1706	2559	3412	1638	3276	4913	6551	
	Width	mm	449								
Dimensions RM3/RM4	Depth	mm				57	70				
	mm	575 / 708									
Weight		kg				44 ,	/ 50				

1. Considering nominal bypass current calculated @ 230 V, considering a continuos overload of 110%.

2. Considering nominal input current (230 V, battery charged) and rated output active power.

3. Considering maximum input current (low input voltage, battery charged) and rated output active power.

5.2 ELECTRICAL CHARACTERISTICS

Electrical characteristics - Rectifie	er Inpu	ıt							
RM3 System Rated power (kVA/kW)		2.5	5	7.5		5	10	15	
RM4 System Rated power (kVA/kW)		2.5	5	7.5	10	5	10	15	20
Module Rated power (kVA/kW)			2	.5			ļ	5	
Number of Modules		1	2	3	4	1	2	3	4
Rated mains supply voltage	V	230 1ph + N 400 3ph + N							
Voltage tolerance	V	184 to 276 (±20%) 184 to 276 (±20%) 320 to 480 (±20%) 320 to 480 (±20%)							
Voltage tolerance at derated load	V	a		o 150 nominal loa	ad	up to 150 1ph + N up to 260 3ph + N @ 70% of nominal load			
Rated frequency	Hz				50,	/60			
Frequency tolerance					±1	0%			
Current Total harmonic distortion (THDi)		≤ 6% ≤ 5.4%							
Power factor (at full load and rated voltage)		≥ 0.98							
Max inrush current at start-up					<	In			



RM3 System Rated power (kVA/kW)	2.5	5	7.5		5	10	15			
RM4 System Rated power (kVA/kW)	2.5	5	7.5	10	5	10	15	20		
Module Rated power (kVA/kW)		2	.5		5					
Number of Modules	1	2	3	4	1	2	3	4		

Electrical characteristics - Bypass									
Bypass frequency variation speed	Hz/s		1 Hz/s						
Bypass rated voltage			Nominal output voltage ±15%						
Bypass rated frequency	Hz	50/60 Hz (selectable)							
Bypass frequency tolerance		±2% (±8% with genset)							
	5 min	13	25	38	51	25	51	77	100
Bypass current overload (A)	1 min	15	30	44	59	30	59	88	117
	20 sec	19	39	59	79	39	79	117	156

Electrical characteristics -Inverter									
Rated output voltage	V		208 ⁽¹⁾ /220/230/240 (selectable)						
Output voltage tolerance			Static: ±3% VFI-SS (EN 62040-3 compliant)						
Rated output frequency	Hz		50/60 Hz (selectable)						
Output frequency tolerance		$\pm 0.1\%$ on mains power failure							
Load crest factor		≥ 2.3							
Voltage total harmonic distortion THDV				<	3.5% with	n linear lo	ad		
	5 min	2.75	5.5	8.25	11	5.5	11	16.5	22
Inverter overload (kW)	10 sec	3.25	6.5	9.75	13	6.5	13	19.5	26
Short-circuit inverter current (A) (when AUX MAINS is not present)	0 to 60 ms	25	50	75	100	50	100	150	200

Electrical characteristics - Efficiency						
Double conversion efficiency	up to 92.8%					
EcoMode efficiency	99%					

Electrical characteristics - Environment									
Storage temperatures	°C	-5 to +50 (15 to 25 for better battery life)							
Working temperature	°C	0 to +40 (15 to 25 for better battery life)							
Maximum relative humidity (non-condensing)		95%							
Maximum altitude without derating	m (ft)	1000 (3300)							
Degree of protection		IP20							
Colour		RAL 7016							

Electrical characteristics - Battery		
Standard max. recharge current	А	2.4 per Battery Module

1. Up to 90% Pn



MODULYS XS From 2.5 to 20 kVA

5.3 RECOMMENDED PROTECTIONS

RM3 System Rated power (kVA/kW)		2.5	5	7.5		5	10	15	
RM4 System Rated power (kVA/kW)		2.5	5	7.5	10	5	10	15	20
Module Rated power (kVA/kW)			2	.5				5	
Number of Modules		1	2	3	4	1	2	3	4
RECOMMENDED PROTECTION DE	EVICES - Rectifier ⁽¹⁾								
C curve circuit breaker (1ph/3ph)	А	16	32	50	63	32/13	63/26	100/32	125/50
gG fuse (1ph/3ph)	А	16	32	50	63	32/12	63/25	100/32	125/50
RECOMMENDED PROTECTION DE	EVICES - (General	bypass	(2)					
Conditional short circuit current rating (Icc)	kA		1	0			1	0	
C curve circuit breaker	А	16	32	40	63	32	63	100	125
gG fuse	А	16	32	40	63	32	63	100	125
RECOMMENDED PROTECTION DE	EVICES - I	nput re	sidual c	urrent o	circuit (I	RCD) br	eaker ⁽³)	
Input residual current circuit breaker	А	-		-		ctive type			
RECOMMENDED PROTECTION DE			(4)						
C curve circuit breaker ⁽³⁾	A A	2	4	6	8	4	8	13	16
B curve circuit breaker ⁽³⁾	A	4	8	12	16	8	16	25	32
	,,		0		10	0	10	20	02
CABLES - Maximum cable section	(5)								
Rectifier terminals	mm				5	0			
Bypass terminals	mm				5	0			
Battery terminals (5)	mm				2x	95			
Output terminals	mm				5	0			

1. Rectifier protection should only be considered in the event of separate inputs. Recommended values to avoid unwanted tripping with UPS at full power. When the bypass and rectifier inputs are combined (common input), the general input protection rating must be the highest of the two (bypass or rectifier).

2. Recommended values to avoid unwanted tripping with UPS at full power. When the bypass and rectifier inputs are combined (common input), the general input protection rating must be the highest of the two (bypass or rectifier).

3. RCD is not necessary when the UPS is installed in a TN-S system. RCD is not permitted on TN-C systems. If an RCD is required a B-type should be used. Must be coordinate with residual current circuit breakers downstream of the UPS connected to the UPS output.

4. Protection tripping downstream of the UPS with inverter short circuit current (Worst case = AUX MAINS not present). In the Normal case, with AUX MAINS present, fault clearing is determined by the Mains short-circuit capability.

5. Use cable with tin-plated eyelets for the connection



6. SPECIFICATIONS TC3

6.1 INSTALLATION PARAMETERS

Installation parame	nters							
System Rated power (k)	/A/kW)		2.5	5	7.5	5	10	15
Module Rated power (k)	/A/kW)			2.5			5	
Number of Modules			1	2	3	1	2	3
Phase in/out				1/1			1/1 or 3/1	
Active power		kW	2.5	5	7.5	5	10	15
Rated/maximum rectifie (EN 62040-3)	er input current	А	12/15	24/30	36/44	24/30	47/59	71/87
Rated bypass input curr	ent (1)	А	11	22	33	22	44	65
Inverter output current @	230 V Pn	А	11	22	33	22	44	65
Recommended air flow	capacity	m³/h	160	320	480	240	480	720
Acoustic noise @ 70% F	'n	dBA	43	46	49	45	48	51
		W	220	440	660	420	840	1260
Power dissipation in nor	ninal conditions	kcal/h	189	378	567	361	722	1083
		BTU/h	751	1501	2252	1433	2866	4299
		W	250	500	750	480	960	1440
Power dissipation (max conditions ⁽³⁾	() in the worst	kcal/h	215	430	645	413	825	1238
		BTU/h	853	1706	2559	1638	3276	4913
	Width	mm			60	00		
Dimensions	Depth	mm			60	00		
	Height	mm			14	00		
Cingle unit Clearan	Operational	mm			Rear 300) lateral 0		
Single unit Clearances	Maintenance	mm			Front 100	0 top 800		
Weight		kg			14	40		

1. Considering nominal bypass current calculated @ 230 V, considering a continuos overload of 110%.

2. Considering nominal input current (230 V, battery charged) and rated output active power.

3. Considering maximum input current (low input voltage, battery charged) and rated output active power.

6.2 ELECTRICAL CHARACTERISTICS

Electrical characteristics - Rectifie	er Inpu	ıt							
System Rated power (kVA/kW)		2.5	5	7.5	5	10	15		
Module Rated power (kVA/kW)			2.5						
Number of Modules		1	2	3	1	2	3		
Rated mains supply voltage	V	23	80 V 1ph +	- N		30 1ph + 00 3ph +	1		
Voltage tolerance	V	184	to 276 (±2	20%)		184 to 276 (±20%) 320 to 480 (±20%)			
Voltage tolerance at derated load	V		ip to 150 6 of nomir		up te	o 150 1ph o 260 3ph 6 of nomir	n + N		
Rated frequency	Hz			50,	/60				
Frequency tolerance				±1	0%				
Current Total harmonic distortion (THDi)			≤6%			≤ 5.4%			
Power factor (at full load and rated voltage)				≥C	.98	98			
Max inrush current at start-up				<	In				







System Rated power (kVA/kW)	2.5	5	7.5	5	10	15
Module Rated power (kVA/kW)		2.5			5	
Number of Modules	1	2	3	1	2	3

Electrical characteristics - Bypass								
Bypass frequency variation speed	Hz/s	Hz/s 1						
Bypass rated voltage			Nomii	hal output	t voltage	±15%		
Bypass rated frequency	Hz	Hz 50/60 (selectable)						
Bypass frequency tolerance			±2	2% (±8%	with gene	set)		
	5 min	13	25	38	25	51	77	
Bypass current overload (A)	1 min	15 30 44 30 59 8					88	
	20 sec	19	39	59	39	79	117	

Electrical characteristics -Inverter								
Rated output voltage	V		208(1)/	220/230/	240 (sele	ctable)		
Output voltage tolerance			Static: ±3% VFI-SS (EN 62040-3 compliant)					
Rated output frequency	Hz			50/60 (se	electable)			
Output frequency tolerance			±0.19	% on mair	ns power	failure		
Load crest factor				≥ 2	2.3			
Voltage total harmonic distortion THDV			<	3.5% with	n linear lo	ad		
Investor overland (1)00	5 min	2.75	5.5	8.25	5.5	11	16.5	
Inverter overload (kW)	10 sec	3.25	6.5	9.75	6.5	13	19.5	
Short-circuit inverter current (A) (when AUX MAINS is not present)	0 to 60 ms	25	50	75	50	100	150	

Electrical characteristics - Efficient	су
Double conversion efficiency	up to 92.8%
EcoMode efficiency	99%

Electrical characteristics - Environment							
Storage temperatures	°C	-5 to +50 (15 to 25 for better battery life)					
Working temperature	°C	0 to +40 (15 to 25 for better battery life)					
Maximum relative humidity (non-condensing)		95%					
Maximum altitude without derating	m (ft)	1000 (3300)					
Degree of protection		IP20					
Colour		RAL 7016					

Electrical characteristics - Battery		
Standard max. recharge current	А	2.4 per Battery Module

1. Up to 90% Pn



6.3 RECOMMENDED PROTECTIONS

System Rated power (kVA/kW)			5	7.5	5	10	15	
Module Rated power (kVA/kW)			2.5			5		
Number of Modules		1	2	3	1	2	3	
RECOMMENDED PROTECTION DE	EVICES - I	Rectifie	r ⁽¹⁾			1		
C curve circuit breaker (1ph/3ph)	А	16	32	50	32/13	63/26	100/32	
gG fuse (1ph/3ph)	А	16	32	50	32/12	63/25	100/32	
RECOMMENDED PROTECTION DE	EVICES - (General	bypass	(2)				
Conditional short circuit current rating (lcc)	kA		10		10			
C curve circuit breaker	А	16	32	40	32	63	100	
gG fuse	А	16	32	40	32	63	100	
RECOMMENDED PROTECTION DE	VICES - I	nput res	sidual c	urrent c	ircuit (R	CD) bre	aker ⁽³⁾	
Input residual current circuit breaker	А		0.	1 A Selec	ctive type	В		
RECOMMENDED PROTECTION DE	EVICES - (Output ⁽	(4)					
C curve circuit breaker (3)	А	2	4	6	4	8	13	
B curve circuit breaker (3)	А	4	8	12	8	16	25	
CABLES - Maximum cable section	(5)							
Rectifier terminals	mm			5	0			
Bypass terminals	mm			5	0			

mm

mm

1. Rectifier protection should only be considered in the event of separate inputs. Recommended values to avoid unwanted tripping with UPS at full power. When the bypass and rectifier inputs are combined (common input), the general input protection rating must be the highest of the two (bypass or rectifier).

2x 95

50

2. Recommended values to avoid unwanted tripping with UPS at full power. When the bypass and rectifier inputs are combined (common input), the general input protection rating must be the highest of the two (bypass or rectifier).

3. RCD is not necessary when the UPS is installed in a TN-S system. RCD is not permitted on TN-C systems. If an RCD is required a B-type should be used. Must be coordinate with residual current circuit breakers downstream of the UPS connected to the UPS output.

4. Protection tripping downstream of the UPS with inverter short circuit current (Worst case = AUX MAINS not present). In the Normal case, with AUX MAINS present, fault clearing is determined by the Mains short-circuit capability.

5. Use cable with tin-plated eyelets for the connection



Battery terminals (5)

Output terminals

7. REFERENCE STANDARDS AND DIRECTIVES

7.1 OVERVIEW

The equipment, installed, used and serviced in accordance with its intended use, its regulations and standards, its manufacturer instructions and rules, is in compliance with the relevant Union harmonisation legislation:

LVD 2014 / 35 / EU

DIRECTIVE 2014/35/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 26 February 2014, on the harmonisation of the laws of the Member States relating to the making available on the market of electrical equipment designed for use within certain voltage limits.

EMC 2014 / 30 / EU

DIRECTIVE 2014/30/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 26 February 2014, on the harmonisation of the laws of the Member States relating to electromagnetic compatibility.

RoHS 2011/65/EU

Directive 2011/65 of the European parliament and of the council of 8 June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment

7.2 STANDARDS

7.2.1 SAFETY

EN 62040-1 Uninterruptible Power System (UPS) - Part 1: General sand safety requirements (certified by TÜV) IEC 62040-1 Uninterruptible Power System (UPS) - Part 1: Safety requirements (CB scheme by TÜV)

7.2.2 ELECTROMAGNETIC COMPATIBILITY

EN 62040-2 Uninterruptible Power System (UPS) - Part 2: Electromagnetic compatibility (EMC) requirements (LCIE) IEC 62040-2 Uninterruptible Power System (UPS) - Part 2: Electromagnetic compatibility (EMC) requirements (LCIE)

7.2.3 TEST AND PERFORMANCE

EN 62040-3 Uninterruptible Power System (UPS) - Part 3: Method of specifying the performance and test requirements

7.2.4 ENVIRONMENTAL

IEC 62040-4 Uninterruptible Power System (UPS) - Part 4: Environmental aspects - Requirements and reporting

7.3 SYSTEM AND INSTALLATION GUIDELINES

When carrying out electrical installation, all the above standards must be observed. All national and international standards (e.g IEC60364) applicable to the specific electrical installation including batteries must be observed. For further information refer to 'Technical specifications' chapter in the user manual.



ELITE UPS: a mark of efficiency

Socomec, as CEMEP UPS manufacturer member, has signed a Code of Conduct put forward by the Joint Research Centre of the European Commission (JRC), to ensure the protection of critical applications and processes ensuring 24/7 continuous high quality supply. The JRC commits to mitigating energy losses and gas emissions caused by UPS equipment, therefore maximising UPS efficiency.

