

ALTERNATOR

SMM225 Range

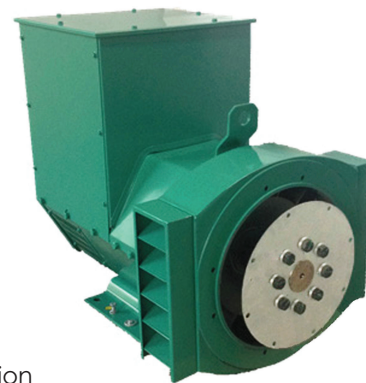
_ Rev.G _

APPLICATION AND STANDARDS

Widely used for homes, small shops and offices as a prime power supply or backup
Comply with standards of IEC60034,NEMA MG1-22,IS08528,CSA C22.2-100, VDE 0530, GB755

ELECTRICAL FEATURES

The high efficiency semiconductors of the AVR ensure positive build-up from initial low levels of residual voltage.
2/3 winding pitch, effective control of harmonics.
12 leads, achieve a variety of voltage output
High efficiency and strong motor start ability
Be capable of running at overload up to 10% for 1 hour every 12 hours.
The "ARAP" - Auxiliary Regulation Adopted Principle is optional
Variety of excitation and voltage regulation system to meet different loads.



MECHANICAL FEATURES

Be protected to IP23, and IP44 is optional
Sealed for life bearings
Both single bearing and double bearing configurations are available
Steel sheet terminal box, which provides enough space for customer's reconnection
The rotor is dynamically balanced according to ISO 1940. A half-key balanced for double bearings.

INSULATION AND IMPREGNATION

H class insulation
The VPI (Vacuum Pressure Impregnation) equipped to ensure the electrical insulation and mechanical strength.
The "Anti-Harsh" winding is optional to meet the needs of harsh environment

COMMON DATA

INSULATION	ALTITUDE	OVERSPEED	PROTECTION	LEADS	PITCH	AVR	VOLTAGE REGULATION	WAVEFORM DISTORTION	TIF	THF
H/H	<=1000m	2250 rpm	IP23	12	2/3	SX460	± 1%	<1.5% NO LOAD	<50	<2%

RATING TABLE

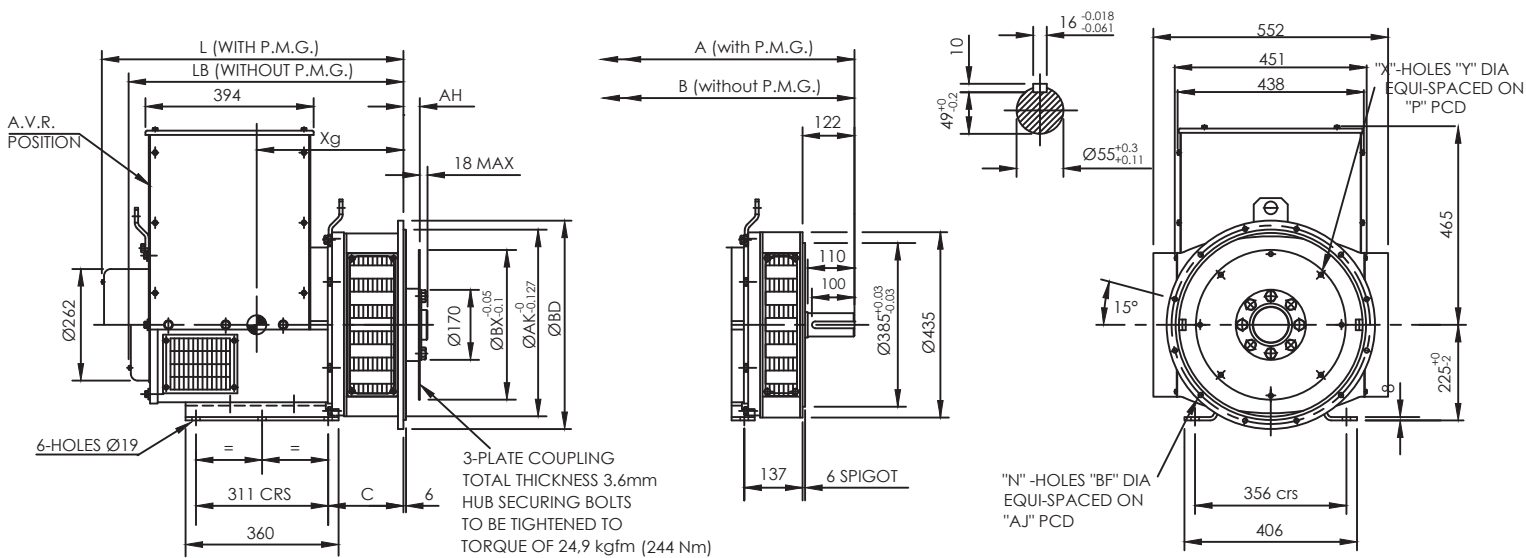
H CLASS	50Hz/1500RPM/PF 0.8											60Hz/1800RPM/PF 0.8													
	90°C/50°C PRIME POWER											110°C/50°C Standby	Effi.	90°C/50°C PRIME POWER											110°C/50°C Standby
SERIES STAR	380	400	415	440	400	400	416	440	460	480	480	480	480												
PARALLEL STAR	190	200	208	220	200	200	208	220	230	240	240	240	240												
SERIES DELTA	220	230	240	254	230	230	240	254	266	277	277	277	277												
RATING	kVA	kW	kVA	kW	kVA	kW	kVA	kW	kVA	kW	%	kVA	kW	kVA	kW	kVA	kW	kVA	kW	kVA	kW	%			
SMM225B	35.2	28.2	35.2	28.2	35.2	28.2	25.6	20.5	38.1	30.5	88.0	39.5	31.6	42.0	33.6	43.2	34.6	43.2	34.6	46.5	37.2	86.3			
SMM225C	40.1	32.1	40.1	32.1	40.1	32.1	32.0	25.6	44.2	35.4	88.9	47.8	38.2	50.0	40.0	51.4	41.1	51.4	41.1	56.3	45.0	87.8			
SMM225D	47.8	38.2	47.8	38.2	47.8	38.2	37.2	29.8	52.4	41.9	89.4	54.0	43.2	56.4	45.1	58.9	47.1	58.9	47.1	66.0	52.8	88.8			
SMM225E	57.8	46.2	57.8	46.2	57.8	46.2	45.5	36.4	63.7	51.0	90.4	66.0	52.8	69.2	55.4	72.1	57.7	72.1	57.7	80	64.0	90.0			
SMM225FS	60.0	48.0	60.0	48.0	60.0	48.0	53.0	42.4	68.0	54.4	90.7	68.7	55.0	71.2	57.0	75.0	60.0	75.0	60.0	85	68.0	90.4			
SMM225F	65.5	52.4	65.5	52.4	65.5	52.4	60.0	48.0	71.8	57.4	90.8	75.2	60.2	79.0	63.2	82	65.2	82	65.2	92	73.6	91.0			
SMM225G	68.0	54.4	68.0	54.4	68.0	54.4	65.0	52.0	75.0	60.0	90.8	80.0	64.0	84	67.2	86	68.8	86	68.8	94	75.0	91.4			

REACTANCE-TIME CONSTANT(s) H CLASS

SMM225 B/C/D/E/FS/F/G

60Hz @ 480V		SMM225B	SMM225C	SMM225D	SMM225E	SMM225FS	SMM225F	SMM225G
Xd	Direct axis synchro. reactance unsaturated	2.11	2.14	2.2	1.81	1.96	1.96	1.96
X'd	Direct axis transient reactance saturated	0.15	0.16	0.16	0.15	0.15	0.15	0.15
X''d	Direct axis sub transient reactance saturated	0.1	0.1	0.11	0.1	0.11	0.11	0.11
Xq	Quadra. Axis synchro. reactance unsaturated	0.98	0.99	1.01	0.84	0.9	0.9	0.9
X''q	Quadra. Axis sub transient reactance saturated	0.1	0.1	0.11	0.09	0.11	0.11	0.11
X2	Negative sequence reactance unsaturated	0.1	0.1	0.11	0.09	0.11	0.11	0.11
Xo	Zero sequence reactance unsaturated	0.07	0.06	0.07	0.07	0.08	0.08	0.08
T'd	Short-Circuit transient time constant	0.025s	0.027s	0.028s	0.03s	0.03s	0.03s	0.03s
T''d	Sub transient time constant	0.006s	0.008s	0.007s	0.008s	0.008s	0.008s	0.008s
T'do	Open circuit time constant	0.065s	0.7s	0.7s	0.75s	0.75s	0.75s	0.75s
Ta	Armature time constant	0.005s	0.0055s	0.006s	0.0065s	0.007s	0.007s	0.007s
Kcc	Short circuit ratio	0.474	0.467	0.455	0.552	0.510	0.510	0.510

OUTLINE DRAWING



DATA TABLE - DOUBLE BEARING

Dimension (mm)	Double BRG		Weight		Packing
	A	B	Net(kg)	Gross(kg)	L x W x H (mm)
Model					
SMM225B	792	729	249	282	1100×680×890
SMM225C	792	729	265	298	1100×680×890
SMM225D	882	819	289	322	1100×680×890
SMM225E	882	819	325	358	1100×680×890
SMM225FS	927	864	351	384	1100×680×890
SMM225F	927	864	361	394	1100×680×890
SMM225G	927	864	376	409	1100×680×890

DATA TABLE - SINGLE BEARING

Dimension (mm)	SAE 1			SAE 2/3/4			Weight		Packing
	LB	L	Xg	LB	L	Xg	Net(kg)	Gross(kg)	L x W x H (mm)
Model									
SMM225B	661	724	323	647	710	311	224	257	1100×680×890
SMM225C	661	724	333	647	710	321	240	273	1100×680×890
SMM225D	751	814	348	737	800	336	264	297	1100×680×890
SMM225E	751	814	358	737	800	346	300	333	1100×680×890
SMM225FS	796	859	373	782	845	361	326	359	1100×680×890
SMM225F	796	859	373	782	845	361	336	369	1100×680×890
SMM225G	796	859	373	782	845	361	351	384	1100×680×890

Flange (mm)							Disc(mm)					
SAE#	BD	AK	AJ	BF	N	C	SAE#	BX	P	X	Y	AH
SAE 4	451	361.95	381	11	12	177	14	466.72	438.15	8	13.5	25.4
SAE 3	451	409.58	428.62	11	12	177	11.5	352.42	333.38	8	11	39.6
SAE 2	490	447.68	466.72	11	12	177	10	314.32	295.28	8	11	53.8
SAE 1	553	511.18	530.22	14	12	191.3	8	263.52	244.48	6	11	62