

ALTERNATOR

SMF182 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

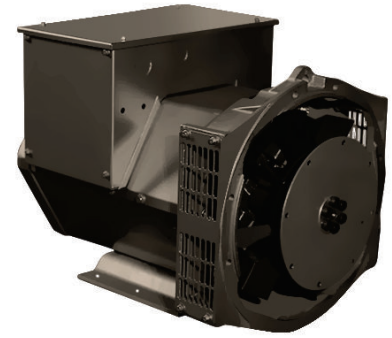
The high efficiency semiconductors of the AVR ensure positive build-up from initial low 2/3 winding pitch, effective control of harmonics.
 12 leads, achieve a variety of voltage output
 High efficiency and strong motor start ability
 Be capable of running at overload up to 10% for 1 hour every 12 hours.
 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.
 environment



COMMON DATA

INSULATION	ALTITUDE	OVERSPEED	PROTECTION	LEADS	PITCH	AVR	VOLTAGE REGULATION	WAVEFORM DISTORTION	TIF	THF
H/H	<=1000m	4500 rpm	IP23	12	2/3	SX460	± 1%	<1.5% NO LOAD	<50	<2%

RATING TABLE @ 3-Phase

H Class	50Hz/3000RPM/PF 0.8										60Hz/3600RPM/PF 0.8													
Application	125°C/40°C PRIME POWER										163°C/27°C Standby	Effi.	125°C/40°C PRIME POWER										163°C/27°C Standby	Effi.
Series Star	380	400	415	440	400	400	416	440	460	480	480	480	416	440	460	480	480	480	480	480	480	480	480	
Parallel Star	190	200	208	220	200	200	208	220	230	240	240	240	208	220	230	240	240	240	240	240	240	240	240	
Series Delta	220	230	240	254	230	230	240	254	266	277	277	277	240	254	266	277	277	277	277	277	277	277	277	
Ratings	kVA	kW	kVA	kW	kVA	kW	kVA	kW	kVA	kW	%	kVA	kW	kVA	kW	kVA	kW	kVA	kW	kVA	kW	%		
SMF182C	30.0	24.0	30.0	24.0	30.0	24.0	27.0	21.6	33.0	26.4	81.9	33.0	26.4	35.0	28.0	35.0	28.0	35.0	28.0	35.0	28.0	82.0		
SMF182D	35.0	28.0	35.0	28.0	35.0	28.0	30.8	24.6	38.6	30.8	83.0	37.8	30.2	43.0	34.4	43.0	34.4	43.0	34.4	43.0	34.4	83.1		
SMF182E	37.5	30.0	37.5	30.0	37.5	30.0	35.0	28.0	41.3	33.0	84.7	44.3	35.4	46.9	37.5	46.9	37.5	46.9	37.5	46.9	37.5	84.8		
SMF182F	40.0	32.0	40.0	32.0	40.0	32.0	37.0	29.5	N/A	N/A	84.8	45.2	36.2	50.0	40.0	50.0	40.0	50.0	40.0	50.0	40.0	84.8		

RATING TABLE @ 1-Phase

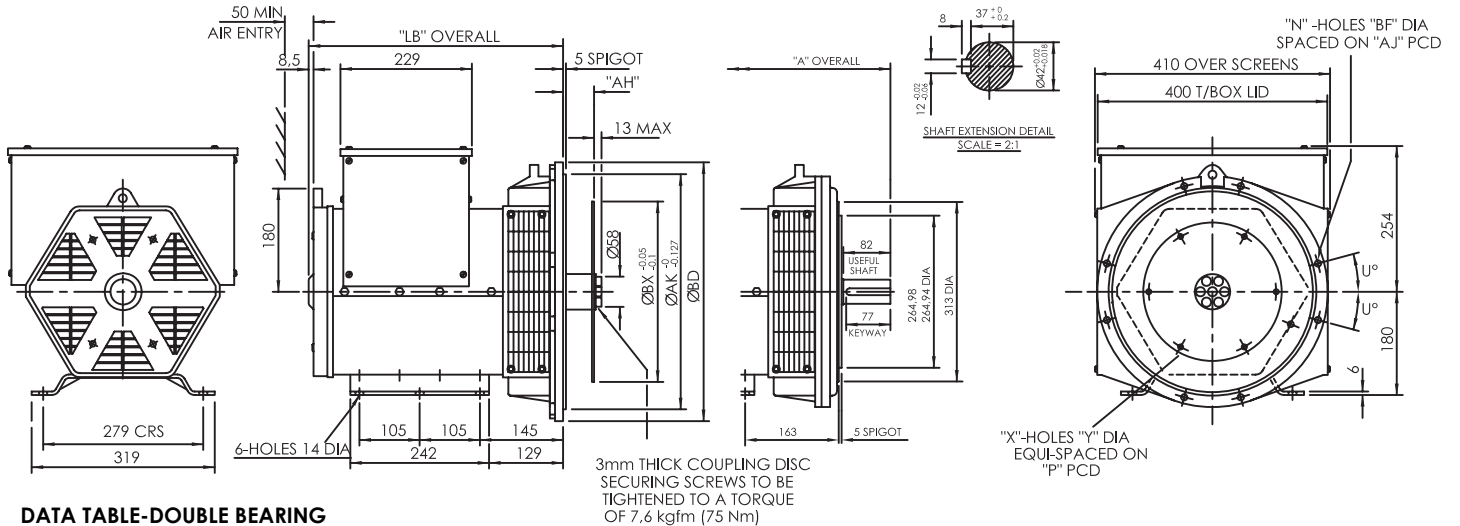
H Class	12 Wire Reconnectable Single Phase										4 Wire Dedicated Single Phase											
Application	125°C/40°C PRIME POWER										Effi.	125°C/40°C PRIME POWER										Effi.
Frequency	50Hz/3000RPM					60Hz/3600RPM						50Hz/3000RPM					60Hz/3600RPM					
Voltage (V)	220-240V					240V						220-240V					240V					
Power Factor	1	0.8	1	0.8	1	0.8	1	0.8	1	0.8		1	0.8	1	0.8	1	0.8	1	0.8	1	0.8	
Ratings	kVA	kW	kVA	kW	kVA	kW	kVA	kW			%	kVA	kW	kVA	kW	kVA	kW	kVA	kW	kVA	kW	%
SMF182C	18.0	18.0	18.0	14.4	19.8	19.8	19.8	15.8			77.9	20.0	20.0	20.0	16.0	24.8	24.8	24.8	19.8			77.6
SMF182D	21.0	21.0	21.0	16.8	22.7	22.7	22.7	18.2			79.2	23.5	23.5	23.5	18.8	28.9	28.9	28.9	23.1			78.9
SMF182E	22.5	22.5	22.5	18.0	26.6	26.6	26.6	21.3			80.8	25.0	25.0	25.0	20.0	31.0	31.0	31.0	24.8			80.1
SMF182F	24.0	24.0	24.0	19.2	27.1	27.1	27.1	21.7			80.8	30.0	30.0	27.0	21.6	36.0	36.0	33.5	26.8			80.8

REACTANCE-TIME CONSTANT(s) H CLASS

SMF182 C/D/E

60Hz @ 480V		SMF182C	SMF182D	SMF182E	SMF182F
Xd	Direct axis synchro. reactance unsaturated	2.797	2.695	2.768	2.765
X'd	Direct axis transient reactance saturated	0.272	0.263	0.271	0.267
X''d	Direct axis sub transient reactance saturated	0.192	0.184	0.192	0.192
Xq	Quadra. Axis synchro. reactance unsaturated	1.411	1.360	1.401	1.405
X'q	Quadra. Axis sub transient reactance saturated	0.320	0.311	0.318	0.315
X2	Negative sequence reactance unsaturated	0.256	0.247	0.254	0.255
Xo	Zero sequence reactance unsaturated	0.118	0.116	0.118	0.118
T'd	Short-Circuit transient time constant	0.016s	0.016s	0.016s	0.016s
T''d	Sub transient time constant	0.004s	0.004s	0.004s	0.004s
T'do	Open circuit time constant	0.338s	0.338s	0.338s	0.338s
Ta	Armature time constant	0.005s	0.005s	0.005s	0.005s
Kcc	Short circuit ratio	0.358	0.371	0.361	0.361

OUTLINE DRAWING



DATA TABLE-DOUBLE BEARING

Dimension (mm)	Double BRG	Weight		Packing
		Net(kg)	Gross(kg)	
Model	A			L x W x H (mm)
SMF182C	601.5	133	141	1120x680x700
SMF182D	601.5	146	154	1120x680x700
SMF182E	641.5	162	170	1120x680x700
SMF182F	701.5	188	198	1120x680x700

DATA TABLE-SINGLE BEARING

Dimension (mm)	SAE#			Weight		Packing
	SAE2	SAE3	SAE4/5	Net(kg)	Gross(kg)	
Model	LB	LB	LB			L x W x H (mm)
SMF182C	520.5	493.5	481.5	130	138	1120x680x700
SMF182D	520.5	493.5	481.5	143	151	1120x680x700
SMF182E	560.5	533.5	521.5	159	167	1120x680x700
SMF182F	620.5	593.5	581.5	185	195	1120x680x700

Flange (mm)										Disc(mm)					
SAE#	BD	AK	AJ	BF	N	U °	C	D	SAE#	BX	P	X	Y	AH	
SAE 5	356	314.32	333.38	11	8	22.5	133	117	11.5	352.42	333.38	8	11	39.6	
SAE 4	402	361.95	381.00	11	8	15	133	117	10	314.32	295.28	8	11	53.8	
SAE 3	451	409.58	428.62	11	8	15	145	129	8	263.52	244.48	6	11	62	
SAE 2	489	447.68	466.72	11	12	15	172	156	7.5	241.3	222.25	8	9	30.2	
									6.5	215.9	200.02	6	9	30.2	