

COMPACT ALTERNATOR

SMC355 Range

_ Rev.B _

APPLICATION AND STANDARDS

SMC compact alternator can be widely used for homes, small shops and offices as a prime power supply or backup. Especially for short length requested application

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.

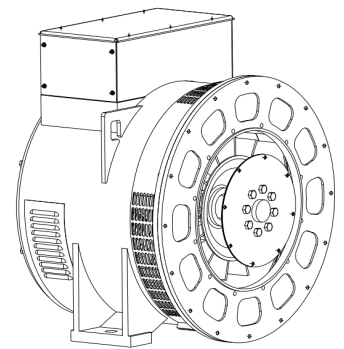
2/3 winding pitch, effective control of harmonics.

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 "AWES" - Auxiliary Winding Excitation System is optional



MECHANICAL FEATURES

Be protected to IP23, and IP44 is optional

Sealed for life bearings

Diode Modula is located on back for easily replace.

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.

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

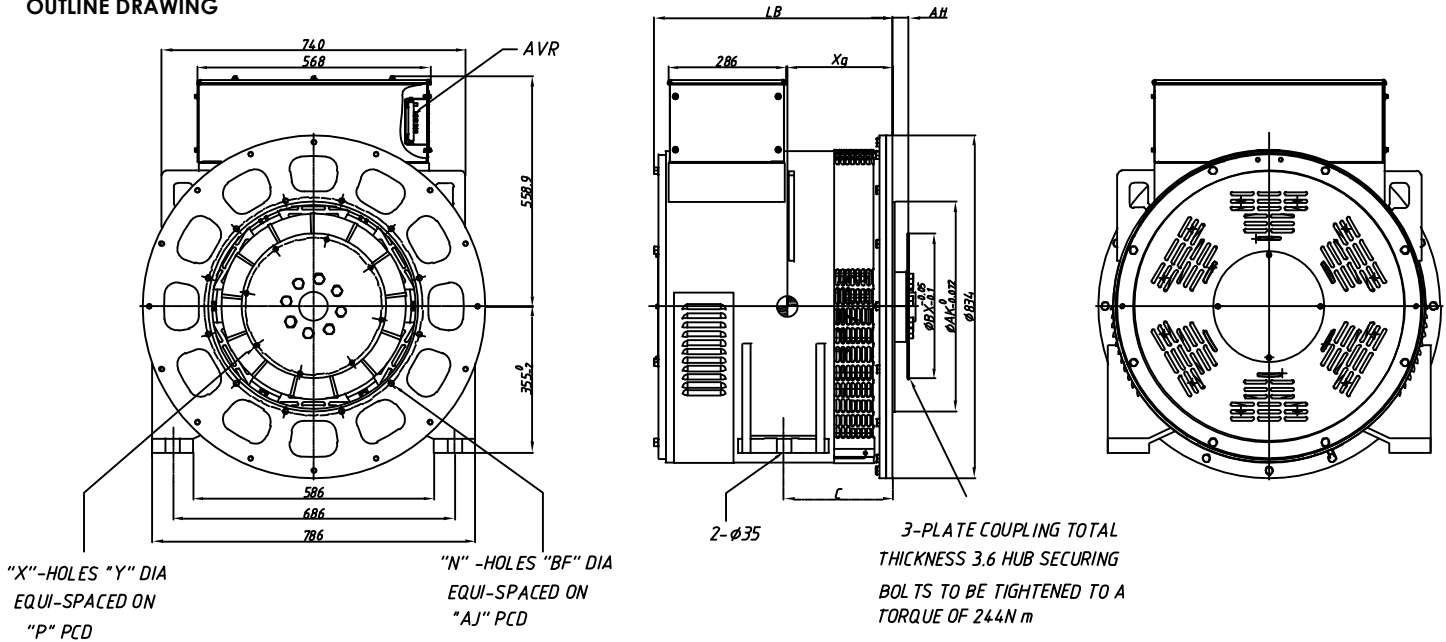
H CLASS	50Hz/1500RPM/PF 0.8											60Hz/1800RPM/PF 0.8											
	125°C/40°C PRIME POWER										163°C/27°C Standby	Effi.	125°C/40°C PRIME POWER										163°C/27°C Standby
SERIES	380											400	400	416	440	460	480	480	480				
STAR	190											200	200	208	220	230	240	240	240				
PARALLEL	220											230	230	240	254	266	277	277	277				
SERIES																							
DELTA																							
RATING	kVA	kW	kVA	kW	kVA	kW	kVA	kW	kVA	kW	%	kVA	kW	kVA	kW	kVA	kW	kVA	kW	%			
SMC355B	100	80	100	80	100	80	87	70	112	89.6	84.2	112	89.6	118	94.4	118	94.4	126	101	139	111	85.2	
SMC355C	125	100	125	100	125	100	109	87	124	98.8	85.2	134	107	141	113	141	113	150	120	162	130	86.4	
SMC355D	150	120	150	120	150	120	130	104	161	129	86.8	171	137	175	140	175	140	189	151	204	163	87.5	
SMC355E	188	150	188	150	188	150	N/A	N/A	206	165	88.5	208	166	221	177	221	177	235	188	260	208	89.2	
SMC355F	200	160	200	160	200	160	N/A	N/A	224	179	89.4	240	192	246	197	246	197	258	206	282	226	90.0	
SMC355G	225	180	225	180	225	180	N/A	N/A	262	210	90.2	270	216	282	226	295	236	302	242	327	262	90.8	
SMC355H	250	200	250	200	250	200	N/A	N/A	275	220	91.0	294	235	300	240	315	252	315	252	345	276	91.4	
SMC355J	313	250	313	250	313	250	N/A	N/A	346	276	92.0	357	285	367	293	390	312	390	312	426	340	92.3	
SMC355K	350	280	350	280	350	280	N/A	N/A	390	312	92.4	400	320	421	337	444	355	444	355	478	382	92.8	
SMC355L	380	300	300	300	380	300	N/A	N/A	415	332	92.4	425	340	446	357	469	375	469	375	503	402	92.8	
SMC355M	400	320	400	320	400	320	N/A	N/A	451	361	92.9	456	365	481	385	500	400	500	400	555	444	93.2	

REACTANCE-TIME CONSTANT(s) H CLASS

SMC355 B/C/D/E/F/G/H

60Hz @ 480V		SMC355B	SMC355C	SMC355D	SMC355E	SMC355F	SMC355G	SMC355H
Xd	Direct axis synchro. reactance unsaturated	3.33	3.58	3.26	2.88	3.2	2.9	2.86
X'd	Direct axis transient reactance saturated	0.43	0.433	0.364	0.293	0.319	0.275	0.263
X''d	Direct axis sub transient reactance saturated	0.391	0.391	0.325	0.258	0.28	0.239	0.227
Xq	Quadra. Axis synchro. reactance unsaturated	2.21	2.36	2.14	1.88	2.09	1.89	1.86
X''q	Quadra. Axis sub transient reactance saturated	0.516	0.52	0.438	0.353	0.386	0.332	0.318
X2	Negative sequence reactance unsaturated	0.454	0.455	0.382	0.306	0.333	0.285	0.273
Xo	Zero sequence reactance unsaturated	0.0558	0.0545	0.0441	0.0336	0.0362	0.03	0.0282
T'd	Short-Circuit transient time constant	1.159	1.146	0.939	0.725	0.782	0.651	0.61
T''d	Sub transient time constant	0.145	0.143	0.117	0.0906	0.0978	0.081	0.076
T'do	Open circuit time constant	2.5	2.64	2.34	1.98	2.18	1.91	1.85
Ta	Armature time constant	0.0136	0.0178	0.0204	0.0263	0.0324	0.0358	0.045
Kcc	Short circuit ratio	0.3	0.28	0.31	0.35	0.31	0.34	0.35

OUTLINE DRAWING



DATA TABLE- SINGLE BEARING

Dimension (mm)	SAE 1/2/3			Weight		Packing L x W x H (mm)
	LB	Xg		Net(kg)	Gross(kg)	
Model	LB	Xg		Net(kg)	Gross(kg)	L x W x H (mm)
SMC355B	530	205		665	695	690×900×1180
SMC355C	530	215		685	715	690×900×1180
SMC355D	530	225		700	730	690×900×1180
SMC355E	555	235		750	780	690×900×1180
SMC355F	555	240		760	790	690×900×1180
SMC355G	580	255		810	840	690×900×1180
SMC355H	580	260		840	870	690×900×1180

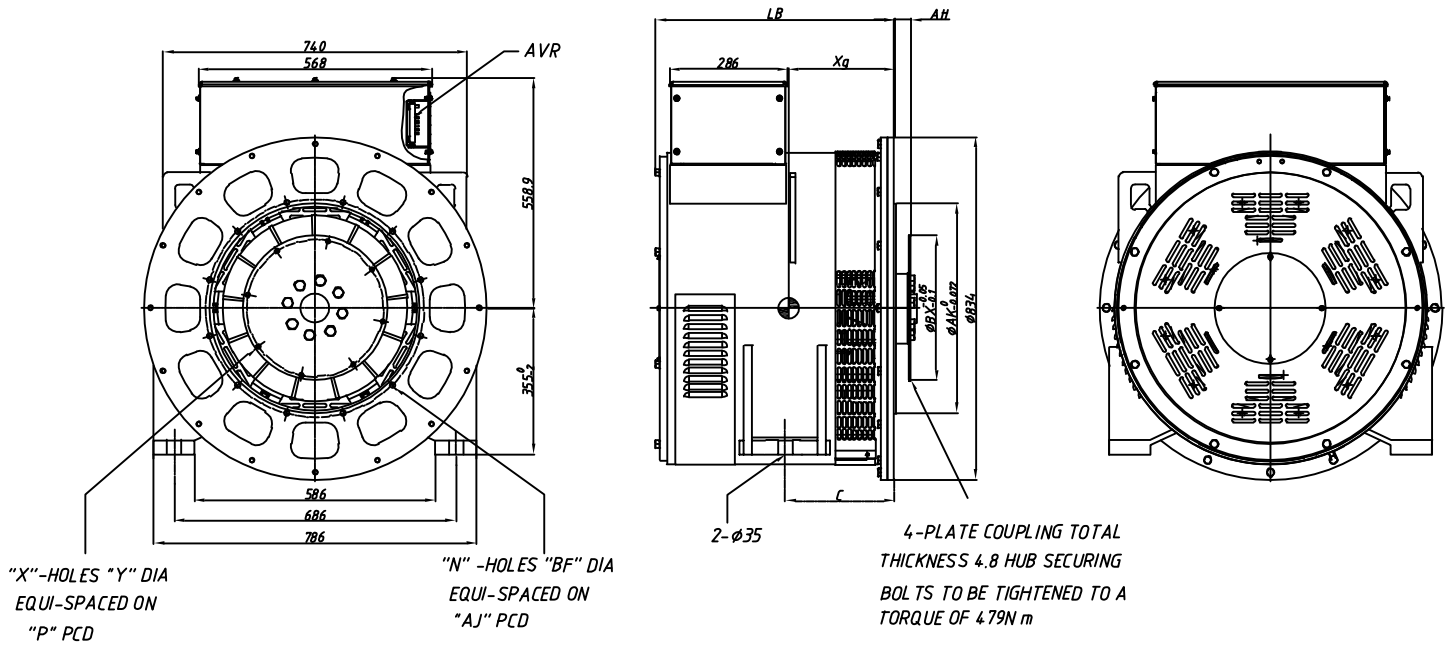
Flange (mm)							Disc(mm)					
SAE#	BD	AK	AJ	BF	N	C	SAE#	BX	P	X	Y	AH
SAE 3	530	409.58	428.62	11	12	265	14	466.72	438.15	8	13.5	25.4
SAE 2	530	447.68	466.72	11	12	265	11.5	352.42	333.38	8	11	39.6
SAE 1	530	511.18	530.22	14	12	265						

REACTANCE-TIME CONSTANT(s) H CLASS

SMC355J/K/L/M

50Hz @ 400V		SMC400J	SMC400K	SMC400L	SMC400M				
Xd	Direct axis synchro. reactance unsaturated	2.84	2.77	3.11	3.06				
X'd	Direct axis transient reactance saturated	0.24	0.224	0.247	0.238				
X''d	Direct axis sub transient reactance saturated	0.204	0.189	0.208	0.199				
Xq	Quadra. Axis synchro. reactance unsaturated	1.84	1.79	2.01	1.98				
X''q	Quadra. Axis sub transient reactance saturated	0.29	0.271	0.3	0.289				
X2	Negative sequence reactance unsaturated	0.247	0.23	0.254	0.244				
Xo	Zero sequence reactance unsaturated	0.0241	0.0216	0.0235	0.0222				
T'd	Short-Circuit transient time constant	0.518	0.46	0.499	0.467				
T''d	Sub transient time constant	0.064	0.057	0.062	0.058				
T'do	Open circuit time constant	1.71	1.59	1.75	1.67				
Ta	Armature time constant	0.0564	0.0616	0.0669	0.077				
Kcc	Short circuit ratio	0.35	0.36	0.32	0.33				

OUTLINE DRAWING



DATA TABLE - SINGLE BEARING

SMC400B	SAE 1/2/3		Weight		Packing
	LB	Xg	Net(kg)	Gross(kg)	
Model					L x W x H (mm)
SMC355J	660	295	960	1000	750×900×1180
SMC355K	660	305	1025	1065	750×900×1180
SMC355L	685	310	1060	1100	750×900×1180
SMC355M	685	315	1100	1140	750×900×1180

Flange (mm)							Disc(mm)					
SAE#	BD	AK	AJ	BF	N	C	SAE#	BX	P	X	Y	AH
SAE 3	530	409.58	428.62	11	12	290	14	466.72	438.15	8	13.5	25.4
SAE 2	530	447.68	466.72	11	10	290	12	352.42	333.38	8	11	39.6
SAE 1	553	511.18	530.22	14	10	290	10	314.32	295.28	8	11	53.8