



SKM

Brushless marine alternators



Three-phase 4 pole brushless synchronous alternators for marine applications

Power on the water

SKM marine alternators by Sincro are engineered to supply electricity on vessels and for all in and off shore applications in which availability of reliable power is necessary. The compact SKM alternators operate as main power supply or as auxiliary generators, even in the harshest environmental conditions.

Technical information

Standards and certifications

SKM alternators meet the classification requirements of various marine societies: Bureau Veritas (BV), Det Norske Veritas (DNV), Germanischer Lloyd (GL), Lloyds Register of Shipping (LRS), Croatian Register of Shipping (CRS), Russian Maritime Register of Shipping (RMRS), Registro Italiano Navale (RINA), and others on request. SKM alternators are also in accordance with IEC 60034-1 and manufactured in respect to ISO9001 Quality Standard rules.

Enclosure and cooling

- Standard protection is IP23. Connection box IP44. (Higher protection on request)
- Standard cooling IC01

Construction

- Rigid steel frames
- Dynamically balanced rotors (ISO1940)
- Rotor damper cage for parallel operation

Bearings

- Bearings are dimensioned for long-life heavy duty
- Sealed for life bearings up to SK355 and on SK400/450 (SAE version)
- Regreasable drive end bearing on SK400/450 (IM B34 version)

Insulation

- Insulation materials are in accordance to class H level
- Double impregnation and tropicalization of windings

Painting

- Standard RAL is 5005
- External coating suitable for marine ambient (two-component coating based on a combination of polyester and acrylic binder with aliphatic isocyanates)
- Special internal tropicalization system

4 pole marine ratings / low voltage

	model	S1 duty • 50°C amb. temp. F class temp. rise • p.f. 0,8		η	η	AVR type
		kVA	kVA			
		231/400V 50Hz	260/450V 60Hz	p.f. 0,8 50HZ	p.f. 0,8 60HZ	
PMG excitation on request	SKM 225 SM	52	63	89,7	90,1	analogic
	SKM 225 MS	64	77	90,4	90,8	
	SKM 225 MM	75	90	91,2	91,6	
	SKM 225 ML	88	105	91,6	92	
	SKM 225 LS	100	120	92	92,4	
	SKM 225 LM	110	132	92,2	92,7	
	SKM 250 SL	130	155	91,6	91,8	
	SKM 250 MS	145	174	92,1	92,1	
	SKM 250 MM	160	192	92,4	92,5	
	SKM 250 ML	185	222	92,6	92,9	
	SKM 250 LS	200	240	92,9	93	
	SKM 250 LM	220	264	92,9	93,1	
	SKM 250 LL	250	300	93,1	93,3	
	SKM 315 SS	280	336	93,2	94	
	SKM 315 SM	320	384	93,7	94,2	
SKM 315 SL	360	432	94,1	94,7		
PMG excitation standard	SKM 355 MS	400	480	94,4	94,9	DBL1 digital
	SKM 355 MM	440	528	94,6	95,1	
	SKM 355 LS	480	576	94,8	95,3	
	SKM 355 LM	520	624	95,1	95,8	
	SKM 355 WL	575	690	95,2	95,8	
	SKM 400 SA	640	768	95,6	96,1	
	SKM 400 SB	800	960	95,9	96,3	
	SKM 450 MB	960	1152	96,6	97	
	SKM 450 MC	1080	1296	96,8	97,2	
	SKM 450 MD	1200	1440	96,9	97,4	
SKM 500 MA	1450	1740	96,2	96,7		
SKM 500 MB	1600	1920	96,3	96,8		
SKM 500 MC	1850	2220	96,5	96,9		
SKM 500 MD	2100	2520	96,7	97,1		

Electrical data

Insulation class	H	Short circuit current	> 350 % I _n
Temperature rise	F	Total harmonic content***	< 2 % I _n
Leads	6*	Telephone harmonic factor***	< 2 % I _n
Excitation system	Brushless	Underspeed protection	standard
Voltage regulation accuracy**	+ - 0,5%	Winding pitch	2/3

* other configurations on request

** with load from 0 to 100%, speed variation from -2% to +5%, p.f. 0,8 linear and balanced load

*** line to line, at full linear and balanced rated load

Options

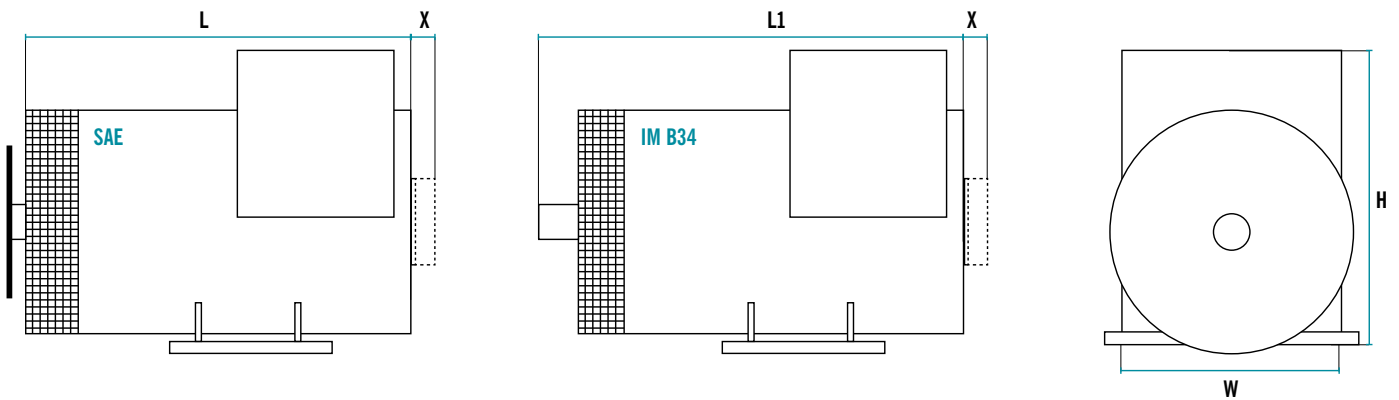
- Anti-condensation heaters
- Electronic device for parallel operation
 - Cable glands
- Thermal protection sensors

Operating conditions

- Power factor 0,8
- Symmetrical non distorting load



Compact dimensions, easier installation



model	L	L1	W	H	mass SAE
	mm	mm	mm	mm	Kg
SKM 225 SM	558	673	330	555	210
SKM 225 MS	693	808	330	555	260
SKM 225 MM	693	808	330	555	274
SKM 225 ML	693	808	330	555	305
SKM 225 LS	803	813	330	555	339
SKM 225 LM	803	813	330	555	355
SKM 250 SL	677	782	405	757	459
SKM 250 MS	787	892	405	757	507
SKM 250 MM	787	892	405	757	540
SKM 250 ML	787	892	405	757	601
SKM 250 LS	887	992	405	757	647
SKM 250 LM	887	992	405	757	680
SKM 250 LL	887	992	405	757	735
SKM 315 SS	869	1019	590	908	820
SKM 315 SM	869	1019	590	908	880
SKM 315 SL	869	1019	590	908	970
SKM 355 MS	964	1114	590	948	1050
SKM 355 MM	964	1114	590	948	1120
SKM 355 LS	1089	1239	590	948	1250
SKM 355 LM	1089	1239	590	948	1350
SKM 355 WL	1219	1369	590	948	1490

model	L	L1	X	W	H	mass SAE
	mm	mm	mm	mm	mm	Kg
SKM 400 SA	1136	1396	106	740	1173	1700
SKM 400 SB	1136	1396	106	740	1173	1900
SKM 450 MB	1411	1671	106	740	1223	2230
SKM 450 MC	1411	1671	106	740	1223	2490
SKM 450 MD	1411	1671	106	740	1223	2660
SKM 500 MA	1578	1882	155	850	1372	3420
SKM 500 MB	1578	1882	155	850	1372	3605
SKM 500 MC	1578	1882	155	850	1372	3885
SKM 500 MD	1578	1882	155	850	1372	4230



Condizioni di garanzia

Soga garantisce ai propri clienti gli alternatori, prodotti al suo interno, per un periodo di 18 mesi a decorrere dalla data di fatturazione, oppure di 12 mesi a decorrere dalla data di prima messa in funzione, a seconda di quale delle due avvenga per prima.

Si precisa che detta garanzia è rivolta ai soli clienti di Soga ai quali direttamente risponde. Soga non riconosce direttamente la garanzia ad alcun soggetto che, pur in possesso dei suoi prodotti, non li abbia da essa acquistati direttamente.

Entro i suddetti termini Soga si impegna a fornire gratuitamente pezzi di ricambio di quelle parti che, a giudizio di Sincro o di un suo rappresentante autorizzato, presentino difetti di fabbricazione o di materiale oppure, a suo giudizio, ad effettuare la riparazione direttamente o per mezzo di officine autorizzate senza assumersi alcun onere per il trasporto. Rimane comunque esclusa qualsiasi altra forma di responsabilità o obbligazione per altre spese, danni e perdite dirette o indirette derivanti dall'uso o dalla impossibilità d'uso dei prodotti, sia totale che parziale. La riparazione o la fornitura sostitutiva non prolungherà, né rinnoverà la durata del periodo di garanzia. La garanzia decadrà: qualora si manifestassero inconvenienti o guasti dovuti ad imperizia, utilizzo oltre ai limiti delle prestazioni nominali, se il prodotto avesse subito modifiche o se dovesse ritornare disassemblato o con dati di targa alterati o manomessi.

Warranty conditions

Soga guarantees the own alternators for a period of 18 months starting from the invoice date or 12 months starting from the first start up, whichever occurs first.

We confirm that warranty is directed only to Soga customers to which we respond.

Soga does not grant warranty to those who have not directly purchased the product from the factory, in spite of the possession of it.

Within the above mentioned terms, Soga commits itself to supply free of charge those spare parts that, according to its judgment or to the one of an authorized representative, appear with manufacturing or material defects or, always to its judgment, to directly or through an authorized center carry out the repairing without undertaking transport costs. We anyhow exclude forms of responsibility or obligation for other costs, damages and direct or indirect loss caused by total or partial usage or impossible usage of the products.

The repairing or the substitution will not extend or renew the warranty duration.

Warranty will not be granted: whenever break-downs or problems may appear because of lack of experience, usage over the nominal performances, if the product had been modified or should return incomplete, disassembled or with modified nameplate data.



Also available IP55 OFFSHORE ALTERNATOR



Soga S.p.A.

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