

# OUR DIFFERENCE? THE DETAIL.

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**3 YEARS**  
WARRANTY

S3



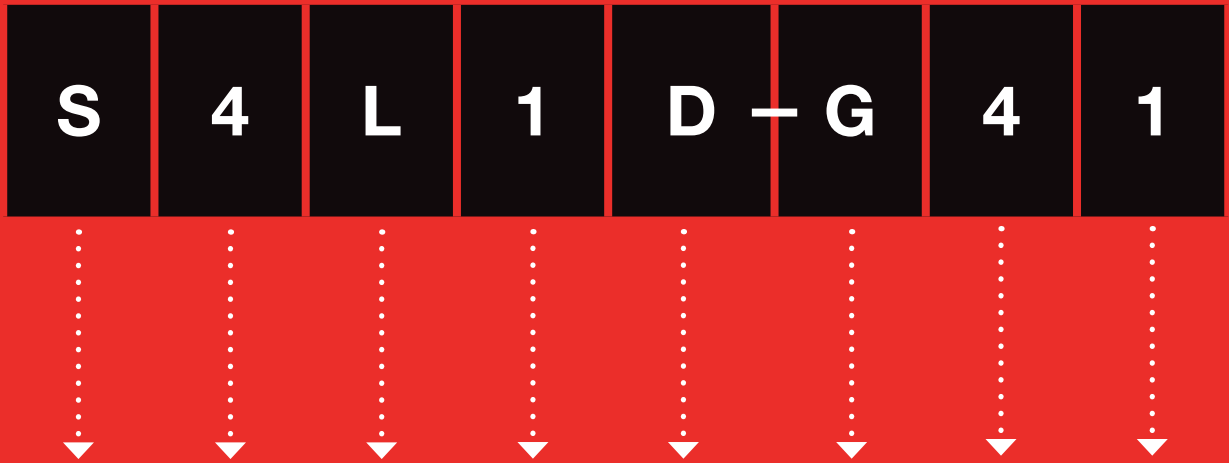
S5



**STAMFORD® S4**

Fitted with  
**CoreCooling™**  
technology

# The S4 Nomenclature

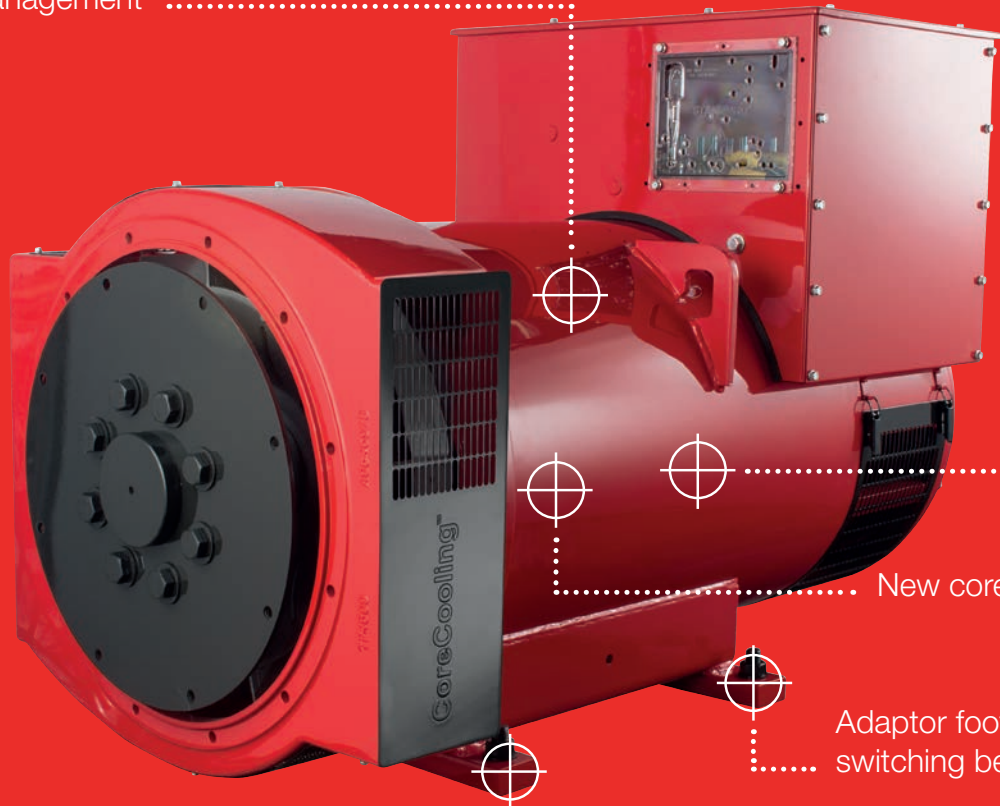


Character	Brand	Family Series	Voltage	Revision	Descriptor	Core Length	Pole	Bearing
Examples	STAMFORD	1/2/3/4/5 etc	L = Low M = Medium H = High	1	D = Dedicated S = Special M = Marine	C/D/E/F/G	4	1/2

# The New **STAMFORD**® S4 Dedicated



Enhanced thermal management .....



Optimised power density core

New core length, 450kVA

Adaptor foot option, enabling switching between S4 & S5

Flexible foot option, enabling switching between alternative brands

Product evolution through technological revolution.

Our new **CoreCooling™ technology** results in improved thermal performance and increased power density... it's in the detail.

# S4 Dedicated Ratings

## 50Hz

Class H 125/40						
Winding Number	311					
Volts	380		400		415	
Model	kW	kVA	kW	kVA	kW	kVA
S4L1D-C4	200	<b>250</b>	208	<b>260</b>	208	<b>260</b>
S4L1D-D4	240	<b>300</b>	248	<b>310</b>	248	<b>310</b>
S4L1D-E4	280	<b>350</b>	288	<b>360</b>	288	<b>360</b>
S4L1D-F4	320	<b>400</b>	332	<b>415</b>	332	<b>415</b>
S4L1D-G4	344	<b>430</b>	360	<b>450</b>	360	<b>450</b>

Standby 150/40						
Winding Number	311					
Volts	380		400		415	
Model	kW	kVA	kW	kVA	kW	kVA
S4L1D-C4	216	<b>270</b>	224	<b>280</b>	224	<b>280</b>
S4L1D-D4	256	<b>320</b>	264	<b>330</b>	264	<b>330</b>
S4L1D-E4	296	<b>370</b>	308	<b>385</b>	308	<b>385</b>
S4L1D-F4	332	<b>415</b>	356	<b>445</b>	356	<b>445</b>
S4L1D-G4	364	<b>455</b>	384	<b>480</b>	384	<b>480</b>

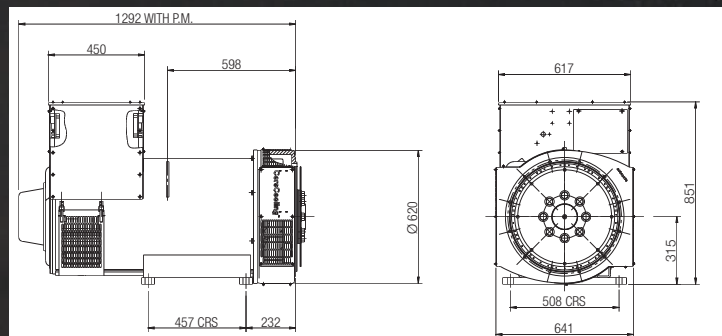
Standby 163/27						
Winding Number	311					
Volts	380		400		415	
Model	kW	kVA	kW	kVA	kW	kVA
S4L1D-C4	220	<b>275</b>	228	<b>285</b>	228	<b>285</b>
S4L1D-D4	264	<b>330</b>	272	<b>340</b>	272	<b>340</b>
S4L1D-E4	304	<b>380</b>	332	<b>415</b>	320	<b>400</b>
S4L1D-F4	340	<b>425</b>	372	<b>465</b>	364	<b>455</b>
S4L1D-G4	380	<b>475</b>	400	<b>500</b>	400	<b>500</b>

## 60Hz

Class H 125/40						
Winding Number	311					
Volts	416		440		480	
Model	kW	kVA	kW	kVA	kW	kVA
S4L1D-C4	<b>230</b>	288	<b>248</b>	310	<b>260</b>	325
S4L1D-D4	<b>275</b>	344	<b>296</b>	370	<b>312</b>	390
S4L1D-E4	<b>320</b>	400	<b>348</b>	435	<b>364</b>	455
S4L1D-F4	<b>364</b>	455	<b>400</b>	500	<b>416</b>	520
S4L1D-G4	<b>400</b>	500	<b>428</b>	535	<b>448</b>	560

Standby 150/40						
Winding Number	311					
Volts	416		440		480	
Model	kW	kVA	kW	kVA	kW	kVA
S4L1D-C4	<b>240</b>	300	<b>264</b>	330	<b>280</b>	350
S4L1D-D4	<b>292</b>	365	<b>320</b>	400	<b>332</b>	415
S4L1D-E4	<b>336</b>	420	<b>368</b>	460	<b>380</b>	475
S4L1D-F4	<b>388</b>	485	<b>428</b>	535	<b>444</b>	555
S4L1D-G4	<b>428</b>	535	<b>460</b>	575	<b>480</b>	600

Standby 163/27						
Winding Number	311					
Volts	416		440		480	
Model	kW	kVA	kW	kVA	kW	kVA
S4L1D-C4	<b>248</b>	310	<b>276</b>	345	<b>284</b>	355
S4L1D-D4	<b>300</b>	375	<b>328</b>	410	<b>344</b>	430
S4L1D-E4	<b>348</b>	435	<b>376</b>	470	<b>392</b>	490
S4L1D-F4	<b>400</b>	500	<b>440</b>	550	<b>460</b>	575
S4L1D-G4	<b>452</b>	565	<b>480</b>	600	<b>500</b>	625



# Specification

MODEL	S4-Dedicated
Ratings at 50Hz (kVA) Class H	250-450
Ratings at 60Hz (kVA) Class H	288-560
Specifications	
Voltage Range	380-480
Poles	4
Technology	Wire Wound
AVR	Analogue
Voltage Sensing	2 Phase
Bearing Arrangement	Single
SAE Adaptors	SAE 1
Terminals	12
Material Insulation Class	H
Excitation System	Self Exciting
Ingress Protection	IP23
Connection with other machines	Paralleling capability
Optional Features	
Bearing Arrangement	-
SAE Adaptors	0.5
Excitation System	PMG
Ingress Protection	IP23 Air Filters
Output Configurations	1 Phase Reconnectable
Voltage sensing	3 Phase sensing
Temperature Monitoring	Winding RTDs
Temperature Monitoring	Thermistors
Environmental Protection	Anti-Condensation Heater
Adaptor Feet	✓
Flexible Feet	✓
Prime Movers	
Diesel Engine	✓
Gas Engine	✓

# Accessories

Factory Build Options
Anti-Condensation Heater (with Terminal Box)
Quadrature Droop kit
Bearing RTD
Air Inlet Filter
Remote Voltage Trimmer
Radio frequency interference (RFI) Suppressor Kit
Excitation Loss Module
Diode Failure Detector
CSA Approval

Available With	MX321	MX341	AS440
Current Sensing Kit	✓	✓	✓
Controlled Short Circuit	✓	X	X
Manual Voltage Regulator	✓	✓	X
Frequency Detection Module	✓	✓	X
Power Factor Controller - PFC3	✓	✓	✓
Remote Control Interface	✓	✓	✓
Excitation Circuit Breaker	✓	✓	✓
Dual AVR	✓	✓	X

Voltage Regulator Options	PMG
AS440 AVR	X
MX341	✓
MX321 AVR	✓
UL AS440	X
UL MX341	✓
No AVR	✓

\*GA drawings are indicative of S4-G Core dimensions

\*\*Please contact our applications department for additional voltages that are available (applications@cummins.com)

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# S4 Special Ratings

## 50Hz

Class H 125/40						
Winding Number	311					
Volts	380		400		415	
Model	kW	kVA	kW	kVA	kW	kVA
S4L1S-C4	200	<b>250</b>	200	<b>250</b>	200	<b>250</b>
S4L1S-D4	240	<b>300</b>	240	<b>300</b>	240	<b>300</b>
S4L1S-E4	280	<b>350</b>	280	<b>350</b>	280	<b>350</b>
S4L1S-F4	320	<b>400</b>	320	<b>400</b>	320	<b>400</b>

Standby 150/40						
Winding Number	311					
Volts	380		400		415	
Model	kW	kVA	kW	kVA	kW	kVA
S4L1S-C4	216	<b>270</b>	216	<b>270</b>	216	<b>270</b>
S4L1S-D4	256	<b>320</b>	256	<b>320</b>	256	<b>320</b>
S4L1S-E4	296	<b>370</b>	296	<b>370</b>	296	<b>370</b>
S4L1S-F4	332	<b>415</b>	344	<b>430</b>	344	<b>430</b>

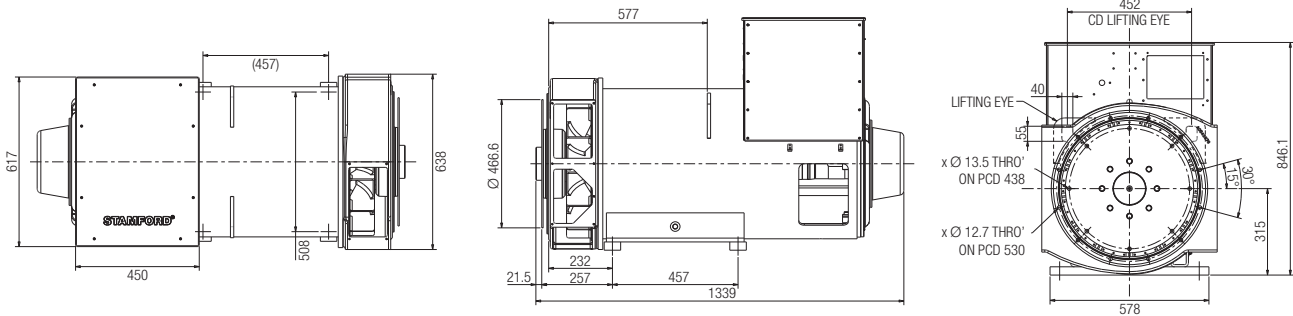
Standby 163/27						
Winding Number	311					
Volts	380		400		415	
Model	kW	kVA	kW	kVA	kW	kVA
S4L1S-C4	220	<b>275</b>	220	<b>275</b>	220	<b>275</b>
S4L1S-D4	264	<b>330</b>	264	<b>330</b>	264	<b>330</b>
S4L1S-E4	304	<b>380</b>	320	<b>400</b>	304	<b>380</b>
S4L1S-F4	340	<b>425</b>	360	<b>450</b>	352	<b>440</b>

## 60Hz

Class H 125/40						
Winding Number	311					
Volts	416		440		480	
Model	kW	kVA	kW	kVA	kW	kVA
S4L1S-C4	<b>230</b>	288	<b>240</b>	300	<b>252</b>	315
S4L1S-D4	<b>275</b>	344	<b>288</b>	360	<b>300</b>	375
S4L1S-E4	<b>320</b>	400	<b>336</b>	420	<b>352</b>	440
S4L1S-F4	<b>364</b>	455	<b>384</b>	480	<b>400</b>	500

Standby 150/40						
Winding Number	311					
Volts	416		440		480	
Model	kW	kVA	kW	kVA	kW	kVA
S4L1S-C4	<b>240</b>	300	<b>256</b>	320	<b>268</b>	335
S4L1S-D4	<b>292</b>	365	<b>308</b>	385	<b>320</b>	400
S4L1S-E4	<b>336</b>	420	<b>356</b>	445	<b>368</b>	460
S4L1S-F4	<b>388</b>	485	<b>412</b>	515	<b>428</b>	535

Standby 163/27						
Winding Number	311					
Volts	416		440		480	
Model	kW	kVA	kW	kVA	kW	kVA
S4L1S-C4	<b>248</b>	310	<b>264</b>	330	<b>276</b>	345
S4L1S-D4	<b>300</b>	375	<b>316</b>	395	<b>332</b>	415
S4L1S-E4	<b>348</b>	435	<b>364</b>	455	<b>380</b>	475
S4L1S-F4	<b>400</b>	500	<b>424</b>	530	<b>440</b>	550



# Specification

MODEL	S4-Special
Ratings at 50Hz (kVA) Class H	250-400
Ratings at 60Hz (kVA) Class H	288-500
Specifications	
Voltage Range	380-690
Poles	4
Technology	Wire Wound
AVR	Analogue
Voltage Sensing	2 Phase
Bearing Arrangement	Single
SAE Adaptors	SAE 1
Terminals	12
Material Insulation Class	H
Excitation System	Self Exciting
Ingress Protection	IP23
Connection with other machines	Paralleling capability
Optional Features	
Bearing Arrangement	Double
SAE Adaptors	0.5, 0, 2, 3
Excitation System	PMG
Ingress Protection	IP23 Air Filters
Output Configurations	1 Phase Reconnectable
Voltage sensing	3 Phase sensing
Temperature Monitoring	Winding RTDs
Temperature Monitoring	Thermistors
Environmental Protection	Anti-Condensation Heater
Adaptor Feet	X
Flexible Feet	X
Prime Movers	
Diesel Engine	✓
Gas Engine	✓

# Accessories

Factory Build Options
Anti-Condensation Heater (with Terminal Box)
Quadrature Droop kit
Bearing RTD (Each Bearing)
Air Inlet Filter
Drip Proof Louvres
Remote Voltage Trimmer
Radio frequency interference (RFI) Suppressor Kit
Excitation Loss Module
Diode Failure Detector
CSA Approval

Available With	MX321	MX341	AS440
Current Sensing Kit	✓	✓	✓
Controlled Short Circuit	✓	X	X
Manual Voltage Regulator	✓	✓	X
Frequency Detection Module	✓	✓	X
Power Factor Controller - PFC3	✓	✓	✓
Remote Control Interface	✓	✓	✓
Excitation Circuit Breaker	✓	✓	✓
Dual AVR	✓	✓	X

Voltage Regulator Options	PMG
AS440 AVR	X
MX341	✓
MX321 AVR	✓
UL AS440	X
UL MX341	✓
No AVR	X
No AVR	✓

\*GA drawings are indicative of S4-F core dimensions

\*\*Please contact our applications department for additional voltages that are available (applications@cummins.com)

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# S4 Marine Ratings

## 50Hz

Class B (70°C) Temperature Rise, Continuous, 50°C Ambient						
Winding Number	311					
Volts	380		400		415	
Model	kW	kVA	kW	kVA	kW	kVA
S4L1M-C4	148	<b>185</b>	148	<b>185</b>	148	<b>185</b>
S4L1M-D4	160	<b>200</b>	160	<b>200</b>	160	<b>200</b>
S4L1M-E4	192	<b>240</b>	192	<b>240</b>	192	<b>240</b>
S4L1M-F4	220	<b>275</b>	220	<b>275</b>	220	<b>275</b>

Class F (90°C) Temperature Rise, Continuous, 50°C Ambient						
Winding Number	311					
Volts	380		400		415	
Model	kW	kVA	kW	kVA	kW	kVA
S4L1M-C4	168	<b>210</b>	168	<b>210</b>	168	<b>210</b>
S4L1M-D4	184	<b>230</b>	184	<b>230</b>	184	<b>230</b>
S4L1M-E4	220	<b>275</b>	220	<b>275</b>	220	<b>275</b>
S4L1M-F4	248	<b>310</b>	248	<b>310</b>	248	<b>310</b>

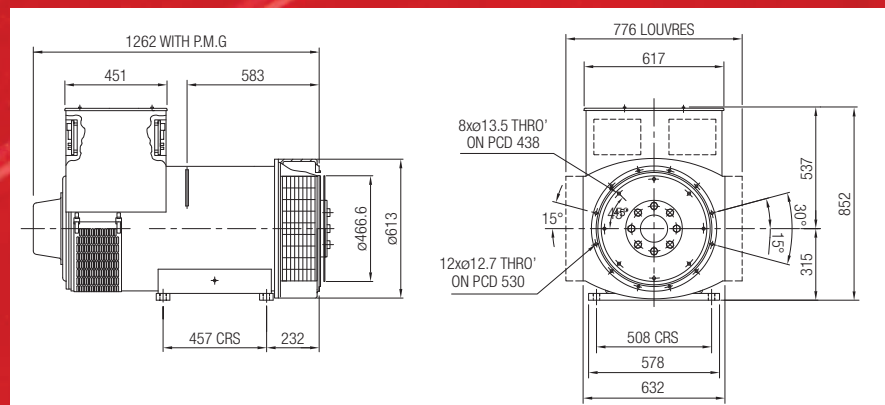
Class H (110°C) Temperature Rise, Continuous, 50°C Ambient						
Winding Number	311					
Volts	380		400		415	
Model	kW	kVA	kW	kVA	kW	kVA
S4L1M-C4	172	<b>215</b>	172	<b>215</b>	172	<b>215</b>
S4L1M-D4	192	<b>240</b>	192	<b>240</b>	192	<b>240</b>
S4L1M-E4	236	<b>295</b>	236	<b>295</b>	236	<b>295</b>
S4L1M-F4	272	<b>340</b>	272	<b>340</b>	272	<b>340</b>

## 60Hz

Class B (70°C) Temperature Rise, Continuous, 50°C Ambient						
Winding Number	311					
Volts	440		460		480	
Model	kW	kVA	kW	kVA	kW	kVA
S4L1M-C4	<b>172</b>	215	<b>176</b>	220	<b>180</b>	225
S4L1M-D4	<b>188</b>	235	<b>200</b>	250	<b>208</b>	260
S4L1M-E4	<b>228</b>	285	<b>236</b>	295	<b>244</b>	305
S4L1M-F4	<b>264</b>	330	<b>268</b>	335	<b>276</b>	345

Class F (90°C) Temperature Rise, Continuous, 50°C Ambient						
Winding Number	311					
Volts	440		460		480	
Model	kW	kVA	kW	kVA	kW	kVA
S4L1M-C4	<b>196</b>	245	<b>200</b>	250	<b>204</b>	255
S4L1M-D4	<b>216</b>	270	<b>224</b>	280	<b>236</b>	295
S4L1M-E4	<b>260</b>	325	<b>272</b>	340	<b>276</b>	345
S4L1M-F4	<b>300</b>	375	<b>304</b>	380	<b>316</b>	395

Class H (110°C) Temperature Rise, Continuous, 50°C Ambient						
Winding Number	311					
Volts	440		460		480	
Model	kW	kVA	kW	kVA	kW	kVA
S4L1M-C4	<b>208</b>	260	<b>212</b>	265	<b>216</b>	270
S4L1M-D4	<b>244</b>	305	<b>256</b>	320	<b>264</b>	330
S4L1M-E4	<b>280</b>	350	<b>292</b>	365	<b>296</b>	370
S4L1M-F4	<b>324</b>	405	<b>332</b>	415	<b>340</b>	425





# Specification

MODEL	S4-Marine
Ratings at 50Hz (kVA) Class H	200-340
Ratings at 60Hz (kVA) Class H	235-440
Specifications	
Voltage Range	380-690
Poles	4
Technology	Wire Wound
AVR	Analogue
Voltage Sensing	2 Phase
Bearing Arrangement	Single
SAE Adaptors	SAE 1
Terminals	12
Material Insulation Class	H
Excitation System	Self Exciting
Ingress Protection	IP23
Connection with other machines	Paralleling capability
Optional Features	
Bearing Arrangement	Double
SAE Adaptors	0.5, 0, 2, 3
Excitation System	PMG
Ingress Protection	IP23 Air Filters
Output Configurations	1 Phase Reconnectable
Voltage sensing	3 Phase sensing
Temperature Monitoring	Winding RTDs
Temperature Monitoring	Thermistors
Environmental Protection	Anti-Condensation Heater
Adaptor Feet	X
Flexible Feet	X
Prime Movers	
Diesel Engine	✓
Gas Engine	✓

# Accessories

Factory Build Options
Anti-Condensation Heater (with Terminal Box)
Quadrature Droop kit
Bearing RTD (Each Bearing)
Air Inlet Filter
Drip Proof Louvres
Remote Voltage Trimmer
Radio frequency interference (RFI) Suppressor Kit
Excitation Loss Module
Diode Failure Detector
CSA Approval

Available With	MX321	MX341
Current Sensing Kit	✓	✓
Controlled Short Circuit	✓	X
Manual Voltage Regulator	✓	✓
Frequency Detection Module	✓	✓
Power Factor Controller - PFC3	✓	✓
Remote Control Interface	✓	✓
Excitation Circuit Breaker	✓	✓
Dual AVR	✓	✓

Voltage Regulator Options	PMG
MX341	✓
MX321 AVR	✓
UL MX341	✓
No AVR	✓

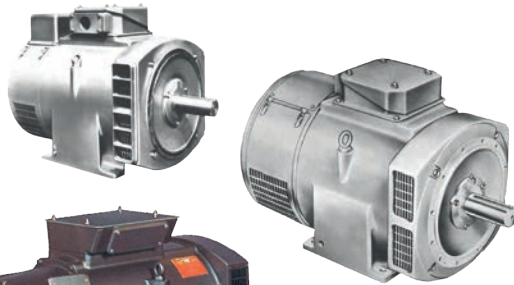
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\*\*Please contact our applications department for additional voltages that are available (applications@cummins.com)



## PRODUCT HERITAGE



**1973**

World's  
First alternator  
to utilise a PMG  
for AVR excitation



**1950**

World's  
First regulating  
alternator  
produced



**1966**  
C Range



**1966**

World's First  
volume produced  
brushless  
alternator

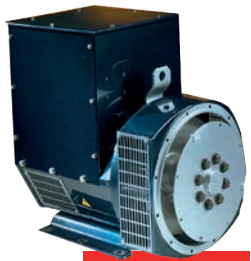
**1973**  
AC Range



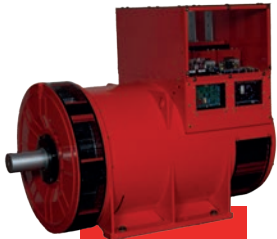
**1958**

World's First  
rotating field  
alternator  
produced





**1988**  
UC Range



**2004**  
P7 Range



**2007**  
P0/P1  
Range



**2016**  
S Range



**2019**  
S7 Range



**2016**  
S0/S1  
Range



**2017**  
S6 Range



**2019**  
S9 Range



**1985**  
HC Range



**1992**  
BC Range

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Part No. PB\_S4\_EN/AF\_Rev.4



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Technologies**

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