



STAMFORD® S-RANGE STAMFORD® S4

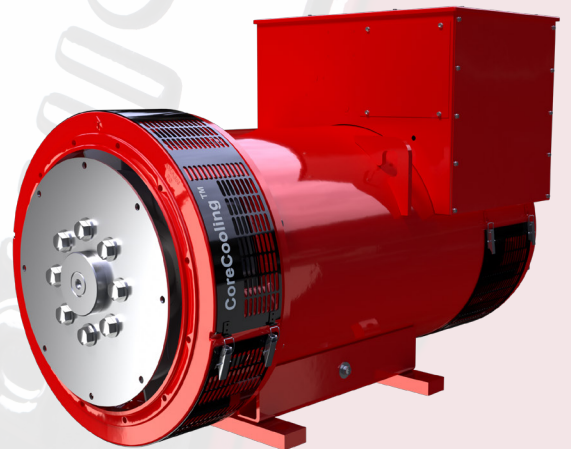


LOW VOLTAGE ALTERNATOR

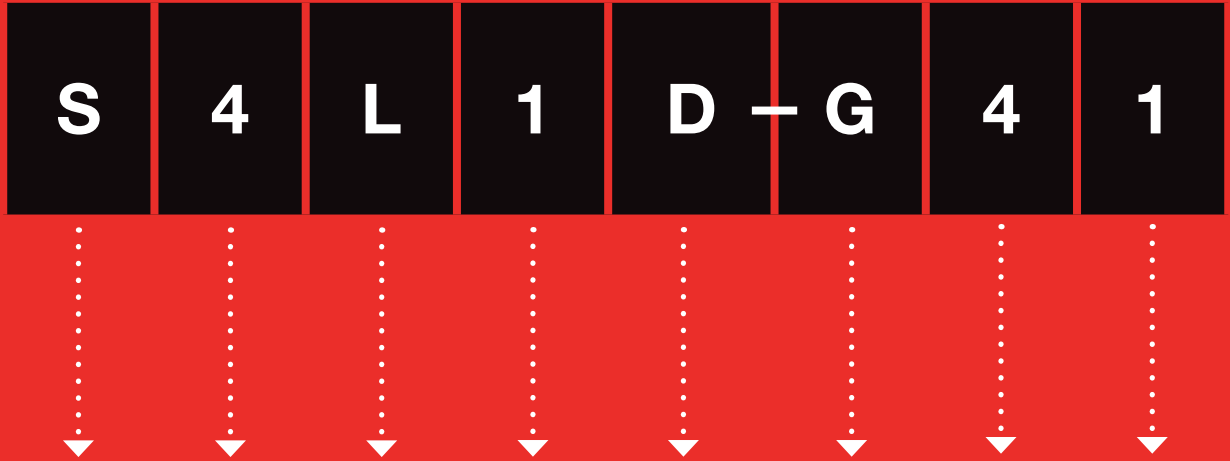
260-450 kVA 50Hz

325-563 kVA 60Hz

STAMFORD | AvK™
POWERING TOMORROW, TOGETHER



The S4 Nomenclature

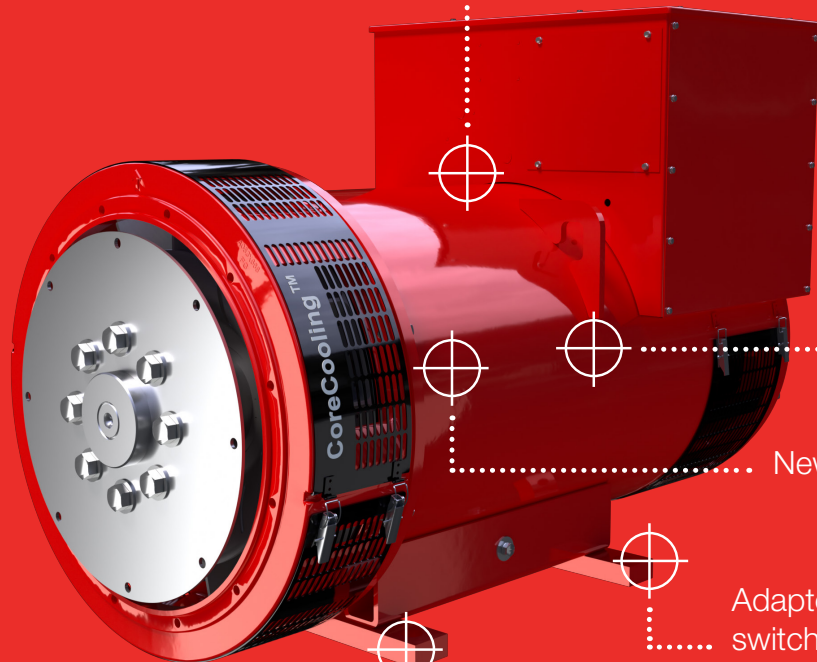


Character	Brand	Family Series	Voltage	Revision	Descriptor	Core Length	Pole	Bearing
Examples	STAMFORD	4	L = Low	1	D = Dedicated S = Special M = Marine	C/D/E/F/G	4	1/2

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	250	208	260	208	260
S4L1D-D4	240	300	248	310	248	310
S4L1D-E4	280	350	288	360	288	360
S4L1D-F4	320	400	332	415	332	415
S4L1D-G4	344	430	360	450	360	450

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

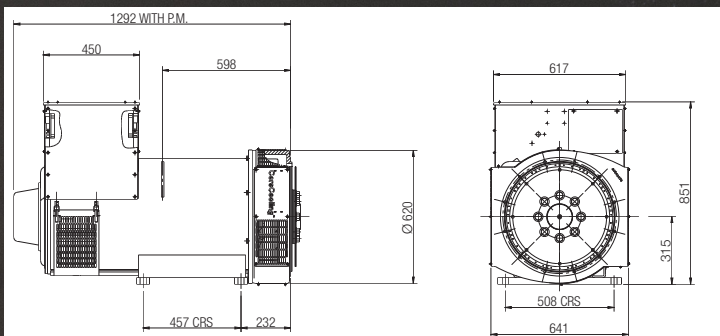
Standby 163/27						
Winding Number	311					
Volts	380		400		415	
Model	kW	kVA	kW	kVA	kW	kVA
S4L1D-C4	220	275	228	285	228	285
S4L1D-D4	264	330	272	340	272	340
S4L1D-E4	304	380	332	415	320	400
S4L1D-F4	340	425	372	465	364	455
S4L1D-G4	380	475	400	500	400	500

60Hz

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

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

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

**3 YEAR
WARRANTY**

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	250	200	250	200	250
S4L1S-D4	240	300	240	300	240	300
S4L1S-E4	280	350	280	350	280	350
S4L1S-F4	320	400	320	400	320	400

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

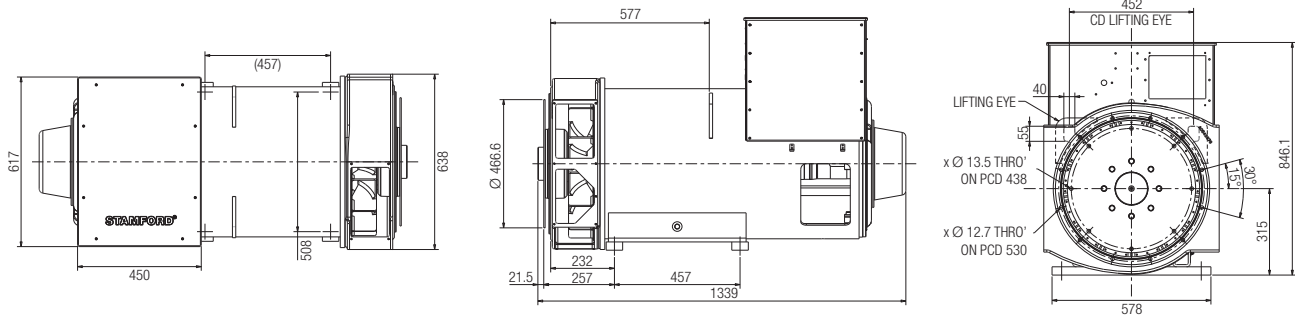
Standby 163/27						
Winding Number	311					
Volts	380		400		415	
Model	kW	kVA	kW	kVA	kW	kVA
S4L1S-C4	220	275	220	275	220	275
S4L1S-D4	264	330	264	330	264	330
S4L1S-E4	304	380	320	400	304	380
S4L1S-F4	340	425	360	450	352	440

60Hz

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

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

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



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	185	148	185	148	185
S4L1M-D4	160	200	160	200	160	200
S4L1M-E4	192	240	192	240	192	240
S4L1M-F4	220	275	220	275	220	275

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	210	168	210	168	210
S4L1M-D4	184	230	184	230	184	230
S4L1M-E4	220	275	220	275	220	275
S4L1M-F4	248	310	248	310	248	310

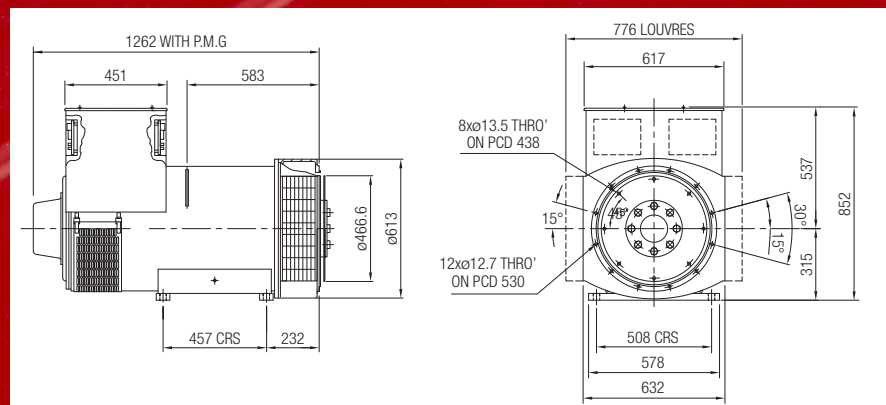
Class H (110°C) Temperature Rise, Continuous, 50°C Ambient						
Winding Number	311					
Volts	380		400		415	
Model	kW	kVA	kW	kVA	kW	kVA
S4L1M-C4	172	215	172	215	172	215
S4L1M-D4	192	240	192	240	192	240
S4L1M-E4	236	295	236	295	236	295
S4L1M-F4	272	340	272	340	272	340

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	172	215	176	220	180	225
S4L1M-D4	188	235	200	250	208	260
S4L1M-E4	228	285	236	295	244	305
S4L1M-F4	264	330	268	335	276	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	196	245	200	250	204	255
S4L1M-D4	216	270	224	280	236	295
S4L1M-E4	260	325	272	340	276	345
S4L1M-F4	300	375	304	380	316	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	208	260	212	265	216	270
S4L1M-D4	244	305	256	320	264	330
S4L1M-E4	280	350	292	365	296	370
S4L1M-F4	324	405	332	415	340	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	✓

*GA drawings are indicative of S4-F core dimensions

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



Applications



Case Study

Purpose:

Prime Power

Location:

Cortina d'Ampezzo, Italy

Specified:

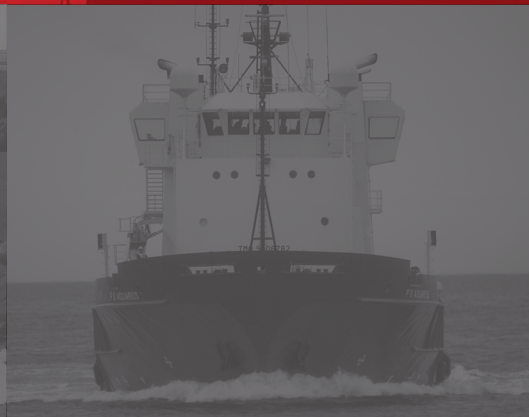
72 x **STAMFORD**[®] range of alternators

Visa SpA, was chosen to supply power for the Alpine World Ski Championships in Cortina d'Ampezzo, February 2021, a popular racing event set at the foot of the Tofane Mountains, Italy. As the chosen technical sponsor for the event, Visa specified **STAMFORD**[®] alternators for use in the gensets for the 8MW output of power required.

A fleet of 72 gensets, which had been specially developed with **STAMFORD**[®] S-Range alternators contributed an overall output of 12,690 kVA power supply. Each set was distributed throughout Cortina in strategic points of the territory to ensure maximum safety energy flow in support of the electricity grid during event.

“We use **STAMFORD**[®] in our products because of the exceptional quality and reliability needed in market challenging sectors”

- Project Manager, Visa SpA



End-to-end Support

From pre-sales applications support all the way through to our extensive worldwide channel of customer service and authorised Parts and Service dealers servicing your **STAMFORD® I AvK®** alternators, we're there for you.

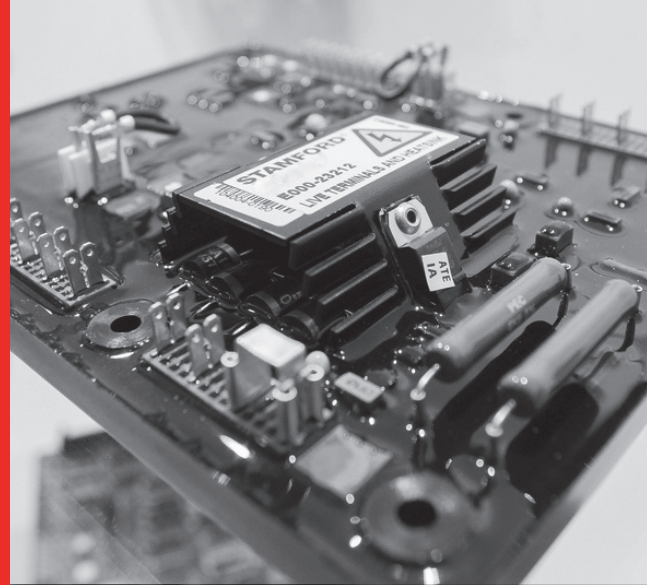
Selecting the right alternator for the right application? We understand the performance requirements that each application and operating environment demands.

Always Advancing — We also offer a comprehensive suite of Service Training courses designed to introduce, refresh, develop or expand your existing knowledge of STAMFORD and AvK genuine products.

We are here to support your future decarbonisation goals, through our end-to-end expertise in versatile solutions. Backed by the reassurance of our world-renowned brands recognised for reliability and complete peace of mind, we are with you on your journey towards sustainability.



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Part No. PB_S4_EN/AF_Rev.5

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