



POWER Gen

PREMIUM SERIES GENERATORS

Generator Specification Sheet

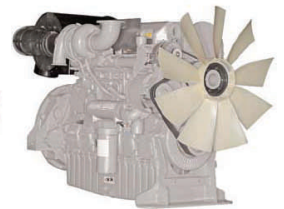
MODEL PG 450 AP



Powered by:

 **Perkins®**

STAMFORD



GENERATING SET PROFORMANCE	50Hz	60Hz
VOLTAGE	V400	
PHASES	Three	
PRIME RATED POWER	450.0kVA	
STANDBY RATED POWER	500.0kVA	
POWER FACTOR	0.80 PF	
FUEL USAGE @ 75%	73.0 L/hr	

The POWERGen Group Ltd:



POWERGen



POWERServ



POWERPump



POWERGenHire



POWERGen Group Ltd

CONTACT

Tel: + 64 7 543 1336

Fax: + 64 7 543 1346

Toll Free: **0800 679 800**

STREET ADDRESS

49 Whiore Avenue

Tauriko

Tauranga

POSTAL ADDRESS

PO Box 14254

Tauranga Mail Centre

3143 New Zealand

ENGINE	PERKINS	2506C-E15TAG1
PERFORMANCE	50Hz	60Hz
BASELOAD RATED POWER	304KWm	
PRIME RATED POWER	396KWm	
STANDBY RATED POWER	435KWm	
FUEL CONSUMPTION	216g/KWh @ 100% 212g/KWh @ 75% 222g/KWh @ 50%	
TYPE	Diesel 4 stroke	
ASPIRATION	Turbocharged air to air charged cooled	
INJECTION TYPE	Direct injection	
ENGINE GOVERNOR	Electronic governor	
CYLINDERS AND ARRANGEMENT	Six in line	
BORE AND STROKE	137mm x 171mm	
COMPRESSION RATIO	16.1 : 1	
ELECTRICAL SYSTEM VOLTAGE	24 volt	
BATTERY TYPE	Lead acid, 24V	
DERATING FOR TEMPERATURE	40deg C	
DERATING FOR ALTITUDE	1000m	
DERATING FOR HUMIDITY	90%	

The POWERGen Group Ltd:

**POWERGen****POWERServ****POWERPump****POWERGenHire****POWERGen Group Ltd****CONTACT**Tel: + 64 7 543 1336
Fax: + 64 7 543 1346
Toll Free: **0800 679 800****STREET ADDRESS**49 Whiore Avenue
Tauriko
Tauranga**POSTAL ADDRESS**PO Box 14254
Tauranga Mail Centre
3143 New Zealand

ALTERNATOR**STAMFORD**

PERFORMANCE	50Hz	60Hz
MODEL	HCI544C	
BASELOAD RATED POWER 40 deg C	445kVA	
PRIME RATED POWER 40 deg C	500kVA	
STANDBY RATED POWER 40 deg C	512kVA	
STANDBY RATED POWER 27 deg C	520kVA	
EFFICIENCY	94%	
STANDARD WING CONNECTIONS	Star Delta	
EXCITER	Self excited	
POLES	4 poles	
PHASES	Three phases	
WIRES	12 leads	
VOLTAGE REGULATION	+/- 1.0%	
INSULATION CLASS	Class H	
ENCLOSURE	IP23	
MAXIMUM OVERSPEED	150%	
STANDARD AVR MODEL	SX440	
OPTIONAL AVR MODEL	MX341 & P.M.G	
DERATING FOR TEMPERATURE	40 deg C	
DERATING FOR ALTITUDE	1000mm	

The POWERGen Group Ltd:

**POWER**Gen**POWER**Serv**POWER**Pump**POWER**GenHire**POWER**Gen Group Ltd**CONTACT**

Tel: + 64 7 543 1336

Fax: + 64 7 543 1346

Toll Free: **0800 679 800****STREET ADDRESS**

49 Whiore Avenue

Tauriko

Tauranga

POSTAL ADDRESS

PO Box 14254

Tauranga Mail Centre

3143 New Zealand

DIMENSIONS AND CAPACITY

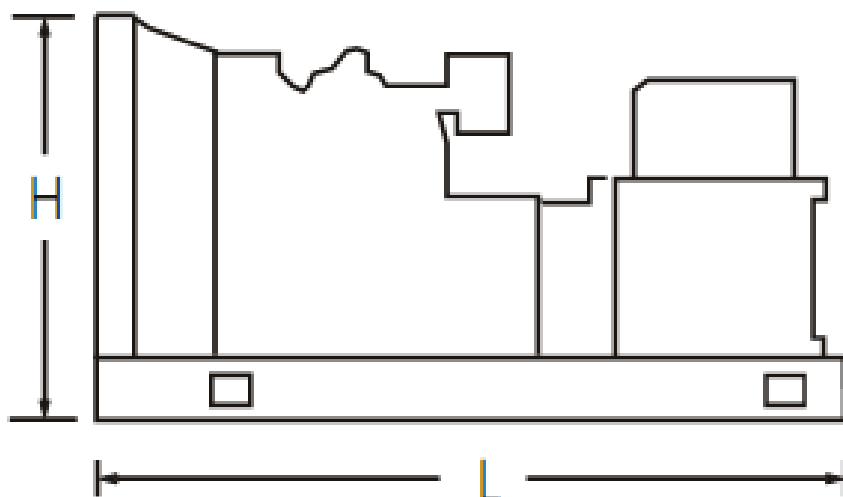
STANDARD MODELS

	INTEGRATED FUEL TANK CAPACITY		WEIGHT	DIMENSIONS		
	STANDARD	OPTIONAL	KG	LENGTH	WIDTH	HEIGHT
OPEN SKID TYPE	500	TBA	3583kg	3935mm	1150mm	2080mm

GENERATOR SET EQUIPMENT

STANDARD MODELS

- Heavy duty steel base frame
- Pad type anti- vibration dampers
- Integrated fuel tank, base mounted
- 12V battery
- Key start switch
- Emergency stop button
- Silencer industrial type (open skid type)



The POWERGen Group Ltd:



CONTACT

Tel: + 64 7 543 1336
Fax: + 64 7 543 1346
Toll Free: **0800 679 800**

STREET ADDRESS

49 Whiore Avenue
Tauriko
Tauranga

POSTAL ADDRESS

PO Box 14254
Tauranga Mail Centre
3143 New Zealand



InteliLite® AMF 20/AMF 25 Automatic Mains Failure Controller



AUTOMATIC MODELS- EQUIPMENT

4 poles ABB circuit breaker, electronic control unit ComAp AMF25, control panel box key, emergency stop button, water jacket heater,

AUTOMATIC MODELS- PROTECTORS

Low oil pressure, low fuel level, overload, over/ under frequency, low voltage, over/ under battery voltage belt breakage

AUTOMATIC MODELS- INSTRUMENTATION

Voltmeter, ammeter (3 phases), frequency meter, hour meter, battery voltage meter, fuel level

The POWERGen Group Ltd:

**POWERGen****POWERServ****POWERPump****POWERGenHire****POWERGen Group Ltd****CONTACT**

Tel: + 64 7 543 1336

Fax: + 64 7 543 1346

Toll Free: **0800 679 800****STREET ADDRESS**

49 Whiore Avenue

Tauriko

Tauranga

POSTAL ADDRESS

PO Box 14254

Tauranga Mail Centre

3143 New Zealand



2500 Series

2506C-E15TAG1

Diesel Engine – Electropak

435 kWm at 1500 rpm

490 kWm at 1800 rpm



Economic Power

- Mechanically operated unit fuel injectors with advanced electronic control, combined with carefully matched turbocharging, give excellent fuel atomisation which leads to exceptional low fuel consumption.

Reliable Power

- Developed and tested using the latest engineering techniques and finite element analysis for high reliability.
- Low oil usage and low wear rates.
- High compression ratio ensures clean rapid starting in all conditions.
- Support comes from a worldwide network of 4,000 distributors and dealers.

Compact, Clean and Efficient Power

- Exceptional power to weight ratio and compact size gives optimum power density for ease of installation and more cost effective transportation.
- Designed to provide excellent service access for ease of maintenance.

The 2500 Series engine has been developed using the latest engineering techniques and builds on the strengths of the already very successful 2000 Series family and addresses today's uncompromising demands within the power generation industry. Developed from a proven heavy-duty industrial base, these products offer superior performance and reliability.

The 2506C-E15TAG1 is a turbocharged and air-to-air charge-cooled, 6 cylinder diesel engine. Its premium features provide economic and durable standby duty, exceptional power-to-weight ratio resulting in exceptional fuel consumption and low gaseous emissions and advanced overall performance and reliability making this the prime choice for today's power generation industry.

Certified against the requirements of EU 2007 legislation for non-road mobile machinery, powered by constant speed engines (EU 97/68/EC Stage II).

Engine Speed (rev/min)	Type of Operation	Typical Generator Output (Net)		Engine Power			
				Gross		Net	
		kVA	kWe	kWm	bhp	kWm	bhp
1500	Baseload power*	350	280	320	429	304	408
	Prime power	455	364	412	552	396	531
	Standby power	500	400	451	605	435	583
1800	Prime power	500	400	458	615	435	583
	Standby power	563	450	514	689	490	657

The above ratings represent the engine performance capabilities to conditions specified in ISO 8528/1, ISO 3046/1:1986, BS 5514/1.

Derating may be required for conditions outside these; consult Perkins Engines Company Limited. Generator powers are typical and are based on an average alternator efficiency and a power factor (cos. θ) of 0.8.

Fuel specification: BS 2869: Part 2 1998 Class A2 or ASTM D975 D2. Lubricating oil: 15W40 to API C14.

Rating Definitions

Baseload Power: Power available for continuous full load operation. Overload of 10% permitted for 1 hour in every 12 hours operation.

Prime Power: Power available at variable load with a load factor not exceeding 80% of the prime power rating. Overload of 10% is permitted for 1 hour in every 12 hours' operation.

Standby Power: Power available in the event of a main power network failure up to a maximum of 500 hours per year of which up to 300 hours may be run continuously. Load factor may be up to 100% of standby power. No overload is permitted.

* Baseload ratings indicated are under development and will be available later.

2500 Series

2506C-E15TAG1

Standard ElectropaK Specification

Air inlet

- Mounted air filter

Fuel system

- Mechanically actuated electronically controlled unit fuel injectors with full authority electronic control
- Governing to ISO 8528-5 class G3 with isochronous capability
- Replaceable 'Ecoplus' fuel filter elements with primary filter/water separator
- Fuel cooler

Lubrication system

- Wet sump with filler and dipstick
- Full-flow replaceable 'Ecoplus' filter
- Oil cooler integral with filter header

Cooling system

- Gear-driven circulating pump
- Mounted belt-driven fan
- Radiator supplied loose incorporating air-to-air charge cooler
- System designed for ambients up to 50°C

Electrical equipment

- 24 volt starter motor and 24 volt 70 amp alternator with DC output
- ECM mounted on engine with wiring looms and sensors
- 3 level engine protection system

Flywheel and housing

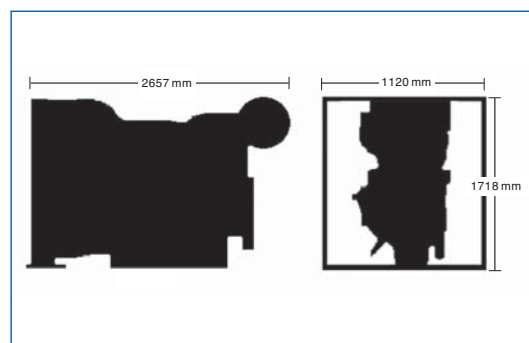
- High inertia flywheel to SAE J620 size 14
- SAE 1/2 flywheel housing

Mountings

- Front engine mounting bracket

Optional Equipment

- 110 volt/240 volt immersion heater
- Additional speed sensor
- Temperature and pressure sensors for gauges
- Air filter rain hood
- Twin starters/facility for second starter
- Tool kit
- Additional manuals
- Closed circuit crankcase ventilation system



Engine Speed	Fuel Consumption			
	1500 rev/min		1800 rev/min	
	g/kWh	l/hr	g/kWh	l/hr
Standby	217	109	201	114
Prime power	216	99	199	100
75% of prime power	212	73	204	77
50% of prime power	222	51	217	55

General Data

Number of cylinders	6
Cylinder arrangement	Vertical in-line
Cycle	4 stroke
Induction system	Turbocharged and air-to-air charge cooled
Combustion system	Direct injection
Cooling system	Water-cooled
Bore and stroke	137 mm x 171 mm
Displacement	15.2 litres
Compression ratio	16:1
Direction of rotation	Anti-clockwise, viewed on flywheel
Total lubrication system capacity	62 litres
Total coolant capacity	58 litres
Dimensions	Length 2657 mm
	Width 1120 mm
	Height 1718 mm
Dry weight (ElectropaK)	1,633 kg

Final weight and dimensions will depend on completed specification



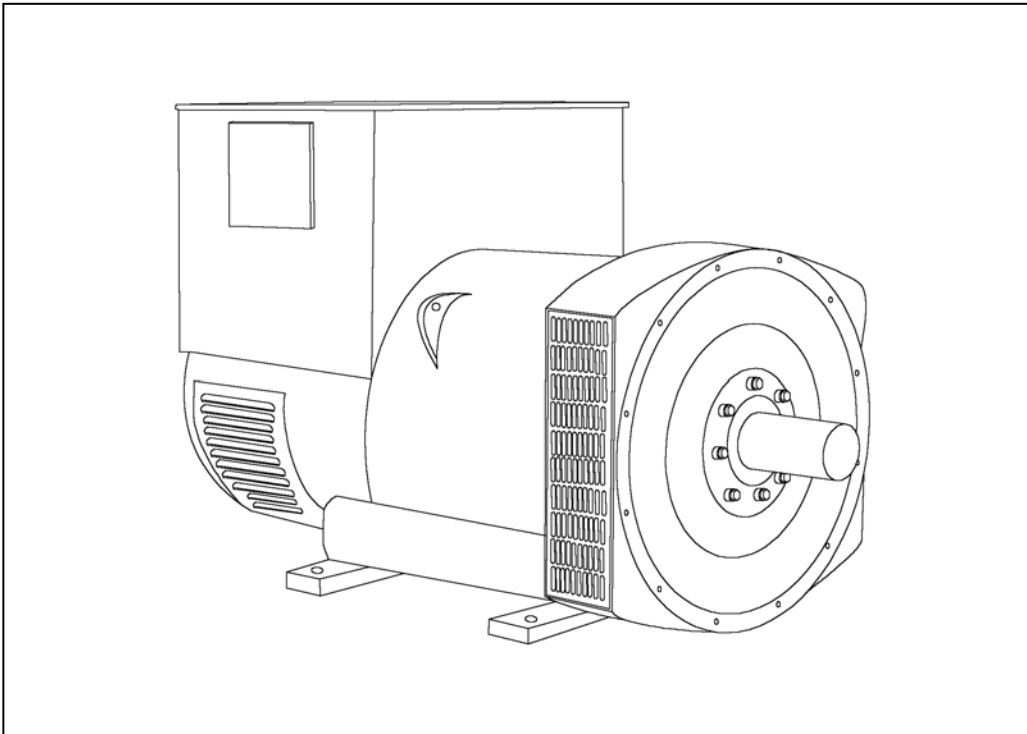
Perkins Engines Company Limited

Peterborough PE1 5NA
United Kingdom
Telephone +44 (0)1733 583000
Fax +44 (0)1733 582240
www.perkins.com



Distributed by

HCI 534C/544C - Technical Data Sheet



HCI534C/544C

SPECIFICATIONS & OPTIONS



STANDARDS

Newage Stamford industrial generators meet the requirements of BS EN 60034 and the relevant section of other international standards such as BS5000, VDE 0530, NEMA MG1-32, IEC34, CSA C22.2-100, AS1359. Other standards and certifications can be considered on request.

VOLTAGE REGULATORS

SX440 AVR - STANDARD

With this self-excited system the main stator provides power via the Automatic Voltage Regulator (AVR) to the exciter stator. The high efficiency semi-conductors of the AVR ensure positive build-up from initial low levels of residual voltage.

The exciter rotor output is fed to the main rotor through a three-phase full-wave bridge rectifier. The rectifier is protected by a surge suppressor against surges caused, for example, by short circuit or out-of-phase paralleling.

The SX440 will support a range of electronic accessories, including a 'droop' Current Transformer (CT) to permit parallel operation with other ac generators.

If 3-phase sensing is required with the self-excited system, the SX421 AVR must be used.

SX421 AVR

This AVR also operates in a self-excited system. It combines all the features of the SX440 with, additionally, three-phase rms sensing for improved regulation and performance. Over voltage protection is provided via a separate circuit breaker. An engine relief load acceptance feature is built in as standard.

MX341 AVR

This sophisticated AVR is incorporated into the Stamford Permanent Magnet Generator (PMG) control system.

The PMG provides power via the AVR to the main exciter, giving a source of constant excitation power independent of generator output. The main exciter output is then fed to the main rotor, through a full wave bridge, protected by a surge suppressor. The AVR has in-built protection against sustained over-excitation, caused by internal or external faults. This de-excites the machine after a minimum of 5 seconds.

An engine relief load acceptance feature can enable full load to be applied to the generator in a single step.

If three-phase sensing is required with the PMG system the MX321 AVR must be used.

We recommend three-phase sensing for applications with greatly unbalanced or highly non-linear loads.

MX321 AVR

The most sophisticated of all our AVRs combines all the features of the MX341 with, additionally, three-phase rms sensing, for improved regulation and performance.

Over voltage protection is built-in and short circuit current level adjustments is an optional facility.

WINDINGS & ELECTRICAL PERFORMANCE

All generator stators are wound to 2/3 pitch. This eliminates triplen (3rd, 9th, 15th ...) harmonics on the voltage waveform and is found to be the optimum design for trouble-free supply of non-linear loads. The 2/3 pitch design avoids excessive neutral currents sometimes seen with higher winding pitches, when in parallel with the mains. A fully connected damper winding reduces oscillations during paralleling. This winding, with the 2/3 pitch and carefully selected pole and tooth designs, ensures very low waveform distortion.

TERMINALS & TERMINAL BOX

Standard generators are 3-phase reconnectable with 12 ends brought out to the terminals, which are mounted on a cover at the non-drive end of the generator. A sheet steel terminal box contains the AVR and provides ample space for the customers' wiring and gland arrangements. It has removable panels for easy access.

SHAFT & KEYS

All generator rotors are dynamically balanced to better than BS6861:Part 1 Grade 2.5 for minimum vibration in operation. Two bearing generators are balanced with a half key.

INSULATION/IMPREGNATION

The insulation system is class 'H'.

All wound components are impregnated with materials and processes designed specifically to provide the high build required for static windings and the high mechanical strength required for rotating components.

QUALITY ASSURANCE

Generators are manufactured using production procedures having a quality assurance level to BS EN ISO 9001.

The stated voltage regulation may not be maintained in the presence of certain radio transmitted signals. Any change in performance will fall within the limits of Criteria 'B' of EN 61000-6-2:2001. At no time will the steady-state voltage regulation exceed 2%.

NB Continuous development of our products entitles us to change specification details without notice, therefore they must not be regarded as binding.

Front cover drawing typical of product range.

HCI534C/544C

WINDING 311

CONTROL SYSTEM	SEPARATELY EXCITED BY P.M.G.							
A.V.R.	MX321	MX341						
VOLTAGE REGULATION	± 0.5 %	± 1.0 %	With 4% ENGINE GOVERNING					
SUSTAINED SHORT CIRCUIT	REFER TO SHORT CIRCUIT DECREMENT CURVES (page 7)							

CONTROL SYSTEM	SELF EXCITED							
A.V.R.	SX440	SX421						
VOLTAGE REGULATION	± 1.0 %	± 0.5 %	With 4% ENGINE GOVERNING					
SUSTAINED SHORT CIRCUIT	SERIES 4 CONTROL DOES NOT SUSTAIN A SHORT CIRCUIT CURRENT							

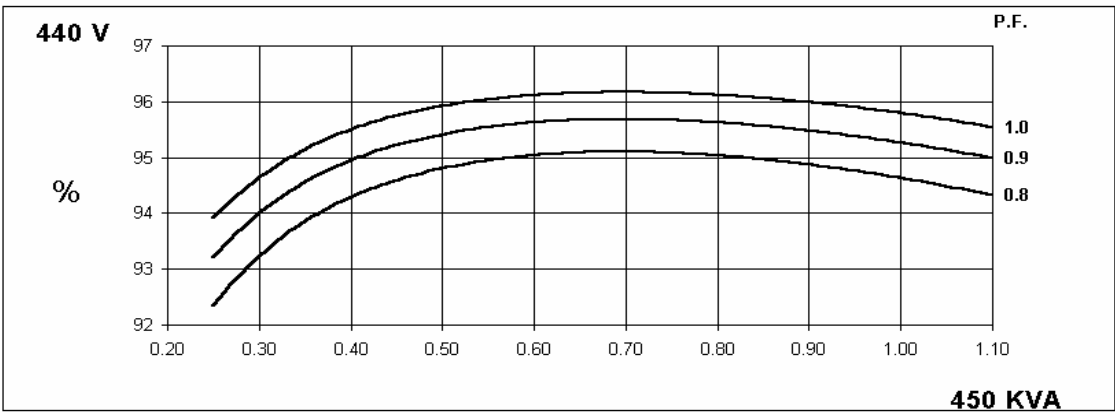
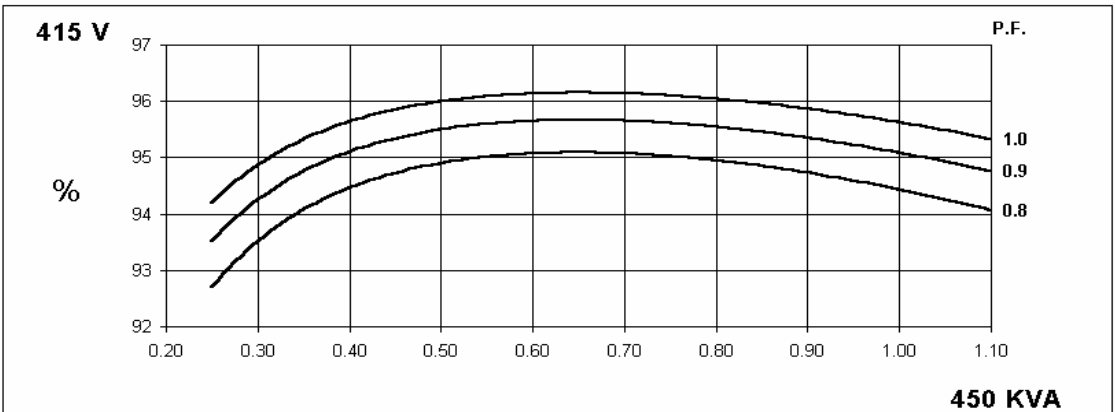
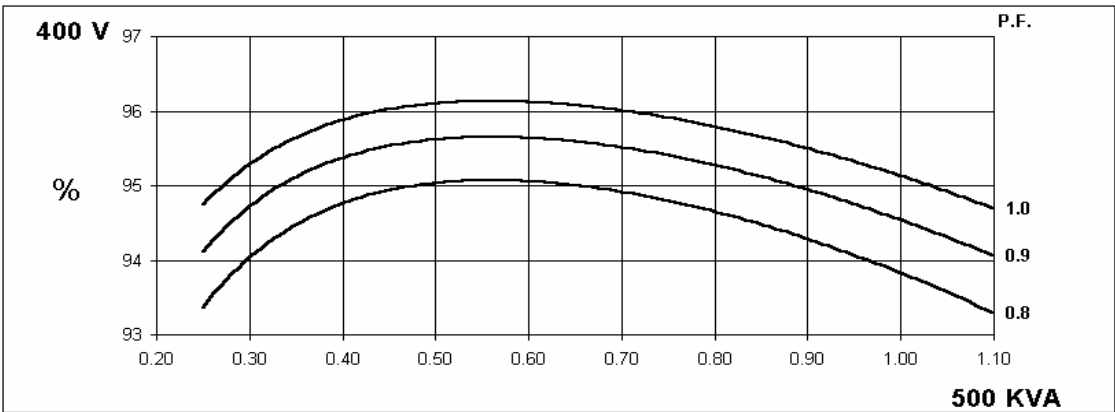
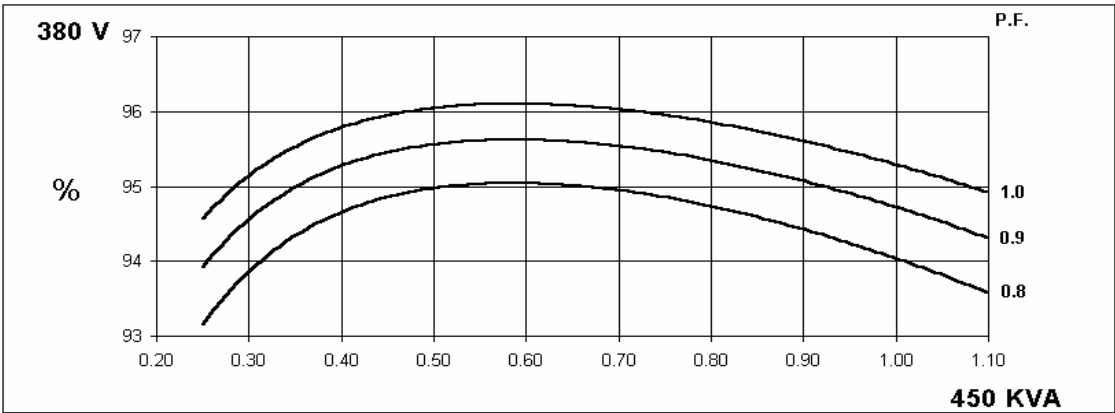
INSULATION SYSTEM	CLASS H							
PROTECTION	IP23							
RATED POWER FACTOR	0.8							
STATOR WINDING	DOUBLE LAYER LAP							
WINDING PITCH	TWO THIRDS							
WINDING LEADS	12							
STATOR WDG. RESISTANCE	0.0065 Ohms PER PHASE AT 22°C SERIES STAR CONNECTED							
ROTOR WDG. RESISTANCE	1.55 Ohms at 22°C							
R.F.I. SUPPRESSION	BS EN 61000-6-2 & BS EN 61000-6-4,VDE 0875G, VDE 0875N. refer to factory for others							
WAVEFORM DISTORTION	NO LOAD < 1.5% NON-DISTORTING BALANCED LINEAR LOAD < 5.0%							
MAXIMUM OVERSPEED	2250 Rev/Min							
BEARING DRIVE END	BALL. 6220 (ISO)							
BEARING NON-DRIVE END	BALL. 6314 (ISO)							
	1 BEARING				2 BEARING			
WEIGHT COMP. GENERATOR	1263 kg				1275 kg			
WEIGHT WOUND STATOR	584 kg				584 kg			
WEIGHT WOUND ROTOR	502 kg				473 kg			
WR² INERTIA	6.8928 kgm²				6.6149 kgm²			
SHIPPING WEIGHTS in a crate	1355 kg				1395 kg			
PACKING CRATE SIZE	166 x 87 x 124(cm)				166 x 87 x 124(cm)			
	50 Hz				60 Hz			
TELEPHONE INTERFERENCE	THF<2%				TIF<50			
COOLING AIR	1.035 m³/sec 2202 cfm				1.312 m³/sec 2780 cfm			
VOLTAGE SERIES STAR	380/220	400/231	415/240	440/254	416/240	440/254	460/266	480/277
VOLTAGE PARALLEL STAR	190/110	200/115	208/120	220/127	208/120	220/127	230/133	240/138
VOLTAGE SERIES DELTA	220/110	230/115	240/120	254/127	240/120	254/127	266/133	277/138
KVA BASE RATING FOR REACTANCE VALUES	450	450	450	450	525	550	581	594
Xd DIR. AXIS SYNCHRONOUS	3.27	2.95	2.74	2.44	3.94	3.69	3.57	3.35
X'd DIR. AXIS TRANSIENT	0.18	0.16	0.15	0.13	0.18	0.17	0.16	0.15
X''d DIR. AXIS SUBTRANSIENT	0.13	0.12	0.11	0.10	0.13	0.12	0.12	0.11
Xq QUAD. AXIS REACTANCE	2.66	2.40	2.23	1.98	3.12	2.92	2.82	2.65
X''q QUAD. AXIS SUBTRANSIENT	0.26	0.24	0.22	0.20	0.34	0.32	0.31	0.29
Xl LEAKAGE REACTANCE	0.07	0.06	0.06	0.05	0.08	0.07	0.07	0.07
X2 NEGATIVE SEQUENCE	0.19	0.17	0.16	0.14	0.23	0.22	0.21	0.20
Xo ZERO SEQUENCE	0.11	0.10	0.09	0.08	0.11	0.10	0.10	0.09
REACTANCES ARE SATURATED			VALUES ARE PER UNIT AT RATING AND VOLTAGE INDICATED					
T'd TRANSIENT TIME CONST.	0.08s							
T''d SUB-TRANSTIME CONST.	0.012s							
T'do O.C. FIELD TIME CONST.	2s							
Ta ARMATURE TIME CONST.	0.017s							
SHORT CIRCUIT RATIO	1/Xd							

**50
Hz**

HCI534C/544C
Winding 311



THREE PHASE EFFICIENCY CURVES



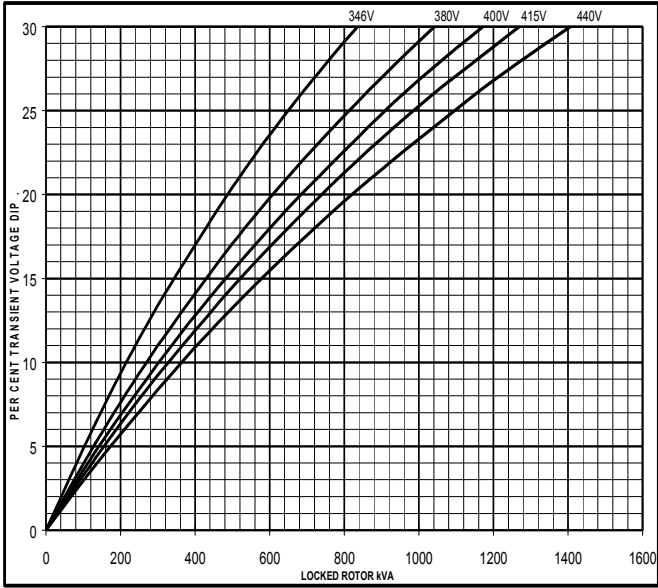
HCI534C/544C
Winding 311



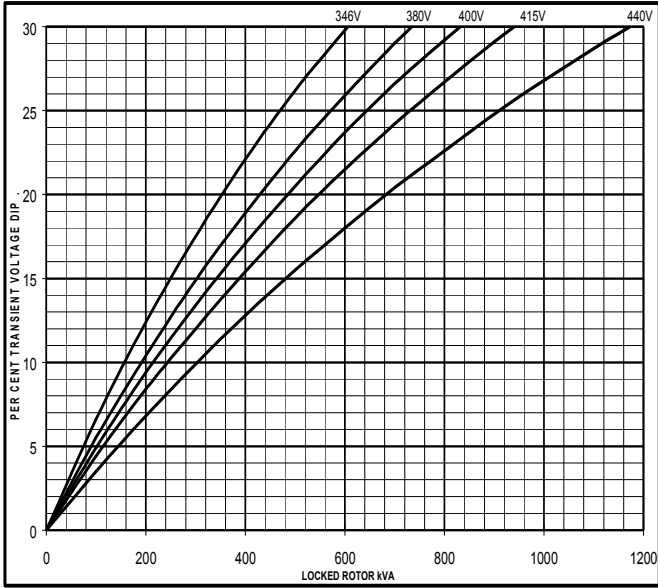
Locked Rotor Motor Starting Curve

**50
Hz**

MX

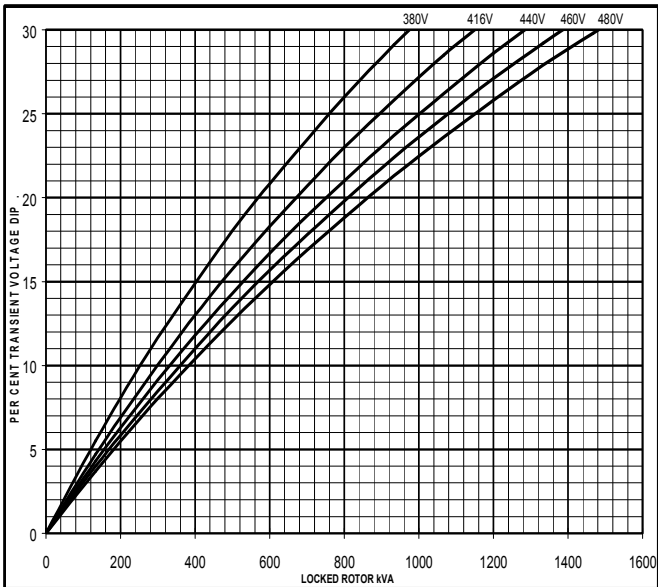


SX

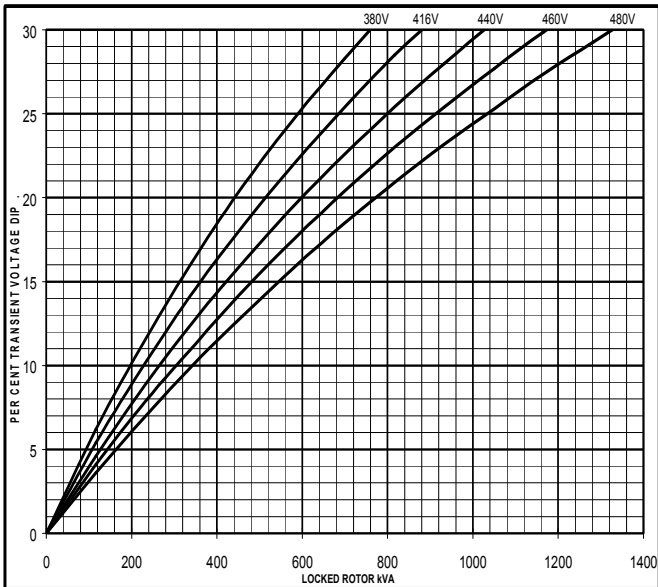


**60
Hz**

MX

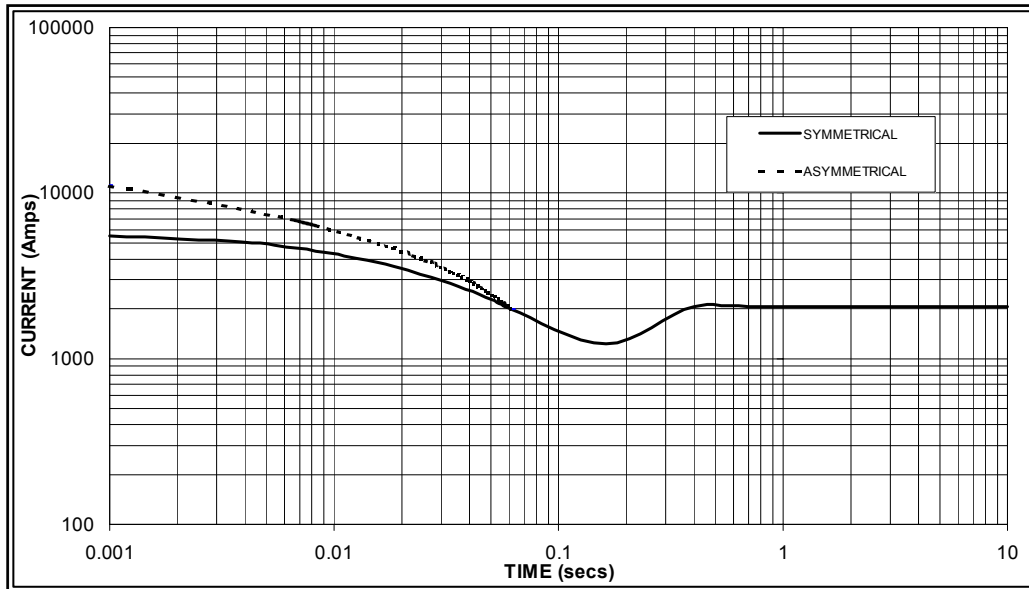


SX



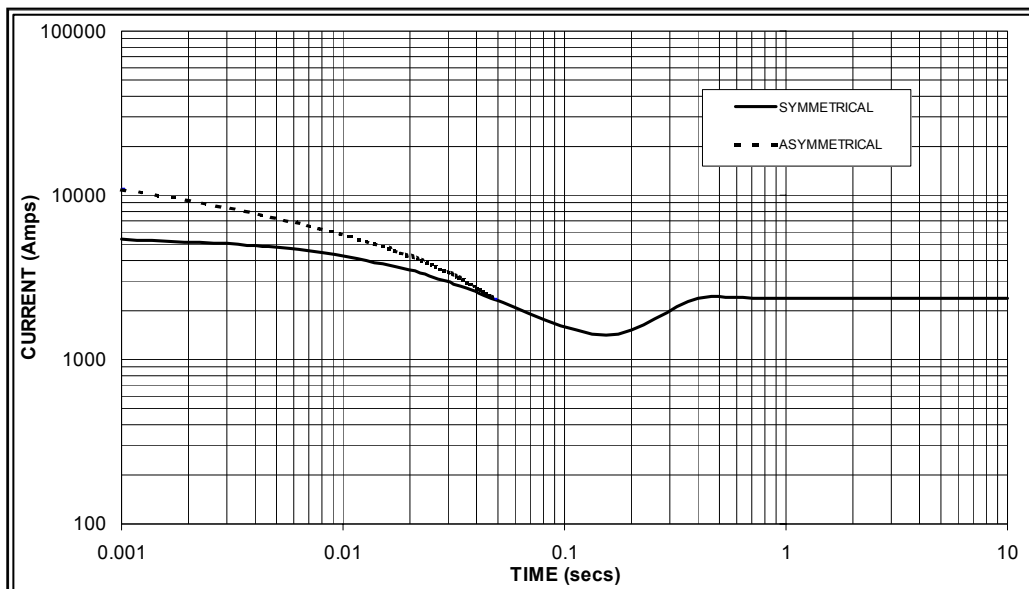
**Three-phase Short Circuit Decrement Curve. No-load Excitation at Rated Speed
Based on star (wye) connection.**

**50
Hz**



Sustained Short Circuit = 2,050 Amps

**60
Hz**



Sustained Short Circuit = 2,350 Amps

Note 1

The following multiplication factors should be used to adjust the values from curve between time 0.001 seconds and the minimum current point in respect of nominal operating voltage :

50Hz		60Hz	
Voltage	Factor	Voltage	Factor
380v	X 1.00	416v	X 1.00
400v	X 1.03	440v	X 1.06
415v	X 1.05	460v	X 1.12
440v	X 1.07	480v	X 1.20

The sustained current value is constant irrespective of voltage level

Note 2

The following multiplication factor should be used to convert the values calculated in accordance with NOTE 1 to those applicable to the various types of short circuit :

	3-phase	2-phase L-L	1-phase L-N
Instantaneous	x 1.00	x 0.87	x 1.30
Minimum	x 1.00	x 1.80	x 3.20
Sustained	x 1.00	x 1.50	x 2.50
Max. sustained duration	10 sec.	5 sec.	2 sec.

All other times are unchanged

Note 3

Curves are drawn for Star (Wye) connected machines. For other connection the following multipliers should be applied to current values as shown :

Parallel Star = Curve current value X 2

Series Delta = Curve current value X 1.732

HCI534C/544C

Winding 311 0.8 Power Factor

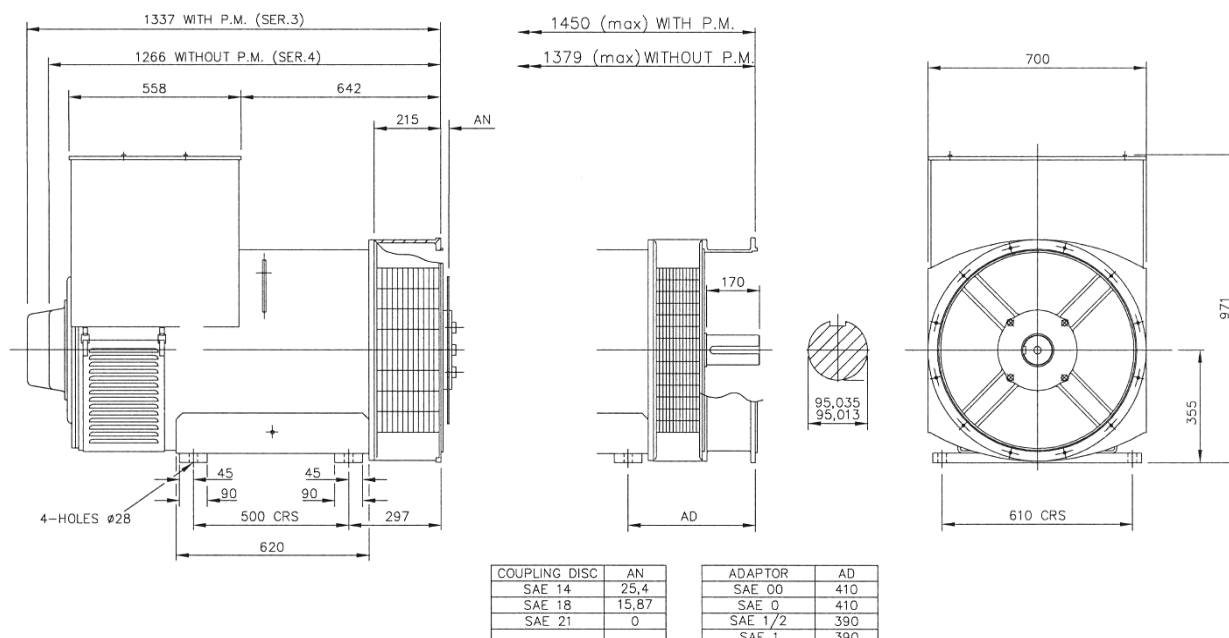


RATINGS

Class - Temp Rise		Cont. F - 105/40°C				Cont. H - 125/40°C				Standby - 150/40°C				Standby - 163/27°C			
50 Hz	Series Star (V)	380	400	415	440	380	400	415	440	380	400	415	440	380	400	415	440
	Parallel Star (V)	190	200	208	220	190	200	208	220	190	200	208	220	190	200	208	220
	Series Delta (V)	220	230	240	254	220	230	240	254	220	230	240	254	220	230	240	254
	kVA	400	445	400	400	450	500	450	450	478	512	478	478	495	520	495	495
	kW	320	356	320	320	360	400	360	360	382	410	382	382	396	416	396	396
	Efficiency (%)	94.5	94.3	94.8	94.9	94.0	93.8	94.4	94.6	93.8	93.7	94.2	94.4	93.6	93.6	94.1	94.3
	kW Input	339	378	338	337	383	426	381	381	408	437	406	405	423	444	421	420

60 Hz	Series Star (V)	416	440	460	480	416	440	460	480	416	440	460	480	416	440	460	480
	Parallel Star (V)	208	220	230	240	208	220	230	240	208	220	230	240	208	220	230	240
	Delta (V)	240	254	266	277	240	254	266	277	240	254	266	277	240	254	266	277
	kVA	481	500	531	538	525	550	581	594	550	581	613	625	569	600	631	644
	kW	385	400	425	430	420	440	465	475	440	465	490	500	455	480	505	515
	Efficiency (%)	94.3	94.4	94.4	94.5	94.0	94.1	94.1	94.2	93.8	93.9	93.9	94.0	93.6	93.7	93.7	93.9
	kW Input	408	424	450	455	447	468	494	504	469	495	522	532	486	512	539	549

DIMENSIONS



PO Box 17 • Barnack Road • Stamford • Lincolnshire • PE9 2NB
 Tel: 00 44 (0)1780 484000 • Fax: 00 44 (0)1780 484100
 Website: www.newage-avkseg.com

New IntelliLite^{NT}



SINGLE SET GEN-SET CONTROLLER

Description

IntelliLite^{NT} models are the new integrated controllers for gen-sets operating in single standby mode. Based on the field proven IntelliLite architecture, the new controllers fulfill every requirement needed for AMF and MRS applications – including modem and Internet control, user configuration and complete gen-set monitoring and protection.

IntelliLite^{NT} controllers are easy to use and feature an intuitive user interface with graphic display. The built-in event and performance log with backed-up real time clock makes troubleshooting even simpler.

The new design brings seamless integration with the latest breed of EFI diesel engines from all major manufacturers. This offers a higher level of functionality with users able to display a full range of values from the EFI engine on standard analog gauges and true RMS measurement of electric values.

Benefits

- ▷ Less wiring and components
- ▷ Less engineering and programming
- ▷ History log – easy troubleshooting and warranty claim handling
- ▷ Remote monitoring reduced call-out costs of service engineers
- ▷ Analog gauge (VDO, Datcon, ...) outputs – operator friendly
- ▷ Perfect price/performance ratio



ComAp is a member of AMPS
(The Association of Manufacturers
of Power generating Systems).



ComAp products meet the highest standards, with every stage of production undertaken in accordance with the ISO certification obtained in 1998.

InteliLite^{NT}

Features

▷ 3 phase AMF function*

- Over/Under frequency
- Over/Under voltage
- Voltage asymmetry

▷ 3 phase generator protections

- Over/Under frequency
- Over/Under voltage
- Current/Voltage asymmetry
- Overcurrent/Overload

▷ True RMS Voltage measurement

- 3 phase generator and mains* voltages
- Voltage range 277 V p-n, 480 V p-p
- Maximal measured voltage 300 V p-n
- PT ratio range 0.1–500

▷ True RMS current measurements

- 3 generator phase currents
- Current range 5 A
- Maximal measured current 10 A
- CT ratio range 1–5000

▷ Power measurements

- Act / React Power and Power Factor per phase
- Active and Reactive Energy counter

▷ Event and performance log + RTC

- Event based history with 119 events*
Reason, Data and Time + all important values are stored
- Battery backed-up RTC
- Test Run scheduler

▷ User interface

- Graphic 128 × 64 pixels display
- Multiple language capability
- Setpoints adjustable via keyboard or PC
- Buttons with mechanical feedback

▷ Inputs and outputs

- 3 configurable analog inputs
- 6 or 7* Binary inputs
- 6 or 7* Binary outputs
- Magnetic pick-up input
- D+ preexcitation terminal
- Optional 8 analog gauge drive outputs, compatible with VDO, Datcon gauges

▷ EFI engine support

- Cummins MODBUS
- Engine specific J1939 for all major manufacturers
- Diagnostic messages in plain text

▷ Communication interfaces

- Optional USB and RS232 plug-in modules
- MODBUS RTU (requires RS232 module)
- Internet

▷ Mechanical and operation parameters

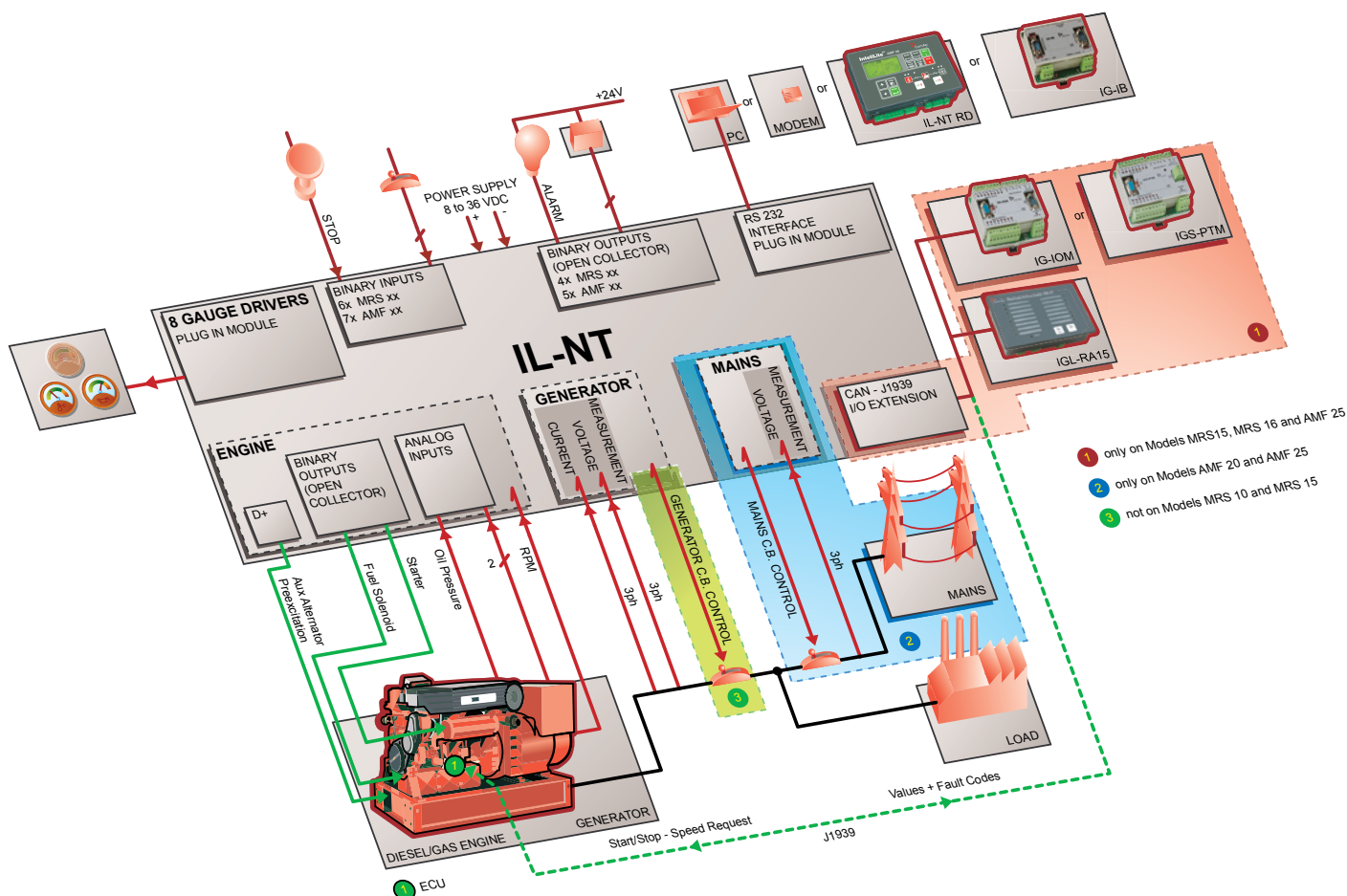
- Unit dimension 120 × 180 mm
- Sealed front face rated for IP65
- Hard plexiglass LCD cover
- Operation temperature
-20°C – +70°C standard version
-40°C – +70°C low temperature version
- Power supply voltage 8–36 V
- Voltage drops shorter than 50 ms do not affect operation

Extension modules

- ▷ IL-NT RS232 RS232 plug-in interface
- ▷ IL-NT USB USB plug-in interface
- ▷ IL-NT AOUT8 gauge plug-in interface
- ▷ IL-NT RD remote display
- ▷ IG-IB Internet module
- ▷ IGS-PTM** extension I/O module
- ▷ IGS-IOM** extension I/O module
- ▷ IGL-RA15** 15 LED remote annunciator

* Only for Models AMF 20 and AMF 25

** Only for Models MRS 15, MRS 16 and AMF 25



Available models

MRS 10

**MANUAL AND REMOTE
START CONTROLLER**



- ▷ 3 configurable analog inputs
- ▷ magnetic pickup input
- ▷ D+ preexcitation terminal
- ▷ 6 binary inputs
- ▷ 6 binary outputs

MRS 11

**MANUAL AND REMOTE
START CONTROLLER**



- ▷ 3 configurable analog inputs
- ▷ magnetic pickup input
- ▷ D+ preexcitation terminal
- ▷ 6 binary inputs
- ▷ 6 binary outputs
- ▷ GCB control

AMF 20

**AUTOMATIC MAINS FAILURE
START CONTROLLER**



- ▷ 3 configurable analog inputs
- ▷ magnetic pickup input
- ▷ D+ preexcitation terminal
- ▷ 7 binary inputs
- ▷ 7 binary outputs
- ▷ GCB and MCB control

MRS 15

**MANUAL AND REMOTE
START CONTROLLER WITH
SUPPORT FOR EFI ENGINES**



- ▷ 3 configurable analog inputs
- ▷ magnetic pickup input
- ▷ D+ preexcitation terminal
- ▷ 6 binary inputs
- ▷ 6 binary outputs
- ▷ CAN with J1939 support
- ▷ extension modules capability
- ▷ event and performance log

MRS 16

**MANUAL AND REMOTE
START CONTROLLER WITH
SUPPORT FOR EFI ENGINES**



- ▷ 3 configurable analog inputs
- ▷ magnetic pickup input
- ▷ D+ preexcitation terminal
- ▷ 6 binary inputs
- ▷ 6 binary outputs
- ▷ GCB control
- ▷ CAN with J1939 support
- ▷ extension modules capability
- ▷ event and performance log

AMF 25

**AUTOMATIC MAINS FAILURE
START CONTROLLER WITH
SUPPORT FOR EFI ENGINE**



- ▷ 3 configurable analog inputs
- ▷ magnetic pickup input
- ▷ D+ preexcitation terminal
- ▷ 7 binary inputs
- ▷ 7 binary outputs
- ▷ GCB and MCB control
- ▷ CAN with J1939 support
- ▷ extension modules capability
- ▷ event and performance log

The Chart of Functions of IntelliLite^{NT} Controllers

FUNCTIONS/CONTROLLERS	IL-NT MRS 10	IL-NT MRS 15	IL-NT MRS 11	IL-NT MRS 16	IL-NT AMF 20	IL-NT AMF 25
Binary inputs/outputs	6 / 6	6 / 6	6 / 6	6 / 6	7 / 7	7 / 7
Analog inputs	3	3	3	3	3	3
Magnetic pick-up	●	●	●	●	●	●
AMF function	–	–	–	–	●	●
Input configuration	●	●	●	●	●	●
Output configuration	●	●	●	●	●	●
Voltage measurement Gen. / Mains	3 ph / –	3 ph / –	3 ph / –	3 ph / –	3 ph / 3 ph	3 ph / 3 ph
Current measurement	3 ph	3 ph, IDMT overcurrent	3 ph	3 ph, IDMT overcurrent	3 ph	3 ph, IDMT overcurrent
kW/kWh measurement	● / –	● / ●	● / –	● / ●	● / –	● / ●
History file	–	●	–	●	–	●
RTC with battery	●	●	●	●	●	●
GCB/MCB control with feedback	– ¹⁾ / –	– ¹⁾ / –	● ²⁾ / –	● ²⁾ / –	● / ●	● / ●
Battery charging alternator circuit	●	●	●	●	●	●
J1939 interface	–	●	–	●	–	●
Internet support	with IG-IB	with IG-IB	with IG-IB	with IG-IB	with IG-IB	with IG-IB
Extension modules	–	IGL-RA15, IG-IOM, IGS-PTM	–	IGL-RA15, IG-IOM, IGS-PTM	–	IGL-RA15, IG-IOM, IGS-PTM
8 analog gauge drivers	0	0	0	0	0	0
RS232 interface	0	0	0	0	0	0
Modem interface	0	0	0	0	0	0
MODBUS interface	0	0	0	0	0	0
Remote display	0	0	0	0	0	0
Cummins MODBUS	0	0	0	0	0	0

Key: ● included
 – excluded
 0 optional – plug-in module required
 1) Automatic GCB control without feedback
 2) Manual/Automatic GCB control, but without feedback

Legend: IG-IOM/IGS-PTM: I/O extension modules
 IGL-RA15: Remote annunciator
 GCB: Generator circuit breaker
 MCB: Mains circuit breaker

For more information about our products and solutions visit our web-page

www.comap.cz



MANUFACTURER:

ComAp, spol. s r. o.
 Czech Republic
 Phone: + 420 246 012 111
 Fax: + 420 266 316 647
 E-mail: info@comap.cz
 Internet: www.comap.cz

LOCAL DISTRIBUTOR / PARTNER:

