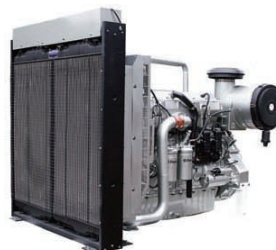




Powered by:

 **Perkins®**
**STAMFORD**

**GENERATING SET PROFORMANCE**
**50Hz**
**60Hz**

VOLTAGE

V400

PHASES

Three

PRIME RATED POWER

600kVA

STANDBY RATED POWER

660kVA

POWER FACTOR

0.80 PF

FUEL CONSUMPTION @ 75%

90 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	2806A-E18TAG1A
PERFORMANCE	50Hz	60Hz
BASELOAD RATED POWER	391KWm	
PRIME RATED POWER	522KWm	
STANDBY RATED POWER	574KWm	
FUEL CONSUMPTION	203g/KWh @ 100% 199g/KWh @ 75% 203g/KWh @ 50%	
TYPE	Diesel 4 stroke	
ASPIRATION	Turbocharged and air to air charge cooled	
INJECTION TYPE	Direct injection	
ENGINE GOVERNOR	Electronic governing	
CYLINDERS AND ARRANGEMENT	Six in line	
BORE x STROKE	145 x 183mm	
COMPRESSION RATIO	14.5 : 1	
ELECTRICAL SYSTEM VOLTAGE	24 volt	
BATTERY TYPE	Lead acid, 24V	
DERATING FOR TEMPERATURE	40 deg C	
DERATING FOR ALITUDE	1000mm	
DERATING FOR HUMIDITY	90%	

The POWERGen Group Ltd:

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**ALTERNATOR****STAMFORD**

PERFORMANCE	50Hz	60Hz
MODEL	HCI544E	
BASELOAD RATED POWER 40 deg C	560kVA	
PRIME RATED POWER 40 deg C	610kVA	
STANDBY RATED POWER 40 deg C	640kVA	
STANDBY RATED POWER 27 deg C	665kVA	
EFFICIENCY	94%	
STANDARD WINDING CONNECTIONS	Star Delta	
EXCITER	Self excited	
POLES	4 poles	
PHASES	3 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	1000m	

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## DIMENSIONS AND CAPACITY

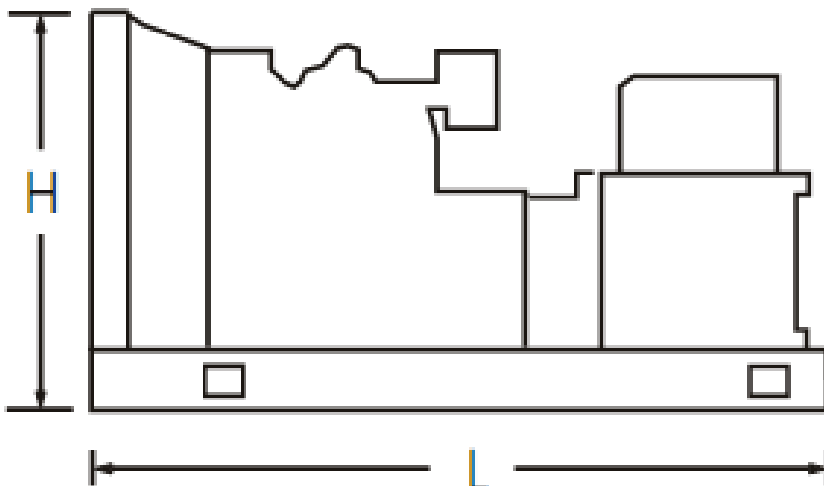
### STANDARD MODELS

	INTEGRATED FUEL TANK CAPACITY		WEIGHT	DIMENSIONS		
	STANDARD	OPTIONAL	KG	LENGTH	WIDTH	HEIGHT
OPEN SKID TYPE	495	TBA	4298kg	3690mm	1535mm	2100mm

## GENERATOR SET EQUIPMENT

### STANDARD MODELS

- Heavy duty steel base frame
- Pad type anti- vibration dampers
- Integrated fuel tank, base mounted
- 24V battery
- Key start switch
- Emergency stop button
- Silencer industrial type (open skid type)



The POWERGen Group Ltd:



**POWER**Gen



**POWER**Serv



**POWER**Pump



**POWER**GenHire



**POWER**Gen Group Ltd

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3143 New Zealand



## New **InteliLite<sup>NT</sup>**

SINGLE SET GEN-SET 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:

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# 2800 Series

## 2806A-E18TAG1A

### Diesel Engine – Electropak

574 kWm at 1500 rpm  
598 kWm at 1800 rpm

#### Economic Power

- Mechanically operated unit fuel injectors with electronic control combined with carefully matched turbocharging give excellent fuel atomisation and combustion with optimum economy.
- Low emissions result from electronic control of fuel injected.

#### 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 ratios also ensure clean rapid starting in all conditions.
- Perkins global product support is designed to enhance the customer experience of owning a Perkins powered machine. We deliver this through the quality of our distribution network, extensive global coverage and a range of Perkins supported OEM partnership options. So whether you are an end-user or an equipment manufacturer our engine expertise is essential to your success.

#### Compact, Clean and Efficient Power

- Exceptional power to weight ratio and compact size give optimum power density with easier installation and cost effective transportation.
- Designed to provide excellent service access for ease of maintenance.
- The availability of a low emissions specification allows minimum environmental impact through operation, and complies with all major emissions legislation. The standard specification model provides superior fuel consumption which maximises engine efficiency.

#### Product Support

- Perkins actively pursues product support excellence by ensuring our distribution network invest in their territory - strengthening relationships and providing more value to you, our customer
- Through an experienced global network of distributors and dealers, fully trained engine experts deliver total service support around the clock, 365 days a year. They have a comprehensive suite of web based tools at their fingertips covering technical information, parts identification and ordering systems, all dedicated to maximising the productivity of your engine
- Throughout the entire life of a Perkins engine, we provide access to genuine OE specification parts and service. We give 100% reassurance that you receive the very best in terms of quality for lowest possible cost .. wherever your Perkins powered machine is operating in the world

*This engine does not comply with harmonized international regulated emissions limits.*

The Perkins 2800 Series is a family of well-proven 6 cylinder 16 and 18 litre in-line diesel engines, designed to address today's uncompromising demands within the power generation industry with particular aim at the standby market sector. Developed from a proven heavy-duty industrial base, the engine offers superior performance and reliability.

The 2806A-E18TAG1A is a turbocharged and air-to-air charge cooled, 6 cylinder diesel engine of 18 litres capacity. Its premium features provide economic and durable operation, low gaseous emissions and advanced overall performance and reliability.

Engine Speed (rev/min)	Type of Operation	Typical Generator Output (Net)		Engine Power			
				Gross		Net	
		kVA	kWe	kWm	bhp	kWm	bhp
1500	Baseload Power	450	360	407	546	391	524
	Prime Power	600	480	540	724	522	700
	Standby (maximum)	660	528	593	795	574	770
1800	Prime Power	625	500	568	762	543	728
	Standby (maximum)	687	550	623	835	598	802

The above ratings represent the engine performance capabilities to conditions specified in ISO 8528/1, ISO 3046/1:1986, BS 5514. 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.  $\theta$ ) of 0.8. Fuel specification: BS 2869: Part 2 1998 Class A2 or ASTM D975 D2. Lubricating oil: 15W40 to API CG4.

#### 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.

# 2800 Series

## 2806A-E18TAG1A

### 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 G2 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 pusher fan
- Radiator incorporating air-to-air charge cooler, (supplied loose)
- System designed for ambients up to 50°C
- Low coolant level switch

#### 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 18
- SAE 'O' flywheel housing

#### Mountings

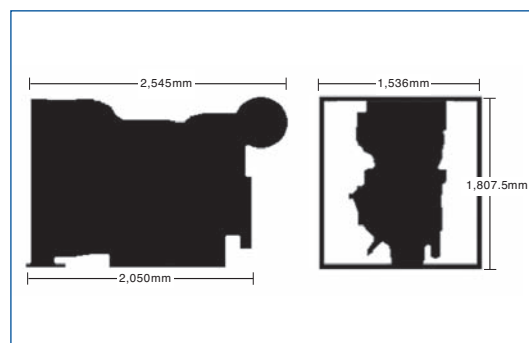
- Front engine mounting bracket

#### Literature

- User's Handbook

#### Optional Equipment

- 110 volt/240 volt immersion heater
- Additional speed sensor
- Temperature and pressure sensors for gauges
- Electric hours counter
- Air filter rain hood
- Twin starters/facility for second starter
- Tool kit
- Parts manual/Workshop manual



Engine Speed	Fuel Consumption			
	1500 rev/min		1800 rev/min	
	g/kWh	l/hr	g/kWh	l/hr
Standby	201	134	203	141
Prime power	203	123	202	127
Baseload power	199	90	-	-
75% of prime power	199	90	201	95
50% of prime power	203	61	210	66

#### 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	145 mm x 183 mm
Displacement	18.1 litres
Compression ratio	14.5:1
Direction of rotation	Anti-clockwise, viewed on flywheel
Total lubrication system capacity	62 litres
Total coolant capacity	61 litres
Total dry weight	2050 kg
Dimensions	Length 2545 mm Width 1536 mm Height 1808 mm

Final weight and dimensions will depend on completed specification

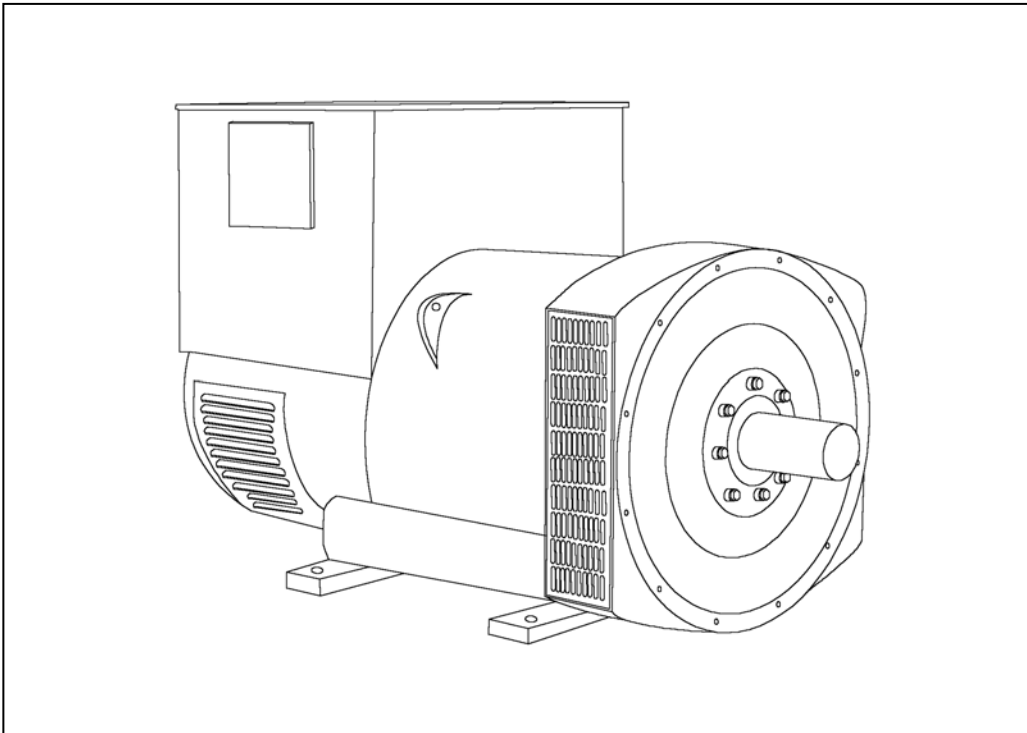


#### Perkins Engines Company Limited

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## HCI 534E/544E - Technical Data Sheet





# **HCI534E/544E**

## **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.*

# **HCI534E/544E**

## **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	0.0043 Ohms PER PHASE AT 22°C SERIES STAR CONNECTED							
ROTOR WDG. RESISTANCE	1.96 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	1543 kg				1535 kg			
WEIGHT WOUND STATOR	722 kg				722 kg			
WEIGHT WOUND ROTOR	617 kg				588 kg			
WR² INERTIA	8.9828 kgm²				8.7049 kgm²			
SHIPPING WEIGHTS in a crate	1635 kg				1625 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	600	600	600	600	681	713	731	750
Xd DIR. AXIS SYNCHRONOUS	3.14	2.83	2.63	2.34	3.53	3.30	3.10	2.92
X'd DIR. AXIS TRANSIENT	0.17	0.15	0.14	0.12	0.17	0.16	0.15	0.14
X''d DIR. AXIS SUBTRANSIENT	0.12	0.11	0.10	0.09	0.12	0.11	0.11	0.10
Xq QUAD. AXIS REACTANCE	2.45	2.21	2.05	1.82	2.82	2.64	2.48	2.33
X''q QUAD. AXIS SUBTRANSIENT	0.26	0.24	0.22	0.20	0.34	0.32	0.30	0.28
Xl LEAKAGE REACTANCE	0.06	0.05	0.05	0.04	0.06	0.06	0.05	0.05
X2 NEGATIVE SEQUENCE	0.18	0.16	0.15	0.13	0.23	0.22	0.20	0.19
Xo ZERO SEQUENCE	0.08	0.08	0.07	0.06	0.10	0.09	0.09	0.08

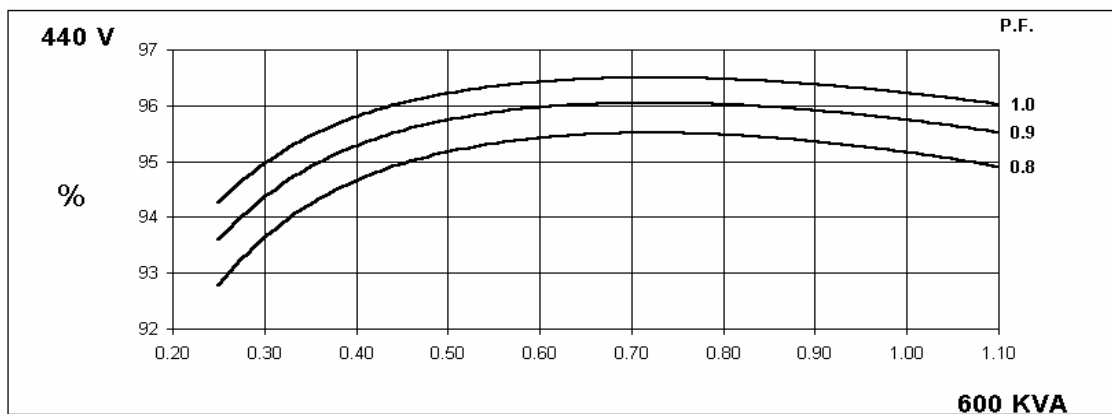
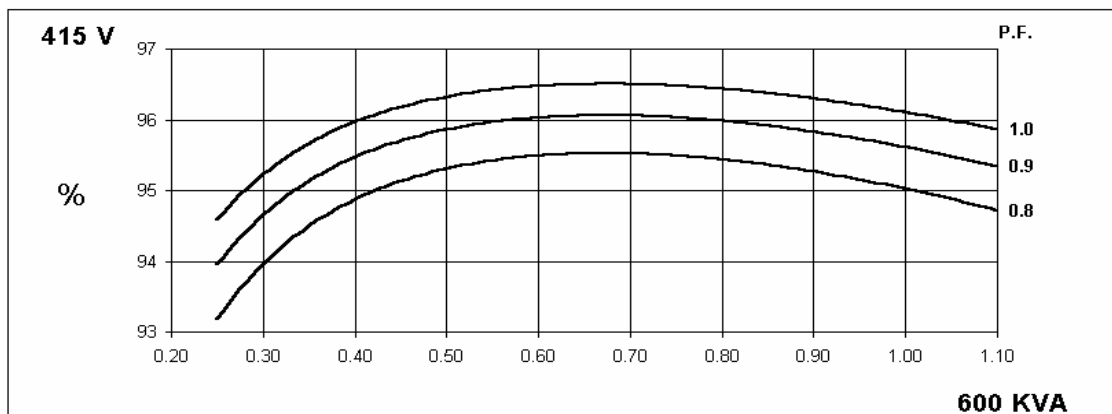
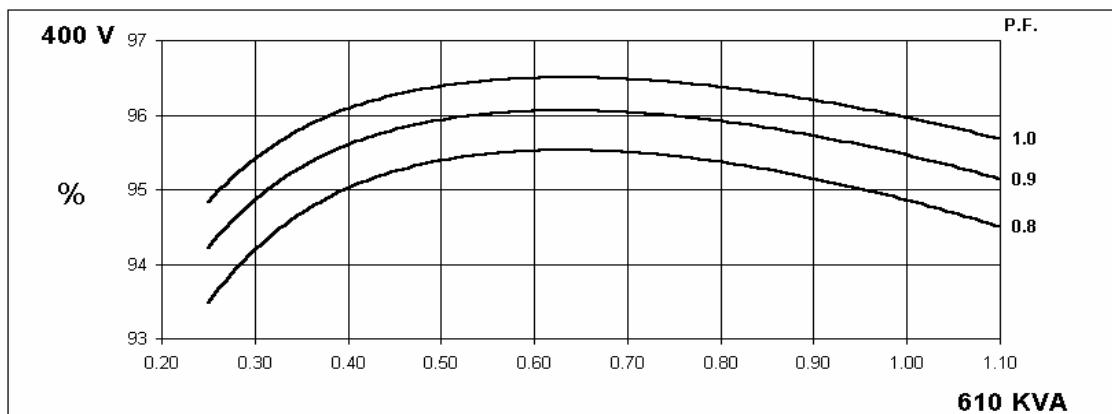
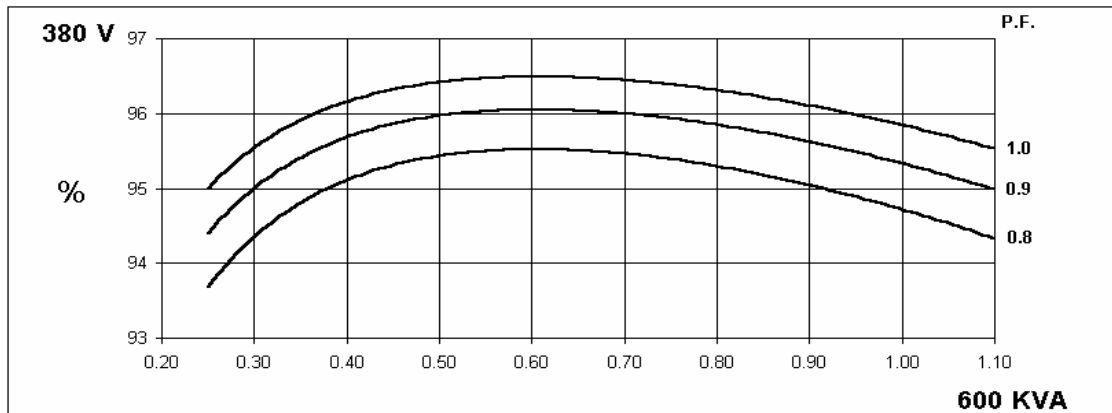
REACTANCES ARE SATURATED			VALUES ARE PER UNIT AT RATING AND VOLTAGE INDICATED					
T'd TRANSIENT TIME CONST.	0.08s							
T''d SUB-TRANSTIME CONST.	0.012s							
T'do O.C. FIELD TIME CONST.	2.5s							
Ta ARMATURE TIME CONST.	0.019s							
SHORT CIRCUIT RATIO	1/Xd							

**50  
Hz**

**HCI534E/544E**  
Winding 311

**STAMFORD**  
power generation

**THREE PHASE EFFICIENCY CURVES**



# HCI534E/544E

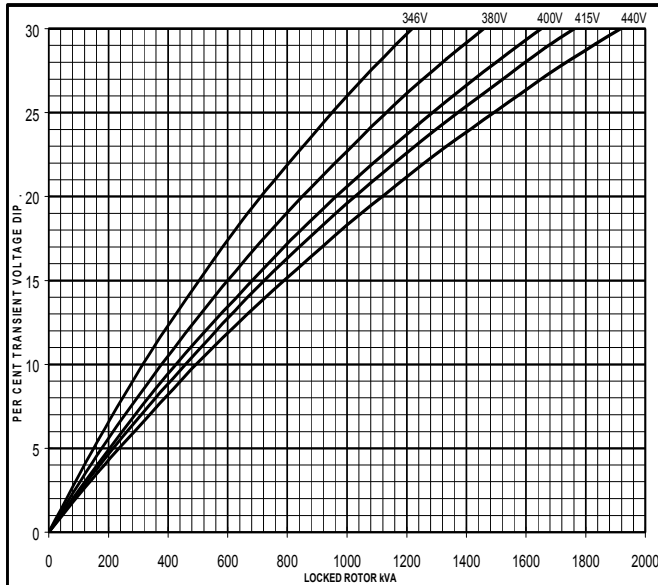
Winding 311



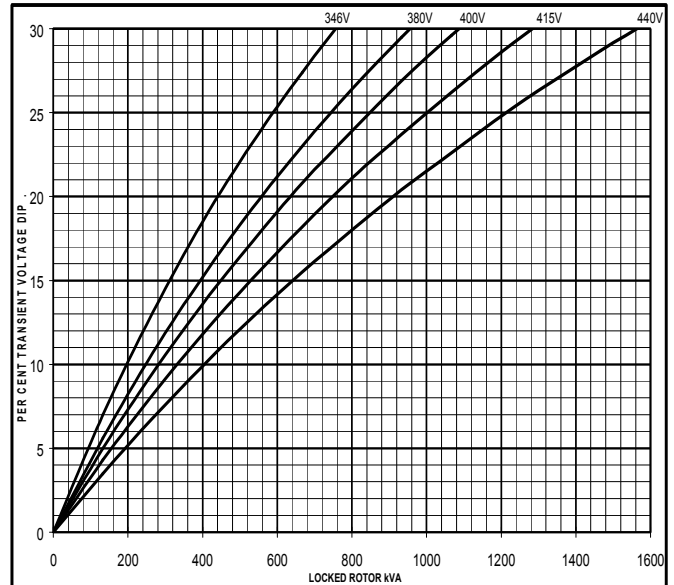
## Locked Rotor Motor Starting Curve

**50  
Hz**

**MX**

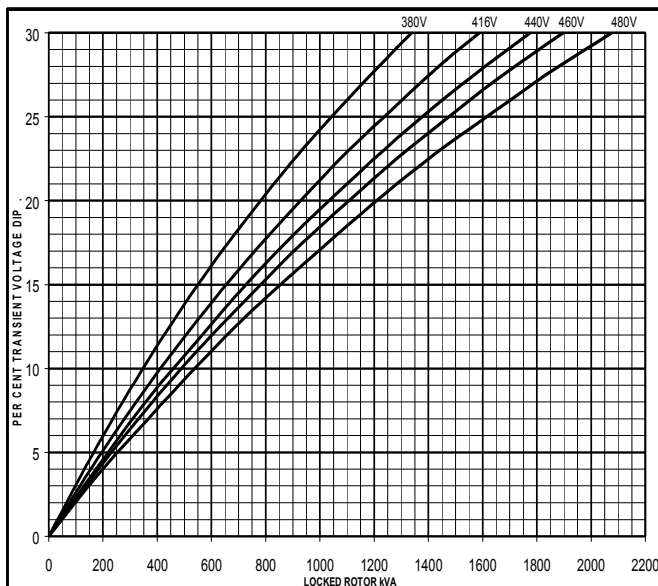


**SX**

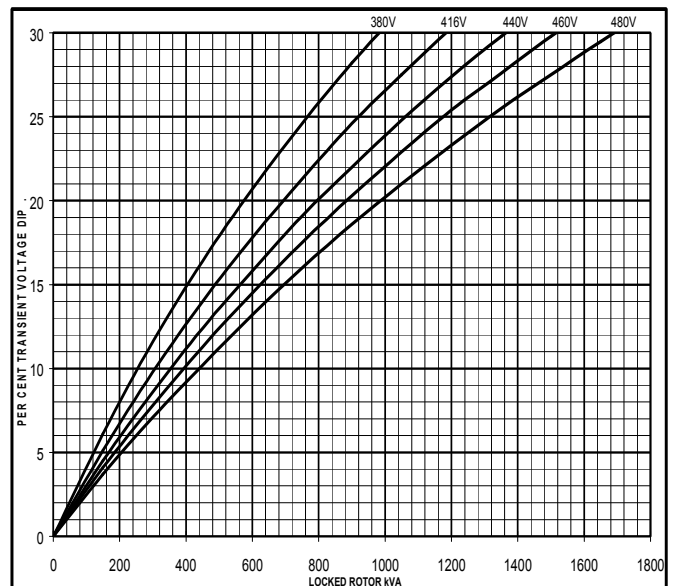


**60  
Hz**

**MX**

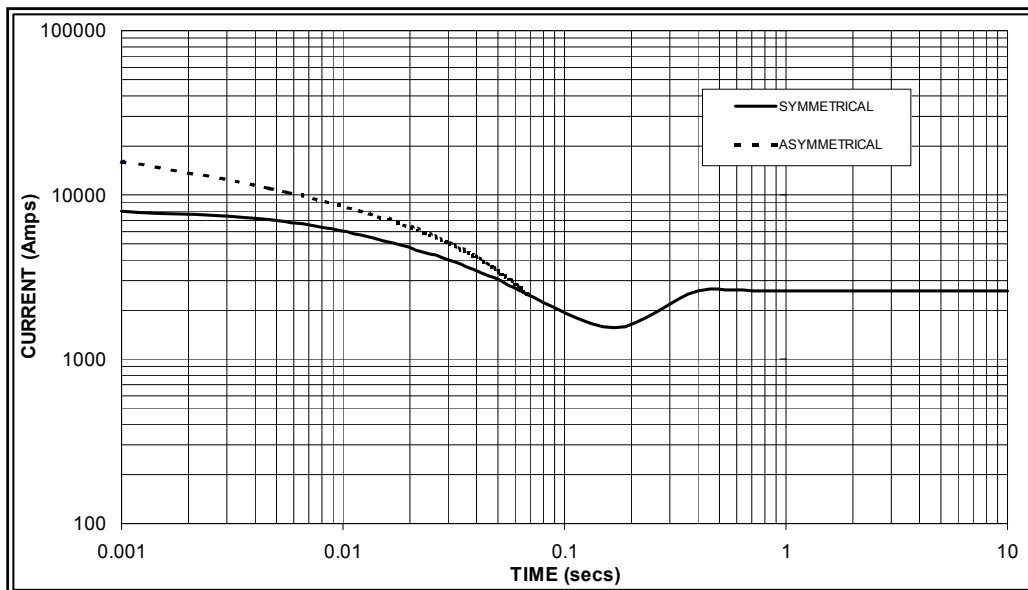


**SX**



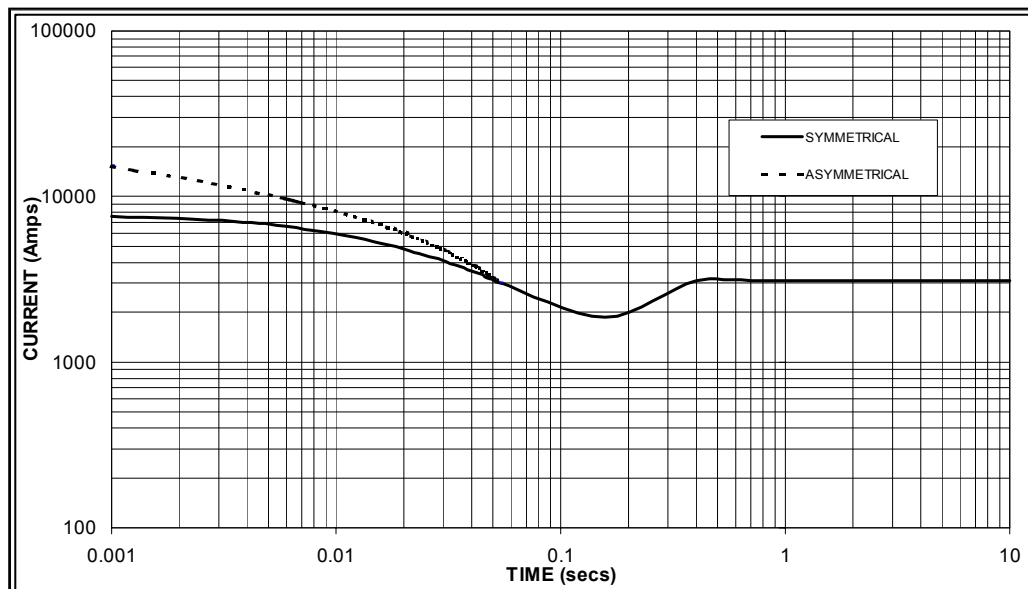
**Three-phase Short Circuit Decrement Curve. No-load Excitation at Rated Speed  
Based on star (wye) connection.**

**50  
Hz**



Sustained Short Circuit = 2,600 Amps

**60  
Hz**



Sustained Short Circuit = 3,100 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 1.06	440v	X 1.06
415v	X 1.09	460v	X 1.12
440v	X 1.12	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



# HCI534E/544E

## Winding 311      0.8 Power Factor

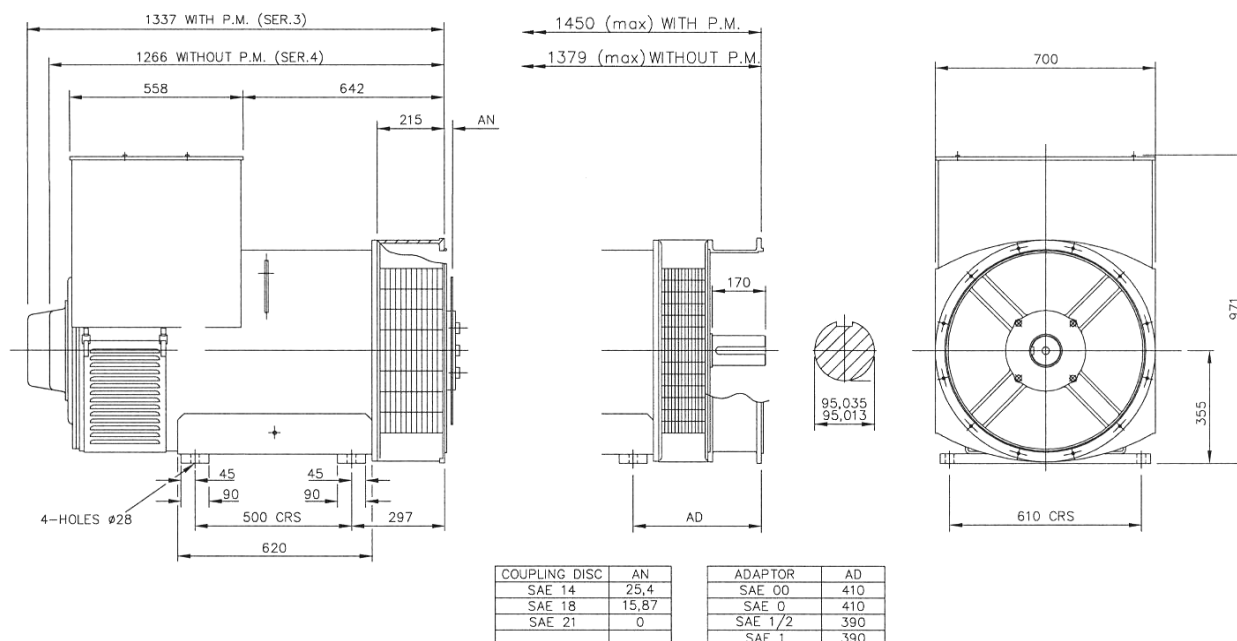


### RATINGS

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	550	560	550	550	600	610	600	600	636	640	636	636	660	665	660	660
	kW	440	448	440	440	480	488	480	480	509	512	509	509	528	532	528	528
	Efficiency (%)	95.0	95.1	95.2	95.3	94.7	94.9	95.0	95.2	94.5	94.7	94.8	95.0	94.3	94.5	94.7	94.9
	kW Input	463	471	462	462	507	514	505	504	538	541	537	536	560	563	558	556

<b>60 Hz</b>	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	625	650	663	675	681	713	731	750	719	750	780	800	738	769	798	819
	kW	500	520	530	540	545	570	585	600	575	600	624	640	590	615	638	655
	Efficiency (%)	95.0	95.1	95.2	95.3	94.8	94.9	95.0	95.0	94.6	94.7	94.8	94.8	94.5	94.6	94.7	94.8
	kW Input	526	547	557	567	575	601	616	632	608	634	658	675	625	650	674	691

### DIMENSIONS



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# New IntelliLite<sup>NT</sup>



## SINGLE SET GEN-SET CONTROLLER

### Description

IntelliLite<sup>NT</sup> 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<sup>NT</sup> 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<sup>NT</sup>

## 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

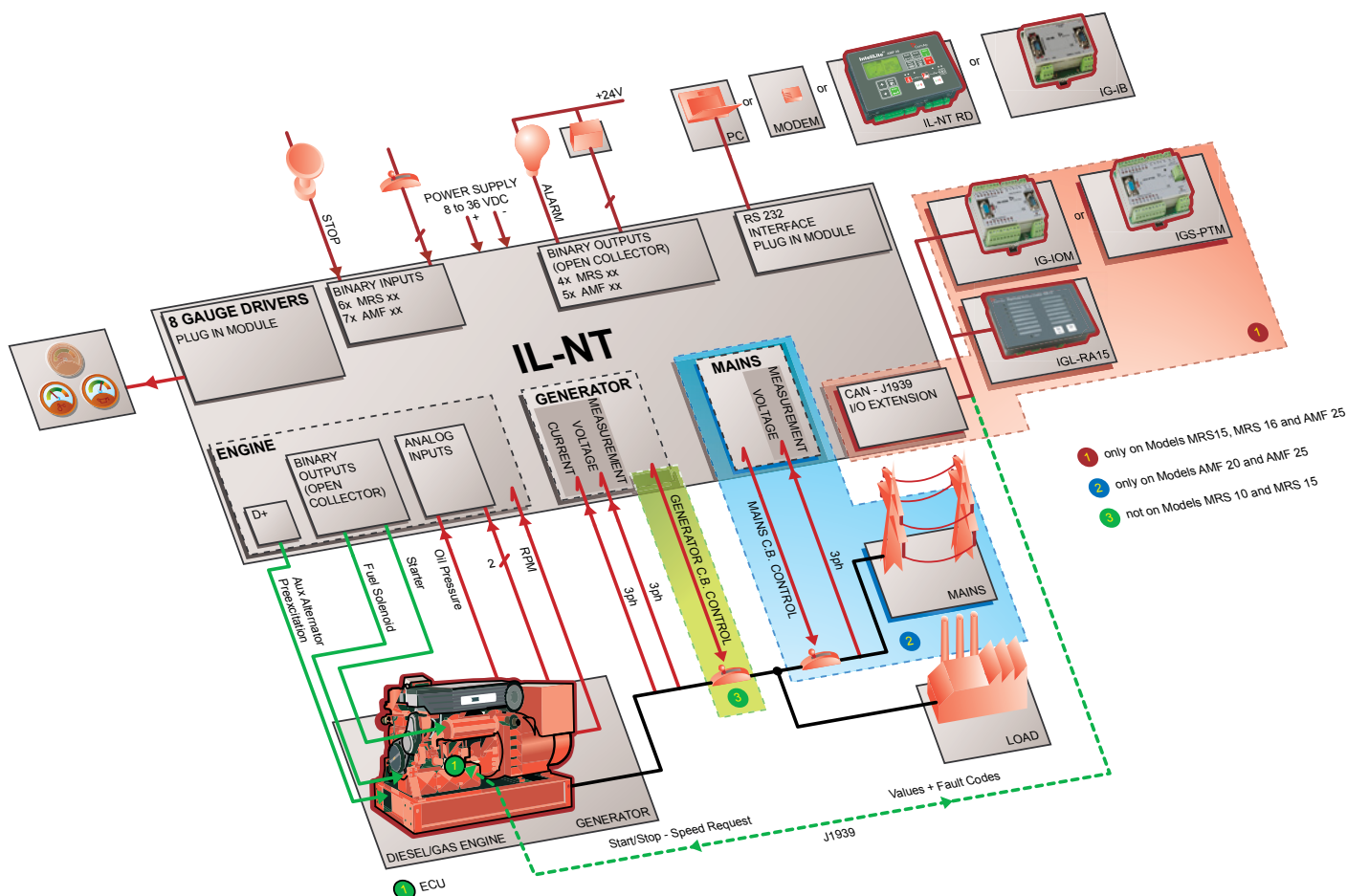
- Unit dimension 120 × 180 mm
- Sealed front face rated for IP65
- Hard plexiglass LCD cover
- Operation temperature  
-20°C – +70°C standard version  
-40°C – +70°C low temperature version
- Power supply voltage 8–36 V
- Voltage drops shorter than 50 ms do not affect operation

## 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<sup>NT</sup> 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	– <sup>1)</sup> / –	– <sup>1)</sup> / –	● <sup>2)</sup> / –	● <sup>2)</sup> / –	● / ●	● / ●
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

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