



**POWER** Gen

PREMIUM SERIES GENERATORS

# Generator Specification Sheet

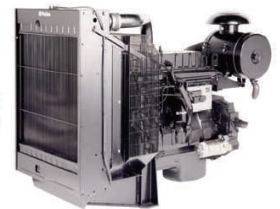
**MODEL PG 250 AP**



Powered by:

 **Perkins®**

**STAMFORD®**



## GENERATING SET PERFORMANCE

50Hz

60Hz

VOLTAGE

V400

PHASES

Three

PRIME RATED POWER

250.0kVA

STANDBY RATED POWER

275.0kVA

POWER FACTOR

0.80 PF

FUEL USAGE @ 75%

36.0 L/hr

The POWERGen Group Ltd:



**POWER**Gen



**POWER**Serv



**POWER**Pump



**POWER**GenHire



**POWER**Gen Group Ltd

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### STREET ADDRESS

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ENGINE	PERKINS	1306C-E87TAG6
PERFORMANCE	50Hz	60Hz
BASELOAD RATED POWER	198KWm	
PRIME RATED POWER	218KWm	
STANDBY RATED POWER	239KWm	
FUEL CONSUMPTION	188g/KWh @ 100% 200g/KWh @ 75% 200g/KWh @ 50%	
TYPE	Diesel 4 stroke	
ASPIRATION	Turbocharged air to air chargedcooled	
INJECTION TYPE	Direct injection	
ENGINE GOVERNOR	Electronic governor	
CYLINDERS AND ARRANGEMENT	Six in line	
BORE AND STROKE	116.6mm x 135.9mm	
COMPRESSION RATIO	16.9 : 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:



**ALTERNATOR****STAMFORD**

PERFORMANCE	50Hz	60Hz
MODEL	UCI274K	
BASELOAD RATED POWER 40 deg C	229kVA	
PRIME RATED POWER 40 deg C	250kVA	
STANDBY RATED POWER 40 deg C	265kVA	
STANDBY RATED POWER 27 deg C	275kVA	
EFFICIENCY	93%	
STANDARD WING CONNECTIONS	Star Delta	
EXCITER	Self excited	
POLES	4 poles	
PHASES	Three phases	
WIRES	12 leads	
VOLTAGE REGULATION	+/- 1.5%	
INSULATION CLASS	Class H	
ENCLOSURE	IP23	
MAXIMUM OVERSPEED	150%	
STANDARD AVR MODEL	SX460	
OPTIONAL AVR MODEL	MX341 & P.M.G	
DERATING FOR TEMPERATURE	40 deg C	
DERATING FOR ALTITUDE	1000mm	

The POWERGen Group Ltd:

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## DIMENSIONS AND CAPACITY

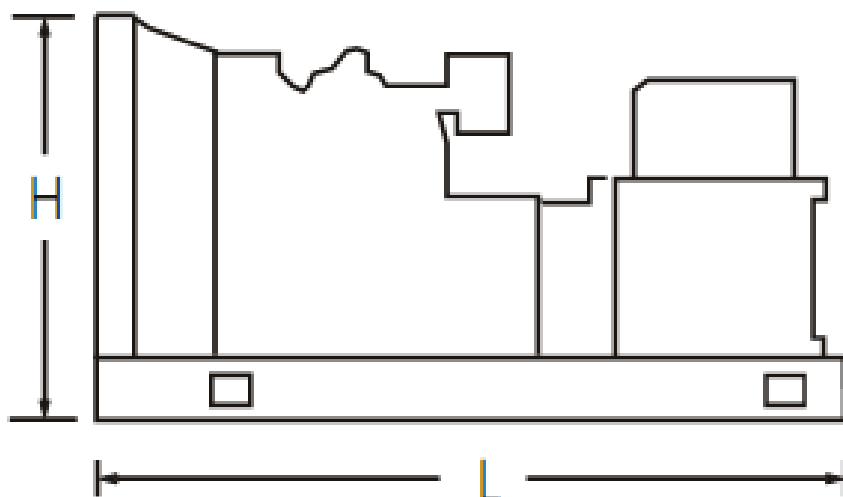
### STANDARD MODELS

	INTEGRATED FUEL TANK CAPACITY		WEIGHT	DIMENSIONS		
	STANDARD	OPTIONAL	KG	LENGTH	WIDTH	HEIGHT
OPEN SKID TYPE	240	TBA	2035kg	3035mm	900mm	1525mm

## 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:



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## **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

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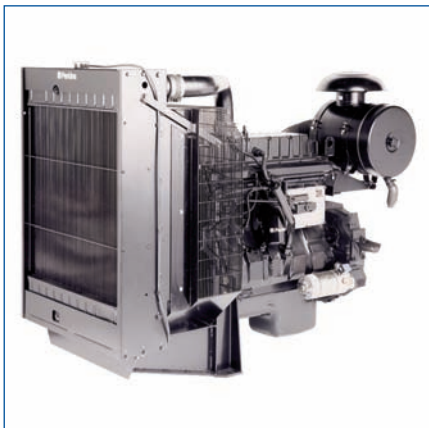
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# 1300 Series

## 1306C-E87TAG6

Diesel engine - ElectropaK

239 kWm 1500 rev/min

The Perkins 1300 Series family of ElectropaK engines has become renowned throughout the power generation industry for the engines' superior performance and reliability.

The 1306C-E87TAG6 engine is a turbocharged and air-to-air charge cooled unit, featuring hydraulically-actuated electronically controlled unit injectors (HEUI) with 'full authority' electronic engine management providing reliable, quiet, economic operation supported by the quick starting, fast response and close control demanded by the electrical power generation market.

### High Performance Productive Power

- Hydraulically actuated Electronically controlled Unit Injectors – high-pressure fuel injection gives consistent, reliable high performance.
- Constant electronic engine management and monitoring enable precise fuel metering and injection timing to ensure reliable low temperature starting, superb economy with performance and very close governing.

### Quiet, Clean Power

- A rigid structure minimises noise transmission and helically cut gears provide quiet power transfer to auxiliaries.
- Forced induction and electronic fuel injection control combine to reduce combustion noise while electronically optimised fuel/air mixing ensures complete combustion resulting in virtually smoke free operation with emissions capability matching current and future emissions legislation.

### Durable Power

- A fully balanced induction-hardened steel crankshaft gives smooth performance with minimised bearing loads.
- Oil cooled pistons with keystone top and second rings give longer life while positive rotational valves and roller cam followers reduce wear on valve seats, tappets and cam lobes.

### Reliable Power

- Cylinder head coolant is directed to valve bridges and injectors and lubricating oil is cooled in a high efficiency oil cooler, both features enhancing engine reliability.
- Electronic safety shutdown option protects the engine while event and fault warning codes protect operations.

### Easy Maintenance

- Electronic diagnostics help to keep the engine at its productive best while enabling the operator to plan maintenance. Oil and filter changes at 450 hours reduce down time.
- All engines are supported by the Perkins worldwide network of distributors and dealers.

*Certified against the requirements of EU2007 (EU97/68/EC Stage II) legislation for non-road mobile machinery, powered by constant speed engines.*

Engine Speed (rev/min)	Type of Operation	Typical Generator Output (net)		Engine Power			
				Gross		Net	
		kVA	kWe	kWm	bhp	kWm	bhp
1500	Baseload Power	228	182	204	273	198	265
Rating Code	Prime Power	250	200	224	300	218	291
M433	Standby (maximum)	275	220	246	330	239	320

1500/1800 rev/min switchable ratings are offered for stand-alone non-load sharing gen set applications. Rating code M165 applies.  
The above ratings represent the engine performance capabilities to conditions specified in ISO 8528/1, ISO 3046/1:1986, BS5514/1, DIN 6271.

Derating may be required for conditions outside these; consult Perkins Engines Company Limited  
Generator powers are typical and are based on an alternator efficiency of 92% and a power factor of 0.8. Performance tolerance is  $\pm 5\%$   
Fuel specification: BS 2869: Part 2 1998 Class A2 or ASTM D975 D2  
Lubricating oil: 15W40 to ACEA E3 or 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 (maximum):** Power available at variable load 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 continuous. No overload is permitted.

All information in this document is substantially correct at time of printing and may be altered subsequently

Publication No.1616/01/08 Produced in England ©2006 Perkins Engines Company Limited

# 1300 Series

## 1306C-E87TAG6

### Standard ElectropaK Specification

#### Air inlet

- Mounted air filter and turbocharger

#### Fuel system

- Hydraulically actuated electronically controlled unit fuel injectors with full authority electronic control
- Electronic governing to ISO 3046-4 with stand-alone isochronous or load-sharing capabilities
- Spin-on fuel filter with pre-filter and hand primer pump

#### Lubrication system

- Wet rear well steel sump with filler and dipstick
- Full flow spin-on filters
- Tube-type oil cooler thermostatically controlled

#### Cooling system

- Thermostatically controlled with belt driven circulating pump and 28 inch belt-driven fan
- Radiator mounted with all guards and pipes
- Air/air charge cooler incorporated in radiator
- Coolant filter/conditioner

#### Electrical equipment

- 24V starter motor and 24V 45 amp alternator with DC output
- Electronic Control Module mounted on engine with wiring looms and sensors
- 3 level engine protection system

#### Flywheel and housing

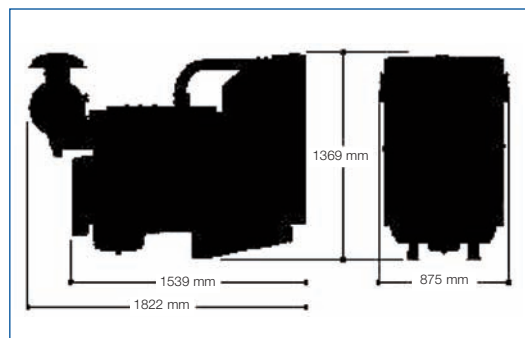
- High inertia flywheel to SAE 3 J620 Size 11½
- Cast iron SAE 2 flywheel housing

#### Mountings

- Front engine mounting bracket

### Optional equipment

- 12V starter and alternator
- 12V ECM
- Sensor positions for:
  - oil pressure
  - oil temperature
  - coolant temperature
- SAE 1 flywheel housing and flywheel
- Turbocharger exhaust outlet
- User's handbook and parts manual
- Workshop manual



Fuel Consumption		
Engine Speed	1500 rev/min	
	g/kWh	l/hr
Standby	172	49.7
Prime power	188	45.0
75% of prime power	200	36.0
50% of prime power	200	24.0

### General Data

Number of cylinders	6
Cylinder arrangement	Vertical in-line
Cycle	4 stroke
Induction system	Turbocharged, air-to-air chargecooled
Combustion system	Direct injection
Cooling system	Water-cooled
Bore and stroke	116.6 mm x 135.9 mm
Displacement	8.7 litres
Compression ratio	16.9:1
Direction of rotation	Anti-clockwise, viewed on flywheel
Total lubrication system capacity	26.4 litres
Total coolant capacity	37.2 litres
Dry weight (engine)	895 kg
Length	1822 mm
Width	875 mm
Height	1369 mm

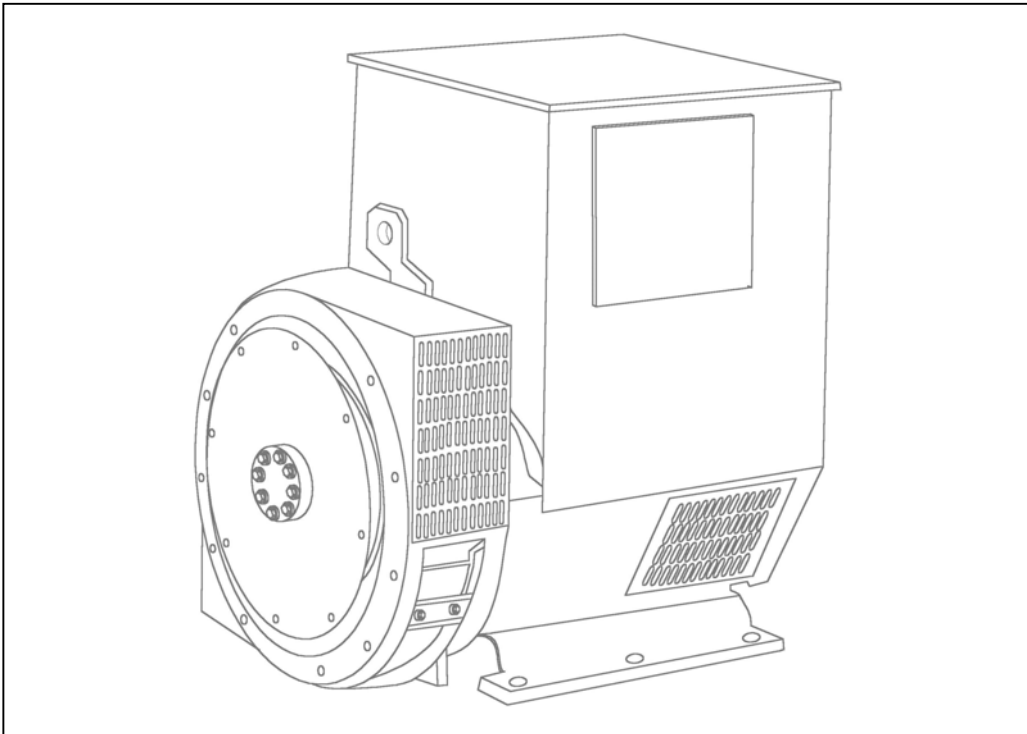


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## UCDI274K - Technical Data Sheet





# UCDI274K

## 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

#### SX460 AVR - STANDARD

With this self excited control system the main stator supplies power via the Automatic Voltage Regulator (AVR) to the exciter stator. The high efficiency semiconductors 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. This rectifier is protected by a surge suppressor against surges caused, for example, by short circuit.

#### SX440 AVR

With this self-excited system the main stator provides power via the 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.

#### SX421AVR

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.

### 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.*

# UCDI274K

## 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.	SX460	SX440	SX421					
VOLTAGE REGULATION	± 1.5 %	± 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 CONCENTRIC							
WINDING PITCH	TWO THIRDS							
WINDING LEADS	12							
STATOR WDG. RESISTANCE	0.0126 Ohms PER PHASE AT 22°C SERIES STAR CONNECTED							
ROTOR WDG. RESISTANCE	2.08 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 NON-DRIVE END	BALL. 6310-2RS (ISO)							
WEIGHT COMP. GENERATOR	727 kg							
WEIGHT WOUND STATOR	304 kg							
WEIGHT WOUND ROTOR	272.6 kg							
WR² INERTIA	2.3934 kgm²							
SHIPPING WEIGHTS in a crate	740 kg							
PACKING CRATE SIZE	123 x 67 x 103 (cm)							

	50 Hz				60 Hz			
TELEPHONE INTERFERENCE	THF<2%				TIF<50			
COOLING AIR	0.58 m³/sec 1230 cfm				0.69 m³/sec 1463 cfm			
VOLTAGE SERIES STAR (Y)	380/220	400/231	415/240	440/254	416/240	440/254	460/266	480/277
VOLTAGE PARALLEL STAR (Y)	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	250	250	250	n/a	291	299	312.5	312.5
Xd DIR. AXIS SYNCHRONOUS	2.825	2.550	2.369	-	3.161	2.903	2.776	2.550
X'd DIR. AXIS TRANSIENT	0.132	0.119	0.111	-	0.148	0.136	0.130	0.119
X''d DIR. AXIS SUBTRANSIENT	0.086	0.078	0.072	-	0.097	0.089	0.085	0.078
Xq QUAD. AXIS REACTANCE	1.263	1.140	1.059	-	1.413	1.298	1.241	1.140
X''q QUAD. AXIS SUBTRANSIENT	0.152	0.137	0.127	-	0.170	0.156	0.149	0.137
Xl LEAKAGE REACTANCE	0.066	0.060	0.056	-	0.074	0.068	0.065	0.060
X2 NEGATIVE SEQUENCE	0.120	0.108	0.100	-	0.134	0.123	0.118	0.108
X0 ZERO SEQUENCE	0.022	0.020	0.019	-	0.025	0.023	0.022	0.020

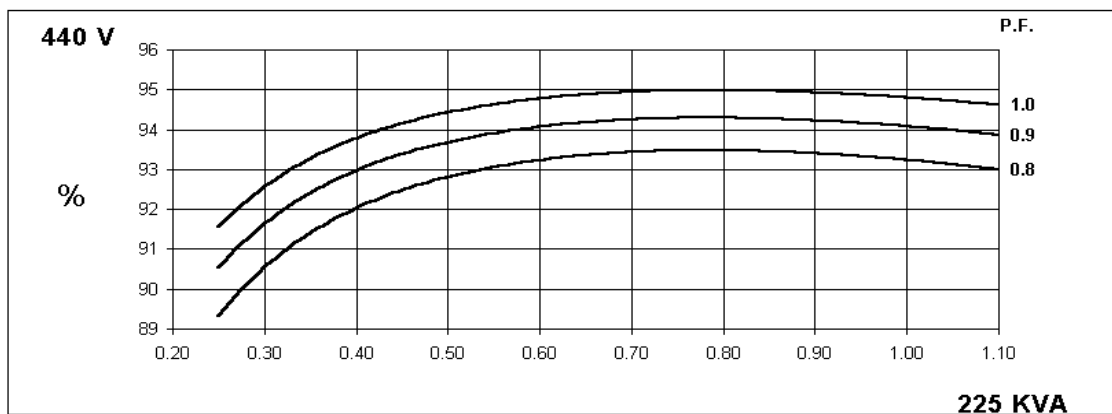
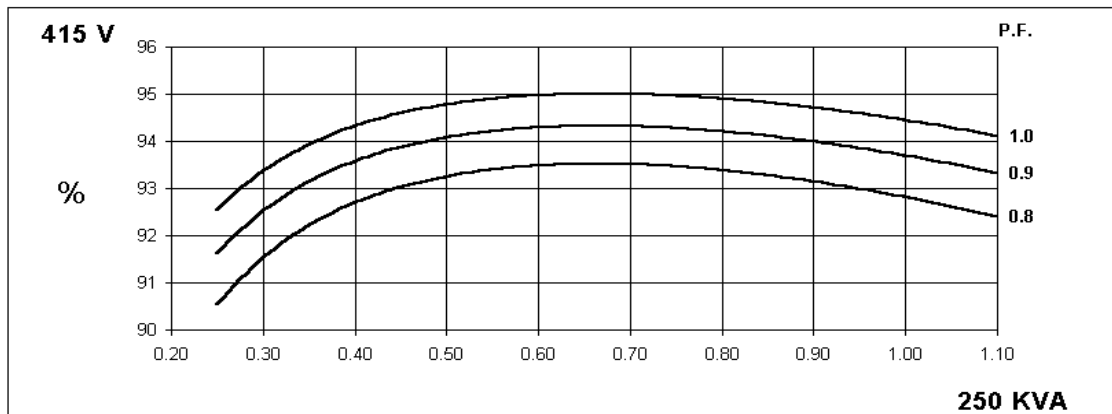
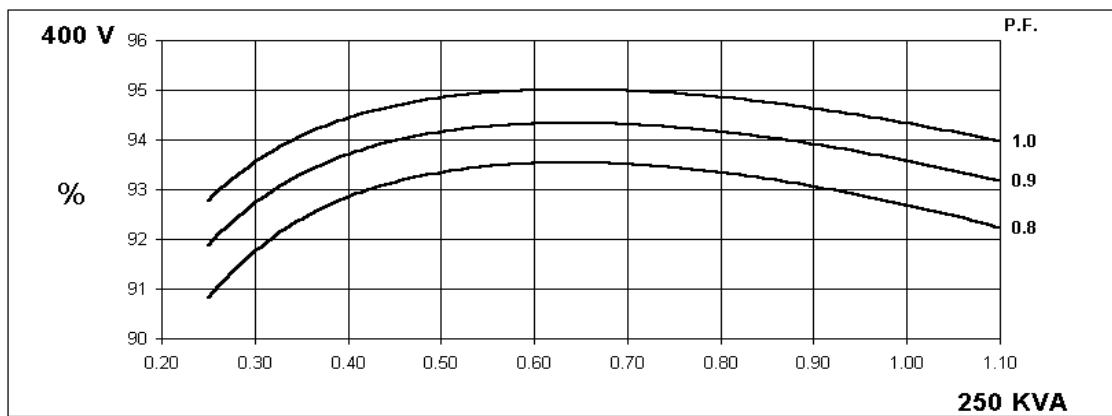
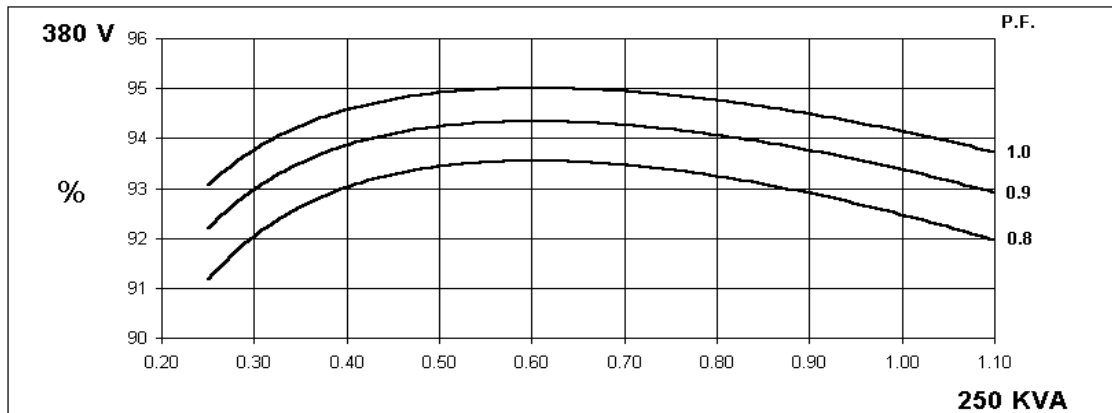
REACTANCES ARE SATURATED		VALUES ARE PER UNIT AT RATING AND VOLTAGE INDICATED						
T'd TRANSIENT TIME CONST.	0.049 s							
T''d SUB-TRANSTIME CONST.	0.02 s							
T'do O.C. FIELD TIME CONST.	1.27 s							
Ta ARMATURE TIME CONST.	0.018 s							
SHORT CIRCUIT RATIO	1/Xd							

**50  
Hz**

**UCDI274K**  
Winding 311

**STAMFORD**  
power generation

**THREE PHASE EFFICIENCY CURVES**



# UCDI274K

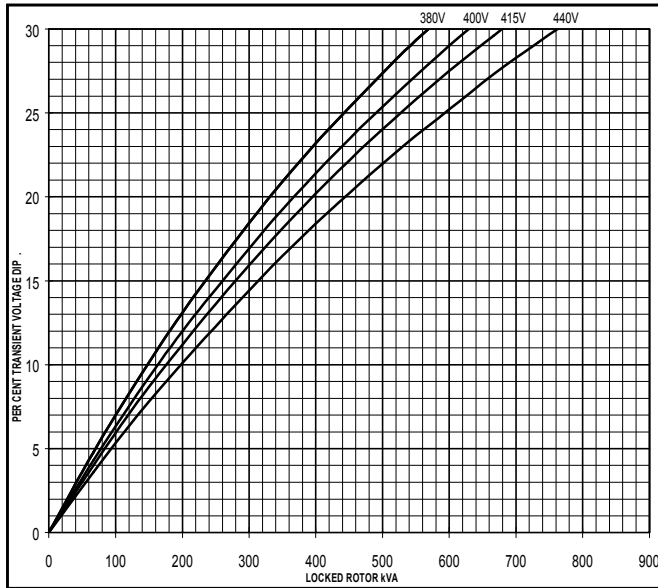
## Winding 311



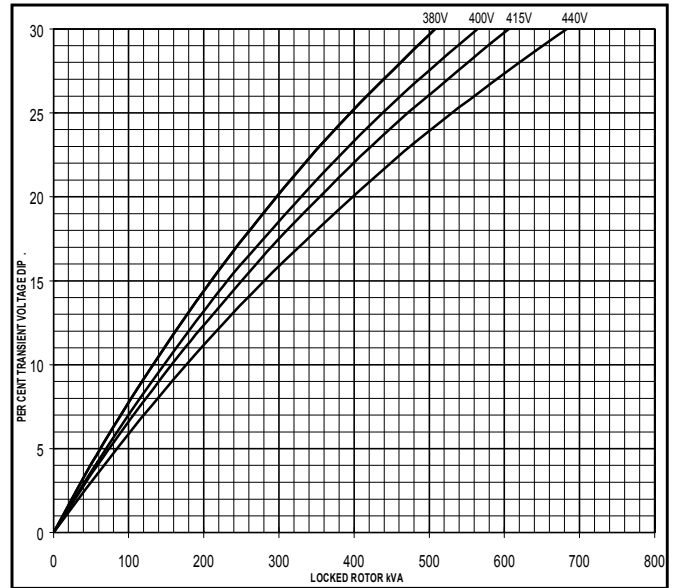
### Locked Rotor Motor Starting Curve

**50  
Hz**

**MX**

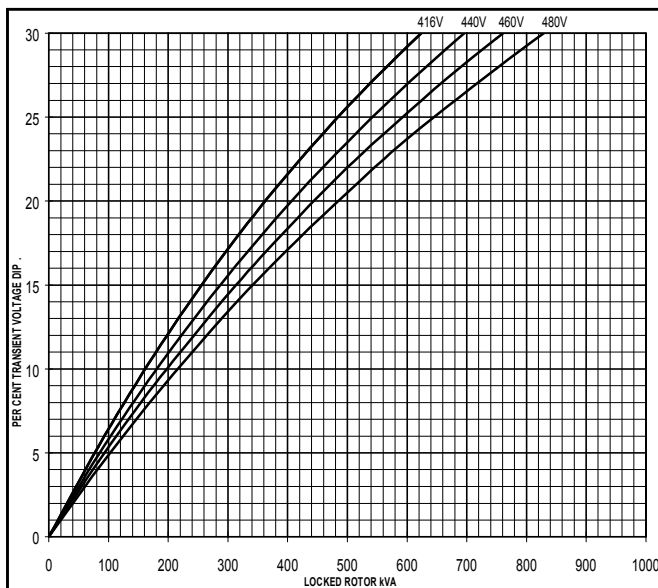


**SX**

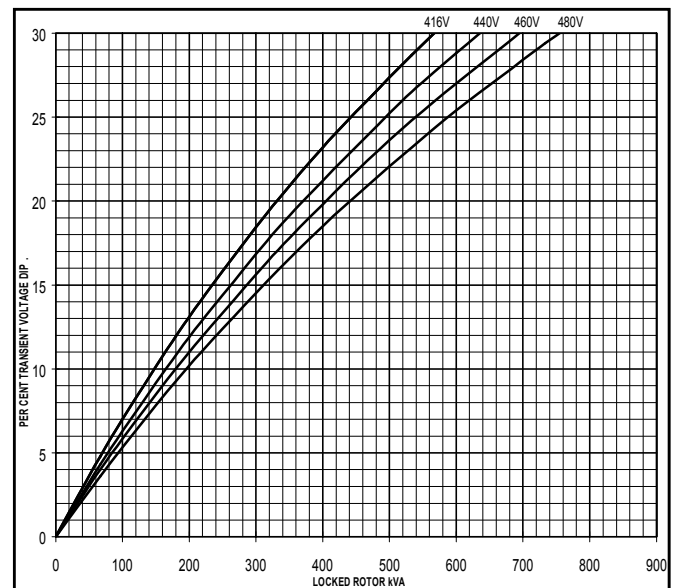


**60  
Hz**

**MX**

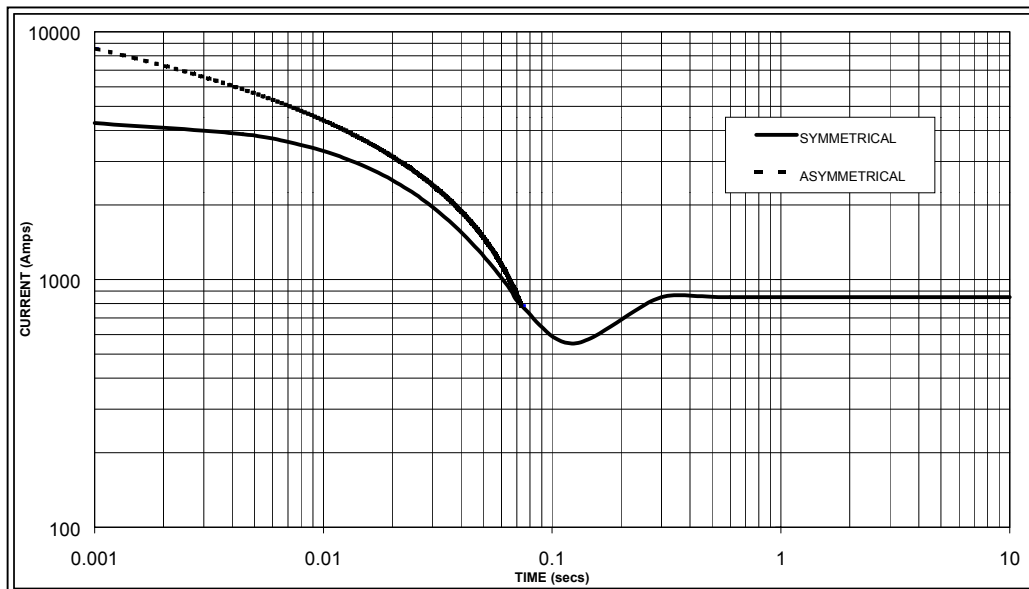


**SX**



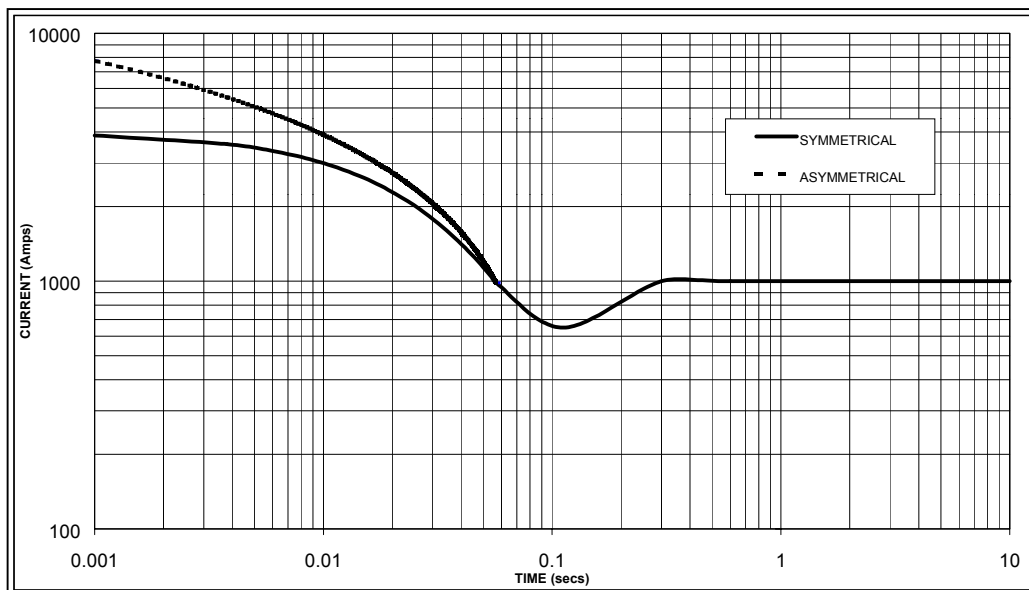
**Three-phase Short Circuit Decrement Curve. No-load Excitation at Rated Speed  
Based on star (wye) connection.**

**50  
Hz**



Sustained Short Circuit = 850 Amps

**60  
Hz**



Sustained Short Circuit = 1,000 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 1.05	440v	X 1.07
415v	X 1.10	460v	X 1.12
440v	X 1.16	480v	X 1.16

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

# UCDI274K

## Winding 311 / 0.8 Power Factor

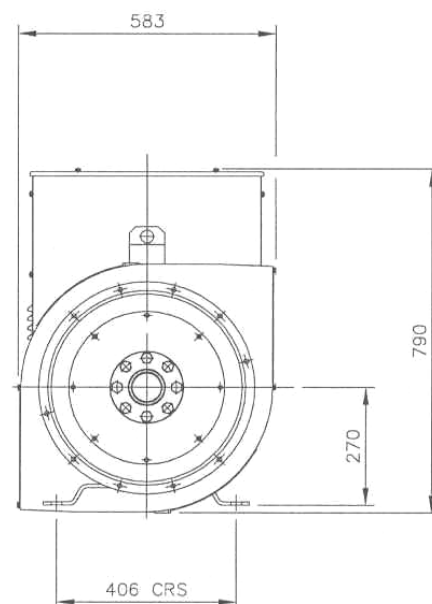
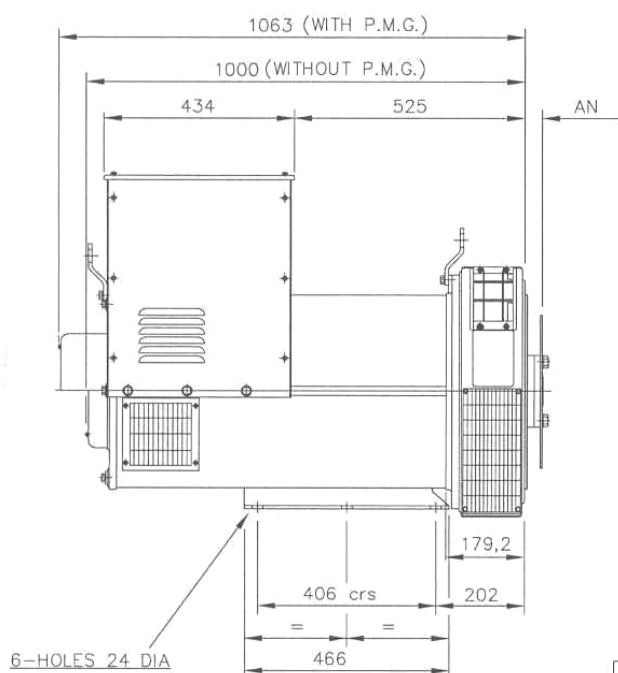


### RATINGS

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	229.0	229.0	229.0	n/a	250.0	250.0	250.0	n/a	265.0	265.0	265.0	n/a	275.0	275.0	275.0	n/a
	kW	183.2	183.2	183.2	n/a	200.0	200.0	200.0	n/a	212.0	212.0	212.0	n/a	220.0	220.0	220.0	n/a
	Efficiency (%)	92.8	93.0	93.1	n/a	92.5	92.7	92.8	n/a	92.2	92.4	92.6	n/a	92.0	92.2	92.4	n/a
	kW Input	197.4	197.0	196.8	n/a	216.2	215.7	215.5	n/a	229.9	229.4	228.9	n/a	239.1	238.6	238.1	n/a

<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
	Series Delta (V)	240	254	266	277	240	254	266	277	240	254	266	277	240	254	266	277
	kVA	267.0	275.0	286.5	286.5	291.0	299.0	312.5	312.5	304.0	312.5	331.3	331.3	312.0	320.0	343.8	343.8
	kW	213.6	220.0	229.2	229.2	232.8	239.2	250.0	250.0	243.2	250.0	265.0	265.0	249.6	256.0	275.0	275.0
	Efficiency (%)	92.9	93.0	93.1	93.2	92.6	92.7	92.8	92.9	92.4	92.6	92.5	92.7	92.2	92.4	92.3	92.5
	kW Input	229.9	236.6	246.2	245.9	251.4	258.0	269.4	269.1	263.2	270.0	286.5	285.9	270.7	277.1	298.0	297.3

### DIMENSIONS



COUPLING DISC	AN
SAE 11,5	39,68
SAE 14	25,4



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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

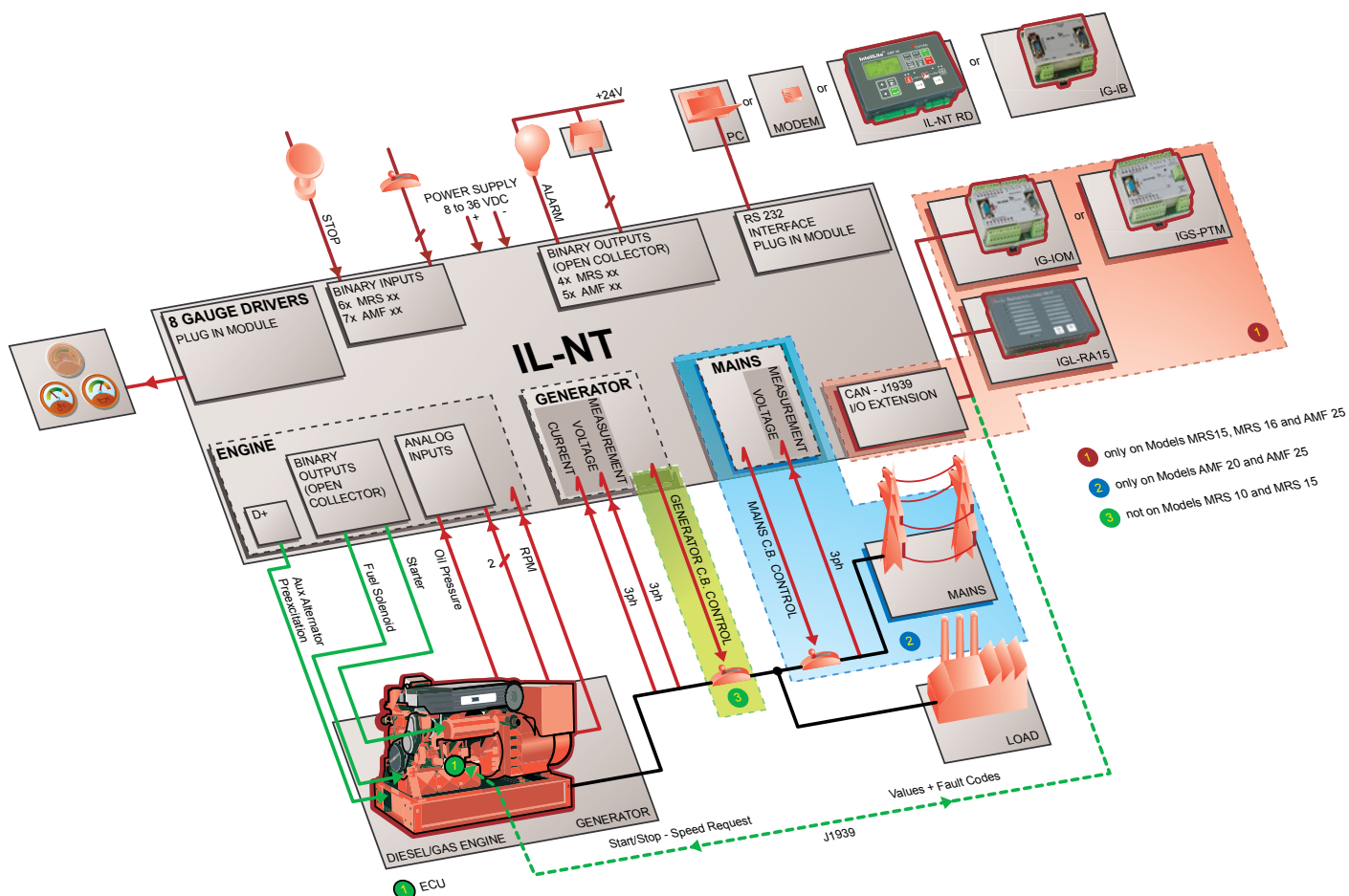
- Unit dimension 120 × 180 mm
- Sealed front face rated for IP65
- Hard plexiglass LCD cover
- Operation temperature  
-20°C – +70°C standard version  
-40°C – +70°C low temperature version
- Power supply voltage 8–36 V
- Voltage drops shorter than 50 ms do not affect operation

## 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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