Wholesale Diesel Generators

WHOLESALE DIESEL GENERATORS
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150KW Natural Gas Genset

Silent Type | 208V | 60HZ | 3PH

Genset Specification	
Genset Model	C150NG6
Prime Power(60HZ)	150kW/187kVA
Frequency/Speed	60hz/1800rpm
Standard Voltage	208V 3PH
Overall Dimensions	3100*1100*1800(MM)
Net Weight	2800 (KG)
Phases	Three phases, four wires

Fuel Type: Natural Gas	
Lower heating Value (LHV):	950-1050 btu/scft
Methane Number (MN):	Nominal 75 (range 70 to 80)
Specification:	IC-G-D-30-021

Fuel Type: Non Commercial Gas (Well Gas)	
Lower heating Value (LHV):	800-1600 btu/scft
Methane Number (MN):	Nominal>45
Specification:	IC-G-D-30-139

Fuel Type: LPG-Propane(>85% C3H8)	
Lower heating Value (LHV):	2400-2680 btu/scft
Methane Number (MN):	n/A
Recommended Specification:	HD5 Propane IC-G-D-30-138

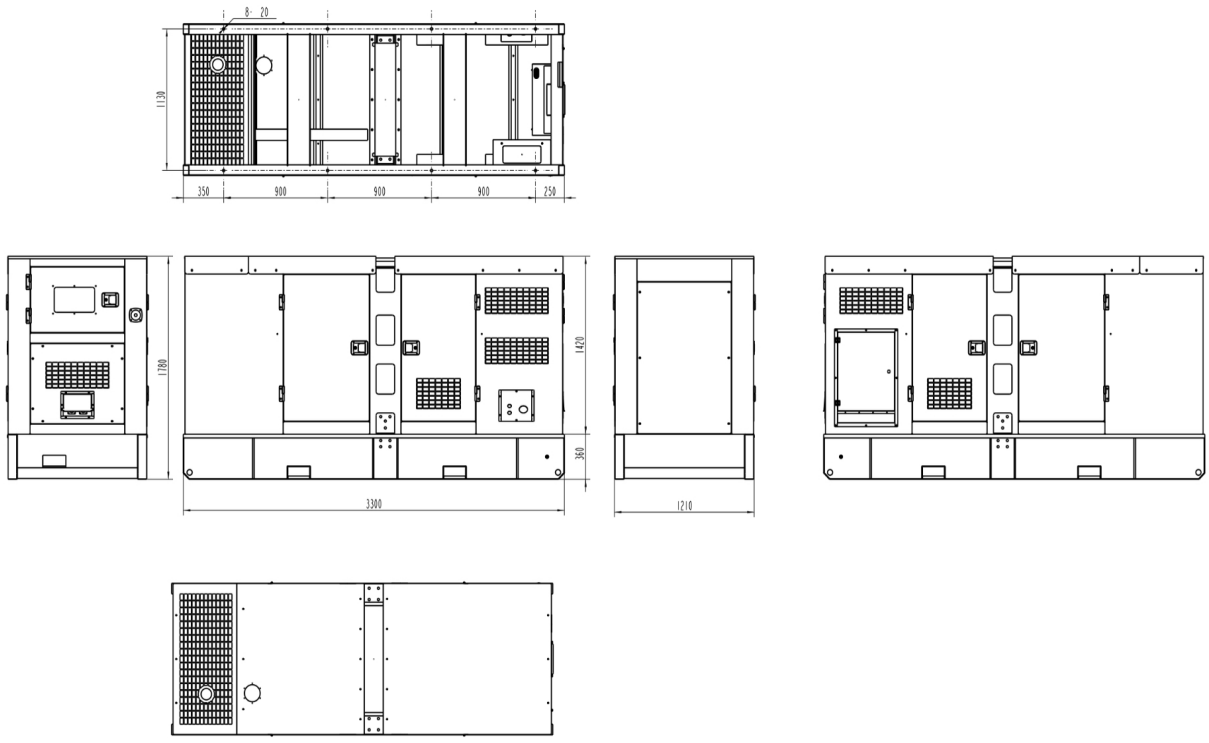
Gas Train	
Fuel Pressure Range:	2 to 7 PSI
Fuel Control:	Madas Regulator Gas Inlet + Venturi Valve Gas Carburetor
Connection:	ANSI flanged

Fuel Consumption Nm^3/h 60Hz	
	Natural Gas
100% Load	48
75% Load	36
50% Load	25
25% Load	13

Engine Specification General Performance	
Engine Model	6LTAA8.9-G2
Engine Type:	line, 4 strokes, water-cooled
Engine Speed:	1800 rpm
Governor Type:	Electronic
Air Intake Way:	Turbo charged & intercooled (air to air)
Displacement:	8.9L
Cylinder Bore * Stroke:	114*145 MM
Compression Ratio:	16 :1
Coolant Capacity Engine Only	35 Liters

Alternator data	
Model	UCI274G
Rating:	164KW
Excitation mode:	self-exciting dynamo
Voltage control mode :	AVR automatically regulates pressure
Phase number connection method:	three-phase four-wire
Type	Synchronous, brushless
Insulation class:	H
Level of protection:	IP23
Type of cooling :	Air cooling
Harmonic Distortion (THD)	< 3.5%
Frequency adjustment rate (%):	≤±0.5 (steady state) +10～-7 (transient state)
The transient Voltage adjustment rate (%) :	≤±0.5 (steady state) +20～-15 (transient state)

MCCB data	
Model	LS UTS400·N·FTU·400·3
Frame Size (AF)	400A
Rated Amps	400A
Number of Poles	3
Wire/Cable Size	AWG 1/0 - 750kcmil
Rated Operational Voltage	600VAC
UL Interrupting Rating	N (low)
240VAC (50/60Hz)	65kA
480VAC (50/60Hz)	35kA
600VAC	18kA
600VDC	35kA
Mechanical Life (operations)	5,000
Electrical Life(operations)@600VAC	1,000
Trip Unit Types	Thermal-Fixed Magnetic-Fixed
Standards	UL 489 File No.E231289
Dimensions	290*140*157(MM)
Weight	13.89lbs



STAMFORD

WINDING 14

CONTROL SYSTEM	SEPARATELY EXCITED BY P.M.G.		
A.V.R.	MX341	MX321	
VOLTAGE REGULATION	± 1%	± 0.5 %	With 4% ENGINE GOVERNING
SUSTAINED SHORT CIRCUIT	REFER TO SHORT CIRCUIT DECREMENT CURVES (page 6)		

CONTROL SYSTEM	SELF EXCITED		
A.V.R.	SX460	AS440	
VOLTAGE REGULATION	± 1.5 %	± 1.0 %	With 4% ENGINE GOVERNING
SUSTAINED SHORT CIRCUIT	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	
MAIN STATOR RESISTANCE	0.016 Ohms PER PHASE AT 22°C STAR CONNECTED	
MAIN ROTOR RESISTANCE	1.69 Ohms at 22°C	
EXCITER STATOR RESISTANCE	20 Ohms at 22°C	
EXCITER ROTOR RESISTANCE	0.091 Ohms PER PHASE 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. 6315-2RS (ISO)	
BEARING NON-DRIVE END	BALL. 6310-2RS (ISO)	
	1 BEARING	2 BEARING
WEIGHT COMP. GENERATOR	580 kg	598 kg
WEIGHT WOUND STATOR	225 kg	225 kg
WEIGHT WOUND ROTOR	210.35 kg	199.39 kg
WR² INERTIA	1.7674 kgm^2	1.7169 kgm^2
SHIPPING WEIGHTS in a crate	613 kg	630 kg
PACKING CRATE SIZE	123 x 67 x 103(cm)	123 x 67 x 103(cm)
TELEPHONE INTERFERENCE	THF<2%	TIF<50
COOLING AIR	0.617 m³/sec 1308 cfm	

VOLTAGE STAR	380	400	416
kVA BASE RATING FOR REACTANCE VALUES	200	200	200
Xd DIR. AXIS SYNCHRONOUS	1.81	1.63	1.51
X'd DIR. AXIS TRANSIENT	0.16	0.14	0.13
X"d DIR. AXIS SUBTRANSIENT	0.11	0.10	0.09
Xq QUAD. AXIS REACTANCE	1.09	0.98	0.91
X"q QUAD. AXIS SUBTRANSIENT	0.13	0.12	0.11
X_L LEAKAGE REACTANCE	0.06	0.05	0.05
X_2 NEGATIVE SEQUENCE	0.11	0.10	0.10
X_0 ZERO SEQUENCE	0.07	0.06	0.06

REACTANCES ARE SATURATED	VALUES ARE PER UNIT AT RATING AND VOLTAGE INDICATED
T'd TRANSIENT TIME CONST.	0.038s
T"d SUB-TRANSTIME CONST.	0.012s
T'do O.C. FIELD TIME CONST.	1.0s
Ta ARMATURE TIME CONST.	0.01s
SHORT CIRCUIT RATIO	1/Xd

APPROVED DOCUMENT

UCI274G

Winding 14 / 0.8 Power Factor

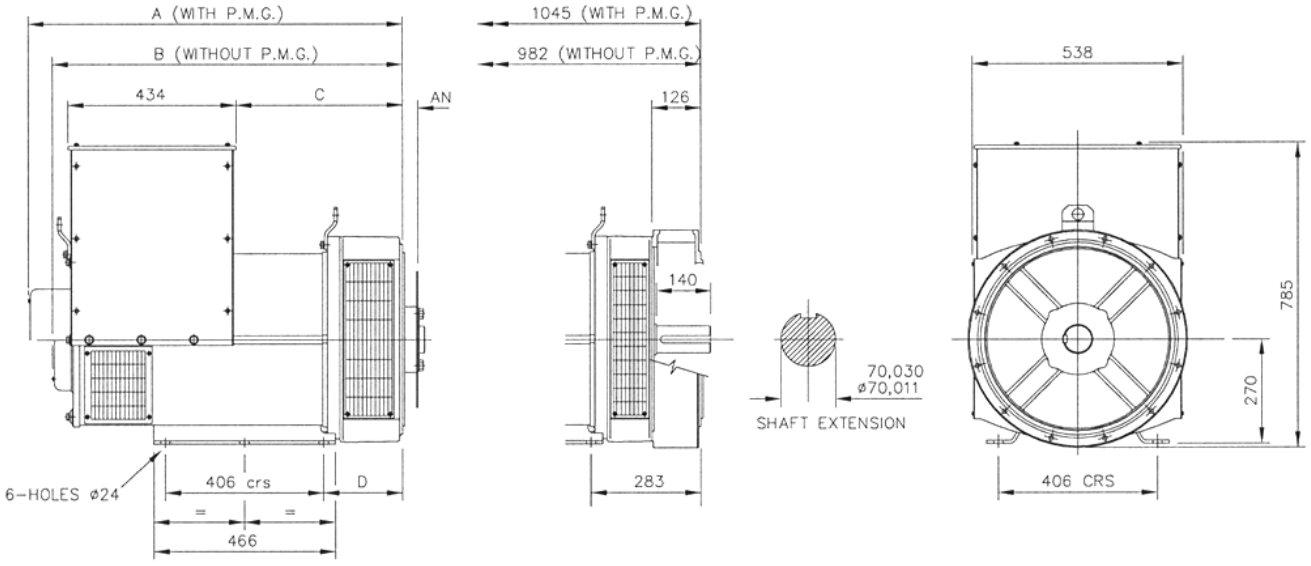
60Hz

RATINGS

Class - Temp Rise	Cont. F - 105/40°C			Cont. H - 125/40°C			Standby - 150/40°C			Standby - 163/27°C		
Series Star (V)	380	400	416	380	400	416	380	400	416	380	400	416
Parallel StarStar (V)	190	200	208	190	200	208	190	200	208	190	200	208
Series Delta (V)	220	230	240	220	230	240	220	230	240	220	230	240
kVA	187.5	187.5	187.5	200.0	200.0	200.0	207.5	207.5	207.5	212.5	212.5	212.5
kW	150.0	150.0	150.0	160.0	160.0	160.0	166.0	166.0	166.0	170.0	170.0	170.0
Efficiency (%)	93.0	93.2	93.4	92.9	93.1	93.3	92.8	93.0	93.2	92.7	93.0	93.1
kW Input	161.3	160.9	160.7	172.3	171.9	171.6	179.0	178.5	178.1	183.4	182.9	182.5

APPROVED

DIMENSIONS



SINGLE BEARING ADAPTORS				
ADAPTOR	A	B	C	D
SAE 1	978,3	915,3	439,3	216,3
SAE 2	964	901	425	202
SAE 3	964	901	425	202

COUPLING DISCS	
DISC	AN
SAE 10	53,98
SAE 11,5	39,68
SAE 14	25,40

Generator Set Data Sheet

Model: C150N6
Frequency: 60 Hz
Fuel type: Natural gas
kW rating: 150 Natural gas standby

Emissions level: EPA Emissions

Fuel consumption

	Natural gas Standby kW (kVA)				Propane Standby kW (kVA)			
Ratings	150 (188)				150 (188)			
Load	1/4	1/2	3/4	Full	1/4	1/2	3/4	Full
scfh	718.7	1111.3	1487.2	1915.0	288.4	438.5	596.3	783.0
m^3/hr	20.35	31.47	42.12	54.3	8.17	12.42	16.89	22.2

Engine

	Natural gas Standby Rating	Propane Standby Rating
Engine model	QSJ8.9G	
Configuration	Cast Iron, In line, 6 cylinders	
Aspiration	Turbocharged and aftercooled	
Gross engine power output, kWm (bhp)	179 (240)	
Bore, mm (in)	114.1 (4.49)	
Stroke, mm (in)	144.5 (5.69)	
Rated speed, rpm	1800	
Compression ratio	9.7:1	
Lube oil capacity, L (qt)	20.8 (22)	

Fuel supply pressure

Minimum operating pressure, kPa (in H_2O)	1.5 (6)
Maximum operating pressure, kPa (in H_2O)	3.5 (13)

Air

	Natural gas Standby Rating	Propane Standby Rating
Combustion air, m^3/min (scfm)	13.7 (483)	13.9 (490)
Maximum normal duty air cleaner restriction, kPa (in H_2O)	0.37 (1.5)	
Maximum heavy-duty air cleaner restriction, kPa (in H_2O)	3.7 (15.0)	

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Exhaust	Natural gas Standby Rating	Propane Standby Rating
Exhaust flow at set rated load, m^3/min (cfm)	40.8 (1440)	42.7 (1509)
Exhaust temperature at set rated load, °C (°F)	641.1 (1186)	668.9 (1236)
Maximum back pressure, kPa (inH_2O)	9 (36.1)	

Standard set-mounted radiator cooling	Natural gas Standby Rating	Propane Standby Rating
Ambient design, °C (°F)	45 (113)	
Fan load, kWm (HP)	10.3 (13.8)	
Coolant capacity (with radiator), L (US gal)	26 (6.9)	
Cooling system air flow, m^3/min (scfm)	249.2 (8800)	
Maximum cooling air flow static restriction, kPa (inH_2O)	0.125 (0.5)	

Weights	Natural gas	Propane
Unit wet weight kg (lb)	1776 (3915)	

Note: Weights represent a set with standard features. See outline drawing for weights of other configurations

Derating factors

Natural gas	
Standby	Engine power available up to 775 m (2540 ft.) and ambient temperatures up to 40° C (104° F). Above these conditions, derate at 4.25% per 300 m (985 ft.) and 2% per 10° C (18° F).

Propane	
Standby	Engine power available up to 775 m (2540 ft.) and ambient temperatures up to 40° C (104° F). Above these conditions, derate at 4.25% per 300 m (985 ft.) and 2% per 10° C (18° F).

Ratings definitions

Emergency standby power (ESP)	Limited-time running power (LTP)	Prime power (PRP)	Base load (continuous) power (COP)
Applicable for supplying power to varying electrical load for the duration of power interruption of a reliable utility source. Emergency Standby Power (ESP) is in accordance with ISO 8528. Fuel Stop power in accordance with ISO 3046, AS 2789, DIN 6271 and BS 5514.	Applicable for supplying power to a constant electrical load for limited hours. Limited Time Running Power (LTP) is in accordance with ISO 8528.	Applicable for supplying power to varying electrical load for unlimited hours. Prime Power (PRP) is in accordance with ISO 8528. Ten percent overload capability is available in accordance with ISO 3046, AS 2789, DIN 6271 and BS 5514.	Applicable for supplying power continuously to a constant electrical load for unlimited hours. Continuous Power (COP) is in accordance with ISO 8528, ISO 3046, AS 2789, DIN 6271 and BS 5514.

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DSEGenset®

DSE6110/20 MKIII

AUTO START & AUTO MAINS (UTILITY) FAILURE CONTROL MODULES

DSE**6110 MKIII**

DSE**6120 MKIII**

KEY FEATURES

- 4-line back-lit LCD text display
- Multiple display languages
- Five-key menu navigation
- LCD alarm indication
- Customisable power-up text and screen images.
- DSENet® expansion compatibility
- Data logging facility
- Internal PLC editor
- Protections disable feature
- Fully configurable via PC using USB communications
- Front panel configuration with PIN protection
- Power save mode
- 3-phase generator sensing and protection
- 3-phase mains (utility) sensing and protection (DSE6120 MKIII only)
- Automatic load transfer control (DSE6120 MKIII only)
- Generator current and power monitoring (kW, kvar, kVA, pf)
- Mains (utility) current and power monitoring (kW, kvar, kVA, pf) (DSE6120 MKIII only)
- kW overload alarm
- Over current protection
- Breaker control via fascia buttons
- Fuel and start outputs configurable when using CAN
- 6 configurable DC outputs
- 4 configurable analogue/digital inputs
- Support for 0 V to 10 V & 4 mA to 20 mA sensors
- 8 configurable digital inputs
- CAN, MPU and alternator frequency speed sensing in one variant
- Real time clock
- Manual and automatic fuel pump control
- Engine pre-heat and post-heat functions
- Engine run-time scheduler
- Engine idle control for starting & stopping
- Fuel level alarms
- 3 configurable maintenance alarms
- Compatible with a wide range of CAN engines, including Tier 4 engine support
- Uses DSE Configuration Suite PC Software for simplified configuration
- Licence-free PC software
- IP65 rating (with optional gasket) offers increased resistance to water ingress
- Configurable CAN read & transmitted information.
- 1 alternative configuration.

KEY BENEFITS

- Automatically transfers between mains (utility) and generator (DSE6120 MKIII only) for convenience.
- Hours counter provides accurate information for monitoring and maintenance periods
- User-friendly set-up and button layout for ease of use
- Multiple parameters are monitored & displayed simultaneously for full visibility
- The module can be configured to suit a wide range of applications for user flexibility
- PLC editor allows user configurable functions to meet user specific application requirements.

RELATED MATERIALS

TITLE	PART NO.
DSE6110 MKIII & DSE6120 MKIII Installation Instructions	053-240
DSE6110 MKIII & DSE6120 MKIII Operator Manual	057-289
DSE6110 MKIII & DSE6120 MKIII Configuration Suite PC Manual	057-290

SPECIFICATIONS

DC SUPPLY

CONTINUOUS VOLTAGE RATING
8 V to 35 V Continuous
5 V for up to 1 minute

CRANKING DROPOUTS
Able to survive 0 V for 100 mS, providing supply was at least 10 V before dropout and supply recovers to 5 V. This is achieved without the need for internal batteries. LEDs and backlight will not be maintained during cranking.

MAXIMUM OPERATING CURRENT
260 mA at 12 V, 150 mA at 24 V

MAXIMUM STANDBY CURRENT
145 mA at 12 V, 85 mA at 24 V

CHARGE FAIL/EXCITATION RANGE
0 V to 35 V

GENERATOR & MAINS (UTILITY)

VOLTAGE RANGE
15 V to 415 V AC (Ph to N)
26 V to 719 V AC (Ph to Ph)

FREQUENCY RANGE
3.5 Hz to 75 Hz

MAGNETIC PICKUP

VOLTAGE RANGE
+/- 0.5 V to 70 V

FREQUENCY RANGE
10,000 Hz (max)

INPUTS

DIGITAL INPUTS A TO H
Negative switching

ANALOGUE INPUTS A & D
Configurable as:
Negative switching digital input
0 V to 10 V sensor
4 mA to 20 mA sensor
Resistive sensor

ANALOGUE INPUTS B & C
Configurable as:
Negative switching digital input
Resistive sensor

OUTPUTS

OUTPUT A & B (FUEL & START)
10 A DC at supply voltage

AUXILIARY OUTPUTS C, D, E, F, G & H
2 A DC at supply voltage

DIMENSIONS

OVERALL
216 mm x 158 mm x 43 mm
8.5” x 6.2” x 1.5”

PANEL CUT-OUT
184 mm x 137 mm
7.2” x 5.3”

MAXIMUM PANEL THICKNESS
8 mm
0.3”

STORAGE TEMPERATURE RANGE
-40°C to +85°C
-40 °F to +185 °F

OPERATING TEMPERATURE RANGE

NON-HEATED DISPLAY VARIANT
-30°C to +70°C
-22 °F to +158 °F

HEATED DISPLAY VARIANT
-40 °C to +70 °C
-40 °F to +158 °F

OPTIONAL PARTS

PART	PART NUMBER
IP65 Gasket	020-521

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VAT No.316923457

DSEGenset®

DSE6110/20 MKIII

AUTO START & AUTO MAINS (UTILITY) FAILURE CONTROL MODULES

The DSE6110 MKIII is an Auto Start Control Module and the DSE6120 MKIII is an Auto Mains (Utility) Failure Control Module suitable for a wide variety of single, diesel or gas, gen-set applications.

Monitoring an extensive number of engine parameters, the modules will display warnings, shutdown and engine status information on the back-lit LCD screen, illuminated LEDs and remote PC.

The DSE6120 MKIII will also monitor the mains (utility) supply. The modules include USB connection and dedicated DSENet® terminals for system expansion.

Both modules are compatible with electronic (CAN) and non-electronic (magnetic pick-up/alternator sensing) engines and offer an extensive number of flexible inputs, outputs and extensive engine protections so the system can be easily adapted to meet the most demanding industry requirements.

The extensive list of features includes enhanced event and performance monitoring, remote communications & PLC functionality.

The modules can be easily configured using the DSE Configuration Suite PC software. Selected front panel editing is also available.

ENVIRONMENTAL TESTING STANDARDS

ELECTRO-MAGNETIC COMPATIBILITY
BS EN 61000-6-2
EMC Generic Immunity Standard for the Industrial Environment
BS EN 61000-6-4
EMC Generic Emission Standard for the Industrial Environment

ELECTRICAL SAFETY
BS EN 60950
Safety of Information Technology Equipment, including Electrical Business Equipment

TEMPERATURE
BS EN 60068-2-1
Ab/Ae Cold Test -30 °C
BS EN 60068-2-2
Bb/Be Dry Heat +70 °C

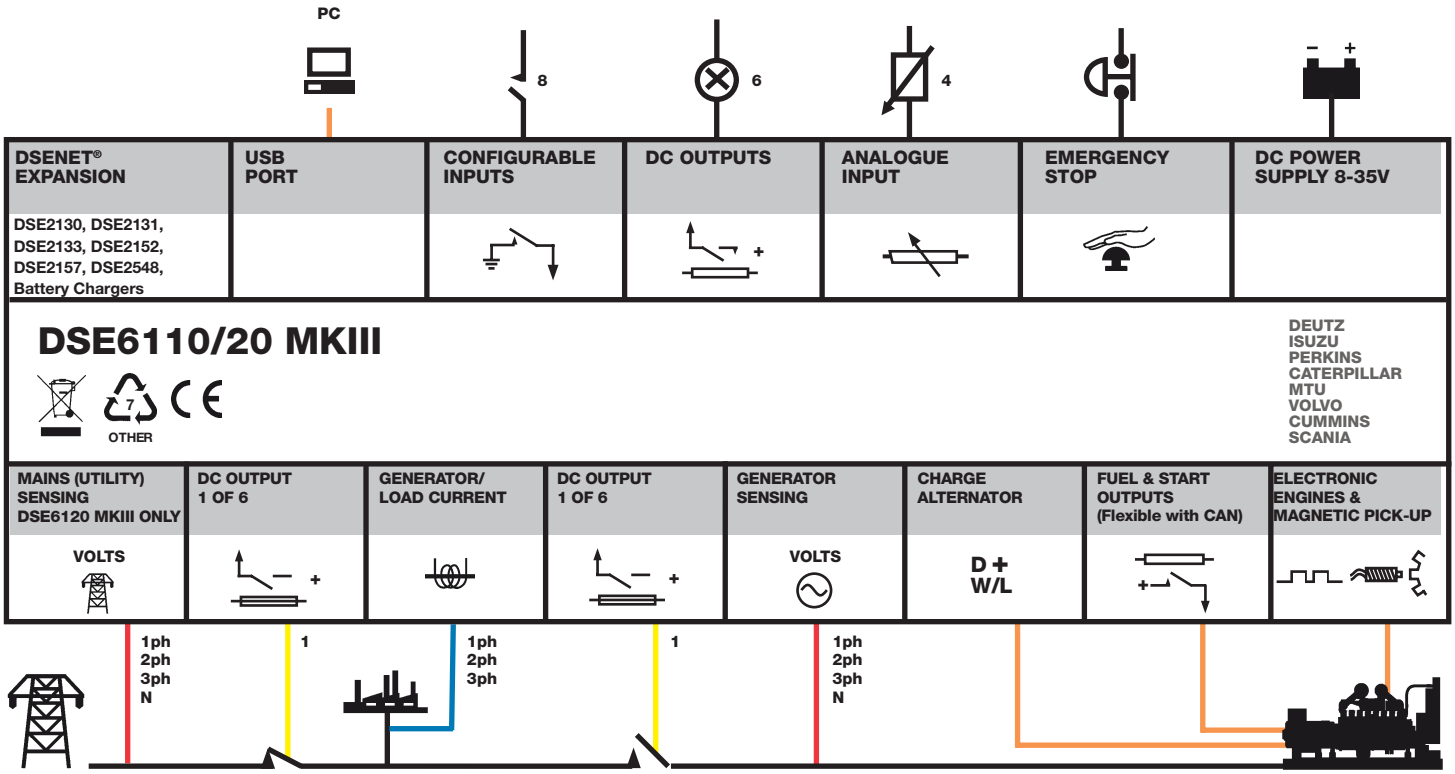
VIBRATION
BS EN 60068-2-6
Ten sweeps in each of three major axes
5 Hz to 8 Hz at +/-7.5 mm,
8 Hz to 500 Hz at 2 gn

HUMIDITY
BS EN 60068-2-30
Db Damp Heat Cyclic 20/55 °C
at 95% RH 48 Hours
BS EN 60068-2-78
Cab Damp Heat Static 40 °C
at 93% RH 48 Hours

SHOCK
BS EN 60068-2-27
Three shocks in each of three major axes
15 gn in 11 ms

DEGREES OF PROTECTION PROVIDED BY ENCLOSURES
BS EN 60529
IP65 - Front of module when installed into the control panel with the optional sealing gasket.

COMPREHENSIVE FEATURE LIST TO SUIT A WIDE VARIETY OF GEN-SET APPLICATIONS



ISSUE 1