

**MODEL: ERD-20 (DEUTZ F3M 2011)**

**1.500 R.P.M. 50 Hz**

**TECHNICAL SPECIFICATIONS**



<b>ENGINE</b>	<b>MAKE</b>	<b>MODEL</b>	<b>CONTINUOUS POWER PRP norma ISO 8528-1</b>	<b>20 kVA</b>
	DEUTZ	F3M 2011	<b>STAND-BY POWER LTP norma ISO 8528-1</b>	<b>22 kVA</b>
<b>ALTERNATOR</b>	MECC-ALTE	ECP-28M/4	<b>400/230 V</b>	

VOLTAGE	HZ	PHASE	COS	PRP KVA/KW	LTP KVA/KW	AMPERAGE A
415/240	50	3	0,8	20,0/16,0	22,0/17,6	30,64
400/230	50	3	0,8	20,0/16,0	22,0/17,6	31,79
380/220	50	3	0,8	20,0/16,0	22,0/17,6	33,47
240/139	50	3	0,8	20,0/16,0	22,0/17,6	52,99
230/133	50	3	0,8	20,0/16,0	22,0/17,6	55,29
220/127	50	3	0,8	20,0/16,0	22,0/17,6	57,8



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## ENGINE CHARACTERISTICS/F3M2011

### GENERAL DATA

POWER PRP (kWm)	<b>19.00</b>
POWER LTP (kWm)	<b>20.40</b>
No CYLINDERS	<b>3</b>
CYLINDERS CAPACITY (L)	<b>-</b>
DIAMETER PER STROKE (mm)	<b>94 x 112</b>
COMPRESSION RATIO	<b>19</b>
COOLING SYSTEM	<b>Oil</b>
INJECTION	<b>direct</b>
SUCTION	<b>Natural</b>
SERIES REGULATOR	<b>Mechanical</b>
FLY WHEEL COUPLING	<b>3 - 11,5"</b>

### LUBRICATION SYSTEM

OIL CAPACITY (L)	<b>5,00</b>
OIL CONSUMPTION (%)	<b>0,30</b>
MIN. ALARM OIL PRESSURE (BAR)	<b>1,50</b>

### VENTILATION SYSTEM

AIR COOLING FLOW(m3/h)	<b>1800</b>
COMBUSTION AIR FLOW (m3/h)	<b>122</b>

### ELECTRICAL SYSTEM

VDC (V)	<b>12</b>
BATTERY (Ah)	<b>70</b>

## ALTERNATOR CHARACTERISTICS/ECP-28M/4

### GENERAL DATA

POWER PRP (kVA)	<b>20,0</b>
POWER LTP (kVA)	<b>22,0</b>
EFFICIENCY ALT. 3/4%	<b>88,0</b>
EFFICIENCY ALT. 4/4%	<b>87,6</b>
No POLES	<b>4</b>
VOLTAGE REGULATOR	<b>DSR</b>
No WIRES	<b>12</b>
INSULATION	<b>H</b>
Xd (%)	<b>175,0</b>
X'd (%)	<b>16,5</b>
X	<b>9,4</b>
DEGREE OF PROTECTION	<b>IP23</b>

### GENERATOR SET CONSUMPTION

<b>% POWER USED</b>	<b>LITRES / HOUR</b>
50%	<b>3.2</b>
75%	<b>4.7</b>
100%	<b>7.7</b>

### DIMENSIONS (MM)

LENGTH	WIDTH	HEIGHT
<b>1700</b>	<b>730</b>	<b>1560</b>

### CAPACITIES

FUEL TANK (litres)	<b>150</b>
WEIGHT	<b>896</b>
NOISE LEVEL (dB (A)) 7 m	<b>64</b>

### General Description

**“ERGA” generator set is an electrical energy generating machine which is used in places where there is no mains supply or when there is a MAINS failure.**

**The mobile elements, distribution belt, fan, etc., and those parts which reach high temperatures during operation, exhaust manifold, etc, include their corresponding protections, in compliance with the requirements of the Machinery Directive 2006/42.**

### Regulations

**The machine holds the “CE” marking, and the corresponding Declaration of Conformity is issued with each of them, in which it specifies that the machine complies with R.D 842/2002 Low Voltage Regulations and with the European Directives:**

- **2006/42 on Safety in Machinery.**
- **2006/95/CE on Electrical Safety.**
- **2004/108/CE on Electromagnetic Compatibility.**
- **2005/88/CE on NOISE EMISSIONS by equipment for outdoor use (for SOUNDPROOF GENERATOR SETS)**

## SCOPE OF SUPPLY

<b>INDUSTRIAL RANGE</b>	<b>Open Genset</b>	<b>Canopy Genset</b>
<b>Engine/alternator monobloc directly connected and installed via silent blocks on a frame made from high tensile electro welded steel profiles that are treated with degreasing liquids and applied with a phosphate coat and epoxy paint</b>	<b>incl.</b>	<b>incl.</b>
<b>Canopy of steel sheet sound proofed with fireproof rockwool, and treated with degreasing liquids and applied with a phosphate coat and epoxy paint</b>	<b>-</b>	<b>incl.</b>
<b>Fuel tank integrated in the chassis provided with fuel level gauge and fuel lines to the engine.</b>	<b>incl.</b>	<b>incl.</b>
<b>Engine with mechanical engine driven pusher fan</b>	<b>incl.</b>	<b>incl.</b>
<b>Industrial silencer with -15 db(A) noise reduction and exhaust outlet tube.</b>	<b>incl.</b>	<b>-</b>
<b>Residential silencer with -35 db(a) noise reduction with exhaust tube and protection cap</b>	<b>-</b>	<b>incl.</b>
<b>4 Pole thermal and magnetic circuit breaker with LTS (ABB)</b>	<b>incl.</b>	<b>incl.</b>
<b>Battery charge alternator</b>	<b>incl.</b>	<b>incl.</b>
<b>Starter battery complete with cables to the engine and pole protection</b>	<b>incl.</b>	<b>incl.</b>
<b>Installation prepared for earthing spike (spike not included).</b>	<b>incl.</b>	<b>incl.</b>
<b>Security protection for belts and moving parts as well as on electrical component.</b>	<b>incl.</b>	<b>incl.</b>
<b>External emergency stop push button</b>	<b>incl.</b>	<b>incl.</b>
<b>Manual engine oil extraction pump</b>	<b>incl.</b>	<b>incl.</b>
<b>Engine heater, fuel tank heater, fuel heater Control panel heater</b>	<b>incl.</b>	<b>incl.</b>
<b>Self excited and auto regulated alternator.</b>	<b>incl.</b>	<b>incl.</b>
<b>Integrated lifting hook for single point lifting with crane, gensets up to 450 kVA (Except in swing-out cover model)</b>	<b>-</b>	<b>incl.</b>
<b>4 Lifting points for gen sets from 450 kVA and bigger.</b>	<b>incl.</b>	<b>-</b>
<b>Prepare for extended fuel tank, fully bonded for leakage protection</b>	<b>incl.</b>	<b>incl.</b>
<b>Base frame prepared for trailer kit</b>	<b>incl.</b>	<b>incl.</b>
<b>Standard electronic speed governor on engines from 220 kVA and up</b>	<b>incl.</b>	<b>incl.</b>
<b>Electric control cubicle with digital control module, automatic mains failure, manual start or remote start on signal.</b>	<b>incl.</b>	<b>incl.</b>
<b>Electric engine coolant preheating on gen sets with automatic mains failure controller.</b>	<b>incl.</b>	<b>incl.</b>
<b>Horizontal outlet for hot air</b>	<b>-</b>	<b>incl.</b>

## DSE 7320 AUTOMATIC CONTROL PANEL (any of the possible modules DSE)

**PROTECTION, DISTRIBUTION AND AUTOMATIC CONTROL** panel which starts the generator set when it detects a mains failure and stops it when the mains is restored with the control unit DSE 7320. It has a digital LCD screen, which provides easy reading of the information regarding the **ENGINE, ALTERNATOR, MAINS and CHARGING**.

### ENGINE:

- Coolant temperature
- Fuel level
- Operating hours
- Oil pressure
- Battery voltage
- Number of start-ups
- Turning speed (rpm)
- Battery alternator voltage



### ALTERNATOR:

- Voltages between phases and between phases and neutral.
- Intensities
- Reactive Power (kVAr)
- Apparent Power (kVA)
- Cos phi
- Frequency
- Active energy meter (kW-h)
- Active Power (kW)

### MAINS

- Frequency
- Voltages between phases and (L1-L2, L2-L3, L1-L3).
- Phase rotation order
- Voltages between phases and neutral (L1-N, L2-N, L3-N).
- Earth current Voltages between phases and between phases and neutral.
- Intensities
- Reactive Power (kVAr)
- Apparent Power (kVA)
- Cos phi
- Frequency
- Active energy meter (kW-h)
- Active Power (kW)

### PROTECTION OF THE ENGINE AND ALTERNATOR, WITH THE ALARMS ACTIVATED:

#### ENGINE

- Low oil pressure
- Failure of the alternator to charge batteries
- High coolant temperature
- Low fuel level

**Low and High battery Voltage**  
**ALTERNATOR**

**Low and High Voltage**  
**Power Overload (KW-kVA)**  
**Low and High Frequency**  
**Load control:**  
**Overload due to Intensity (A)**  
**Connection and disconnection of artificial loads.**  
**Disconnection of non-essential loads**  
**Negative Phase Sequence.**  
**Short-circuit**

**OTHER CHARACTERISTICS**

**The real-time clock provides an exact record of events.**

**Communications Ethernet, RS 232 and RS 485**

**Extensive number of configurable inputs and outputs.**

**Programmer Clock with multiple maintenance events which can be configured for the optimal operation of the engine. Weekly and/or monthly programming of up to 16 starts and stops per week.**

**Configurable alarms and timers.**

**USB connectivity**

**Fully configurable via software and PC.**

**ALTERNATIVE CONFIGURATIONS, which open up the working possibilities**

**Modbus RTU**

**Possibility of SMS text messages**



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