

# APDR100-EU5

## Diesel generating set

POWER  
YOUR  
FUTURE

**93 kVA / 74 kW PRP**  
**102 kVA / 82 kW ESP**

**Powered by Deutz**



Voltage	400/230V		
Frequency	50Hz		
Number of phases	3		
Weight with liquids without fuel	2410 kg		
Dimensions (mm)	L	W	H
	3406	1196	1927

## 1. General technical data

<b>Engine</b>	DEUTZ TCD4.1L4
<b>Alternator</b>	STAMFORD UCI274C
<b>Type of execution</b>	G2
<b>Frequency</b>	50Hz
<b>Voltage</b>	400/230V
<b>Control panel</b>	ComAp InteliLite 4 AMF 25
<b>Fuel tank (l)</b>	188
<b>Sound level-Lp(A) (dB(A)@7m)</b>	65
<b>Sound level-Lp(A) (dB(A)@1m)</b>	70
<b>Sound power-LW(A) (dB(A))</b>	95

<b>Power<sup>1</sup></b> (m.p. cos φ 0,8)	<b>PRP (kVA / kW)</b>	<b>93 / 74</b>
	<b>ESP (kVA / kW)</b>	<b>102 / 82</b>

<sup>1</sup>PRP: Continuous power ("Prime Power"). ESP: Emergency Standby Power according to ISO8528-1.  
Maximum active power tolerance (kW) ±5%

Voltage	PRP (KVA/KW)	ESP (KVA/KW)	Amperage (A)
400/230V	93 / 74	102 / 82	147,2

## Directives and Regulations

**ENVIRONMENTAL CONDITIONS STANDARD**  
ISO 8528-1:2018: 25°C, 100kPa and 30% relative humidity:

- **Prime Power (PRP):** Data on electrical power available at variable load without limit of hours per year. An overload of 10% is allowed for 1h out of 12. According to ISO 8528-1:2018.
- **Emergency Standby Power (ESP):** Data on electrical capacity available at variable load in case of emergency according to ISO 8528-1:2018.

The AKSA Generating Set has CE labelling which includes the following directives:

- 2006/42/EC. Machine Safety Directive.
- EN ISO 8528-13:2016. Part 13: Safety. Alternating current generator sets powered by reciprocating internal combustion engines.
- 2014/30/EU. Electromagnetic Compatibility Directive.
- 2000/14/EC. Noise Emissions Directive. Sound power levels evaluated in accordance with the procedure laid down in the directive.
- Directive 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS 2).



**APDR100-EU5** | DEUTZ TCD4.1L4 | STAMFORD UCI274C

## 2. Engine specifications

<b>2.1. General technical data of the engine</b>	<b>Make and model</b>	DEUTZ TCD4.1L4	
	r.p.m.	1500	
	<b>Maximum ESP power (kWm)</b>	90	
	<b>Power PRP (kWm)</b>	81,8	
	<b>Fuel</b>	Diesel	
	<b>No. of cylinders</b>	4 cylinders	
	<b>Cylinder capacity (c.c.)</b>	4100	
	<b>Compression ratio</b>	1:18	
	<b>Cooling system</b>	Water-cooled	
	<b>Type of regulation</b>	Electronic	
	<b>Type of engine/injection/suction</b>	Diesel/common rail/turbo-charged	
<b>2.2. Fuel</b>	<b>Type of fuel</b>	Diesel	
	<b>Fuel tank capacity</b>	188	
<b>2.3. Consumption and autonomy</b>	<b>Fuel consumption (l/h)</b>	<b>Autonomy (h)</b>	
	<b>PRP</b>	<b>PRP</b>	
<b>50%</b>	22,8	8,2	
<b>75%</b>	18	10,4	
<b>100%</b>	23,3	8,1	
<b>2.4. Cooling system</b>	<b>Fan flow (m³/s)</b>	3,6	
	<b>Fan power consumption (kW)</b>	5	
	<b>Radiator back pressure (mBar)</b>	1,5	
	<b>Total refrigerant capacity (l)</b>	5,9	
<b>2.5. Lubrication system</b>	<b>Oil capacity (l)</b>	11,5	
<b>2.6. Intake system</b>	<b>Combustion air intake flow (m³/h)</b>	357	
<b>2.7. Starter system</b>	<b>No. of batteries</b>	2	
	<b>Battery characteristics</b>	12V 44Ah	
	<b>Start-up voltage (V)</b>	24V	
<b>2.8. Exhaust system</b>	<b>Exhaust gas flow (m³/h)</b>	1064 [PRP]	1064 [ESP]
	<b>Exhaust gas temperature (°C)</b>	552° [PRP]	552° [ESP]
	<b>Exhaust outside diameter (mm)</b>	3" (Ø 76,2)	
	<b>Max. exhaust back pressure (mBar)</b>	50	

- ✓ **4 cylinders 4-stroke diesel engine online** with Electronic regulation Electronic by means of a fuel pump, original from the manufacturer.

 Emissions compliance  
**EU Stage V**

ENGINE EQUIPPED WITH PARTICULATE FILTER (DPF) AND SCR CATALYST, WHICH TREATS THE EXHAUST GASES WITH THE DEF ADDITIVE.

32 L DEF ADDITIVE TANK

- ✓ **Direct injection and suction system turbocharged.** Original manufacturer's particle separator filter.
- ✓ **Refrigeration through cooling liquid,** fully distributed in the closed circuit run by an engine driven pump, tropicalised radiator, original from the engine manufacturer.
- ✓ **Crankshaft-driven pump lubrication system.** The filter is a full-flow insert cartridge, front housing, original from the engine manufacturer.
- ✓ **Air intake system for turbo-fed combustion** with two-stage filter, original from the engine manufacturer.
- ✓ **Electric motor starting system, battery** (maintenance-free) **with switch, 24V Charging alternator and starter motor.** Original elements from the engine manufacturer.

**APDR100-EU5 | DEUTZ TCD4.1L4 | STAMFORD UCI274C**

### 3. Alternator specifications

<b>3.1. General technical data for the alternator</b>	<b>Make and model</b>	STAMFORD UCI274C		
	<b>No. of poles</b>	4		
	<b>Insulation class</b>	H		
	<b>No. of threads</b>	12		
	<b>Mechanical protection index</b>	IP23		
	<b>Voltage Regulator (AVR)</b>	PMG+MX341		
	<b>Voltage regulation</b>	±1%		
	<b>ESP power 27°C (kVA)</b>	110		
	<b>Power PRP 40°C (kVA)</b>	100		
	<b>No. of phases</b>	3		
	<b>Power factor (cos φ)</b>	0,8		
	<b>Performance η (%)</b>			
	<b>50%</b>	<b>75%</b>	<b>100%</b>	<b>110%</b>
	92,2%	91,5%	90,3%	89,8%

- ✓ **Brushless 4-pole alternator.** Robust mechanical structure with easy access to connections and components. Insulation class H, coil pitch 2/3 and self-excited AVR.
- ✓ **Protection with premium epoxy resins.** High voltage parts are impregnated under vacuum, which always means very good insulation.

#### Standard regulations that the alternator fulfils:

- AS 1359 | IEC 34-1 1 | BS EN 60034-1 | VDE 0530 | BS 5000 | CAN/CSA-C22.2-100 | NEMA MG1-32

**Low wave distortion:**

- THD (100% load) = 2%
- THF < 2%

Complies with: EN61000-6-3, EN61000-6-2 regarding radio interference.

### 4. Frame Specifications

- Unit mounted on electro-welded high-resistance steel frame, painted with epoxy-polyester powder paint. **With retention bath.**
- Connection of the assembly to the frame by means of anti-vibration dampers.
- Fuel tank located on the frame itself. The engine is equipped with a measuring gauge and fuel system.
- **Tested in a saline mist chamber according to ASTM B-117-09, resistance 500h.**

### 5. Soundproof canopy Specifications

- Electro-welded canopy made of high resistance galvanized steel painted with electrostatic epoxy-polyester powder paint.
- Interior soundproofing by means of a lining with soundproofing material.
- **Tested in a saline mist chamber according to ASTM B-117-09, resistance 720H. IP44 mechanical protection degree.**

Technical plan for orientation purposes. AKSA reserves the right to modify the data in this technical sheet without prior notice.



## APDR100-EU5 | DEUTZ TCD4.1L4 | STAMFORD UCI274C

## 6. Control panel

6.1.  
Main  
elements of  
the control  
panel

- Protection panel, distribution with automatic control module which allows you to work in manual, automatic or signal mode.
- Emergency stop button.
- **Protections:**
  - 4-pole magnetothermic protection against overloads and short circuits.
  - Protection fuses for the control set.

6.2.  
Protection  
switch

Model	Schneider EasyPact 160A 4P
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6.3.  
Control  
module

Model	ComAp IntelliLite 4 AMF 25
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The IntelliLite 4 AMF 25 is an advanced single generating set controller meticulously designed for both stand-by and prime power applications. This intuitive and flexible controller is engineered for seamless installation and user-friendly operation, providing a comprehensive solution for the control and monitoring of your gen-sets, whether on-site or remotely.

## Key Features

- ✓ **Versatile Application:** The controller is adept at handling both stand-by and prime-power applications within a single unit, offering unparalleled flexibility.
- ✓ **Intuitive Interface:** Equipped with backlit symbols, the IntelliLite 4 AMF 25 ensures ease of use and quick interpretation of information.
- ✓ **Extensive I/O Options:** Featuring 8 binary outputs, 8 + 1 binary inputs, and 4 analog inputs (U/I/R), including a +5 V output reference for analog inputs, the controller offers diverse input and output configurations.
- ✓ **Emergency Stop Functionality:** With 2 high-current E-Stop binary outputs, the controller ensures swift and secure emergency shutdowns when required.
- ✓ **Connectivity:** Boasting USB Host and inbuilt RS485, the controller supports easy configuration through IntelliConfig and facilitates seamless communication, both locally and remotely.
- ✓ **Expansion Capabilities:** The presence of 2 slots for extension plug-in modules (Modbus, Internet, SMS, inputs/outputs) and extension CAN modules enhances the controller's adaptability to diverse requirements.
- ✓ **Comprehensive Monitoring:** The built-in PLC logic, complemented with a PLC monitoring tool in IntelliConfig, offers detailed insights into the gen-set operation.
- ✓ **Remote Communication:** The controller provides full remote communications support, including AirGate 2.0, WSV, Internet access via Ethernet/4G, Modbus TCP/RTU, SNMP v1/v2c, Active SMS, and emails.

## APDR100-EU5 | DEUTZ TCD4.1L4 | STAMFORD UCI274C

## 7. Standard Scope of Supply

### Engine

- ✓ DEUTZ TCD4.1L4 Diesel Engine, 1500 rpm water cooled.  
*Engine equipped with particulate filter (DPF) and SCR catalyst, which treats the exhaust gases with the DEF additive.*
- ✓ Electronic governor.
- ✓ Crankcase ventilation.
- ✓ **Sensors and Alarms:**
  - ✓ Oil pressure, temperature, and coolant level alarms.
  - ✓ Oil pressure and coolant temperature readings.
- ✓ Protection from hot and moving parts.
- ✓ Electric motor starting system, battery (maintenance-free) with switch, 24V Charging alternator and starter motor.
- ✓ High performance fuel particle separator filter. Original from manufacturer.
- ✓ Oil drain pump.

### Alternator

- ✓ 12-Wire, 4-pole brushless STAMFORD UCI274C alternator with electronic voltage regulation type AVR (PMG+MX341).
- ✓ Auxiliary winding in the alternator.
- ✓ IP23 protection level.
- ✓ Insulation class H.

### Frame

- ✓ Electro-welded frame made of high-strength steel.
- ✓ Painted with electrostatic epoxy-polyester powder paint.
- ✓ Anti-vibration dampers from the engine block to the frame.
- ✓ Fuel tank with capacity of 188 litres with retention bath, located on the frame itself. Equipped with cleaning record to facilitate maintenance work.
- ✓ Measuring gauge and installation of fuel to the engine.
- ✓ Liquid drainage connection to the outside.
- ✓ **Frame tested in a salt spray chamber according to ASTM B-117-09 (500h resistance).**

### Soundproofed canopy

- ✓ Electro-welded canopy of high-strength galvanized steel.
- ✓ Painted with electrostatic epoxy-polyester powder paint.
- ✓ Interior soundproofing by means of a rigid panel made of glass wool with an exterior textile covering.
- ✓ IP44 mechanical protection level.
- ✓ **Canopy tested in salt spray chamber according to ASTM B-117-09 (resistance 720h).**

### Control panel

- ✓ **ComAp IntelliLite 4 AMF 25 control module.**
- ✓ **CM-4G-GPS module.** An easy-to-use and highly efficient solution for connecting generator sets controllers online via 4G network. Enables remote monitoring and tracking of the gen-set's exact position, helping to optimise its uptime and reduce maintenance costs.
  - ✓ Reliable 4G connectivity with 2G or 3G fallback.
  - ✓ GPS location for geotracking and geofencing.
  - ✓ Alarm notification via SMS or email.
  - ✓ WebSupervisor for remote monitoring.
- ✓ **Maintenance-free battery and battery disconnecter.**
- ✓ **Protections:**
  - ✓ 4-pole magnetothermic protection against overloads and short circuits.
  - ✓ Protection fuses for the control set.

**APDR100-EU5 | DEUTZ TCD4.1L4 | STAMFORD UCI274C**

## 7. Standard Scope of Supply

### Other equipment

- ✓ Mechanised fuel nozzle outside with key.
- ✓ Tropicalised Radiator for work at 50°C. Prepared for maintenance intervals every 500 hours.
- ✓ Differential protection.
- ✓ Emergency stop button.
- ✓ Reinforced pole centrally-mounted.
- ✓ Radiator access door.
- ✓ Water deflector.
- ✓ Reinforced terminal block.
- ✓ Exhaust thermal sleeves.
- ✓ Spark arrestor.
- ✓ Document tray.

Technical plan for orientation purposes. AKSA reserves the right to modify the data in this technical sheet without prior notice.

### Power sockets configuration

✓ **RCD Type B, Class B (Optional)**



APDR100-EU5

▼  
CB 41

APDR150-EU5

▼  
CB 41

Schuko	2	2
16A 2P+T (230V)	1	1
16A 3P+N+T		
32A 3P+N+T	2	2
63A 3P+N+T	1	1
125A 3P+N+T	1	1

