

# ATP Cummins - Leroy Somer Series



## ATP450-CMMS/LS

### Main Features

|          |                          |             |             |
|----------|--------------------------|-------------|-------------|
| <b>T</b> | Three-phase              | <b>Hz</b>   | 50 Hz       |
|          | Diesel                   |             | 1500 r.p.m. |
|          | Cummins / 6ZTAA13-G2     | <b>V</b>    | 230V/400V   |
|          | Leroy somer / TAL-A473-A | <b>cosφ</b> | 0,8         |
|          | DSE6110/20               |             | ABB 4x800A  |

|                        |         |        |
|------------------------|---------|--------|
| Standby Power (STP)    | 450 kVA | 360 kW |
| Continuous Power (PRP) | 409 kVA | 327 kW |
| Continuous Power (COP) | - kVA   | - kW   |

### Soundproof

|                          |         |              |
|--------------------------|---------|--------------|
| Length (L)               | 3700 mm |              |
| Height (H)               | 1700 mm |              |
| Width (W)                | 2230 mm |              |
| Weight                   | 4100 kg |              |
| Daily deposit            | 740 Lts |              |
|                          |         | <b>50 Hz</b> |
| Sound pressure level @1m |         | 100 dB(A)    |

### Installation in room

| Exhaust System  | 50Hz |     |     |
|---|------|-----|-----|
|   | COP  | PRP | STP |
| Maximum back pressure (kPa)   | 13   |     |     |
| Intake air alarm temperature (°C)   | 27   |     |     |
| "Maximum intake air restriction with heavy-duty air filter<br>Dirty Element (kPa)<br>Clean Element (kPa)" | -    |     |     |
| Max. exhaust pipe diameter (mm)   | 130  |     |     |

| Fuel System                             | 50Hz |     |      |
|---|------|-----|------|
|   | COP  | PRP | STP  |
| Maximum restriction on lift pump (KBar) | -    | -   | 20,3 |
| Maximum fuel inlet temperature (°C)     | 33,9 |     |      |
| Total drainage flow (L/hr)              |      |     | 162  |

| Electrical system   | 50Hz  |     |     |
|---|-------|-----|-----|
|   | COP   | PRP | STP |
| Starter motor (Vdc)   | 24    |     |     |
| Battery charging system, negative ground (A)                                | 70    |     |     |
| Maximum allowable starting circuit resistance (Ω)                           | 0,002 |     |     |
| "Minimum recommended battery capacity — Cold soak @ 0 to 32°F (-18 to 0°C)" | 900   |     |     |

## Engine specifications

| General specifications              | 50 Hz                           |
|-------------------------------------|---------------------------------|
| Model                               | 6ZTAA13-G2                      |
| Emissions                           | Not applicable                  |
| Operating method                    | Four Times                      |
| Fuel type                           | Diesel                          |
| Refrigeration system                | Liquid (water + 50% antifreeze) |
| Aspiration system                   | Turbocharged                    |
| Injection system                    | PD Pump Northoil                |
| Number and arrangement of cylinders | 6 in-line                       |
| Displacement (L)                    | 13,00                           |
| Cylinder bore (mm)                  | 130                             |
| Cylinder stroke (mm)                | 163                             |
| Compression ratio                   | 17:01                           |
| Regulation                          | Electronic                      |
| Rotational speed                    | 1500                            |
| Coolant capacity (L)                | 23,1                            |
| Gross power COP (kWm)               | 350                             |
| Gross power PRP (kWm)               | 390                             |
| Gross power STP (kWm)               | 415                             |
| Oil capacity (L)                    | 45,42                           |
| Net power COP (kWm)                 | -                               |
| Net power PRP (kWm)                 | -                               |
| Net power STP (kWm)                 | -                               |



| Consumptions                                    |        | 50 Hz |       |
|---|--------|-------|-------|
| Fuel consumption                                | Burden | lt/h  | g/kWh |
| STP   | 100%   | 95,8  | 194   |
| PRP   | 100%   | 89,1  | 192   |
|   | 75%    | 65,1  | 187   |
|   | 50%    | 43,2  | 186   |
|   | 25%    | 23,6  | 203   |
| Min. allowable fuel flow to the fuel pump (L/h) |        | 95,8  |       |
| Reference conditions                            |        |       |       |
| Temperature (°C)                                |        | 25    |       |
| Atmospheric pressure (kPa)                      |        | 100   |       |
| Starting system                                 |        |       |       |
| Voltage (V)                                     |        | 24    |       |
| Standard thermostat range (°C)                  |        | 82-95 |       |

## Alternator specifications

| General specifications |                 |
|------------------------|-----------------|
| Model                  | TAL-A473-A      |
| Number of phases       | Three-phase     |
| Protection             | IP23            |
| Isolation              | H               |
| Heating                | H               |
| IEC Waveform = THF     | <2,0%           |
| NEMA Waveform = TIF    | <50             |
| Excitation system      | SHUNT/AREP+ PMG |
| AVR Model              | R150/R180       |



|                                    |   |
|------------------------------------|---|
| Overspeed: rpm                     | 2250  |
| Voltage regulation: (steady state) | +/- 1.0%  |
| Air flow rate 60 Hz (m3/s)         | 0,9   |
| Radio interference:                | Deletion in accordance with the standard European EN61000-6 |
| AREP+ Short circuit current        | 2.7 In: 5 seg.  |

## Starter Battery



|                  |   |
|------------------|---|
| Battery voltage  |   |
| Battery Capacity |   |
| Amount           |   |
| Battery type     | Maintenance-free, sealed lead-acid type |

## Certifications



## Control Panel



| Generator                          | DSE6110/20 |
|------------------------------------|------------|
| Tension (F-F / F-N)                | ★ / ★      |
| Intensity                          | ★          |
| Frequency                          | ★          |
| RMS values                         | ★          |
| Generator phase sequence           | ★          |
| Generator ground current [1]       | ■          |
| Number of events registered        | 250        |
| Integrated clock                   | ★          |
| PIN protection                     | ★          |
| kWh, kVAh, kVAh, kVAh, cos Ø       | ★          |
| Synchrometer (m)                   | ☒          |
| Number of available departures [2] | 6          |
| Engine running hours               | ★          |
| Alarm indication on LCD            | ★          |
| Total number of LED indicators     | 8          |
| No. of LED alarms                  | ☒          |
| Acoustic alarm signaling           | ■          |
| Programmer                         | ★          |
| Fuel level                         | ★          |
| Engine                             | DSE6110/20 |
| Engine speed                       | ★          |
| Low oil pressure protection        | ★          |
| Oil pressure reading [3]           | ■          |
| High engine temperature protection | ★          |
| Engine temperature reading[3]      | ■          |
| Battery voltage                    | ★          |
| Battery Intensification [4]        | ■          |
| Fuel consumption [5]               | ★          |
| Low water level in radiator [6]    | ■          |
| Scheduled maintenance for engine   | ★          |
| Communication                      | DSE6110/20 |
| USB Type B Female Port (Max. 6m)   | ★          |
| [ 7 ] USB Type A Female Port (n)   | ☒          |
| CAN port (Max. 40m)                | ★          |
| PLC function                       | ★          |

| Grid  | DSE6110/20 |
|---|------------|
| Tension (F-F / F-N)   | ★          |
| Intensity [1]   | ☒          |
| Frequency   | ★          |
| kVA,kW, cos Ø (a)   | ☒          |
| Network-group switching control   | ★          |
| Protections and alarms  | DSE6110/20 |
| High/low battery voltage  | 🔔          |
| Battery charging alternator failure   | 🔔          |
| Stop failure  | 🔔 / 🔄      |
| Boot failure  | 🔔 / 🔄      |
| Low fuel level  | 🔔 / 🔄      |
| Overload  | 🔔 / 🔄      |
| Ground fault  | 🔔 / 🔄      |
| Asymmetry between phases  | 🔔 / 🔄      |
| Maintenance   | 🔔 / 🔄      |
| High/Low Generator Frequency  | 🔔 / 🔄      |
| Engine overspeed  | 🔔 / 🔄      |
| Low engine speed  | 🔔 / 🔄      |
| Surge   | 🔔 / 🔄      |
| Low voltage in generator  | 🔔 / 🔄      |
| ECU Alert (if applicable)   | 🔔 / 🔄      |
| Low oil pressure  | 🔔 / 🔄      |
| Low water level in radiator [f]   | 🔔 / 🔄      |
| High engine temperature   | 🔔 / 🔄      |
| Fuel leak/theft   | 🔔          |
| Applications  | DSE6110/20 |
| Automatic or manual start   | ★          |
| Remote start by dry contact NA  | ★          |
| Automatic due to network failure  | ★          |
| Alternation with distributed time   | ☒          |
| Multi-generators in synchronism with load (Max 32 generators) (m)                                       | ☒          |
| Generator-grid in synchronism and with load sharing (1 generator and 1 grid) (m)                        | ☒          |
| Optional Expansions   | DSE6110/20 |
| DSE2130 (8 digital inputs)   I G-IOM (8 digital inputs/outputs + 4 analog inputs)   G-08 ( 8 ent. dig.) | ★          |
| DSE2157   I -RB8   G-06 (8 relay outputs)   | ★          |
| DSE2548   IGL-RA15   - (expansion with 8 Additional LEDs  | ★          |
| DSE2510/20 (mirror controller, max distance 1km)  | ★          |
| Rules   |            |
| Working temperature   | -30 ~ 70°C |
| Protection index (when mounted with sealing gasket)   | IP65       |
| Maximum humidity level (for 48 h)   | 93% / 40°C |

## Legend

|     |  |
|-----|--|
| ★   | Available  |
| ■   | Optional   |
| ☒   | Not available  |
| 🔔   | Warning alarm  |
| ⏸   | Stop alarm   |
| [1] | Need an additional IT  |
| [2] | Number of outputs available for standard configuration. Outputs do not include relays or additional wiring to terminals. |
| [3] | If the information is not provided by the engine ECU, an additional sensor needs to be included.                         |

|      |   |
|------|---|
| [4]  | Needs an additional ammeter   |
| [5]  | If the information is provided by the engine ECU  |
| [6]  | Requires an additional sensor   |
| [7]  | Need to include an additional IL-NT-S-USB module  |
| [8]  | Need to include an additional IL-NT-RS232-485 module  |
| [9]  | DeepSea: Needs to include an additional DSE891 module/ComAp: Needs to include an additional IB-LITE module    |
| [10] | DeepSea: Needs to include an additional DSE890 module/ComAp: Needs to include an additional IL-NT-GPRS module |
| [11] | DeepSea: Needs to include an additional DSE892 module/ComAp: Needs to include an additional IB-LITE module    |

### Emergency Standby Power (ESP)

Emergency standby power is the maximum power available to a variable load during a main power grid failure. The average load factor over 24 hours of operation must not exceed 70% of the motor's ESP rated power. Typical motor operating hours are 200 hours per year, with a maximum usage of 500 hours per year.

This includes an annual maximum of 25 hours per year at the ESP power rating. Overload capability is not permitted. The motor must not be used for sustained utility parallel applications.

### Main Power (PRP)

Prime Power is the maximum power available for unlimited hours of use in a variable load application. The average load factor must not exceed 70% of the motor's PRP rating during any 24-hour period. A 10% overload capability is available; however, it is limited to 1 hour within each 12-hour period.

1. All ratings are based on operating conditions according to ISO 8528-1, ISO 3046, DIN6271. Performance tolerance  $\pm 5\%$ .
2. Test conditions: 100 kPa, 25°C air inlet temperature, 30% relative humidity, with fuel density of 0.84 kg/L. Derating may be required for conditions outside these, contact factory for details.
3. Power output curves are based on engine operation with fuel system, water pump and lubricating oil pump; battery charging alternator, fan and optional equipment are not included.