ATP Perkins - Leroy Somer Series

ATP88-PK/LS

| Standby Power (STP) | 88 kVA | 70 kW |
|------------------------|--------|-------|
| Continuous Power (PRP) | 80 kVA | 64 kW |

4.

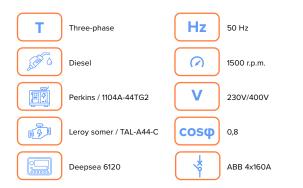
die

2

- kW

- kVA

Main Features



Soundproof

Continuous Power (COP)

| Length (L) | 2250 mm | |
|---|---------|---------------------------------------|
| Height (H) | 1000 mm | |
| Width (W) | 1550 mm | I I I I I I I I I I I I I I I I I I I |
| Weight | 1500 kg | |
| Daily deposit | 120 Lts | WL |
| | | 50Hz |
| Medium sound pressure level for a bare engine (without intake or exhaust) at 1 meter. | | 89.7 dB(A) |

Installation in room

| Sistema de escape | | 50Hz | |
|--|-----|------|-----|
| | COP | PRP | STP |
| Maximum backpressure (kPa) | | 10 | |
| Maximum static weight supported on the turbocharger outlet flange (N.m) | | - | |
| Maximum intake air restriction with heavy-duty air filter | | - | |
| Dirty Element (kPa) Clean Element (kPa) | | - | |
| Max. exhaust pipe diameter (mm) | | 64 | |

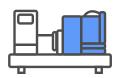
| Fuel System | | 50Hz | |
|------------------------------------|-----------|------|-----|
| | COP | PRP | STP |
| Nozzle opening pressure (MPa) | | 29 | |
| Fuel flow rate (L/hr) | 120 - 150 | | |
| Pressure (kPa) | 30 - 75 | | |
| Maximum static pressure height (m) | | 17 | |

| Electric System | | 50Hz | |
|--|-------|------|-----|
| | COP | PRP | STP |
| Starter engine (Vdc) | | 12 | |
| Battery charging system, negative ground (A) | | 65 | |
| Maximum allowed resistance of the starting circuit $\left(\Omega\right)$ | 0,002 | | |
| Minimum recommended battery capacity — Cold soak @ 0 to 32°F (-18 to 0°C) | | 810 | |



Engine specifications

| General specifications | 50 Hz |
|-------------------------------------|---------------------------------|
| Model | 1104A-44TG2 |
| Emissions | Not applicable |
| Operating Method | Four-stroke |
| Fuel Type | Diesel |
| Cooling System | Liquid (water + 50% antifreeze) |
| Aspiration System | Natural aspiration |
| Injection System | Indirect injection |
| Number and Arrangement of Cylinders | 4 in-line |
| Displacement (L) | 4,4 |
| Cylinder Bore (mm) | 105 |
| Cylinder Stroke (mm) | 127 |
| Compression Ratio | 17.25:1 |
| Regulation | Mechanical |
| Rotational Speed | 1500 |
| Oil Capacity (L) | 13 |
| Gross Power COP (kWm) | - |
| Gross Power PRP (kWm) | 73,4 |
| Gross Power STP (kWm) | 80,7 |
| Coolant Capacity (L) | 8 |
| Net Power COP (kWm) | - |
| Net Power PRP (kWm) | 71,9 |
| Net Power STP (kWm) | 79,1 |



| Consumption | | 50Hz | |
|--------------------------------------|---------|-----------|-------|
| Fuel consumption | Charge | lt/h | g/kWh |
| STP | 100% | 16,2 | 207 |
| | 100% | 14,8 | 208 |
| PRP | 75% | 11,2 | 209 |
| РКР | 50% | 8 | 224 |
| | 25% | - | - |
| Fuel supply flow (L/h) | | 120 - 150 | |
| Condiciones de referencia | | | |
| Temperature (°C) | | 2 | 5 |
| Atmospheric pressure | e (kPa) | 100 | |
| Sistema de arranque | | | |
| Voltage (V) 24 | | 4 | |
| Standard thermostat range (°C) 82-93 | | -93 | |

Alternator specifications

| General specifications | |
|------------------------|------------------|
| Model | TAL-A44-C |
| Number of Phases | Three-phase |
| Protection | IP23 |
| Insulation | Н |
| Heating | Н |
| Waveform IEC = THF: | THF<2% |
| Waveform NEMA = TIF: | TIF<50 |
| Excitation system: | SHUNT/ AREP+/PMG |
| AVR model: | R150/R180 |



| Overspeed: rpm | 2250 |
|------------------------------------|--|
| Voltage regulation: (steady state) | +/- 1,0% |
| Air flow rate 50 Hz (m3/s) | 0,25 |
| 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





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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, kVAr, kVAh, kVArh, cos Ø | * |
| Synchronoscope (m) | * |
| Number of available departures [2] | 6 |
| Engine running hours | * |
| Alarm i ndication on LCD | * |
| Total number of LED indicators | 8 |
| No. of LED alarms | X |
| 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) | X |
| CAN port (Max. 40m) | * |
| | |
| PLC function | * |

| Grun Descention/20 Tension (F F / F-N) it Intensity (1) It Frequency it KVA.LWL, cos Ø (a) It Protections and alarms DSEE6110/20 High/low battery voltage Q Battery charging alternator failure Q/O Bott failure Q/O Bott failure Q/O Coverload Q/O Ground fault Q/O Asymmetry between phases Q/O Mintenance Q/O High/Low Generator Frequency Q/O Engine overspeed Q/O Low wengine speed Q/O Surge Q/O ECU Alert (if applicable) Q/O Low water I evel In radiator [1] Q/O High engine temperature Q/O Fuel leak/theft Q/O Aplications X Automatic or manual start X Remote start by dry context NA X Automatic or manual start X Generator- grid I is synchronism wit | Ciid | DSE6440/20 |
|---|---|-------------------------|
| Intensity [1]Image: ControlFrequency**KVA,kW, cos Ø (a)Image: ControlNetwork-group switching controlImage: ControlProtections and alarmsDSES0110/20High/low battery voltageImage: ControlBattery charging alternator failureImage: ControlStop failureImage: ControlBoot failureImage: ControlLow fuel levelImage: ControlOverloadImage: ControlGround faultImage: ControlAsymmetry between phasesImage: ControlMaintenanceImage: ControlHigh/Low Generator FrequencyImage: ControlEngine overspeedImage: ControlLow voltage in generatorImage: ControlSurgeImage: ControlCu wanter I evel in radiator [f]Image: ControlHigh engine temperatureImage: ControlFuel leak/theftImage: ControlAutomatic or manual startImage: ControlAutomatic due to network failureImage: ControlMult-generatorsImage: ControlMult-generatorsImage: ControlAutomatic due to network failureImage: ControlAutomatic due to network failureImage: ControlDSEC11020Image: ControlStrip [G] egnerator and 1 grif() (m)Image: ControlDSE2150 (B] digital Inputs/outputs 1 dImage: ControlDSE2151 1 - RB8 I G-O6 (8 relay outputs)Image: ControlDSE2151 2 1 - RB8 I G-O6 (8 relay outputs)Image: ControlDSE2151 1 - RB8 I G-O6 (8 rela | Grid | DSE6110/20 |
| Frequency ★ KVA.kW, cos Ø (a) ⊠ Network-group switching control ★ Protections and alarms OSEG110/20 High/low battery voltage Q Battery charging alternator failure Q/O Stop failure Q/O Boot failure Q/O Coverload Q/O Ground fault Q/O Asymmetry between phases Q/O Maintenance Q/O High/Low Generator Frequency Q/O Engine overspeed Q/O Low voltage in generator Q/O Surge Q/O Low water I evel in radiator [f] Q/O High engine temperature Q/O Fuel teak/theft Q Aplications SUSE Automatic or manual start * Remote start by dry contact NA * Automatic or manual start Q Multi-generatoriand in grid (m) I Sector-grid i in synchronism and with load sharing (1) S Generator-grid i in synchronism and with load sharing (1) S Sector-grid i in synchronism and with load sharing (1) S Sector-grid i in synchronism and with load sharing (1) S Sector-grid i in synchronism and with load sharing (1) </td <td></td> <td></td> | | |
| KVA.kW. os Ø (a) Image: Stars | | |
| Network-group switching control * Protections and alarms DSE6110/20 High/low battery voltage Q Battery charging alternator failure Q/O Stop failure Q/O Boot failure Q/O Low fuel level Q/O Overload Q/O Ground fault Q/O Asymmetry between phases Q/O Maintenance Q/O High/Low Generator Frequency Q/O Engine overspeed Q/O Low voltage in generator Q/O ECU Alert (if applicable) Q/O Low water I evel in radiator [f] Q/O High engine temperature Q/O Fuel leak/theft Q Automatic or manual start X Remote start by dry contact NA X Automatic due to network failure X Mult-generators in synchronism and with load (Max 32 generators) (m) X DSE2150 (R eight in puts) I 1 G-IO (R digital inputs/outputs + 4) Aniconal start DSE2157 (I L-RA15 I - (expansion with 8 Additional LEDs X DSE2510(20 (mirror controller, max distance 1km) X Working temperature -30 > 70°C Protection index (when mounted with sealing gasket) IP65 | | |
| Protections and alarms DSEG110/20 High/low battery voltage A Battery charging alternator failure A/O Stop failure A/O Boot failure A/O Cow fuel level A/O Overload A/O Ground fault A/O Asymmetry between phases A/O Maintenance A/O High/Low Generator Frequency A/O Engine overspeed A/O Low voltage in generator A/O Surge A/O Low water I evel in radiator [f] A/O High/Low Generator X A/O Low water I evel in radiator [f] A/O High engine temperature A/O Fuel leak/theft A Automatic or manual statt * Remote start by dry contact NA * Automatic due to network failure X Multi-generator-grid i n synchronism and with load sharing (1 X Generator-grid i n synchronism and with load sharing (1 X DSE2130 (20 digital inputs) I G-OM (20 digital inputs/outputs + 4) * DSE2147 I I-RB8 I G-OE (8 relay outp | | |
| High/low battery voltage A Battery charging alternator failure A Stop failure A/O Boot failure A/O Coverload A/O Coverload A/O A/O Asymmetry between phases A/O Maintenance A/O High/Low Generator Frequency A/O Engine overspeed A/O Surge Coverload A/O Surge A/O Coverload A/O Surge A/O Coverload A/O Surge A/O Coverload A/O A/O Surge A/O Coverload A/O Coverload A/O A/O Coverload A/O A/O A/O A/O Coverload A/O Aplications Apli | | |
| Battery charging alternator failure | | |
| Stop failure Q/() Boot failure Q/() Boot failure Q/() Low fuel level Q/() Overload Q/() Ground fault Q/() Asymmetry between phases Q/() Maintenance Q/() High/Low Generator Frequency Q/() Engine overspeed Q/() Low ongine speed Q/() Surge Q/() ECU Alert (if applicable) Q/() Low oil pressure Q/() Low water I evel in radiator (f) Q/() High engine temperature Q/() Fuel leak/theft Q Aplications DSE55110/20 Automatic or manual start * Remote start by dry contact NA * Automatic due to network failure I Multi-generators in synchronism and with load sharing (1) I generator-grid in synchronism and with load sharing (1) I Grid generator and 1 grid) (m) X DSE2150 (B digital inputs) II G-IOM (B digital inputs/outputs + 4) * DSE2157 II - RBB I G-O6 (B relay outputs) X </td <td></td> <td></td> | | |
| Boot failure Q/O Low fuel level Q/O Overload Q/O Overload Q/O Ground fault Q/O Asymmetry between phases Q/O Maintenance Q/O High/Low Generator Frequency Q/O Engine overspeed Q/O Low voltage in generator Q/O Low voltage in generator Q/O ECU Alert (if applicable) Q/O Low voltage in generator Q/O Low voltage in generator Q/O Low voltage in generator Q/O ECU Alert (if applicable) Q/O Low water I evel in radiator [f] Q/O High engine temperature Q/O Fuel leak/theft Q Aplications DSEE110/20 Automatic or manual start * Remote start by dry contact NA * Automatic due to network failure I Multi-generators in synchronism with load (Max 32 generators) (m) I Generator-grid in synchronism and with load sharing (1) I generator and 1 grid) (m) X DS | Battery charging alternator failure | - |
| Low fuel level Q/0 Overload Q/0 Overload Q/0 Ground fault Q/0 Asymmetry between phases Q/0 Maintenance Q/0 High/Low Generator Frequency Q/0 Engine overspeed Q/0 Low engine speed Q/0 Surge Q/0 Low voltage in generator Q/0 ECU Alert (if applicable) Q/0 Low oil pressure Q/0 Low water I evel in radiator [f] Q/0 High engine temperature Q/0 Fuel leak/theft Q Aplications DSEE110/20 Automatic or manual start * Remote start by dry contact NA * Automatic due to network failure X Multi-generators in synchronism and with load sharing (1) S Generator grid i n synchronism and with load sharing (1) S Optional Expansions DSEE110/20 DSE2130 (B digital inputs) II G-10M (B digital inputs/outputs + 4) * DSE2141 IGL-RA151 - (expansion with B Additional LEDs | Stop failure | ₽/⊗ |
| Overload Q/O Ground fault Q/O Asymmetry between phases Q/O Maintenance Q/O High/Low Generator Frequency Q/O Engine overspeed Q/O Low engine speed Q/O Surge Q/O Low voltage in generator Q/O ECU Alert (if applicable) Q/O Low oil pressure Q/O Low water I evel in radiator [f] Q/O High engine temperature Q/O Fuel leak/theft Q Automatic or manual start * Renote start by dry contact NA * Automatic due to network failure X Multi-generators in synchronism and with load sharing (1) S Greinerator-grid i n synchronism and with load sharing (1) S Optional Expansions DSEE110/20 DSE2130 (B digital inputs) II G-IOM (B digital inputs/outputs + 4) * DSE2157 II -RBB I G-O6 (B relay outputs) * DSE2150/20 (mirror controller, max distance 1km) > DSE2510/20 (mirror controller, max distance 1km) S <td>Boot failure</td> <td>₽/⊗</td> | Boot failure | ₽/⊗ |
| 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 I evel in radiator [f] ↓/○ High engine temperature ↓/○ Fuel leak/theft ↓ Automatic or manual start ★ Remote start by dry contact NA ★ Automatic due to network failure ∑ Multi-generators in synchronism with load (Max 32 generators) (m) ∑ Generator-grid i n synchronism with load sharing (1) ∑ Generator-grid i n synchronism with load sharing (1) ∑ DSE2130 (8 digital inputs) I 1 G-IOM (8 digital inputs/outputs + 4) ★ DSE2157 I 1 - RBS I G-06 (8 relay outputs) ★ DSE2510/20 (mirror controller, max distance 1km) ★ Working temperature -30 > 70°C Working temperature -30 > 70°C <td>Low fuel level</td> <td>\mathcal{P} / \otimes</td> | Low fuel level | \mathcal{P} / \otimes |
| Asymmetry between phases Q/O Maintenance Q/O High/Low Generator Frequency Q/O Engine overspeed Q/O Low engine speed Q/O Surge Q/O Low voltage in generator Q/O ECU Alert (if applicable) Q/O Low oil pressure Q/O Low water I evel in radiator [f] Q/O High engine temperature Q/O Fuel leak/theft Q Automatic or manual start * Remote start by dry contact NA * Automatic due to network failure X Multi-generators in synchronism with load (Max 32 generators) (m) X Generator-grid i n synchronism and with load sharing (1) X DSE2130 (8 digital inputs) I1 G-IO M (8 digital inputs/outputs + 4) * DSE2130 (8 digital inputs) II G-IO M (8 digital inputs/outputs + 4) * DSE2130 (8 digital inputs) II G-IO M (8 digital inputs/outputs + 4) * DSE2130 (0 (infror controller, max distance 1km) * DSE2130 (20 (mirror controller, max distance 1km) * DSE2150/20 (mirror controller, max distance 1km) * Working | Overload | \bigcirc / \otimes |
| Maintenance Q/O High/Low Generator Frequency Q/O Engine overspeed Q/O Low engine speed Q/O Surge Q/O Low voltage in generator Q/O ECU Alert (if applicable) Q/O Low voltage in generator Q/O ECU Alert (if applicable) Q/O Low water I evel in radiator [f] Q/O High engine temperature Q/O Fuel leak/theft Q Aplications DSEE110/20 Automatic or manual start * Remote start by dry contact NA * Automatic due to network failure X Multi-generators in synchronism with load (Max 32 generators) (m) X Generator-grid i n synchronism and with load sharing (1) X Optional Expansions DSEE110/20 DSE2130 (8 digital inputs) I1 G-IO M (8 digital inputs/outputs + 4) * DSE2157 I1 -RB8 I G-06 (8 relay outputs) * DSE2510/20 (mirror controller, max distance 1km) * Working temperature -30 > 70°C Protection index (when mounted with sealing gasket) IP65 | Ground fault | \mathcal{P} / \otimes |
| High/Low Generator Frequency ↓/⊙ Engine overspeed ↓/⊙ Low engine speed ↓/⊙ Surge ↓/⊙ Low voltage in generator ↓/⊙ ECU Alert (if applicable) ↓/⊙ Low voltage in generator ↓/⊙ ECU Alert (if applicable) ↓/⊙ Low voltage in generator (f] ↓/⊙ High engine temperature ↓/⊙ Fuel leak/theft ↓ Aplications DSEE6110/20 Automatic or manual start ★ Remote start by dry contact NA ★ Automatic due to network failure ⊥ Multi-generators in synchronism and with load sharing (1 generator-grid i n synchronism and with load sharing (1 generator and 1 grid) (m) ⊥ SE2330 (8 digital inputs) 1 G-IOM (8 digital inputs/outputs + 4 analog inputs) G-O8 (8 ent. dig.) ★ DSE2350 (2 digital inputs) 1 G-IOM (8 digital inputs/outputs + 4 analog inputs) G-O8 (8 ent. dig.) ★ DSE2548 IGL-RA15 - (expansion with 8 Additional LEDs ★ DSE2510/20 (miror controller, max distance 1km) ★ Working temperature 30 -> 70°C Working temperature 30 -> 70°C | Asymmetry between phases | \mathcal{Q} / \otimes |
| Engine overspeed ↓/⊗ Low engine speed ↓/⊗ Surge ↓/⊗ Low voltage in generator ↓/⊗ ECU Alert (if applicable) ↓/⊗ Low oil pressure ↓/⊗ Low water I evel in radiator [f] ↓/⊗ High engine temperature ↓/⊗ Fuel leak/theft ↓ Aplications DSEE6110/20 Automatic or manual start ★ Remote start by dry contact NA ★ Alternation with distributed time ☑ Multi-generators in synchronism and with load (Max 32 generators) (m) ☑ Generator-grid i n synchronism and with load sharing (1) ☑ generator and 1 grid) (m) ★ DSE2157 11 -RB8 I G-06 (8 relay outputs) ★ DSE2548 I IGL-RA15 1 - (expansion with 8 Additional LEDs ★ DSE2510/20 (mirror controller, max distance 1km) ★ Working temperature 30 -> 70°C Working temperature 30 -> 70°C | Maintenance | \mathcal{Q} / \otimes |
| Low engine speed ♀/◎ Surge ♀/◎ Surge ♀/◎ Low voltage in generator ♀/◎ ECU Alert (if applicable) ♀/◎ Low oil pressure ♀/○ Low water I evel in radiator [f] ♀/○ High engine temperature ♀/○ Fuel leak/theft ♀ Aplications DSEE6110/20 Automatic or manual start ★ Remote start by dry contact NA ★ Automatic due to network failure ⋉ Multi-generators in synchronism with load (Max 32 generators) (m) ⋉ Generator-grid i n synchronism and with load sharing (1 generator and 1 grid) (m) ⋉ DSE2130 (8 digital inputs) I I G-IOM (8 digital inputs/outputs + 4 analog inputs)I G-O8 (8 ent. dig.) ★ DSE2130 (8 digital inputs) I I G-IOM (8 digital inputs/outputs + 4 stanalog inputs)I G-O8 (8 ent. dig.) ★ DSE2157 I I -RB8 I G-O6 (8 relay outputs) ★ ↓ DSE2150/20 (mirror controller, max distance 1km) ★ ↓ Rules ✓ → → Working temperature -30 -> 70°C → → | High/Low Generator Frequency | $\mathcal{P} \otimes$ |
| Surge ♀/⊗ Surge ♀/⊗ Low voltage in generator ♀/⊗ ECU Alert (if applicable) ♀/∞ Low oil pressure ♀/∞ Low water I evel in radiator [f] ♀/∞ High engine temperature ♀/∞ Fuel leak/theft ♀ Aplications DSEE6110/20 Automatic or manual start ★ Remote start by dry contact NA ★ Automatic due to network failure ▼ Multi-generators in synchronism with load (Max 32 generators) (m) ⊠ Generator-grid i n synchronism and with load sharing (1 generator and 1 grid) (m) ⊠ DSE2130 (β digital inputs) II G-IOM (8 digital inputs/outputs + 4 analog inputs)I G-08 (8 ent. dig.) ★ DSE2157 II -RB8 I G-06 (8 relay outputs) ★ DSE2510/20 (mirror controller, max distance 1km) ★ Rules -30 -> 70°C Working temperature -30 -> 70°C Protection index (when mounted with sealing gasket) µP65 | Engine overspeed | $\mathcal{P} \otimes$ |
| Low voltage in generator ♀/ ○ ECU Alert (if applicable) ♀/ ○ ECU Alert (if applicable) ♀/ ○ Low oil pressure ♀/ ○ Low water I evel in radiator [f] ♀/ ○ High engine temperature ♀/ ○ Fuel leak/theft ♀ Aplications 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 and with load sharing (1 generator and 1 grid) (m) ⊠ Optional Expansions DSE6110/20 DSE2130 (8 digital inputs) II G-IOM (8 digital inputs/outputs + 4 analog inputs)I G-08 (8 relay outputs) ★ DSE2130 (8 digital inputs) II G-IOM (8 digital inputs/outputs + 4 sc ★ DSE2130 (8 digital inputs) II G-IOM (8 digital inputs/outputs + 4 sc ★ DSE2130 (8 digital inputs) II G-IOM (8 digital inputs/outputs + 4 sc ★ DSE2130 (9 digital inputs) II G-IOM (8 digital inputs/outputs + 4 sc ★ DSE2130 (9 digital inputs) II G-IOM (8 digital inputs/outputs + 4 sc ★ DSE2130 (9 digital inputs) II G-IOM (8 digital inputs/outputs + 4 sc ★ | Low engine speed | $\mathcal{P} \otimes$ |
| ECU Alert (if applicable) ♀/ ⊗ ECU Alert (if applicable) ♀/ ⊗ Low oil pressure ♀/ ∞ Low water I evel in radiator [f] ♀/ ∞ High engine temperature ♀/ ∞ Fuel leak/theft ♀ Aplications 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 i n synchronism and with load sharing (1 generator and 1 grid) (m) ⊠ Optional Expansions DSE6110/20 DSE2130 (8 digital inputs) 1 G-IOM (8 digital inputs/outputs + 4 analog inputs) G-O8 (8 ent. dig.) ★ DSE2157 1 -RB8 G-O6 (8 relay outputs) ★ DSE2548 IGL-RA15 - (expansion with 8 Additional LEDs ★ DSE2510/20 (mirror controller, max distance 1km) ★ Rules Working temperature -30 -> 70°C Working temperature -30 -> 70°C | Surge | \mathcal{P} / \otimes |
| Low oil pressure ♀/ ⊗ Low water I evel in radiator [f] ♀/ ⊗ High engine temperature ♀/ ∞ Fuel leak/theft ♀ Aplications 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 i n synchronism and with load sharing (1 generator and 1 grid) (m) ▼ Optional Expansions DSE6110/20 DSE2130 (8 digital inputs) 1 G-IOM (8 digital inputs/outputs + 4 analog inputs) G-08 (8 rel. dig.) ★ DSE2157 1 -RB8 G-06 (8 relay outputs) ★ DSE2510/20 (mirror controller, max distance 1km) ★ Rules ✓ Working temperature -30 -> 70°C Protection index (when mounted with sealing gasket) IP65 | Low voltage in generator | \mathcal{Q} / \otimes |
| Low water I evel in radiator [f] ↓ / ③ High engine temperature ↓ / ③ Fuel leak/theft ↓ Aplications 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 and with load (Max 32 generators) (m) ▼ Generator-grid i n synchronism and with load sharing (1) ▼ generator and 1 grid) (m) ▼ DSE2130 (8 digital inputs) I I G-IOM (8 digital inputs/outputs + 4) ★ DSE2157 I I -RB8 I G-06 (8 relay outputs) ★ DSE2510/20 (mirror controller, max distance 1km) ★ Rules 30 -> 70°C Working temperature -30 -> 70°C Protection index (when mounted with sealing gasket) IP65 | ECU Alert (if applicable) | \bigcirc / \otimes |
| High engine temperature ♀1.∞ High engine temperature ♀1.∞ Fuel leak/theft ♀ Aplications 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 i n synchronism and with load sharing (1) ⊠ generator and 1 grid) (m) ⊠ Optional Expansions DSE6110/20 DSE2130 (8 digital inputs) 1 G-IOM (8 digital inputs/outputs + 4 ★ DSE2157 1 -RB8 G-O6 (8 relay outputs) ★ DSE2548 IGL-RA15 - (expansion with 8 Additional LEDs ★ DSE2510/20 (mirror controller, max distance 1km) ★ Rules 30 -> 70°C Working temperature -30 -> 70°C Protection index (when mounted with sealing gasket) IP65 | Low oil pressure | \mathcal{P} / \otimes |
| Fuel leak/theft Q Aplications DSE6110/20 Automatic or manual start * Remote start by dry contact NA * Automatic due to network failure * Alternation with distributed time X Multi-generators in synchronism with load (Max 32 generators) (m) X Generator-grid i n synchronism and with load sharing (1 generator and 1 grid) (m) X Optional Expansions DSE6110/20 DSE2130 (8 digital inputs) 1 G-IOM (8 digital inputs/outputs + 4 analog inputs) G-O8 (8 ent. dig.) * DSE2157 1 -RB8 G-O6 (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 | Low water I evel in radiator [f] | \mathcal{Q} / \otimes |
| Aplications DSE6110/20 Automatic or manual start * Remote start by dry contact NA * Automatic due to network failure * Automatic due to network failure * Alternation with distributed time X Multi-generators in synchronism with load (Max 32 generators) (m) X Generator-grid i n synchronism and with load sharing (1 generator and 1 grid) (m) X Optional Expansions DSE6110/20 DSE2130 (8 digital inputs) I G-IOM (8 digital inputs/outputs + 4 analog inputs)I 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 | High engine temperature | \bigcirc / \otimes |
| Automatic or manual start * Remote start by dry contact NA * Automatic due to network failure * Automatic due to network failure * Alternation with distributed time * Multi-generators in synchronism with load (Max 32 generators) (m) * Generator-grid i n synchronism and with load sharing (1) * generator and 1 grid) (m) * Optional Expansions DSE6110/20 DSE2130 (8 digital inputs) 1 G-IOM (8 digital inputs/outputs + 4) * DSE2157 1 -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 | Fuel leak/theft | Q |
| Remote start by dry contact NA * Automatic due to network failure * Alternation with distributed time X Multi-generators in synchronism with load (Max 32 generators) (m) X Generator-grid i n synchronism and with load sharing (1 generator and 1 grid) (m) X Optional Expansions DSE6110/20 DSE2130 (8 digital inputs) I I G-IOM (8 digital inputs/outputs + 4 analog inputs)I G-08 (8 ent. dig.) * DSE2157 I I -RB8 I G-06 (8 relay outputs) * DSE2548 I IGL-RA15 I - (expansion with 8 Additional LEDs * DSE2510/20 (mirror controller, max distance 1km) * Rules -30 -> 70°C Working temperature -30 -> 70°C Process -30 -> 70°C | Aplications | DSE6110/20 |
| Automatic due to network failure * Alternation with distributed time Image: Comparison of the state of | Automatic or manual start | * |
| Alternation with distributed time Image: Control is a synchronism with load (Max 32 generators) (m) Multi-generators in synchronism with load sharing (1 generator and 1 grid) (m) Image: Control is a 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)I G-08 (8 ent. dig.) Image: Control is a synchronism with 8 Additional LEDs DSE2548 IGL-RA15 - (expansion with 8 Additional LEDs Image: Control is a synchronism with 8 Additional LEDs DSE2510/20 (mirror control ler, max distance 1km) Image: Control is a synchronism with sealing gasket) Protection index (when mounted with sealing gasket) IP65 | Remote start by dry contact NA | * |
| Multi-generators in synchronism with load (Max 32 generators) (m) Image: Comparison of the synchronism and with load sharing (1 minimum of the synchronism and with load sharing (1 minimum of the synchronism and with load sharing (1 minimum of the synchronism and with load sharing (1 minimum of the synchronism and with load sharing (1 minimum of the synchronism and with load sharing (1 minimum of the synchronism and with load sharing (1 minimum of the synchronism and with load sharing (1 minimum of the synchronism and with load sharing (1 minimum of the synchronism and with load sharing (1 minimum of the synchronism of the sy | Automatic due to network failure | * |
| Generator-grid i n synchronism and with load sharing (1 Image: Comparison of the synchronism and with load sharing (1 Optional Expansions DSE6110/20 DSE2130 (8 digital inputs) 1 G-IOM (8 digital inputs/outputs + 4 ★ analog inputs) G-08 (8 ent. dig.) ★ DSE2157 1 -RB8 G-06 (8 relay outputs) ★ DSE2548 IGL-RA15 - (expansion with 8 Additional LEDs ★ DSE2510/20 (mirror controller, max distance 1km) ★ Rules | Alternation with distributed time | X |
| generator and 1 grid) (m) L 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 -30 -> 70°C Protection index (when mounted with sealing gasket) IP65 | Multi-generators in synchronism with load (Max 32 generators) (m) | X |
| 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 | | X |
| analog inputs)I 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 | Optional Expansions | DSE6110/20 |
| DSE2548 I IGL-RA15 I - (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 | | * |
| DSE2510/20 (mirror controller, max distance 1km) ★ Rules Working temperature -30 -> 70°C Protection index (when mounted with sealing gasket) IP65 | DSE2157 I -RB8 G-06 (8 relay outputs) | * |
| Rules Working temperature -30 -> 70°C Protection index (when mounted with sealing gasket) IP65 | DSE2548 IGL-RA15 - (expansion with 8 Additional LEDs | * |
| Working temperature -30 -> 70°C Protection index (when mounted with sealing gasket) IP65 | DSE2510/20 (mirror controller, max distance 1km) | * |
| Protection index (when mounted with sealing gasket) IP65 | Rules | |
| | Working temperature | -30 -> 70°C |
| Maximum humidity level (for 48 h) 93% / 40°C | Protection index (when mounted with sealing gasket) | IP65 |
| | Maximum humidity level (for 48 h) | 93% / 40°C |



Legend

| * | Available | [4] | Needs an additional ammeter |
|-----|--|------|--|
| - | Optional | [5] | If the information is provided by the engine ECU |
| X | Not available | [6] | Requires an additional sensor |
| Q | Warning alarm | [7] | Need to include an additional IL-NT-S-USB module |
| ⊗ | Stop alarm | [8] | Need to include an additional IL-NT-RS232-485 module |
| [1] | Need an additional IT | [9] | DeepSea: Needs to include an additional DSE891 module/ComAp: Needs to include an additional IB-LITE module |
| [2] | Number of outputs available for standard configuration. Outputs do not include relays or additional wiring to terminals. | [10] | DeepSea: Needs to include an additional DSE890 module/ComAp: Needs to include an additional IL-NT-GPRS module |
| [3] | If the information is not provided by the engine ECU, an additional sensor needs to be included. | [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 ±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.

