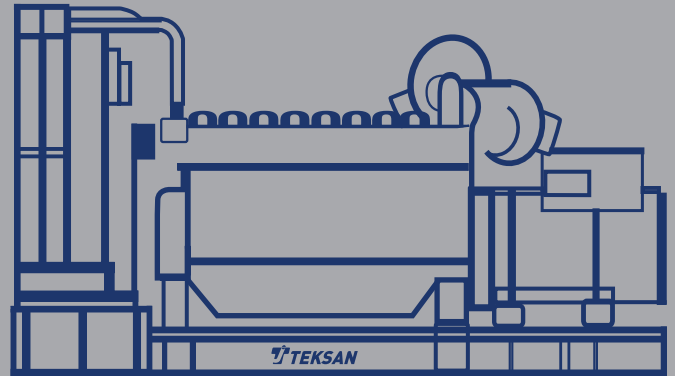


TJUD28P

Industrial Diesel Generator Sets



EPA Certified Tier 4 Interim for Stationary Emergency Applications



Genset Standby Power Rating

| | | | | | | |
|-------------------------|--------------|----------------|--------------|-------------|-------------|----------------|
| Voltage | 208/120V | 240/120V | 480/277V | 600/347V | 240/120V | 240/120V |
| Power | 28kW | 28kW | 28kW | 28kW | 23kW | 29kW |
| Phase | 3 | 3 | 3 | 3 | 1 | 1 |
| Pf | 0,8 | 0,8 | 0,8 | 0,8 | 1 | 1 |
| Current | 97A | 84A | 42A | 33A | 96A | 120A |
| Alternator Model | TAL042C | TAL042C | TAL042C | TAL042C | TAL042C | TAL042C |
| Temp Rise | 125 / 40 °C | 125 / 40 °C | 125 / 40 °C | 125 / 40 °C | 125 / 40 °C | 125 / 40 °C |
| Connection | 12 Leads WYE | 12 Leads Delta | 12 Leads WYE | 6 Leads WYE | 12 Leads DD | 4 Leads Series |

Continuous Power

The maximum power which a generating set is capable of delivering continuously whilst supplying a constant electrical load. Average load can be 100%. The generator must not be overloaded.

Prime Power

The maximum power which a generating set is capable of delivering continuously whilst supplying a variable electrical load. Average load should be 70%. The generator can be overloaded 10% for 1 hour per 12 hrs.

Standby Power

The max power available during a variable electrical power sequence, under the stated operating conditions, for which a generating set is capable of delivering in the event of a utility power outage or under test conditions for up to 200 hrs of operation per year under average of 70% load. Overloading isn't permissible.

Certifications & Standards

The Generator set is designed and manufactured in a facility certified to **ISO9001:2015, ISO14001:2015, ISO45001-2018** and **ISO10002:2014 standards.**

Generator set is **UL2200**, cUL listed and meets **ISO 8528-5**

The generator set, with its components, are **prototype tested**, factory-built and production tested per UL standards.

The generator set meets **NFPA110 Level 1** when equipped with the necessary accessories and installed per NFPA standards.

Standard Features - Engine

EPA Certified – Emergency Stationary Only

Heavy-duty, 4-cycle, direct injection

Unit Mounted Radiator

Electronic Isochronous Governor

Fuel – Water Separator Filter

ISO 8528, ISO 3046, BS 5514, DIN 6271 standards

Capable of full rated load acceptance in one step

Low emission and maximum reliability and durability

Heavy Duty Air Cleaner w/Restriction Gauge

Flex Exhaust Connection

Application Data - Engine

Engine

| | |
|----------------------------------|-------------------|
| Manufacturer | Perkins |
| Model | 404D-22TG |
| Number of Cylinders | 4 Vertical Inline |
| Cycle | 4 strokes |
| Cubic Capacity | 2.216 liters |
| Bore x Stroke | 84 mm x 100 mm |
| Aspiration | Turbo charged |
| Combustion Ratio | 23.3:1 |
| BMEP | 1002.1 kPa |
| Gross Engine Power | 33.3 kW |
| Net Engine Power | 32.6 kW |
| Rated rpm | 1800 |
| Speed Variation at Constant Load | ±0.5% |

Fuel Consumption

| | |
|-------------------------------|--------------|
| Standby Power (110% of Prime) | 2.45 gal/hr. |
| Prime Power (100%) | 2.20 gal/hr. |
| At 75% of Prime | 1.64 gal/hr. |
| At 50% of Prime | 1.29 gal/hr. |

Cooling System

| | |
|------------------------------|-----------------|
| Ambient Capacity of Radiator | 122 °F (50 °C) |
| Total Coolant Capacity | 9.32 liters |
| Engine Coolant Flow | 56.2 liters/min |
| Combustion Air Flow | 2.49 m3/min |
| Fan Power | 0.7 kW |
| Max Top Tank Temperature | 112 °C |
| Thermostat Operating Range | 82 °C to 95 °C |

Electrical System

| | |
|-----------------------------|----------------|
| Starting Motor Voltage | 12V |
| Battery Charging Alternator | 65A |
| Battery Qty, CCA Rating | 1 x 75Ah, 700A |

Exhaust System

| | |
|---------------------------------------|------------|
| Exhaust Gas Temp | 530 °C |
| Max Allowable Back Pressure | 10.2 kPa |
| Exhaust Gas Flow | 7.5 m3/min |
| Engine exhaust outlet size (internal) | 42 mm |

Fuel System

| | |
|--------------------------|---------------|
| Type of Injection System | Indirect |
| Fuel Pump | Cassette type |
| Governor Type | Mechanical |
| Priming Pump Type | Manual |
| Max Fuel Flow | 63 liters/hr |

Lubrication System

| | |
|--------------------------------|-----------------|
| Total lubricating capacity | 10.6 liters |
| Max Oil Continuous Temperature | 125 °C |
| Oil Flow at Rated Speed | 15.2 liters/min |
| Min Oil Pressure | 120 kPa |

Standard Features - Alternator

| | |
|--|---|
| Brushless Single Bearing | AREP Excitation |
| 125/40 °C Temperature Rise | 300% Short Circuit Capability |
| Class H Insulation | Low reactance 2/3 pitch windings |
| Low waveform distortion with non-linear loads | Self-ventilated and drip-proof construction |
| EC 60034-1; CEI EN 60034-1; NEMA MG 1.22, NF 51- 100,111 | BS 4999-5000; VDE 0530, OVE M-10 |

Application Data - Alternator

| | | | | | | |
|-------------------------------------|--------------------|----------------|--------------|--------------|--------------|----------------|
| Manufacturer | Leroy Somer | | | | | |
| Type | 4 Poles, Brushless | | | | | |
| Protection | IP 23 | | | | | |
| Voltage Regulation | ± 0.25% | | | | | |
| One Step Load Acceptance | 100% of rated load | | | | | |
| Bearing | Single | | | | | |
| THD in Linear Load | < 5% | | | | | |
| Waveform: NEMA TIF | < 50 | | | | | |
| Altitude | ≤ 1000 meters | | | | | |
| Over Speed | 2250 rpm | | | | | |
| AVR | D350 | | | | | |
| Genset Voltage | 208/120V | 240/120V | 480/277V | 600/347V | 240/120V | 240/120V |
| Alternator Model | TAL042C | TAL042C | TAL042C | TAL042C | TAL042C | TAL042C |
| Leads | 12 - WYE | 12 - Delta | 12 - WYE | 6 - WYE | 12 - DD | 4 - Series |
| P.F. | 0,8 | 0,8 | 0,8 | 0,8 | 1 | 1 |
| Power @ Continuous 40 °C | 37kVA / 29.5kW | 37kVA / 29.5kW | 40kVA / 32kW | 40kVA / 32kW | 23kVA / 23kW | 29kVA / 29kW |
| skVA @ 30% Voltage Dip (P.F. = 0.6) | 120kVA | 120kVA | 90kVA | 57.6kVA | - | 53kVA @ pf 0.9 |
| Efficiency @ 100% load | 87,80% | 87,80% | 88,40% | 90,28% | 83,30% | 89,00% |
| Short Circuit Current @ 1000ms | 130A | 225A | 130A | 130A | - | - |

Application Data - Circuit Breaker

| | | | | | | |
|-------------------------------|----------------|---------------|---------------|---------------|----------------|----------|
| Genset Voltage | 208/120V | 240/120V | 480/277V | 600/347V | 240/120V | 240/120V |
| ABB (80% Rated) Breaker Model | XT1N 125 - 100 | XT1N 125 - 90 | XT1N 125 - 50 | XT1N 125 - 35 | XT1N 125 - 100 | XT1N 125 |
| Current Rating (In) | 100A | 90A | 50A | 35A | 100A | 125A |
| Trip Unit | TMF | TMF | TMF | TMF | TMF | TMF |

Control Panel

| | |
|---------------------------------|--|
| Manufacturer | DSE - Deep Sea Electronics |
| Model | 7310 MKII |
| DC Supply | 8 to 35V Continuous |
| Generator Voltage Range (Ph-Ph) | 26V to 719V AC |
| Generator Frequency Range | 3,5Hz to 75Hz |
| Standards | BS EN 61000-6-2, BS EN 61000-6-4, BS EN 60950, BS EN 60529 BS EN 60068-2-1, BS EN 60068-2-2 BS EN 60068-2-6, BS EN 60068-2-30 BS EN 60068-2-78, BS EN 60068-2-27 |



Key Features

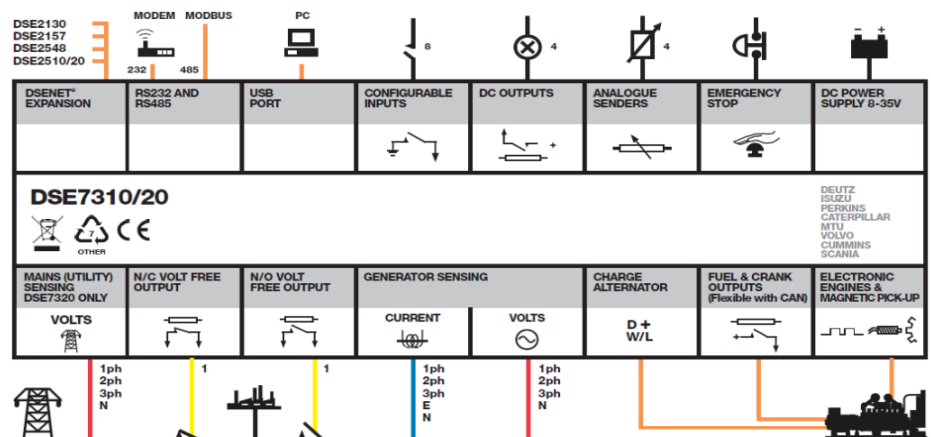
- License free PC software
- 4-Line back-lit LCD text display
- Five key menu navigation
- LCD Alarm Indication
- DSENet expansion compatibility
- Internal PLC editor
- Protection disable feature
- Data logging facility
- Fully configurable via PC
- Front panel configuration
- Power safe mode
- 6 configurable DC outputs
- 2 configurable volt free relay outputs
- 6 configurable analogue/digital inputs
- 8 configurable digital inputs
- Configurable 5 stage dummy load and load shedding outputs
- Backed up real time clock
- Fuel usage monitor and low fuel level alarms
- Remote SCADA monitoring via DSE Configuration Suite PC Software
- Advanced SMS messaging (additional external model required)
- Start & Stop capability via SMS messaging
- Configurable event log (250)
- Multiple date and time scheduler

Protections

- ✓ Gen. Voltage – under / over
- ✓ Gen. Freq. – under / over
- ✓ Engine Speed – under / over
- ✓ Engine Oil Pressure – low
- ✓ Engine Temp – low / high
- ✓ Battery Voltage – low / high
- ✓ Weak Battery
- ✓ Fail to Start / Stop
- ✓ Charge Alternator Fail
- ✓ Over Current & Load (kW/kVAR)
- ✓ Unbalanced Load
- ✓ Independent Earth Fault
- ✓ Reverse Power
- ✓ Loss of Speed Signal

Instruments

- ✓ Gen. Voltage (L-L/L-N)
- ✓ Gen. Frequency
- ✓ Engine speed
- ✓ Oil Pressure
- ✓ Water Temperature
- ✓ Battery Voltage
- ✓ Run Time
- ✓ Phase Sequence
- ✓ Power monitoring (kWh/kVAh/kVArh)
- ✓ Power (kWh/kVAh/kVArh)
- ✓ Power Factor
- ✓ Generator Current
- ✓ Generator Load (%)
- ✓ Earth Current



Standard Features - General

Heavy duty structural steel base frame
 Battery charger
 Jacket Water Heater
 Oil & Coolant Drain Extensions
 Operations Manual

Critical grade silencer
 Battery tray and cables
 Heater Isolation Valves
 Rubber vibration Isolator
 Standby Limited Warranty

Battery Charger

Manufacturer DSE
 Model 9470 MKII
 Operation Voltage (L-N) 90V to 305V
 Output Current 10A

Jacket Water Heater

Manufacturer Hotstart
 Model TPS051GT10-000
 Operation Voltage 120V
 Power 500W

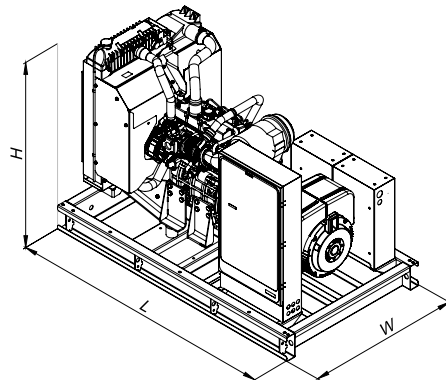
Dimensions, Weights & Sound Levels

| | L x W x H (inches) | Weight (lbs) | Sound Level * |
|-------------------|--------------------|--------------|---------------|
| Open Skid | 65 x 38 x 40 | 1050 | - |
| Level 2 Enclosure | 87 x 39 x 50 | 1560 | TBA |
| Level 3 Enclosure | TBA | TBA | TBA |

*All measurements are approximate and for estimation purposes only. * Sound data as measured at 23 feet (7 meters) in accordance with ISO 8528-10 at stand-by power rating

Fuel Tank (UL142 Listed – Option)

| Size | L x W x H (inches) | Weight (lbs) |
|---------------|--------------------|--------------|
| 65gal / 24hr | 99 x 38 x 10 | 800 |
| 132gal / 48hr | 99 x 38 x 17 | 1050 |
| 200gal / 72hr | 99 x 38 x 24 | 1250 |



Sound Attenuated Enclosure (Option)

Compatible with 2000/14/EC directives,
 Factory built, UL Certified
 Amplified paint against corrosion and rust
 Exceeds 2000hours salt spray test
 Level 2 / 3 Sound Level Compliant
 Heavy Duty Steel / Aluminum Structure
 High performance sound absorb material
 Vertical air discharge
 Exhaust muffler inside the canopy



Available Options

Circuit Brakers

- Magnetic Trip
- Thermal Magnetic Trip
- Electronic Trip LS/I
- Electronic Trip LSI
- Electronic Trip LSIg
- 80% Rating
- 100% Rating
- Electrically Operated CB (paralleling)
- Shunt Trip – wired to controller
- Auxiliary Contact – volt free contact

Alternator

- Upsize Alternator
- Space Heater
- RTD Sensors

Electrical

- GFCI Receptacle Outlet
- Load Center
- Power Outlet (14-50R, 120/240V, 50A)
- Power Outlet (TT30R, 120V, 30A)
- Power Outlet Panel (120/240V, 80A) NEMA5-20R, NEMA14-50R, TT-30R
- Surge Protector

Control System

- Remote Annunciator Panel – 8 lights
- Remote Annunciator Panel – 16 lights
- Remote Annunciator Panel – 24 lights
- Common Alarm Relay – V free contact
- Generator Run Relay – V free contact
- Control Panel Heater
- Dry Contacts Expansion Relay
- Remote E-Stop Switch
- Remote E-Stop Switch – Break Glass
- Remote Monitoring (DSE892 SNMP)
- Remote Monitoring (DSE890 Webnet)
- Paralleling System Upgrade
- Manual Voltage Adjust
- Manual Speed Adjust

Miscellaneous

- ATS Panel
- Rated Power Factor Factory Testing
- Enclosure Heater
- Oil Pan Heater
- Spring Isolators
- Crankcase Ventilation Filter
- Critical Silencer Set w/Open Skid Unit

Enclosures

- Sound Attenuated Level 2
- Sound Attenuated Level 3
- Enclosure DC light w/timer
- Enclosure AC light
- Enclosure Space Heater
- Motorized Air Inlet Damper
- Gravity Radiator Louver

Fuel Tank

- UL142 Listed
- UL2085 Listed
- Fuel Level Display on Controller
- Fuel / Water Separator

Battery System

- Starting Batteries
- Battery Charger (NFPA110 Compliant)
- Battery Wrap Heater
- Battery Restraint
- Battery Disconnect Switch

Warranty

- 5 Years Extended Limited Warranty

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