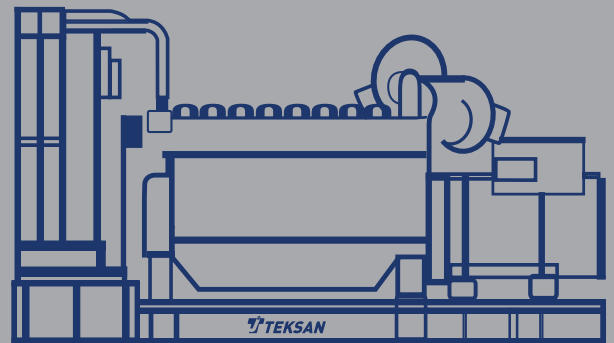


# TJUG650PS

## Industrial Gaseous Generator Sets



### Genset Standby Power Rating

Voltage	208/120V	240/120V	480/277V	600/347V
Phase	3	3	3	3
Pf	0,8	0,8	0,8	0,8
Standby kWe (NG)	650kW	650kW	650kW	650kW
Standby Amps (NG)	2225A	1954A	977A	781A
Standby kWe (LP)	425kW	425kW	425kW	425kW
Standby Amps (LP)	1474A	1278A	639A	511A
Alternator Model	TAL049C	TAL049C	TAL0473F	TAL049B
Temp Rise	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

#### 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.

### Application Data - Engine

Engine	
Manufacturer	PSI
Model	32L
Number of Cylinders	V-12
Cycle	4
Cubic Capacity	31.8 liters
Bore x Stroke	150 mm
Stroke	150 mm
Aspiration	Charge Cooled Forced Induction
Combustion Ratio	10.5:1
Gross Standby Power Rating at the Flywheel - NG	720 kW
Gross Standby Power Rating at the Flywheel - LP	475 kW
Rated rpm	1800
Speed Regulation	±0.5%

Electrical System	
Starting Motor Voltage	24V
Battery Charging Alternator	55A
Battery Qty, CCA Rating	4 x 102Ah, (2)860A

Fuel System	
Fuel Type	NG, LP Vapor or Dual Fuel
Maximum EPR Rated Pressure	1 psi (6.9 kPa)
Fuel Supply Pressure to EPR	7.0 - 11.0 inH2O
Minimum NG Supply Pipe Size	3"
Minimum LPG Supply Pipe Size	3"

Air Induction System	
Combustion Air Required	635 cfm
Max. Allowable Intake Air Restriction - Clean	5.0 inH2O
Max. Allowable Intake Air Restriction - Dirty	15.0 inH2O

Fuel Consumption - NG	
Standby Power (100%)	226.0 m3/hr (7985 CFH)
At 75% of Standby	175.0 m3/hr (6180 CFH)
At 50% of Standby	127.0 m3/hr (4485 CFH)

Fuel Consumption - LP	
Standby Power (100%)	70.0 m3/hr (2472 CFH)
At 75% of Standby	52.0 m3/hr (1836 CFH)
At 50% of Standby	37.0 m3/hr (1306 CFH)

Cooling System	
Ambient Capacity of Radiator	122 °F (50 °C)
Coolant Capacity - Engine Only / Total	110 liters / 206 liters
Max External Coolant Friction Head	50 kPa
Fan Power	24 kW
Engine Coolant Flow	1368 liters/min
Cooling Fan Air Flow	1167 m3/min
Cracking Temperature	80 °C
Full Open Temperature	92 °C

Exhaust System	
Type	Water Cooled Manifold
Turbine Outlet Temperature	1183 °F (639 °C)
Catalyst Dp	5.1 kPa
Maximum allowable Back pressure	10.2 kPa
Exhaust Flow at Turbine Outlet Conditions	123 m3/min

Lubrication System	
Oil Specification	SAE 15W-40 Low Ash Gas engine oil Ash content 0.25 - 0.5% by weight
Maximum Allowable Oil Temperature	121 °C
Engine Oil Capacity	90 liters

### Standard Features - Alternator

Brushless Single Bearing

125/40 °C Temperature Rise

Class H Insulation

Low waveform distortion with non-linear loads

EC 60034-1; CEI EN 60034-1; NEMA MG 1.22, NF 51- 100,111

AREP Excitation

300% Short Circuit Capability

Low reactance 2/3 pitch windings

Self-ventilated and drip-proof construction

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
Alternator Model	TAL049C	TAL049C	TAL0473F	TAL049B
Leads	12 Leads WYE	12 Leads DELTA	12 Leads WYE	6 Leads WYE
P.F.	0,8	0,8	0,8	0,8
Power @ Continuous 40 °C	890kVA / 712kW	890kVA / 712kW	825kVA / 660kW	915kVA / 723kW
skVA @ 30% Voltage Dip (P.F. = 0.6)	3460kVA	3460kVA	2000kVA	1120kVA
Efficiency @ 100% load	94,00%	94,00%	95,08%	94,80%
Short Circuit Current @ 1000ms	3000A	5195A	2400A	2700A

### Application Data - Circuit Breaker

Genset Voltage	208/120V	240/120V	480/277V	600/347V
ABB (80% Rated) Breaker Model	E4.2S-A 2500	E2.2N-A 2000	T7S 1000	T6N 800
Current Rating (In)	2500A	2000A	1000A	800A
Trip Unit	LI	LI	LS/I	LS/I

### 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

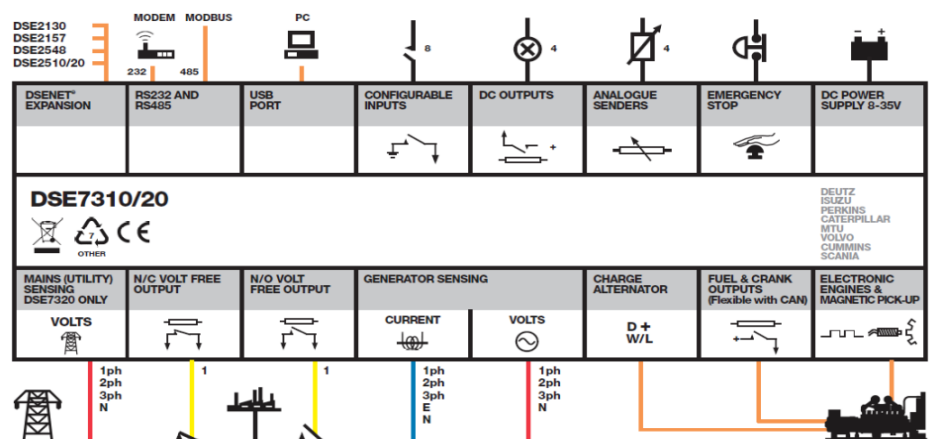
- License free PC software
- 4-Line back-lit LCD text display
- Five key menu navigation
- LCD Alarm Indication
- DSENet expansion compatibility
- Internal PLC editor
- Protection disable feature
- Data logging facility
- Fully configurable via PC
- Front panel configuration
- Power safe mode
- 6 configurable 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 (kW/kVAh/kVArh)
- ✓ Power Factor
- ✓ Generator Current
- ✓ Generator Load (%)
- ✓ Earth Current



# TJUG650PS

## Industrial Gaseous Generator Sets



### 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

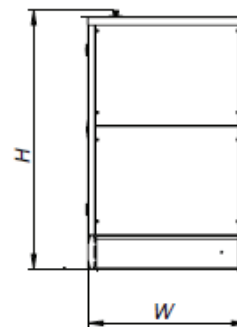
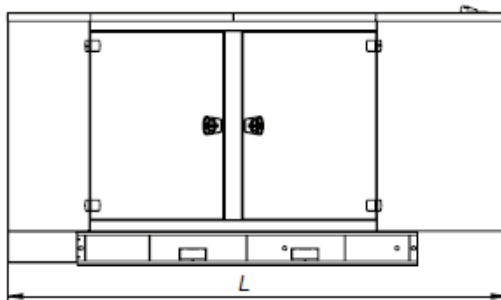
### Jacket Water Heater

Manufacturer Hotstart  
 Model CKM1050260-000  
 Operation Voltage 240V  
 Power 5000W

### Dimensions, Weights & Sound Levels

	L x W x H (inches)	Weight (lbs)	Sound Level *
Open Skid	TBA	TBA	-
Level 2 Enclosure	TBA	TBA	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



### 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

- Dual Fuel Operation
- Fuel Pressure Low, Alarm
- Fuel Filter
- Gas Regulator

#### 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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