TEKSAN

Powered ***by Nature***

Hybrid
Generator Sets

Hybrid Generator

Teksan Hybrid Generator is a clean energy system powered by nature, which is easily configurable to meet requirements in a wide range of power.

Your Benefits

- Optimum Energy Solutions
- High Savings in Operating Costs
- Remote Monitoring and Control System
- Green Energy
- Corporation-Specific Wide Range of Solutions

Why Choose Teksan Hybrid Generators

Reduced Maintenance Costs

Our products continue to work up to **1000 hours** without the need for maintenance and technical service.

Affordable Investment

Investment **payback** period **down to 2 years.**

Reduction in OPEX

With the contribution of renewable energy use, generator **operating time has been reduced by 80%.** With the use of variable speed engine and fuel optimization algorithm, **65% fuel savings** are achieved.

Tailor-made Solutions

We offer different solutions to **customer demand.**

Remote Monitoring

With our remote monitoring feature, the number of **site operations has been reduced.** Service support at longer intervals and minimum number of technical staff

Ultra Silent Canopy

Decreased sound level from **65 dBA @1m** is provided with custom design solutions.

UNSTABLE GRID AREAS

- Low Noise Level with Dedicated Designed Exhaust System
- Variable Speed Diesel Generator Set
- Hybrid Control Unit with Remote Monitoring System
- 800 L Included Double Wall Fuel Tank

- 20U Free Space for Telecom Customer Equipments

ALL IN ONE COMPACT DESIGN FOR TELECOM APPLICATIONS

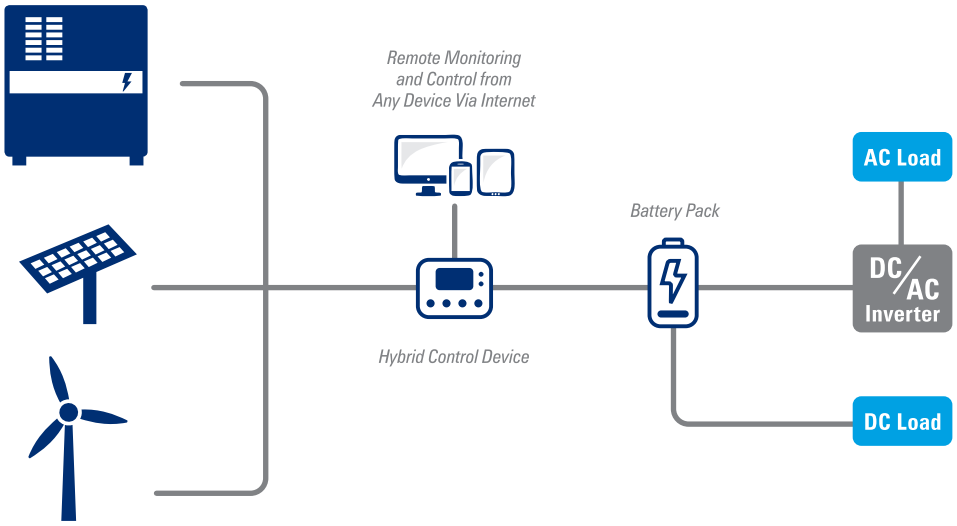
CO_2 MINIMUM CARBON FOOTPRINT

Field of Application

- Areas with power outages
- Locations with daily scheduled power outages up to 8 hours
- Locations having short-time power outages up to 16 hours in total on a daily basis

The Objective of the Solution

- Optimum solution for lower OPEX and CAPEX
- 100% facility utilization at lower costs
- Minimizing diesel engine running time and fuel consumption
- Emergency power supply meeting up to several weeks period without refueling when there is no grid connection



How It Works

- The main power supply is the central grid.
- In case of any grid outage, the load is powered from batteries for up to 8 hours.
- If the grid outage continues for more than 8 hours, the diesel generator starts up automatically and continues to supply the load. While the generator supplies the load, it charges the storage batteries at the same time.
- When the grid power comes back, the generator stops and automatically transfers the load to the grid.
- Batteries are fully charged with the grid.
- Grid-generator changeover operates trouble-free and does not cause fluctuation.

UNSTABLE GRID AREAS				
Average Load	kW	2	4	6
Maximum Permanent Load	kW	3	6	10
Battery Capacity	Ah	500	1000	1600
Generator Power	kVA	12	26	39
DC Power	kW	9	18	27
Fuel Tank	lt	800	800	1000
OPTIONAL FAST CHARGE SOLUTION				
Generator Power	kVA	26	51	77
DC Power	kW	18	36	51
Optional Solar Energy System Configuration				
Total Solar Power	kWp	6,4	12,8	25,6

OFF GRID AREAS

Field of Application

- Off grid areas
- Locations where emission and fuel consumption should be minimized
- Optimized solution based on both OPEX and CAPEX for off grid areas

The Objective of the Solution

- Providing the most suitable solution for off grid facilities
- Reducing engine running time and maintenance costs
- Lower fossil fuel consumption
- Low number of site visits due to low generator running time and fuel consumption

How It Works

- The main power source is solar / wind energy (if applicable)
- If solar energy is insufficient, the batteries balance the load.
- When the batteries are discharged, the generator will start and supply the load
- The generator will stop after the batteries are charged

Average Load	kW	2	4	6
Maximum Permanent Load	kW	3	6	10
Battery Capacity	Ah	500	1000	1600
Generator Power	kVA	12	26	39
Rectifier Power	kW	9	18	27
Fuel Tank	lt	800	800	1000
Optional Solar Energy System Configuration				
Total Solar Power	kWp	6,4	12,8	25,6

PURE SOLAR FOR
OFF GRID AREAS

TEKSAN

- 48VDC Long Cycle Life Batteries
- Thermally Customized Battery Cabinet
- Door Open Alarm for Unauthorized Access

- Easy to Transport
- Lifting Option with Forklift and Crane

- Easy Connection for Solar Panel Integration

- 48VDC Air Conditioner for Batteries
- Customized Cooler Capacity for High Ambient Temperature

Field of Application

- Off grid sites with extremely limited access
- Low power consumption facilities

The Objective of the Solution

- Reduce operating costs
- Reduce site visit to minimum

How It Works

- The main power source is solar energy
- Batteries are charged during daylight hours
- Power is supplied from the batteries at night and on cloudy days

Average Load	kW	2	4	6
Total Solar Power	kWp	16	32	48
Minimum Installation Area	m^2	80	160	240
Battery Capacity	Ah	3000	6000	9000

TECHNICAL SPECIFICATIONS

	TJ 3000 HD		TJ 6000 HD		TJ 10000 HD
MAXIMUM LOAD	3.000 W		6.000 W		10.000 W
Average Load	2.000 W		4.000 W		6.000 W
Optimized Load Range	1.000 - 3.000 W		3.000 - 6.000 W		6.000 -10.000 W
Nominal Output Voltage	48 VDC				
AC Output Power (optional)	250 - 3.000 VA		250 - 5.000 VA		250 - 9.000 VA
ENGINE					
Make	Perkins	Deutz	Perkins	Deutz	Perkins
Model	403D-11	F2M-2011	404D-22	F3M-2011	1103A-33TG
Output Power at 1800rpm	10,3 kW	15,0 kW	21,6 kW	23,3 kW	32,2 kW
Cooling Type	Water	Oil	Water	Oil	Water
Operating Speed	1300-2000 rpm				
Fuel	Diesel				
Standard Maintenance Interval	500 hours				
Increased Maintenance Interval (opt.)	1.000 hours				
ALTERNATOR					
Technology	Brushless Synchronous	Permanent-Magnet	Brushless Synchronous	Permanent-Magnet	Brushless Synchronous
Model	TAL040 D	PMG140K/18-90	TAL040 F	PMG140K/18-180	TAL042 C
Output Power at 1800rpm	9 kW		18 kW		30 kW
BATTERY					
Technology	Lead Acid / Li-Ion				Li-Ion
Type	Lead Carbon / LiFePO4				LiFePO4
Nominal Capacity	500 Ah	500 Ah	1.000 Ah	1.000 Ah	1.600 Ah
Rated Voltage	48 V				
DoD (Depth of Discharge)	80%				80%
Cycle Life (25 °C @ 80% DoD)	3.200 / 5.000				5.000
Maintenance Requirement	No				
Running Temperature (°C)	-15 to 45 / -10 to 55				
SIZE					
	PERKINS		DEUTZ		PERKINS		DEUTZ		PERKINS
	LEAD CARBON	LFP	LEAD CARBON	LFP	LEAD CARBON	LFP	LEAD CARBON	LFP	LFP
Weight	2313	1775	2348	1810	3267	2191	3307	2231	2800
Dimensions (WxLxH)	1506x2550x2000				1506x2550x2000				1607x2800x2160

Standard Features

DC Power Distribution		**Communication Interface**	RS232/ RS485
Critical loads (BLVD)	3x63A, 2x32A, 2x16A	**System Operating Temp. Range**	0°C / +45°C
Non-critical loads (LLVD)	1x63A, 2x32A, 2x16A	**Remote Monitoring/Control**	2G/3G/4G/Ethernet
Internal Fuel Tank	800 litres	**Location Tracking**	GPS

Optional Features

230V AC Output	250VA- 6.000VA	**Solar Energy Kit -1 (panel, MPPT charger, fusebox)**	
Residual Current Protection	For 230V AC circuit		6,4 kWp optimized for TJ3000
Auto-Transfer Switch	Auto-Transfer Board		12,8 kWp optimized for TJ6000
Free Contacts for External Signals	8 Inputs / Outputs		25,6 kWp optimized for TJ10000
Increased Operating Temp. Range	-20°C /+55°C	**Solar Energy Kit -2 (panel, MPPT charger, fusebox)**	
Load Priority Selection	Critical / Non-critical		Can be optimized acc. to the project req.
Increased Maintenance Interval	1.000 hours	**IP Protection Class**	Can be optimized acc. to the project req.
External Fuel Tank	up to 5000 liters	**Super Silent Cabinet**	Can be optimized acc. to the project req.
External Battery Capacity	up to 2000Ah	**Dust Filters**	Can be optimized acc. to the project location
Multiple User Support	Power measurement per user	**Improved Security**	Can be optimized acc. to the project location

Additional Options on The Site

- Increased rectifier power output by adding extra modules
- Adding an external fuel tank without any modifications
- Increasing the discharge time by adding an external battery group
- Power output increase with additional hybrid generator paralleling
- Increased Solar Panel Capacity for sites with low solar radiation

	TJ 3000 HD			TJ 6000 HD			TJ 10000 HD	
EXPECTED PERFORMANCE VALUES (LOAD)	1,0 kW	2,0 kW	3,0 kW	4,0 kW	5,0 kW	6,0 kW	6,0 kW	10,0 kW
Battery Discharge Time (hours)	16,8	8,4	5,6	8,4	6,7	5,6	9	5,4
Battery Charge Time (hours)	4						4,4	4,8
Battery Cycle per Day	1,16	1,94	2,51	1,94	2,25	2,51	1,79	2,36
Expected Battery Life (years)	9,5	5,6	4,4	5,6	4,9	4,4	7	5,1
Genset Running Hours per Day (hours)	4,6	7,7	9,9	7,7	8,9	9,9	8,6	11,4
Engine Maintenance Period (days) (per 500 hours / per 1000 hours)	108 / 216	65 / 130	50 / 100	65 / 130	56 / 112	50 / 100	58 / 116	43 / 86
Fuel Consumption per Day (liters)	10,4	20,1	29,3	38,7	47,5	56	51,2	81,9
Fuel Transfer Period (days)	77	40	27	21	16	14	19	12
HYBRID + SOLAR SYSTEM								
Recommended Solar Power (kWp)	6,4			12,8			25,6	
Number of Solar Panels (pcs)	16			32			64	
Genset Running Hours per Day (hours)	1,4	5,2	6,7	4,2	5,5	6,8	5,4	8,2
Engine Maintenance Period (days) (per 500 hours / per 1000 hours)	357 / 714	96 / 192	74 / 148	119 / 238	90 / 180	73 / 146	92 / 184	60 / 120
Fuel Consumption per Day (liters)	2,7	11,7	20,7	22,6	30,3	40,3	31,1	53,9
Fuel Transfer Period (days)	296	68	38	35	26	20	32	18
Solar Energy Rate (%)	78,9	45,3	31,9	45,3	37,9	31,8	51,1	37
Expected Battery Life (years)	10	7,5	5,7	7,4	6,1	5,6	9,8	6,8

Some of our References in the Telecommunications Industry

Airtel	KONGO
Alkan Telecom	EGYPT
Alsys Telecommunication	ROMANIA
Brt Media	CYPRUS
Camusat	TANZANIA
Helios Tower	KONGO
Iceland Telecom Ltd.	ICELAND
JV Coscom	UZBEKISTAN
Kazakh Telecom	KAZAKHISTAN
Magticom Ltd.	GEORGIA
Mts	BELARUS / UZBEKISTAN
Newroz Telecom	IRAQ
Orange	SENEGAL / MALI / IVORY COAST
Ooredoo Telecom	ALGERIA
Saudi Telecom	SAUDI ARABIA
Sultan Telecom	KUWAIT
Telecel	BURKINA FASO
Turkcell	TURKEY
Turk Telekom	TURKEY
Tigo	D.R. CONGO
Ucell	UZBEKISTAN
Uganda Telecom	UGANDA
Ums	UZBEKISTAN
Vodacom	D.R.CONGO / TANZANIA
Vodafone	THE NETHERLANDS
Xpress Telecom	JORDAN
Yemen Telecom	YEMEN
Zain	SUDAN

TEKSAN

HIGH QUALITY

RAPID

ECONOMIC

24/7

FAST & EFFECTIVE
TECHNICAL SERVICE
SUPPORT

Hybrid Generators, which provide environmentally friendly efficient energy, are preferred in many areas thanks to their remote monitoring system.

- *Remote Telecom Base Stations*
- *Oil Well-heads & Signalization Nodes*
- *Off-shore Platforms*
- *Remote Military Platforms*
- *Meteorological Measurement Stations*
- *Residential Areas without Electricity Grid Connection*
- *Outdoor Events & Camping*

WE ARE YOUR EVERLASTING COMPANY

IN

140+

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