



DIESEL GENERATOR SET CATALOGUE

ABOUT TESCOM



Tescom formerly known as Tümel Elektronik located in Izmir-Turkey is an independently owned corporation, offering a wide range of power protection products and services to a wide spectrum of industries and sectors.

During the establishment years the company was manufacturing electronic control devices and inverters, then in 1986 when the IT sector started developing rapidly, Tescom sensed the great need for clean, uninterruptible power and started designing and manufacturing Uninterruptible Power Supplies.

As well as an extensive standard UPS range Tescom also offers a variety of other products such as static transfer switch (STS), frequency and voltage converters, inverters and rectifiers under it's registered trademark "Tescom".

Today all Tescom branded power protection products are manufactured by a group of almost 30 greatly experienced engineers and staff of over 250 people.

One of the greatest advantages of Tescom has always been, flexibility Which means we do not only offer standard products. Thank's to our high experienced R&D team we also design and manufacture products according to customers requirements.

Tescom has always made widespread use of the latest developments and technologies in manufacturing, which complies with all the necessary international standards and norms. All these past years of experience, has lead to over 250,000 manufactured power protection products which have been delivered to customers in more than 40 countries in 4 continents.

TESCOM DIESEL GENERATORS

STAND BY RATING (ESP)

It is the way that generators operate under variable load at certain time intervals. It can work as a backup power. It is not suitable to work under extreme load.

PRIME RATING (PRP)

Applicable for supplying power to varying electrical load for unlimited hours. 10% overload capability is available for a period of 1 hour within 12-hour period of operation.

CONTINUOUS OPERATION

It is the continuous working under constant load. Unlimited hours use of all (100%) of the defined power. It cannot be overloaded above the defined power. For use where there is no mains power.

DESCRIPTION

TESCOM TDJ Series Diesel generator set is a fully integrated power generation system, providing optimum performance, reliability, and versatility for stationary standby, prime power and continuous duty applications.

ENGINE FEATURES

- Heavy duty generator engine
- 4-stroke, water cooling, natural suction system
- Mechanical governor system
- 12/24 volt starter motor and charge alternator
- Replaceable; with air, fuel and oil filters
- With flexible fuel hose
- Oil drain valve and extension hose/oil drain pump
- Industrial capacity muffler and exhaust spiral or compensator
- Maintenance-free type starter battery
- Engine block water heater (available for automatic models)
- Diesel generator maintenance and operation manual and electrical diagrams



CANOPY STANDART SPECIFICATIONS

- Compact design connection with non-welded nuts and bolts.
- Integrated canopy, generator set, exhaust system fuel tank.
- Body made from steel components treated with polyester powder coating
- Easy access to all service points
- Exhaust system inside canopy
- Large doors on each side
- Control panel viewing window in a lockable access door
- Emergency stop push button mounted on cabin exterior
- Fuel fill and battery can only be reached via lockable access doors.
- Customer options available to meet your applications needs.
- TESCOM makes its generating sets noise level tests in accordance with directive 2000/14/EC validation of the noise level test has been approved by the notified body Szutest (CE conformity assessment body).

ALTERNATOR FEATURES

- Brushless, single bearing, flexible disc 4-pole synchronous alternator
- H Insulation class
- IP21-23 protection class
- Shunt excitation
- Electronic voltage regulator
- Stator winding 2/3 step against harmonic distortions
- Alternator windings are protected with isolation varnish against oil and acid

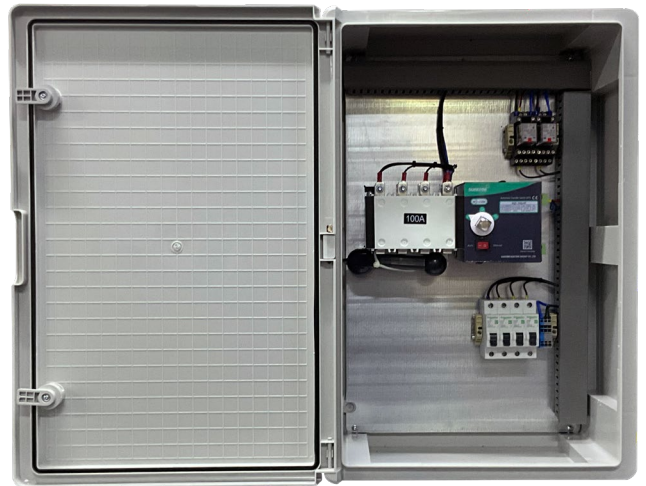
CONTROL PANEL FEATURES

- The cable group we use in our generators is fireproof cable class. Cable sheaths form the defense line of cables against various chemicals and flame.
- The use of Halogen-free materials in the outer sheath of the cables prevents the spread of toxic gases during a fire. At the same time, fireproof cable sheaths have low smoke density and flame retardant properties. This feature of fireproof of cable sheaths prevents the spread of fire and minimizes possible damages.
- Schneider Electric breaker group is used in generator control panels. As a standard, all our products have a 4-pole MCCB (Molded Case Circuit Breaker)



ATS (AUTOMATIC TRASFER SWITCH) GENERAL FEATURES

- The SQ5 Dual Power Automatic Transfer Switch Series is a kind of automatic transfer switch that combines the switch and the logic controller, enabling the mechanical and electrical to become an inseparable whole.
- Superior electromagnetic compatibility, high resistance to interference.
- It has zero-time transfer technology with high reliability.
- It cuts the dual circuit power simultaneously.
- In addition to PLC remote control, it has a multi-circuit input / output interface that can automate the system.



ATS MODEL	GENERATOR POWER RANGE
100 A SUNTREE BRAND TRANSFER PANEL WITH TRANSFER SWITCH	0-70 kVA
160 A SUNTREE BRAND TRANSFER PANEL WITH TRANSFER SWITCH	82-124 kVA
250 A SUNTREE BRAND TRANSFER PANEL WITH TRANSFER SWITCH	125-165 kVA
400 A SUNTREE BRAND TRANSFER PANEL WITH TRANSFER SWITCH	220-275 kVA
630 A SUNTREE BRAND TRANSFER PANEL WITH TRANSFER SWITCH	300-440 kVA
800 A SUNTREE BRAND TRANSFER PANEL WITH TRANSFER SWITCH	500-550 kVA
1000 A SUNTREE BRAND TRANSFER PANEL WITH TRANSFER SWITCH	660-715 kVA
1250 A SUNTREE BRAND TRANSFER PANEL WITH TRANSFER SWITCH	750-825 kVA
1600 A SUNTREE BRAND TRANSFER PANEL WITH TRANSFER SWITCH	900-1100 kVA
2000 A SUNTREE BRAND TRANSFER PANEL WITH TRANSFER SWITCH	1250kVA
2500 A SUNTREE BRAND TRANSFER PANEL WITH TRANSFER SWITCH	1400-1600 kVA

CONTROL SYSTEM

The new TESCOM TCM01 genset controllers are a cost effective modular genset controller ready for internet monitoring through plug-in modules. Its main advantages are multifunctionality, support for multiple topologies, harmonic analysis and detailed power measurements. Different brand controller can be offered upon request

DESCRIPTION

Software features are complete with easy firmware upgrade through USB port. The Windows based PC software allows monitoring and programming through USB, RS-485, RS-232, Ethernet and GPRS. The Rainbow Scada web service allows monitoring and control of an unlimited number of gensets from a single central location.



MAJOR FEATURES

- Diesel and gas genset support
- 400Hz operation support
- 400 event logs, full snapshot
- All parameters front panel editable
- 3 level configuration password
- 128x64 graphical LCD display
- Downloadable languages
- Waveform display of V & I
- Harmonic analysis of V & I
- 16Amp MCB & GCB outputs
- 8 configurable digital inputs
- 6 configurable digital outputs
- 3 configurable analog inputs
- Both CANBUS-J1939 & MPU
- 3 configurable service alarms
- Multiple automatic exerciser
- Weekly operation schedule
- Dual mutual standby with equal aging of gensets
- Manual "speed fine adjust" on selected ECUs
- Automatic fuel pump control
- Disable protections feature
- Excess power protection
- Reverse power protection
- Overload IDMT protection
- Load shedding, dummy load
- Multiple load management
- Current unbalance protection
- Voltage unbalance protection
- Fuel filling & fuel theft alarm
- Battery back-up real time clock
- Idle speed control
- Battery charge run enabled
- Combat mode support
- Multiple nominal conditions
- Contactor & MCB drive
- 4 quadrant genset power counters
- Mains power counters
- Fuel filling counter
- Fuel consumption counter
- Modem diagnostics display
- Configurable through USB, RS-485, Ethernet and GPRS
- Free configuration program
- Allows SMS controls
- Ready for central monitoring
- Mobile genset support
- Automatic GSM geo-location
- Easy USB firmware upgrade
- -40°C operation with optional display heater
- IP65 rating with optional gasket

COMMUNICATION

- USB Device
- J1939-CANBUS
- Geo-locating through GSM
- Internet Central Monitoring
- SMS message sending
- E-mail sending
- Free PC software: Rainbow Plus
- Modbus RTU (2400-57600baud)
- Modbus TCP/IP

TOPOLOGIES

- 3 ph 4 w, star & delta
- 3 ph 3 w, 2 CTs
- 2 ph 3 w
- 1 phase 2 wires

MEASUREMENTS

- Mains & genset PN/PP voltages
- Mains & genset frequency
- Mains & genset phase currents
- Mains & genset neutral currents
- Mains & genset, phase & total, kW, kVA, kVAr, pf
- Engine speed
- Battery voltage

PLUG-IN MODULES

- GSM Modem (2G-3G-4G)
- Ethernet 100Mbps
- Wi-Fi (802.11 b/g/n)
- RS-485 (2400-57600baud)
- RS-232 (2400-57600baud)

FUNCTIONALITIES

- AMF unit
- ATS unit
- Remote start controller
- Manual start controller
- Engine controller

TECHNICAL SPECIFICATIONS

	TDJ22Y		TDJ28Y		TDJ34Y		TDJ44Y		TDJ50Y		TDJ60Y	
Standby (kVA/kW)	22	17,6	28	22,4	34	27,2	44	27,2	50	40	60	48
Prime (kVA/kW)	20	16	25	20	30	24	40	24	45	36	54	43,2
Open Type Size (LxWxH mm)	2263 x 1000 x 1350						2463 x 1000 x 1600					
With Cabinet (LxWxH mm)	2263 x 1000 x 1450						2463 x 1000 x 1750					
Tank Capacity (L)	122						150					
MOTOR												
Model	Yangdong YND485D	Yangdong YSD490D	Yangdong Y495D	Yangdong Y4102D	Yangdong Y4105D	Yangdong Y4102ZLD						
Frequency	50Hz											
Output rating	18,7kW	23,1kW	28,6kW	36,3kW	41,8kW	50,4kW						
Fuel	Diesel											
Injection	Direct											
Aspiration	Naturally aspirated											
Cylinders	4											
Bore and Stroke	85 x 95mm	90 x 100mm	95 x 105mm	102 x 118mm								
Displacement	2,1lt	2,54lt	2,97lt	3,87lt								
Cooling	Water											
Engine oil specification	SAE 15W40											
Compression ratio	18:1											
Engine oil capacity (sump only)	5,5lt	8lt		13lt								
Coolant capacity (incl.radiator)	12lt			16lt				22lt				
Governor	Mechanical											
Air filter	Dry element											
FUEL CONSUMPTION												
100% Load	4,71lt/h	5,45lt/h	6,87lt/h	8,94lt/h	8,8lt/h	13,16lt/h						
75% Load	3,73lt/h	4,05lt/h	6,15lt/h	6,8lt/h	6,75lt/h	10,22lt/h						
50% Load	2,78lt/h	2,98lt/h	5,27lt/h	5,04lt/h	5,58lt/h	7,57lt/h						
EXHAUST SYSTEM												
Maximum temperature	< 500°C					< 620°C						
Exhaust gas flow	3,12m ³ /min	3,68m ³ /min	4,3m ³ /min	5,58m ³ /min	5,91m ³ /min	10,53m ³ /min						
Maximum exhaust back pressure	60mBar					100mBar						
Exhaust flange size (internal dia.)	74mm				84mm							
AIR SYSTEM												
Intake air flow	1,21m ³ /min	1,42m ³ /min	1,66m ³ /min	2,15m ³ /min	2,28m ³ /min	4,13m ³ /min						
Air intake temperature rise	< 5°C											
STARTING SYSTEM												
Starter motor	3kW	3,5kW		4kW								
Battery capacity	80Ah	120Ah										
Auxiliary voltage	12V											
ALTERNATOR												
Brand	Tescom											
Poles	4 Poles											
Frequency	50/60HZ											
Winding connections	Star											
Insulation	Class H											
Enclosure	IP23											
Power factor	0,8											
Altitude	1000m											
Exciter system	Self excitation											
Voltage regulator	AVR											
Steady state voltage regulation	± 1%											
Direction of rotation	Clockwise											
Cooling	Direct drive centrifugal blower fan											



