

Product Specifications For 3516 (50 Hz)



Generator Set Specifications

Standby Rating	2000 kVA
Prime Power Rating	1825 kVA
Emissions/Fuel Strategy	Low Fuel Consumption
Voltage	380 to 11000 Volts
Frequency	50 Hz
Speed	1500 rpm
Duty Cycle	Standby, Mission Critical, Prime, Continuous
Maximum Rating	2000 kVA
Minimum Rating	1600 kVA

Engine Specifications

Engine Model	3516 TA, V-16, 4-Stroke Water-Cooled Diesel
Bore	6.69 in
Stroke	7.48 in
Displacement	4210.64 in³
Compression Ratio	13.0:1
Aspiration	TA
Fuel System	Mechanical unit injection
Governor Type	Woodward

Generator Set Dimensions

Length - Minimum	249.2 in
Length - Maximum	249.2 in
Width - Minimum	90 in
Width - Maximum	90 in
Height - Minimum	94.9 in
Height - Maximum	94.9 in
Dry Weight - Genset (minimum)	36750 lb
Dry Weight - Genset (maximum)	36750 lb

3516 (50 Hz) Standard Equipment

Air Inlet System

Air cleaner; single element canister type

Air Inlet

Air cleaner

Cooling

Package mounted radiator

Exhaust

Exhaust flange outlet

Fuel

- Secondary fuel filters
- Fuel priming pump
- Primary fuel filter with integral water separator

Generator

- Matched to the performance and output characteristics of Cat engines
- IP23 Protection

Power Termination

Busbar

Control Panel

EMCP 4 Genset controller

Control Panels

Over/under voltage (27/59)

Serial annunciator module data link

Communications:

Overcurrent (50/51)

Over/under frequency (81 o/u)

Text alarm/event descriptions

Generator set packages include Caterpillar's voltage regulator

Programmable protective relaying functions:

4 Programmable relay outputs (Form A)

Reverse power (kW) (32)

Emergency stop

Amps (per phase & average)

Oil pressure (psi, kPa or bar)

Operating hours

24 Volt DC operation

Low oil pressure

6 Customer programmable digital inputs

1 Programmable digital outputs

1 Programmable relay outputs (Form C)

Volts (L-L & L-N)

Number of I/O varies on options selected

RPM - DC volts

Low coolant level

kVAR-hr (total)

Controls: Speed adjust - Auto/start/stop control - Engine cool-down timer - Engine cycle crank - Alarm acknowledge - Lamp test - Load histogram feature - PLC functionality - Customizable screens - 0 True RMS

AC metering, 3-phase, +/-2% accuracy

kW-hr (total)

Failure to start (overcrank)

Environmental sealed front face

Power factor (per phase & average)

Accessory module data link

Generator mounted - rear facing

High coolant temperature

Overspeed

3 Analog inputs

Frequency (Hz)

Warning/shutdown with common LED indication of shutdowns for

Coolant temperature

IVR includes reactive droop capability, 3-phase voltage sensing, KVAR / PF modes, RFI suppression, max/exciter. Limiter and exciter diode monitor

Customer data link (Modbus RTU)

kVA (per phase, average & percent)

Cat connect

Generator phase sequence

Reverse reactive power (kVAR) (32RV
DC volts
kW (per phase, average & percent)
kVAR (per phase, average & percent)
Emergency stop pushbutton
Digital indication for:
Low coolant temperature
EMCP 4.2B

Cooling System

Certified standard PGS provided

Exhaust System

Flanged faced outlet(s)
Dry exhaust manifold

Fuel System

Flexible fuel lines - shipped loose
Fuel priming pump
Fuel cooler; not included with packages without radiator
Secondary fuel filters

General

SAE standard rotation
Flywheel and flywheel housing - SAE No. 00
Right hand servicing
Caterpillar yellow with high gloss black rails and radiator

Generator And Attachments

Medium voltage:
Form wound
Winding temperature detectors
High voltage:
3 Phase brushless, Salient pole
Permanent magnet excitation (PMG)
Permanent magnet excitation (PMG)
NEMA standard hole pattern
Internal excitation (IE)
Six lead
Class H insulation, Class F temperature rise at 40C ambient (105C prime/130C standby)
Low voltage:
Winding temperature detectors
NEMA standard hole pattern
Form wound
Winding temperature detectors
Random wound
Busbar connections, top center mounted, top cable entry
NEMA Class H insulation system, Class H temperature rise at 40C ambient (125C prime/150C standby)

Anti-condensation space heater

NEMA Class H insulation system, Class H temperature rise at 40C ambient (125C prime/150C standby)

Governing System

ADEM A3

Literature

Parts book

Lubrication System

Gear type lube oil pump

Fumes disposal

Oil drain lines and valve

Lubricating oil

Oil filter, filler and dipstick

Integral lube oil cool

Mounting System

Anti-vibration mounts (shipped loose)

Rubber anti-vibration mounts - shipped loose

Rails - Engine/generator/radiator mounting

Starting System

Battery disconnect switch

Battery and battery rack w/cables

45 Amp Charging alternator

24 Volt electric starting motor

3516 (50 Hz) Optional Equipment

Air Inlet System

Dual element air cleaner

Single element filter

Exhaust

Exhaust mufflers

Cooling System

Optional installed radiators

Coolant

Standard ambient ATAAC radiators

Optional installed ATAAC radiators

Standard ambient radiators

Water level switch gauges

Generator

Internal excitation (IE)

Anti-condensation heater

Oversize and premium generators
Permanent magnet excitation (PMG)

Crankcase System

No explosion relief valves
Ventilation system
Explosion relief valves

Power Termination

Circuit breakers, UL listed
Circuit breakers, IEC compliant

Control Panels

Remote monitoring software
Generator temperature monitoring & protection
Load share module
Digital I/O module
EMCP 4.2B

Exhaust System

Exhaust offset
Tier 4 dosing cabinet
Flexible fittings
Mufflers
Tier 4 clean emissions module
Elbows
Flange and exhaust expanders
Tier 4 clean emission MOD Kits
Flanges
Clean emission parts
Y Adapters

Mounting

Spring type vibration isolators
IBC isolators
Rubber anti-vibration mounts

Fuel System

Fuel priming pumps (Tier 4) - Manual or electric
Primary fuel filter

Starting/Charging

Jacket water heater
Oversize batteries
Battery chargers
Air starting motor with control and silencer
Heavy duty starting system
Charging alternator

General

Special paint (Colors other than Caterpillar yellow or high performance paints)
US aid emblem

Generators And Attachments

Thermostat for space heater
Alternator air cleaner
Differential current transformers (DCT)
Differential current transformers (DCT) 8.7 kV and 15 kV classes
Generator conversion
Low / Medium voltage: 380/400/415 volts, 3 phase 1500 rpm. RW, IE, No. of Leads = 6, Pitch = .6667: 1600
Frame
Low / Medium voltage: 380/400/415 volts, 3 phase 1500 rpm. RW, PM, No. of Leads = 6, Pitch = .6667: 1600
and 1800 Frames
Space heater

Instrumentation

Pyrometer and thermocouples

Lubrication System

Oil level regulator
Prelube pumps
Lube oil in standard sump

Mounting System

Spring type vibration isolators
Puck style low efficiency isolators
IBC vibration isolators

Power Connections

Neutral ground connections
Center post busbars
Right side power connections
Rear power connections
2700 Frame, four lead, four terminal
Left side power connections
Ground cables between generator and terminal box
Low voltage Circuit breakers

Special Tests / Reports

IBC Certification
Standard engine test charge
PGS Test report @ 1.0 power factor
Generator test report
Fuel consumption test
Canadian Standards Association certification
PGS Test report @ 0.8 power factor

OSHPD Certification

Torsional vibration analysis reports

Generator set fuel consumption test

Starting And Charging

Electric starting motors

Air pressure regulator

24 Volt battery set - Dry

Engine barring device

Starter cover

Air starting motors

Jacket water heaters

10, 20, 35 and 50 Amp Battery chargers

Extended Service Coverage

Platinum, Gold and Silver coverage