

# PRELIMINARY



## T22C3

Engine type	S4Q2-Z361SD
Alternator type	ECP 28 1L/4

### DESCRIPTIVE

- Mechanic governor
- Mechanically welded chassis with antivibration suspension
- Main line circuit breaker
- Radiator for wiring temperature of 48/50°C max with mechanical fan
- Protective grille for fan and rotating parts
- 9 dB(A) silencer supplied separately
- Charger DC starting battery with electrolyte
- 12 V charge alternator and starter
- Delivered with oil and coolant -30°C
- Manual for use and installation

### POWER DEFINITION

**PRP** : Prime Power is available for an unlimited number of annual operating hours in variable load applications, in accordance with ISO 8528-1.

**ESP** : The standby power rating is applicable for supplying emergency power in variable load applications in accordance with ISO 8528-1.

Overload is not allowed

### TERMS OF USE

According to the standard, the nominal power assigned by the genset is given for 25°C Air Inlet Temperature, of a barometric pressure of 100 kPA (100 m A.S.L), and 30 % relative humidity. For particular conditions in your installation, refer to the derating table.

For the generating sets used indoor, where the acoustic pressure levels depends on the installation conditions, it is not possible to specify the ambient noise level in the exploitation and maintenance instructions . You will also find in our exploitation and maintenance instructions a warning concerning the air noise dangers and the need to implement appropriated preventive measures.

### GENERAL CHARACTERISTICS

Frequency (Hz)	50
Reference voltage (V)	400/230
Max power ESP (kVA)	22
Max power ESP (kWe)	17.6
Max power PRP (kVA)	20
Max power PRP (kWe)	16
Intensity (A)	32
Standard Control Panel	NEXYS
Optional control panel	TELYS

### DIMENSIONS AND NOISE LEVELS

#### DIMENSIONS COMPACT VERSION

Length (mm)	1700
Width (mm)	896
Height (mm)	1121
Dry weight (kg)	549
Tank capacity (L)	100

#### DIMENSIONS SOUNDPROOFED VERSION

Canopy	M127
Length (mm).	2080
Width (mm).	960
Height (mm).	1415
Dry weight (kg).	780
Tank capacity (L).	100
Acoustic pressure level @1m in dB(A) ( )	70 (0.7)
Sound power level guaranteed (Lwa)	87

### POWERS

Voltage	ESP		PRP		Standby Amps
	kWe	kVA	kWe	kVA	
415/240	18	22	16	20	31
400/230	18	22	16	20	32
380/220	18	22	16	20	33
240 TRI	18	22	16	20	53
230 TRI	18	22	16	20	55
220 TRI	18	22	16	20	58
220/127	16	20	15	18	52
200/115	18	22	16	20	64

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### ENGINE SPECIFICATIONS

#### GENERAL ENGINE DATAS

Engine model	MITSUBISHI S4Q2-Z361SD , 4-temps, Athmo , N/A 4 X
Cylinder arrangement	L
Displacement (C.I.)	2.51
Bore (mm) x Stroke (mm)	88 x 103
Compression ratio	22 : 1
Speed (RPM)	1500
Pistons speed (m/s)	5.15
Maximum stand-by power at rated RPM (kW)	22.2
Frequency regulation (%)	< 5%
BMEP (bar)	6.48
Governor type	Mechanical

#### COOLING SYSTEM

Radiator & Engine capacity (L)	6
Max water temperature (°C)	105
Outlet water temperature (°C)	N/A
Fan power (kW)	0.7
Fan air flow w/o restriction (m3/s)	N/A
Available restriction on air flow (mm EC)	N/A
Type of coolant	Gencool
Thermostat (°C)	76.5

#### EMISSIONS

Emission PM (g/kW.h)	N/A
Emission CO (g/kW.h)	N/A
Emission HCNOx (g/kWh)	N/A
Emission HC (g/kW.h)	N/A

#### EXHAUST

Exhaust gas temperature (°C)	N/A
Exhaust gas flow (L/s)	N/A
Max. exhaust back pressure (mm EC)	680

#### FUEL

Consumption @ 110% load (L/h)	N/A
Consumption @ 100% load (L/h)	6.2
Consumption @ 75% load (L/h)	N/A
Consumption @ 50% load (L/h)	N/A
Maximum fuel pump flow (L/h)	N/A

#### OIL

Oil capacity (L)	6.5
Min. oil pressure (bar)	1
Max. oil pressure (bar)	3.9
Oil consumption 100% load (L/h)	N/A
Carter oil capacity (L)	5.5

#### HEAT BALANCE

Heat rejection to exhaust (kW)	N/A
Radiated heat to ambient (kW)	N/A
Heat rejection to coolant (kW)	N/A

#### AIR INTAKE

Max. intake restriction (mm EC)	200
Intake air flow (L/s)	N/A

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### ALTERNATOR SPECIFICATIONS

#### GENERAL DATAS

Alternator brand	MECC ALTE
Alternator type	ECP 28 1L/4
Number of phase	3
Power factor (Cos Phi)	0.8
Altitude (m)	0 à 1000
Overspeed (rpm)	N/A
Number of pole	4
Excitation system	AVR
Insulation class / T° class, continuous 40°C	H / N/A
Regulation	DSR
Harmonic factor, no load TGH/THC (%)	N/A
Wave form : NEMA=TIF-(TGH/THC)	N/A
Wave form : CEI=FHT-(TGH/THC)	N/A
Number of bearing	1
Coupling	Direct
Voltage regulation at established rating (%)	N/A
Recovery time (Delta U = 20% transient) (ms)	N/A

#### OTHER DATAS

Continuous Nominal Rating 40°C (kVA)	20
Standby Rating 27°C (kVA)	21.5
Efficiencies 4/4 load (%)	87.4
Air flow (m3/s)	0.09
Short circuit ratio (Kcc)	0.62
Direct axis synchro reactance unsaturated (Xd) (%)	180
Quadra axis synchro reactance unsaturated (Xq) (%)	78
Open circuit time constant (T'do) (ms)	850
Direct axis transient reactance saturated (X'd) (%)	16.8
Short circuit transient time constant (T'd) (ms)	44
Direct axis subtransient reactance saturated (X''d) (%)	9.6
Subtransient time constant (T''d) (ms)	14
Quadra axis subtransient reactance saturated (X''q) (%)	22
Zero sequence reactance unsaturated (Xo) (%)	3.3
Negative sequence reactance saturated (X2) (%)	14.4
Armature time constant (Ta) (ms)	12
No load excitation current (io) (A)	0.5
Full load excitation current (ic) (A)	1.5
Full load excitation voltage (uc) (V)	N/A
Recovery time (Delta U = 20% transient) (ms)	N/A
Engine start (Delta U = 20% perm. or 50% trans.) (kVA)	N/A
Transient dip (4/4 load) - PF : 0,8 AR (%)	N/A
No load losses (W)	N/A
Heat rejection (W)	2307

### DIMENSIONS AND NOISE LEVELS

#### CONTAINMENT

Canopy	M127 DW
Length (mm).	2160
Width (mm).	966
Height (mm).	1582
Dry weight (kg).	970
Tank capacity (L).	230
Acoustic pressure level @1m in dB(A) ( )	70 (0.7)
Sound power level guaranteed (Lwa)	87

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CONTROL PANEL

NEXYS, comprehensive and simple

TELYS, ergonomic and user-friendly



The NEXYS is a versatile control unit allowing operation in manual or automatic mode. Equipped with an LCD screen, the user-friendly NEXYS offers high-quality basic functions to guarantee simple, reliable operation of your generating set.

Offers the following functions:

Standard electrical measurements: voltmeter, frequency meter, ammeter.

Engine parameters: working hours counter, engine speed, battery voltage, fuel level.

Alarms and faults: oil pressure, coolant temperature, failure to start, overspeed (> 60 kVA), charging alternator fault, low fuel level, emergency stop.

For more information, please refer to the sales documentation.

The highly versatile TELYS control unit is complex yet accessible, thanks to the particular attention paid to optimising its ergonomics and ease of use. With its large display screen, buttons and scroll wheel, it places the accent on simplicity and communication.

The TELYS offers the following functions:

Electrical measurements: voltmeter, frequency meter, ammeter.

Engine parameters: working hours counter, oil pressure, coolant temperature, fuel level, engine speed, battery voltage.

Alarms and faults: oil pressure, coolant temperature, failure to start, overspeed, alternator min./max., battery voltage min./max., emergency stop, fuel level.

Ergonomics: wheel for navigating around the various menus.

Communication: remote control and operation software, USB connections, PC connection.

For more information on the product and its options, please refer to the sales documentation.