



Generator Specification

Service	PRP(1)	ESP(2)
Power (KVA)	500	550
Power (KW)	400	440
Rated Speed (r.p.m)	1500	
Standard voltage (V)	400/230V	
Rated at power factor (cos phi)	0.8	



Dynamis Power gensets are compliant with ISO9001 and CE standard, which include the following directives:

- 2006/42/EC Machinery safety.
- 2008/95/EC Low voltage
- EN 60204-1:2006+A1: 2009, EN ISO 12100: 2010, EN ISO13849-1: 2008, EN 12601:2010

PRP (Prime Power):

According to ISO8528-1, prime power is the maximum power available during a variable power sequence, which may be run for an unlimited number of hours per year, between stated maintenance intervals. The permissible average power output during at 24 hours period shall not exceed 80% of the prime power. 10% overload available for governing purposes only.

ESP (Standby Power):

According to ISO8528-1, It is defined as the maximum power available, under the agreed operating conditions, for which the generating set is capable of delivering for up to 500 hours of operation per year (of which no more than 300 hours for continuative use) with the maintenance intervals and procedures being carried out as prescribed by the manufacturers. No overload capability is available.

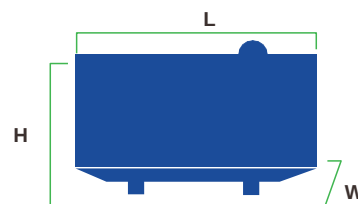
Power Voltage	ESP		PRP		Standby Amps
	KVA	KW	KVA	KW	
400/230	550	440	500	400	722A

Performance Data	
Model	DY550C
Engine Brand	CUMMINS
Engine model	KTA19-G3A
Speed Control type	EFC Electrical
Phase	3
Control system	Digital
Starter motor voltage	24
Frequency	50HZ
Engine Speed (RPM)	1500

Standard Reference Condition

Note: Standard reference condition 25°C [77°F] air inlet temperature, 1000 m (328 ft) A.S.L 30% relative humidity. Fuel consumption data using diesel with a specific gravity of 0.85 and conforming to BS 2869: 1998, Class A2

Noise level 50Hz: 82dB (A) @ 7m



Dimension & Weight	
Dimension	Silent
Length (L)	5100mm
Width (W)	1800mm
Height (H)	2530mm
Net Weight	5200kg
Fuel Tank (L)	TBD

Note: This Parameters Allow for some acceptable Deviations

Engine Specification : KTA19-G3A

Type.....	4 Cycle , In-line , 6 Cylinder	
Aspiration.....	Turbocharged , Aftercooled	
Bore—in.(mm)×stroke—in.(mm).....	6.25×6.25	(159×159)
Displacement—in ³ (L).....	1150	(19)
Compression Ratio.....	13.9:1	
Dry Weight		
Fan Hub to Flywheel Engine —lb(kg).....	3725	(1690)
Radiator Cooled Engine —lb(kg).....	5900	(2676)
Wet Weight		
Fan Hub to Flywheel Engine —lb(kg).....	3880	(1760)
Radiator Cooled Engine —lb(kg).....	6300	(2858)
Moment of Inertia of Rotating Components (Excluding Flywheel) —lb _m .ft ² (kg·m ²).....	43	(1.82)
·With FW 4001 Flywheel —kg·m ² (lb _m .ft ²).....	7.16	(170.0)
·With FW 4006 Flywheel —kg·m ² (lb _m .ft ²).....	8.39	(199.0)
C.G. Distance From Front Face of Block—in(mm).....	23.6	(598)
C.G. Distance Above Crank Centerline—in(mm).....	9	(229)
Maximum Allowable Bending Moment at Rear Face of Block —N·m(lb.ft).....	2000	(907)
Firing Order.....	1-5-3-6-2-4	

EXHAUST SYSTEM

Maximum Allowable Back Pressure (1500/1800 rpm) —in.Hg(kPa).....	2.3/3	(7.8/10.2)
Maximum Allowable Back Pressure —in.Hg(kPa).....	3	(10)
Exhaust Pipe Size Normally Acceptable —in(mm).....	5	(127)

AIR INDUCTION SYSTEM

Maximum Allowable Intake Air Restriction With Heavy Duty Air Cleaner		
Clean Element —in.H ₂ O(kPa).....	15	(3.73)
Clean Element —in.H ₂ O(kPa).....	15	(3.73)
Intake Air Alarm Temperature (1500/1800 rpm)—°C(°F).....	82	(180)

COOLING SYSTEM

Coolant Capacity		
After-cooler Only —U.S.Gal(L).....	6	(23)
With heat exchanger HX 6076 (With out explanation tank) —U.S.Gal(L).....	53	(199)
With explanation tank & LTA—U.S.Gal(L).....	30	(112)
<u>Main Engine Circuit</u>		
Maximum Coolant Friction Heat External to Engine @1800 rpm —PSI(kPa).....	10	(68.9)
@1500 rpm —PSI(kPa).....	10	(68.9)
Maximum Allowable Air Friction Across radator —in.H ₂ O(kPa).....	0.5	(0.1)

OUTPUT POWER			CONSUMPTION		BFSC	
%	BHP	kW	Lb/h	Kg/h	g/kW.h	Lb/BHP.h
PRIME						
100	600	448	201	91	203	0.334
75	450	336	154	70	207	0.341
50	338	252	107	48	192	0.316
25	254	189	56	26	135	0.221

Engine Specification : KTA19-G3A

Maximum Raw Water Inlet Pressure @ Heat Exchanger HX 6076 —PSI(kPa).....	50	(344.7)
Maximum Allowable Top Tank Temperature (Stand_by/Prime) —°F(°C).....	220/212	(104/100)
Standard Thermostat (modulating) Range— °F(°C).....	180-200	(82-93)
Maximum Allowable Coolant Temperature —°F(°C).....	205	(96.1)
Minimum Coolant Makeup Capacity —U.S.Gal(L).....	1.6	(6.1)
Maximum Raw water Inlet Friction —PSI(kPa).....	10	(254.0)
Minimum Allowable Fill Rate —U.S.GPM(L/min).....	5	(18.9)
Maximum Allowable Initial Fill Time —min.....	5	
Minimum Allowable Coolant Expansion Space —% of System Capacity.....	5	
Maximum Allowable Inlet Coolant Temperature at Limited situation (Stand_by/Prime) —°F(°C).....	160/150	(71/66)

LUBRICATION SYSTEM

Oil Pressure

@ Idle —PSI(kPa).....	20	(138)
@ Rated Speed —PSI(kPa).....	50-70	(345-483)
Oil Flow at Rated Speed —U.S.GPM(L/min).....	40	(151.4)
Maximum Allowable Oil Temperature —°F(°C).....	250	(121.0)

By-Pass Filter Capacity

Spin-on Cartridge Type —U.S.Gal(L).....	0.7	(2.6)
Replaceable Element Type —U.S.Gal(L)	2.9	(11.0)

Oil Pan Capacity (Option OP4019)

High —U.S.Gal(L).....	10.0	(37.9)
Total System Capacity (Excluding By-Pass Filter) —U.S.Gal(L).....	22.3	(84.4)
Total System Capacity (Excluding By-Pass Filter) —U.S.Gal(L).....	13.2	(50.0)

Angularity of Standard Oil Pan (Option OP)

Front Down.....	30°	
-----------------	-----	--

Fuel Injection System.....Cummins PT

Maximum Fuel Consumption at Maximum Rated Output and Speed —lb/h(kg/h).....

Maximum allowable Restriction to PT Fuel Pump

With Clean Fuel Filter —in.Hg(kPa).....	4	(13.55)
With Dirty Fuel Filter —in.Hg(kPa).....	9	(30.48)

Maximum Fuel Supply at Rated Power and Speed —lb/h(kg/h).....

Maximum Allowable Injector Return Line Restriction

With Check Valves —in.Hg(kPa).....	7	(22)
Less Check Valves —in.Hg(kPa).....	3	(8)

Minimum Allowable Fuel Tank Vent Capability —ft³/h (L/h)

(With 2.5 in. Hg (63 mm Hg) or Less Back Pressure)

Starter (Heavy, Anode)—Volt.....	24	
----------------------------------	----	--

Battery Recharge System,Negative ground—A.....	35	
--	----	--

ALTERNATOR SPECIFICATION: TAL-A473-C

TAL 0473

LEROY-SOMER™

The best of performance

The Leroy-Somer™ TAL 0473 alternator has been designed to offer you the best power generation performances. With its meticulous design and optimized architecture, the TAL 0473 strikes the perfect balance between compactness, reliability, performance and longevity. Whatever your application, the Leroy-Somer™ TAL 0473 alternator will meet your needs and will adapt to all situations.

Standards

The Leroy-Somer™ TAL 0473 alternator meets all key international standards and regulations, including IEC 60034, NEMA MG 1.32-33, ISO 8528-3, CSA C22.2 n°100-14 and UL 1446 (UL 1004 on request). Also compliant with IEC 61000-6-2, IEC 61000-6-3, IEC 61000-6-4, VDE 0875G, VDE 0875N and EN 55011, group 1 class A for European zone. The Leroy-Somer™ TAL 0473 alternator can be integrated in EC marked generator set, and bears EC, UKCA and CMIM markings. It is designed, manufactured and marketed in an ISO 9001 and ISO 14001 quality assurance environment.

Electrical characteristics and performances

- Class H insulation
- Shunt excitation
- Low voltage winding:
 - Three-phase 50 Hz: 220V - 240V and 380V - 415V (440V)
 - 60 Hz: 208V - 240V and 380V - 480V
- 6-terminal plates in 6-wire version or suitable for 12-wire option
- Optimized performance



Ratings 50 Hz - 1500 R.P.M.

kVA / kW - P.F. = 0.8																	
Duty / T° C		Continuous / 40 °C				Continuous / 40 °C				Stand-by / 40 °C				Stand-by / 27 °C			
Class / T° K		H / 125° K				F / 105° K				H / 150° K				H / 163° K			
Phase		3 ph.				3 ph.				3 ph.				3 ph.			
Y		380V	400V	415V	440V	380V	400V	415V	440V	380V	400V	415V	440V	380V	400V	415V	440V
Δ		220V	230V	240V		220V	230V	240V		220V	230V	240V		220V	230V	240V	
YY (*)		200V		220V		200V		220V		200V		220V		200V		220V	
TAL 0473 A	kVA	390	410	410	400	355	375	375	364	413	435	435	424	429	450	450	440
	kW	312	328	328	320	284	300	300	291	330	348	348	339	343	360	360	352
TAL 0473 B	kVA	455	455	455	445	415	415	415	405	480	480	480	472	500	500	500	490
	kW	364	364	364	356	332	332	332	324	384	384	384	378	400	400	400	392
TAL 0473 C	kVA	500	500	500	455	455	455	455	414	530	530	530	482	550	550	550	500
	kW	400	400	400	364	364	364	364	331	424	424	424	386	440	440	440	400
TAL 0473 D	kVA	525	550	550	540	478	500	500	491	557	585	585	572	578	600	600	594
	kW	420	440	440	432	382	400	400	393	446	468	468	458	462	480	480	475
TAL 0473 E	kVA	600	600	600	500	545	545	545	455	635	635	635	530	660	660	660	550
	kW	480	480	480	400	436	436	436	364	508	508	508	424	528	528	528	440
TAL 0473 F	kVA	645	660	660	630	587	600	600	573	684	700	700	668	710	730	730	693
	kW	516	528	528	504	470	480	480	458	547	560	560	534	568	584	584	554

Control Panel: DEEPSEA 7320MKII

DSE7310/20 MKII

AUTO START & AUTO MAINS FAILURE CONTROL MODULES



KEY FEATURES

- Configurable power-up mode
- MPU fail delay
- Enhanced graphical user interface
- Drag & drop advanced PLC editor
- MSC ID within PLC GenComm override
- 4-Line back-lit LCD text display
- Multiple Display Languages
- Five key menu navigation
- LCD alarm indication
- Heated display option available
- Customisable power-up text and images
- DSENet expansion compatibility
- Data logging facility
- Internal PLC editor
- Protections disable feature
- Fully configurable via PC using USB, RS232 & RS485 communication
- Front panel configuration with PIN protection
- Power save mode
- 3 phase generator sensing and protection
- 3 phase mains (utility) sensing and protection (DSE7320 MKII only)
- Automatic load transfer control (DSE7320 MKII only)
- Generator current and power monitoring (kW, kvar, kVA, pf)
- Mains current and power monitoring (kW, kvar, kVA, pf) (DSE7320 MKII only)
- kW and kvar overload and reverse power alarms
- Over current protection
- Unbalanced load protection
- Independent earth fault protection
- Breaker control via fascia buttons
- Fuel and start outputs configurable when using CAN
- 6 configurable DC outputs
- 2 configurable volt-free relay outputs
- 6 configurable analogue/digital inputs
- Support for 0 V to 10 V & 4 mA to 20 mA sensors
- 8 configurable digital inputs
- Configurable 5 stage dummy load and load shedding outputs
- CAN, MPU and alternator frequency speed sensing in one variant
- Real time clock
- Manual and automatic fuel pump control
- Engine pre-heat and post-heat functions
- Engine run-time scheduler
- Engine idle control for starting & stopping
- Fuel usage monitor and low fuel level alarms
- Simultaneous use of RS232 and RS485 communication ports
- True dual mutual standby using RS232 or RS485 for accurate engine hours balancing.
- MODBUS RTU support with configurable MODBUS pages.
- Advanced SMS messaging (additional external modem required)

- Start & stop capability via SMS messaging
- 3 configurable maintenance alarms
- Compatible with a wide range of CAN engines, including tier 4 engine support
- Uses DSE Configuration Suite PC Software for simplified configuration
- Licence-free PC software
- IP65 rating (with supplied gasket) offers increased resistance to water ingress
- Modules can be integrated into building management systems (BMS) using MODBUS RTU

KEY BENEFITS

- Automatically transfers between mains (utility) and generator (DSE7320 MKII only) for convenience.
- Hours counter provides accurate information for monitoring and maintenance periods
- User-friendly set-up and button layout for ease of use
- Multiple parameters are monitored & displayed simultaneously for full visibility
- The module can be configured to suit a wide range of applications for user flexibility
- PLC editor allows user configurable functions to meet user specific application requirements.

SPECIFICATIONS

DC SUPPLY

CONTINUOUS VOLTAGE RATING
8 V to 85 V Continuous
5 V for upto 1 minute

CRANKING DROPOUTS

Able to survive 0 V for 100 mS, providing supply was at least 10 V before dropout and supply recovers to 5 V. This is achieved without the need for internal batteries. LEDs and backlight will not be maintained during cranking.

MAXIMUM OPERATING CURRENT
510 mA at 12 V, 240 mA at 24 V

MAXIMUM STANDBY CURRENT
880 mA at 12 V, 180 mA at 24 V

CHARGE FAIL/EXCITATION RANGE
0 V to 85 V

GENERATOR & MAINS (UTILITY)

VOLTAGE RANGE

15 V to 415 V AC (Ph to N)
28 V to 719 V AC (Ph to Ph)

FREQUENCY RANGE

3.5 Hz to 75 Hz

MAGNETIC PICKUP

VOLTAGE RANGE
+/- 0.5 V to 70 V

FREQUENCY RANGE

10,000 Hz (max)

INPUTS

DIGITAL INPUTS A TO H
Negative switching

ANALOGUE INPUTS A & F

Configurable as:
Negative switching digital input
0 V to 10 V sensor
4 mA to 20 mA sensor
Resistive sensor

ANALOGUE INPUTS B, C, D & E

Configurable as:
Negative switching digital input
Resistive sensor

OUTPUTS

OUTPUT A & B (FUEL & START)
15 A DC at supply voltage

OUTPUTS C & D

8 A AC at 250 V AC (Volt-free)

AUXILIARY OUTPUTS E, F, G, H, I & J

2 A DC at supply voltage

DIMENSIONS

OVERALL

245 mm x 184 mm x 51 mm
9.6" x 7.2" x 2.0"

PANEL CUT-OUT

220 mm x 180 mm
8.7" x 6.9"

MAXIMUM PANEL THICKNESS

8 mm
0.3"

STORAGE TEMPERATURE RANGE

-40°C to +85°C
-40 °F to +185 °F

OPERATING TEMPERATURE RANGE

-30°C to +70°C
-22 °F to +158 °F

HEATED DISPLAY VARIANT

-40 °C to +70 °C

Monitoring 3G/4G: DEEPSEA 890MKII (OPTIONAL)



DSE890 MKII DSEWebNet® / IoT 4G Gateway (GSM/Ethernet) Remote Communications Interface

The DSE890 MKII 4G gateway is used in conjunction with supported DSE controllers to provide remote monitoring and communications data via DSEWebNet® or third party MQTT brokers.

The DSE890 MKII gateway communicates with up to five connected DSE controllers, monitoring instrumentation and operating states. When this data changes, data is logged internally and transmitted from the gateway device to the DSEWebNet® or MQTT broker (Amazon Web Services, Google, IBM etc.).

DSEWebNet® software is accessed using an Internet browser or the dedicated app. Users are able to perform multiple tasks including: monitoring equipment, clearing alarm conditions, starting/stopping equipment and monitoring fuel levels.

The IoT feature of the DSE890 MKII supports MQTT V 3.1.1 (ISO/IEC 20922:2016). This enables connection to a third party server that is running an MQTT broker, whilst simultaneously supporting connection to the DSEWebNet® server.

For additional information on DSEWebNet® software refer to data sheet 055-192.

Note: The DSE890 MKII also supports 2G & 3G connections.



SPECIFICATIONS	
DC SUPPLY	
CONTINUOUS VOLTAGE RATING	8 V to 36 V continuous
CRANKING DROPOUTS	Able to survive 0 V for 100 ms, providing supply was at least 8 V before dropout and supply recovers to 8 V. This is achieved without the need for internal batteries
MAXIMUM OPERATING CURRENT	
GSM	755 mA at 12 V
GSM & GPS	376 mA at 24 V
GSM & GPS	755 mA at 12 V
GSM & GPS	376 mA at 24 V
MAXIMUM STANDBY CURRENT	
GSM	207 mA at 12 V
GSM & GPS	113 mA at 24 V
GSM & GPS	207 mA at 12 V
GSM & GPS	113 mA at 24 V
COMMUNICATIONS	
USB	(Single DSE Controller)
CAN*	(Multiple DSE Controller)
RS485	(Multiple DSE Controllers)
Ethernet	(Multiple DSE Controllers)
DIMENSIONS	
	85 mm x 149 mm x 51 mm
MOUNTING	
	DIN Rail
	Chassis Mount
* Only active for third-party MQTT brokers.	

Monitoring 3G/4G: DEEPSEA 890MKII (OPTIONAL)



MONITORING

Découvrez Dynamis Webnet

Une solution de gestion et de contrôle des générateurs à distance.

DYNAMIS WEBNET vous permet de recevoir des rapports détaillés incluant des recommandations de maintenance corrective et préventive.

Il vous permet également de vous connecter et d'accéder en temps réel aux données sur une page de paramètres de fonctionnement des générateurs.

La solution vous offre un contrôle en temps réel de votre groupe électrogène. Des notifications vous seront envoyées par e-mail ou par SMS si vos générateurs manquent de carburant, s'ils nécessitent de la maintenance ou s'il y a une urgence...

- Passerelle DSE890 MKII 4G utilisée avec les contrôleurs DSE pour la surveillance à distance et la communication via DSEWebNet® ou des brokers MQTT tiers.
- Communique avec jusqu'à cinq contrôleurs DSE connectés pour surveiller les instruments et les états de fonctionnement.
- Enregistre les changements de données en interne et les transmet à DSEWebNet® ou à un broker MQTT (Amazon Web Services, Google, IBM, etc.).
- Le logiciel DSEWebNet® est accessible via un navigateur Internet ou une application dédiée.
- Permet plusieurs opérations : surveillance des équipements, effacement des alarmes, démarrage/arrêt des équipements, et surveillance des niveaux de carburant.
- La fonctionnalité IoT du DSE890 MKII prend en charge MQTT V 3.1.1 (ISO/IEC 20922:2016).
- Connexion possible à un serveur tiers exécutant un broker MQTT, tout en maintenant la connexion au serveur DSEWebNet®.
- Pour plus d'informations sur le logiciel DSEWebNet®, consulter la fiche technique 055-192.
- Le DSE890 MKII prend également en charge les connexions 2G et 3G.

