## Model: MBL65(S)-1

Powered by Baudouin





General I	Rated Power							
Frequency	Voltage		Prime Power		Standby Power			
Hz		V	kVA	kW	kVA	kW		
		415V/240V	65	52	70	56		
50Hz	Rated	400V/230V	65	52	70	56		
Rated		380V/220V	65	52	70	56		
		220V/110V	TBA	TBA	TBA	TBA		
		480V/277V	N/A	N/A	N/A	N/A		
		440V/254V	N/A	N/A	N/A	N/A		
60Hz		400V/230V	N/A	N/A	N/A	N/A		
		380V/220V	N/A	N/A	N/A	N/A		
		220V/127V	N/A	N/A	N/A	N/A		
		220V/110V	N/A	N/A	N/A	N/A		
Powe	r Factor		0.8 Lagging					
En	Engine			4M10G70-5				
Rated Speed			1500 RPM (Unchangeable)					
Fuel Type			Grade No. 2D per ASTM D975					
Lube-oil Type			API Service CF Class SAE 15W-40					
Alte	rnator		LYG 224D					
Naiss Lavel			50			NI I—		

Alternator		LYG	224D	
Noise	Level	50Hz	60Hz	
Average Value	OE Series dB(A)	105.1	N/A	
@1m,75%load	SR Series dB(A)	TBA	N/A	
Fuel Con	sumption	50Hz 60Hz		
	L/h@110%	16.67	N/A	
	L/h@100%	15	N/A	
Load Ration	L/h@75%	11.1	N/A	
	L/h@50%	7.7	N/A	

Dimension and Weight	OE Series Open-type	SR Series Silent-type
Length (L) mm	2200	2450
Width (W) mm	805	1043
Height (H) mm	1450	1278
Net. Weight (kg)	980	1330

Note: Specifications and illustrations are subject to revision without notice.

### **Applicable Standards**

- ISO 8528-5:2018
- GB/T2820.5-2009
- CE
- ISO 3046
- ISO 12944 (\*SC only)

#### **Environmental Conditions**

- Ambient temperature: +5°C~+40°C (Rated Power)
- Maximal ambient temperature: 50°C
- Altitude: ≤1000m
- Anti-dust, anti-corrosion and ultra-silent

\*Remark: If your conditions are different from the above, please contact our sales.

#### **Factory Inspection**

- Complete design and quality inspection
- 0%, 25%, 50%, 75%, 100%, 110% load test
- IP test
- Noise test
- Function test
- Protection test









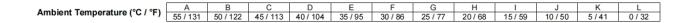
## **Engine Specifications**

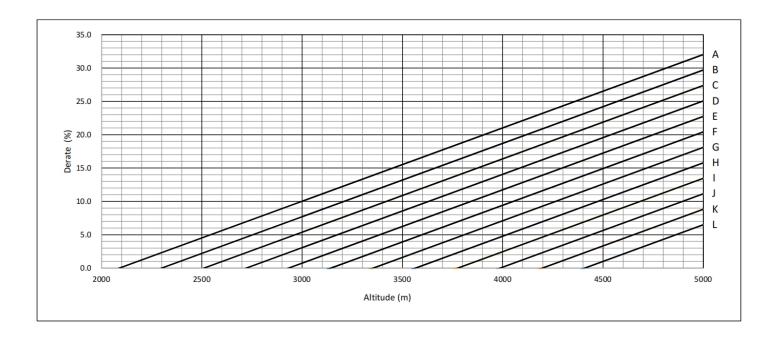


Aumber of cylinders  A Vertical inline  Sycle  Spiration  Turbocharged  Spiration  Siplacement  Compression ratio  Speed  Spiration  17.5: 1  Spiration  Speed  So kWm/1500 rpm  N/A kWm/1800 rpm  Speed governor  Speed governor  Electronic  Liquid (water + 50% antifreeze)  State Stability Band at any Constant Load  State Stability Band at any Constant Load  State Stability Band at any Constant Load  Speed governor  Speed governor  Speed governor  Speed governor  Liquid (water + 50% antifreeze)  Speed governor  Speed governor  Speed governor  Liquid (water + 50% antifreeze)  Speed governor  Speed gover	Engine model	4M10G70-5				
Vertical inline  Poycle Four stroke Turbocharged  Four x Stroke  105 x 118 mm  4.087 L  Formpression ratio Foress prime power /speed Foress standby power /speed Forest st	Emission	N/A				
Four stroke   Four stroke   Four stroke   Spiration   Turbocharged   Four stroke   F	Number of cylinders	4				
Turbocharged  fore x Stroke  105 x 118 mm  4.087 L  Compression ratio  17.5; 1  Gross prime power /speed  60 kWm/1500 rpm  N/A kWm/1800 rpm  Foress standby power /speed  66 kWm/1500 rpm  N/A kWm/1800 rpm  Forest standby power /speed  66 kWm/1500 rpm  N/A kWm/1800 rpm  Forest standby power /speed  66 kWm/1500 rpm  N/A kWm/1800 rpm  Forest standby power /speed  Foreign system  Liquid (water + 50% antifreeze)  Foreign system  Liquid (water + 50% antifreeze)  Foreign system  Liquid (water + 50% antifreeze)  Foreign system  Foreign system  Liquid (water + 50% antifreeze)  Foreign system  Foreign system  Liquid (water + 50% antifreeze)  Foreign system  Foreign system  Liquid (water + 50% antifreeze)  Foreign system  Foreign system  Liquid (water + 50% antifreeze)  Foreign system  Foreign system  Liquid (water + 50% antifreeze)  Foreign system  Foreign system  Liquid (water + 50% antifreeze)  Foreign system  Foreign system  Liquid (water + 50% antifreeze)  Foreign system  Foreign sy	Cylinder arrangement	Vertical inline				
105 x 118 mm   105	Cycle	Four stroke				
Augression ratio  17.5: 1  20 compression ratio  17.5: 1  21 coolant capacity (engine only)  22 charge alternator  23 charge alternator  24 chardy duty air filter / □Single-core air filter  25 chard substantial silencer / □Critical silencer  26 chards duty air filter / □Single-core air filter  27 chards duty engine only  28 chards duty engine only  29 chards duty air filter / □Single-core air filter  20 chards duty engine only  20 chards duty air filter / □Single-core air filter  21 chards duty engine only  22 chards duty air filter / □Single-core air filter  23 chards duty air filter / □Single-core air filter  24 chards duty air filter / □Single-core air filter  25 chards duty air filter / □Single-core air filter  26 chards duty air filter / □Single-core air filter  27 chards duty air filter / □Single-core air filter  27 chards duty air filter / □Single-core air filter  27 chards duty air filter / □Single-core air filter  27 chards duty air filter / □Single-core air filter  27 chards duty air filter / □Single-core air filter  28 chards duty air filter / □Single-core air filter  29 chards duty air filter / □Single-core air filter  20 chards duty air filter / □Single-core air filter  20 chards duty air filter / □Single-core air filter  21 chards duty air filter / □Single-core air filter  21 chards duty air filter / □Single-core air filter  22 chards duty air filter / □Single-core air filter  23 chards duty air filter / □Single-core air filter  24 chards duty air filter / □Single-core air filter  25 chards duty air filter / □Single-core air filter  26 chards duty air filter / □Single-core air filter  27 chards duty air filter / □Single-core air filter  27 chards duty air filter / □Single-core air filter  28 chards duty air filter / □Single-core air filter  29 chards duty air filter / □Single-core air filter  20 chards duty air filter / □Single-core air filter  20 chards duty air filter / □Single-core air filter  21 chards duty air filter / □Single-core air filter  22 chards duty air filter / □Single-core air filt	Aspiration	Turbocharged				
17.5: 1   17.5	Bore x Stroke	105 x 118 mm				
Size Sprime power /speed 60 kWm/1500 rpm N/A kWm/1800 rpm Size Standby power /speed 66 kWm/1500 rpm N/A kWm/1800 rpm Size Standby power /speed 66 kWm/1500 rpm N/A kWm/1800 rpm Size Standby power /speed Size Standby power /spee	Displacement	4.087 L				
Size standby power /speed  Size of governor  Electronic  Cooling system  Liquid (water + 50% antifreeze)  Liquid (vater + 50% antifreeze)  Liquid (vater + 50% antifreeze)  Liquid (vater + 50% antifr	Compression ratio	17.5: 1				
Electronic  Cooling system  Liquid (water + 50% antifreeze)  teady State Stability Band at any Constant Load  \$\leq \pmo.5\%  Cotal lubrication system capacity  13 L  Coolant capacity (engine only)  Starter motor  DC 12V  Charge alternator  DC 12V 80Amps  Clindustrial silencer /    Residential silencer /    Critical silencer  Alter wy duty air filter /    Single-core air filter  Anti-vibration mount  Anti-vibration mount    Flexible fuel connection hoses   Water-fuel separator /    Multi-water-fuel separators   Jacket water heater /    Fuel jacket water heater   Coolant level sensor   Lube-oil pressure sensor   Lube-oil auto refilling meter   Lube-oil auto refilling tank   Company of the start of the sensor     Lube-oil manual pump	Gross prime power /speed	60 kWm/1500 rpm N/A kWm/1800 rpm				
Liquid (water + 50% antifreeze)	Gross standby power /speed	66 kWm/1500 rpm N/A kWm/1800 rpm				
teady State Stability Band at any Constant Load  \$\leq \psi 0.5\%\$  fotal lubrication system capacity  13 L  20 Coolant capacity (engine only)  20 Charge alternator  21 Charge alternator  22 DC 12V  23 DC 12V 80Amps  24 DC 12V 80Amps  25 DC 12V 80Amps  26 DC 12V 80Amps  27 Industrial silencer /   Residential silencer /   Critical silencer    26 DC 12V 80Amps  27 DC 12V 80Amps  27 DC 12V 80Amps  27 DC 12V 80Amps  28 DC 12V 80Amps  29 DC 12V 80Amps  20 DC 12V	Speed governor	Electronic				
Social lubrication system capacity   13 L	Cooling system	Liquid (water + 50% antifreeze)				
Scolant capacity (engine only)   9.4 L	Steady State Stability Band at any Constant Load	≤±0.5%				
DC 12V Charge alternator  DC 12V 80Amps  Industrial silencer / □Residential silencer / □Critical silencer  □Heavy duty air filter / □Single-core air filter	Total lubrication system capacity	13 L				
Charge alternator  DC 12V 80Amps  Industrial silencer / □Residential silencer / □Critical silencer  □Heavy duty air filter / □Single-core air filter  □Heavy duty air filter / □-45°C start up battery  □Heavy duty air filter / □-45°C start up battery  □Heavy duty air filter / □-45°C start up battery  □Heavy duty air filter / □-45°C start up battery  □Heavy duty air filter / □-45°C start up battery  □Heavy duty air filter / □-45°C start up battery  □Heavy duty air filter / □-45°C start up battery  □Heavy duty air filter / □-45°C start up battery  □Heavy duty air filter / □-45°C start up battery  □Heavy duty air filter / □-45°C start up battery  □Heavy duty air filter / □-45°C start up battery  □Heavy duty air filter / □-45°C start up battery  □Heavy duty air filter / □-45°C start up battery  □Heavy duty air filter / □-45°C start up battery  □Heavy duty air filter / □-45°C start up battery  □Heavy duty air filter / □-45°C start up batt	Coolant capacity (engine only)	9.4 L				
Industrial silencer / □Residential silencer / □Critical silencer       □Spark arrestor         Industrial silencer / □Residential silencer / □Critical silencer       □Spark arrestor         Industrial silencer / □Residential silencer / □Critical silencer       □Spark arrestor         Industrial silencer / □Single-core air filter       □Spark arrestor         Industrial silencer / □As of the pattern of	Starter motor	DC 12V				
Heavy duty air filter / □Single-core air filter  ☑Anti-vibration mount ☑Flexible fuel connection hoses ☐Water-fuel separator / □ Multi-water-fuel separators ☐Coolant level sensor ☑Lube-oil pressure sensor ☐Lube-oil auto refilling meter ☐Smoke temperature sensor ☐Lube-oil manual pump	Charge alternator	DC 12V 80Amps				
Anti-vibration mount  □ Flexible fuel connection hoses □ Water-fuel separator / □ Multi-water-fuel separators □ Coolant level sensor □ Coolant temperature sensor □ Lube-oil pressure sensor □ Lube-oil auto refilling meter □ Smoke temperature sensor □ Lube-oil manual pump	☑Industrial silencer / □Residential silencer / □Critical silencer	□Spark arrestor				
□ Smoke temperature sensor  □ Multi-water-fuel separators □ Jacket water heater / □ Fuel jacket water heater □ Coolant level sensor □ Lube-oil temperature sensor □ Lube-oil auto refilling meter □ Lube-oil auto refilling tank □ Lube-oil manual pump	☑Heavy duty air filter / □Single-core air filter	☑-18°C start up battery / □-45°C start up battery				
Coolant level sensor  ☐Lube-oil pressure sensor ☐Lube-oil auto refilling meter ☐Smoke temperature sensor ☐Lube-oil manual pump	☑Anti-vibration mount	☑Flexible fuel connection hoses				
ALube-oil pressure sensor       □Lube-oil temperature sensor         □Lube-oil auto refilling meter       □Lube-oil auto refilling tank         □Smoke temperature sensor       □Lube-oil manual pump	$\square$ Water-fuel separator / $\square$ Multi-water-fuel separators	$\Box$ Jacket water heater / $\Box$ Fuel jacket water heater				
□Lube-oil auto refilling meter □Lube-oil auto refilling tank □Smoke temperature sensor □Lube-oil manual pump	□Coolant level sensor	☑Coolant temperature sensor				
Smoke temperature sensor □Lube-oil manual pump	☑Lube-oil pressure sensor	□Lube-oil temperature sensor				
	□Lube-oil auto refilling meter	□Lube-oil auto refilling tank				
ADenlescable first filter oil filter	□Smoke temperature sensor	□Lube-oil manual pump				
Replaceable ruel filter, oil filter	☑Replaceable fuel filter, oil filter	□Breath box				

## **Engine Derating Curves**

### 50Hz/1500RPM

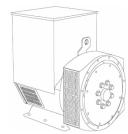




60Hz/1800RPM

N/A

## **Alternator Specifications**



Alternator model	LYG224D-V02
Number of phase	3
Power factor (Cos Phi)	0.8
Poles	4
Winding leads	12
Insulation level	H class
Temperature rise	H class
Excitation	Brushless
AVR model	SX460
Winding Pitch	5/6
IP rating	IP22
Bearing	Single bearing
Voltage regulator	±1.0%

□Space heater □Air filter (5% derating)

□Anti-harsh environment

Ш	ŀ	<	l	D	L	15	D

	Alternator Ratings Table								
Class	s-Temp Rise		Cont.H-	125/40℃		Standby-163/27℃			
	Series Star(V)	380	400	415	440	380	400	415	440
50Hz	Output(kVA)	60.0	60.0	60.0	45.0	63.0	63.0	63.0	47.3
	Efficiency(%)	88.3	88.8	89.1	90.2	88.0	88.5	88.8	90.1
	Series Star(V)	416	440	460	480	416	440	460	480
60Hz	Output(kVA)	67.5	70.0	72.5	75.0	72.5	75.0	75.0	80.0
	Efficiency(%)	88.8	89.2	89.4	89.6	88.4	88.8	89.3	89.3

### De-Rates

All values tabulated above are subject to the following reductions:

- 3% for every 500 meters by which the operating altitude exceeds 1000 meters above mean sea level
- 3% for every 5°C by which the operational ambient temperature exceeds 40°C
- For any other operating conditions impacting the cooling circuit please refer to applications

Note: Requirement for operating in an ambient exceeding 60°C and altitude exceeding 4000 meters must be referred to applications.

## **Alternator Operating Charts**

400V@50Hz

**TBA** 

480V@60Hz

**TBA** 

## **One-step Load Acceptance**

	50	OHz	60Hz		
ISO 8528-5	50% sudden power increase	100% sudden power decrease	50% sudden power increase	100% sudden power decrease	
Transient frequency difference (%)	TBA	TBA	TBA	TBA	
Frequency recovery time (s)	TBA	TBA	TBA	ТВА	
Transient voltage deviation (%)	TBA	TBA	TBA	ТВА	
Voltage recovery time (s)	TBA	TBA	TBA	ТВА	

<sup>\*</sup>All data comes from actual testing and is for reference only.

### **Control Panel**

### **DSE 4520 MKII**

Auto start and auto mains failure control module (Alternator frequency & can speed sensing)



#### **Key benefits**

- Ultimate size to feature ratio.
- Automatically transfers between mains (utility) and generator.
- 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 simultaneously which are clearly displayed on the largest back-lit icon display in its class.
- The module can be configured to suit a wide range of applications.
- Compatible with a wide range of CAN engines including Tier 4.
- IP65 rating (with optional gasket) offers increased resistance to water ingress.

#### **Key features**

- Auto Start and AMF mode in one module.
- J1939-75 support and CAN alarm ignore function.
- Alternator frequency & CAN speed sensing in one variant.
- Largest back-lit icon display in its class.
- Heated display option.
- Real time clock provides accurate event logging.
- Fully configurable via the fascia or PC using USB communication.
- Extremely efficient power save mode.
- 3 phase generator sensing.
- 3 phase mains (utility) sensing
- Compatible with 600 V ph to ph nominal systems.
- Generator/load power monitoring (kW, kVA, kVar, PF).
- Accumulated power monitoring (kWh, kVAh, kVarh).
- Generator overload protection.
- Generator/load current monitoring and protection.
- Fuel and start outputs (configurable when using CAN).
- 4 configurable DC outputs.
- 3 configurable analogue/digital inputs

#### **Expansion devices**

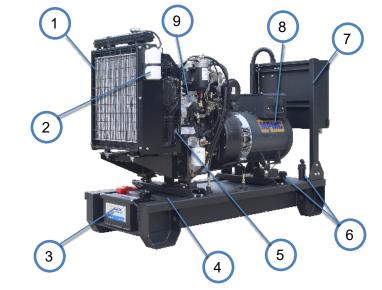
□N/A

- 4 configurable digital inputs.
- Configurable staged loading outputs.
- 3 engine maintenance alarms.
- Engine speed protection.
- Engine hours counter.
- Engine pre-heat.
- Engine run-time scheduler.
- Engine idle control for starting & stopping.
- Tier 4 engine instrumentation screens.
- Battery voltage monitoring.
- Start on low battery voltage.
- Configurable remote start input.
- 1 alternative configuration.
- Comprehensive warning, electrical trip or shutdown protection upon fault condition.
- LCD alarm indication.
- Event log (50)

## **General Arrangement**

## **Main Components**

- 1 Radiator
- 2 Expansion coolant tank
- 3 Start up battery
- 4 Base frame with AVM
- Protective mesh plate for rotating mechanism



- 6 Lockable refueling cap Mechanical fuel level gauge
- 7 Control panel Breaker panel
- 8 Alternator
- 9 Engine

- 10 SR Canopy
- 11) Hinge
- 12 Drain port
- 13 Door lock



- (14) Outside refueling port
- 15 Anti-collision feet
- 16 Air inlet louver
- (17) Lifting lug

- Control panel & breaker panel
- 19 Cable tie-point
- 20 Forklift hole



- 21) Smoke cap
- 22 Radiator access plate

### **Generator Options**

#### Basement:

☐6 hours fuel tank

□12 hours fuel tank

□24 hours fuel tank

☐Bonded fuel tank

□Fuel leakage sensor

☑Lifting points

**Electrical system:** 

☑CHINT Breaker /□ ABB Breaker /□Schneider Breaker

/□Others:

☑Manual breaker /□Motorized breaker

**☑3P Breaker** /□4P Breaker

□RCD

**Silent Generator Only:** 

☑Galvanized canopy

☐Stainless steel canopy & hardware

**☑IP 21** /□IP 22 /□IP23

□Drag holes

□Quick connector of external fuel pipe & tank

☐Three-way valve

□Electronic fuel level sensor

☑C-3 painting /□C-4 painting /□C-5 painting

□Others:

 $\square$ MEN

□Socket:

□Plug:

☑Zinc alloy door lock

☑Zinc alloy hinge

□Access door for radiator

□ Aluminum canopy



## MPMC POWERTECH CORP.

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