

MECHRON POWER SYSTEMS

Rugged. Proven. Trusted.

Product Sheet



Mechron Power Systems
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A Division of
Toromont Industries Ltd.

2kW Portable Military Diesel Generator

Mechron's line of 2kW portable military diesel generator sets are designed for use in extreme harsh environments. It has been subjected to severe testing to military standards including MIL-STD-705, 810 and 461. Adopted as the standard military generator set by militaries including the US and Canada, over 8,000 Mechron-designed 2kW generator sets are



in use by seven militaries the world over. The 2kW generator set has demonstrated its ruggedness through 4,000 hour endurance testing.

Features:

- Available in 120 VAC, 120/240 VAC, 240 VAC and 28 VDC outputs
- AC models available in 50 or 60 Hz versions
- Multi-fuel operation: NATO standard diesel fuels F-34, F-35, JP-8
- Lightweight: <65 kg / 143 lbs (two-man portable)
- Compact: 75cm x 41cm x 55cm (29.5" x 16" x 21.8")
- Wide operating temperature range (-46°C to +50°C / -51°F to +122°F)
- Noise-attenuated: 77dBA @ 7 m / 23 ft
- Manual and 24 VDC electric start
- Full instrumentation
- Designed for ease of maintenance
- Available training, parts, maintenance and repair and overhaul
- NATO STANAG 4134 and 4135 compliant

SPECIFICATIONS

Specification	2kW AC	2kW DC
Output Voltage	120, 120/240 or 240 VAC	28 VDC
Frequency	50 Hz or 60 Hz	-
Power Output	2kW @1000m (60Hz) / 1.8kW @1000m (50Hz)	2kW @ 1000m
Combustion System	Direct Injection	Direct Injection
Starting System	Electric / Manual Pull Cord	Electric / Manual Pull Cord
Fuel Oil Tank Capacity	6.2 L (1.6 gal US)	6.2 L (1.6 gal US)
Lube Oil Capacity	800 ml (27 oz US)	800 ml (27 oz US)
Dimensions (LxWxH)	75 cm x 41 cm x 55 cm / 29.5" x 16" x 21.8"	75 cm x 41 cm x 55 cm / 29.5" x 16" x 21.8"
Weight	64 kg dry / 68.5 kg wet	56 kg dry / 61.5 kg wet
Sound Level	<77 dbA @ 7 m / 23 ft	<77 dbA @ 7 m / 23 ft
Operating Ambient	-46°C to +50°C / -51°F to +122°F	-46°C to +50°C / -51°F to +122°F
Fuel Consumption	1.25 L/hr @ 100% load	1.25 L/hr @ 100% load



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MILITARY SPECIFICATION TEST PERFORMANCE

Test (MIL-STD-705)	Method	AC	DC																																			
Insulation resistance test	301.1	>2000 MΩ	>2000 MΩ																																			
High potential test	302.1	1500 VDC, 1 minute	1500 VDC, 1 minute																																			
Winding resistance test	401.1	<5% variation	<5% variation																																			
Start and stop test	503.1	12 sec. / 5.5 sec.	14 sec. / 4 sec.																																			
Circuit interrupter test (short circuit)	512.1	1.33 sec.	0.34 sec.																																			
Circuit interrupter test (overload current)	512.2	10 – 110 sec	2.5 – 30 sec.																																			
Low oil pressure protective device test	515.1	15 psi	15 psi																																			
Voltage waveform test	601.4	8.2%	-																																			
Voltage modulation test	602.1	1.77%@75%, 1.2%@100%	-																																			
Frequency and voltage regulation, stability and transient response (short term)	608.1	<table border="0"> <tr> <td></td> <td>V</td> <td>F</td> <td></td> <td>Voltage</td> </tr> <tr> <td>Short-term</td> <td>0.1%</td> <td>0.7%</td> <td>Short-term</td> <td>1.8%</td> </tr> <tr> <td>Recovery (Rise)</td> <td>2.0s</td> <td>3.2s</td> <td>Recovery (Rise)</td> <td>0.2s</td> </tr> <tr> <td>Recovery (Dip)</td> <td>2.0s</td> <td>3.9s</td> <td>Recovery (Dip)</td> <td>0.2s</td> </tr> <tr> <td>Overshoot</td> <td>10%</td> <td>1.2%</td> <td>Overshoot</td> <td>25%</td> </tr> <tr> <td>Undershoot</td> <td>14%</td> <td>4.8%</td> <td>Undershoot</td> <td>12%</td> </tr> <tr> <td>Regulation</td> <td>0.8%</td> <td>3.7%</td> <td>Regulation</td> <td>3.6%</td> </tr> </table>		V	F		Voltage	Short-term	0.1%	0.7%	Short-term	1.8%	Recovery (Rise)	2.0s	3.2s	Recovery (Rise)	0.2s	Recovery (Dip)	2.0s	3.9s	Recovery (Dip)	0.2s	Overshoot	10%	1.2%	Overshoot	25%	Undershoot	14%	4.8%	Undershoot	12%	Regulation	0.8%	3.7%	Regulation	3.6%	
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Frequency & voltage stability test (long term)	608.2	Voltage: 0.8% Frequency: 0.5%	Voltage: 0.07%																																			
Maximum power test	640.1	2.0kW cont. / 2.2kW 10min/hr	2.0kW cont. / 2.2kW 10min/hr																																			
Ripple voltage test	650.1	-	2.9%																																			
Inclined operation test	660.1	15°	15°																																			
Sound level test	661.2	<77 dbA @ 7 m (23 ft)	<77 dbA @ 7 m (23 ft)																																			
Endurance test	690.1	4,000 hours	4,000 hours																																			
Reliability test	695.1	>700 hours MTBF	>700 hours MTBF																																			
Starting (extreme cold battery start) operation (extreme cold operation)	701.1	-40°C / -40°F within 5 minutes -46°C / -51°F operating	40°C / -40°F within 5 minutes -46°C / -51°F operating																																			
Starting (moderate cold battery start)	701.2	-25°C / -13°F within 5 minutes	-25°C / -13°F within 5 minutes																																			
Starting (moderate cold manual crank)	701.4	-5°C / +23°F within 5 minutes	-5°C / +23°F within 5 minutes																																			
High temperature test	710.1	+50°C / +122°F	+50°C / +122°F																																			
Humidity test	711.1	3 x 24 hr cycles 68°C@95% RH	3 x 24 hr cycles 68°C@95% RH																																			
Rain test	711.3	100 mm / 4" per hour	100 mm / 4" per hour																																			
Sand and dust test	711.4	3.5 – 17.7 g/m ³ non-operational	3.5 – 17.7 g/m ³ non-operational																																			
Storage test (extreme hot)	732.1	+71°C / +160°F	+71°C / +160°F																																			
Vibration test	740.1	30 minutes resonant	30 minutes resonant																																			
Drop test (free fall)	740.2	4 corner drops, 18", 30"	4 corner drops, 18", 30"																																			
Drop test (ends)	740.3	12"	12"																																			
Salt fog (corrosion)	[MIL-STD-810] 509.3	96 hours @ 5%	96 hours @ 5%																																			
Icing and freezing rain	[MIL-STD-810] 521.1	6 mm + 13 mm / 0.25" + 0.5"	6 mm + 13 mm / 0.25" + 0.5"																																			
Electromagnetic interference	[MIL-STD-461] UM04	RE02, CE04, RS03	RE02, CE04, RS03																																			