

# SMH60S-0040 Servo Motor



FEATURES

- 120 - 220 VAC
- 400 W Power Rating
- Rated Torque of 1.27 Nm
- Maximum Speed of 6200 RPM
- 2500 PPR Incremental Encoder
- IP65 for Body, IP54 Shaft Seal
- 60mm Frame Size
- CE Certified



DESCRIPTION

The SMH60S Series Servo Motor offers a solution to servo applications requiring position and speed control. This servo motor series comes standard with a 2,500 Pulses per Revolution (PPR) Incremental Encoder, runs at a rated speed of 3000 RPM, provides peak values up to 300% of the rated torque and current values, and has a rated torque of 1.27 Nm with a 400 Watt power rating. This servo motor series enables industrial motion control applications to attain a great combination of position and speed functionality.

SPECIFICATIONS

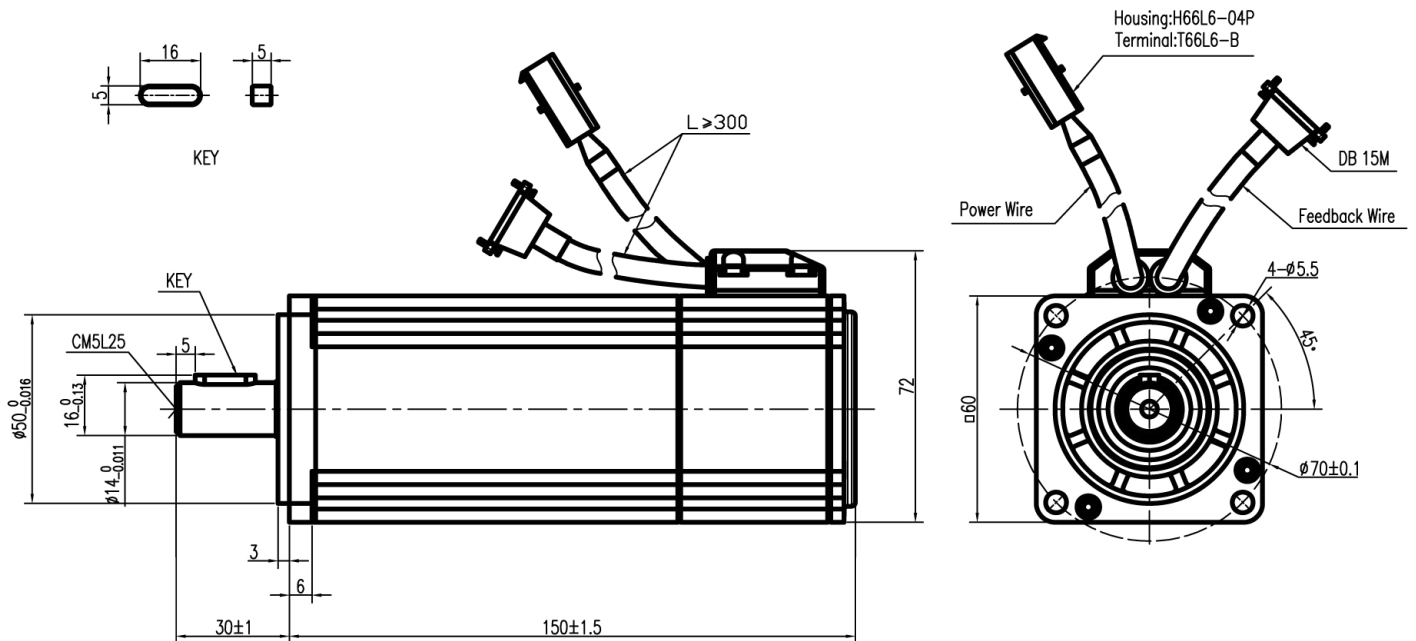
Model	SMH60S-0040-30AAK-3AKH SMH60S-0040-30ABK-3AKH	SMH60S-0040-30AAK-3LKH SMH60S-0040-30AAK-3LKN SMH60S-0040-30ABK-3LKH
Compatible Driver	FD322S-LA-000	FD422-LA-000
DC Link Voltage (VDC)	155	300
Rated Power (W)	400	400
Rated Torque (Nm)	1.27	1.27
Rated Speed (RPM)	3000	3000
Max Speed (RPM)	6200	6200
Rated Current (A)	4	3.1
Maximum Torque (Nm)	3.81	3.81
Maximum Current (A)	12	9.3
Standstill Torque ( )	1.4	1.4
Standstill Current (A)	4.4	3.38
Resistance Line-Line (Ω)	1.7	3.52
Inductance Line-Line (mH)	3.5	7.8
Electrical Time Constant (ms)	2	2.22
Mechanical Time Constant (ms)	12.6	1.35
Torque Constant Kt (Nm/A)	0.331	0.473
Rotor Moment of Inertia Jm (Kg-cm <sup>2</sup> )	0.479 0.483 (with brake)	0.51 0.514 (with brake)
Brake Holding Torque (Nm)	1.3	1.3
Pole Pair Number	3	3
Maximum Voltage Rising du/dt (KV/μs)	8	8
Insulation Class	F	F
Maximum Radial Force F (N)	180	180
Maximum Axial Force F (N)	90	90
Weight (Kg)	1.8 2.3 (with brake)	1.8 2.3 (with brake)

L011611 \*Note: Part Numbers with -30ABK are equipped with a brake

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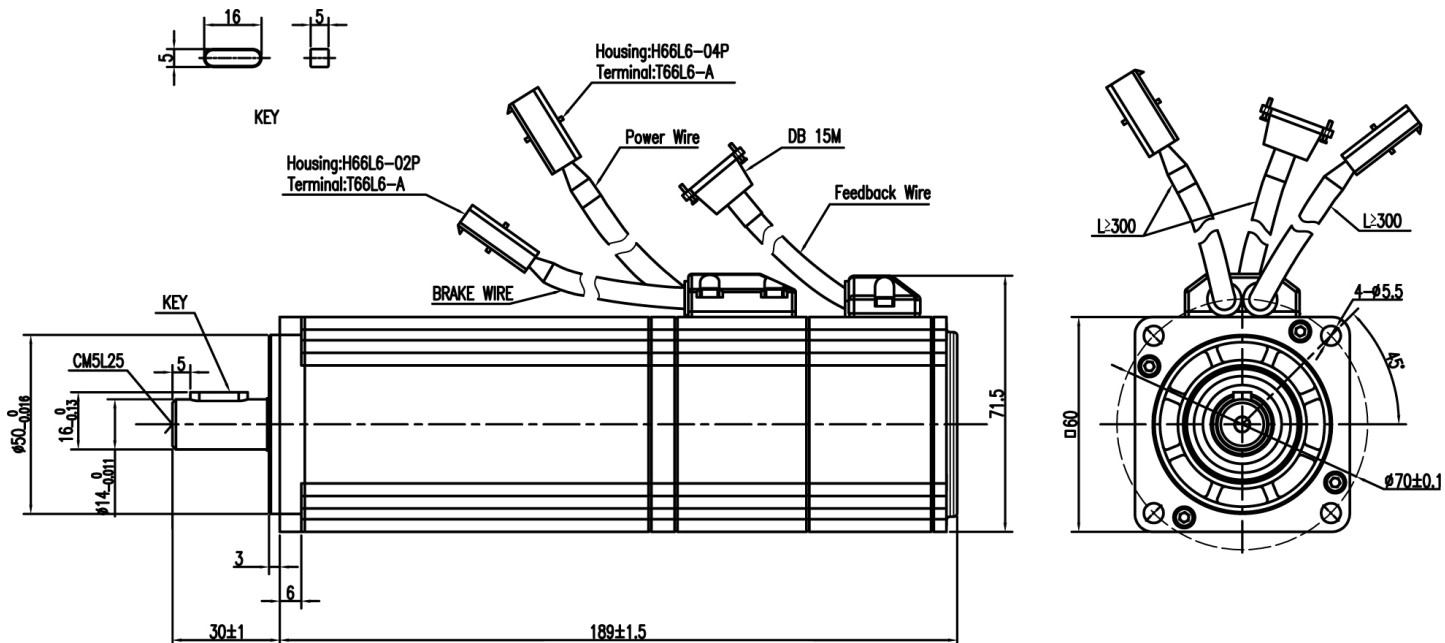


## SMH60S-0040-30AAK-3AKH



## SMH60S-0040-30ABK-3AKH

Dimensions are in mm

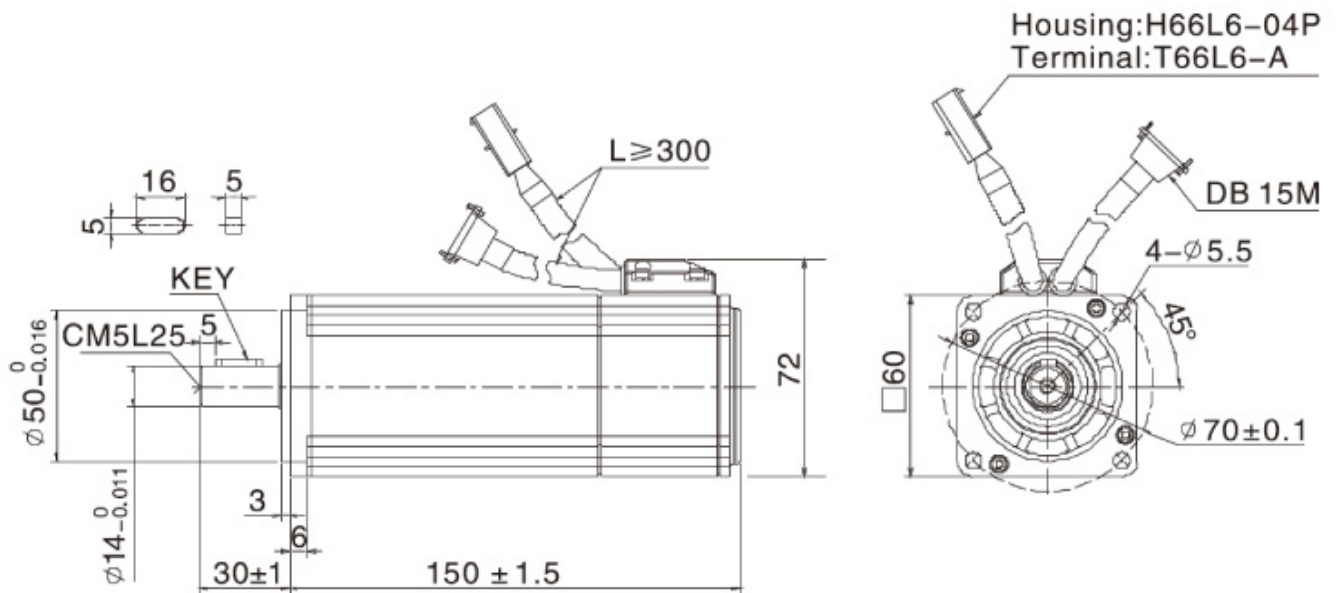


DIMENSIONS

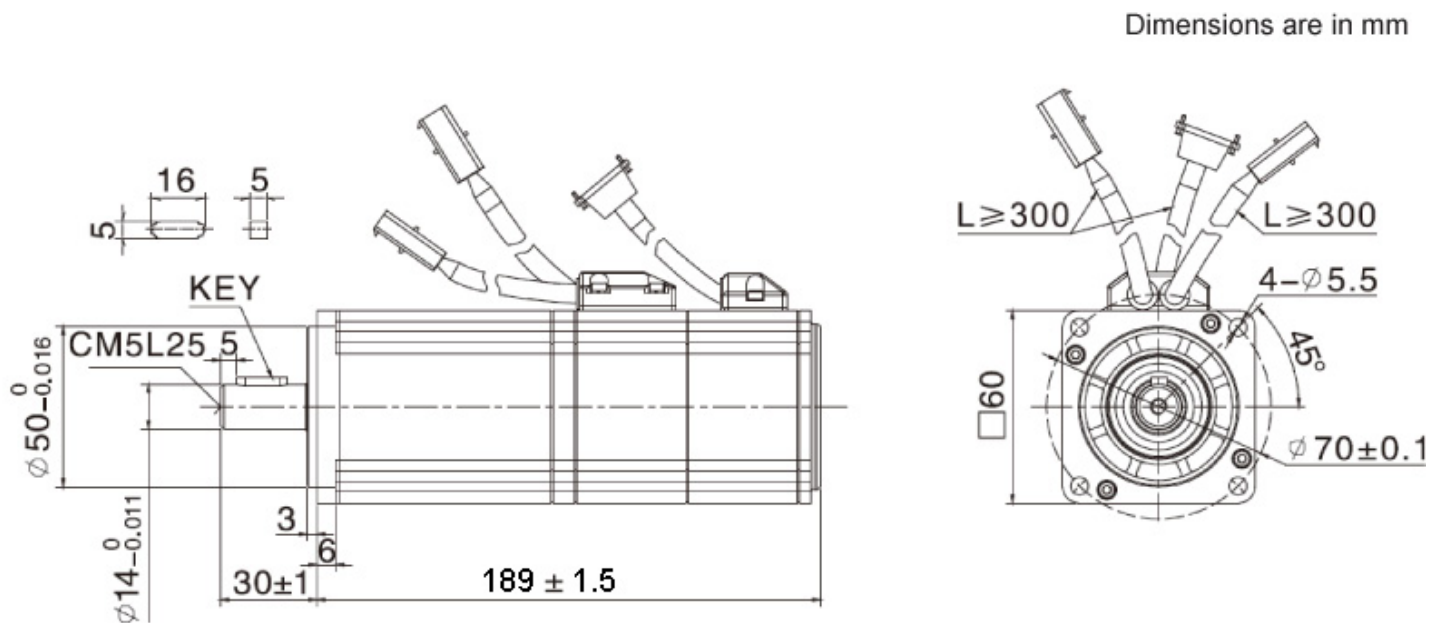
# SMH60S-0040 Servo Motor



SMH60S-0040-30AAK-3LKH



SMH60S-0040-30ABK-3LKH



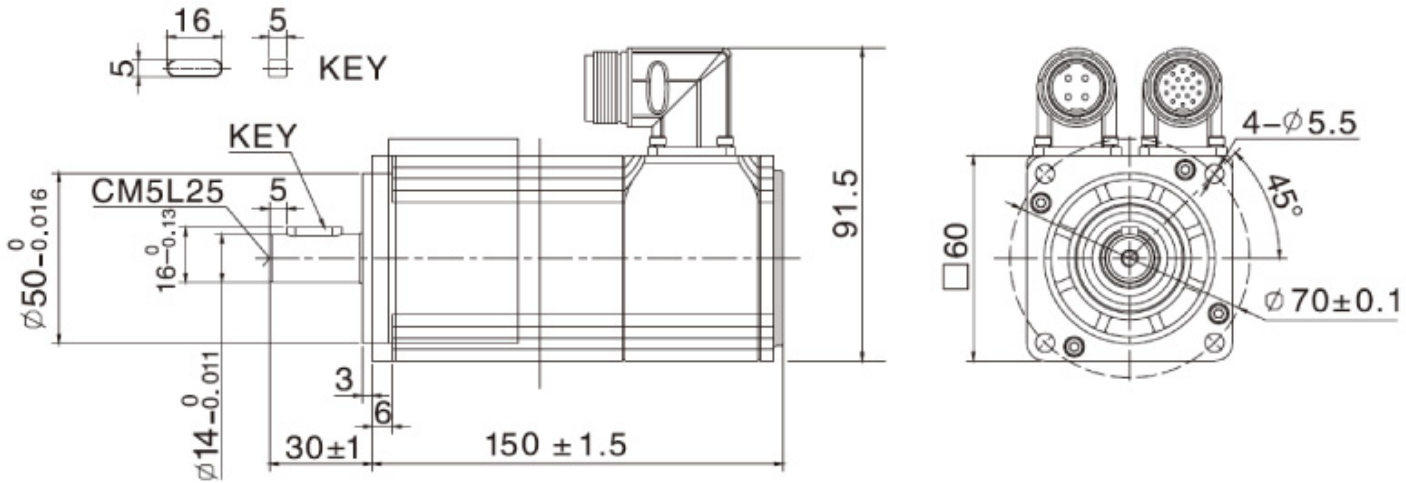
DIMENSIONS

# SMH60S-0040 Servo Motor



DIMENSIONS

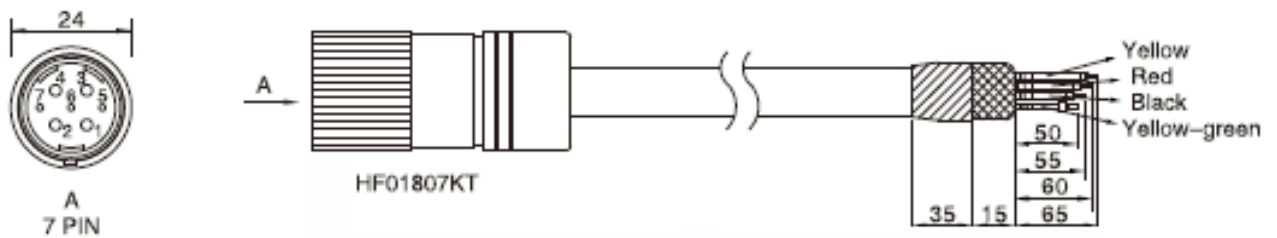
SMH60S-0040-30AAK-3LKN



Dimensions are in mm

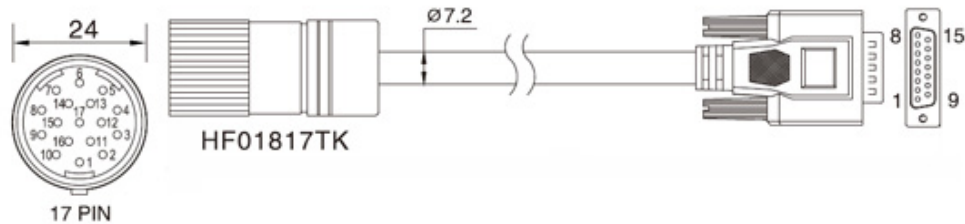
WIRING PINOUTS

Motor Cable: MOT-005-05-KC0 for SMH60S-0040-30AAK-3AKH, SMH60S-0040-30ABK-3AKH, and SMH60S-0040-30AAK-3LKN



MOT-005-05-KC0		
Cable Color	Signal	PIN #
Yellow	U	PIN 2
Red	V	PIN 3
Black	W	PIN 4
Yellow-green	PE	PIN 1
metal-ring	Shield	Shield Cable

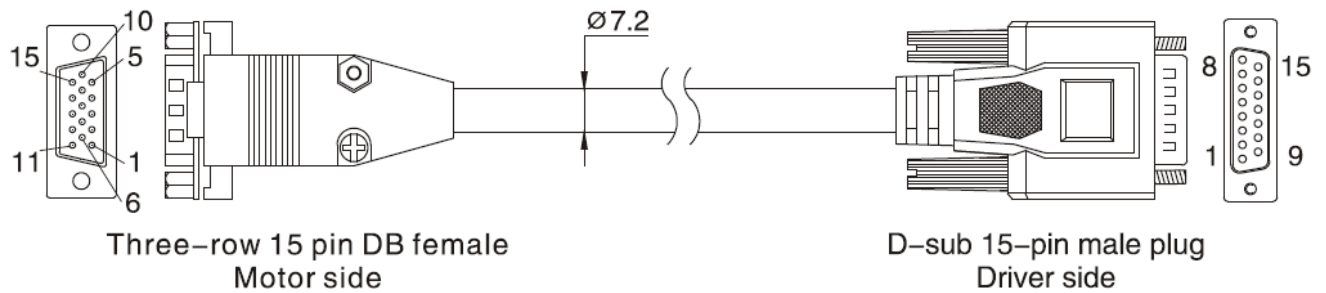
Encoder Cable: ENCCA-05-KC0 for SMH60S-0040-30AAK-3AKH, SMH60S-0040-30ABK-3AKH



WIRING PINOUTS

ENCCA-05-KC0				
17 Pin DB	Two-row 15 pin DB	Signal	External Wire Color	Motor Wire Color
PIN 1	PIN 1	+5V	Red (thick)	Red
PIN 3	PIN 2	A	Orange	Blue
PIN 5	PIN 3	B	Yellow	Green
PIN 14	PIN 4	Z	Green	Yellow
PIN 9	PIN 5	U	Brown	Brown
PIN 11	PIN 6	V	Purple	Gray
PIN 16	PIN 7	W	Blue	White
PIN 2	PIN 9	GND	Black (thick)	Black
PIN 4	PIN 10	/A	Orange-White	Blue-Black
PIN 6	PIN 11	/B	Yellow-White	Green-Black
PIN 15	PIN 12	/Z	Green-White	Yellow-Black
PIN 10	PIN 13	/U	Brown-White	Brown-Black
PIN 12	PIN 14	/V	Purple-White	Gray-Black
PIN 17	PIN 15	/W	Blue-White	White-Black
Internal Metal Ring	DB Metal Shell	Shield	Shield	Shield

Encoder Cable: ENCCA-05-KH for SMH60S-0040-30AAK-3AKH, SMH60S-0040-30AAK-3LKH, and SMH60S-0040-30ABK-3LKH



WIRING PINOUTS

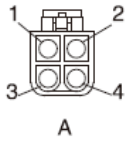
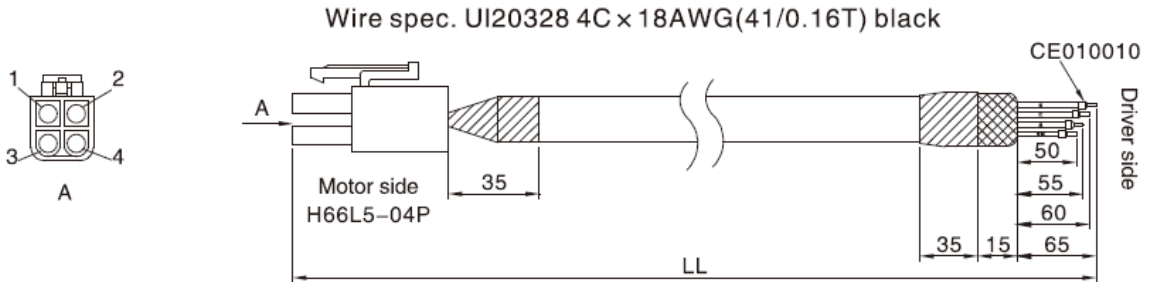
ENCCA-05-KH				
Three-row 15 Pin DB	Two-row 15 pin DB	Signal	External Wire Color	Motor Wire Color
PIN 1	PIN 1	+5V	Red (thick)	Red
PIN 8	PIN 2	A	Orange	Blue-black
PIN 7	PIN 3	B	Yellow	Green
PIN 6	PIN 4	Z	Green	Yellow
PIN 4	PIN 5	U	Brown	Brown-black
PIN 10	PIN 6	V	Purple	White-black
PIN 9	PIN 7	W	Blue	Gray-black
PIN 2	PIN 9	GND	Black (thick)	Black
PIN 13	PIN 10	/A	Orange-White	Blue
PIN 12	PIN 11	/B	Yellow-White	Green-Black
PIN 11	PIN 12	/Z	Green-White	Yellow-Black
PIN 5	PIN 13	/U	Brown-White	Brown
PIN 15	PIN 14	/V	Purple-White	White
PIN 14	PIN 15	/W	Blue-White	Gray
PIN 3 empty	PIN 8 empty	--	--	--
Internal Metal Ring	DB Metal Shell	Shield	Shield	Metal Shell

# SMH60S-0040 Servo Motor



WIRING PINOUTS

Motor Cable: MOT-005-05-KL for SMH60S-0040-30AAK-3LKH, SMH60S-0040-30ABK-3LKH, SMH60S-0040-30AAK-3LKH, and SMH60S-004-20ABK-3LKH



MOT-005-05-KL		
Cable Color	Signal	PIN #
Yellow	U	PIN 1
Red	V	PIN 2
Black	W	PIN 3
Yellow-green	PE	PIN 4

SPECIFICATIONS

Model	Motor Cable	Encoder Cable	Brake Cable
SMH60S-0040-30AAK-3AKH			-
SMH60S-0040-30ABK-3AKH	MOT-005-05-KCL	ENCCA-05-KCH	BRA-05-KL
SMH60S-0040-30AAK-3LKH			-
SMH60S-0040-30ABK-3LKH			BRA-05-KL
SMH60S-0040-30AAK-3LKN	MOT-005-05-KC0	ENCCA-05-KC0	-

Cooling Method	Totally Enclosed, Non-Ventilated
Protection Level	IP65 for Body, Shaft Sealing IP54
Temperature	-20°C~40°C
Humidity	Below 90% RH (Non Condensing)
Ambient Environment	Away from active gas, combustible gas, oil drops and dust
Altitude	Maximum Altitude 4000m, Rated Power at 100m or Below, Above 1000m: Decreasing 1.5% per 100m Rise