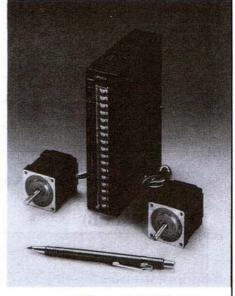
M4COM

UPS 54 Series High Resolution/High Speed Type 5-Phase, 5-Lead Stepping Motor and Driver Units*

Nema 17

- · High resolution.
 - 0.36°/full step (1000 steps/rev)
 - 0.18°/half step (2000 steps/rev)
- · High torque output in a compact package.
- · Extremely smooth operation.
 - Virtually no low rpm resonance problem.
- · Motor and driver are a matched pair.
 - No current adjustment needed.
- · Easy hookup with only 5 leads.
- · Highly cost effective.



UPS 54 Series

* Protected by US/Intl. Patents

(A) after the unit # denotes single shaft configuration. (B) after the unit # denotes thru-shaft configuration.

MOTOR SIZE (mm)	MOTOR AND DRIVER COMBINATION UNIT #	MAX. HOLDING TORQUE oz-in (kg-cm)	ROTOR INERTIA oz-in² (g cm²)	STEP ANGLE FULL/HALF	PHASE CURRENT (A)	MOTOR WEIGHT oz (kg)	DRIVER TYPE	MOTOR TYPE
	UPS54-533MA(B)	10.42 (0.75)	0.08 (16)	0.36°/0.18°	0.75	5.9 (0.17)	UPS54-030	PS 533MA(B)
1.49 (38)	UPS54-534MA(B)	15.28 (1.1)	0.13 (24)	0.36°/0.18°	0.75	7.76 (0.22)	UPS54-030	PS 534MA(B)
	UPS54-535MA(B)	19.44 (1.4)	0.19 (35)	0.36°/0.18°	0.75	9.52 (0.27)	UPS54-030	PS 535MA(B)

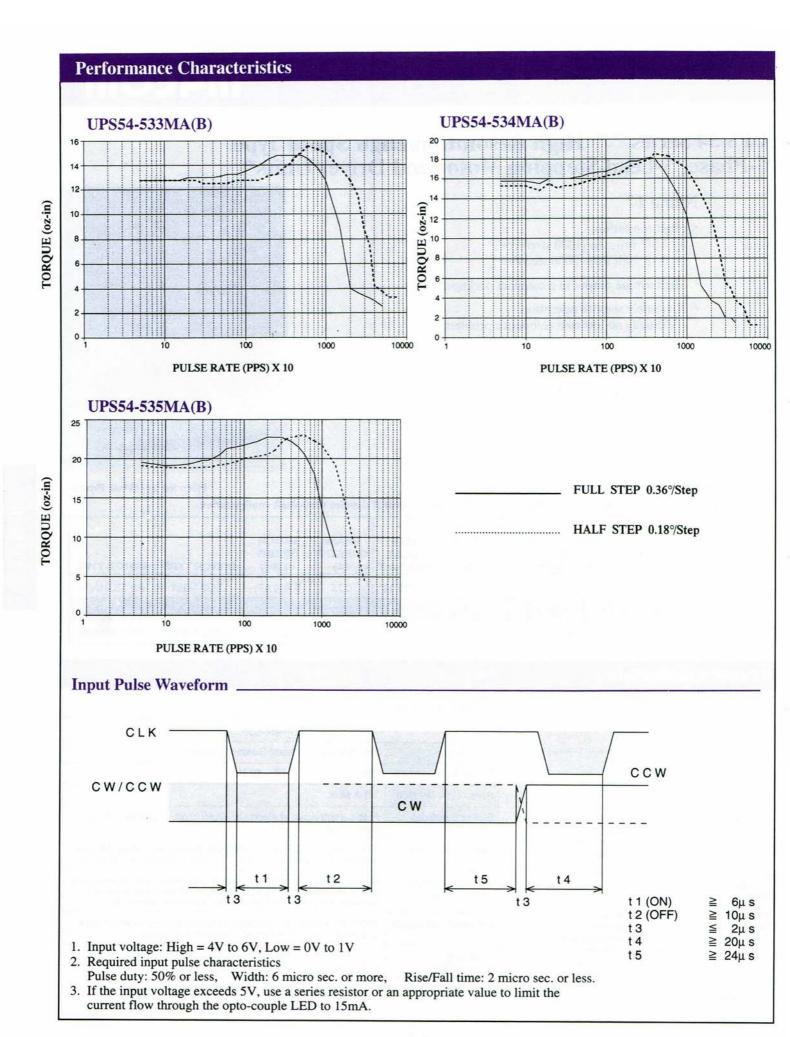
Other Specifications

Motor Section

Step Angle Accuracy	± 3 min.			
Shaft Radial Play	0.00098 in. max. / 1.1 lbs load			
Shaft Axial Play	0.00295 in. max. / 2.2 lbs load			
Dielectric Strength	No abnormality detected after the application of 0.5KV at 50Hz between motor windings and frame for duration of one minute.			
Insulation Class	Class B			
Insulation Resistance	100M ohms or better with 500V potential applied between motor windings and frame at normal ambient temperature and humidity.			
Operating Environment Temperature	0°C ~ +50°C			

Driver Section

UPS54-030					
Drive Type	Star Bi-Polar, Constant Current Chopper				
Power Requirements	85V ~ 132V AC 50 ~ 60 Hz				
Power Consumption	1.5 A Max.				
Built in Functions	Auto current down at stand still. Current off. Excitation timing signal output.				
Input Pulse Types	STEP and DIRECTION or CW/CCW pulse (selectable). All optoisolated. Voltage H = $4 \sim 5$ V, L = $0 \sim 0.5$ V. Resistance 330 ohms.				
Dielectric Strength	No abnormality detected after the application of AC 1KV between case and power input terminals, case and signal I/O terminals, signal I/O terminals and power input terminals for duration of one minute.				
Insulation Resistance	100M ohms or better with 500V potential applied between case and power input terminals and signal I/O terminals.				
Operating Environment Temperature	0°C ~ +40°C				



Driver Data UPS54 Driver Functions Current Adjust (Motor run current adjustment) Each driver is pre-adjusted for the applicable motor included with a package. This adjustment should not be changed unless a lower current level setting is absolutely needed in order to reduce motor torque and motor/drive heat generation. CC. Adjust (motor standstill current cutback adjustment) UPS54 drivers are equipped with an auto-current cutback feature when the motor is at stand still (idle) to reduce motor heat buildup when not running. Adjustable range is from 20% to 90% of motor run current value which is set by C. ADJ C.ADJ pot. Clockwise rotation of this pot increases motor standing current, and counterclockwise reduces motor standing current. Factory set value is 50%. If motor holding torque at stand still is not needed, this pot may be set at the lowest value (fully counter clockwise) to minimize motor heating. This function is activated 200mS after SETTING SWITCHES CC. ADJ A. CD C. ADJ OFF the motor stops LOCATED A. CO OFF CC. ADJ Automatic current reduction (current cutback) switch TOP PANEL FULL HALF When this switch is in OFF position, current cutback function is disabled. OF DRIVER 2P 1P A. CD OFF A. CO OFF FULL HALF 2P 1P Automatic current off. When this switch is in the ON position and the onboard temperature sensor reaches 158°F (70°C) the driver will automatically cut all current to motor. The OFF position will disable this function. Step angle selector (Full step = 0.72° Half step = 0.36°) 0 Input pulse selector. 1P = STEP/DIRECTION Mode 2P = CW/CCW Mode 0 0 UPS54 MOTION CONTROLLER POWER () CW step input terminal (5V negative logic) (Low or 0V to 0.5V = ON, Hi or 4V to 5V = OFF) Pulse input for CW motor rotation. When step and direction mode < +5 V ULSE selected, this terminal accepts the STEP input. CCW step input terminal (5V negative logic) (Low or 0V to 0.5V = ON, Hi or 4V to 5V = OFF) Pulse input for CCW motor rotation. When step and direction mode selected, this terminal accepts the DIRECTION input. W CW/CCW Motor current shutoff signal input terminal (5V negative logic) CO Motor winding current turn-off signal input. When this input terminal is kept ON, the driver will output no motor current. CAUTION: The motor will produce no holding torque. MONI Timing output (Open collector) HEAT Driver overheat alarm output terminal This terminal provides opto isolated open collector output for driver overheat conditions when the onboard temperature sensor detects the driver's heat sink temperature to exceed 158°F (70°C). BLU BLUE RED RED WHT WHITE Motor lead terminals (Motor power outputs) BROWN Connect color coded motor leads to these terminals. BLACK BLK 5PHASE STEP MOTOR AC power input terminal Connect 115V (nominal) AC (50/60Hz) line power to these terminals. Use 20 AWG or larger leads for connections. Frame Ground Connect to system ground point. МЧСОП

UM MOTOR CHOPPING VOLTAGE WILL APPROACH 140VDC. NO CONNECTION CHANGES MAY BE MADE WHILE THE DRIVE POWER IS ON!
UM MOTOR CHOPPING VOLTAGE WILL APPROACH 140VDC. NO CONNECTION CHANGES MAY BE MADE WHILE THE DRIVE POWER HAZARDOUS VOLTAGES MAY BE PRESENT AT THESE TERMINALS. IF THE MOTOR OUTPUTS ARE SHORT CIRCUITED, SERIOUS BE TO THE DRIVER WILL RESULT. THIS WILL NOT BE COVERED UNDER WARRANTY, AND WILL VOID REMAINDER OF THE ORIGINAL ICT WARRANTY. IF MOTOR LEAD TO TERMINAL CONNECTION IS TO BE MADE VIA A CONNECTOR SET, DO NOT USE MALE SCTORS OF ANY TYPE TO TERMINATE DRIVER OUTPUTS TO THE MOTOR. ALWAYS USE FEMALE CONNECTOR ON DRIVER OUTPUT O AVOID POSSIBLE SHORT CIRCUIT ACCIDENTS.

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