

# YKA3422MA Microstep Stepping driver



## Feature

- High performance, low price
- Provides 16 kinds of microstep selection, resolution can be set to 60000pulse/rev.
- Once the pulse stops for 100ms, the phase current will automatically reduce to 20%-80%(It can be set by STOP/Im as show as below).
- Bipolar constant current chopper control
- Photocoupler isolated input/output
- Adjustable drive current divided into 16 grades range from 0.6A/phase-4.2A/phase
- Single power input, voltage range from AC110V-220V
- The upmost pulse response frequency amounts to 200Kpps
- Phase memorize(Notes:Once the pulse stops for 5s or more, the Driver will memorize current phases automatically so that it can be resume after restart or MF signal changes from valid to invalid.)
- Protection circuit: Overheat protection; Overcurrent, under voltage protection
- Dimension: 68x178x108.5mm<sup>3</sup>; Net Weight: 1.25Kgs

## Description

YKA3422MA is a constant torque Driver with microstep, voltage range from AC110V-220V, can match three phase hybrid step motors whose rated current under 4.2A、flange size 86-mm. This Driver integrates high technology which similar to servo technology in theory, and can run the motor smoothly in low speed and hardly makes any noise or vibration.

### Running current setting

1. STOP/Im is idle state current adjuster, it can be set to 20%-80% of the normal output current (Turning it clockwise will increase the current output, counter clockwise decrease)
2. RUN/Im is normal running current adjuster (The following table shows the information in detail)

RUN/Im	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
Im(A)	0.6	0.8	1.1	1.4	1.6	1.9	2.1	2.3	2.6	2.8	3.0	3.2	3.5	3.7	4.0	4.2

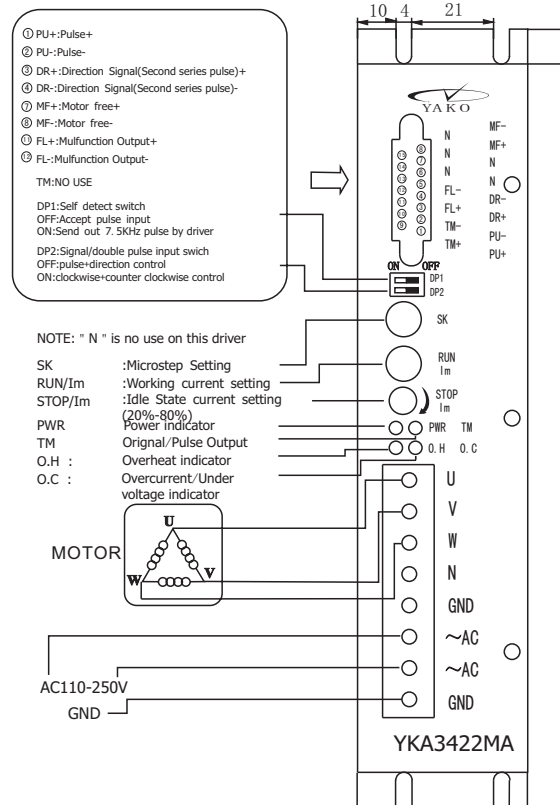
### DIP Switch setting

DP1	OFF: Accept pulse input ON: Send out 7.5KHz pulse by the driver
DP2	OFF: pulse+direction control (PU is pulse signal, DR is direction signal) ON: clockwise pulse + counter clock pulse control (PU is clockwise pulse, DR is counter clockwise pulse)

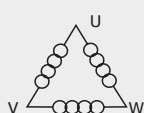
### Microstep setting

SK	F	E	D	C	B	A	9	8
Pu/Rev	400	500	600	800	1000	1200	2000	3000
SK	7	6	5	4	3	2	1	0
Pu/Rev	4000	5000	6000	10000	12000	20000	30000	60000

### Driver Connection



## Terminal Assignment

Mark	Function	Instruction
POWER	Power indicator	When power on, the green LED lights
TM	Origin/Pulse output indicator	Passing the origin or there is pulse output, the green LED lights
O.H	Overheat indicator	When overheat occurs, the red LED lights
O.C	Overcurrent/Under voltage indicator	When current exceeds rated value or voltage lower rated value, the red LED lights.
Im	Phase current setting adjuster	Turning it clockwise will increase the current,clockwisely decrease current.
PU+	Input signal positive side	+5V is standard signal input voltage.But we can revise it according to clients' request.
PU-	D2=OFF,PU is pulse signal	Effects on falling edge ,the motor goes one step as the pulse input change from "high"to "low".Input resistance is 220Ω.Requirement:input low: 0-0.5V, input high: 4-5V, pulse width>2.5μs
	D2=ON,PU is clockwise pulse signal	
DR+	Input signal positive side	+5V is standard signal input voltage.But we can revise it according to clients' request.
DR-	D2=OFF,DR is direction control signal	Use it to change the direction. Input resistance is 220Ω. Requirement:low level:0-0.5V,high level:4-5V, pulse width>2.5μs
	D2=ON,PU is counter clockwise pulse signal	
MF+	Input signal positive side	+5V is standard signal input voltage.But we can revise it according to clients' request.
MF-	Motor free signal	When effects, it cut off motor current, the driver stops working and sets the motor free
TM+	Input signal positive side	The signal effects when the motor pass electrical origin.
TM-	Origin output signal negative side	TM+ connects to the resistor, TM- connects to GND. Max output current 50mA,max voltage 50V.
RDY+	Driver ready signal positive side	The driver at normal state and ready for accepting control signals from controller
RDY-	Driver ready signal negative side	
AC	Power Supply	AC110-220V
U	Connect to the motor	
V		
W		

## Caution

1. Power should not exceed 220V.
2. Input logic should be 5V, otherwise it should connect a resistor
3. O.H is malfunction indicator. Once the Driver temperature exceeds 70°C,the current will be cut off automatically and the Driver will resume working till the temperature drops to 50°C. If this happens, please install ventilation equipment.
4. Once over current (short circuit) occur, LED O.C lights, please shut off power and check the electricity circuit to solve the problem, then restore power supply
5. If supply voltage lower AC110V, LED O.C also lights
6. PWR is power indicator, it lights when power on