

MIPM-10A-48V-D Dual Drive Component

1 Features

- Modules includes two DC/DC converters and two Triple-phase brushless motor drive circuits
- Built-in three-phase six-leg drive circuit and power amplifier circuit
- Built-in leak-loope circuit (leak resistors are not included)
- The PWM signal, enable control signal and discharge control signal are electrically isolated from the drive circuit
- To achieve A、C two-phase current signal isolation detection
- To achieve the power supply voltage detection
- Realization of shell temperature isolation detection of intelligent power module



2 Applications

- Triple-phase brushless motor drive control
- Drive the reactive load
- Servo Control

3 Descriptions

High density, multi-function MPWM-10A-48V-D dual intelligent module integrates 7 auxiliary power supply and 500W H bridge power supply, two three-phase power amplifier drive circuit in one. The module has the following characteristics: small size, light weight, convenient system interface, especially light weight, is the future of unmanned aerial vehicles, helicopters preferred varieties, there is a greater promotion of value and space.

4 Technical Specifications

Form 1 Electrical characteristics

No	Character		Test Condition $V_{I1}=28V \pm 1V$ V_{I2} 50%TTL square wave $-40^{\circ}C \leq T_c \leq 85^{\circ}C$	MIPM-10A-48V-D			Unit
				Min		Max	
1	Azimuth current detection signal $1V_{AZ1}$		Output current $I_0 = (2.5 \pm 0.5)$ A, Triangular hair access				V
	Azimuth current detection signal $2V_{AZ2}$			1.4		1.6	V
	Pitch current detection signal $1V_{EL1}$			1.4		1.6	V
	Pitch current detection signal $2V_{EL2}$			-		-	V
2	Bus voltage detection signal VM		$T_A=25^{\circ}C, I_0 = (2.5 \pm 0.5) \Omega$	2.0		2.4	V
3	+5V	Output voltage V_{+5V}	$R_{L1}=(2.5 \pm 0.5)\Omega$ $T_A=25^{\circ}C, R_{L1}=(2.5 \pm 0.5)\Omega$ $B_W \leq 20MHZ$	4.80		5.20	V
		Output current I_{+5V}		-		2.0	A
		Ripple voltage V_{RI}		-		100	mV

Form 2

No	Character		Test Condition $V_{I1}=28V \pm 1V$ V_{I2} 50%TTL square wave $-40^{\circ}C \leq T_c \leq 85^{\circ}C$	MIPM-10A-48V-D			Unit
				Min		Max	
4	-15V supply	V_{-15V}	$R_{L2}=(45 \pm 1)\Omega$ $T_A=25^{\circ}C, R_{L2}=(45 \pm 1)\Omega$ $B_W \leq 20MHZ$	-15.2 0		-14.80	V
		I_{-15V}		-		0.33	A
		Ripple V_{R2}		-		100	mV
5	+15V supply	V_{+15V}	$R_{L2}=(45 \pm 1)\Omega$ $T_A=25^{\circ}C, R_{L2}=(45 \pm 1)\Omega$ $B_W \leq 20MHZ$	14.80		15.20	V
		I_{+15V}		-		0.33	A
		Ripple V_{R3}		-		100	mV
6	A continuous working current I_{OA}			2.5		-	A
7	B continuous working current I_{OB}			2.5		-	A

8	A continuous working current I_{0A}	$T_A=25^{\circ}\text{C}$	4.0		-	A
9	B continuous working current I_{0B}	$T_A=25^{\circ}\text{C}$	4.0		-	A

5 Lead function description

Form 3 Pin Designation (XS1)

No	symbol	Designation	No	symbol	Designation
1	AZITEST1	Azimuth current detection signal 1	11	AZITEST2	Pitch current detection signal 1
2	GND	Detection signal Ground	12	GND	Detection signal Ground
3	ELITEST1	Azimuth current detection signal 2	13	ELITEST2	Pitch current detection signal 2
4	GND	Detection signal Ground	14	GND	Detection signal Ground
5	VOLTEST	Voltage detection Signal	15	TEMPTEST	Internal temperature detection signal
6	GND	$\pm 15\text{V}$ Power ground	16	GND	Detection signal
7	V-15V	-15V Voltage	17	AAP+	28V Power control signal
8	+V15V	+15V Voltage	18	AAP	28V Power control signal
9	GND	+5V Power ground	19	GND	+5V Power ground
10	+V5V	+5V Power Voltage	20	+V5V	+5V Power voltage

6 Circuit block diagram

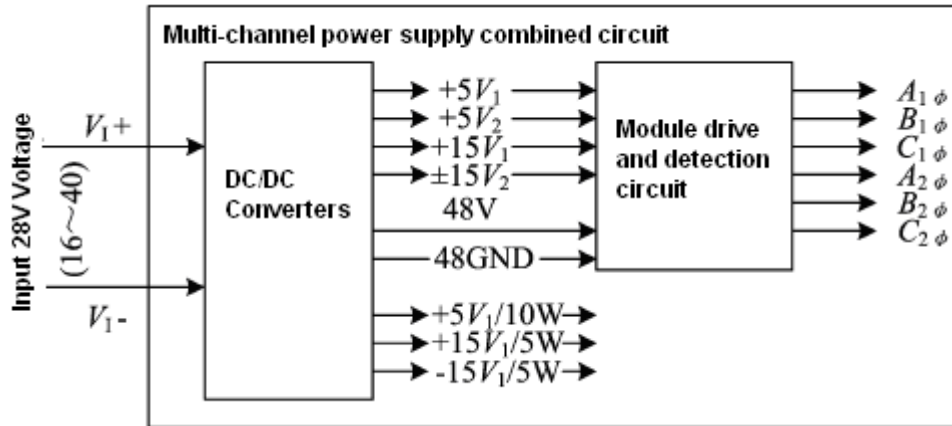


Fig 2 Single-circuit block diagram

7. Typical Connection Diagram

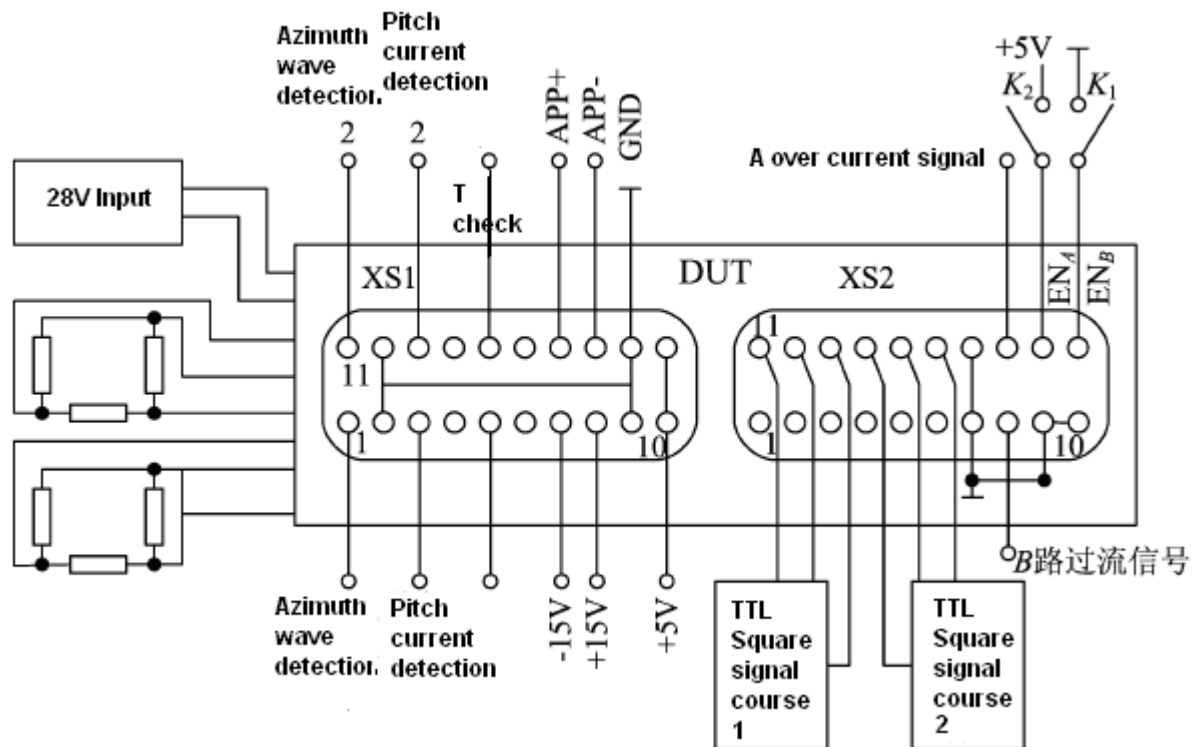


Fig 3 connection diagram

(1) Product output has total seven output wires , of which six wires for the two-way three-phase load output, one way output be marked as red (3 wires) , another way be marked as black (3 wires) and one blue wire is for 48V ground.

(2)The correspondence between the input square wave signal and the output wires is as follows:

Lead	Symbol	Function	Output line
11	BH3	B road C	CC(2)
12	BH2	B road B	BB(2)
13	BH1	B road A	AA(2)
14	AH3	A road C	CC1
15	AH2	A road B	BB1
16	AH1	A road A	AA1

8. Package Specifications (Fig 5)

(1) Size: 175mm×88mm×40mm

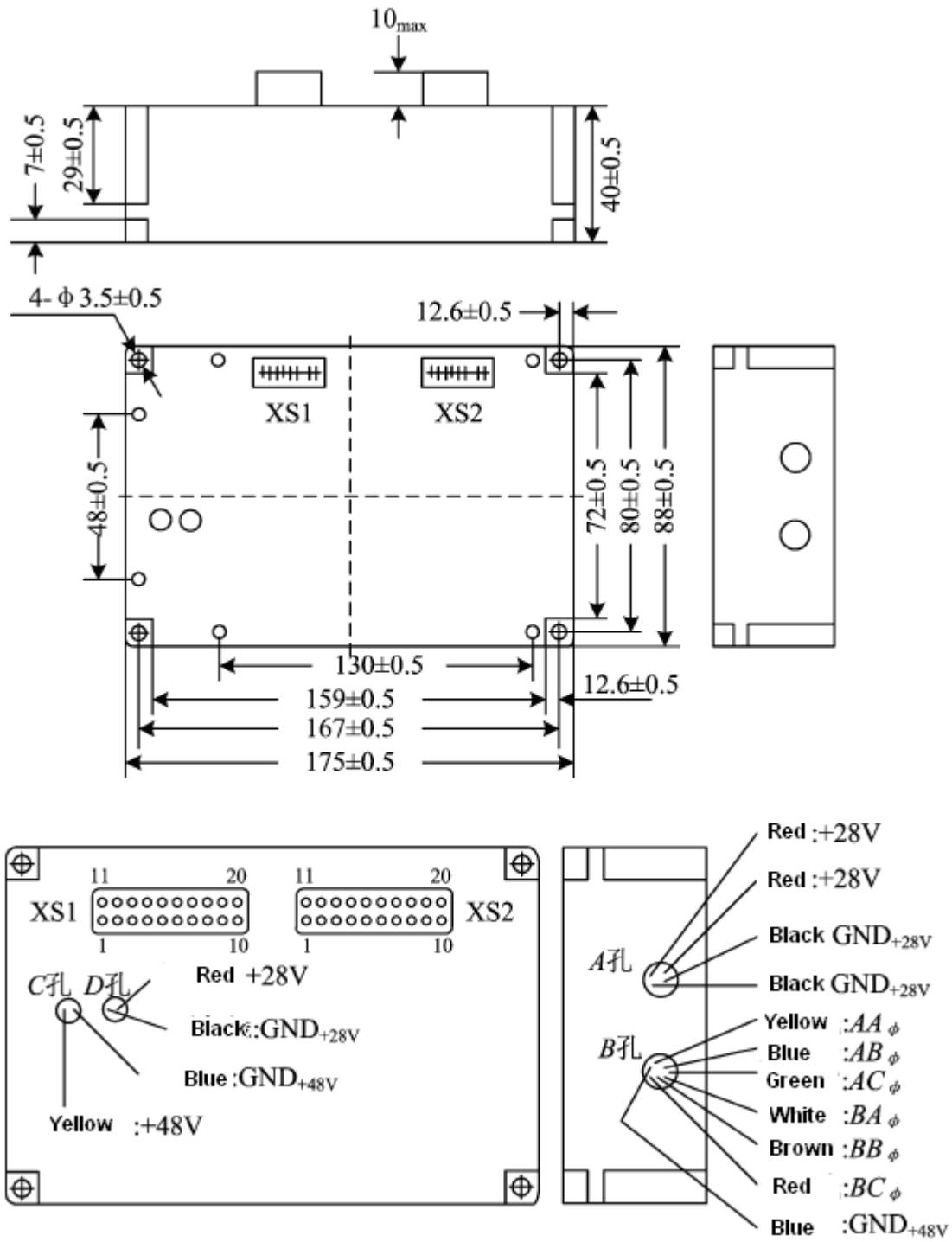


Fig 4 MIPM-10A-48V-D

Application notes please refer to the appendix, must read it carefully