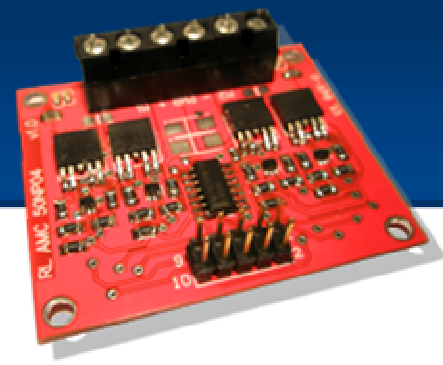


# RL AMC 50NP04

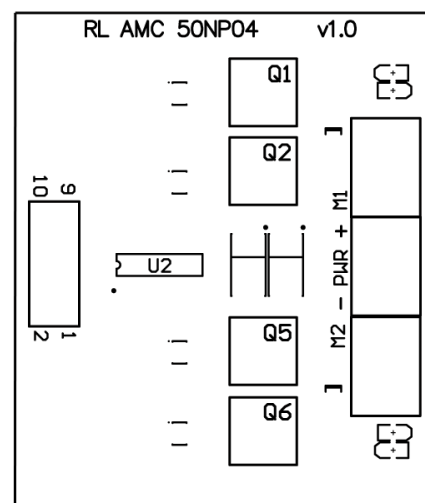
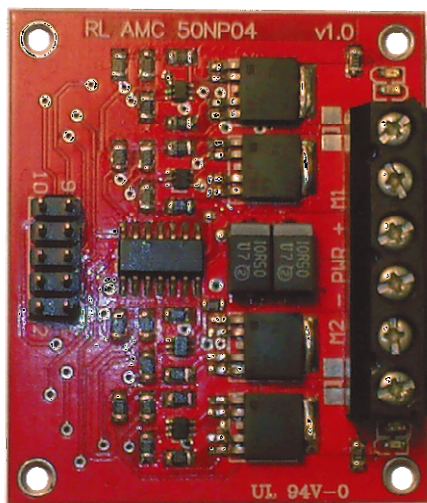
## QUICK REFERENCE GUIDE



**RL-AMC-50NP04 is an advanced Full H-Bridge board based on high performance MOSFETs capable of driving two high power DC motors.**

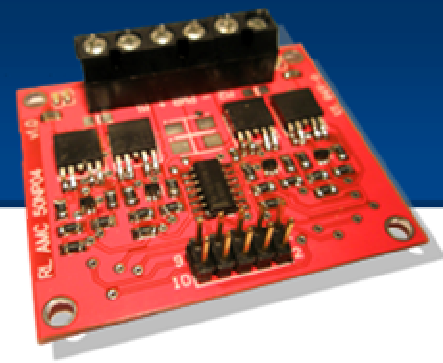
### MAIN FEATURES

- 2 high power DC Motors control.
- PWM frequencies up to 20 KHz for speed control.
- Bi-directional control.
- Braking function (coast and brake functions).
- 3.3V / 5V logic capable.
- Up to 8A continuous operation with very low internal resistance (0.038 ohms).
- Up to 35A pulsed current.
- Wide range of power supply voltage ranging from 3V to 40V.
- Current sense (just 6mV per amp to minimize the total voltage drop when high currents are demanded).
- Just 3 pins needed from your microcontroller to drive each motor.
- Two LEDs per leg indicating the rotating direction of each motor.
- Easy interface connections through an standard 10-pin male header.
- Three two-pin terminal blocks for connecting the motors and their power supply.
- Logic power supply ranging from 2V to 6V.
- Size: 50 x 42 mm (1,97 x 1,65 inch) .

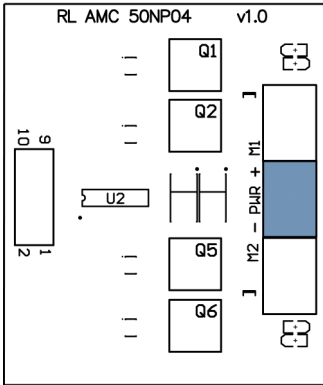
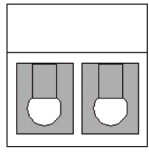


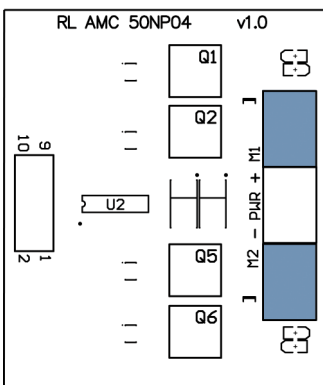
# RL AMC 50NP04

QUICK REFERENCE GUIDE



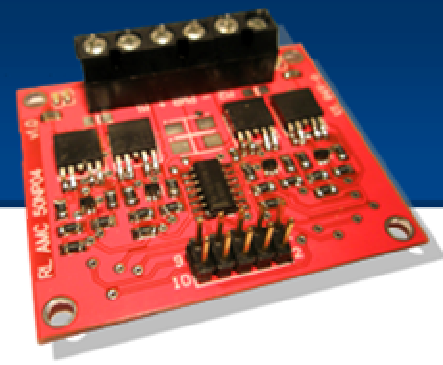
## PORTS DESCRIPTION

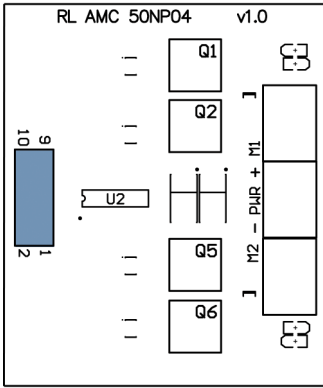
VDD PORT	INPUT PORT
 <p><b>Power supply for motors</b></p> <p>2 Pin Terminal Block Pitch: 5.08 mm (200 mils)</p> <p>Voltage range (VDD): 3V to 40V</p> <p><b>CAUTION! Check polarity!</b></p>	<p><b>FRONT VIEW</b></p>  <p><b>GND VDD</b></p>

MOTORS PORTS	OUTPUT PORTS
 <p><b>2 Motor connectors</b></p> <p>2 Pin Terminal Block Pitch: 5.08 mm (200 mils)</p>	

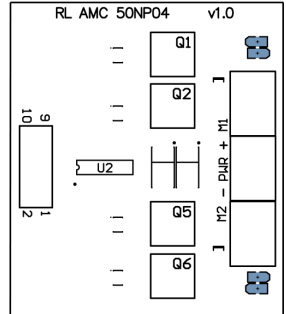
# RL AMC 50NP04

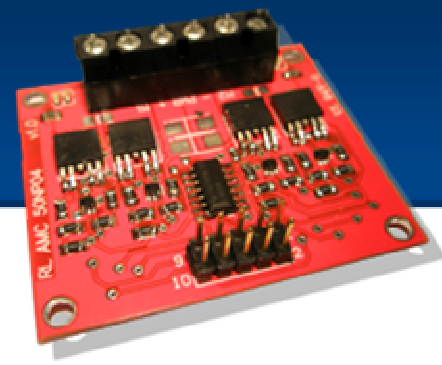
## QUICK REFERENCE GUIDE



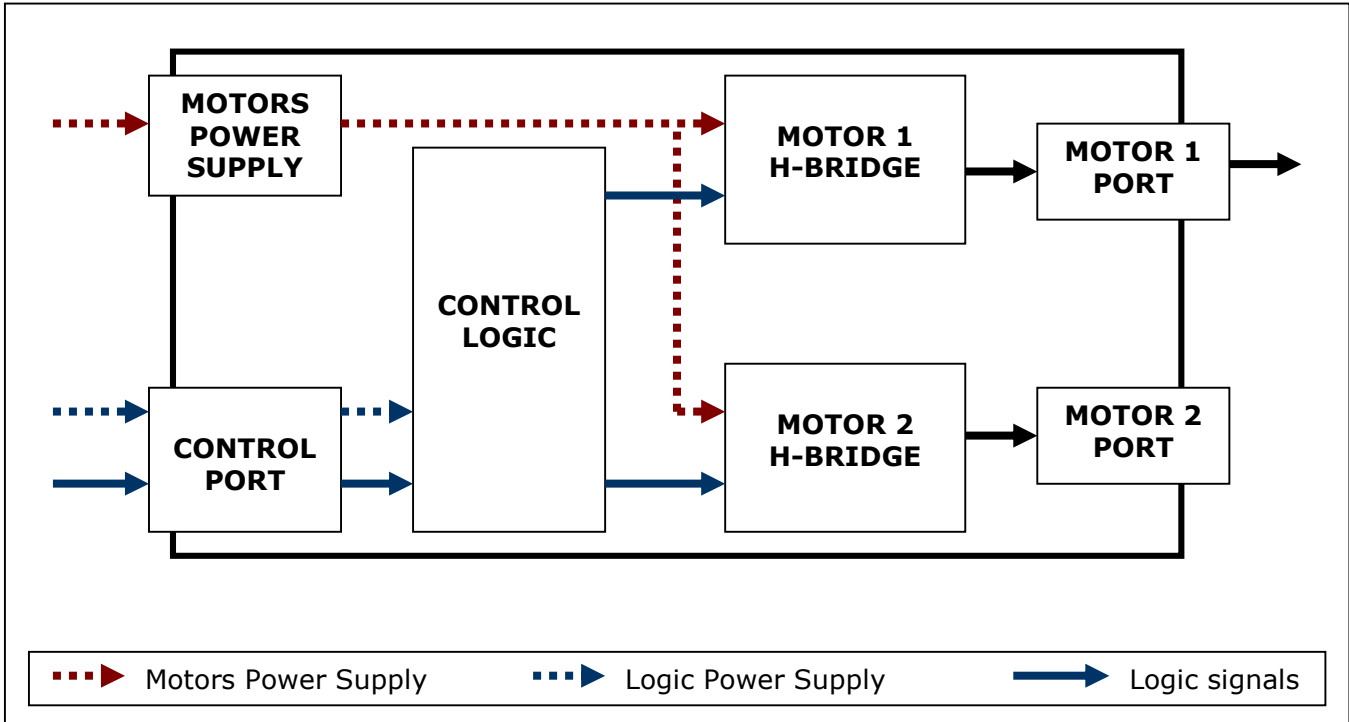
CONTROL PORT	INPUT PORT																																																									
<div style="display: flex; align-items: flex-start;"> <div style="flex: 1;">  </div> <div style="flex: 2; padding-left: 10px;"> <p>3.3V / 5V logic signals</p> <p>2x5 header connector Pitch: 2.54 mm (100 mils)</p> <p>Voltage range (Vcc): 0.5V to 7V</p> </div> </div>																																																										
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center;"><b>TOP VIEW</b></p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;"><b>M2_1</b></td> <td style="width: 15%; border: 1px solid black; border-radius: 50%; text-align: center;">10</td> <td style="width: 15%; border: 1px solid black; border-radius: 50%; text-align: center;">9</td> <td style="width: 15%;"></td> <td style="width: 15%; border: 1px solid black; border-radius: 50%; text-align: center;">M1_1</td> </tr> <tr> <td><b>M2_2</b></td> <td style="border: 1px solid black; border-radius: 50%; text-align: center;">8</td> <td style="border: 1px solid black; border-radius: 50%; text-align: center;">7</td> <td></td> <td style="border: 1px solid black; border-radius: 50%; text-align: center;">M1_2</td> </tr> <tr> <td><b>M2_3</b></td> <td style="border: 1px solid black; border-radius: 50%; text-align: center;">6</td> <td style="border: 1px solid black; border-radius: 50%; text-align: center;">5</td> <td></td> <td style="border: 1px solid black; border-radius: 50%; text-align: center;">M1_3</td> </tr> <tr> <td></td> <td style="border: 1px solid black; border-radius: 50%; text-align: center;">4</td> <td style="border: 1px solid black; border-radius: 50%; text-align: center;">3</td> <td></td> <td style="border: 1px solid black; border-radius: 50%; text-align: center;">Current Sense</td> </tr> <tr> <td><b>GND</b></td> <td style="border: 1px solid black; border-radius: 50%; text-align: center;">2</td> <td style="border: 1px solid black; border-radius: 50%; text-align: center;">1</td> <td></td> <td style="border: 1px solid black; border-radius: 50%; text-align: center;">Vcc</td> </tr> </table> </div> <div style="width: 50%; padding-left: 10px;"> <p><b>Motor 1 usage:</b></p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr style="background-color: #cccccc;"> <th>M1_1</th> <th>M1_2</th> <th>M1_3</th> <th>Action</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>0</td> <td>PWM</td> <td>Forward</td> </tr> <tr> <td>0</td> <td>1</td> <td>PWM</td> <td>Reverse</td> </tr> <tr> <td>1</td> <td>1</td> <td>1</td> <td>Brake</td> </tr> </tbody> </table> <p><b>Motor 2 usage:</b></p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr style="background-color: #cccccc;"> <th>M2_1</th> <th>M2_2</th> <th>M2_3</th> <th>Action</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>0</td> <td>PWM</td> <td>Forward</td> </tr> <tr> <td>0</td> <td>1</td> <td>PWM</td> <td>Reverse</td> </tr> <tr> <td>1</td> <td>1</td> <td>1</td> <td>Brake</td> </tr> </tbody> </table> </div> </div>	<b>M2_1</b>	10	9		M1_1	<b>M2_2</b>	8	7		M1_2	<b>M2_3</b>	6	5		M1_3		4	3		Current Sense	<b>GND</b>	2	1		Vcc	M1_1	M1_2	M1_3	Action	1	0	PWM	Forward	0	1	PWM	Reverse	1	1	1	Brake	M2_1	M2_2	M2_3	Action	1	0	PWM	Forward	0	1	PWM	Reverse	1	1	1	Brake	
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1	0	PWM	Forward																																																							
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1	1	1	Brake																																																							

## BOARD LEDS

	<p><b>Motor 1 direction leds</b></p> <p><b>Motor 2 direction leds</b></p>
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### BLOCK DIAGRAM



#### AUTHORS

Daniel Álvarez Sánchez  
Alberto Calvo Torrijos

dani001@gmail.com  
albertoct@gmail.com