**主板連接腳位定義(CN94)**

|  |  |  |
| --- | --- | --- |
| Pin No. | 功能 | 說明 |
| 1 | GK | 當gate driver發生過電流或低電壓保護時，GK腳位輸出保護信號：

|  |  |
| --- | --- |
| VGK | 說明 |
| 3.3V | Gate driver正常運行 |
| 0V | Gate driver發生保護 |

 |
| 2 | PWMWH | W相high-side IGBT PWM訊號輸入，輸入電壓準位：

|  |  |
| --- | --- |
| VPWMWH | 說明 |
| >2.4V | W相high-side IGBT導通 |
| <0.7V | W相high-side IGBT截止 |

 |
| 3 | PWMWL | W相low-side IGBT PWM訊號輸入，輸入電壓準位：

|  |  |
| --- | --- |
| VPWMWL | 說明 |
| >2.4V | W相low-side IGBT導通 |
| <0.7V | W相low-side IGBT截止 |

 |
| 4 | PWMVH | V相high-side IGBT PWM訊號輸入，輸入電壓準位：

|  |  |
| --- | --- |
| VPWMVH | 說明 |
| >2.4V | V相high-side IGBT導通 |
| <0.7V | V相high-side IGBT截止 |

 |
| 5 | PWMVL | V相low-side IGBT PWM訊號輸入，輸入電壓準位：

|  |  |
| --- | --- |
| VPWMVL | 說明 |
| >2.4V | V相low-side IGBT導通 |
| <0.7V | V相low-side IGBT截止 |

 |
| 6 | PWMUH | U相high-side IGBT PWM訊號輸入，輸入電壓準位：

|  |  |
| --- | --- |
| VPWMUH | 說明 |
| >2.4V | U相high-side IGBT導通 |
| <0.7V | U相high-side IGBT截止 |

 |
| 7 | PWMUL | U相low-side IGBT PWM訊號輸入，輸入電壓準位：

|  |  |
| --- | --- |
| VPWMUL | 說明 |
| >2.4V | U相low-side IGBT導通 |
| <0.7V | U相low-side IGBT截止 |

 |
| 8 | RSH+ | 1. DC Bus電流回授偵測，Rshunt = 100mOhm。

回授電流訊號VRSH+ = 0.1\*IDCBUS

|  |  |
| --- | --- |
| RSH+電壓 VRSH+ | DC BUS電流 IDCBUS |
| 0.2V | 2A |

1. 主板gate driver過電流保護偵測。當RSH+電壓>0.88V時觸發gate driver OCP保護, PWM關閉。
 |
| 9 | HV- | HV-腳位 |
| 10 | +5V | +5V輸出 |
| 11 | +3.3 | +3.3V輸出 |
| 12 | VTH | IGBT溫度偵測訊號回授，使用熱敏電阻置於Q901附近。溫度與電阻值轉換：

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 溫度℃ | 0 | 25 | 50 | 100 | 110 | 120 |
| 電阻Ω | 27k | 10k | 4.13k | 0.96k | 0.75k | 0.60k |

RTH4型號: TSM2A103F34D1R (Thinking Electronic) |
| 13 | BRAKE | 回生電阻啟動訊號，建議DC Bus > 400V啟動，需外接回生電阻，建議300Ω。控制信號準位：

|  |  |
| --- | --- |
| VBRAKE | 說明 |
| >3V | 回生電阻關閉 |
| <0.5V | 回生電阻啟動 |

 |
| 14 | 空腳 | 無 |
| 15 | HV1 | 380V DC Bus電壓偵測，由DC Bus(HV+)串接R948(665kΩ)至控制卡分壓回授。 |

**控制板功能腳位定義(CN93)**

|  |  |  |
| --- | --- | --- |
| Pin No. | 功能 | 說明 |
| 1 | +5V | +5VDC輸出，最大電流0.2A |
| 2 | 霍爾偵測1 | 數位霍爾IC偵測輸入1(NC) |
| 3 | 霍爾偵測3 | 數位霍爾IC偵測輸入3(NC) |
| 4 | 霍爾偵測2 | 數位霍爾IC偵測輸入2(NC) |
| 5 | GND | 霍爾IC，速度控制，啟動/停止的接地腳位 |
| 6 | 轉速 | 轉速控制輸入，正轉(0~100%):5~9.6V； 反轉(0~100%):5~0.4V |
| 7 | 啟動/停止 | 啟動或停止的連接腳位。啟動:+5V；停止:開路 |
| 8 | 空腳 | 無 |
| 9 | TXD | RS-232 TX信號 |
| 10 | RXD | RS-232 RX信號 |