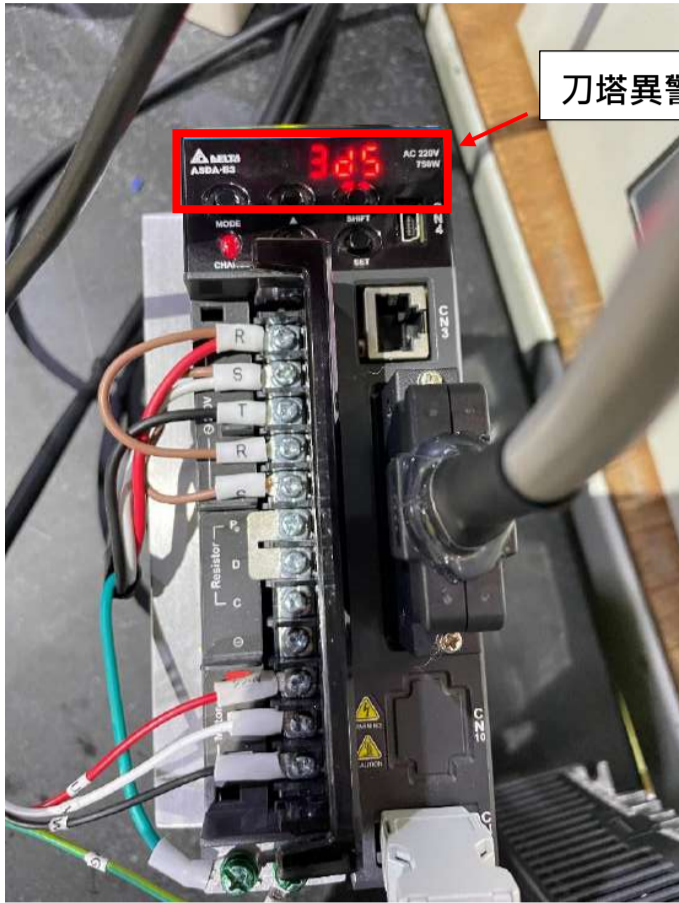


台達 B3 驅動器異警碼



刀塔異警碼 AL.XXX



驅動器側邊上有刀塔機型、序號及 QR 操作手冊

編號	異警碼	異警訊息	可能導因	問題排除
1	AL001	過電流	<ol style="list-style-type: none"> 1. 接頭是否進水 2. 線路是否短路 3. 移除 UVW 驅動器接頭後重送電，異警依舊。驅動器燒毀 	<ol style="list-style-type: none"> 1. 清潔接頭後重新安裝 2. 更換線路 3. 更換驅動器
2	AL002	過電壓	<ol style="list-style-type: none"> 1. 量測電壓是否超過 240V 2. 量測電壓是否穩定 3. 確認是否會電壓突波 	<ol style="list-style-type: none"> 1. 更換電壓來源 2. 安裝穩壓器 3. 安裝電抗圈
3	AL003	低電壓	<ol style="list-style-type: none"> 1. 量測電壓是否低於 180V 2. 檢查 PDC 回升電阻是否沒安裝 3. 檢查 MC 斷路器規格是否太小 	<ol style="list-style-type: none"> 1. 更換電壓源 2. 安裝 PDC 回升電阻 3. 改大 MC 斷路器規格
4	AL004	馬達磁場位置異常	馬達與驅動器是否連接錯誤	更正馬達與驅動器連接
5	AL005	回生錯誤	<ol style="list-style-type: none"> 1. 檢查電流是否正常 2. 檢查刀座安裝是否平均 3. 檢查 PDC 回升電阻是否安裝 	<ol style="list-style-type: none"> 1. 安裝接地線 2. 平均安裝刀座 3. 安裝 PDC 回升電阻
6	AL006	過負荷	<ol style="list-style-type: none"> 1. 檢查線路電阻是否正常 2. 檢查刀塔是否旋轉不順 3. 檢查馬達是否可以手動轉動 	<ol style="list-style-type: none"> 1. 更換線路 2. 安裝蓄壓瓶 3. 更換馬達
7	AL06A	未建立原點	<ol style="list-style-type: none"> 1. 檢查驅動器 是否損壞 2. 檢查馬達是否位置偏移 3. 檢查線路是否品質不好 	<ol style="list-style-type: none"> 1. 更換驅動器 2. 更換馬達 3. 更換線路



8	AL009	位置控制誤差過大	1.檢查油壓壓力 2.檢查油壓是否穩定 3.檢查線路是否正常 4.檢查是否還會出現其他異警碼 5.檢查馬達 U V W 線路 6.動力刀塔請檢查是否動力軸原點偏位與刀座干涉	1.調壓力 50kg 2.安裝蓄壓瓶 3.更換線路 4.若出現其他異警碼,請參考對照方式作故障排除 5.檢查馬達 U V W 是否接錯欠相 6.調整動力軸位置與刀盤在正確位置
9	AL011	位置檢出器異常	1.檢查接頭是否進水、鬆脫 2.檢查線路是否斷了 3.檢查馬達是否損壞	1.清潔重新安裝接頭 2.重新接線 3.更換馬達
10	AL014	反向極限異常	檢查是否是全新驅動器	1.若為全新·確認是否未設定刀塔用參數,請設定正確參數 2.若非全新: →參數設定錯誤·請設定正確參數 →驅動器損壞·更換驅動器
11	AL018	檢出器輸出異常	檢查 CN2 編碼器線路	更換 Cn2 線路
12	AL022	主迴路電源異常	檢查三相 RST 電流是否正常	提供穩定電源
13	AL024	編碼器初始磁場錯誤	檢查客戶端電壓是否穩定	安裝穩壓器
14	AL025	編碼器內部錯誤	檢查接地線是否安裝確實	將馬達接地線接好
15	AL026	編碼器錯誤	檢查 Cn2 線路隔離網安裝是否確實	將兩端的隔離網接好
16	AL029	格雷碼錯誤	是否撞車	更換馬達
17	AL033	編碼器訊號異常	1.檢查編碼器 5V 電源是否低於 4.3V 2.檢查 Cn2 線路是否有大電壓經過造成干擾	1.檢查 Cn2 接頭·拔除重插 2.更換馬達或線路
18	AL034	編碼器內部通訊異常	檢查 Cn2 線路是否接線正確	更換 Cn2 線路
19	AL036	編碼器異警狀態錯誤	1.動力線及 Cn2 線路需確實接地 2.檢查 Cn2 線路是否有大電壓經過造成干擾	1.檢查 Cn2 接頭·拔除重插 2.更換馬達或 Cn2 線路
20	AL060	絕對位置遺失	1.檢查是否沒作原點 2.檢查接頭有無鎖緊	重新作原點

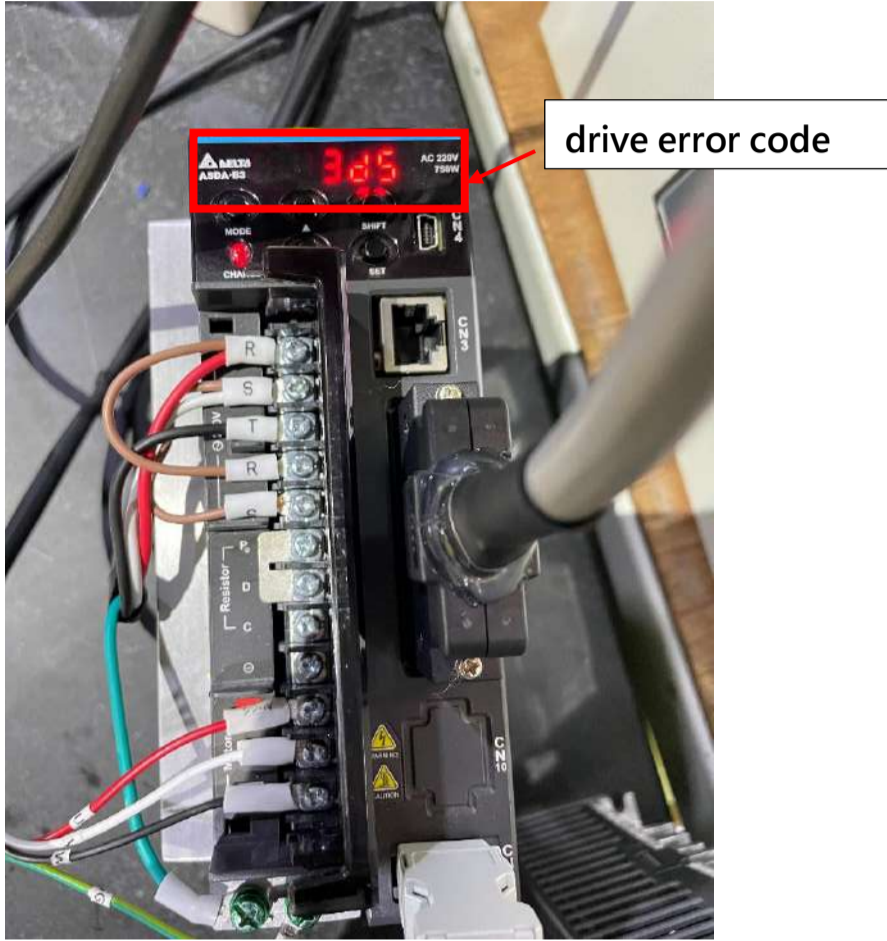
21	AL083	電流偵測範圍異常	1.檢查電流是否正常 2.檢查刀座安裝是否平均 3.檢查 PDC 是否安裝	1.更換馬達 2.刀座配置安裝需平均 3.安裝 PDC 回升電阻
22	AL084	驅動器錯誤	檢查驅動器是否異常	更換驅動器
23	AL085	回生錯誤	檢查刀座配置是否正確	1.刀座配置安裝需平均 2.檢查 PDC 回升電阻有無安裝 3.調低馬達加減速及轉速 4.更換驅動器
24	AL086	回生錯誤	1.檢查電流是否正常 2.檢查刀座安裝是否平均 3.檢查 PDC 是否安裝	1.調整參數·控制加減速 2.刀座配置安裝需平均 3.安裝 PDC 回升電阻



25	AL099	DSP 韌體升級	檢查是否再安裝韌體	重新開機
26	AL201	CANopen 資料初始錯誤	檢查是否再安裝軟體	安裝軟體失敗,重新安裝
27	AL289	位置計數器溢位	1.檢查是否撞車 2.檢查是否未作原點	1.將 T1 轉到記號線 2.重作原點
28	AL350	絕對位置遺失	1.檢查是否第一次安裝 2.檢查是否未作原點	1. 第一次安裝會出現 2. 作原點
29	AL400	分度座標錯誤	檢查驅動器韌體/軟體版本	更換驅動器
30	AL 3C3	緊急停止按下或 CN1/CN2 線路異常	檢查急停開關是否壓下	放鬆急停開關
31	AL0A6	驅動器與馬達的絕對位置不匹配	更換過驅動器或馬達會出現	重新設定原點
32	ALF021	PLC 設定原點時序錯誤	原點模式下短時間切斷 servo on 會出現	1.檢查 PLC 原點時序 2.DI10 異警清除



Delta B3 drive error code



No.	Abnormal alarm code	Abnormal alarm message	Possible causes	Troubleshooting
1	AL001	Over current	<ol style="list-style-type: none"> 1. Is water entering the connector? 2. Is the line short circuited? 3. Remove UVW connectors and reconnect; If AL001 remains, then drive unit was burn down. 	<ol style="list-style-type: none"> 1. Clean connectors, blow dry and reinstall 2. Change cable line 3. Replace with a new drive unit.
2	AL002	Over voltage	<ol style="list-style-type: none"> 1. Check whether the voltage exceeds 240V 2. Check whether the voltage is stable 3. Check whether there is a voltage surge 	<ol style="list-style-type: none"> 1. Change voltage source 2. Install voltage regulator 3. Install reactance coil
3	AL003	Low voltage	<ol style="list-style-type: none"> 1. Check whether the voltage is lower than 180V 2. Check whether PDC regenerative resistor is not installed 3. Check whether MC circuit breaker specification is too small 	<ol style="list-style-type: none"> 1. Replace the voltage source 2. Install PDC regenerative resistor 3. Change to larger MC circuit breaker
4	AL004	Abnormal position of motor magnetic field	Whether the motor and drive are connected incorrectly	Correct motor and drive connections
5	AL005	Regenerative resistor error	<ol style="list-style-type: none"> 1. Check whether current is normal ? 2. Check whether tool holders are mounted evenly ? 3. Check whether PDC regenerative resistor is installed ? 	<ol style="list-style-type: none"> 1. Install the ground line 2. Install tool holders evenly 3. Install PDC regenerative resistor
6	AL006	Overload	<ol style="list-style-type: none"> 1. Check whether the cable resistance is normal ? 	<ol style="list-style-type: none"> 1. Change the cable line 2. Install pressure accumulator



			2. Check whether turret rotates smoothly 3. Check if the motor can be rotated manually ?	3. Replace motor
7	AL06A	Origin not set	1. Check whether drive unit is damaged 2. Check whether motor is off position ? 3. Check whether cable line quality is poor	1. Replace drive unit 2. Replace motor 3. Replace cable line
8	AL009	Position control error is too large	1. Check hydraulic pressure 2. Check whether hydraulic pressure is stable 3. Check whether cable line is normal 4. Check whether there are other abnormal alarm codes? 5. Check motor UVW cables 6. For driven turret, please check whether the origin is deviated or there is tool holder interference.	1. Adjust the pressure to 50kg 2. Install the pressure accumulator. 3. Replace cable line 4. If other abnormal alarm codes appear, please refer to the corresponding troubleshooting. 5. Check whether motor UVW is connected incorrectly or lack phase. 6. Make proper adjustment on power shaft and tool disc.
9	AL011	Location detector abnormal	1. Check whether connector is water-intruded or loose. 2. Check whether cable line is broken 3. Check whether motor is damaged	1. Clean and reinstall connector 2. Re-wiring 3. Replace motor
10	AL014	Reverse limit abnormal	Check if drive unit is brand new?	1. If the drive unit is brand new, reconfirm whether correct parameters are installed ? 2. If the drive unit is not brand new: →Parameter setting error, please set correct parameters →The drive is damaged, replace the drive unit.
11	AL018	Detector output abnormal	Check CN2 encoder cable	Replace Cn2 cable
12	AL022	Main circuit power supply abnormal	Check whether three-phase RST current is normal	Provide stable power
13	AL024	Encoder initial magnetic field error	Check whether voltage is stable	Install voltage regulator
14	AL025	Encoder internal error	Check whether the ground line is properly installed	Connect the motor ground line
15	AL026	Encoder error	Check whether Cn2 cable isolation network is installed correctly	Connect the isolation nets at both ends
16	AL029	Gray code error	Any crash happened ?	Replace motor
17	AL033	Encoder internal communication abnormal	1. Check whether the encoder 5V power supply is lower than 4.3V 2. Check whether there is any high voltage passing through the Cn2 line causing interference	1. Check the Cn2 cable line, unplug it and reinsert it 2. Replace the motor or line
18	AL034	Encoder internal communication abnormal	Check whether Cn2 cable is connected correctly ?	Replace Cn2 cable line
19	AL036	Encoder alarm status error	1. The power line and Cn2 line must be grounded	1. Check the Cn2 cable line, unplug it and reinsert it 2. Replace the motor or line

			2. Check whether there is any high voltage passing through the Cn2 line causing interference	
20	AL060	absolute position missing	1. Check whether origin is not set ? 2. Check whether connector is fastened properly ?	Reset origin
21	AL083	Abnormal current detection range	1. Check whether current is normal 2. Check whether tool holders are mounted evenly 3. Check whether PDC is installed	1. Replace motor 2. Tool holders must be mounted evenly on the tool disc. 3. Install PDC regenerative resistor
22	AL084	Drive unit error	Check whether drive unit is abnormal	Replace drive
23	AL085	Regenerative resistor error	Check mounting of tool holders	1. Tool holders must be mounted evenly. 2. Check whether PDC regenerative resistor is installed 3. Reduce motor acceleration, deceleration and speed 4. Replace drive unit
24	AL086	Regenerative resistor error	1. Check whether current is normal 2. Check whether tool holders are mounted evenly 3. Check whether PDC is installed	1. Adjust parameters and control acceleration and deceleration 2. Tool holders must be mounted evenly. 3. Install PDC regenerative resistor
25	AL099	DSP firmware upgrade	Check whether need to reinstall firmware	Reboot
26	AL201	CANopen data initial error	Check whether need to reinstall software	Failed to install software, reinstall
27	AL289	Position counter overflow	1. Check whether there is a crash 2. Check whether the origin is not set	1. Rotate T1 to the marked line 2. Reset the origin
28	AL350	absolute position missing	1. Check whether it is installed for the first time 2. Check whether the origin is not set	1. AL350 will appear during first time installation. 2. Set origin
29	AL400	Indexing coordinate error	Check driver firmware/software version	Replace drive unit
30	AL 3C3	Emergency stop is pressed or CN1/CN2 line abnormal	Check whether the emergency stop switch is pressed down	Release the emergency stop switch
31	AL0A6	The absolute position of the drive unit and the motor does not match	If the drive unit or motor is replaced	Reset origin
32	ALF021	PLC origin setting timing error	In origin mode, servo on will appear if switched in a short time.	1. Check the PLC origin timing 2. DI10 abnormal alarm cleared

