2015-08-27

5014022700-5M00

DVP-*MC*

Instruction Sheet
Bilgi Dökümani
安 裝 說 明
安 装 说 明

CANopen Motion Controller
CANopen Motion Kontrolör
CANopen 運動控制器
CANopen 运动控制器

DELTA

Thank you for choosing Delta DVP-MC series motion controller. It is a multi-axis motion controller based on CANopen fieldbus and can be applied in packaging machines, printing machines, taping machines, cutting machines, digital control lathes and automated storage systems.

EN ✎ DVP15MC11T is an OPEN-TYPE device. It should be installed in a control cabinet free of airborne dust, humidity, electric shock and vibration. To prevent non-maintenance staff from operating DVP15MC11T, or to prevent an accident from damaging DVP15MC11T, the control cabinet in which DVP15MC11T is installed should be equipped with a safeguard. For example, the control cabinet in which DVP15MC11T is installed can be unlocked with a special tool or key.

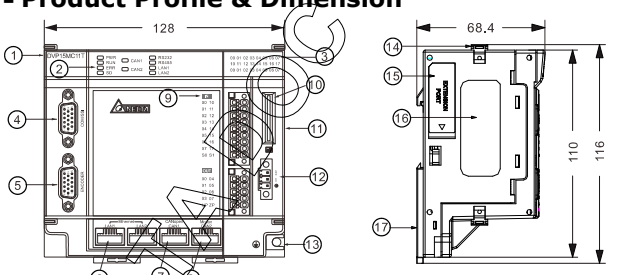
EN ✎ DO NOT connect AC power to any of I/O terminals, otherwise serious damage may occur. Please check all wiring again before DVP15MC11T is powered up. After DVP15MC11T is disconnected, Do NOT touch any terminals in a minute.

Make sure that the ground terminal ⏚ on DVP15MC11T is correctly grounded in order to prevent electromagnetic interference.

FR ✎ DVP15MC11T est un module OUVERT. Il doit être installé que dans une enceinte protectrice (boitier, armoire, etc.) saine, dépourvue de poussière, d'humidité, de vibrations et hors d'atteinte des chocs électriques. La protection doit éviter que les personnes non habilitées à la maintenance puissent accéder à l'appareil (par exemple, une clé ou un outil doivent être nécessaire pour ouvrir a protection).

FR ✎ Ne pas appliquer la tension secteur sur les bornes d'entrées/Sorties, ou l'appareil DVP15MC11T pourra être endommagé. Merci de vérifier encore une fois le câblage avant la mise sous tension du DVP15MC11T. Lors de la déconnection de l'appareil, ne pas toucher les connecteurs dans la minute suivante. Vérifier que la terre est bien reliée au connecteur de terre ⏚ afin d'éviter toute interférence électromagnétique.

■ Product Profile & Dimension



Unit: mm [Figure 1]

①	Model name	⑩	SD card slot
②	State indicators	⑪	Right-side extension port
③	IO indicators	⑫	24V power supply port
④	COM/SSI port	⑬	Screw fixing clip
⑤	Encoder port	⑭	Extension module fixing clip
⑥	Ethernet port	⑮	Left-side extension port
⑦	CANopen communication port	⑯	Nameplate
⑧	CANmotion port	⑰	DIN rail clip
⑨	Input/Output pin locations and symbols		

■ Electrical Specifications

◆ Power Supply

Power supply voltage	24 VDC (-15 to +20%)
Power supply fuse	3 A/30 VDC, polyswitch
Insulation voltage	500 VDC (Secondary-PE)
Power consumption	Max. 8 W
Shock/vibration immunity	Standards: IEC61131-2, IEC 68-2-6 (TEST Fc)/IEC61131-2 & IEC 68-2-27 (TEST Ea)
Noise immunity	ESD: 8 kV Air Discharge, 4 kV Contact Discharge EFT: Power Line: ±2 kV, Digital Input: ±1 kV, Communication I/O: ±1 kV RS: 80 MHz~1000 MHz, 10V/m Conducted Susceptibility Test: 150 kHz ~ 80 MHz, 3V/m Surge Test: Power line 0.5 kV DM/CM
Ambiance	Operation: 0 to 55°C (temperature), 50 to 95% (humidity), pollution degree 2 Storage: -25 to 70°C (temperature), 5 to 95% (humidity)
Weight	Approx. 240g

◆ I/O Specifications

I/O channel	16 input channels, 8 output channels
I/O channel type	16 high-speed digital input channels, 8 high-speed digital output channels
I/O terminal	Input terminals: I0~I7, I10~I17 Output terminals: Q0~Q7
Common terminal for input points	Wiring terminal S/S (for connecting to the positive or negative pole of the power supply)
Input type	Sink or source
I/O response time	Input: 2.5 μs (OFF→ON), 5 μs (ON→OFF) Output: 2 μs (OFF→ON), 3 μs (ON→OFF)
Input signal current	24 VDC, 5 mA
Max. I/O cable length	Shielded: 500m, Not shielded: 300m
Power supply for output points	24 VDC (-15 to +20%) #1
Max. load	Resistive load: 0.5 A/1 point (2A/ZP) Inductive load: 13 W (30 VDC) Lamp: 2.5 W (30 VDC)

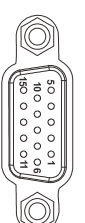
#1: UP and ZP must use external auxiliary 24 VDC power supply (-15 to 20%).

■ Communication Ports

◆ COM/SSI Port

DVP15MC11T's serial port consists of 15 pins for RS-232, RS-485 communication and SSI serial absolute encoder. See the table below for respective PIN definitions.

Pin No.	Signal	Definition
1	DATA+	Positive pole of absolute encoder data
2	DATA-	Negative pole of absolute encoder data
6	CLK+	Positive pole of absolute encoder clock
14	CLK-	Negative pole of absolute encoder clock
8	GND	Power ground of the absolute encoder
15	5V	Absolute encoder power
3	Tx	Transmitting RS-232 data
9	Rx	Receiving RS-232 data
11	D+	Positive pole of RS-485 data
12	D-	Negative pole of RS-485 data
5	GND	Signal ground of RS-232 and RS-485
7	Reserved	Reserved
10	Reserved	Reserved
4	Reserved	Reserved
13	Reserved	Reserved

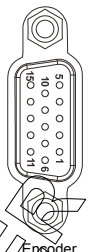


COM/SSI

◆ Encoder Port

DVP15MC11T's encoder port consists of 15 pins which include two incremental encoder ports. See the table below for respective PIN definitions.

Pin No.	Signal	Definition
1	A1+	Differential signals of the first incremental encoder
2	A1-	
10	B1+	
11	B1-	
4	Z1+	
5	Z1-	
15	+5V	Power of the first encoder
3	A2+	Differential signals of the second incremental encoder
9	A2-	
6	B2+	
12	B2-	
13	Z2+	
14	Z2-	
7	+5V	Power of the second encoder
8	GND	Grounding shared by two encoders

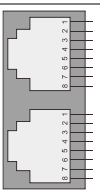


Encoder

◆ Ethernet Port

DVP15MC11T has two Ethernet ports supporting Modbus TCP protocol. See the table below for respective PIN definitions.

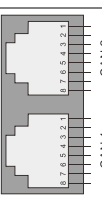
Pin No.	Signal	Definition
1	Tx+	Positive pole for transmiting data
2	Tx-	Negative pole for transmitting data
3	Rx+	Positive pole for receiving data
4	Reserved	Reserved
5	Reserved	Reserved
6	Rx-	Negative pole for receiving data
7	Reserved	Reserved
8	Reserved	Reserved



◆ CAN Port

DVP15MC11T has two CAN ports, CAN1 used for CANopen communication and CAN2 used for motion control. Pleases use the standardized CAN communication cable such as Delta CAN cable, UC-CMC003-01A, UC-CMC005-01A, UC-CMC010-01A and UC-CMC100-01A for construction of a CAN bus network.

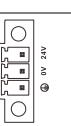
Pin No.	Signal	Definition
1	CAN_H	Signal+
2	CAN_L	Signal-
3	CAN_GND	0 VDC
4	Reserved	Reserved
5	Reserved	Reserved
6	CAN_SHLD	Shielded cable
7	CAN_GND	0 VDC
8	Reserved	Reserved



◆ Input Power Port

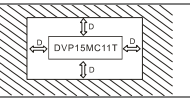
DVP15MC11T has a 24V DC input power port with the following pins.

Pin No.	Signal	Definition
1	24V	Positive pole of input voltage
2	0V	Negative pole of input voltage
3	GND	Earth

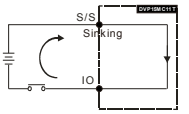
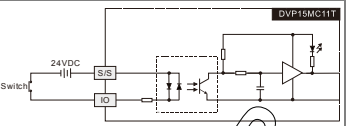
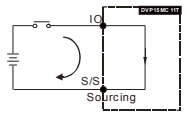
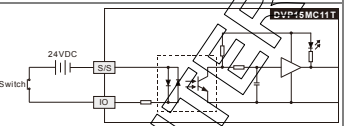


■ Installation & Wiring

◆ Installation

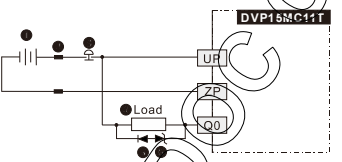
Install DVP15MC11T in an enclosure with sufficient space around it to allow heat dissipation. D > 50mm (See the right-side figure).	

◆ Input Point Wiring

Mode	Simplified model	Wiring loop
Sink		
Source		

◆ Output Point Wiring

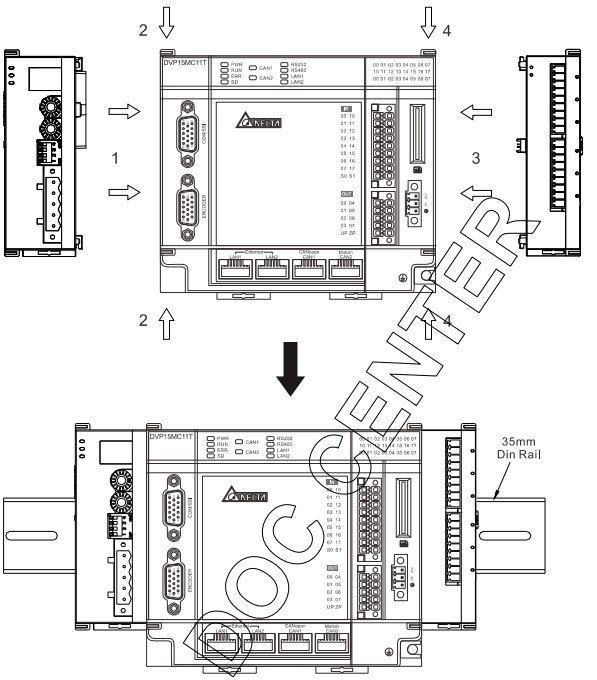
All transistor outputs in DVP15MC11T contain diodes for suppression which are sufficient for use in the smaller power and infrequent On/Off. However, in the event of larger power and frequent On/Off, the following suppression circuit is necessary for reducing interferences and preventing the transistor output circuit from being damaged due to overvoltage or overheating.



[Figure 2]

❶ DC power supply of 24 V	❷ Circuit protection fuse
❸ Emergency stop button	❹ Switch, inductive load
❺ Diode or equivalent component for suppression (❻ is not used but ❺ when in smaller power).	
❻ 9V Zener diode, 5W (❺ and ❻ are both used when in bigger power and frequent On/Off.	

▪ Connecting to Left-side and Right-side DVP-S Series of Extension Modules



[Figure 3]

感謝您採用台達 DVP-MC 系列運動控制器，它是基於 CANopen 現場總線的多軸運動控制器，可廣泛用於包裝、印刷、封裝，切割，數控機床，自動化倉儲等眾多運動控制領域。

- 使用前請務必仔細閱讀本使用手冊，並依照本手冊指示進行操作，以免造成產品受損或人員受傷。
- 配線時請務必關閉電源。
- 本手冊主要提供 DVP-MC 系列 PLC 的尺寸規格、通訊埠說明、安裝配線，如果讀者想瞭解更多的使用說明，請參閱 DVP15MC11T 應用技術手冊。
- 本機為開放型機殼，因此使用本機時，請務必將其安裝於具防塵、防潮及免於電擊/衝擊以外的外殼配線箱內。另必須具備保護措施（如：特殊之工具或鑰匙才可打開），防止非修護人員操作或意外衝擊本體，造成危險及損壞。
- 本產品用來控制運轉中的機械及設備，為避免損壞本產品，只有合格且熟悉本產品結構和操作的專業人員才可進行本產品的安裝、操作、配線及維護。
- 交流輸入電源不可連接於輸入輸出訊號端，否則將造成嚴重的損壞，請在上電之前再次確認電源配線。

■ 產品外觀與部位介紹

- 詳細外觀尺寸圖，請參閱英文版頁碼 1 之 [Figure 1]

①	機種名稱	⑩	SD 卡插槽
②	狀態指示燈	⑪	右側擴充模組接口
③	IO 指示燈	⑫	24V 電源接口
④	COM/SSI 通訊埠	⑬	螺釘固定扣
⑤	編碼器接口	⑭	擴充模組固定扣
⑥	Ethernet 通訊埠	⑮	左側擴充模組接口
⑦	CANopen 通訊埠	⑯	銘牌
⑧	CANmotion 通訊埠	⑰	DIN 軌固定扣
⑨	輸入輸出接腳及標示		

■ 電氣規格

◆ 電源規格

電源電壓	24 VDC (-15 ~ +20%)
電源保險絲容量	3 A/30 VDC，可恢復式 (Polyswitch)
隔離電壓	500 VDC (Secondary-PE)
消耗電力	8 W Max.
耐振動/衝擊	標準：IEC61131-2, IEC 68-2-6 (TEST Fc)/IEC61131-2 & IEC 68-2-27 (TEST Ea)
雜訊免疫力	ESD: 8KV Air Discharge, 4KV Contact Discharge EFT: Power Line:±2KV, Digital Input: ±1KV, Communication I/O: ±1KV RS: 80MHz ~ 1000MHz, 10V/m. Conducted Susceptibility Test: 150kHz ~ 80MHz, 3V/m Surge Test: Power line 0.5KV DM/CM

環境要求	操作：0 ~ 55°C（溫度），5 ~ 95%（濕度），污染等級 2 儲存：-25 ~ 70°C（溫度），5 ~ 95%（濕度）
重量	約 240g

◆ **輸入/輸出規格**

輸入/出通道數	輸入 16 通道；輸出 8 通道
輸入/出通道類型	16 通道為高速數位輸入型；8 通道為高速數位輸出型
輸入/出接線端子	輸入接線端子：I0~I7，I10~I17 輸出接線端子：Q0~Q7
輸入點公共端	接線端子 S/S（用於連接供電電源的正極或負極）
輸入類型	Sink 或 Source
輸入/出延遲時間	輸入：2.5 μs (OFF→ON)，5 μs (ON→OFF) 輸出：2 μs (OFF→ON)，3 μs (ON→OFF)
輸入訊號電流	24 VDC, 5 mA
輸入/出電纜最大長度	有遮罩：500m；無遮罩：300m
輸出點供電電壓	24 VDC (-15 ~ +20%) #1
最大負載	負載為電阻型：0.5 A/1 點 (2A/ZP) 負載為電感型：13 W (30 VDC) 負載為燈泡型：2.5 W (30 VDC)

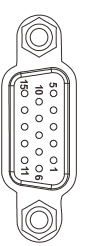
#1: UP、ZP 必須外加輔助電源 24 VDC (-15 ~20%)

■ 各通訊埠介紹

◆ **COM/SSI 通訊埠**

DVP15MC11T 的 COM/SSI 通訊埠為 15 針接口，包含 RS-232、RS-485 通訊埠及 SSI 絕對型編碼器接腳，各接腳定義如下：

接腳	訊號	敘述
1	DATA+	SSI 絕對型編碼器資料正極
2	DATA-	SSI 絕對型編碼器資料負極
6	CLK+	SSI 絕對型編碼器時鐘正極
14	CLK-	SSI 絕對型編碼器時鐘負極
8	GND	SSI 絕對型編碼器電源接地
15	5V	SSI 絕對型編碼器供電電源
3	Tx	RS-232 發送資料
9	Rx	RS-232 接收資料
11	D+	RS-485 正極
12	D-	RS-485 負極
5	GND	RS-232 和 RS-485 訊號接地
7	保留	保留
10	保留	保留
4	保留	保留
13	保留	保留

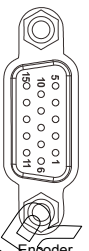


COM/SSI

◆ **編碼器接口**

DVP15MC11T 編碼器通訊埠為 15 針接口,提供兩組增量型編碼器接腳，接腳定義如下：

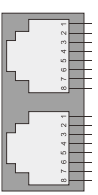
接腳	訊號	敘述
1	A1+	第一組增量型編碼器差分信號
2	A1-	
10	B1+	
11	B1-	
4	Z1+	
5	Z1-	
15	+5V	第一組編碼器供電電源
3	A2+	第二組增量型編碼器差分信號
9	A2-	
6	B2+	
12	B2-	
13	Z2+	
14	Z2-	
7	+5V	第二組編碼器供電電源
8	GND	兩組編碼器共用電源地



◆ Ethernet 通訊埠

DVP15MC11T 提供兩個 Ethernet 通訊埠（支援 Modbus TCP 協議），各接腳定義如下：

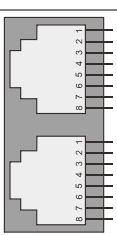
接腳	訊號	敘述
1	Tx+	傳輸資料正極
2	Tx-	傳輸資料負極
3	Rx+	接收資料正極
4	保留	保留
5	保留	保留
6	Rx-	接收資料負極
7	保留	保留
8	保留	保留



◆ CAN 通訊埠

DVP15MC11T 提供兩個 CAN 通訊埠：CAN1 和 CAN2。CAN1 用作標準 CANopen 通訊，或者作為 CAN2 運動控制使用。CAN 總線在架構網絡時，請使用標準的 CAN 通訊電纜，如台達提供的標準的 CAN 通訊電纜 UC-CMC003-01A、UC-CMC005-01A、UC-CMC010-01A 及 UC-CMC100-01A 。

接腳	訊號	敘述
1	CAN_H	Signal+
2	CAN_L	Signal-
3	CAN_GND	0 VDC
4	保留	保留
5	保留	保留
6	CAN_SHLD	遮罩線
7	CAN_GND	0 VDC
8	保留	保留



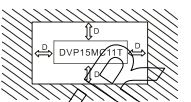
◆ 輸入電源接口

DVP15MC11T 提供一個直流 24V 輸入電源介面，各接腳定義如下：

引腳	名稱	敘述	
1	24V	輸入電壓正極	
2	0V	輸入電壓負極	
3	GND	接地	

■ 安裝及配線

◆ 盤內安裝

DVP15MC11T 在安裝時，請安裝于封閉式的控制箱內，其周圍應保持一定的空間，以確保其散熱功能正常，(如右圖所示) D > 50mm	

◆ 輸入節點配線

- 配線圖見英文版頁碼 4 之 Input Point Wiring 一節。

◆ 輸出節點配線

DVP15MC11T 電晶體輸出均已包含反電勢保護二極體，對於小功率感性負載，且 On/Off 頻率不高的應用已經足夠，但在大功率或 On/Off 頻繁的場合，請依下列方法另接抑制電路以降低干擾及防止過電壓或過熱而損壞電晶體輸出電路。

- 配線圖見英文版頁碼 4 之 [Figure 2]

❶ 24V 直流電源	❷ 電路保護用保險絲
❸ 急停按鈕	❹ 負載：開關、電感類負載等
❺ 二極體或等效組件，用於二極體抵制。(負載功率較小時只需使用❺，❻無需使用)	
❻ 9V 齊納二極體，5W；(負載為大功率且 On/Off 頻繁時，❺和❻一起使用。)	

■ 與左右側擴充模組 (DVP-S 系列) 連接

- 連接圖見英文版頁碼 5 之 [Figure 3]

感谢您采用台达 DVP-MC 系列运动控制器，它是基于 CANopen 现场总线的多轴运动控制器，可广泛用于包装、印刷、封装、切割、数控机床、自动化仓储等众多运动控制领域。

- 使用前请务必仔细阅读本使用手册，并依照本手册指示进行操作，以免造成产品受损或人员受伤。
- 配线时请务必关闭电源。
- 本手册主要提供 DVP-MC 系列 PLC 的尺寸规格、端口说明、安装配线，如果读者想了解更多的使用说明，请参阅 DVP15MC11T 应用技术手册。
- 本机为开放型机壳，因此使用本机时，请务必将其安装于具防尘、防潮及免于电击/冲击以外的外壳配线箱内。另必须具备保护措施（如：特殊之工具或钥匙才可打开），防止非修护人员操作或意外冲击本体，造成危险及损坏。
- 本产品用来控制运转中的机械及设备，为避免损坏本产品，只有合格且熟悉本产品结构和操作的专业人员才可进行本产品的安装、操作、配线及维护。
- 交流输入电源不可连接于输入输出信号端，否则将造成严重的损坏，请在上电之前再次确认电源配线。

■ 产品外观与部位介绍

● 详细外观尺寸图，请参阅英文版页码 1 之 [Figure 1]

①	机种名称	⑩	SD 卡插槽
②	状态指示灯	⑪	右侧扩展模块接口
③	IO 指示灯	⑫	24V 电源接口
④	COM/SSI 通讯口	⑬	螺钉固定扣
⑤	编码器接口	⑭	扩展模块固定扣
⑥	Ethernet 通讯口	⑮	左侧扩展模块接口
⑦	CANopen 通讯口	⑯	铭牌
⑧	CANmotion 通讯口	⑰	DIN 轨固定扣
⑨	输入输出脚位及标示		

■ 电气规格

◆ 电源规格

电源电压	24 VDC (-15 ~ +20%)
电源保险丝容量	3 A/30 VDC，可恢复式 (Polyswitch)
隔离电压	500 VDC (Secondary-PE)
消耗电力	8 W Max.
耐振动/冲击	标准：IEC61131-2, IEC 68-2-6 (TEST Fc)/IEC61131-2 & IEC 68-2-27 (TEST Ea)
噪声免疫力	ESD: 8KV Air Discharge ,4KV Contact Discharge EFT: Power Line:±2KV, Digital Input: ±1KV, Communication I/O: ±1KV RS: 80MHz ~ 1000MHz, 10V/m. Conducted Susceptibility Test: 150kHz ~ 80MHz, 3V/m Surge Test : Power line 0.5KV DM/CM

环境要求	工作：0 ~ 55°C（温度）· 5 ~ 95%（湿度）· 污染等级 2 储存：-25 ~ 70°C（温度）· 5 ~ 95%（湿度）
重量	约 240g

◆ **输入/输出规格**

输入/出通道数	输入 16 通道；输出 8 通道
输入/出通道类型	16 通道为高速数字输入型；8 通道为高速数字输出型
输入/出接线端子	输入接线端子：I0~I7，I10~I17 输出接线端子：Q0~Q7
输入点公共端	接线端子 S/S（用于连接供电电源的正极或负极）
输入类型	漏型模式（Sink）或者源型模式（Source）
输入/出延迟时间	输入：2.5 μs (OFF→ON), 5 μs (ON→OFF) 输出：2 μs (OFF→ON), 3 μs (ON→OFF)
输入信号电流	24 VDC, 5 mA
输入/出电缆最大长度	有屏蔽：500m；无屏蔽：300m
输出点供电电压	24 VDC (-15 ~ +20%)#1
最大负载	负载为电阻型：0.5 A/1 点（2A/ZP） 负载为电感型：13 W (30 VDC) 负载为灯泡型：2.5 W (30 VDC)

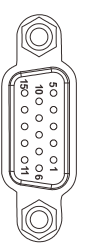
#1: UP、ZP 必须外加辅助电源 24 VDC (-15 ~ 20%)

■ 各通讯口介绍

◆ **COM/SSI 接口**

DVP15MC11T COM/SSI 接口为 15 针接口，包含 RS-232、RS-485 通讯口及 SSI 绝对型编码器接口，各引脚定义如下：

引脚	信号	叙述
1	DATA+	SSI 绝对型编码器数据正极
2	DATA-	SSI 绝对型编码器数据负极
6	CLK+	SSI 绝对型编码器时钟正极
14	CLK-	SSI 绝对型编码器时钟负极
8	GND	SSI 绝对型编码器电源接地
15	5V	SSI 绝对型编码器供电电源
3	Tx	RS-232 发送数据
9	Rx	RS-232 接收数据
11	D+	RS-485 正极
12	D-	RS-485 负极
5	GND	RS-232 和 RS-485 信号地
7	保留	保留
10	保留	保留
4	保留	保留
13	保留	保留

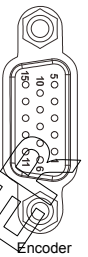


COM/SSI

◆ 编码器接口

DVP15MC11T 编码器通讯口为 15 针接口,提供 2 组增量型编码器接口，引脚定义如下：

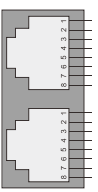
引脚	信号	叙述
1	A1+	第一组增量型编码器差分信号
2	A1-	
10	B1+	
11	B1-	
4	Z1+	
5	Z1-	
15	+5V	第一组编码器供电电源
3	A2+	第二组增量型编码器差分信号
9	A2-	
6	B2+	
12	B2-	
13	Z2+	
14	Z2-	
7	+5V	第二组编码器供电电源
8	GND	两组编码器共用电源地



◆ Ethernet 通讯口

DVP15MC11T 提供两个 Ethernet 接口（支持 Modbus TCP 协议），各引脚定义如下：

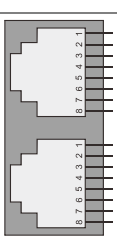
引脚	信号	叙述
1	Tx+	传输数据正极
2	Tx-	传输数据负极
3	Rx+	接收数据正极
4	保留	保留
5	保留	保留
6	Rx-	接收数据负极
7	保留	保留
8	保留	保留



◆ CAN 通讯口

DVP15MC11T 提供两个 CAN 通讯口：CAN1 和 CAN2。CAN1 用作标准 CANopen 通讯，或者作为 CAN2 运动控制使用。CAN 总线在组网时，请使用标准的 CAN 通讯电缆，如台达提供的标准的 CAN 通讯电缆 UC-CMC003-01A、UC-CMC005-01A、UC-CMC010-01A、UC-CMC100-01A 。

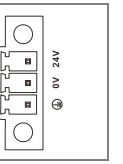
引脚	信号	叙述
1	CAN_H	Signal+
2	CAN_L	Signal-
3	CAN_GND	0 VDC
4	保留	保留
5	保留	保留
6	CAN_SHLD	屏蔽线
7	CAN_GND	0 VDC
8	保留	保留



◆ 输入电源接口

DVP15MC11T 提供一个直流 24V 输入电源接口，各引脚定义如下：

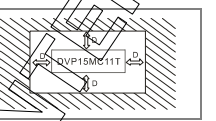
引脚	名称	叙述
1	24V	输入电压正极
2	0V	输入电压负极
3	GND	接地



■ 安装及配线

◆ 盘内安装

DVP15MC11T 在安装时，请配于封闭式的控制箱内，其周围应保持一定的空间，以确保其散热功能正常，(如右图所示) D > 50mm



◆ 输入节点配线

- 配线图见英文版页码 4 之 Input Point Wiring 一节。

◆ 输出节点配线

DVP15MC11T 晶体管输出均已包含反电势保护二极管，对于小功率感性负载，且 On/Off 频率不高的应用已经足够，但在大功率或 On/Off 频繁的场合，请依下列方法另接抑制电路以降低干扰及防止过电压或过热而损坏晶体管输出电路。

- 配线图见英文版页码 4 之 [Figure 2]

❶ 24V 直流电源	❷ 电路回路保护用保险丝
❸ 急停按钮	❹ 负载：开关、电感类负载等
❺ 二极管或等效组件，用于二极管抑制。(负载功率较小时只需使用❺，❻无需使用)	
❻ 9V 齐纳二极管，5W；(负载为大功率且 On/Off 频繁时，❺和❻一起使用。)	

■ 与左右侧扩展模块（DVP-S 系列）连接

连接图见英文版页码 5 之 [Figure 3]

Delta DVP-MC serisi motion kontrol ünitesini seçtiğiniz için teşekkürler. CANopen temelli çoklu eksen motion kontrol ünitesi paketleme makinaları, baskı makinaları, diş çekme makinaları, kesme makinaları, dijital kontrol torna ve otomatik depolama sistemleri gibi uygulamalarda kullanılabilir.

TR ↗ DVP15MC11T ürünü AÇIK TİP bir aygıt olup toz, rutubet, elektrik şoku ve titreşimden uzak kapalı yerlerde muhafaza edilmelidir. Yanlış kullanım sonucu DVP15MC11T ürününün zarar görmesini önlemek için yetkili olmayan kişiler tarafından DVP15MC11T ürününe müdahale edilmesini önleyecek koruyucu önlemler alınmalıdır. (DVP15MC11T ürününün bulunduğu panoya kilit konulması gibi).

TR ↗ Ürünün I/O terminallerine AC power bağlamayınız, aksi halde ürün zarar görebilir. DVP15MC11T ürününe enerji vermeden önce bağlantıları kontrol ediniz. DVP15MC11T ürününün enerjisi kesildikten sonra 1dk boyunca terminallere dokunmayınız. Elektromanyetik gürültüyü engellemek için, DVP15MC11T ürününün topraklama terminalinin ⏚ topraklamasının doğru olduğuna emin olunuz.

■ Ürün Profili & Ölçüler

Lütfen İngilizce (English) bölümündeki Şekil 1'e [Figure 1] bakınız.

①	Model adı	⑩	SD kart slotu
②	Durum indikatörleri	⑪	Sağ kenar ilave port
③	I/O indikatörler	⑫	24V besleme portu
④	COM/SSI port	⑬	Vida sabitleme klipsi
⑤	Enkoder port	⑭	İlave modül sabitleme klip
⑥	Ethernet port	⑮	Sol kenar ilave port
⑦	CANopen haberleşme portu	⑯	Etiket
⑧	CANmotion port	⑰	DIN ray klipsi
⑨	Giriş/Çıkış pin yerleri ve sembolleri		

■ Elektriksel Özellikler

◆ Güç Kaynağı

Besleme voltajı	24 VDC (-15 ~+20%)
Besleme sigortası	3 A/30 VDC, polyswitch
İzolasyon voltajı	500 VDC (Sekonder-PE)
Güç tüketimi	Max. 8 W
Şok/Titreşim Bağışıklığı	Standartlar: IEC61131-2, IEC 68-2-6 (TEST Fc)/IEC61131-2 & IEC 68-2-27 (TEST Ea)
Ses bağışıklığı	ESD: 8 kV Hava deşarj, 4 kV Kontak deşarj EFT: Güç Hattı: ±2 kV, Dijital Giriş: ±1 kV, Haberleşme I/O: ±1 kV RS: 80 MHz~1000 MHz, 10V/m İletkenlik Hassasiyet Testi: 150 kHz ~ 80 MHz, 3V/m Dalgalanma Testi: Güç hattı 0.5 kV DM/CM
Ortam Koşulları	Çalışma: 0 - 55°C (sıcaklık), 50 - 95% (rutubet), kirlenme derecesi 2 Saklama: -25 - 70°C (sıcaklık), 5 - 95% (rutubet)
Ağırlık	Yaklaşık 240g

◆ I/O Özellikleri

I/O kanal	16 giriş kanalı, 8 çıkış kanalı
I/O kanal tipi	16 yüksek-hızlı dijital giriş kanalı, 8 yüksek-hızlı dijital çıkış kanalı
I/O terminal	Giriş terminalleri: I0~I7, I10~I17 Çıkış terminalleri: Q0~Q7
Giriş noktaları ortak terminali	S/S bağlantı terminali (Güç kaynağının pozitif veya negatif uç bağlantısı için)

Giriş tipi	Sink veya Source
I/O cevap zamanı	Giriş: 2.5 µs (OFF→ON), 5 µs (ON→OFF) Çıkış: 2 µs (OFF→ON), 3 µs (ON→OFF)
Giriş sinyali akımı	24 VDC, 5 mA
Max. I/O kablo uzunluğu	Ekranlı: 500m; Ekransız: 300m
Çıkış noktaları için güç kaynağı	24 VDC (-15 - +20%) #1
Max. yük	Rezistif yük: 0.5 A/1 nokta (2A/ZP) Endüktif yük: 13 W (30 VDC) Lamba: 2.5 W (30 VDC)

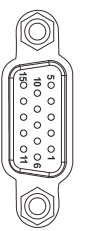
#1: UP ve ZP terminalleri için harici 24 VDC güç kaynağı (-15 - 20%) kullanılmalıdır.

■ Haberleşme Portları

◆ COM/SSI Port

DVP15MC11T'nin 15 pin seri portu RS-232, RS-485 haberleşme ve SSI seri absolute enkoder içerir. PIN açıklamaları için aşağıdaki şemayı inceleyiniz.

Pin No.	Sinyal	Açıklama
1	DATA+	Absolute enkoder data pozitif uç
2	DATA-	Absolute enkoder data negatif uç
6	CLK+	Absolute enkoder clock pozitif uç
14	CLK-	Absolute enkoder clock negatif uç
8	GND	Absolute enkoder güç toprağı
15	5V	Absolute enkoder besleme
3	Tx	RS-232 data gönderme
9	Rx	RS-232 data alma
11	D+	RS-485 data pozitif uç
12	D-	RS-485 data negatif uç
5	GND	RS-232 ve RS-485 sinyal toprağı
7	Rezerve	Rezerve
10	Rezerve	Rezerve
4	Rezerve	Rezerve
13	Rezerve	Rezerve

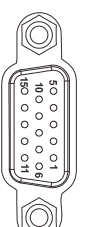


COM/SSI

◆ Enkoder Port

DVP15MC11T'nin 15 pin enkoder portu 2 adet incremental enkoder bağlantısı içerir. Pin açıklamaları için aşağıdaki şemayı inceleyiniz.

Pin No.	Sinyal	Açıklama
1	A1+	1. Incremental enkoder diferansiyel sinyalleri
2	A1-	
10	B1+	
11	B1-	
4	Z1+	
5	Z1-	
15	+5V	Birinci enkoder beslemesi
3	A2+	2. Incremental enkoder diferansiyel sinyalleri
9	A2-	
6	B2+	
12	B2-	
13	Z2+	
14	Z2-	
7	+5V	İkinci enkoder beslemesi
8	GND	İki encoder tarafından paylaşılan toprak

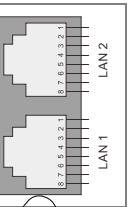


Enkoder

◆ Ethernet Port

DVP15MC11T'nin Modbus TCP protokolü destekleyen 2 ethernet portu vardır. Pin açıklamaları için aşağıdaki şekli inceleyiniz.

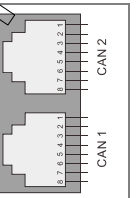
Pin No.	Sinyal	Açıklama
1	Tx+	Data gönderme için pozitif uç
2	Tx-	Data gönderme için negatif uç
3	Rx+	Data alma için pozitif uç
4	Rezerve	Rezerve
5	Rezerve	Rezerve
6	Rx-	Data alma için negatif uç
7	Rezerve	Rezerve
8	Rezerve	Rezerve



◆ CAN Port

DVP15MC11T'nin 2 CAN portu vardır, CAN1 CANopen haberleşme ve CAN2 motion kontrol için kullanılır. CAN bus network yapılandırmak için lütfen Delta CAN kablosu gibi UC-CMC003-01A, UC-CMC005-01A, UC-CMC010-01A ve UC-CMC100-01A standart CAN haberleşme kablosu kullanınız.

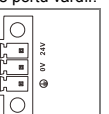
Pin No.	Sinyal	Açıklama
1	CAN_H	Sinyal+
2	CAN_L	Sinyal-
3	CAN_GND	0 VDC
4	Rezerve	Rezerve
5	Rezerve	Rezerve
6	CAN_SHLD	Ekranlı kablo
7	CAN_GND	0 VDC
8	Rezerve	Rezerve



◆ Giriş Besleme Portu

DVP15MC11T'nin aşağıda pinleri göründüğü gibi 24V DC giriş besleme portu vardır.

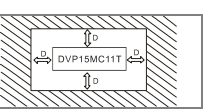
Pin No.	Sinyal	Açıklama
1	24V	Giriş voltajı pozitif uç
2	0V	Giriş voltajı negatif uç
3	GND	Toprak



■ Kurulum & Bağlantı

◆ Kurulum

DVP15MC11T kurulumunu yaparken ısı dağılımı için çevresinde gerekli bırakıldığından emin olunuz. D > 50mm (Sağdaki şekli inceleyiniz).



◆ Giriş Noktası Bağlantısı

Daha fazla bilgi için lütfen İngilizce (English) bölümündeki Giriş Bağlantı Noktası (**Input Point Wiring**) başlığına bakınız.

◆ Çıkış Noktası Bağlantısı

DVP15MC11T içindeki tüm transistor çıkışlar bastırma için küçük güç ve sık on/off olamayan kullanımlar için yeterli olan diyot içerir. Büyük güç ve sık on/off olan durumlarda parazitleri ve aşırı voltaj veya aşırı ısıdan transistor çıkış devresinin zarar görmesini önlemek için aşağıdaki bastırma devresi kullanılmalıdır.

• Lütfen Ingilizce (English) bölümdeki şekil 2'ye [Figure 2] bakınız.

❶ 24 V DC besleme	❷ Devre koruma sigortası
❸ Acil stop butonu	❹ Switch, endüktif yük

❺ Bastırma için diyot veya eşdeğer komponent (❻ kullanılmaz fakat ❺ daha düşük güç olduğu zaman).

❻ 9V Zener diyot, 5W (❺ ve ❻ büyük güç ve sık açma kapama on/off olduğu zaman beraber kullanılır.)

■ DVP-S Serisi İlave modüllerin Sol-kenar ve Sağ-kenar Bağlantısı

İngilizce (English) bölümdeki Şekil 3'ü [Figure 3] inceleyiniz.

TÜRKİYE
İTHALATÇI FİRMA

FABRİKA AYGITLARI SİSTEM TEKNOLOJİSİ BİLGİSAYAR YAZILIM VE ELEKTRONİK PAZARLAMA İTHALAT İHRACAT ANONİM ŞİRKETİ

FAST Plaza Küçükbakkalköy Mh. Dereyolu Sk. No:4
ATAŞEHİR / İSTANBUL
T: +(90) 216 574 94 34 F: +(90) 216 574 16 60
E: satis@fastltd.net W: www.fastltd.net

Üretici Firma
Delta Electronics, Inc.

Taiwan
31-1 Xingbang Road,
Guishan Industrial Zone,
Taoyuan County 33370,
Taiwan
TEL: 886-3-362-6301
FAX: 886-3-362-7267

China
1688 Jiangxing East Road,
Wujiang Economic Development Zone
Wujiang City, Jiang Su Province,
People's Republic of China (Post code: 215200)
TEL: 86-512-6340-3008
FAX: 86-769-6340-7290