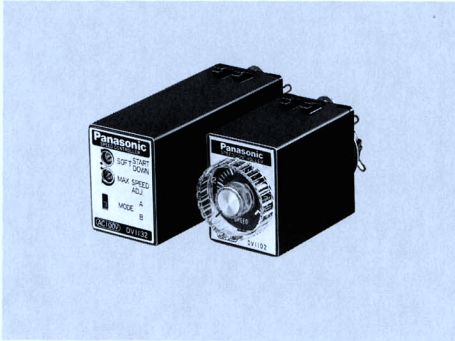


Speed Controller

速度控制器組裝型 스피드 컨트롤러



SD Type

- Speed set device built-in
The speed volume switch enables to adjust the rotation speed.
- Instant stop with electromagetic brake is available :
- 8P compact plug-in type is applied!
- Wide variation in options are available.

- 機體內部裝有速度設定器
只要操作前面的設定速度用旋鈕，可以隨時調整馬達的旋轉速度。
無需另外配合速度設定器，更不必特別布線之要。
- 由於電制動器的作用，定將按需瞬時停機。
- 採用小形 8 P (腳) 插件方式。
- 可供豐富的配合用另售品
可以按需用松下電工所製的端子臺、插座等另售的配件。
- 速度設定器를 內藏.
케이스 前面의 速度設定用 손잡이에 依해 모터의 回轉速度의 調整을 할 수 있습니다.
- 電氣브레이크에 依한 瞬間停止機能이 可能.
- 小形의 8 P 플러그 IN 방식을 採用.
- 豊富한 実裝用 OPTION의 利用이 可能.
松下電工製의 端子臺 소켓 等 配電用 OPTION이 여러모로 利用됩니다.

EX Type

- Soft start, soft down function available :
Excellent in the performance of softly starting and down speed, with a max 5sec speed adjustment.
- High response in switching
High and stable response in switch change.
- Improved the instant stop function
- Parallel operation is possible :
Enable to operate several motors with single controller.
- Able to connect other control systems
Able to control with the voltage signal as well.

- 可能實行緩慢啓動、逐漸減速而停機。
慢速操作的最大調節時間範圍是 5 秒鐘，並且呈出線性的啓動、停機動作，穩定性極可觀。
- 響應性轉換功能
因備有高穩定性、高響應性的轉換開關，按照用途選最適特性。
- 更提高瞬時停止功能。
- 並聯運轉功能
在一個功率的容量範圍下可控制多數臺的馬達。
- 不妨連接到其他控制系統
如連接順序程序等其他控制系統，則能準確地控制馬達，此外利用電壓信號亦能控制。

- 소프트 스타트·소프트 다운이 可能,
最大 5 秒까지의 時間調整이 可能, 또 소프트 스타트·소프트 다운의 直線性에 優秀합니다.
- 応答性切換이 可能.
高安全性, 高応答性の 切換S/W가 內藏되어 있으므로 用途에 適合한 特性을 選擇할 수 있습니다.
- 瞬間停止機能을 더욱 向上.
- 並列運轉이 可能.
한個의 VOLUME으로 여러臺의 모터를 制御할 수가 있음.
- 他의 制御系와의 連結이 可能.
시퀀스等 他의 制御系와의 連結에 依해 모터를 制御할 수 있습니다. 또 電壓信號에 있어서도 制御됩니다.



■ Specifications

	SD Type												EX Type				
Model	DV-1101	DV-1102	DV-1104	DV-1201	DV-1202	DV-1204	DV-1101Q	DV-1102Q	DV-1104Q	DV-1201W	DV-1202W	DV-1204W	DV-1131	DV-1132	DV-1134	DV-1231	DV-1234
Spec	100V			200V			110~115V			220~230V			100V		200V		
Rated Voltage ^{*3}	100V			200V			110~115V			220~230V			100V		200V		
Operation Volt Range	±10%						±10%						±10%				
Power Source Freq	50/60Hz						50/60Hz						50/60Hz				
Rated Current	0.4A	1A	2.0	0.3A	0.6A	1A	0.4A	1A	2.0	0.3A	0.6A	1A	0.4A	1A	2.0	0.3A	1A
Applicable Motor Output ^{*1}	3~10W	15~40W	60~90W	6~20W	25~40W	60~90W	3~10W	15~40W	60~90W	6~20W	25~40W	60~90W	3~10W	15~40W	60~90W	6~20W	25~90W
Response													High response		High stability		
Speed Control Range	90~1400rpm/90~1700rpm						90~1400rpm/90~1700rpm						90~1400rpm/90~1700rpm		50~1400rpm/50~1700rpm		
Speed Variation	5%						5%						Mix. 5%		Max. 3%		
Speed Set Device	Built in (External speed set device attachable)						Built in (External speed set device attachable)						With external speed set device				
Control ^{*2}	Run electric brake for certain period to motor						Run electric brake for certain period to motor						Run electric brake for certain period to motor				
Electric Brake Period	0.5sec						0.5sec						Max. 0.5sec				
Parallel Operation	Not suitable for parallel operation						Not suitable for parallel operation						possible				
Soft Start/Soft Stop	None						None						possible				
Operation Temperature	-10~50°C						-10~50°C						-10~50°C				
Storage temperature	-20~60°C						-20~60°C						-20~60°C				

※ 1. Suitable motors are G-series variable speed types.

※ 2. The electric brake does not have retentiveness.

※ 3. Single phase only.

* 1. 適用MOTOR는 当社G시리즈 可變速 MOTOR로 합니다. 또한 모터의 仕様은 카다록 등을
모이 주세요.

* 2. 電氣BRAKE에는 保持力이 없습니다. REVERSIBLE MOTOR를 使用하면 항상 摺動形의 簡易

F

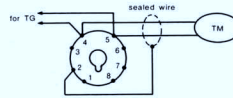


■ Operation Speed Meter

● Model DVOP001

The motor speed can be easily indicated. This model especially designed for Panasonic controllers only.
 TMW Motor Speed Meter
 TGW Tache-generator

MOTOR의 회전속도의 표시가 간단히 됩니다. 또한 이 METER는 당사의 콘트롤러용으로 専用設計된 것입니다.



TM : Motor Speed Meter
 TG : Tache-generator

(Caution)

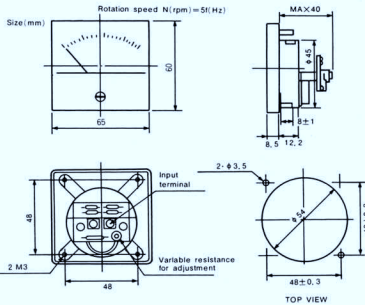
1. Connect parallel with the speed generator (TG)
2. When the wires for the rotation speed meter (TM) becomes too long, use a twisted sealed wire in place.
3. Adjust the meter with the volume in the back of TM.

How to adjustW

1. Measure the motor speed with the rotate measurement.
2. Measure the frequency F of the voltage from TG. Rotation speed N (RPM) = 5F (Hz)

(주)

1. 속도発電機(TG)와 並列로(나란히)配線해 주세요.
2. 회전속도 METER(TM)의 配線이 길어질 때에는 쓰이스트 실드線을 利用해 주세요.
3. TM의 뒷면의 半固定 VOLUME으로서 “눈금”을 校正해 주세요.
 校正方法
 1. 回転計에 依해 MOTOR의 回転속도를 測定한다.
 2. TG의 發生하는 電圧의 周波數를 測定한다.



■ External Speed Set

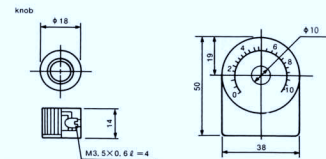
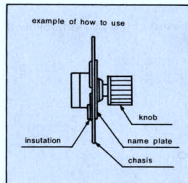
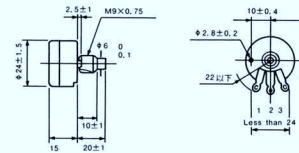
● Model DVOP002 20kΩ 1/4WB equivalent 20kΩ 1/4WB (m/m)
 (Packaged in EX type only)

Use a insulation paper between the mounting chasis and the terminal in order to keep certain insulation.

(Caution)

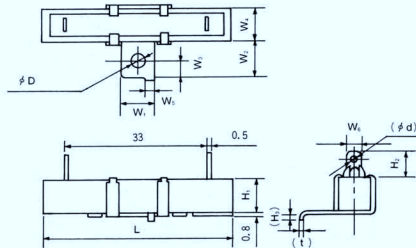
In case the terminal accidentally grounds, the speed controller will damage.

端子와 付着사시의 絶緣을 確保하기 爲해 絶緣紙를 使用해 주세요.



External Resistance for Brake Use

- Model: DVOP003
5.6Ω 10W



Dimensions (mm)

$L_3 \pm 2.0$	$W_1 \pm 0.5$	$W_2 \pm 1.0$	$W_3 \pm 0.5$	W_4	$W_5 \pm 0.3$	$W_6 \pm 0.5$	$H_1 \pm 0.5$	H_{3+3}	(H_3)	(D)	(d)	(t)
48.0	12.0	14.0	6.0	10.5 ± 1.5	3.0	4.8	10.5	9.0	2.2	2.8	2.5	0.6

(Caution)

DV-OP003 is 5.6Ω

When purchasing from generally in the market, select A4.7Ω ~ 5.8Ω (more than 10W) type.

(주) DV-OP003은 5.6Ω입니다.

市販의 抵抗器을 使用하실 때는 10W以上 4.7Ω ~ 6.8Ω를 選定해 주세요.

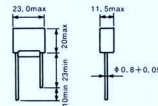


Spark Killer

- Model: DVOP008

Use a spark killer in order to protect the main speed controller and the switches.

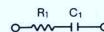
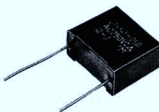
SPEED CONTROLLER의 回路와 SWITCH를 保護하기 爲해 스파크 킬라를 使用해 주세요.



(Caution)

When using spark killer generally purchased in the market, follow the instructions shown below:

(주) 市販品을 使用하실 때는 다음 仕様으로 해 주세요.



$R_1 = 10 \sim 100 \Omega$ (More than 1/4W)

$C_1 = 0.1 \sim 0.33 \mu F$ (AC125VV 100V or 250VV 200V)

(Matsushita Electric Works Ltd.)



■ Mounting Frame (Mathushita Electric Works)

	Shape	Color	Model No.	Picture of the front face	Size of mount hole (mm)
					Recommended hole
H Type		grey	○AT7851		 50.5 ±0.5 0 43.5 ±0.5 0 *more than 6.5mm
		brack	○AT7852		
		silver gray	○AT7853		
K Type		grey	○AT7811		 53±0.3 39±0.3 *more than 11mm
		brack	○AT7812		
		silver gray	○AT7813		
MHP Type		grey	○AT7821		 53±0.3 39±0.3 *more than 13mm
		brack	○AT7822		
		silver gray	○AT7823		
MHP-M Type		grey	○AT7831		 76.0 ±1.1 13±0.3 39±0.3 *more than 21mm
S Type		grey	○AT7841		 76.0 ±1.1 66±0.3 39±0.3 *more than 8mm

(Caution 1) All thickness of adapted panel is between 1.0~3.5mm

(Caution 2) * : The distance between holes when mounting the controllers parallelly.

주 1) 適用パネル 두께는 모두 1.0~3.5mm입니다.

주 2) *並列(나란히)파낼것드릴 때의 구멍의 間隔

■ Ultra Compact Timer/Option

● (Exposed Type)

Model	Internal Wiring	Mounted Condition	Mounting Hole
 DIN terminal stand ATT803	 Main body No.is same as terminal no.	 The DIN rail height should be added to A	1) Easy mounting for DIN rail 0.2 71 30
 Socket AW 68102 Comes to each speed controller		 Use a M3 screw nut.	 Mounting pitchW When mounting horizontally, keep the pitch More than 78mm 39
 Holding spring AT7808 (50pcs/lot)			

(Caution 1)

In case of crimp-type terminal lugs, a crimp-type terminal lugs which is already connected is fixed by UP terminal (For M3.5 screw).

(Caution 2)

Without DIN rail, recommend to use a small round terminal stand AT7802.

주) 1. 圧着端子의 경우

미리 結線된 圧着端子 up端子(M3.5 나사못)으로 固定한다.

適合圧着端子

① 環九形端子

② 絶緣紙付環九形端子

③ 先開形端子

주) 2. DIN 레일을 사용하지 않는 때는 小型九 端子台 AT 7802를 사용 해 주세요.



● How to Mount

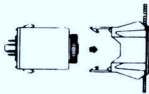
- ① Insert the mounting frame from front of the panel out.
 付着枠(등)을 패널의 전면에서 삽입해 주세요.



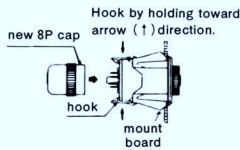
(Caution)
 The panel cannot be inserted when the controller body is attached to the mounting frame.

주) 본체 등 埋込枠(등)에 裝着한 狀態로 의 面板插入은 不可能합니다.
 (BS TYPE 원터치 埋込用 組立등의 경우 順序의 制約은 받지 않습니다.)

- ② After Attaching the panel, insert the controller body from the back.
 後面를 메스에 걸쳐 埋込枠(등)에 固定해 주세요. 확실쪽



- ③ Hook and fix the mounting.

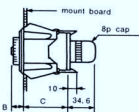


(Caution)
 When the controller contacts to the edge of the frame, move the hook towards the arrow direction shown in the picture. for wire connection, use NEW-8PCAP (AD-8013)

주) 본체가 組立枠(등) 손잡이에 닿았을 때 "후크" 부분을 화살 방향으로 돌려서 맞추어 주세요. 接統配線에는 NEW 8P캡 (AD 8013)을 使用해 주세요.

● How to Remove

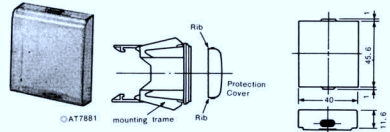
Follow the opposite way of the mounting instructions.
 조립方法的의 逆順序로 해제가 됩니다.



● Size of Band CC nn

frame type	B	C
H type K type	13.1	52.8
MHP type MHP-M type S type	14.8	51.3

■ Protection Cover



付着枠(등) 全面으로부터 保護カバー의 化粧一部를 눌러서 리프를 서서히 組立枠(등) 空(창) 안쪽에 리프를 겁니다. 이때 付着枠(등)에 本体가 挿入되어 있어도 保護カバー의 付着에는 支障이 없습니다.

FeaturesW

1. Prevents mal-operation after speed set, and prevents dust invasion.
2. Can be applied to all easy mounting attach types.

1. 速度設定後의 誤動作을 防止하고 簡易防止카버로 됩니다.
2. 원터치 埋込付着등의 全 TYPE에 適用됩니다.

■ New 8P Cap

● Shape



◎AD8013

Maintenance

The following maintenance is required for longer life and reliability:

- ① To check smooth operation
- ② To check no unusual noise
- ③ To check over heat

作業의 效率을 올려 本機械의 壽命을 길게 하기 위해서는 다음과 같은 平素의 補修가 重要합니다.

- ① 運轉이 円滑하게 行해지고 있는가
- ② 運轉中에 異常한 소리가 나지 않는가
- ③ 異常 發熱은 나지 않는가.

Damage and Counter Measures

[故障의 原因과 其措置]

Phenomenon	Where to check	Contents to Check	judge the Cause	Countermeasures
How motor does Not rotate:	Wire Connection	If it is proper	Check the connection	Re-connect properly
	Terminal No. (1~7)	Change the speed set volt and check the volt change.	Controller damaged if voltage does not change. If the volt change from 0 to power source V: 1. Motor defect 2. Overload 3. Condensor defect	
Motor rotates but speed does Note change:	Wire connection	If it is proper	Check the wire connections	
	Speed Generator terminal 4~5	To Have approx. AC6V/1700RPM AC5V/1400RPM of voltage.	If not, it is speed generator defect. If such volt is Measured, it is speed controller defect.	