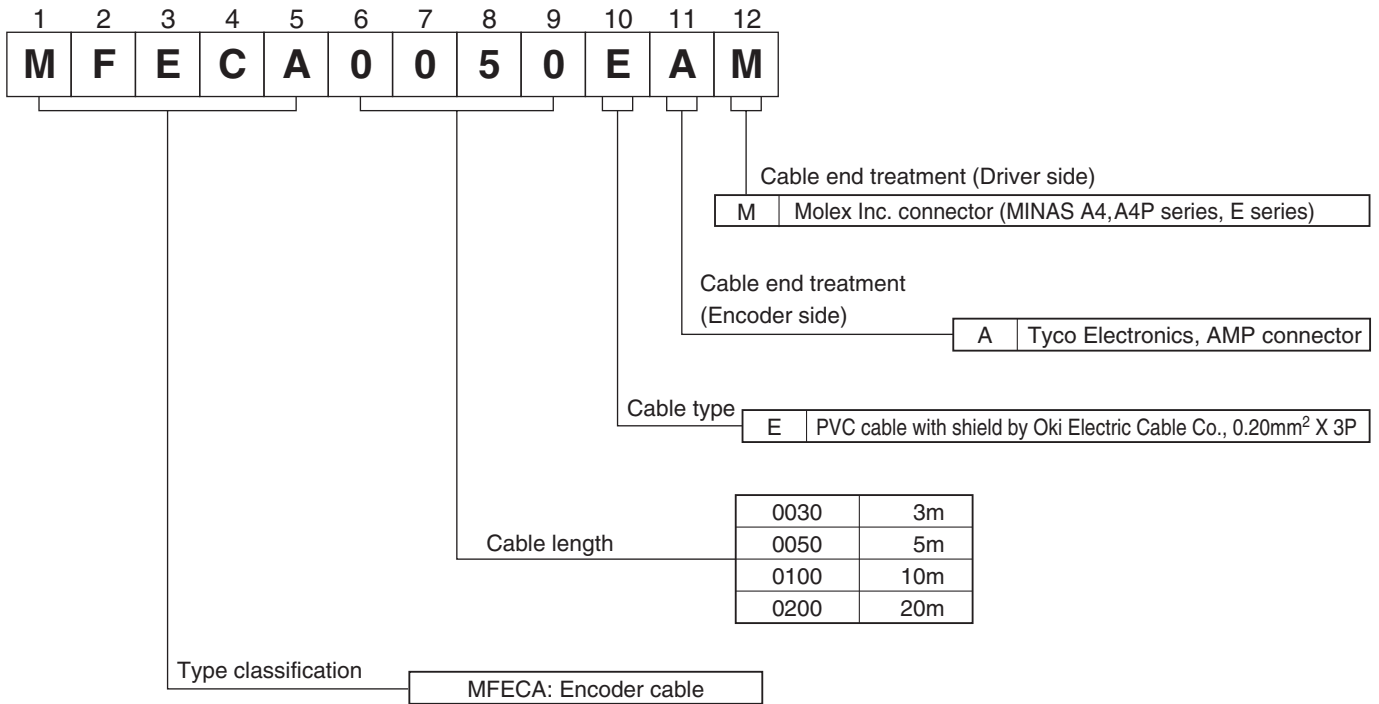


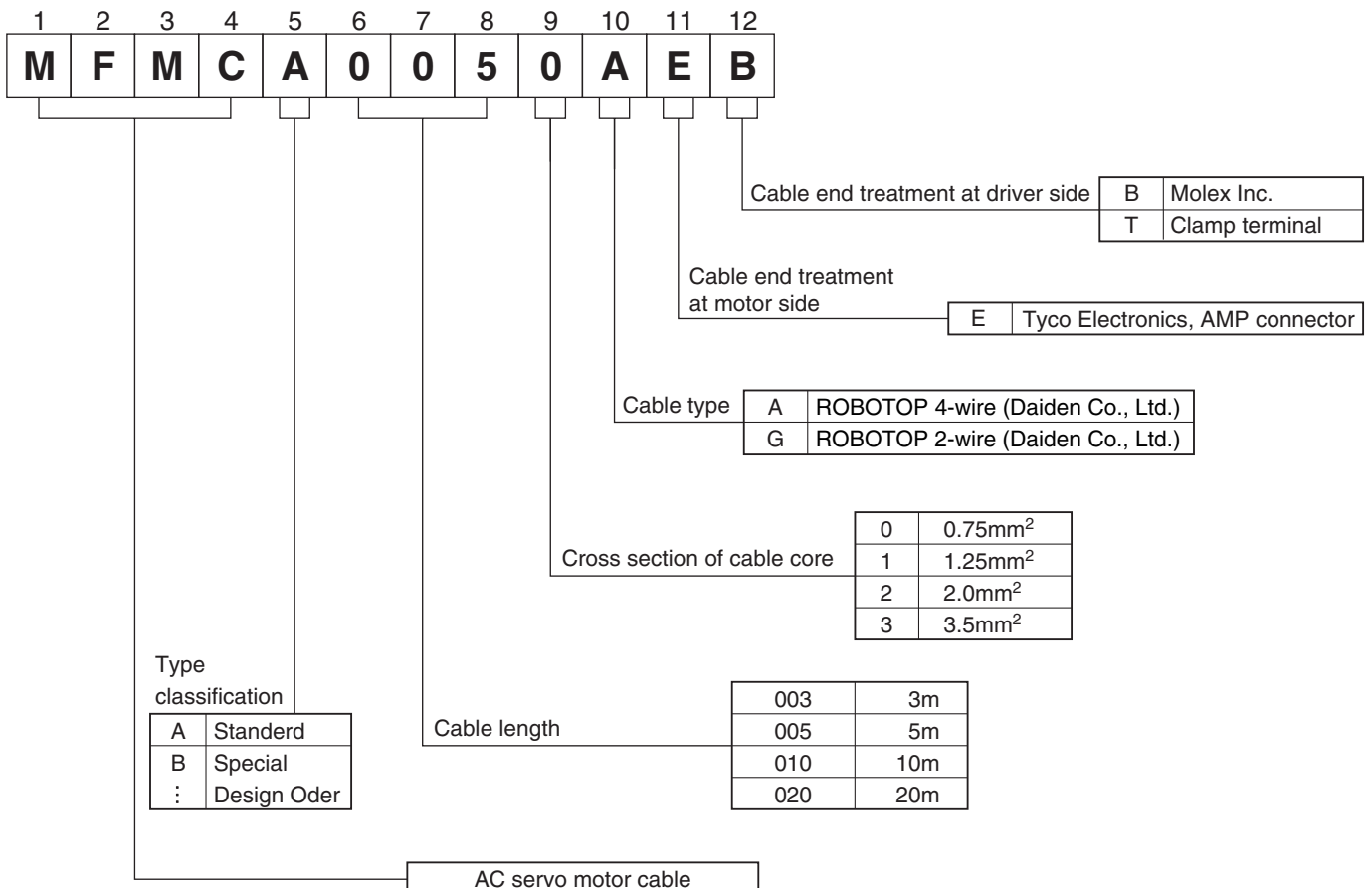
Options

Cable part No. designation

Encoder cable



Motor cable, Brake cable



Options

Cable set (3m)

DV0P37300

- 1) Interface cable : DV0P0800
- 2) Encoder cable (3m) : MFECA0030EAM
- 3) Motor cable (3m) : MFMCA0030AEB
- 4) Connector kit for driver power supply connection : DV0P2870

Cable set (5m)

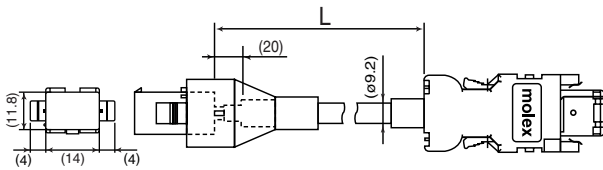
DV0P39200

- 1) Interface cable : DV0P0800
- 2) Encoder cable (5m) : MFECA0050EAM
- 3) Motor cable (5m) : MFMCA0050AEB
- 4) Connector kit for driver power supply connection : DV0P2870

Encoder cable

[unit: mm]

MFECA0**0EAM



Title	Part No.	Manufacturer
Connector	55100-0600 and 55100-0670	Molex Inc.
Connector	172160-1	Tyco Electronics AMP
Connector Pin	170365-1	Tyco Electronics AMP
Cable	0.20mm ² X3P	Oki Electric Cable

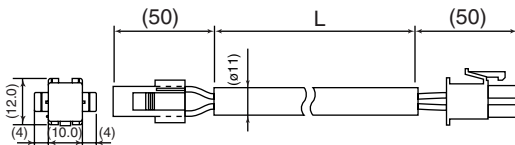
L(m)	Part No.
3	MFECA0030EAM
5	MFECA0050EAM
10	MFECA0100EAM
20	MFECA0200EAM

Motor cable (ROBO-TOP® 105°C 600V · DP)

[unit: mm]

MFMCA0**0AEB

Robotop® is a trade mark of Daiden Co., Ltd.



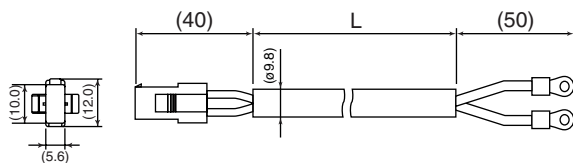
Title	Part No.	Manufacturer
Connector	172159-1	Tyco Electronics AMP
Connector Pin	170362-1,170366-1	Tyco Electronics AMP
Connector	5557-06R-210	Molex Inc.
Connector Pin	5556T	Molex Inc.
Cable	ROBO-TOP 600V 0.75mm ²	Daiden Co., Ltd.

L(m)	Part No.
3	MFMCA0030AEB
5	MFMCA0050AEB
10	MFMCA0100AEB
20	MFMCA0200AEB

Brake cable (ROBO-TOP® 105°C 600V · DP)

[unit: mm]

MFMCB0**0GET



Title	Part No.	Manufacturer
Connector	172157-1	Tyco Electronics AMP
Connector Pin	170362-1,170366-1	Tyco Electronics AMP
Nylon insulated round terminal	N1.25-M4	JST
Cable	ROBO-TOP 600V 0.75mm ²	Daiden Co., Ltd.

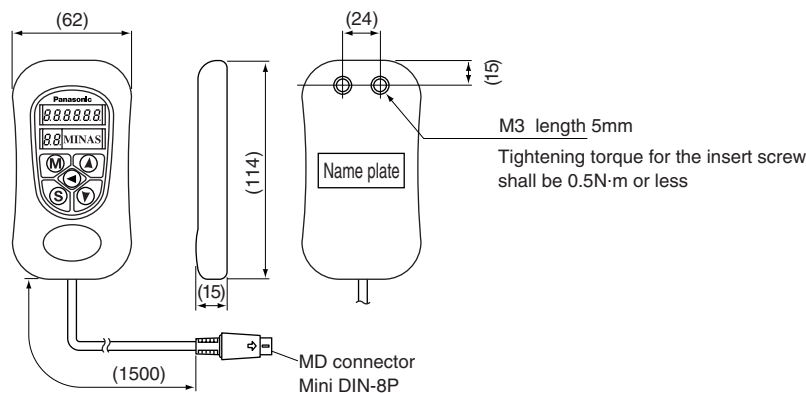
L(m)	Part No.
3	MFMCB0030GET
5	MFMCB0050GET
10	MFMCB0100GET
20	MFMCB0200GET

Console

[unit: mm]

1) Part No. : **DV0P4420** Caution) An existing console(DV0P3690) cannot be used for the A4P series.

2) Dimensions



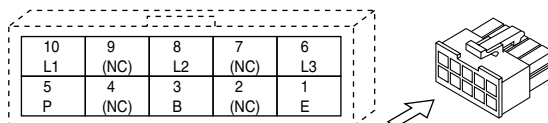
Connector kit for power supply connection

1) Part No. : **DV0P2870**

2) Parts composition

Title	Part No.	Number	Manufacturer	Note
Connector (10pins)	5557-10R-210	1	Molex Inc.	For connector CN X1 (10 pins)
Connector pin	5556PBTL	6		

3) Pin configuration



4) Recommended manual crimping tool (to be prepared by customer)

Part No.	Cable material
57026-5000	UL1007
57027-5000	UL1015

<Cautions>

- The above pin disposition shows when viewed from the terminal inserting direction. Make a correct wiring by checking the stamped pin numbers on the connector itself.
- Refer to page E21 for wiring and connection.
- Do not connect anything to pins marked "NC".

Connector kit for motor/encoder connection

1) Part No. : **DV0P3670** (Incremental 2500 pulse, 5-wire) This option is required when you make your own encoder cable and motor cable. (Brake cable is required for brake.)

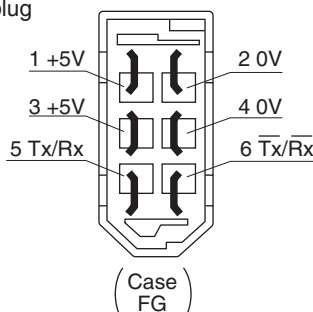
2) Parts composition

Title	Part No.	Number	Manufacturer	Note
Connector	55100-0600	1	Molex Inc.	For connector, CN X4
Connector (6pins)	172160-1	1	Tyco Electronics AMP	For junction to encoder cable
Connector pin	170365-1	6		
Connector (4pins)	172159-1	1	Tyco Electronics AMP	For junction to motor power cable
Connector pin	170366-1	4		
Connector (6 pins)	5557-06R-210	1	Molex Inc.	For connector, CN X3
Connector pin	5556PBTL	4		

<Remarks>

We may use parts equivalent to the above for shell and connector cover.

3) Pin configuration of connector CN X4 plug



4) Recommended manual crimping tool (to be prepared by customer)

Title	Manufacturer's part No.	Manufacturer	Cable material
For encoder cable junction	755330-1	Tyco Electronics AMP	—
For motor power cable junction	755331-1		
For Connector CN X3	57026-5000	Molex Inc.	UL1007
	57027-5000		UL1015

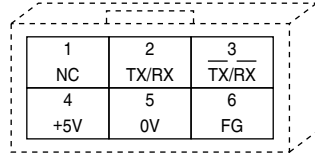
<Remarks>

- The above pin configuration shows when viewed from the pin-soldering direction. Make a correct wiring by checking the stamped pin numbers on the connector itself.
- Connect the shield of the wire to the case (FG) without fail.
- For wiring and connection, refer to page E21.

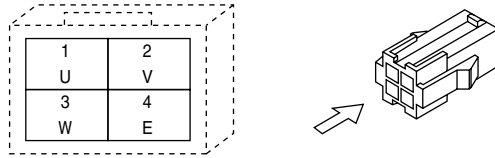
Options

Connector kit for motor/encoder connection

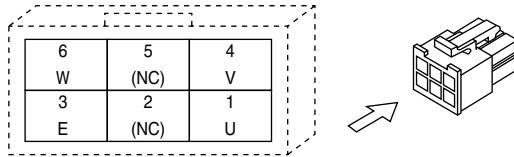
5) Pin configuration of encoder cable junction



6) Pin configuration of motor power cable junction



7) Pin configuration of mating connector to CN X3 connector



<Cautions>

1. The above pin configuration shows when viewed from the terminal inserting direction. Make a correct wiring by checking the stamped pin numbers on the connector itself.
2. Refer to page E21 for wiring and connection.

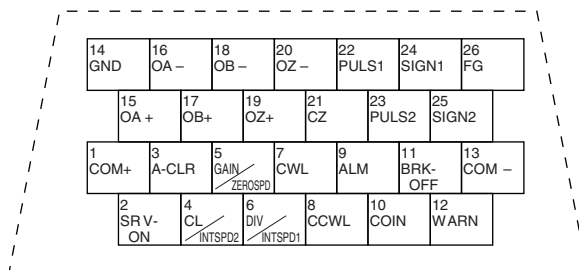
Connector kit for external peripheral equipment

1) Part No. : **DV0P0770**

2) Parts composition

Title	Part No.	Number	Manufacturer	Note
Connector	10126-3000PE	1	Sumitomo 3M	For connector, CN X5 (26 pins)
Connector cover	10326-52A0-008	1		

3) Pin configuration of connector CN X5



<Cautions>

1. Make a correct wiring by checking the stamped pin numbers on the connector itself.
2. Refer to page E22 for symbols and functions of the above signals.

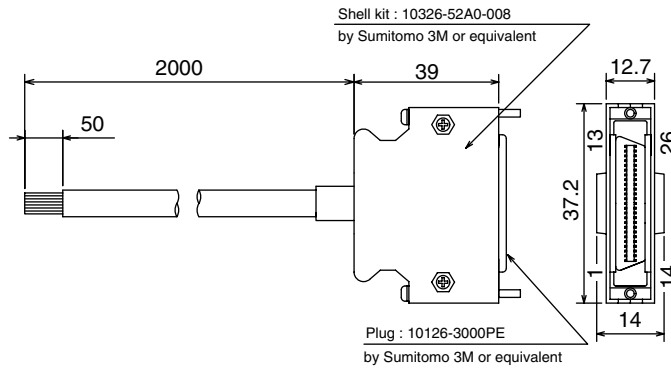
Interface cable

[unit: mm]

1) Part No. : **DV0P0800**

Cable of 2m is connected.

2) Dimensions



3) Wiring table

Pin No.	Title of signal	Color or cable	Pin No.	Title of signal	Color or cable	Pin No.	Title of signal	Color or cable
1	COM+	Orange (Red 1)	10	COIN	Pink (Black 1)	19	OZ+	Pink (Red 2)
2	SRV-ON	Orange (Black 1)	11	BRK-OFF	Orange (Red 2)	20	OZ-	Pink (Black 2)
3	A-CLR	Gray (Red 1)	12	WARN	Orange (Black 2)	21	CZ	Orange (Red 3)
4	CL/INTSPD2	Gray (Black 1)	13	COM-	Gray (Red 2)	22	PULS1	Gray (Red 3)
5	GAIN/ZEROSPD	White (Red 1)	14	GND	Gray (Black 2)	23	PULS2	Gray (Black 3)
6	DIV/INTSPD1	White (Black 1)	15	OA+	White (Red 2)	24	SIGN1	White (Red 3)
7	CWL	Yellow (Red 1)	16	OA-	White (Black 2)	25	SIGN2	White (Black 3)
8	CCWL	Yellow (Black 1)	17	OB+	Yellow (Red 2)	26	FG	Orange (Black 3)
9	ALM	Pink (red 1)	18	OB-	Yellow (Black 2)			

<Notes>

e. g. of Pin No. designation : Pin No. 1 ... Wire color is orange, and one red dot.

Pin No. w ... Wire color is orange, and two black dot.

<Remarks>

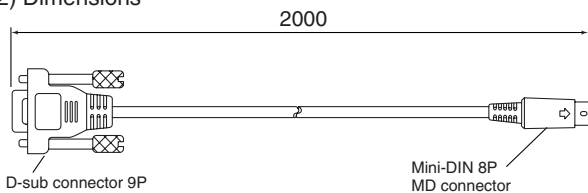
The shield of this cable is not connected to a connector pin. To connect the shield to FG or GND at the driver side, use a connector kit for external device connection.

Communication cable

[unit: mm]

1) Part No. : **DV0P1960**

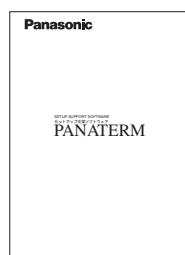
2) Dimensions



Setup support software "PANATERM"

1) Part No. **DV0P4460** (Japanese/English version)

2) Supply media : CD-ROM



<Caution>

For information on the software and operating environment, refer to p.F2 of this document or [PANATERM] instruction manual.

Options

External regenerative resistor [unit: mm]

Part No.	Manufacturer's Part No.	Specifications			Note (Input Power of drive)
		Resistance	Rated power	Activation temperature of built-in fuse	
DV0P2890	45M03	50 Ω	10W	137 ⁺³ / ₋₂ °C	Single phase, 100V
DV0P2891	45M03	100 Ω	10W	137 ⁺³ / ₋₂ °C	Single/3-phase, 200V

Manufactured by Iwaki Musen Kenkyusho Co., Ltd.

<Remarks>

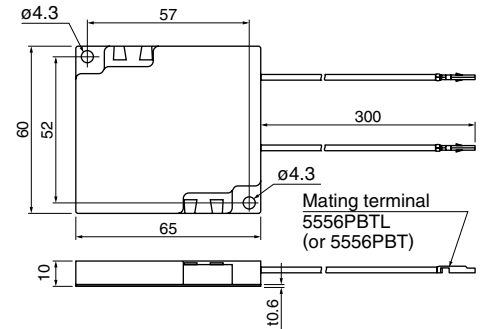
Thermal fuse is installed for safety. The thermal fuse may blow due to heat dissipating condition, working temperature, supply voltage or load fluctuation.

Make it sure that the surface temperature of the resistor may not exceed 100°C at the worst running conditions with the machine, which brings large regeneration (such case as high supply voltage, load inertia is large or deceleration time is short)

<Caution>

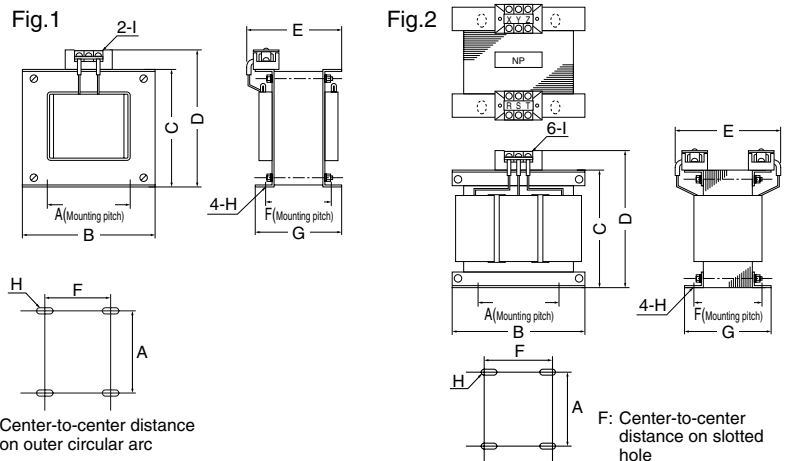
Regenerative resistor gets very hot.

Take preventive measures for fire and burns.
Avoid the installation near inflammable objects, and easily accessible place by hand.



Reactor [unit: mm]

Frame symbol of driver	Power supply specifications	Rated output	Part No.	Fig.
MKDE	Single phase, 100V	50 - 100W	DV0P227	1
	Single phase, 200V	50 - 100W	DV0P220	2
	3-phase, 200V	50 - 200W		
MLDE	Single phase, 100V	200W	DV0P228	1
	Single phase, 200V	200w - 400W	DV0P220	2
	3-phase, 200V	400W		



	Part No.	A	B	C	D	E (Max)	F	G	H	I	Inductance (mH)	Rated current (A)
Fig.1	DV0P227	55±0.7	80±1	66.5±1	110 _{Max}	90	41±2	55±2	4 5øx10	M4	4.02	5
	DV0P228	55±0.7	80±1	66.5±1	110 _{Max}	95	46±2	60±2	4 5øx10	M4	2	8
Fig.2	DV0P220	65±1	125±1	(93)	136 _{Max}	155	70+3/-0	85±2	4 7øx12	M4	6.81	3

Harmonic restraint on general-purpose inverter and servo driver

On September, 1994, Guidelines for harmonic restraint on heavy consumers who receive power through high voltage system or extra high voltage system and Guidelines for harmonic restraint on household electrical appliances and general-purpose articles established by the Agency for Natural Resources and Energy of the Ministry of Economy, Trade and Industry (the ex-Ministry of International Trade and Industry). According to those guidelines, the Japan Electrical Manufacturers Association (JEMA) have prepared technical documents (procedure to execute harmonic restraint: JEM-TR 198, JEM-TR 199 and JEM-TR 201) and have been requesting the users to understand the restraint and to cooperate with us. On January, 2004, it has been decided to exclude the general-purpose inverter and servo driver from the Guidelines for harmonic restraint on household electrical appliances and general-purpose articles". After that, the Guidelines for harmonic restraint on household electrical appliances and general-purpose articles was abolished on September 6, 2004. We are pleased to inform you that the procedure to execute the harmonic restraint on general-purpose inverter and servo driver will be modified as follows.

1. All types of the general-purpose inverters and servo drivers used by specific users are under the control of the Guidelines for harmonic restraint on heavy consumers who receive power through high voltage system or extra high voltage system". The users who are required to apply the guidelines must calculate the equivalent capacity and harmonic current according to the guidelines and must take appropriate countermeasures if the harmonic current exceeds a limit value specified in a contract demand. (Refer to JEM-TR 210 and JEM-TR 225.)
2. The Guidelines for harmonic restraint on household electrical appliances and general-purpose articles was abolished on September 6, 2004. However, based on conventional guidelines, JEMA applies the technical documents JEM-TR 226 and JEM-TR 227 to any users who do not fit into the Guidelines for harmonic restraint on heavy consumers who receive power through high voltage system or extra high voltage system from a perspective on enlightenment on general harmonic restraint. The purpose of these guidelines is the execution of harmonic restraint at every device by a user as usual to the utmost extent.

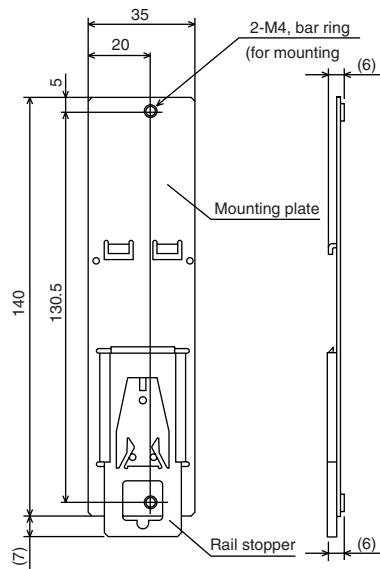
<Remarks> When using a reactor, be sure to install one reactor to one servo driver.

DIN rail mounting unit

[unit: mm]

1) Part No. : **DV0P3811**

2) Dimensions



<Notes>

2 mounting screws (M4 X L8, Pan head) are attached.
Rail stopper can be extended to max. 10mm.

Recommended components

Surge absorber for motor brake

Motor	Surge absorber for motor brake	
	Part No. (Manufacturer's)	Manufacturer
MUMA 50W to 400W	Z15D151	Ishizuka Electronics Co.

List of peripheral components

(Reference only)

Peripheral components	Manufacturer	Tel No./Web site
Circuit breaker, Magnetic contactor, Surge absorber	Automation Controls Company Panasonic Electric Works, Co.,Ltd	81-6-6908-1131 http://panasonic-denko.co.jp/ac
Regenerative resistor	Iwaki Musen Kenkyusho Co., Ltd.	81-44-833-4311 http://www.iwakimusen.co.jp/
Surge absorber for holding brake	Ishizuka Electronics Corp.	81-3-3621-2703 http://www.semitec.co.jp/
Noise filter for signal lines	TDK Corp.	81-3-5201-7229 http://www.tdk.co.jp/
Surge absorber / Noise filter	Okaya Electric Industries Co. Ltd.	1-3-4544-7030 http://www.okayatec.co.jp/
Connector	Sumitomo 3M	81-3-5716-7290 http://www.mmmco.jp
	Tyco Electronics AMP k.k,	81-44-844-8111 http://www.tycoelectronics.com/japan/amp
	Japan Molex Inc.	81-462-65-2313 http://www.molex.co.jp
Cable	Daiden Co., Ltd.	81-3-5805-5880 http://www.dyden.co.jp/

* The above list is for reference only. We may change the manufacturer without notice.