

Discontinuation Notice of SMARTSTEP A series

Product Discontinuation



AC Servo Driver
R7D-AP*

AC Servomotor
R7M-A*



Recommended Replacement

AC Servo Driver
R7D-BP*
R88D-GT*

AC Servomotor
R88M-G*

Discontinuation date : The end of March 2012

Caution on recommended replacement

It must need to change from SMARTSTEP A series to SMARTSTEP 2 series or G series.

Difference from discontinued product

Model	Body Color	Dimensions	Wire connection	Mounting Dimensions	Characteristics	Operation ratings	Operation methods
R7D-BP*	*	--	--	--	*	--	--
R88D-GT*	*	--	--	--	*	--	--
R88M-G*	*	--	--	--	*	--	--

** : Fully compatible

* : The change is a little / Almost compatible

-- : Not compatible

- : No corresponding specification

Product Discontinuation and recommended replacement

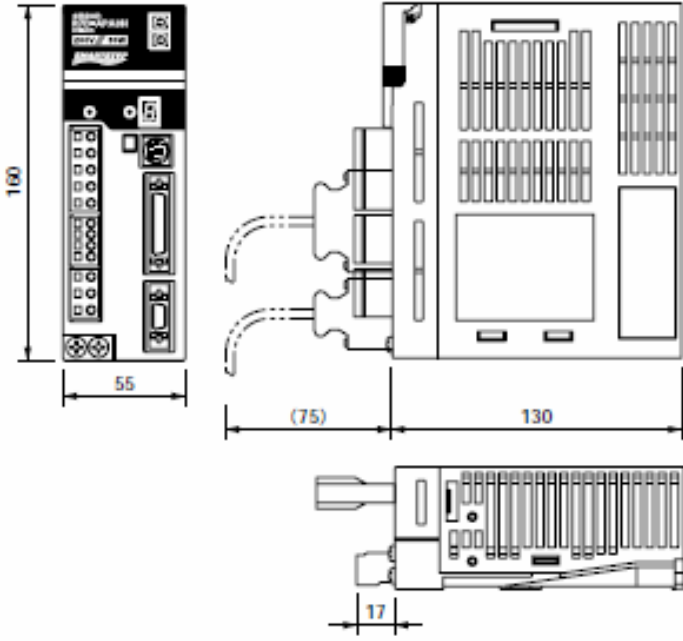
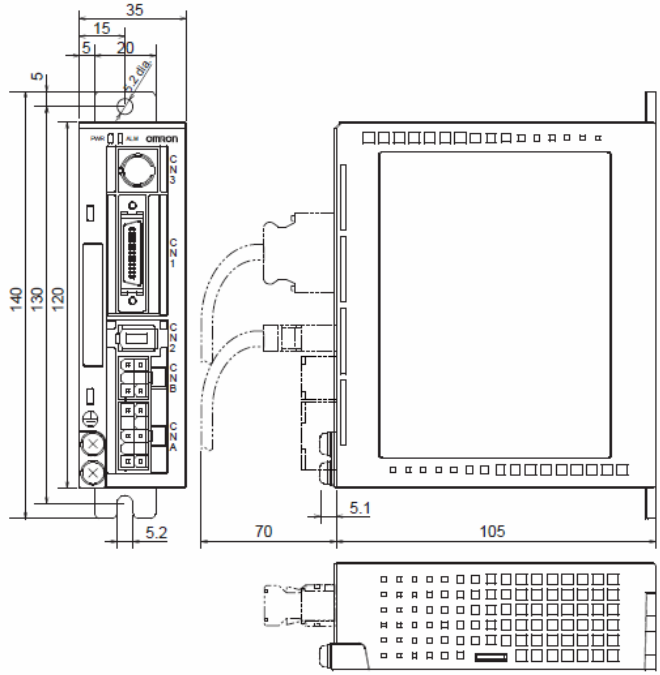
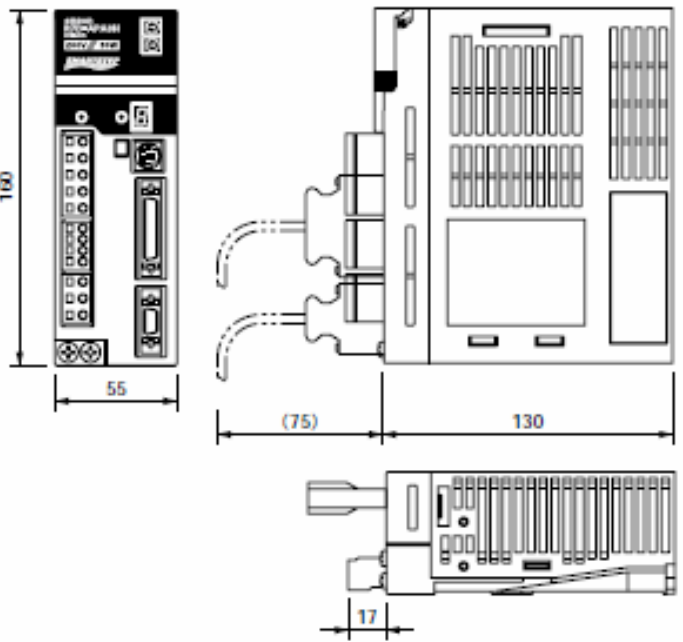
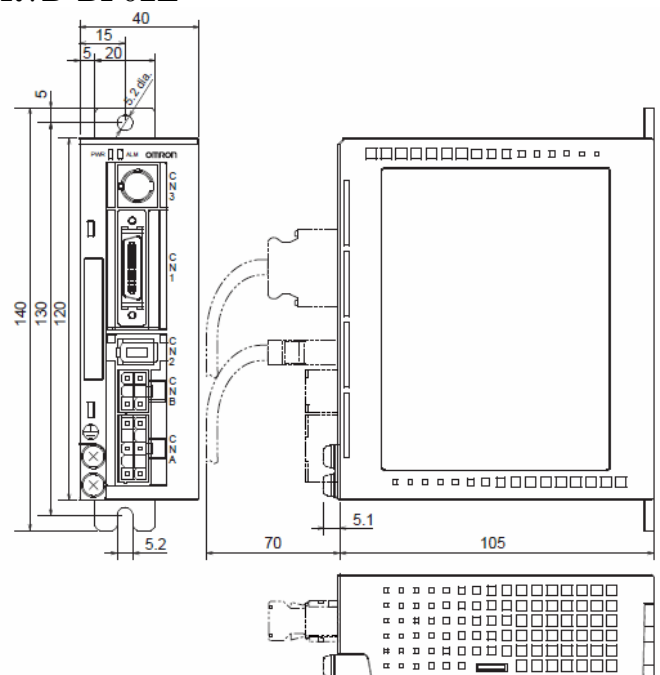
Product discontinuation	Recommended replacement
Model	Model
R7D-AP01H	R7D-BP01H
R7M-A10030	R88M-G10030H
R7M-AP10030	R88M-GP10030H
R7D-AP08H	R88D-GT08H
R7M-A75030	R88M-G75030H
R7M-AP75030	R88M-G75030H

Please check 'Combination Servo Driver and Servomotor' for each recommended replacement.
This information is described on end of this sheet.

Body color

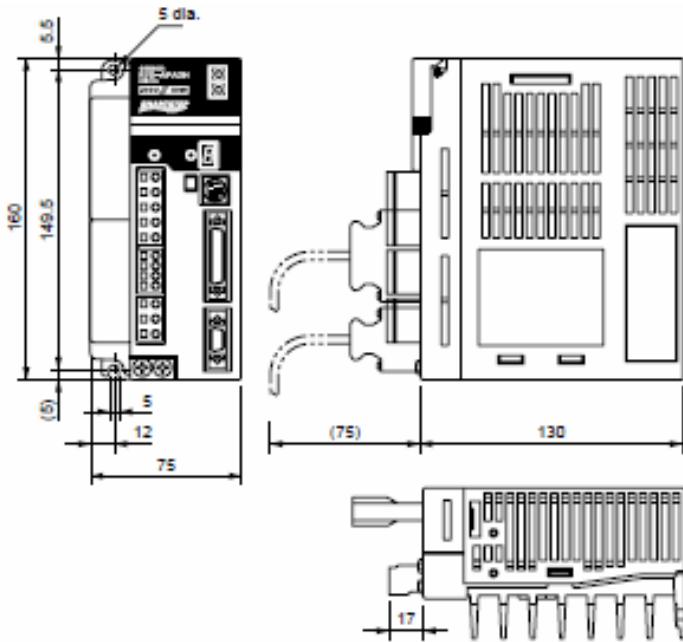
Product discontinuation	Recommended replacement
R7D-AP*: Ivory White	R7D-BP*: Ivory White
	R88D-GT*: Ivory White
R7M-A*: Black	R88M-G*: Metallic

Dimensions

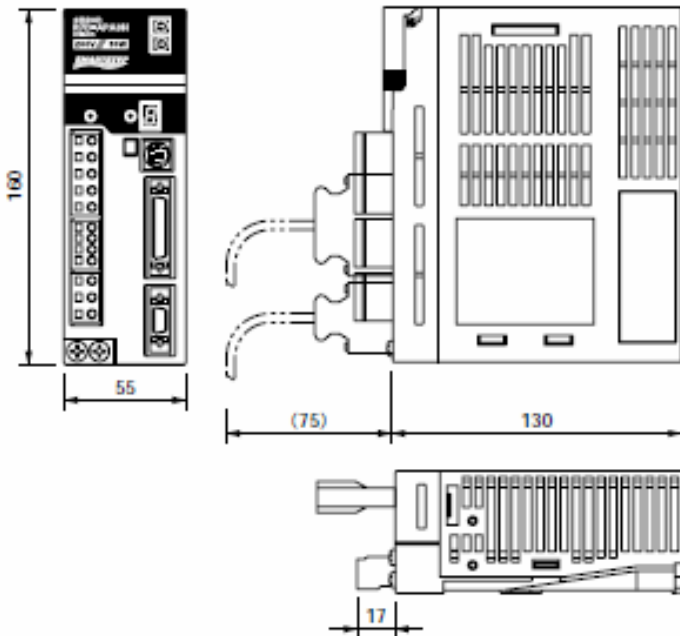
Product discontinuation	Recommended replacement
<p>R7D-APA3L/-APA5L/-AP01L/ -APA3H/-APA5H/-AP01H</p> 	<p>R7D-BPA5L/-BP01L/ -BP01H</p> 
<p>R7D-AP02L</p> 	<p>R7D-BP02L</p> 

Product discontinuation

R7D-AP04L

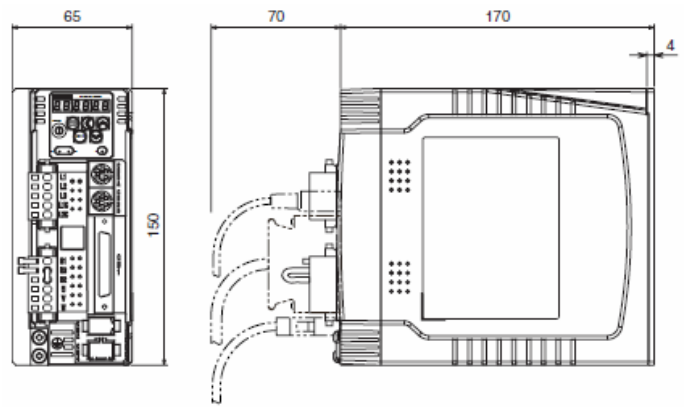


R7D-AP02H

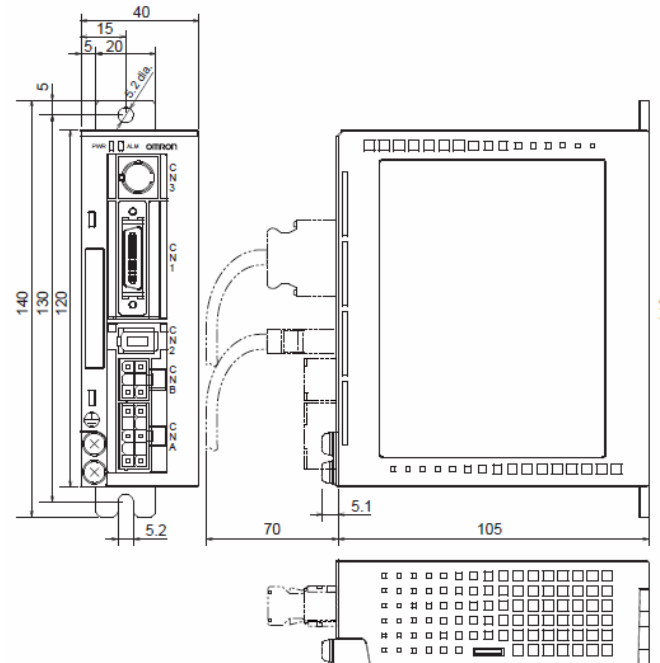


Recommended replacement

R88D-GT04L



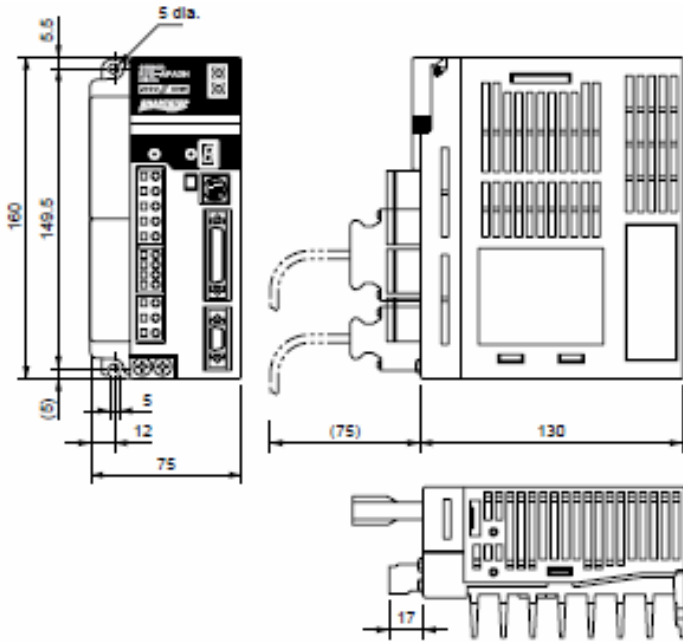
R7D-BP02HH



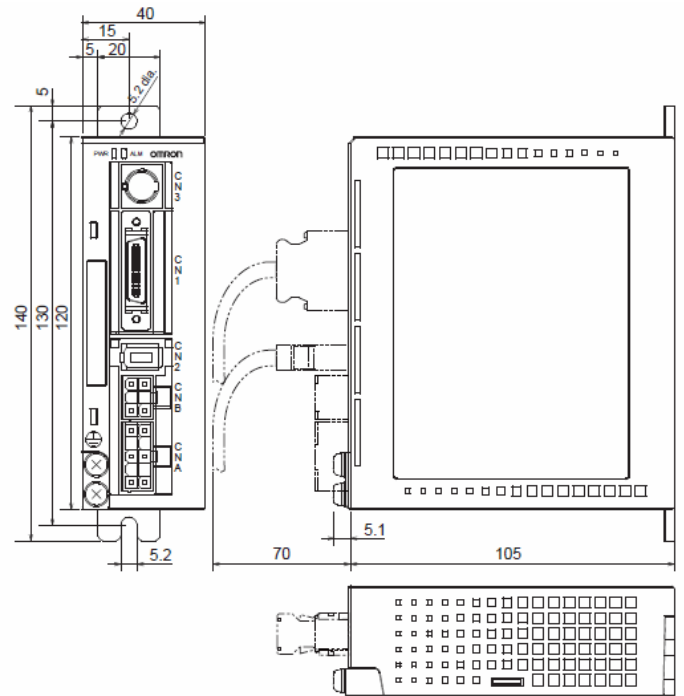
Product discontinuation

Recommended replacement

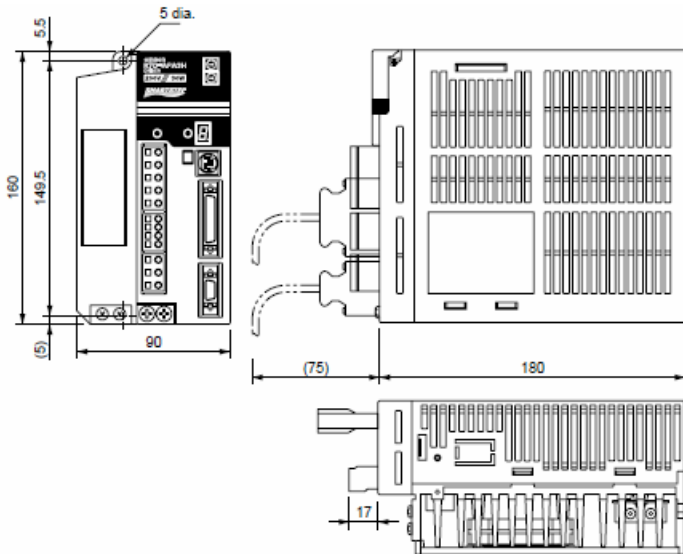
R7D-AP04H



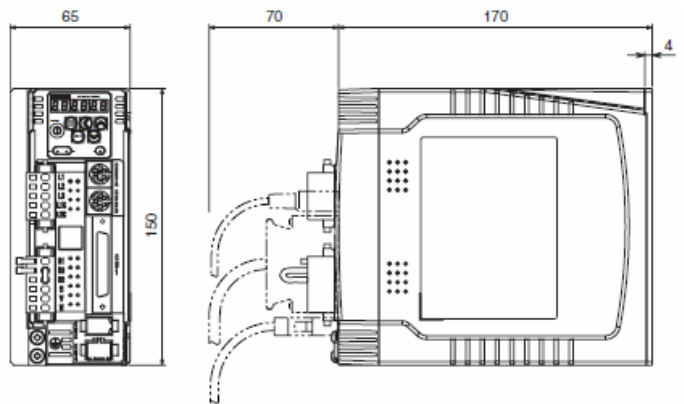
R7D-BP04H



R7D-AP08H

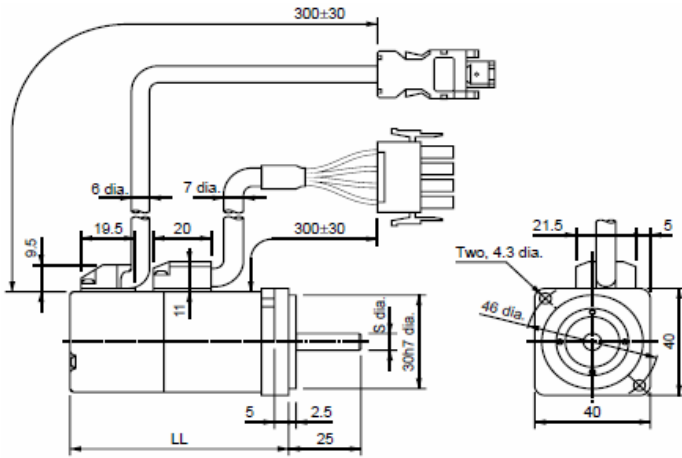


R88D-GT08H



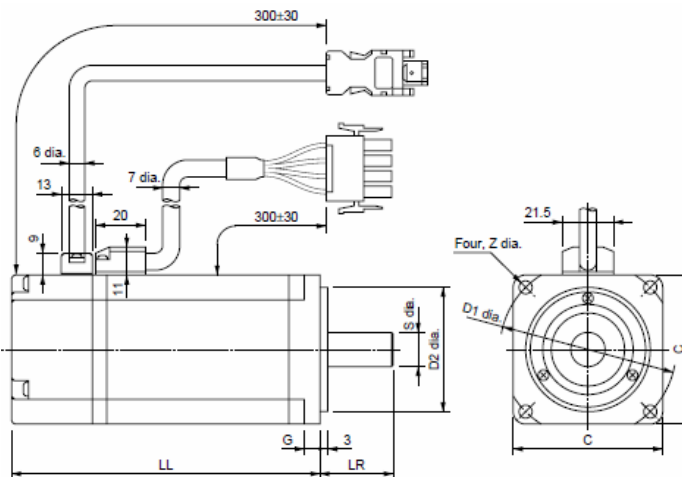
Product discontinuation

R7M-A03030/-A05030/-A10030



Model	Dimensions (mm)						
	LL	S	b	h	t1		
R7M-A03030-□	69.5	6h6	2	2	1.2		
R7M-A05030-□	77	6h6	2	2	1.2		
R7M-A10030-□	94.5	8h6	3	3	1.8		

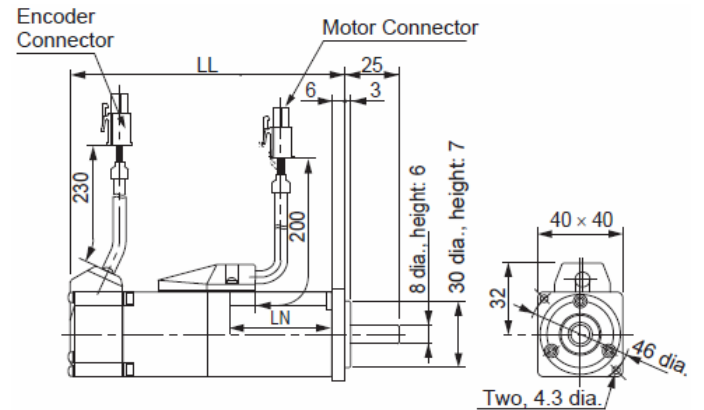
R7M-A20030/-A40030/-A75030



Model	Dimensions (mm)								
	LL	LR	C	D1	D2	G	Z	S	QK
R7M-A20030-□	96.5	30	60	70	50h7	6	5.5	14h6	20
R7M-A40030-□	124.5	30	60	70	50h7	6	5.5	14h6	20
R7M-A75030-□	145	40	80	90	70h7	8	7	16h6	30

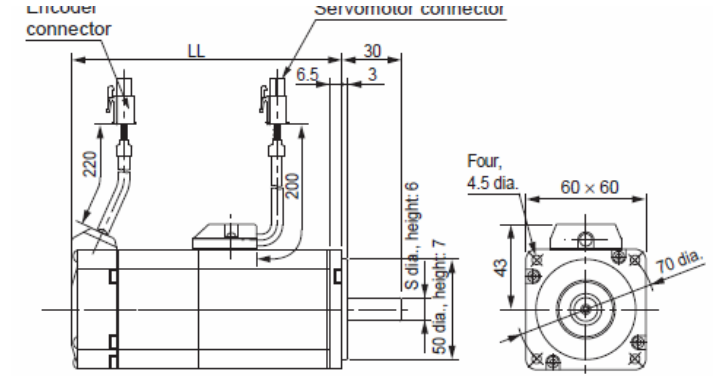
Recommended replacement

R88M-G05030H/-G10030*



Model	LL	LN
	(mm)	(mm)
R88M-G05030H	72	26.5
R88M-G10030□*2	92	46.5

R88M-G20030*/-G40030*/-G75030H



Model	Dimensions (mm)														
	LL	LR	S	D1	D2	C	G	KL1	Z	QK	b	h	M	t1	L
R88M-G20030□	79.5	30	11	70	50	60	6.5	43	4.5	18	4h9	4	M4	2.5	8
R88M-G40030□	99		14	70						22.5	5h9	5	M5	3	10
R88M-G75030□	112.2	35	19	90	70	80	8	53	6	22	6h9	6		3.5	

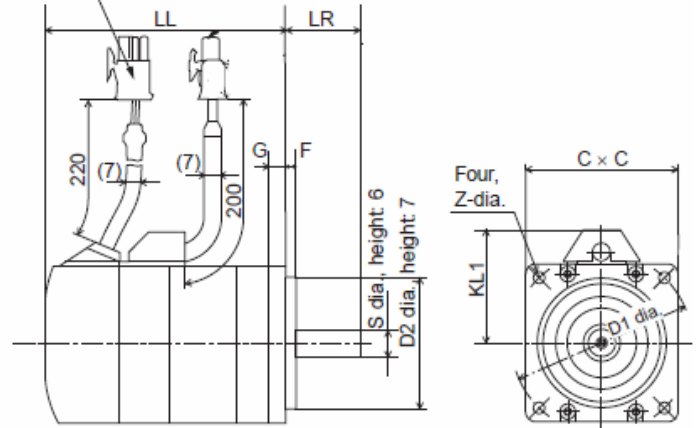
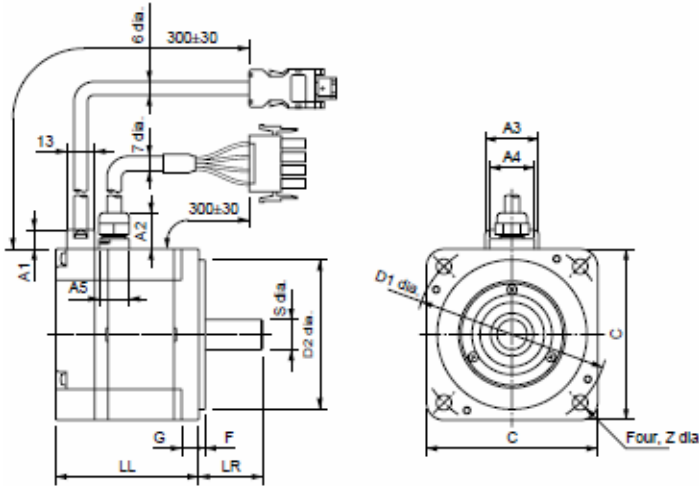
Product discontinuation

Recommended replacement

R7M-AP10030/-AP20030/-AP40030

R88M-GP10030*/-GP20030*/-GP40030*

Encoder connector



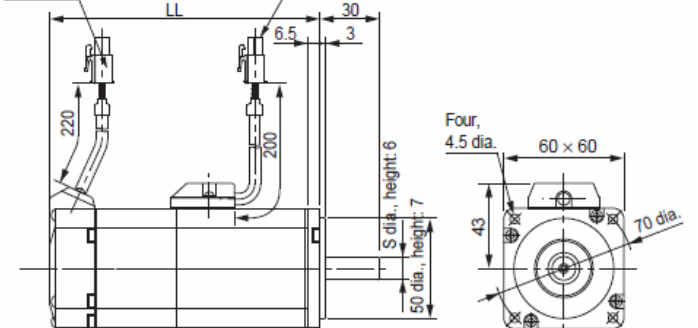
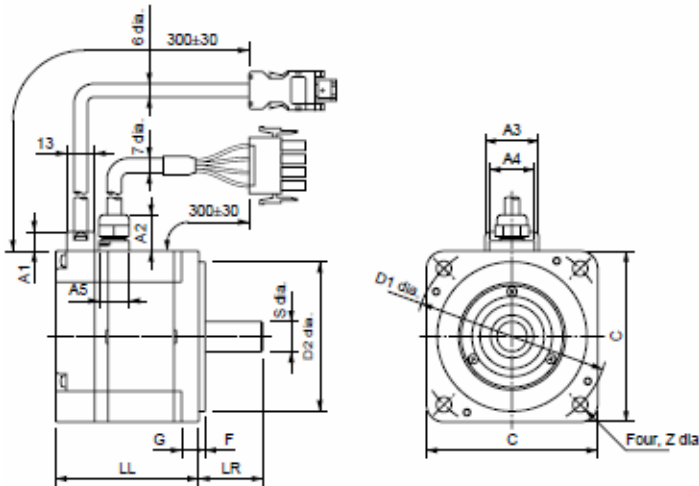
Model	Dimensions (mm)																	
	Basic servomotor dimensions								With key (shaft end dimensions)				Cable outlet dimensions					
	LL	LR	C	D1	D2	F	G	Z	S	OK	b	h	t1	A1	A2	A3	A4	A5
R7M-AP10030-□	62	25	60	70	50h7	3	6	5.5	8h6	14	3	3	1.8	9	18	25	21	14
R7M-AP20030-□	67	30	80	90	70h7	3	8	7	14h6	16	5	5	3	9	18	25	21	14
R7M-AP40030-□	87																	

Model	LL	LR	S	D1	D2	C	F	G
	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)
R88M-GP10030□	60.5	25	8	70	50	60	3	7
R88M-GP20030□	67.5	30	11	90	70	80	5	8
R88M-GP40030□	82.5	30	14	90	70	80	5	8

R7M-AP75030

R88M-G75030H

Encoder connector



Model	Dimensions (mm)																	
	Basic servomotor dimensions								With key (shaft end dimensions)				Cable outlet dimensions					
	LL	LR	C	D1	D2	F	G	Z	S	OK	b	h	t1	A1	A2	A3	A4	A5
R7M-AP75030-□	86.5	40	120	145	110h7	3.5	10	10	16h6	22	5	5	3	9	28	25	38	19

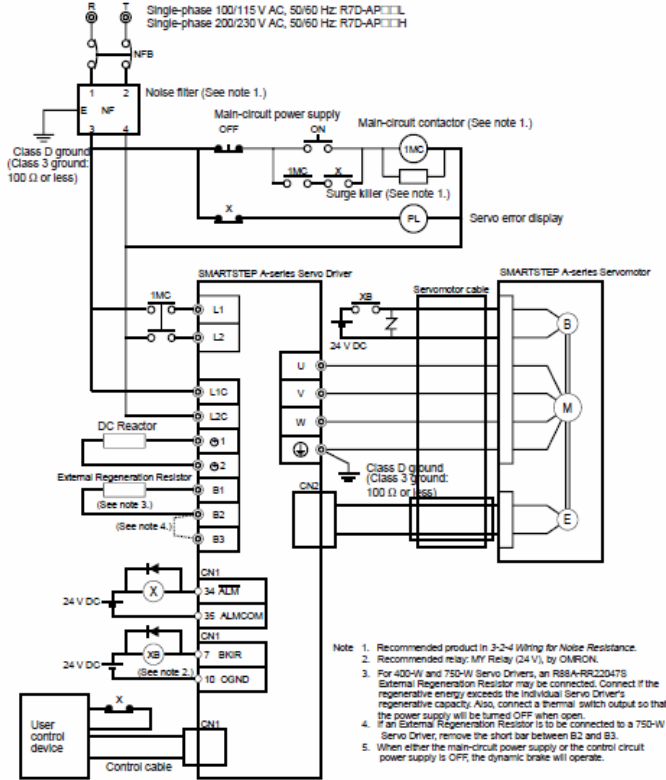
Model	Dimensions (mm)														
	LL	LR	S	D1	D2	C	G	KL1	Z	OK	b	h	M	t1	L
R88M-G75030□	112.2	35	19	90	70	80	8	53	6	22	6h9	6	M5	3.5	10

Wire Connection

Product discontinuation

Connecting to Peripheral Device

**R7D-APA3L/-APA5L/-AP01L/-AP02L
-APA3H/-APA5H/-AP01H/-AP02H/-AP04H**

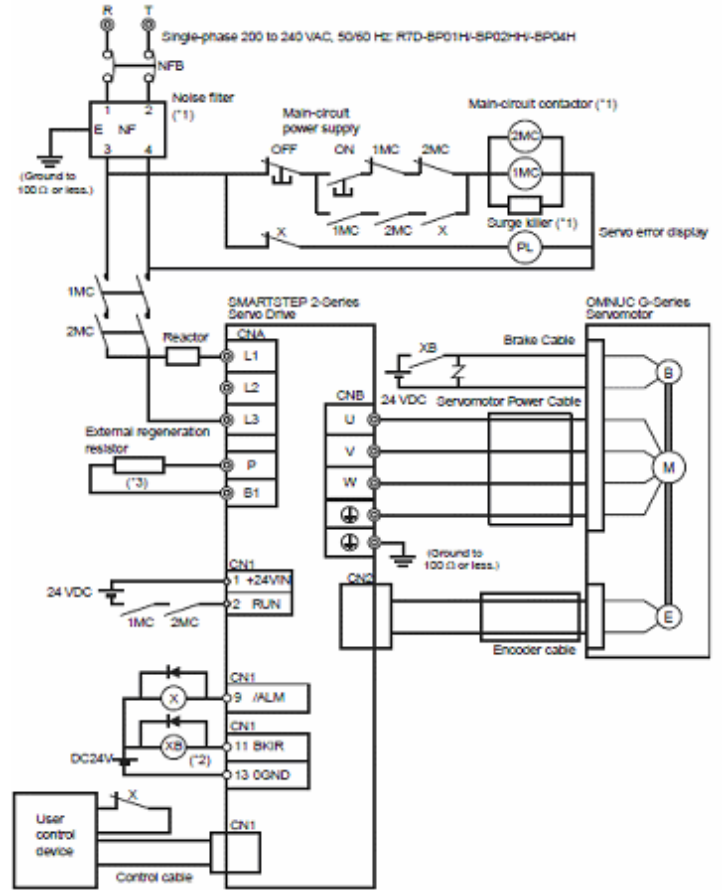


1. Recommended product in 3-2-4 Wiring for Noise Resistance.
2. Recommended relay: MY Relay (24 V), by OMRON.
3. For 400-W and 750-W Servo Drivers, an R88-MR2204TS External Regeneration Resistor may be connected. Connect if the regenerative energy exceeds the individual Servo Driver's regenerative capacity. Also, connect a thermal switch output so that the power supply will be turned OFF when open.
4. If an External Regeneration Resistor is to be connected to a 750-W Servo Driver, remove the short bar between B2 and B3.
5. When either the main-circuit power supply or the control circuit power supply is OFF, the dynamic brake will operate.

Recommended replacement

Connecting to Peripheral Device

**R7D-BPA5L/-BP01L/-BP02L/
-BP01H/-BP02HH/-BP04H**



Product discontinuation

Recommended replacement

Connecting to Peripheral Device

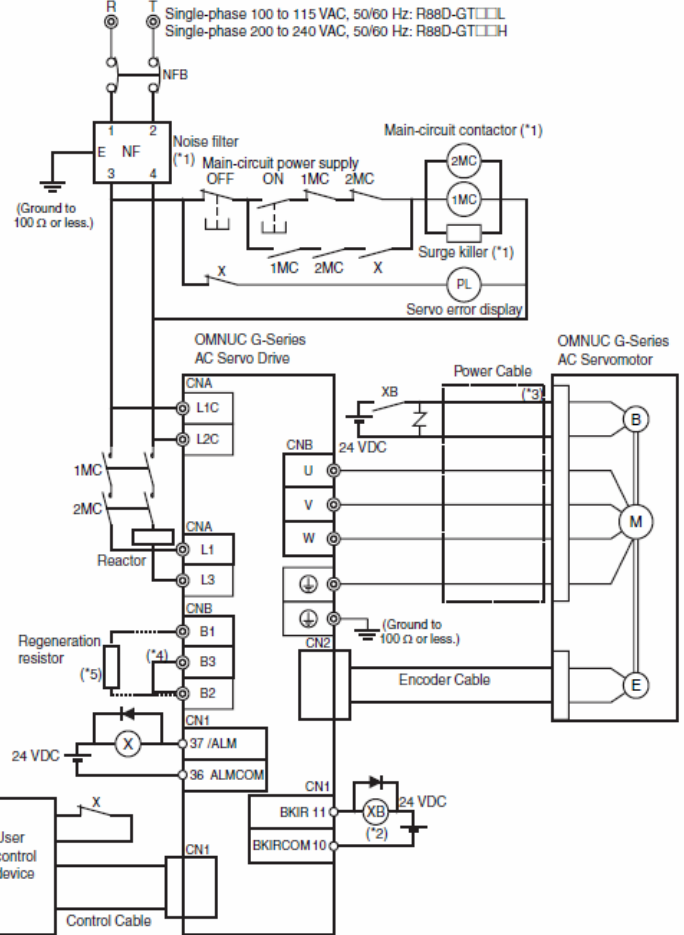
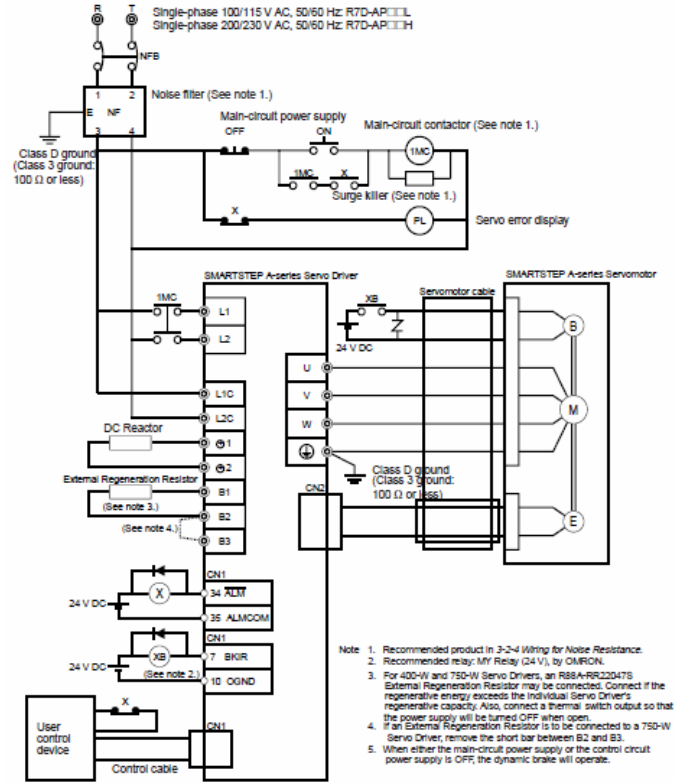
Connecting to Peripheral Device

R7D-AP04L/-AP08H

R88D-GT04L/-GT08H

Single-phase input

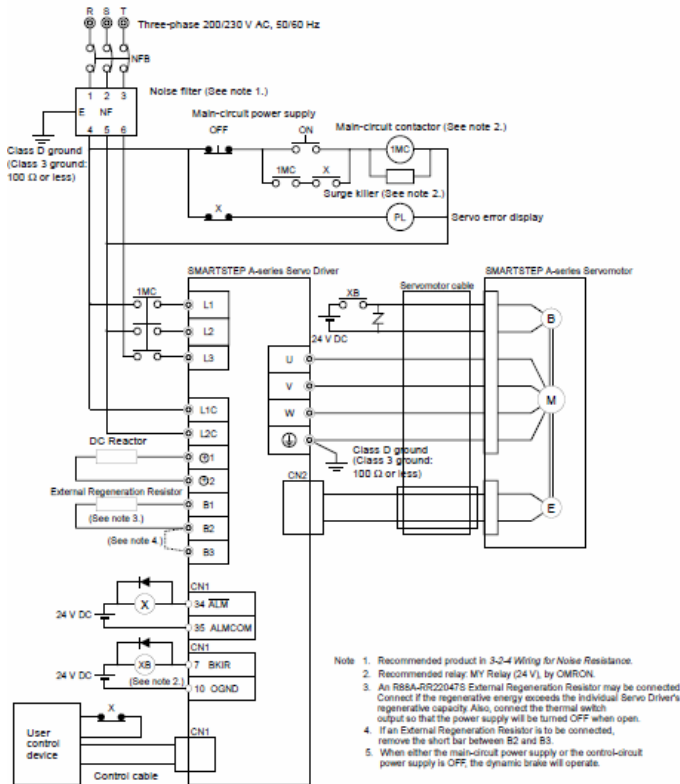
Single-phase input



1. Recommended product in 3-2-4 Wiring for Noise Resistance.
2. Recommended relay: MY Relay (24 V), by OMRON.
3. For 400-W and 750-W Servo Drivers, an R88A-HPR204TS External Regeneration Resistor may be connected. Connect if the regenerative energy exceeds the individual Servo Driver's regenerative capacity. Also, connect a thermal switch output so that the power supply will be turned OFF when open.
4. If an External Regeneration Resistor is to be connected to a 750-W Servo Driver, remove the short bar between B2 and B3.
5. When either the main-circuit power supply or the control circuit power supply is OFF, the dynamic brake will operate.

Connecting to Peripheral Device R7D-AP08H

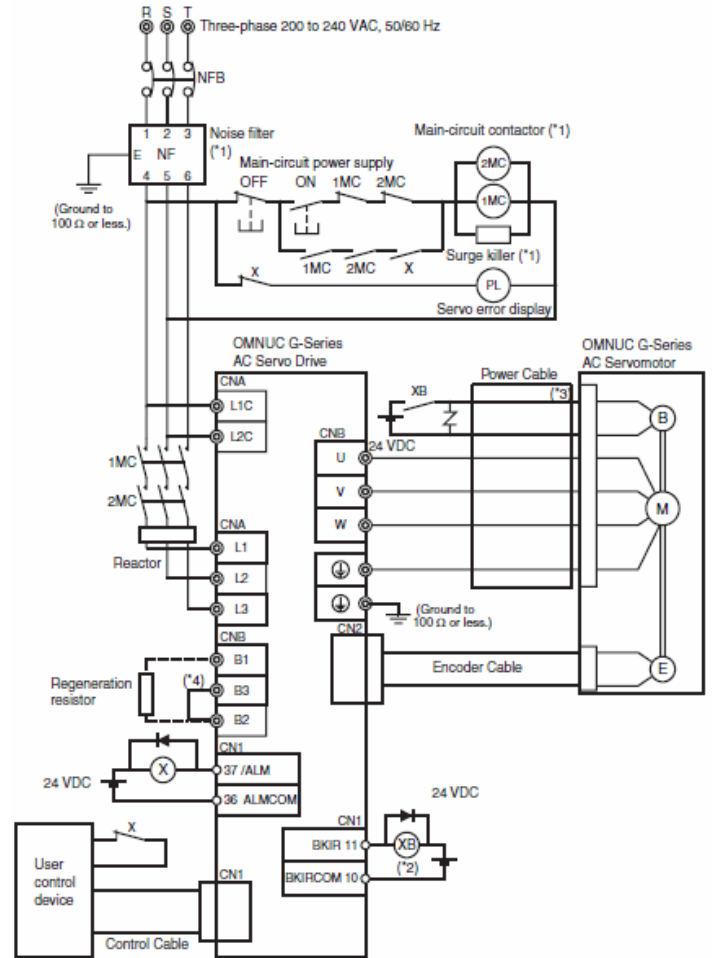
Three-phase input



- Note 1. Recommended product in 3-2-4 Wiring for Noise Resistance.
 Note 2. Recommended relay: MY Relay (24 V), by OMRON.
 Note 3. An R88A-R220475 External Regeneration Resistor may be connected. Connect if the regenerative energy exceeds the individual Servo Driver's regenerative capacity. Also, connect the thermal switch output so that the power supply will be turned OFF when open.
 Note 4. If an External Regeneration Resistor is to be connected, remove the short bar between B2 and B3.
 Note 5. When either the main-circuit power supply or the control-circuit power supply is OFF, the dynamic brake will operate.

Connecting to Peripheral Device R88D-GT08H

Three-phase input



Product discontinuation

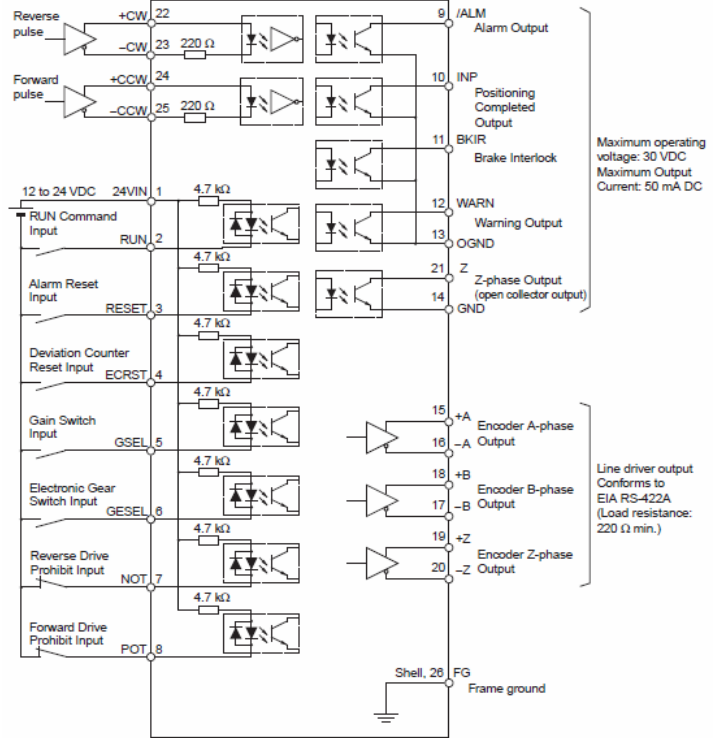
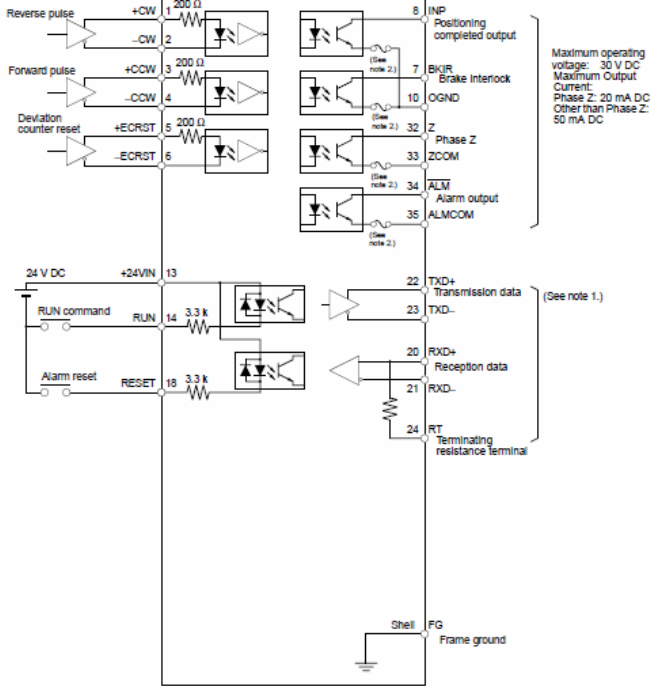
Recommended replacement

Control I/O Signal Connections and External Signal Processing.

Control I/O Signal Connections and External Signal Processing.

R7D-APA3L/-APA5L/-AP01L/-AP02L
-APA3H/-APA5H/-AP01H/-AP02H/-AP04H

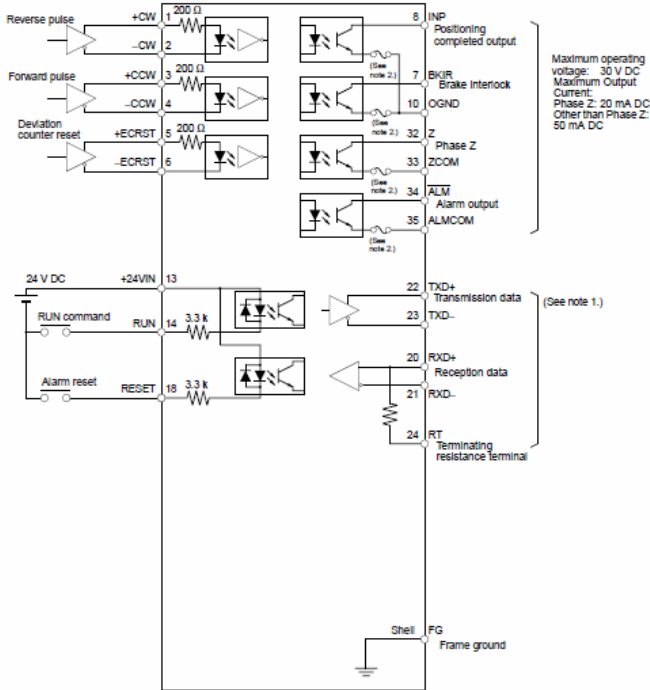
R7D-BPA5L/-BP01L/-BP02L/
-BP01H/-BP02HH/-BP04H



- Note 1. Interface for RS-422:
 • Applicable line driver: T.I. SN75174, MC3487 or equivalent
 • Applicable line receiver: T.I. SN75175, MC3486 or equivalent
- Note 2. Automatic-reset fuses are used for output protection. If overcurrent causes the fuse to operate, current will not flow, and after a fixed period of time it will automatically reset.

Connecting to Peripheral Device

R7D-AP04L/-AP08H



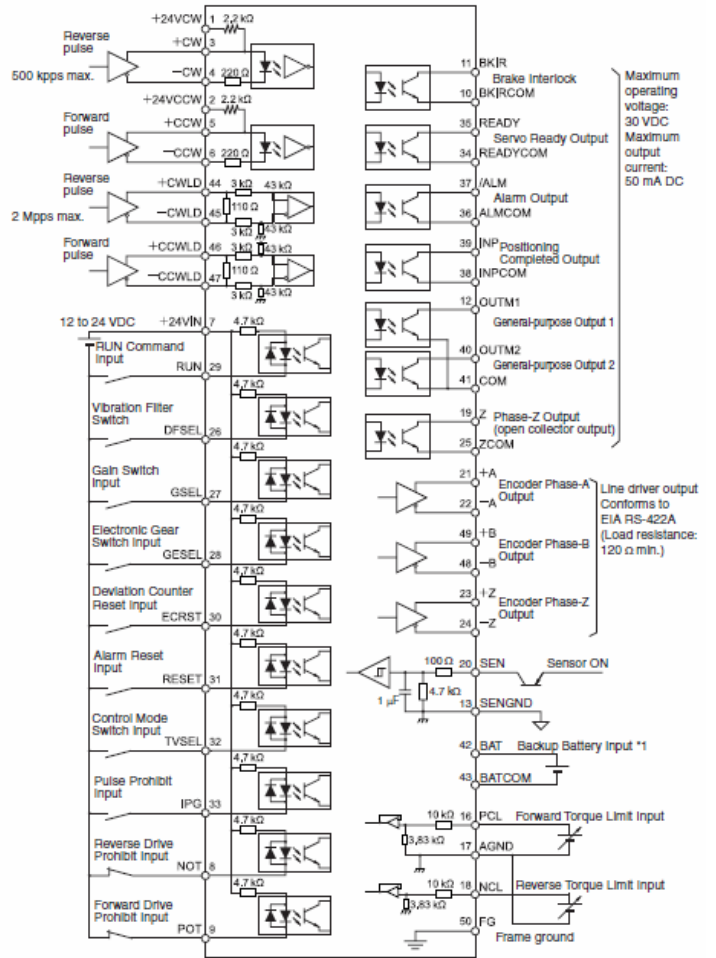
Note 1. Interface for RS-422:

- Applicable line driver: T.I. SN75174, MC3487 or equivalent
- Applicable line receiver: T.I. SN75175, MC3486 or equivalent

Note 2. Automatic-reset fuses are used for output protection. If overcurrent causes the fuse to operate, current will not flow, and after a fixed period of time it will automatically reset.

Connecting to Peripheral Device

R88D-GT04L/-GT08H



Characteristics

Product discontinuation	Recommended replacement																								
<p>R7D-AP*L</p> <p>Input power supply voltage:</p> <p>Main circuit power supply voltage: Single-phase 100 to 115VAC, 50/60Hz</p> <p>Control circuit power supply voltage: Single-phase 100 to 115VAC, 50/60Hz</p> <p>R7D-APA3H/-APA5H/-AP01H/-AP02H/-AP04H</p> <p>Input power supply voltage:</p> <p>Main circuit power supply voltage: Single-phase 200 to 230VAC, 50/60Hz</p> <p>Control circuit power supply voltage: Single-phase 200 to 230VAC, 50/60Hz</p> <p>R7D-AP08H</p> <p>Input power supply voltage:</p> <p>Main circuit power supply voltage: Single-phase and three-phase 200 to 230VAC, 50/60Hz</p> <p>Control circuit power supply voltage: Single-phase 200 to 230VAC, 50/60Hz</p> <p>R7D-AP*</p> <table border="1" data-bbox="103 1594 778 1758"> <thead> <tr> <th>Item</th> <th>Specifications</th> </tr> </thead> <tbody> <tr> <td>Ambient operating temperature</td> <td>0 to 55°C</td> </tr> <tr> <td>Ambient operating humidity</td> <td>90% max. (with no condensation)</td> </tr> <tr> <td>Ambient storage temperature</td> <td>-20 to 85°C</td> </tr> <tr> <td>Ambient storage humidity</td> <td>90% max. (with no condensation)</td> </tr> <tr> <td>Insulation resistance</td> <td>Between power line terminals and case: 0.5 MΩ min. (at 500 V DC)</td> </tr> <tr> <td>Dielectric strength</td> <td>Between power line terminals and case: 1,500 V AC for 1 min at 50/60 Hz Between each control signal and case: 500 V AC for 1 min</td> </tr> </tbody> </table>	Item	Specifications	Ambient operating temperature	0 to 55°C	Ambient operating humidity	90% max. (with no condensation)	Ambient storage temperature	-20 to 85°C	Ambient storage humidity	90% max. (with no condensation)	Insulation resistance	Between power line terminals and case: 0.5 MΩ min. (at 500 V DC)	Dielectric strength	Between power line terminals and case: 1,500 V AC for 1 min at 50/60 Hz Between each control signal and case: 500 V AC for 1 min	<p>R7D-BPA5L/-BP01L/-BP02L</p> <p>Input power supply voltage: Single-phase 100 to 115VAC, 50/60Hz</p> <p>R88D-GT04L</p> <p>Main circuit power supply voltage: Single-phase 100 to 115VAC, 50/60Hz</p> <p>Control circuit power supply voltage: Single-phase 100 to 115VAC, 50/60Hz</p> <p>R7D-BP01H/-BP02H/-BP04H</p> <p>Input power supply voltage: Single-phase 200 to 240VAC, 50/60Hz</p> <p>R88D-GT08H</p> <p>Main circuit power supply voltage: Both single-phase and three-phase 200 to 240VAC, 50/60Hz</p> <p>Control circuit power supply voltage: Single-phase 200 to 240VAC, 50/60Hz</p> <p>R7D-BP*/ R88D-GT*</p> <table border="1" data-bbox="818 1594 1522 1836"> <thead> <tr> <th>Item</th> <th>Specifications</th> </tr> </thead> <tbody> <tr> <td>Ambient operating temperature Ambient operating humidity</td> <td>0 to 55°C, 90% RH max. (with no condensation)</td> </tr> <tr> <td>Ambient storage temperature Ambient storage humidity</td> <td>-20 to 85°C, 90% RH max. (with no condensation)</td> </tr> <tr> <td>Insulation resistance</td> <td>Between power supply/power line terminals and frame ground: 0.5 MΩ min. (at 500 VDC)</td> </tr> <tr> <td>Dielectric strength</td> <td>Between power supply/power line terminals and frame ground: 1,500 VAC for 1 min at 50/60 Hz Between each control signal and frame ground: 500 VAC for 1 min</td> </tr> </tbody> </table>	Item	Specifications	Ambient operating temperature Ambient operating humidity	0 to 55°C, 90% RH max. (with no condensation)	Ambient storage temperature Ambient storage humidity	-20 to 85°C, 90% RH max. (with no condensation)	Insulation resistance	Between power supply/power line terminals and frame ground: 0.5 MΩ min. (at 500 VDC)	Dielectric strength	Between power supply/power line terminals and frame ground: 1,500 VAC for 1 min at 50/60 Hz Between each control signal and frame ground: 500 VAC for 1 min
Item	Specifications																								
Ambient operating temperature	0 to 55°C																								
Ambient operating humidity	90% max. (with no condensation)																								
Ambient storage temperature	-20 to 85°C																								
Ambient storage humidity	90% max. (with no condensation)																								
Insulation resistance	Between power line terminals and case: 0.5 MΩ min. (at 500 V DC)																								
Dielectric strength	Between power line terminals and case: 1,500 V AC for 1 min at 50/60 Hz Between each control signal and case: 500 V AC for 1 min																								
Item	Specifications																								
Ambient operating temperature Ambient operating humidity	0 to 55°C, 90% RH max. (with no condensation)																								
Ambient storage temperature Ambient storage humidity	-20 to 85°C, 90% RH max. (with no condensation)																								
Insulation resistance	Between power supply/power line terminals and frame ground: 0.5 MΩ min. (at 500 VDC)																								
Dielectric strength	Between power supply/power line terminals and frame ground: 1,500 VAC for 1 min at 50/60 Hz Between each control signal and frame ground: 500 VAC for 1 min																								

Operation ratings

Product discontinuation	Recommended replacement
Maximum response frequency for command pulse R7D-AP*: 250kpps	Maximum response frequency for command pulse R7D-BP*: 500kpps R88D-GT08H Line Driver input: 2Mpps Open-collector input: 500kpps

■ Combination Servo Driver and Servomotor

Input power voltage	Product discontinuation			Recommended replacement		
	Wattage	Servo Driver R7D	Servomotor R7M	Wattage	Servo Driver	Servomotor R88M
100 to 115VAC	30W	-APA3L	-A03030	50W	R7D-BPA5L	-G05030H
	50W	-APA5L	-A05030	50W	R7D-BPA5L	-G05030H
	100W	-AP01L	-A10030	100W	R7D-BP01L	-G10030L
	200W	-AP02L	-A20030	200W	R7D-BP02L	-G20030L
	400W	-AP04L	-A40030	400W	R88D-GT04L	-G40030L
	100W	-AP01L	-AP10030	100W	R7D-BP01L	-GP10030L
	200W	-AP02L	-AP20030	200W	R7D-BP02L	-GP20030L
	400W	-AP04L	-AP40030	400W	R88D-GT04L	-GP40030L
200 to 230VAC	30W	-APA3H	-A03030	50W	R7D-BP01H	-G10030H
	50W	-APA5H	-A05030	50W	R7D-BP01H	-G10030H
	100W	-AP01H	-A10030	100W	R7D-BP01H	-G10030H
	200W	-AP02H	-A20030	200W	R7D-BP02HH	-G20030H
	400W	-AP04H	-A40030	400W	R7D-BP04H	-G40030H
	750W	-AP08H	-A75030	750W	R88D-GT08H	-G75030H
	100W	-AP01H	-AP10030	100W	R7D-BP01H	-GP10030H
	200W	-AP02H	-AP20030	200W	R7D-BP02HH	-GP20030H
	400W	-AP04H	-AP40030	400W	R7D-BP04H	-GP40030H
	750W	-AP08H	-AP75030	750W	R88D-GT08H	-G75030H

Product discontinuation	Recommended replacement	Applicable load Inertia (kg·m ²)		Rated torque (N·m)		Momentary maximum torque (N·m)	
		R7M-A	R88M-G	R7M-A	R88M-G	R7M-A	R88M-G
Servomotor	Servomotor						
R7M-A03030	R88M-G05030H	5.10 E-05	1.90 E-04	0.095	0.16	0.29	0.48
R7M-A05030	R88M-G05030H	6.60 E-05	1.90 E-04	0.159	0.16	0.48	0.48
R7M-A10030	R88M-G10030*	1.08 E-04	1.53 E-04	0.318	0.32	0.96	0.95
R7M-A20030	R88M-G20030*	3.57 E-04	4.20 E-04	0.637	0.64	1.91	1.78
R7M-A40030	R88M-G40030*	5.61 E-04	7.80 E-04	1.27	1.3	3.82	3.60
R7M-A75030	R88M-G75030H	1.33 E-03	1.74 E-03	2.39	2.4	7.1	7.05
R7M-AP10030	R88M-GP10030L	1.63 E-04	1.80 E-04	0.318	0.32	0.96	0.85
R7M-AP20030	R88M-GP20030L	3.14 E-04	6.80 E-04	0.637	0.64	1.91	1.86
R7M-AP40030	R88M-GP40030*	5.21 E-04	1.28 E-03	1.27	1.3	3.82	3.60
R7M-AP10030	R88M-GP10030H	1.63 E-04	1.80 E-04	0.318	0.32	0.96	0.90
R7M-AP20030	R88M-GP20030H	3.14 E-04	6.80 E-04	0.637	0.64	1.91	1.82
R7M-AP75030	R88M-G75030H	2.11 E-03	1.74 E-03	2.39	2.4	7.1	7.05