

Absolute Encoder Battery Cables

Specifications		Model
Absolute Encoder Battery Cable (battery not supplied)	0.3 m	R88A-CRGD0R3C
Absolute Encoder Battery Cable (R88A-BAT01G battery × 1 supplied)	0.3 m	R88A-CRGD0R3C-BS

Absolute Encoder Backup Battery

Specifications	Model
2,000 mA·h 3.6 V	R88A-BAT01G

Analog Monitor Cable

Specifications		Model
Analog monitor cable	1 m	R88A-CMK001S

Connectors

Specifications		Model
Motor connector for encoder cable	[100 V and 200 V] For 3,000-r/min of 50 to 750 W	R88A-CNK02R
	[100 V and 200 V] For 3,000-r/min of 1 to 5 kW For 2,000 r/min, 1,000 r/min [400 V] For 3,000 r/min, 2,000 r/min and 1,000 r/min	R88A-CNK04R
Control I/O connector (CN1)		R88A-CNU11C
Encoder connector (CN2)		R88A-CNW01R
External encoder connector (CN4)		R88A-CNK41L
Safety connector (CN8)		R88A-CNK81S
Power cable connector (for 750 W max.)		R88A-CNK11A
Brake cable connector (for 750 W max.)		R88A-CNK11B

CN1 Pin Arrangement

2	PCOM	24-V open-collector input for command pulse	1	PCOM	24-V open-collector input for command pulse	27	SI4 (GSEL)	General-purpose input 4 (gain switching)	26	SI3 ^{*2}	General-purpose input 3 ^{*2}
4	–CW/–PULS/–FA	Reverse pulses, feed pulses, or 90° phase difference signal (phase A)	3	+CW/+PULS/+FA	Reverse pulses, feed pulses, or 90° phase difference signal (phase A)	29	SI6 (RUN)	General-purpose input 6 (operation command)	28	SI5 ^{*2}	General-purpose input 5 ^{*2}
6	–CCW/–SIGN/–FB	Forward pulse, direction signal, or 90° phase difference signal (phase B)	5	+CCW/+SIGN/+FB	Forward pulse, direction signal, or 90° phase difference signal (phase B)	31	SI8 (RESET)	General-purpose input 8 (alarm reset input)	30	SI7 ^{*2}	General-purpose input 7 ^{*2}
8	SI1 (NOT)	General-purpose input 1 (reverse drive prohibition input)	7	+24VIN	12 to 24-VDC power supply input	33	SI10 ^{*2}	General-purpose input 10 ^{*2}	32	SI9 (TVSEL)	General-purpose input 9 (control mode switching)
10	SO1COM	General-purpose output 1 common	9	SI2 (POT)	General-purpose input 2 (forward drive prohibition input)	35	SO2 (READY)	General-purpose output 2 (servo ready completed output)	34	SO2COM	General-purpose output 2 common
12		*1	11	SO1 (BKIR)	General-purpose input 1 (brake interlock output)	37	/ALM [SO3]	Alarm output [general-purpose output 3]	36	ALMCOM [SO3COM]	Alarm output common [general-purpose output 3 common]
14	REF/TREF1/VLIM	Speed command input, torque command input 1, speed limit input	13	SENGND	Signal ground	39	SO4 ^{*2}	General-purpose output 4 ^{*2}	38	SO4COM	General-purpose output 4 common
16	PCL/TREF2	Forward torque limit input, torque command input 2	15	AGND1	Analog ground 1	41		*1	40		*1
18	NCL	Reverse torque limit input	17	AGND2	Analog ground 2	43	BATGND	Absolute encoder backup battery input	42	BAT	Absolute encoder backup battery input
20	SEN	Sensor ON undefined	19	Z	Phase-Z output (open collector)	45	–CWLD	Reverse pulse (input for line driver only)	44	+CWLD	Reverse pulse (input for line driver only)
22	–A	Encoder phase A–output	21	+A	Encoder phase A+output	47	–CCWLD	Forward pulse (input for line driver only)	46	+CCWLD	Forward pulse (input for line driver only)
24	–Z	Encoder phase Z–output	23	+Z	Encoder phase Z+output	49	+B	Encoder phase B+output	48	–B	Encoder phase B–output
			25	ZGND	Phase-Z (open collector) common				50		*1

Note. Do not connect anything to unused pins (*1).

For general-purpose inputs 1 to 10 (SI1 to SI10) and general-purpose outputs (SO1, SO2 and SO4), use user parameters Pn400 to Pn409 (Input Signal Selections 1 to 10) and Pn410 to Pn413 (Output Signal Selections 1 to 4) to set the function allocations.

The alarm output (/ALM) is fixed to general-purpose output 3. This is indicated with square brackets in the above figure.

The function that is allocated by default is given in parentheses. “*2” indicates terminals that have different default functions depending on the control mode.

Refer to "6-9 Sequence I/O Signal" (P.6-35) for details on allocations.

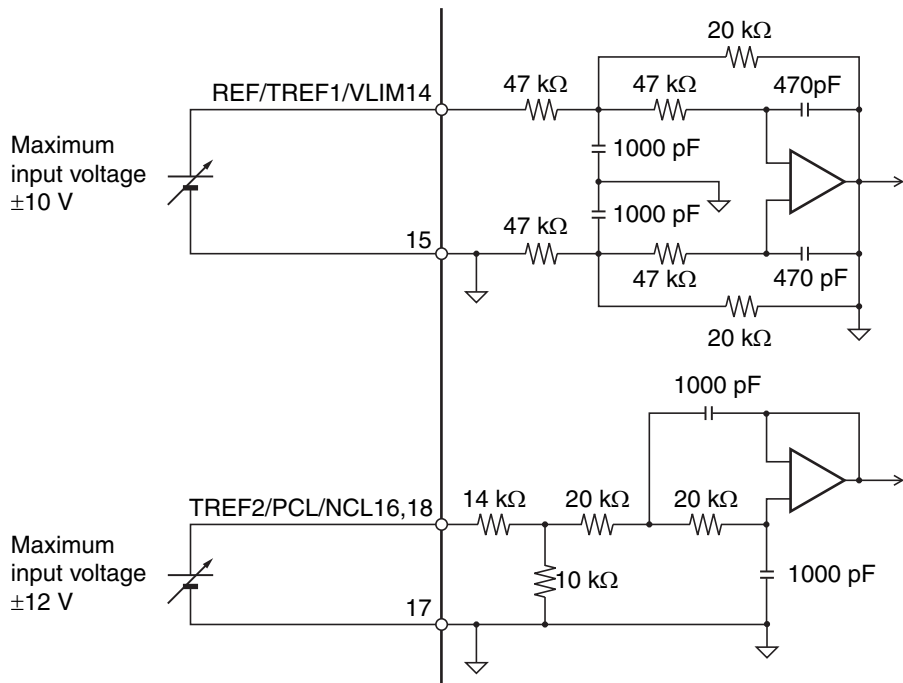
To use an absolute encoder, connect a battery to either Pin 42 which is the backup battery input, or 43 which is the battery holder for absolute encoder cable. (Never connect to both.)

Connectors for CN1 (Pin 50)

Name	Model	Manufacturer	OMRON model number
Cable plug	10150-3000PE	Sumitomo 3M	R88A-CNU11C
Cable case (shell kit)	10350-52A0-008		

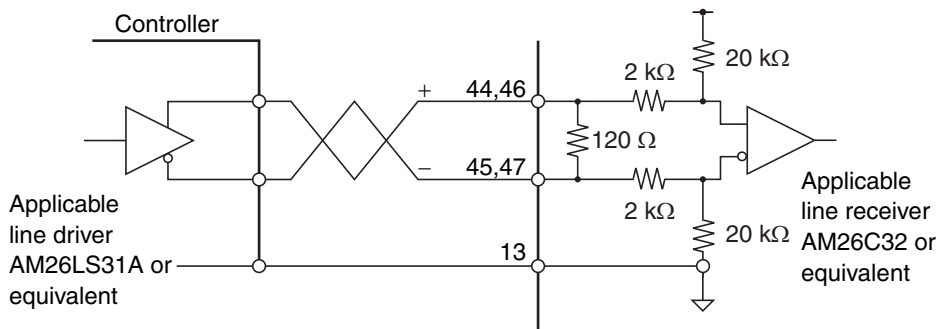
Control Input Circuits

Speed Command Input, Torque Command Input, Speed Limit Input and Torque Limit Input



Position Command Pulse (Line Receiver Input)

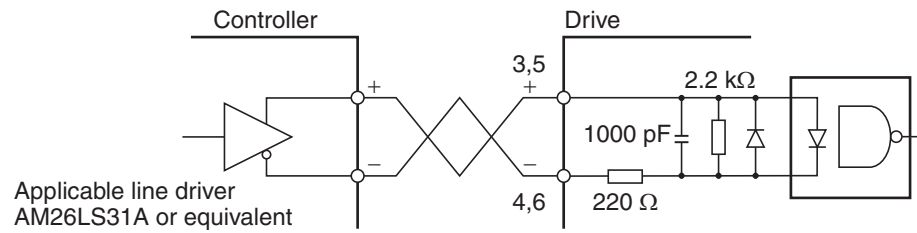
When connecting with a line driver and a line receiver, up to 4 Mpps will be available.
(+CWLD: 44, -CWLD: 45, +CCWLD: 46, -CCWLD: 47)



- ♦ The shielded twisted-pair cable should not exceed 10 m in length.

Position Command Pulse (Photocoupler Input)

When connecting with a line driver and a photocoupler, the maximum speed will be 500 kpps.
(+CW: 3, -CW: 4, +CCW: 5, -CCW: 6)



Precautions for Correct Use

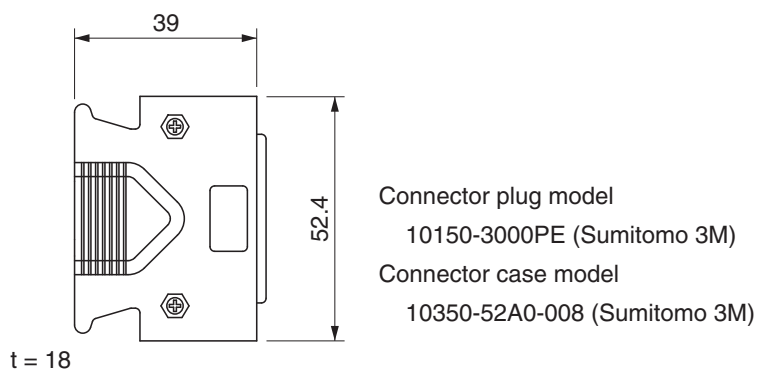
- ♦ The shielded twisted-pair cable should not exceed 10 m in length.

Connector Specifications

Control I/O Connector (R88A-CNU11C)

This is the connector to be connected to the Servo Drive's control I/O connector (CN1).
Use this connector when preparing a control cable by yourself.
For information on wiring method, refer to *Control Cable Specifications* (P.3-112).
This connector is soldered.

Dimensions



Encoder Connectors

These connectors are used for encoder cables.
Use them when preparing an encoder cable by yourself.
For information on wiring method, refer to *Encoder Cable Specifications* (P.3-97).

Dimensions

R88A-CNW01R (Drive's CN2 side)

This connector is soldered.

