General Specifications

Cables
(for ProSafe-RS)

ProSafe-RS

GS 32Q06M10-31E
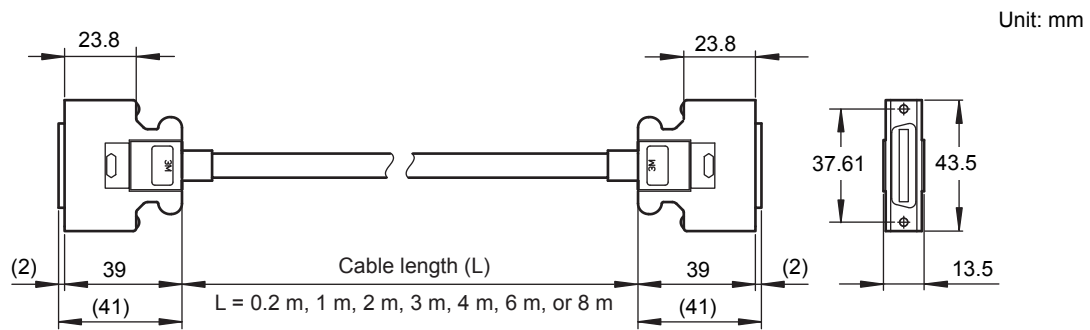
[Release 3]

■ GENERAL

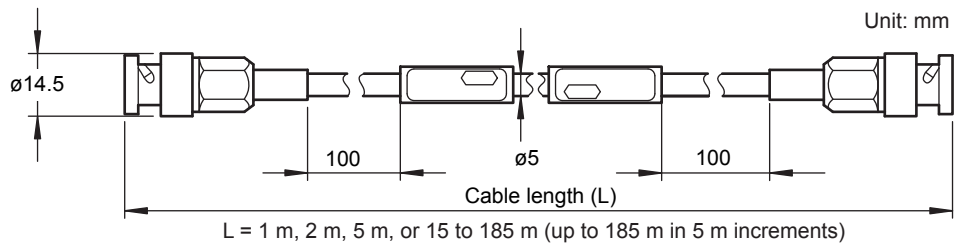*This GS covers the specifications for cables used in the ProSafe-RS system.*
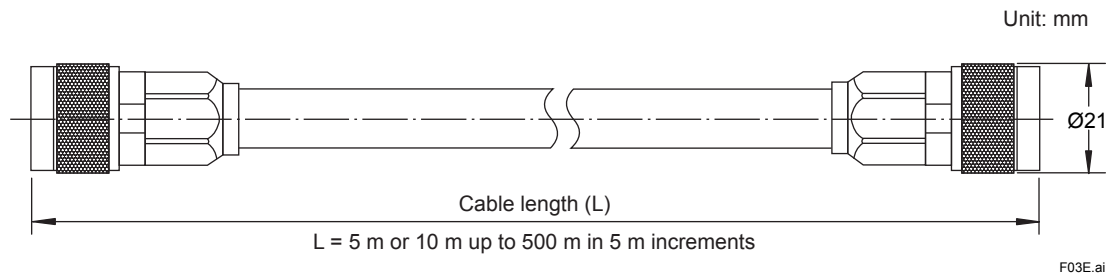
■ DIMENSIONS

● Cables

YCB301 ESB bus cable

Unit: mm

Cable length (L)
L = 0.2 m, 1 m, 2 m, 3 m, 4 m, 6 m, or 8 m

F01E.ai

YCB141 V net cable (10BASE-2 cable)

Unit: mm

Cable length (L)
L = 1 m, 2 m, 5 m, or 15 to 185 m (up to 185 m in 5 m increments)

F02E.ai

YCB111 V net cable (10BASE-5 cable)

Unit: mm

Cable length (L)
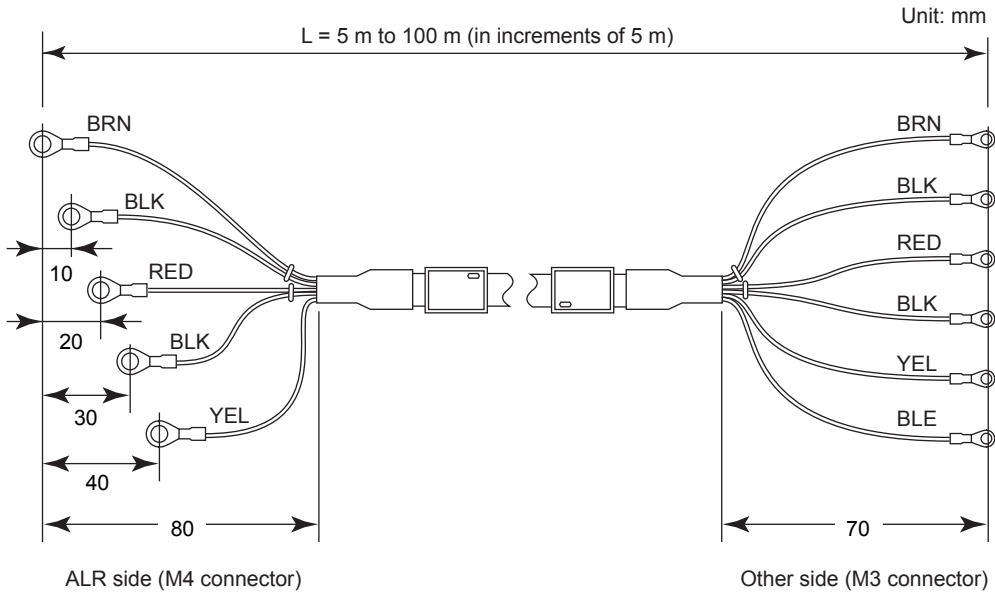L = 5 m or 10 m up to 500 m in 5 m increments

F03E.ai

YOKOGAWA ◆

AKB131, AKB132, AKB135, AKB136 RS-232C Cables for Start-Stop Asynchronous Communications (for ALR111 Communications Module)

Unit: mm

(3)　46　　　　　　　　　38　4　16

55

25　36.8

Cable length (L)

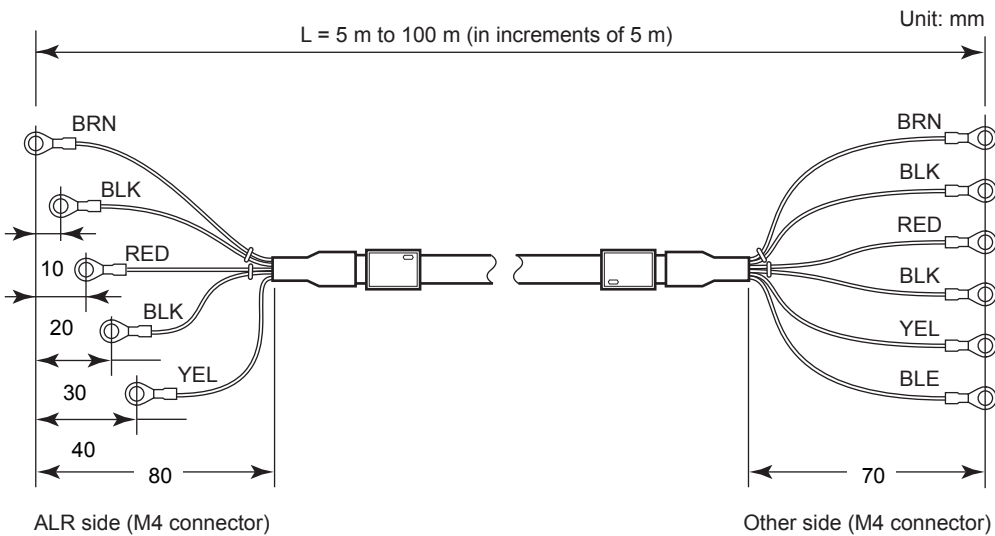L = 2 m, 5 m, 10 m, or 15 m
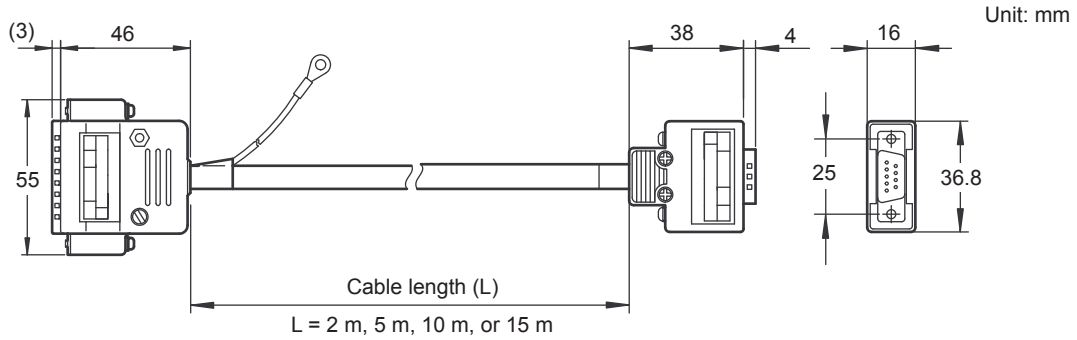
F04E.ai

Note: An FG connection wire is attached to the other side connector of the AKB131 and AKB132 cables.

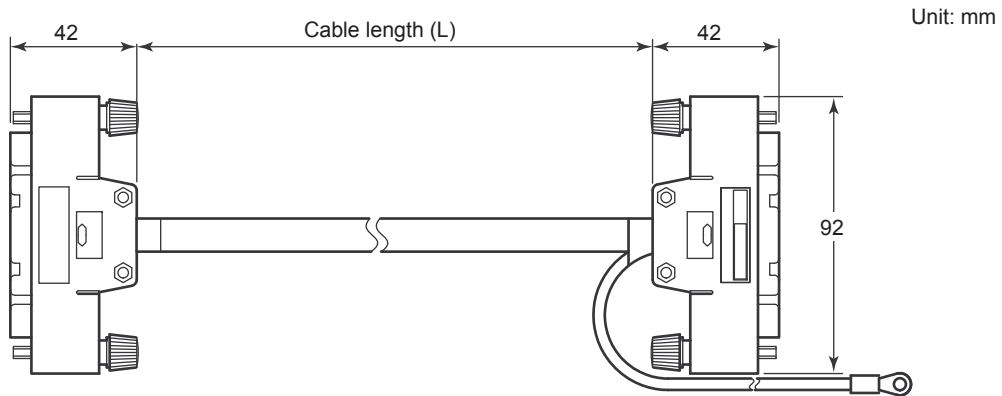**AKB161 RS-422/RS-485 cable (for ALR121 Communications Module)**

Unit: mm

L = 5 m to 100 m (in increments of 5 m)

BRN　　　　　　　　　　　　　　　　　BRN

BLK　　　　　　　　　　　　　　　　　BLK

RED　　　　　　　　　　　　　　　　　RED

10　　　　　　　　　　　　　　　　　　BLK

20　　　BLK　　　　　　　　　　　　　YEL

30　　　　　　　　　　　　　　　　　　BLE

YEL

40

80　　　　　　　　　　　　　　　70

ALR side (M4 connector)　　　　　　　Other side (M3 connector)

F05E.ai

AKB162 RS-422/RS-485 cable (for ALR121 Communications Module)

Unit: mm

L = 5 m to 100 m (in increments of 5 m)

BRN　　　　　　　　　　　　　　　　　BRN

BLK　　　　　　　　　　　　　　　　　BLK

RED　　　　　　　　　　　　　　　　　RED

10　　　　　　　　　　　　　　　　　　BLK

20　　　BLK　　　　　　　　　　　　　YEL

30　　　　YEL　　　　　　　　　　　　BLE

40

80　　　　　　　　　　　　　　　70

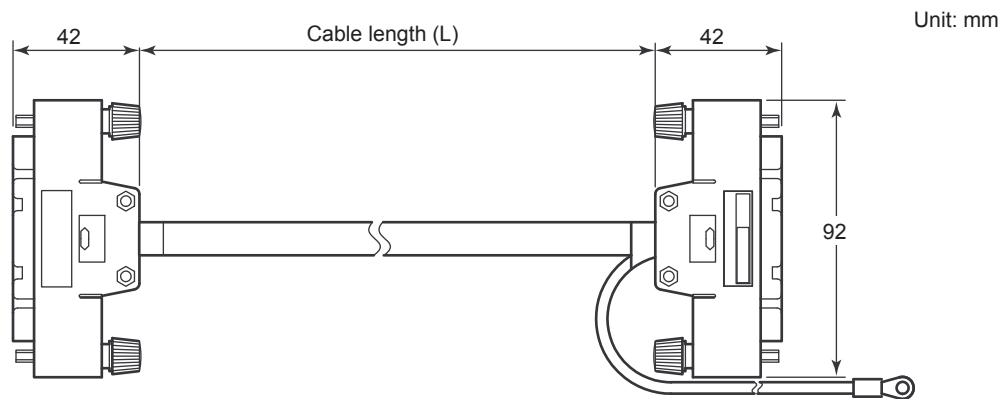ALR side (M4 connector)　　　　　　　Other side (M4 connector)

F06E.ai

AKB331 Signal Cable (50-50 pins)

Unit: mm

AKB331: L = 1 m, 2 m, 3 m, 5 m, 7 m or 10 m, up to 50 m in 5 m increments

F07E.ai
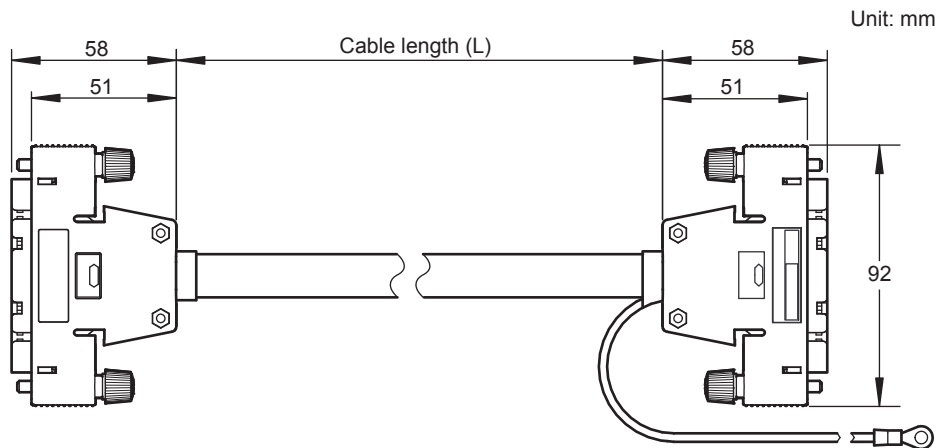
AKB611 Signal Cable (50-50 pins)

Unit: mm

AKB6111: L = 2 m, 5 m

F17E.ai

AKB651 Signal Cable (50-50 pins)

Unit: mm

AKB651: L = 1 m, 2 m, 3 m, 5 m, 7 m or 10 m, up to 30 m in 5 m increments

F15E.ai

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AKB652 Signal Cable (12 pins)

Unit: mm

AKB652: L = 1 m, 2 m, 3 m, 5 m, 7 m, 10 m, 15 m, 20 m, 25 m, or 30 m
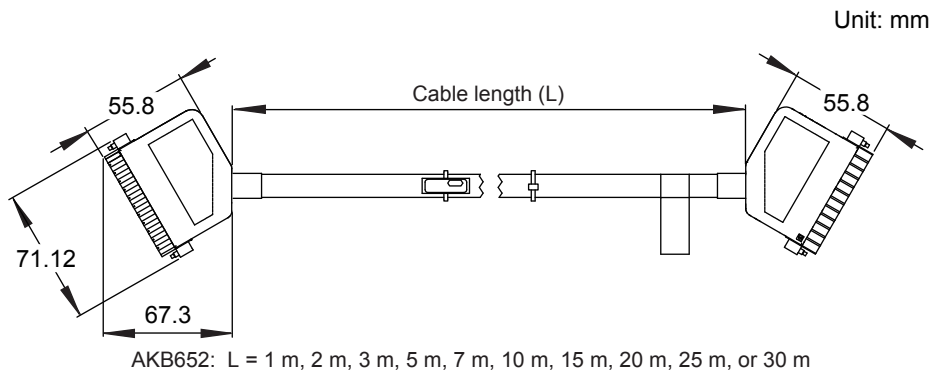
F16E.ai

KS1 Cable (40-40 pins)

Unit: mm

40 pin connector   40 pin connector

KS1: L = 1 m, 2 m, 3 m, 5 m, 7 m or 10 m, up to 50 m in 5 m increments

F08E.ai

5
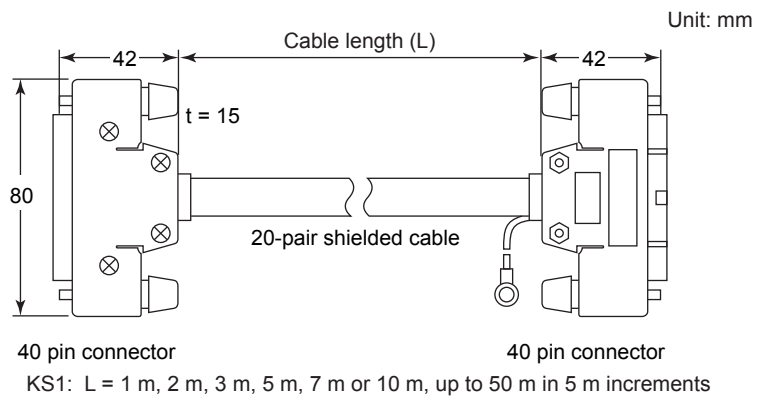
YCB148 V net Terminator (for 10BASE-2 Cable)

Unit: mm

24.0   ø14.5
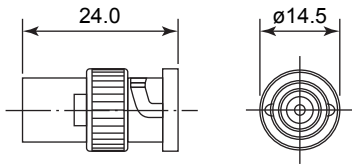
F13E.ai

YCB118 V net Terminator (for 10BASE-5 cable)

Unit: mm

28   ø21
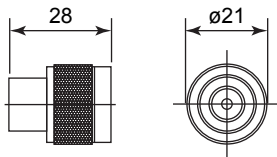
F09E.ai

YCB146 Control Bus T-shaped Connector (for SENG)

Unit: mm

ø14.5

27.8

32.5

F11E.ai

YCB147 Control Bus Cable Conversion Adapter

Unit: mm

10BASE-2

10BASE-5

209

116

111

49

21

46

43

185
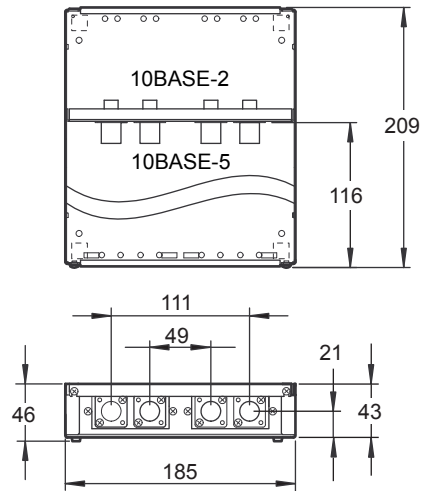
F12E.ai

YCB149 Control Bus Conversion Unit

Unit: mm

34.8   ø17
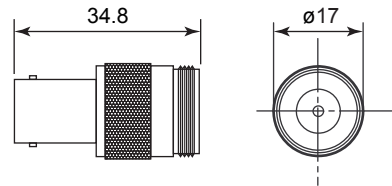
F14E.ai

YCB128 IRIG (GPS) Terminator

Unit: mm

18 ± 1

28 ± 2

20 ± 1
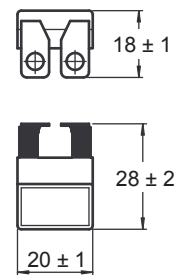
F10E.ai

■ MODEL AND SUFFIX CODES

EBS Bus Cable

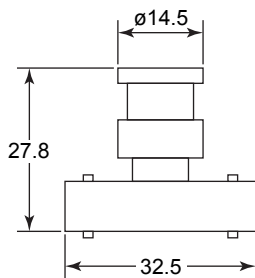|		Description
Model	YCB301	ESB bus cable
Suffix Codes	-C020	Length: 20 cm
	-C100	Length: 1 m
	-C200	Length: 2 m
	-C300	Length: 3 m
	-C400	Length: 4 m
	-C600	Length: 6 m
	-C800	Length: 8 m

V net Cable

		Description
Model	YCB141	V net cable (10BASE-2)
Suffix Codes	-M001	Length: 1 m
	-M002	Length: 2 m
	-M005	Length: 5 m
	-M010	Length: 10 m
	-M □□□	For more than 10 meters, enter multiples of 5 in the □□□ (the cable comes in 5-m increments). Maximum length: 185 m (suffix code: -M185)

Extended V net Cable

		Description
Model	YCB111	V net cable (10BASE-5)
Suffix Codes	-M003	Length: 2.5 m
	-M005	Length: 5 m
	-M008	Length: 7.5 m
	-M □□□	For more than 10 meters, enter multiples of 5 in the □□□ (the cable comes in 5-m increments). Maximum length: 500 m (suffix code: -M500)

RS-232C Modem Cable (for connection between ALR111 and modem)

		Description
Model	AKB131	For connecting RS circuit isolated devices; RS-232C modem cable for start-stop asynchronous communications (9-25 pins)(for connection between ALR111 and modem)
Suffix Codes	-M002	Length: 2 m
	-M005	Length: 5 m
	-M010	Length: 10 m
	-M015	Length: 15 m

RS-232C Null Modem Cable (for connection between ALR111 and RS-232C device)

		Description
Model	AKB132	RS-232C null modem cable for start-stop asynchronous communications (9-25 pins)(for connection between ALR111 and RS-232C device)
Suffix Codes	-M002	Length: 2 m
	-M005	Length: 5 m
	-M010	Length: 10 m
	-M015	Length: 15 m

RS-232C Modem Cable (for connection between ALR111 and modem)

		Description
Model	AKB135	RS-232C modem cable for start-stop asynchronous communications (9-25 pins)(for connection between ALR111 and modem)
Suffix Codes	-M002	Length: 2 m
	-M005	Length: 5 m
	-M010	Length: 10 m
	-M015	Length: 15 m

RS-232C Null Modem Cable (for connection between ALR111 and RS-232C device)

		Description
Model	AKB136	RS-232C null modem cable for start-stop asynchronous communications (9-25 pins)(for connection between ALR111 and RS-232C device)
Suffix Codes	-M002	Length: 2 m
	-M005	Length: 5 m
	-M010	Length: 10 m
	-M015	Length: 15 m

Signal Cables

		Description
Model	AKB161	RS-422/RS-485 cable Used between ALM side (M4 terminal) and other side (M3 terminal)
Suffix Code	-M □□□	Enter multiples of 5 in the □□□ (the cable comes in 5-m increments). Maximum length: 100 m (suffix code: -M100)

		Description
Model	AKB162	RS-422/RS-485 cable Used between ALR side (M4 terminal) and other side (M4 terminal)
Suffix Code	-M □□□	Enter multiples of 5 in the □□□ (the cable comes in 5-m increments). Maximum length: 100 m (suffix code: -M100)

		Description
Model	AKB331	Signal Cable (50-50 pins) (for connection between SDV144/ SDV531/SDV53A/SDV541/SAT145 and Terminal Board)
Suffix Codes	-M001	Length: 1 m
	-M002	Length: 2 m
	-M003	Length: 3 m
	-M005	Length: 5 m
	-M007	Length: 7 m
	-M010	Length: 10 m
	-M015	Length: 15 m
	-M020	Length: 20 m
	-M025	Length: 25 m
	-M030	Length: 30 m
	-M035	Length: 35 m
	-M040	Length: 40 m
	-M045	Length: 45 m
	-M050	Length: 50 m
Option Codes	/SDV144	Special cable for SDV144 (for ProSafe-RS)
	/SDV53L	Special cable for SDV531-L (for ProSafe-RS)
	/SDV53A	Special cable for SDV53A (for ProSafe-RS)
	/SDV541	Special cable for SDV541 (for ProSafe-RS)
	/SAT14	Special cable for SAT145 (for ProSafe-RS)

Note: When connecting AKB331 with SDV531, SDV53A or SDV541, check if the cable length of AKB331 is proper or not, referring to "Terminal Board is connected" of "■ LIMITATIONS ON DIGITAL OUTPUT MODULE CONNECTIONS" in "ProSafe-RS Outline of I/O Modules"(GS 32Q06K20-31E).

Note: A mechanism to prevent wrong type I/O module insertion is supported. When you select option code /SDV144, /SDV53L, /SDV53A, /SDV541 and /SAT14, the same model I/O module with /PRP prevention pin of false insertion option can be used. For example, AKB331-M003/SDV144 can be used only with SDV144 that have /PRP prevention pin of false insertion option.

		Description
Model	AKB611	Signal cable (for connections between SAR145 and Terminal Board)
Suffix Code	-M002	Cable length : 2 m
	-M005	Cable length : 5 m
Option Code	/SAR14	Special cable for SAR145 (for ProSafe-RS) (*1)

*1: Specify option code "/SAR14" to prevent mistakes at the time of false insertion.

		Description
Model	AKB651	Signal Cable (50-50 pins) (for connections between SDV521/ SDV531-L/SDV53A/SDV541 and Terminal Board)
Suffix Codes	-M001	Length: 1 m
	-M002	Length: 2 m
	-M003	Length: 3 m
	-M005	Length: 5 m
	-M007	Length: 7 m
	-M010	Length: 10 m
	-M015	Length: 15 m
	-M020	Length: 20 m
	-M025	Length: 25m
	-M030	Length: 30 m
Option Codes	/SDV521	Special cable for SDV521 (for ProSafe-RS)
	/DV53L	Special cable for SDV531-L (for ProSafe-RS)
	/DV53A	Special cable for SDV53A (for ProSafe-RS)
	/DV541	Special cable for SDV541 (for ProSafe-RS)

Note: When connecting AKB651 with SDV521, SDV531-L, SDV53A or SDV541 check if the cable length of AKB651 is proper or not, referring to "Terminal Board is connected" of "■ LIMITATIONS ON DIGITAL OUTPUT MODULE CONNECTIONS" in "ProSafe-RS Outline of I/O Modules"(GS 32Q06K20-31E).

Note: A mechanism to prevent wrong type I/O module insertion is supported. When you select option code /SDV521, /DV53L, /DV53A and /DV541, the same model I/O module with /PRP prevention pin of false insertion option can be used. For example, AKB651-M003/DV53L can be used only with SDV531-L that have /PRP prevention pin of false insertion option.

		Description
Model	AKB652	Signal Cable (for connections between SDV526 and Terminal Board)
Suffix Codes	-M001	Length: 1 m
	-M002	Length: 2 m
	-M003	Length: 3 m
	-M005	Length: 5 m
	-M007	Length: 7 m
	-M010	Length: 10 m
	-M015	Length: 15 m
	-M020	Length: 20 m
	-M025	Length: 25 m
	-M030	Length: 30 m
Option Code	/SDV526	Special cable for SDV526 (for ProSafe-RS) (*1)

Note: When connecting AKB652 with SDV526, check if the cable length of AKB652 is proper or not, referring to "Terminal Board is connected" of "■ LIMITATIONS ON DIGITAL OUTPUT MODULE CONNECTIONS" in "ProSafe-RS Outline of I/O Modules" (GS 32Q06K20-31E).
*1: Specify option code "/SDV526" to prevent mistakes at the time of false insertion.

		Description
Model	KS1	Signal cable (40-40 pins)
Suffix Codes	-01	Length: 1 m
	-02	Length: 2 m
	-03	Length: 3 m
	-05	Length: 5 m
	-07	Length: 7 m
	-10	Length: up to 10 m (*1)
	-15	Length: 15 m
	-20	Length: up to 20 m (*1)
	-25	Length: 25 m
	-30	Length: up to 30 m (*1)
	-35	Length: 35 m
	-40	Length: up to 40 m (*1)
	-45	Length: 45 m
	-50	Length: up to 50 m (*1)
Style Code	*B	Style B
Option Codes	/SAI143	Special cable for SAI143 (for ProSafe-RS)
	/SAI533	Special cable for SAI533 (for ProSafe-RS)
	/SAV144	Special cable for SAV144 (for ProSafe-RS)

*1: "Length: up to ☐☐ m" means the customer can specify the cable length that is not exceeding the ☐☐ meters.
For example, 8 m or 9 m can be specified when KS1-10*B is selected.

Note: A mechanism to prevent wrong type I/O module insertion is supported. When you select option code /SAI143, SAI533 and /SAV144, the same model I/O module with /PRP prevention pin of false insertion option can be used. For example, KS1-03/SAI143 can be used only with SAI143 that have /PRP prevention pin of false insertion option.

		Description
Model	YCB148	V net terminator (for 10BASE-2 cable)

		Description
Model	YCB118	V net terminator (for 10BASE-5 cable)

		Description
Model	YCB146	T-shaped control bus connector (for SENG)

		Description
Model	YCB147	Control Bus Adapter
Suffix Codes	-5	Two connectors with no explosion protection
	-6	Four connectors with no explosion protection
Option Code	/BR	General-purpose 19-inch Rack mounting

		Description
Model	YCB149	Control Bus Conversion Unit

		Description
Model	YCB128	Terminator for IRIG (GPS)

■ APPLICABLE STANDARDS
Refer to the GS "ProSafe-RS Safety Instrumented System Overview (GS 32Q01B10-31E)."

■ ORDERING INFORMATION
Specify the model and suffix codes when ordering.

■ TRADEMARKS
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