

Limit Switch Connectors

CSM_LimitSwitch_Connector_DS_E_6_3

Connectors (SC Series)

Cable and flexible tubes with various diameters are used to connect machine tools and controllers with Limit Switches. To ensure the watertightness of the edges of the conduits, use an SC Connector that is suitable for the external diameter of cable and model of Limit Switch.

Ordering Information

Connector for Cable

Conduit	Applicable cable	Inner diameter (D) of seal rubber	External diameter of cable		Model	Applicable model
			Min.	Max.		
JIS B 0202 G $\frac{1}{2}$	Cable (general-purpose)	7 mm	5.5 mm	7.5 mm	SC-1M	WL-N, WL, D4A-□N, D4B-□N, ZE, ZV, ZV2, XE, XV, XV2
		9 mm	7.5 mm	9.5 mm	SC-2M	
		12.5 mm	11 mm	13 mm	SC-3M	
		14 mm	12 mm	14 mm	SC-4M	
		11 mm	9 mm	11 mm	SC-5M	
	Cable (anti-corrosive)	7 mm	5.5 mm	7.5 mm	SC-21	
		9 mm	7.5 mm	9.5 mm	SC-22	
		12.5 mm	11 mm	13 mm	SC-23	
		14 mm	12 mm	14 mm	SC-24	
		11 mm	9 mm	11 mm	SC-25	
$\frac{1}{2}$ -14NPT	Cable	7 mm	5.5 mm	7.5 mm	SC-1PT	D4A-□N
		9 mm	7.5 mm	9.5 mm	SC-2PT	
		12.5 mm	11 mm	13 mm	SC-3PT	
		14 mm	12 mm	14 mm	SC-4PT	
		11 mm	9 mm	11 mm	SC-5PT	

Note: Please use sealing tape with SC Connectors. SC-1M to SC-5M, however, are provided with an O-ring (NBR) and therefore sealing tape is not necessary to ensure a proper seal.

Simple Connectors (Not Suitable for Locations Subject to Oil or Water)

Conduit	Applicable cable	Inner diameter (D) of seal rubber	External diameter of cable		Model	Applicable model
			Min.	Max.		
JIS B 0202 G $\frac{1}{2}$	Cable	10.6 mm	8.5 mm	10.5 mm	SC-P2	WL-N, WL, D4A-□N, D4B-□N, ZE, ZV, ZV2, XE, XV, XV2
Pg13.5		9.6 mm	7.5 mm	9.5 mm	SC-P3	WL□-G
JIS B 0202 G $\frac{1}{2}$		9 mm	7.5 mm	9 mm	SC-6	WL-N, WL, D4A-□N, D4N *, D4N-□R *, D4B-□N, ZE, ZV, ZV2, XE, XV, XV2

Note: Simple connector are made of resin. If more sealing capability is required, use one of SC-1M to SC-5M, which have metal casings. Models marked with an asterisk (*) however, can only be used with resin connectors.

Dimensions and Structure

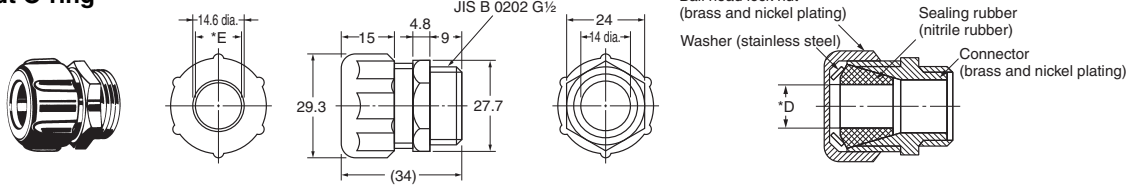
(Unit: mm)

Connectors for Cabtire Cable

As for models without an O-ring, please use sealing tape with SC Connectors.

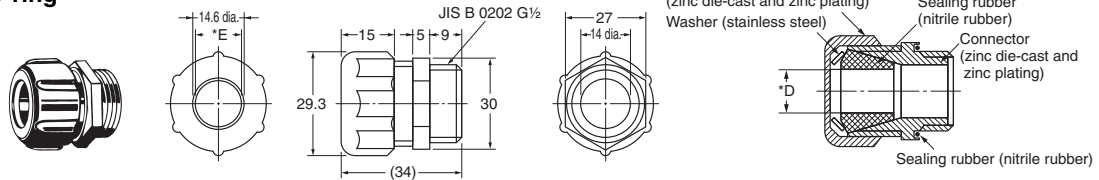
Metal Models without O-ring

G $\frac{1}{2}$
SC-21 to 25



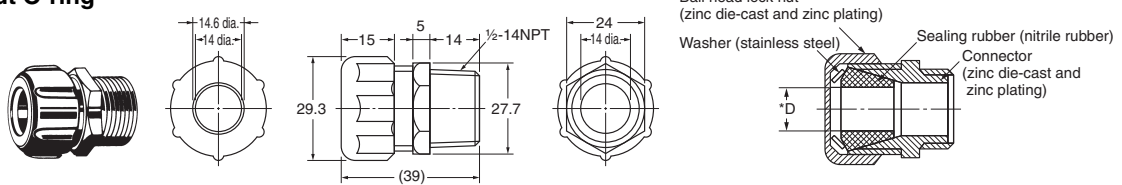
Metal Models with O-ring

G $\frac{1}{2}$
SC-1M to 5M



Metal Models without O-ring

$\frac{1}{2}$ -14NPT
(U.S.-standard screws)
SC-1PT to 5PT

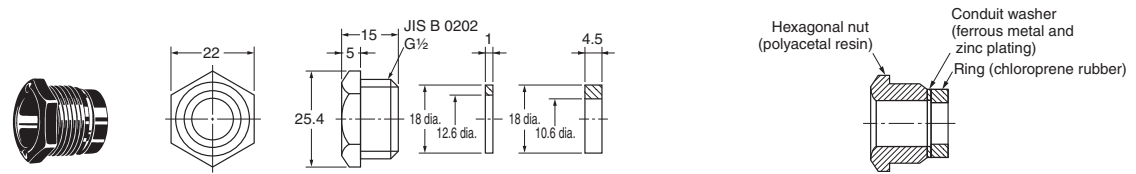


Note: Dimensions not shown in the above diagrams have a variation of ± 0.4 mm.

Simple Connectors (Not Suitable for Locations Subject to Oil or Water)

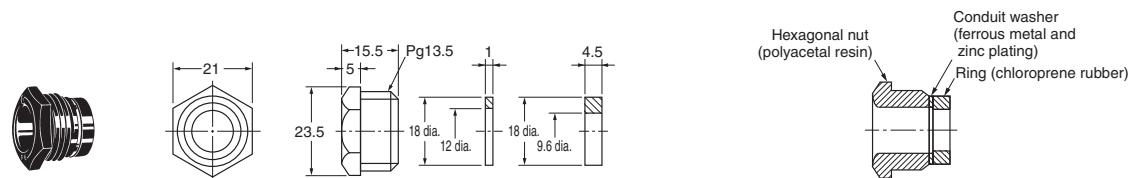
Resin Models

G $\frac{1}{2}$
SC-P2



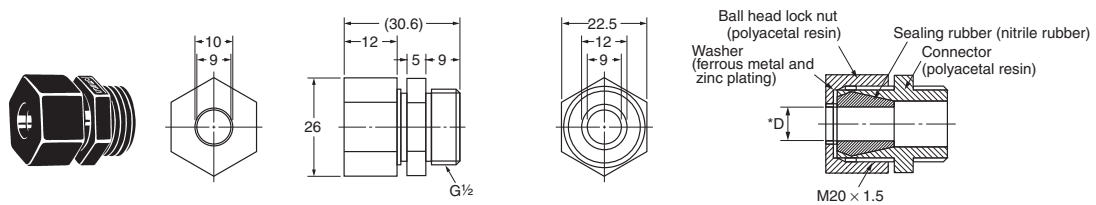
Resin Models

Pg13.5
SC-P3



Resin Models

G $\frac{1}{2}$
SC-6



Note: Dimensions not shown in the above diagrams have a variation of ± 0.4 mm.

* Diameter of Part Marked with Asterisk

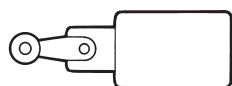
Model	Inner diameter (D) of sealed rubber	Internal diameter (E) of washer	Applicable cable
SC-21, -1M, -1PT	7 mm	10.4 mm	5.5 to 7.5-mm dia.
SC-22, -2M, -2PT	9 mm	13.2 mm	7.5 to 9.5-mm dia.
SC-23, -3M, -3PT	12.5 mm	14.6 mm	11 to 13-mm dia.
SC-24, -4M, 4PT	14 mm	14.6 mm	12 to 14-mm dia.
SC-25, -5M, -5PT	11 mm	13.2 mm	9 to 11-mm dia.
SC-6	9 mm	10 mm	7.5 to 9-mm dia.

SC-□F□ FA Connectors

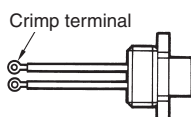
The SC-□F□ is a snap-on connecting model that greatly reduces the time-consuming effort for wiring the Limit Switch. The SC-□F□ is easily and quickly connected or disconnected and its degree of protection is IP67.

Ordering Information

FA Connector limit Switch



FA Connector



Connecting Cable



FA Connectors

Model	Number of conductors	Voltage specification	Size of conduit	Size of crimp terminal	Applicable model
SC-2F	2	125 VDC	JIS B 0202 G½	M4	WL-N, WL
SC-2FAD	2	250 VAC			
SC-4F4D	4	125 VDC			
SC-4F4AD	4	250 VAC			

Connecting Cables

Straight Cable



Voltage specification	Number of conductors	Cable length	Model
AC	2	2 m	XS2F-A421-DB0-F
		5 m	XS2F-A421-GB0-F
	4	2 m	XS2F-A421-D90-F
		5 m	XS2F-A421-G90-F
DC	2	2 m	XS2F-D421-DD0
		5 m	XS2F-D421-GD0
	4	2 m	XS2F-D421-D80-F
		5 m	XS2F-D421-G80-F

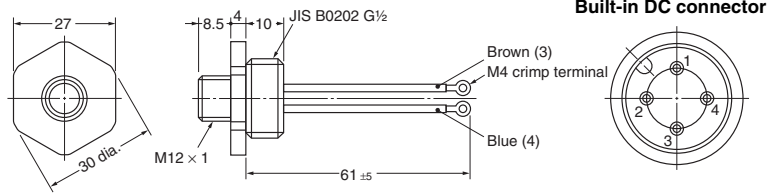
Connections to Sensor I/O Connectors

Voltage specification	Number of conductors	FA Connector	Sensor I/O Connector	Connection
AC	2	SC-2FAD	XS2F-A421-□B0-F ↑ D: 2-m cord G: 5-m cord	
	4	SC-4F4AD	XS2F-A421-□90-F ↑ D: 2-m cord G: 5-m cord	
DC	2	SC-2F	XS2F-D421-□D0 ↑ D: 2-m cord G: 5-m cord	
	4	SC-4F4D	XS2F-D421-□80-F ↑ D: 2-m cord G: 5-m cord	

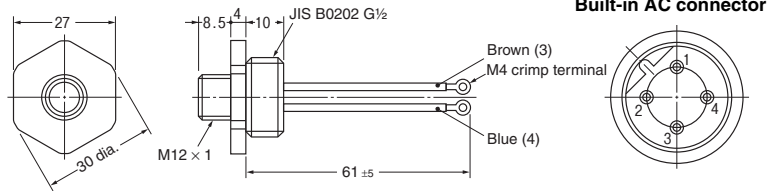
Dimensions

(Unit: mm)

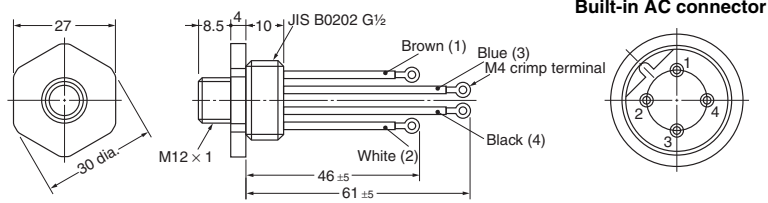
SC-2F



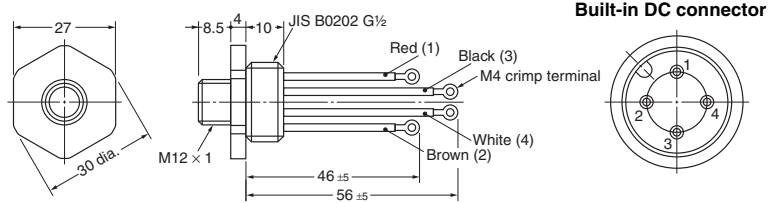
SC-2FAD



SC-4F4AD



SC-4F4D



Note: 1. Each dimension has a tolerance of ± 0.4 mm unless otherwise specified.
2. Figures in parentheses are connector pin numbers.

Safety Precautions

Precautions for Correct Use

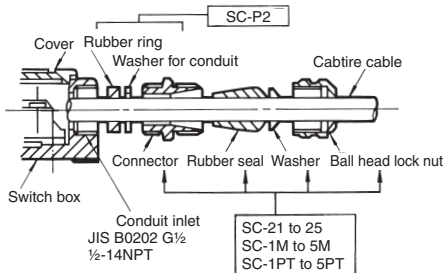
Conduits

Connector for Cabtire Cable/Flexible Tube

G½, ½-14NPT

To connect a Limit Switch with a connector, insert a rubber ring first and then a washer into the conduit inlet of the switch body, put a rubber seal, washer, and nut in this order onto the tapered part of the connector and tighten the nut securely. Then tighten the conduit inlet with the connector to maintain high sealing capability. Apply sealing tape to the edge of the connector on the conduit inlet side to increase sealing capability.

The SC-1M to SC-5M are provided with an O-ring, and so the rubber ring, conduit washer, and sealing tape are not required.



Terms and Conditions Agreement

Read and understand this catalog.

Please read and understand this catalog before purchasing the products. Please consult your OMRON representative if you have any questions or comments.

Warranties.

(a) Exclusive Warranty. Omron's exclusive warranty is that the Products will be free from defects in materials and workmanship for a period of twelve months from the date of sale by Omron (or such other period expressed in writing by Omron). Omron disclaims all other warranties, express or implied.

(b) Limitations. OMRON MAKES NO WARRANTY OR REPRESENTATION, EXPRESS OR IMPLIED, ABOUT NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OF THE PRODUCTS. BUYER ACKNOWLEDGES THAT IT ALONE HAS DETERMINED THAT THE PRODUCTS WILL SUITABLY MEET THE REQUIREMENTS OF THEIR INTENDED USE.

Omron further disclaims all warranties and responsibility of any type for claims or expenses based on infringement by the Products or otherwise of any intellectual property right. (c) Buyer Remedy. Omron's sole obligation hereunder shall be, at Omron's election, to (i) replace (in the form originally shipped with Buyer responsible for labor charges for removal or replacement thereof) the non-complying Product, (ii) repair the non-complying Product, or (iii) repay or credit Buyer an amount equal to the purchase price of the non-complying Product; provided that in no event shall Omron be responsible for warranty, repair, indemnity or any other claims or expenses regarding the Products unless Omron's analysis confirms that the Products were properly handled, stored, installed and maintained and not subject to contamination, abuse, misuse or inappropriate modification. Return of any Products by Buyer must be approved in writing by Omron before shipment. Omron Companies shall not be liable for the suitability or unsuitability or the results from the use of Products in combination with any electrical or electronic components, circuits, system assemblies or any other materials or substances or environments. Any advice, recommendations or information given orally or in writing, are not to be construed as an amendment or addition to the above warranty.

See <http://www.omron.com/global/> or contact your Omron representative for published information.

Limitation on Liability: Etc.

OMRON COMPANIES SHALL NOT BE LIABLE FOR SPECIAL, INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, LOSS OF PROFITS OR PRODUCTION OR COMMERCIAL LOSS IN ANY WAY CONNECTED WITH THE PRODUCTS, WHETHER SUCH CLAIM IS BASED IN CONTRACT, WARRANTY, NEGLIGENCE OR STRICT LIABILITY.

Further, in no event shall liability of Omron Companies exceed the individual price of the Product on which liability is asserted.

Suitability of Use.

Omron Companies shall not be responsible for conformity with any standards, codes or regulations which apply to the combination of the Product in the Buyer's application or use of the Product. At Buyer's request, Omron will provide applicable third party certification documents identifying ratings and limitations of use which apply to the Product. This information by itself is not sufficient for a complete determination of the suitability of the Product in combination with the end product, machine, system, or other application or use. Buyer shall be solely responsible for determining appropriateness of the particular Product with respect to Buyer's application, product or system. Buyer shall take application responsibility in all cases.

NEVER USE THE PRODUCT FOR AN APPLICATION INVOLVING SERIOUS RISK TO LIFE OR PROPERTY OR IN LARGE QUANTITIES WITHOUT ENSURING THAT THE SYSTEM AS A WHOLE HAS BEEN DESIGNED TO ADDRESS THE RISKS, AND THAT THE OMRON PRODUCT(S) IS PROPERLY RATED AND INSTALLED FOR THE INTENDED USE WITHIN THE OVERALL EQUIPMENT OR SYSTEM.

Programmable Products.

Omron Companies shall not be responsible for the user's programming of a programmable Product, or any consequence thereof.

Performance Data.

Data presented in Omron Company websites, catalogs and other materials is provided as a guide for the user in determining suitability and does not constitute a warranty. It may represent the result of Omron's test conditions, and the user must correlate it to actual application requirements. Actual performance is subject to the Omron's Warranty and Limitations of Liability.

Change in Specifications.

Product specifications and accessories may be changed at any time based on improvements and other reasons. It is our practice to change part numbers when published ratings or features are changed, or when significant construction changes are made. However, some specifications of the Product may be changed without any notice. When in doubt, special part numbers may be assigned to fix or establish key specifications for your application. Please consult with your Omron's representative at any time to confirm actual specifications of purchased Product.

Errors and Omissions.

Information presented by Omron Companies has been checked and is believed to be accurate; however, no responsibility is assumed for clerical, typographical or proofreading errors or omissions.

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Omron:

[SC-6](#) [SC-P2](#) [SC-R40](#)