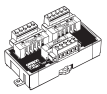
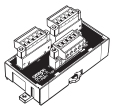
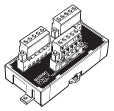
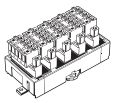
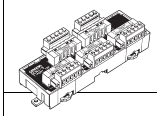
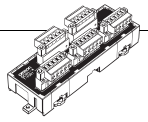
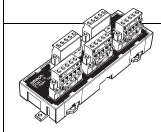
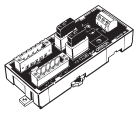
# Peripheral Devices

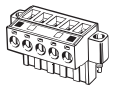
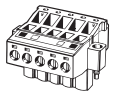
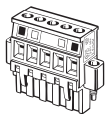
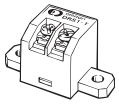
## General-purpose Peripheral Devices

### Peripheral Devices for DeviceNet Communications

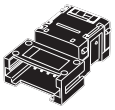
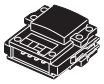
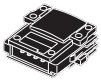
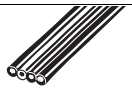
### Ordering Information

● **General-purpose Models**

| Product | Appearance | Model | Specifications | |
|---|---|---|---|---|
| T-branch Tap for 1 branch line | | **DCN1-1NC** | Cable wiring direction: Toward top<br>Cable lock direction: From top<br>Connector screw direction: From top | Provided with 3 parallel connectors with clamps (XW4G-05C1-H1-D), standard terminating resistor |
| |  | **DCN1-1C** | Cable wiring direction: Toward side<br>Cable screw direction: From top<br>Connector screw direction: From side | Provided with 3 parallel connectors with screws (XW4B-05C1-H1-D), standard terminating resistor |
| |  | **DCN1-2C** | Cable wiring direction: Toward top<br>Cable screw direction: From side<br>Connector screw direction: From top | |
| |  | **DCN1-2R** | Cable wiring direction: Toward side<br>Cable screw direction: From top<br>Connector screw direction: From top | Provided with 3 orthogonal connectors with screws (XW4B-05C1-VIR-D), standard terminating resistor |
| T-branch Tap for 3 branch lines |  | **DCN1-3NC** | Cable wiring direction: Toward top<br>Cable lock direction: From top<br>Connector screw direction: From top | Provided with 5 parallel clamp connectors with screws (XW4G-05C1-H1-D), standard terminating resistor |
| |  | **DCN1-3C** | Cable wiring direction: Toward side<br>Cable screw direction: From top<br>Connector screw direction: From side | Provided with 5 parallel connectors with screws (XW4B-05C1-H1-D), standard terminating resistor |
| |  | **DCN1-4C** | Cable wiring direction: Toward top<br>Cable screw direction: From side<br>Connector screw direction: From top | |
| |  | **DCN1-4R** | Cable wiring direction: Toward side<br>Cable screw direction: From top<br>Connector screw direction: From top | Provided with 5 orthogonal clamp connectors with screws (XW4B-05C1-VIR-D), standard terminating resistor |
| Power Supply Tap |  | **DCN1-1P** | Tap provided with 2 connectors, standard terminating resistor, and fuse | |

| Product | | Appearance | Model | Specifications |
|---|---|---|---|---|
| Connectors | | | **XW4G-05C1-H1-D** | Parallel clamp connector with screws<br>Connector insertion and wiring both performed horizontally. |
| | | | **XW4G-05C4-TF-D** | Parallel multi-branching clamp connector with screws<br>Connector insertion and wiring performed in same direction. |
| | |  | **XW4B-05C1-H1-D** | Parallel connector with screws<br>Connector insertion and wiring performed in same direction. |
| | | | **XW4B-05C4-T-D** | Parallel, screw-less, multi-branching connector<br>Connector insertion and wiring performed in same direction. |
| | |  | **XW4B-05C4-TF-D** | Parallel, multi-branching connector with screws<br>Connector insertion and wiring performed in same direction. |
| | |  | **XW4B-05C1-VIR-D** | Orthogonal connector with screws<br>Connector insertion and wiring performed at a right angle. |
| DeviceNet Standard Cables | Thin Cables | | **DCA1-5C10(-B)** | Outer diameter: 7.00 mm<br>Length: 100 m<br>DCA1-5C10-B: Cable color: Blue<br>DCA1-5C10: Cable color: Gray |
| | Thick Cables | | **DCA2-5C10(-B)** | Outer diameter: 11.6 mm<br>Length: 100 m<br>DCA2-5C10-B: Cable color: Blue<br>DCA2-5C10: Cable color: Gray |
| Terminal-block Terminator | |  | **DRS1-T** | Resistance of 121 Ω |

### ● Peripheral Devices for Flat Cables

| Product | Appearance | Model | Specifications |
|---|---|---|---|
| Connector for Flat Cable | | **DCN4-SF4D** | Connector with lock screws for crimping flat cable |
| Conversion Connector for Standard Thin Cable and Flat Cable | | **DCN4-BR4D** | Used as a set with a DCN4-TR4 when Thin Cable is branched on a branch line. |
| Power Supply Terminal Block with Terminating Resistance for Flat Cable | | **DCN4-TP4D** | Can be used to supply communications power from terminals when Flat Cable is used. |
| Flat Connector Socket |  | **DCN4-TR4** | Used as a set with a DCN4-BR4 Flat Connector Plug in the following applications.<br>• Extending the trunk line<br>• T-branching the trunk line into branch lines |
| | | | Used alone in the following applications.<br>• Connecting a DCN4-TM4 Terminating Resistor to the trunk line |
| Flat Connector Plug |  | **DCN4-BR4** | Used as a set with a DCN4-TR4 Flat Connector Socket in the following applications.<br>• Extending the trunk line<br>• T-branching the trunk line into branch lines |
| Terminating Resistor |  | **DCN4-TM4** | Connector terminating resistor for flat cable. Attached to the DCN4-TR4 Flat Connector Socket at the end of the trunk line. |
| Flat Cable |  | **DCA4-4F10** | Four-core flat cable (UL 2555)<br>Length: 100 m<br>Conductor diameters: 0.75 $mm^2$ x 2, 0.5 $mm^2$ x 2 |
| Simple Manual Crimp Tool | | **DWT-A01** | Crimping tool for DCN4-TR4 Flat Connector Socket or DCN4-BR4 Flat Connector Plug. |

## Specifications

### ● General-purpose Models (T-branch Taps)

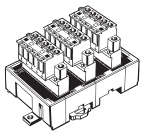
| | |
|---|---|
| **Rated current** | Between main lines: 8 A (power supply line) and 2 A (signal line) |
| | Between main and branch lines: 3 A (power supply line) and 1 A (signal line) |
| **Insulation resistance** | 100 MΩ min. (at 500 VDC) |
| **Dielectric strength** | 500 VAC for 1 min, leakage current: 1 mA max. |
| **Ambient operating temperature** | 0°C to 55°C |

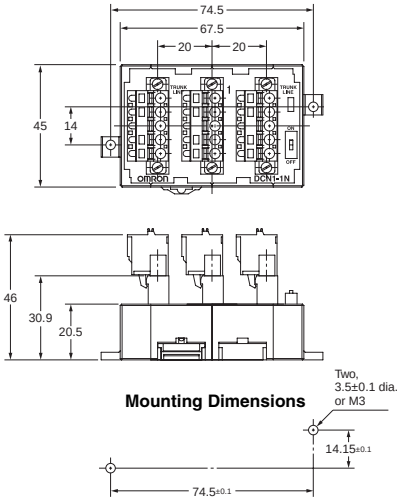
# Dimensions

(Unit: mm)

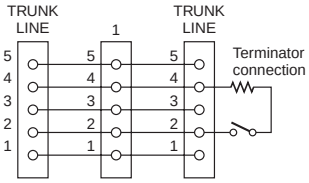
## ● General-purpose Models

### T-branch Tap for 1 branch line DCN1-1NC (With Three Branching Connectors)



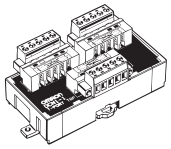


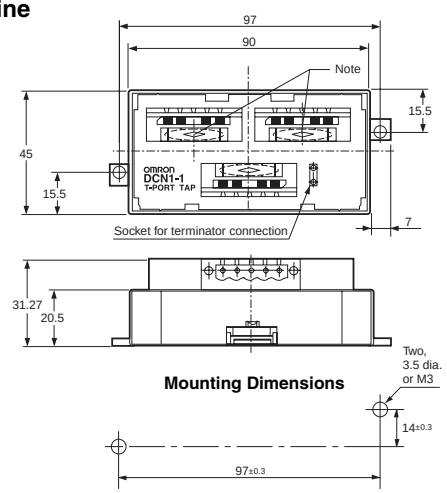

### Internal Circuit



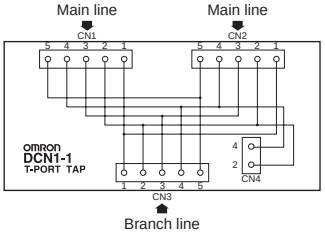

| Terminal No. | Name |
|---|---|
| 1 | V- |
| 2 | CAN L |
| 3 | DRAIN |
| 4 | CAN H |
| 5 | V+ |

### T-branch Tap for 1 branch line DCN1-1C (With Three Branching Connectors)





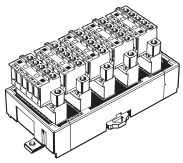

### Internal Circuit

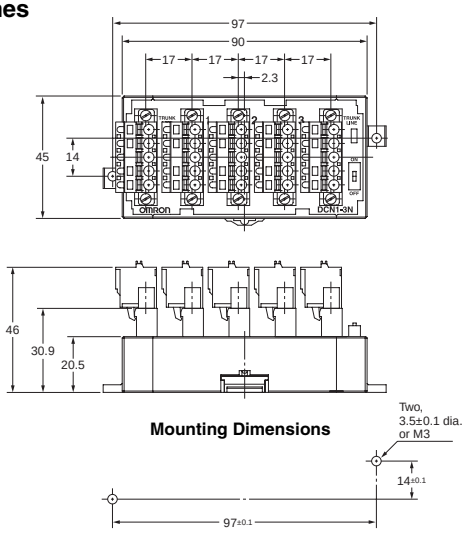



| Terminal No. | Name |
|---|---|
| 1 | V- |
| 2 | CAN L |
| 3 | DRAIN |
| 4 | CAN H |
| 5 | V+ |

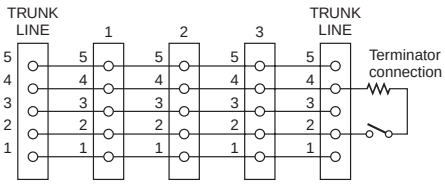
**Note:** When connecting a branch line to the main line, connect the main line to the connector marked with an asterisk because the resistance between the asterisks is minimal.

### T-branch Tap for 3 branch lines DCN1-3NC (With Five Branching Connectors)



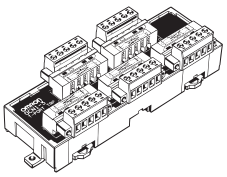


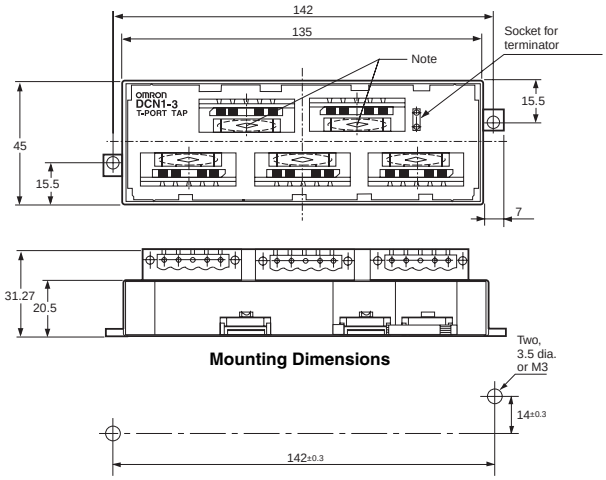

### Internal Circuit




| Terminal No. | Name |
|---|---|
| 1 | V- |
| 2 | CAN L |
| 3 | DRAIN |
| 4 | CAN H |
| 5 | V+ |

## T-branch Tap for 3 branch lines DCN1-3C (With Five Branching Connectors)



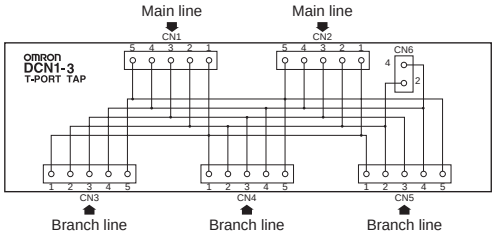



**Mounting Dimensions**



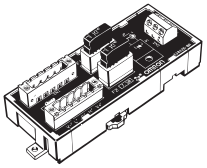

**Note:** When connecting a branch line to the main line, connect the main line to the connector marked with an asterisk because the resistance between the asterisked portion is minimal.

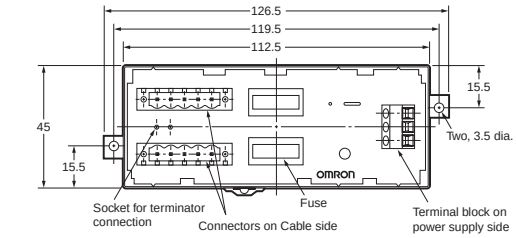
### Internal Circuit

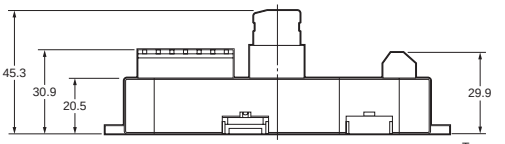



| Terminal No. | Name |
|---|---|
| 1 | V- |
| 2 | CAN L |
| 3 | DRAIN |
| 4 | CAN H |
| 5 | V+ |

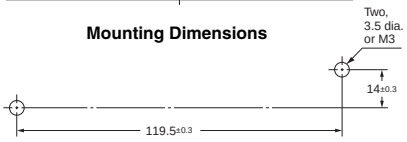
## Power Supply Tap DCN1-1P (With Two Branching Connectors)



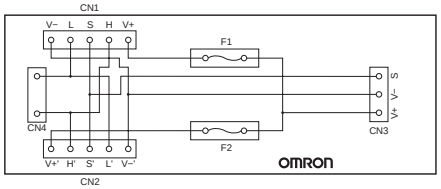



**Mounting Dimensions**

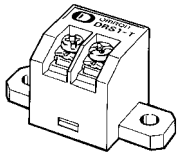



### Internal Circuit

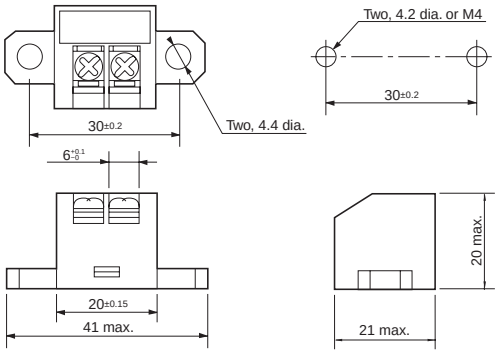



| Terminal No. | Name |
|---|---|
| V- | V- |
| L | CAN L |
| S | DRAIN |
| H | CAN H |
| V+ | V+ |

## DRS1-T (Terminal-block Terminator)

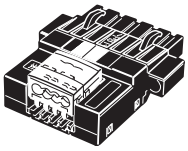


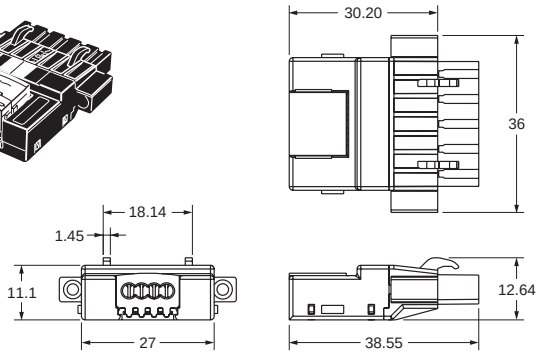
**Mounting Dimensions**



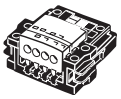
## ● Flat Cable

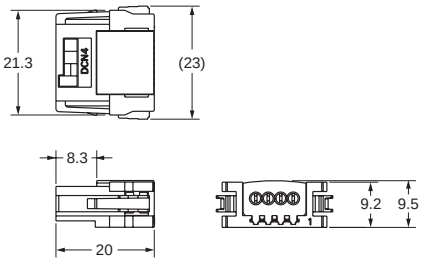
### Connector for Flat Cable
**DCN4-SF4D**



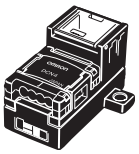


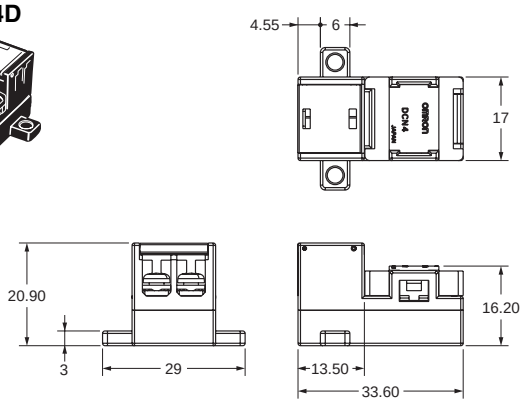

### Conversion Connector for Standard Thin Cable and Flat Cable
**DCN4-BR4D**



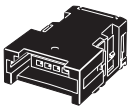


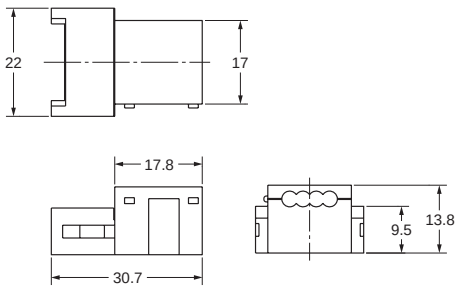

### Power Supply Terminal Block with Terminating Resistance for Flat Cable
**DCN4-TP4D**



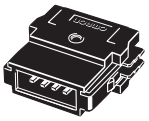


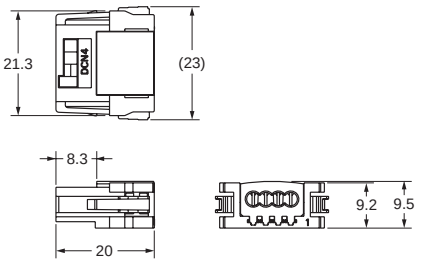

### Flat Connector Socket
**DCN4-TR4**






### Flat Connector Plug
**DCN4-BR4**





# ■ I/O Connectors for Connector Terminals

## ●MIL Connectors

### Applicable Connectors

| Type | | Model | Remarks |
|---|---|---|---|
| Flat Cable Pressure-welded Connectors | | **XG4M-4030-T** | |
| Pressure-welded Connectors with Loose Wires | Socket | **XG5M-4032-N** | Corresponding to 24 AWG |
| | | **XG5M-4035-N** | Corresponding to 28 to 26 AWG |
| | Semicover | **XG5S-2001** | |
| | Hood Cover * | **XG5S-4022** | |

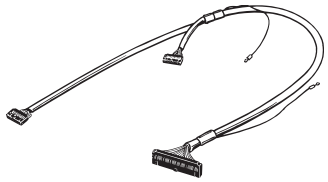
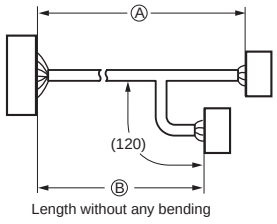
✻ DeviceNet connectors for multi-drop wiring cannot be used with the Hood Cover.

### Cable Models

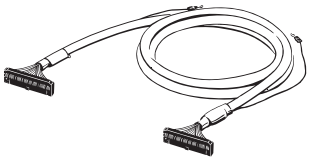
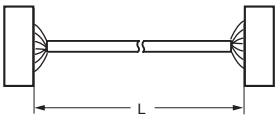
| Type | Model | Connected device | Applicable models |
|---|---|---|---|
| Cable with Connectors (1:2) | **G79-I□□-□□-D1** | G7TC/G70D/G70A | DRT2-ID32ML |
| | **G79-M□□-□□-D1** | | DRT2-MD32ML |
| | **G79-O□□-□□-D1** | | DRT2-OD32ML/DRT1-OD32ML-1 |
| | **G79-I□□-□□-D2** | | DRT2-ID32ML-1 |
| | **G79-M□□-□□-D2** | | DRT2-MD32ML-1 |
| Cable with Connector (1:1) | **XW2Z-C□□K** | -- | All models |
| Cable with Loose Wires with Crimp Terminals | **G79-Y□00C-D1** | | |
| Cable with Loose Wires | **G79-A□00C-D1** | | |

### Applicable Cables with Connectors

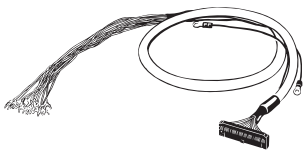
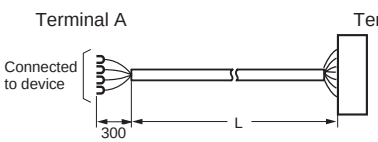
**● Cables with Connectors (1-to-2 Connection)/G79-□□-□-D□**

| Appearance | Cable length (mm) | | | Model |
|---|---|---|---|---|
| | | Ⓐ | Ⓑ | |
|  |   Length without any bending | 500 | 250 | **G79-I50-25-D1** |
| | | 750 | 500 | **G79-I75-50-D1** |
| | | 500 | 250 | **G79-O50-25-D1** |
| | | 750 | 500 | **G79-O75-50-D1** |
| | | 500 | 250 | **G79-M50-25-D1** |
| | | 750 | 500 | **G79-M75-50-D1** |
| | | 500 | 250 | **G79-I50-25-D2** |
| | | 750 | 500 | **G79-I75-50-D2** |
| | | 500 | 250 | **G79-M50-25-D2** |
| | | 750 | 500 | **G79-M75-50-D2** |

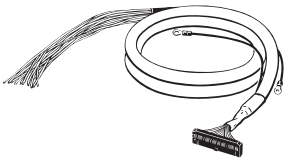
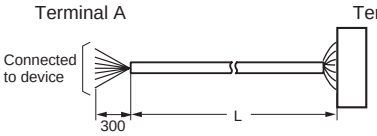
**● Cables with Connectors (1-to-1 Connection)/XW2Z-C□□K**

| Appearance | Cable length (mm) | | Model |
|---|---|---|---|
|  |   | 250 | **XW2Z-C25K** |
| | | 500 | **XW2Z-C50K** |

**● Cables with Crimp Terminals (at the End of Loose Wires)/G79-Y□C-D1**

| Appearance | Cable length (mm) | | Model |
|---|---|---|---|
|  |   | 1,000 | **G79-Y100C-D1** |
| | | 2,000 | **G79-Y200C-D1** |
| | | 5,000 | **G79-Y500C-D1** |

## ● Cables with Loose Wires/G79-A□C

| Appearance | Cable length (mm) | | Model |
|---|---|---|---|
|  |  | 2,000 | **G79-A200C-D1** |
| | | 5,000 | **G79-A500C-D1** |

# ■ I/O Connectors for MULTIPLE I/O TERMINALs

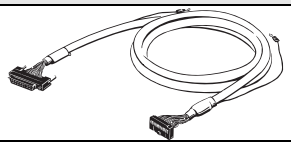
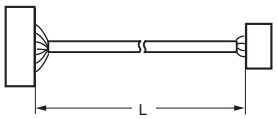
## Applicable Connectors

| Type | | | Model | Remark | Connectable model |
|---|---|---|---|---|---|
| Molex connector | Crimped terminals | Housing | **50-57-9403** | | Digital I/O Units GT1-ID16MX(-1)/GT1-OD16MX(-1) Analog I/O Units GT1-AD08MX/GT1-DA04MX |
| | | Chain terminal | **16-02-0069** | Corresponding to 24 to 30 AWG | |
| | | | **16-02-0086** | Corresponding to 22 to 24 AWG | |
| | | Loose terminal | **16-02-0096** | Corresponding to 24 to 30 AWG | |
| | | | **16-02-0102** | Corresponding to 22 to 24 AWG | |
| | | Press-fit tool | **57036-5000** | Corresponding to 22 to 26 AWG | |
| | | | **57037-5000** | Corresponding to 24to 30 AWG | |
| Fujitsu connector (16 points) | Soldered terminals | | **FCN361J024-AU** | | |
| | Pressure-welded terminals | | **FCN367J024-AU/F** | | |
| | Crimped terminals | | **FCN363J024-AU** | | |
| Fujitsu connector (32 points) | Soldered terminals | | **FCN361J040-AU** | | Digital I/O Units GT1-ID32ML(-1)/GT1-OD32ML(-1) |
| | Pressure-welded terminals | | **FCN367J040-AU/F** | | |
| | Crimped terminals | | **FCN363J040-AU** | | |
| OMRON D-sub connector | Pulg | | **XM2A-2501** | | Digital I/O Units GT1-ID16DS(-1)/GT1-OD16DS(-1) |
| | Hood | | **XM2S-2513** | #4-40UNC inch screws | |

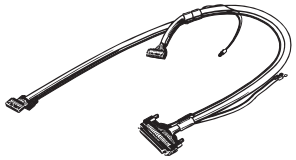
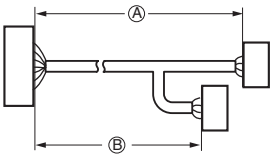
## Applicable Cables with Connectors (Fujitsu Connectors)

| I/O classification | Model | Connectable model |
|---|---|---|
| Digital input, 16 points | **XW2Z-□□□A** | Digital I/O Units GT1-ID16ML(-1) |
| | **G79-□C** | |
| Digital output, 16 points | **XW2Z-□□□A** | Digital I/O Units GT1-OD16ML(-1) |
| | **G79-□C** | |
| Digital input, 32 points | **XW2Z-□□□B** | Digital I/O Units GT1-ID32ML(-1) |
| | **G79-I□C□** | |
| Digital output, 32 points | **XW2Z-□□□B** | Digital I/O Units GT1-OD32ML(-1) |
| | **G79-O□C□** | |

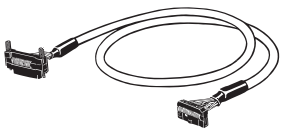
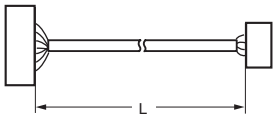
### ● Cables with Connectors (1-to1 Connection)/G79-□C
**For Digital Input/Output (16 Points)**

| Appearance | Cable length (mm) | | Model |
|---|---|---|---|
|  |  | 1,000 | **G79-100C** |
| | | 1,500 | **G79-150C** |
| | | 2,000 | **G79-200C** |
| | | 3,000 | **G79-300C** |
| | | 5,000 | **G79-500C** |

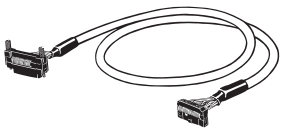
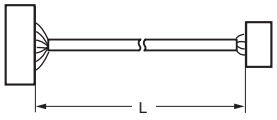
### ● Cables with Connectors (1-to-2 Connection)/G79-O□C-□, G79-I□C-□
**For Digital Input/Output (32 Points)**

| Appearance | Cable length (mm) | | | Model | |
|---|---|---|---|---|---|
| | | Ⓐ | Ⓑ | Input | Output |
|  |  Length without any bending | 1,000 | 750 | **G79-I100C-75** | **G79-O100C-75** |
| | | 1,500 | 1,250 | **G79-I150C-125** | **G79-O150C-125** |
| | | 2,000 | 1,750 | **G79-I200C-175** | **G79-O200C-175** |
| | | 3,000 | 2,750 | **G79-I300C-275** | **G79-O300C-275** |
| | | 5,000 | 4,750 | **G79-I500C-475** | **G79-O500C-475** |

**For Digital Input/Output (16 Points)**

| Appearance | Cable length (mm) | | Model |
|---|---|---|---|
|  |  | 500 | **XW2Z-050A** |
| | | 1,000 | **XW2Z-100A** |
| | | 1,500 | **XW2Z-150A** |
| | | 2,000 | **XW2Z-200A** |
| | | 3,000 | **XW2Z-300A** |
| | | 5,000 | **XW2Z-500A** |

**For Digital Input/Output (32 Points)**

| Appearance | Cable length (mm) | | Model |
|---|---|---|---|
|  |  | 500 | **XW2Z-050B** |
| | | 1,000 | **XW2Z-100B** |
| | | 1,500 | **XW2Z-150B** |
| | | 2,000 | **XW2Z-200B** |
| | | 3,000 | **XW2Z-300B** |
| | | 5,000 | **XW2Z-500B** |

# ■ I/O Connector for Programmable Slaves

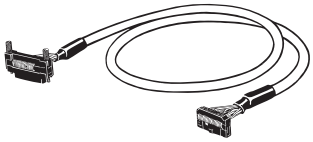
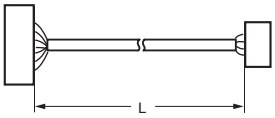
## Applicable Connector Terminal Conversion Units

| Applicable cable | Connected product | Remarks |
|---|---|---|
| XW2Z-□□□A | **XW2D-20G6** | Slim type<br>(with M3 screw terminals) |
| | **XW2B-20G4** | Flat cable connectors<br>(with M3 terminal screws for flat-blade screwdriver) |

## Applicable Cables with Connectors

**● Cables with Connectors/XW2Z**

**For Digital Input/Output (16 Points)**

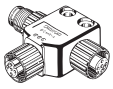
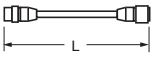
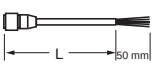
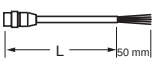
| Appearance | Cable length (mm) | | Model |
|---|---|---|---|
|  |  | 500 | **XW2Z-050A** |
| | | 1,000 | **XW2Z-100A** |
| | | 1,500 | **XW2Z-150A** |
| | | 2,000 | **XW2Z-200A** |
| | | 3,000 | **XW2Z-300A** |
| | | 5,000 | **XW2Z-500A** |

# Peripheral Devices for Environment-resistive Slaves

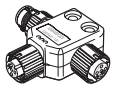
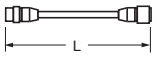
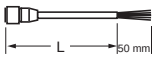
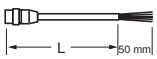
## Peripheral Devices for DeviceNet Communications

### Ordering Information

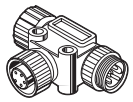
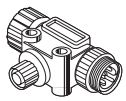
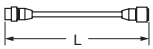
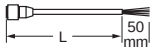
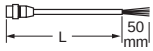
● **Environment-resistive Connection Products (for Thin Cable, M12 Micro Connectors)**

| Product | Appearance | Model | Specifications | |
|---|---|---|---|---|
| Sealed Assembling-type Connector (male) | | **XS2G-D5S7** | For communications (plug) | |
| Sealed Assembling-type Connector (female) | | **XS2C-D5S7** | For communications (socket) | |
| Sealed T-branch Connector |  | **DCN2-1** | For 1 branch line | |
| Sealed Connector with Terminating Resistor | | **DRS2-1** | Plug | |
| | | **DRS2-2** | Socket | |
| Cables with Sealed Connectors |   | **DCA1-5CNC5W1** | Length (L): 0.5 m | Cable with connectors on both ends |
| | | **DCA1-5CN01W1** | Length (L): 1 m | |
| | | **DCA1-5CN02W1** | Length (L): 2 m | |
| | | **DCA1-5CN03W1** | Length (L): 3 m | |
| | | **DCA1-5CN05W1** | Length (L): 5 m | |
| | | **DCA1-5CN10W1** | Length (L): 10 m | |
| |   | **DCA1-5CNC5F1** | Length (L): 0.5 m | Cable with connector on one end (socket) |
| | | **DCA1-5CN01F1** | Length (L): 1 m | |
| | | **DCA1-5CN02F1** | Length (L): 2 m | |
| | | **DCA1-5CN03F1** | Length (L): 3 m | |
| | | **DCA1-5CN05F1** | Length (L): 5 m | |
| | | **DCA1-5CN10F1** | Length (L): 10 m | |
| |   | **DCA1-5CNC5H1** | Length (L): 0.5 m | Cable with connector on one end (plug) |
| | | **DCA1-5CN01H1** | Length (L): 1 m | |
| | | **DCA1-5CN02H1** | Length (L): 2 m | |
| | | **DCA1-5CN03H1** | Length (L): 3 m | |
| | | **DCA1-5CN05H1** | Length (L): 5 m | |
| | | **DCA1-5CN10H1** | Length (L): 10 m | |
| Shielded Panel-mounting Connectors (female) | | **DCA1-5CNC5P1** | Panel-mounting connector (socket) with 0.5-m cable | |
| | | **XS2P-D522-2** | Panel-mounting connector socket | |
| Shielded Panel-mounting Connectors (male) | | **DCA1-5CNC5M1** | Panel-mounting connector (plug) with 0.5-m cable | |
| | | **XS2M-D524-4** | Panel-mounting connector (plug) with solder-cup terminals | |
| Waterproof cover (for socket) | | **XS2Z-22** | Used to cover an unused connector section | |
| Dust cover (for socket) | | **XS2Z-15** | | |

## ● Environment-resistive Models (for Thin Wires and M12 Micro Connectors) Smartclick

| Product | Appearance | Model | Specifications | |
|---|---|---|---|---|
| Sealed T-branch Connector |  | **DCN2-1S** | For 1 branch line | |
| Sealed Assembling type Connector (female) | | **DRS2-1S** | Plug | |
| | | **DRS2-2S** | Socket | |
| Connectors with Shielded Cables |   | **DCA1-5CSC5W1** | Length (L): 0.5 m | Cable with connectors on both ends |
| | | **DCA1-5CS01W1** | Length (L): 1 m | |
| | | **DCA1-5CS02W1** | Length (L): 2 m | |
| | | **DCA1-5CS03W1** | Length (L): 3 m | |
| | | **DCA1-5CS05W1** | Length (L): 5 m | |
| | | **DCA1-5CS10W1** | Length (L): 10 m | |
| |   | **DCA1-5CSC5F1** | Length (L): 0.5 m | Cable with connector on one end (socket) |
| | | **DCA1-5CS01F1** | Length (L): 1 m | |
| | | **DCA1-5CS02F1** | Length (L): 2 m | |
| | | **DCA1-5CS03F1** | Length (L): 3 m | |
| | | **DCA1-5CS05F1** | Length (L): 5 m | |
| | | **DCA1-5CS10F1** | Length (L): 10 m | |
| |   | **DCA1-5CSC5H1** | Length (L): 0.5 m | Cable with connector on one end (plug) |
| | | **DCA1-5CS01H1** | Length (L): 1 m | |
| | | **DCA1-5CS02H1** | Length (L): 2 m | |
| | | **DCA1-5CS03H1** | Length (L): 3 m | |
| | | **DCA1-5CS05H1** | Length (L): 5 m | |
| | | **DCA1-5CS10H1** | Length (L): 10 m | |
| Shielded Branch Relay Box | | **DCN2-S4C5H1** | 4 ports, 0.5-m cable | |
| | | **DCN2-S8C5H1** | 8 ports, 0.5-m cable | |

## ● Environment-resistive Models for Thick Wires with 7/8-16UN Mini Connectors

| Product | Appearance | Model | Specifications | |
|---|---|---|---|---|
| Sealed T-branch Connector |  | **DCN3-11** | T-branch Connector | |
| |  | **DCN3-12** | T-branch Connector (Branch connector is M12.) | |
| Sealed Connector with Terminating Resistor | | **DRS3-1** | Plug | |
| Cables with Sealed Connectors |   | **DCA2-5CN01W1** | Length (L): 1 m | Cable with connectors on both ends |
| | | **DCA2-5CN02W1** | Length (L): 2 m | |
| | | **DCA2-5CN05W1** | Length (L): 5 m | |
| | | **DCA2-5CN10W1** | Length (L): 10 m | |
| |   | **DCA2-5CN01F1** | Length (L): 1 m | Cable with connector on one end (socket) |
| | | **DCA2-5CN02F1** | Length (L): 2 m | |
| | | **DCA2-5CN05F1** | Length (L): 5 m | |
| | | **DCA2-5CN10F1** | Length (L): 10 m | |
| |   | **DCA2-5CN01H1** | Length (L): 1 m | Cable with connector on one end (plug) |
| | | **DCA2-5CN02H1** | Length (L): 2 m | |
| | | **DCA2-5CN05H1** | Length (L): 5 m | |
| | | **DCA2-5CN10H1** | Length (L): 10 m | |
| | | **DCA1-5CN01W5** | Length (L): 1 m | Cable with connectors on both ends<br>Thin cable<br>M12 socket |
| | | **DCA1-5CN02W5** | Length (L): 2 m | |
| | | **DCA1-5CN05W5** | Length (L): 5 m | |
| | | **DCA1-5CN10W5** | Length (L): 10 m | |
| Panel-mounting Connector (female) | | **DCA2-5CNC5P1** | Panel-mounting connector (socket) with 0.5-m cable | |
| Panel-mounting Connector (male) | | **DCA2-5CNC5M1** | Panel-mounting connector (plug) with 0.5-m cable | |
| Panel-mounting Connector (male) | | **XS4M-D521-1** | Panel-mounting connector (plug)<br>DIP terminals | |
| Waterproof Cap (for Plug) | - | **XS4Z-11** | Used to cover an unused connector section. | |
| Waterproof Cap (for Socket) | - | **XS4Z-12** | | |

# Specifications

## ● Environment-resistive Connection Products (for Thin Cable, M12 Micro Connectors)

| Type / Item | Connectors with Cables DCA1-5CN□□□1 | T-branch Connector DCN2-1 | Assembling-type Connector XS2□-D5S7 | Connectors with Terminating Resistor DRS2-□ |
|---|---|---|---|---|
| Rated current | 3 A | | | |
| Rated voltage | 125 VDC | | | |
| Contact resistance (connector) | 40 mΩ max. (at 20 mVDC max. and 100 mA max.) | | | |
| Insulation resistance | 1,000 MΩ min. (at 500 VDC) | | | |
| Dielectric strength (connector) | 1,500 VAC for 60 seconds (leakage current: 1 mA max.) | | | |
| Ambient operating temperature | -20°C to 65°C | | | |
| Storage temperature range | -25°C to 70°C | | | |
| Degree of protection | IEC IP67 | | | |
| Insertion durability | 200 times | | | |
| Cable strength | 98 N for 15 s | -- | | |
| Vibration resistance | No current interruptions of more than 1 μs while performing simple vibrations at either 10 to 500 Hz with 1.52-mm full amplitude or at acceleration 100 m/s², whichever is smaller | | | |

## ● Environment-resistive Models (for Thin Wires and M12 Micro Connectors)

| Type / Item | Connectors with Cables DCA1-5CS□□□1 | T-branch Connector DCN2-1S | Connectors with Terminating Resistor DRS2-□S | Branch Relay Box DCN2-S□C5H |
|---|---|---|---|---|
| Rated current | 3 A | | | |
| Rated voltage | 125 VDC | | | |
| Contact resistance (connector) | 40 mΩ max. (at 20 mVDC max. and 100 mA max.) | | | |
| Insulation resistance | 1,000 MΩ min. (at 500 VDC) | | | |
| Dielectric strength (connector) | 1,500 VAC for 60 seconds (leakage current: 1 mA max.) | | | 1,000 VAC for 60 seconds |
| Ambient operating temperature | -20°C to 65°C | | | |
| Storage temperature range | -25°C to 70°C | | | |
| Degree of protection | IEC IP67 | | | |
| Insertion durability | 200 times | | | |
| Cable strength | 98 N for 15 s | -- | | |
| Vibration resistance | No current interruptions of more than 1 μs while performing simple vibrations at either 10 to 500 Hz with 1.52-mm full amplitude or at acceleration 100 m/s², whichever is smaller | | | |
| Lock strength | Pulling: 100 N/15 s, Rotating: 1 N·m/15 s | | | |
| Lock force | 0.1 to 0.25 N·m | | | |

## ● Environment-resistive Models for Thick Wires with 7/8-16UN Mini Connectors

| Type / Item | Connectors with Thick Cables DCA2-5CN□□□1 | Connectors with Thin Cables DCA1-5CN□□W5 | T-branch Connector DCN3-11 | T-branch Connector DCN3-12 | Connectors with Terminating Resistor DRS3-1 | Panel Mounting Connector DCA2-5CNC5P1 | Panel Mounting Connector XS4M-D521-1 |
|---|---|---|---|---|---|---|---|
| Rated current | 8 A | 3 A | 8 A | 3 A ✻ | 8 A | | |
| Rated voltage | 125 VDC | | | | | | |
| Contact resistance (connector) | 30 mΩ max. (at 20 mVDC max. and 100 mA max.) | | | | | | |
| Insulation resistance | 1,000 MΩ min. (at 500 VDC) | | | | | | |
| Dielectric strength (connector) | 1,500 VAC for 60 seconds (leakage current: 1 mA max.) | | | | | | |
| Ambient operating temperature | -20°C to 65°C | | | | | | |
| Storage temperature range | -25°C to 70°C | | | | | | |
| Degree of protection | IEC IP67 | | | | | | |
| Insertion durability | 200 times | | | | | | |
| Cable strength | 98 N for 15 s | | -- | | | 98 N for 15 s | -- |
| Vibration resistance | No current interruptions of more than 1 μs while performing simple vibrations at either 10 to 500 Hz with 1.52-mm full amplitude or at acceleration 100 m/s², whichever is smaller | | | | | | |

✻ The rated current between thick wires is 8 A.

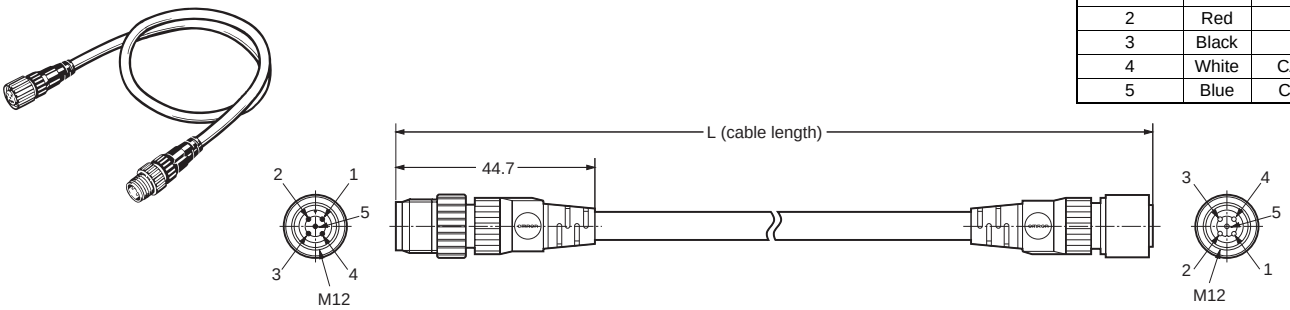
# Dimensions

## ● Environment-resistive Connection Products (for Thin Cable, M12 Micro Connectors)

### Cables with Connectors on Both Ends
**DCA1-5CN□□W1**

**Wiring**

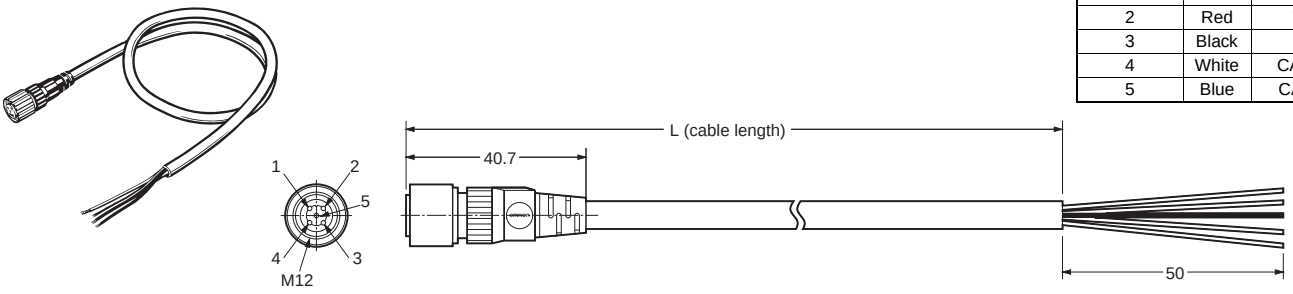
| Terminal No. | Color | Name |
|---|---|---|
| 1 | - | DRAIN |
| 2 | Red | V+ |
| 3 | Black | V- |
| 4 | White | CAN H |
| 5 | Blue | CAN L |




### Cables with Connector on Single End (Socket)
**DCA1-5CN□□F1**

**Wiring**

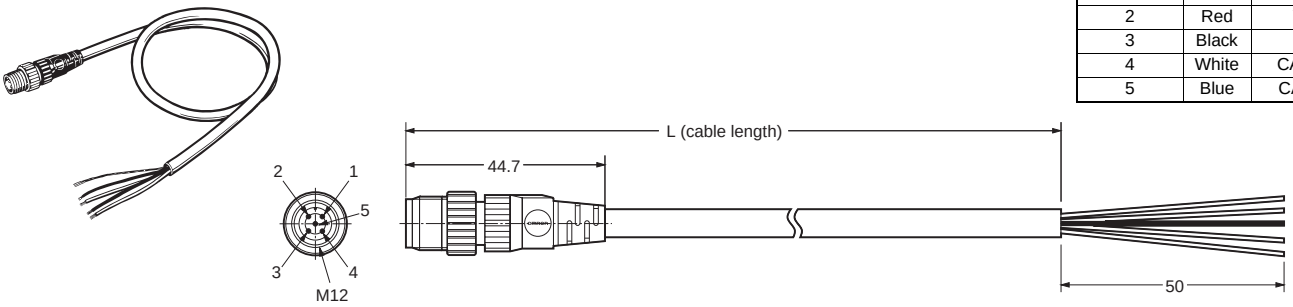
| Terminal No. | Color | Name |
|---|---|---|
| 1 | - | DRAIN |
| 2 | Red | V+ |
| 3 | Black | V- |
| 4 | White | CAN H |
| 5 | Blue | CAN L |



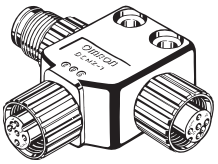

### Cables with Connector on Single End (Plug)
**DCA1-5CN□□H1**

**Wiring**

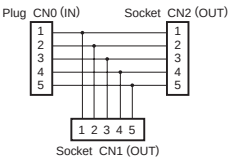
| Terminal No. | Color | Name |
|---|---|---|
| 1 | - | DRAIN |
| 2 | Red | V+ |
| 3 | Black | V- |
| 4 | White | CAN H |
| 5 | Blue | CAN L |




### T-branch Connector
**DCN2-1**

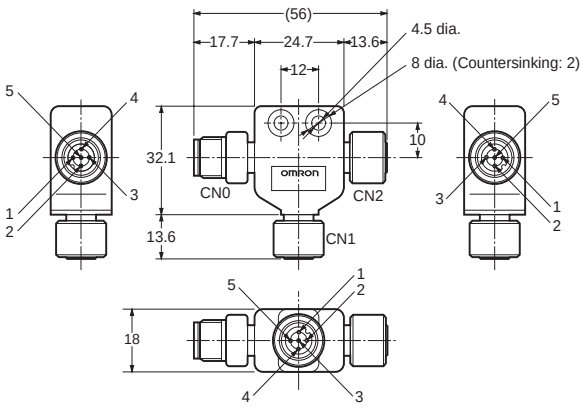


**Connections Diagram**




**Wiring**

| Terminal No. | Name |
|---|---|
| 1 | SHIELD |
| 2 | V+ |
| 3 | V- |
| 4 | CAN H |
| 5 | CAN L |

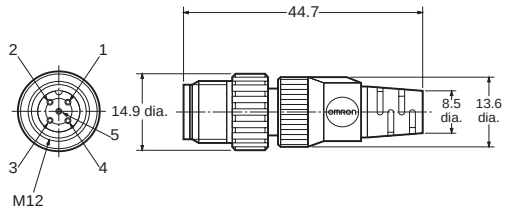



### Connectors with Terminating Resistance
**DRS2-1 (Plug)**
**DRS2-2 (Socket)**

**Wiring**

| Terminal No. | Name |
|---|---|
| 1 | DRAIN : NC |
| 2 | V+ : NC |
| 3 | V- : NC |
| 4 | CAN H : 121 Ω |
| 5 | CAN L : 121 Ω |

**Note:** Terminating resistance (121 Ω) is connected between terminals 4 and 5.

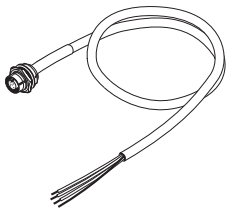


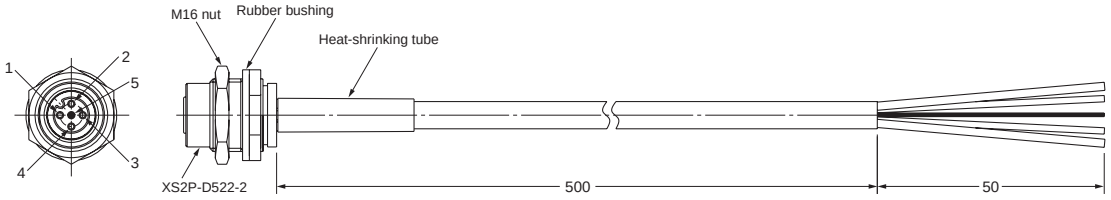

**Note:** The diagram shows the DRS2-1 (plug).

## Panel-mounting Connector (Socket) with 0.5 m Cable
## DCA1-5CNC5P1

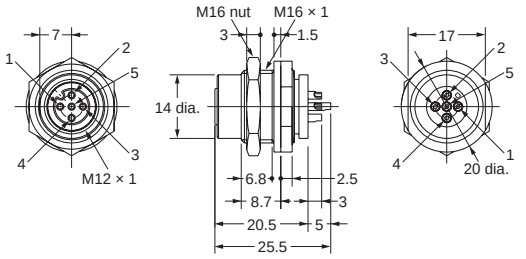
**Wiring**

| Terminal No. | Color | Name |
|---|---|---|
| 1 | - | DRAIN |
| 2 | Red | V+ |
| 3 | Black | V- |
| 4 | White | CAN H |
| 5 | Blue | CAN L |

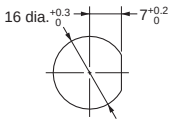





## Panel-mounting Connector (Socket), Solder-cup Terminals
## XS2P-D522-2



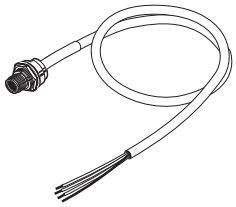

**Panel Cutout Dimensions**

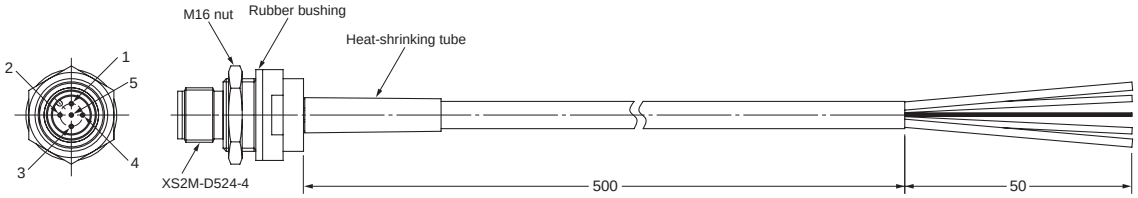



## Panel-mounting Connector (Plug) with 0.5 m Cable
## DCA1-5CNC5M1

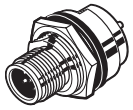
**Wiring**

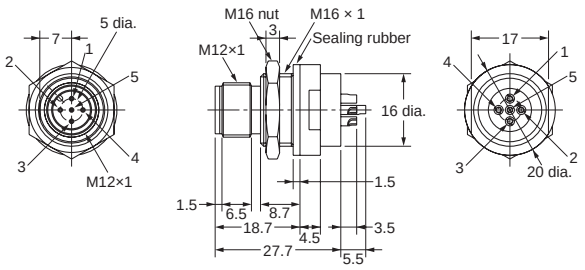
| Terminal No. | Color | Name |
|---|---|---|
| 1 | - | DRAIN |
| 2 | Red | V+ |
| 3 | Black | V- |
| 4 | White | CAN H |
| 5 | Blue | CAN L |



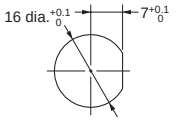



## Panel-mounting Connector (Socket), Solder-cup Terminals
## XS2M-D524-4






**Panel Cutout Dimensions**

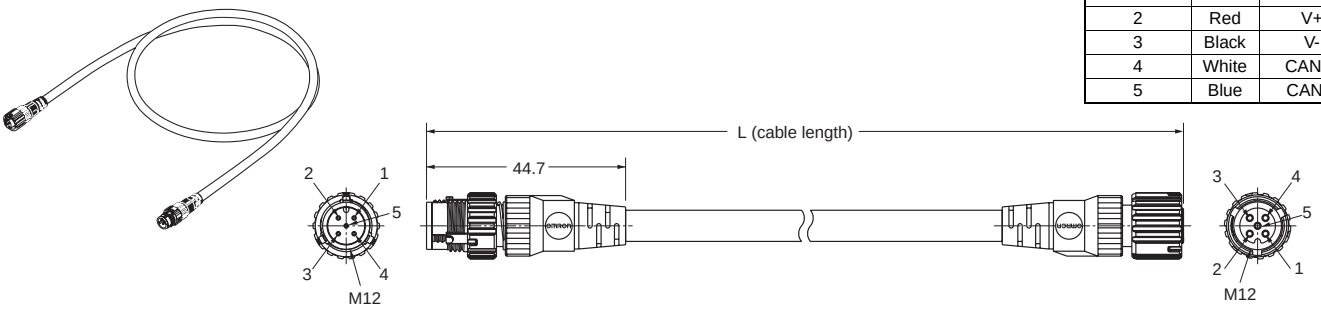


## ● Environment-resistive Models (for Thin Wires and M12 Micro Connectors)

### Cables with Connectors on Both Ends
**DCA1-5CS□□W1**

**Wiring**

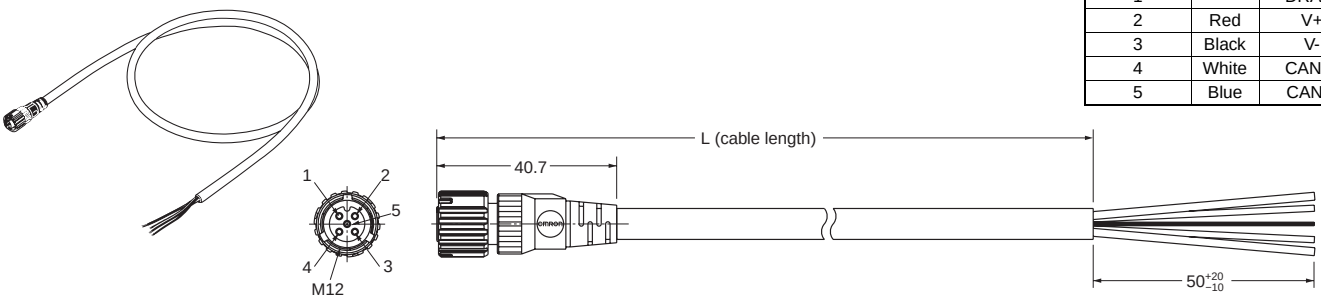
| Terminal No. | Color | Name |
|---|---|---|
| 1 | - | DRAIN |
| 2 | Red | V+ |
| 3 | Black | V- |
| 4 | White | CAN H |
| 5 | Blue | CAN L |




### Cables with Connector on Single End (Socket)
**DCA1-5CS□□F1**

**Wiring**

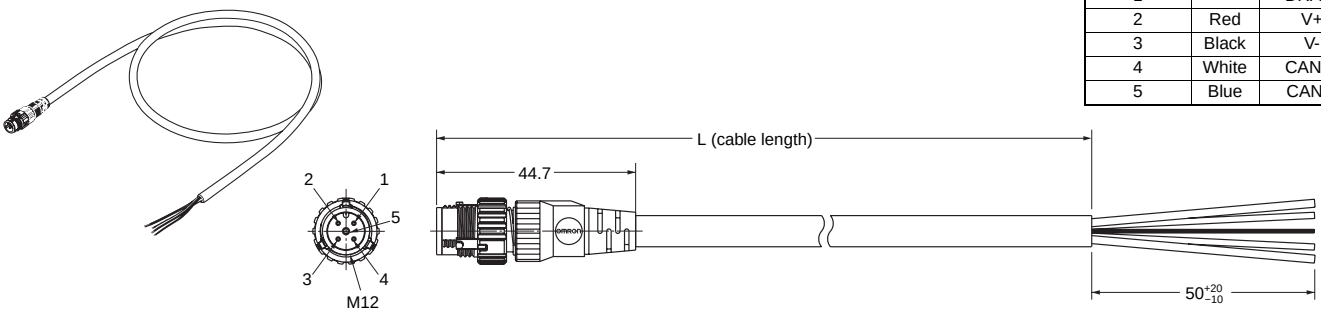
| Terminal No. | Color | Name |
|---|---|---|
| 1 | - | DRAIN |
| 2 | Red | V+ |
| 3 | Black | V- |
| 4 | White | CAN H |
| 5 | Blue | CAN L |



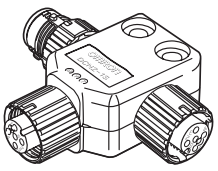

### Cables with Connector on Single End (Plug)
**DCA1-5CS□□H1**

**Wiring**

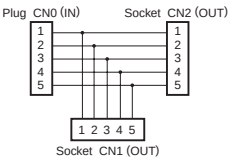
| Terminal No. | Color | Name |
|---|---|---|
| 1 | - | DRAIN |
| 2 | Red | V+ |
| 3 | Black | V- |
| 4 | White | CAN H |
| 5 | Blue | CAN L |




### T-branch Connector
**DCN2-1S**

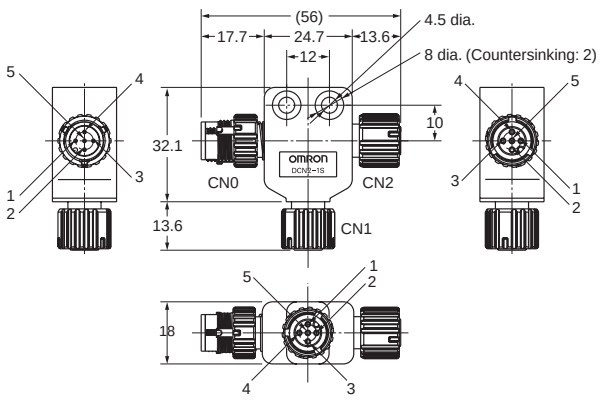


**Connections Diagram**

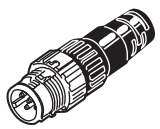



**Wiring**

| Terminal No. | Name |
|---|---|
| 1 | SHIELD |
| 2 | V+ |
| 3 | V- |
| 4 | CAN H |
| 5 | CAN L |



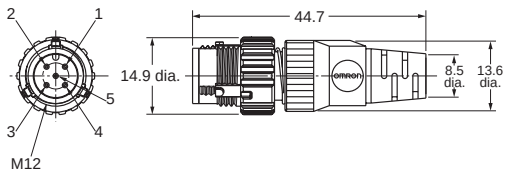

### Connectors with Terminating Resistance
**DRS2-1S (Plug)**
**DRS2-2S (Socket)**



**Wiring**

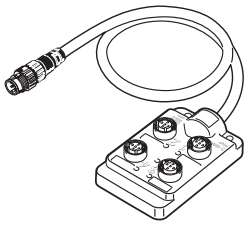
| Terminal No. | Name |
|---|---|
| 1 | DRAIN : NC |
| 2 | V+ : NC |
| 3 | V- : NC |
| 4 | CAN H : ⧘ 121 Ω |
| 5 | CAN L : ⧘ 121 Ω |

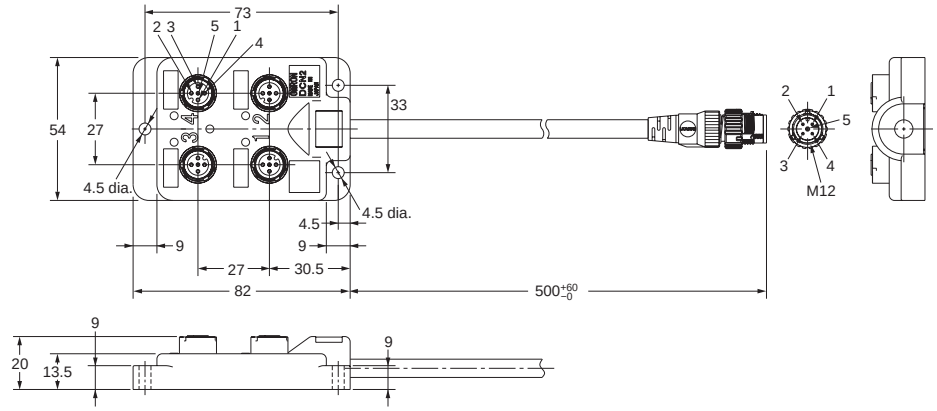
**Note:** Terminating resistance (121 Ω) is connected between terminals 4 and 5.



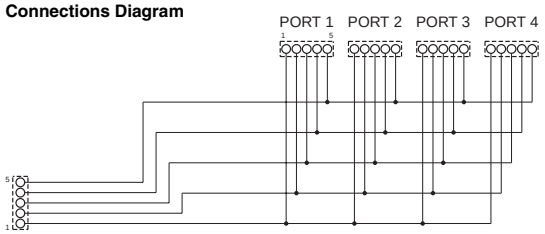

**Note:** The diagram shows the DRS2-1 (plug).

## Shielded Branch Relay Box with Four Ports
**DCN2-S4C5H1**





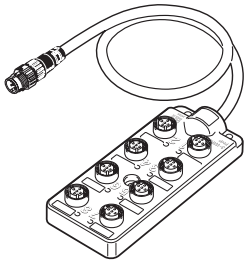

**Connections Diagram**

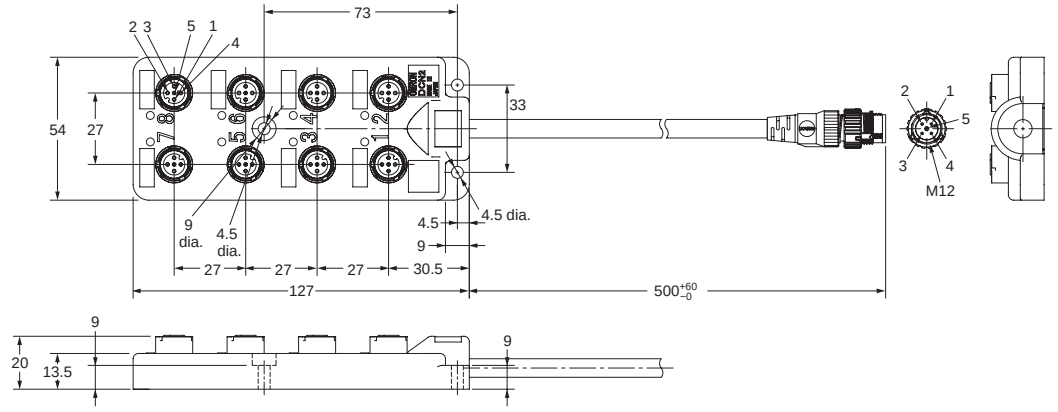



**Wiring**

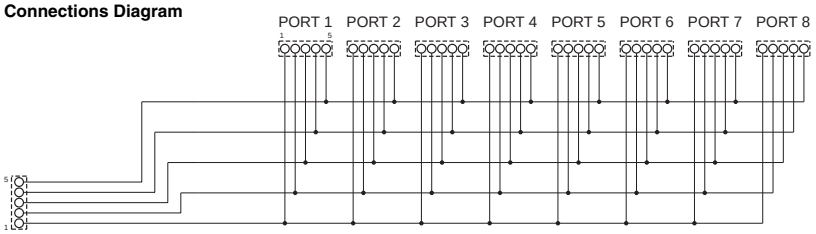
| Terminal No. | Color | Name |
|---|---|---|
| 1 | - | DRAIN |
| 2 | Red | V+ |
| 3 | Black | V- |
| 4 | White | CAN H |
| 5 | Blue | CAN L |

## Shielded Branch Relay Box with Eight Ports
**DCN2-S8C5H1**






**Connections Diagram**

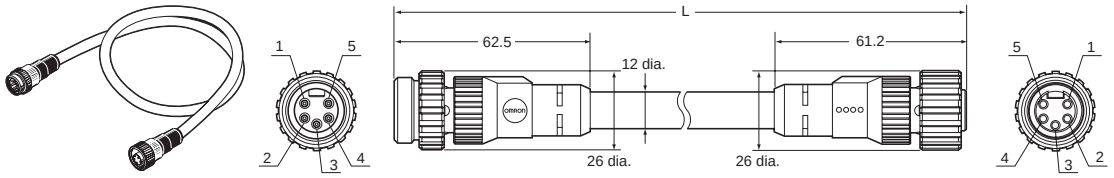



**Wiring**

| Terminal No. | Color | Name |
|---|---|---|
| 1 | - | DRAIN |
| 2 | Red | V+ |
| 3 | Black | V- |
| 4 | White | CAN H |
| 5 | Blue | CAN L |

## ● Environment-resistive Models for Thick Wires with 7/8-16UN Mini Connectors

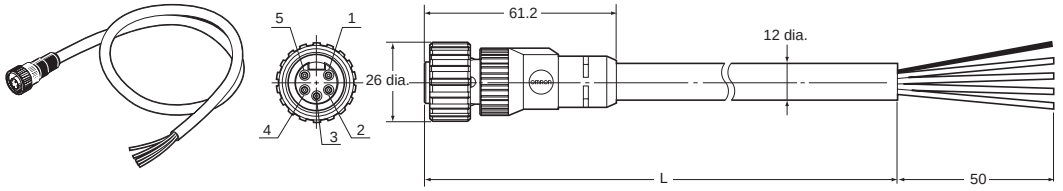
### Thick Cable with Connectors on Both Ends (5 Conductors for Communications)
### DCA2-5CN□□W1




**Wiring**

| Terminal No. | Color | Name |
|---|---|---|
| 1 | - | DRAIN |
| 2 | Red | V+ |
| 3 | Black | V- |
| 4 | White | CAN H |
| 5 | Blue | CAN L |

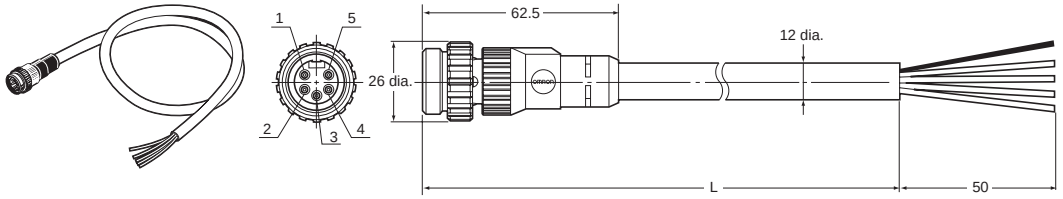
### Thick Cable with Connector Socket on One End (5 Conductors for Communications)
### DCA2-5CN□□F1




**Wiring**

| Terminal No. | Color | Name |
|---|---|---|
| 1 | - | DRAIN |
| 2 | Red | V+ |
| 3 | Black | V- |
| 4 | White | CAN H |
| 5 | Blue | CAN L |

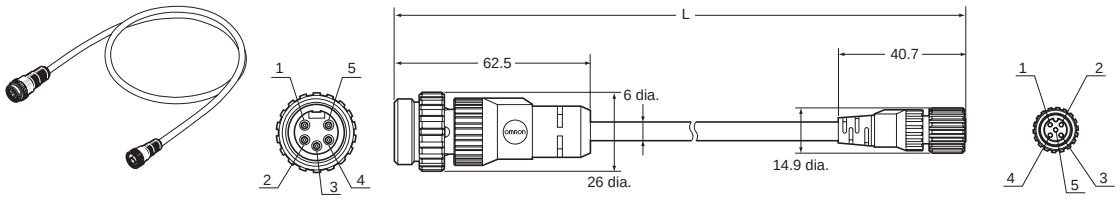
### Thick Cable with Connector Plug on One End (5 Conductors for Communications)
### DCA2-5CN□□H1




**Wiring**

| Terminal No. | Color | Name |
|---|---|---|
| 1 | - | DRAIN |
| 2 | Red | V+ |
| 3 | Black | V- |
| 4 | White | CAN H |
| 5 | Blue | CAN L |

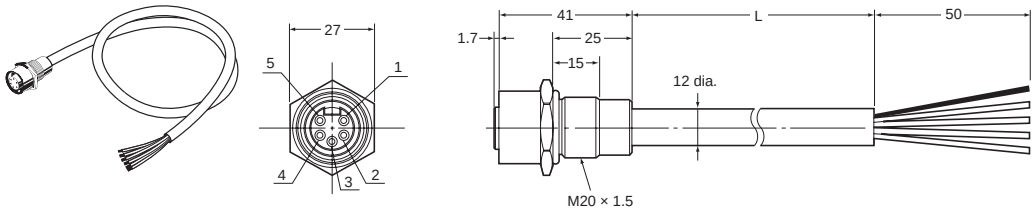
### Thin Cable with Connectors on Both Ends (5 Conductors for Communications)
### DCA1-5CN□□W5




**Wiring**

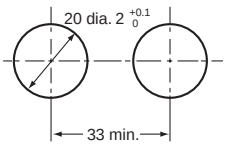
| Terminal No. | Color | Name |
|---|---|---|
| 1 | - | DRAIN |
| 2 | Red | V+ |
| 3 | Black | V- |
| 4 | White | CAN H |
| 5 | Blue | CAN L |

### Thin Cable with Panel-mounting Connector Socket on One End (5 Conductors for Communications)
### DCA2-5CNC5P1




**Note:** A rubber seal and nut for panel mounting are included.

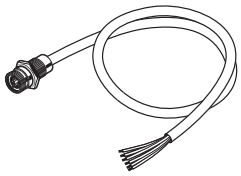
**Panel Cutout Dimensions**

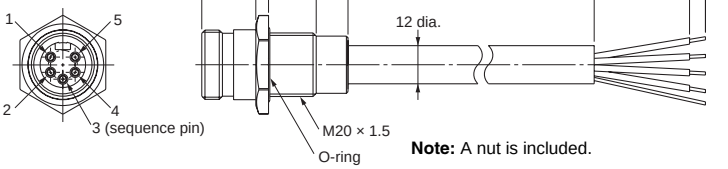



**Wiring**

| Terminal No. | Color | Name |
|---|---|---|
| 1 | - | DRAIN |
| 2 | Red | V+ |
| 3 | Black | V- |
| 4 | White | CAN H |
| 5 | Blue | CAN L |

## Panel-mounting Connector (Plug) with 0.5 m Cable
## DCA2-5CNC5M1



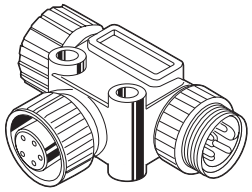


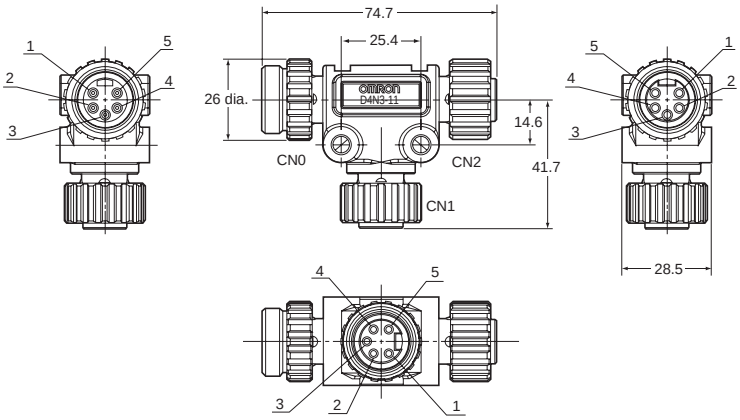

**Note:** A nut is included.

**Wiring**

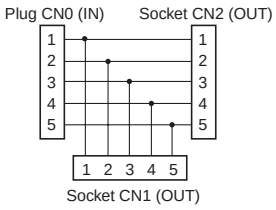
| Terminal No. | Color | Name |
|---|---|---|
| 1 | - | DRAIN |
| 2 | Red | V+ |
| 3 | Black | V- |
| 4 | White | CAN H |
| 5 | Blue | CAN L |

## T-branch Connector (5 Conductors for Communications, Thick Wire Branch Line)
## DCN3-11





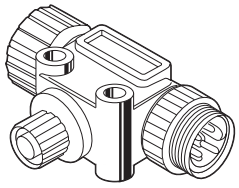

**Connections Diagram**

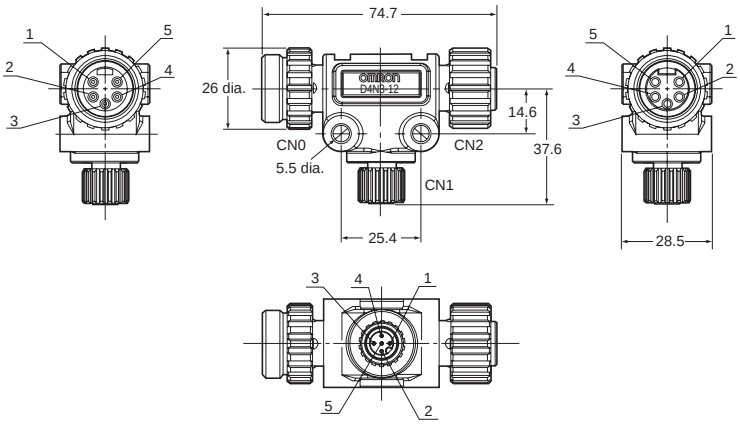



**Wiring**

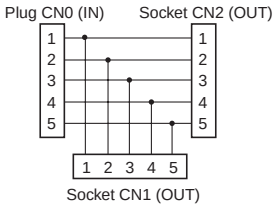
| Terminal No. | Name |
|---|---|
| 1 | DRAIN |
| 2 | V+ |
| 3 | V- |
| 4 | CAN H |
| 5 | CAN L |

## T-branch Connector (5 Conductors for Communications, Thin Wire Branch Line)
## DCN3-12





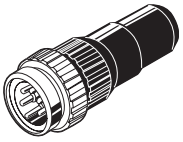

**Connections Diagram**




**Wiring**

| Terminal No. | Name |
|---|---|
| 1 | DRAIN |
| 2 | V+ |
| 3 | V- |
| 4 | CAN H |
| 5 | CAN L |

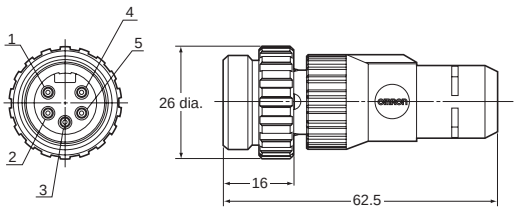
## Connector (Plug) with Terminating Resistance
## DRS3-1



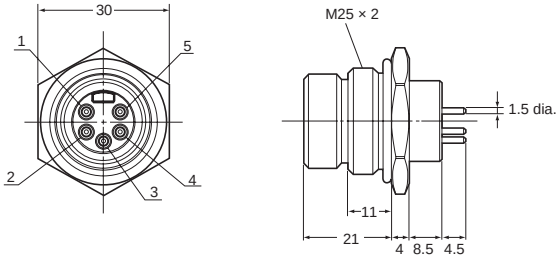
**Wiring**

| Terminal No. | Name |
|---|---|
| 1 | DRAIN : NC |
| 2 | V+ : NC |
| 3 | V- : NC |
| 4 | CAN H : 121 Ω |
| 5 | CAN L : 121 Ω |

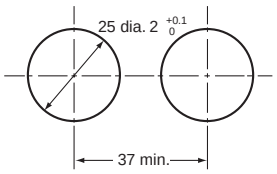
**Note:** Terminating resistance (121 Ω) is connected between terminals 4 and 5.



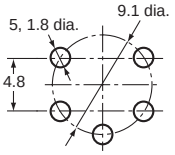

## Panel-mounting Connector (5 Pins for Communications)
## XS4M-D521-1




**Panel Cutout Dimensions**




**PCB Processing Dimensions**

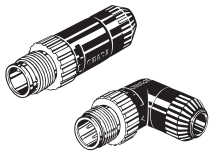



**Note:** A rubber seal and nut for panel mounting are included.

# I/O Peripheral Devices

## Applicable Connectors

### ● Assembly Connector Plugs for M12 Microconnectors

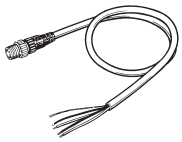
| Appearance | Applicable cable diameter (mm) | Cable direction | Number of poles | Connection method | | |
|---|---|---|---|---|---|---|
| | | | | Crimping | Soldering | Screws |
|  | For 6 dia. (5 to 6 dia.) | Straight | 4 | XS2G-D4C1 | XS2G-D421 | XS2G-D4S1 |
| | | L-shaped | | -- | XS2G-D422 | XS2G-D4S2 |
| | For 5 dia. (4 to 5 dia.) | Straight | | XS2G-D4C3 | XS2G-D423 | XS2G-D4S3 |
| | | L-shaped | | -- | XS2G-D424 | XS2G-D4S4 |
| | For 3 dia. (3 to 4 dia.) | Straight | | XS2G-D4C5 | XS2G-D425 | XS2G-D4S5 |
| | | L-shaped | | -- | XS2G-D426 | XS2G-D4S6 |
| | For 7 dia. (6 to 7 dia.) | Straight | | -- | -- | XS2G-D4S9 |
| | For 8 dia. (7 to 8 dia.) | | | | | XS2G-D4S7 |

## Applicable Cables with Connectors

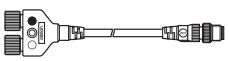
### ● Cables with Connector (Socket/Plug) on Both Ends (M12 Microconnectors for Power Supply and I/O)

| Appearance | Cable direction | Number of core wires | Cable length (m) | Standard cable | Robot (earthquake-resistant) cable |
|---|---|---|---|---|---|
| | Straight/Straight | 4 | 1 | XS2W-D421-C81-A | XS2W-D421-C81-R |
| | | | 2 | XS2W-D421-D81-A | XS2W-D421-D81-R |
| | | | 5 | XS2W-D421-G81-A | XS2W-D421-G81-R |
| | L-shaped/L-shaped | | 2 | XS2W-D422-D81-A | -- |
| | | | 5 | XS2W-D422-G81-A | |
| | Straight/L-shaped | | 2 | XS2W-D423-D81-A | |
| | | | 5 | XS2W-D423-G81-A | |
| | L-shaped/Straight | | 2 | XS2W-D424-D81-A | |
| | | | 5 | XS2W-D424-G81-A | |

### ● Cables with connector plug on One End (M12 Microconnectors for I/O)

| Appearance | Cable direction | Number of core wires | Cable length (m) | Standard cable |
|---|---|---|---|---|
|  | Straight | 3 | 0.3 | XS2H-D421-AC0-A |
| | | 4 | | XS2H-D421-A80-A |
| | | 3 | 1 | XS2H-D421-CC0-A |
| | | 4 | | XS2H-D421-C80-A |

### ● Plugs and Sockets on Y-shaped Joints (M12 Microconnectors for I/O)

| Appearance | Cable | Connector | DC models | |
|---|---|---|---|---|
| | | | Cable length (m) | Model |
|  | With cable | Connectors on both ends | 0.5 | XS2R-D426-B11-F |
| | | | 1 | XS2R-D426-C11-F |
| | | | 2 | XS2R-D426-D11-F |
| | | | 3 | XS2R-D426-E11-F |
| | | Connector on one end | 2 | XS2R-D426-D10-F |
| | | | 5 | XS2R-D426-G10-F |
| | Without cable | Connectors on both ends | -- | XS2R-D426-1 |

**Note:** Use is supported only for Environment-resistive Terminals (DRT2-□D16C(L)(-1)).

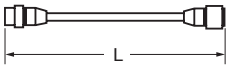
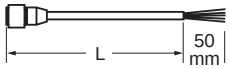
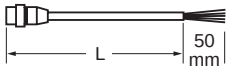
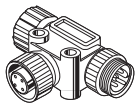
### ● Connector Cover for M12 Microconnectors

| Appearance | Product | Model | Application |
|---|---|---|---|
| | Waterproof cover (socket) | XS2Z-22 | For covering unused I/O connectors |

# Power Supply Peripheral Devices

## Applicable Cables with Connectors

● **Power Supply Connectors (7/8-16UN Miniconnectors)**

| Appearance | Product | Cable length L (mm) | Model |
|---|---|---|---|
| |  | 1 | **XS4W-D421-101-A** |
| | | 2 | **XS4W-D421-102-A** |
| | | 5 | **XS4W-D421-105-A** |
| | | 10 | **XS4W-D421-110-A** |
| |  | 1 | **XS4F-D421-101-A** |
| | | 2 | **XS4F-D421-102-A** |
| | | 5 | **XS4F-D421-105-A** |
| | | 10 | **XS4F-D421-110-A** |
| |  | 1 | **XS4H-D421-101-A** |
| | | 2 | **XS4H-D421-102-A** |
| | | 5 | **XS4H-D421-105-A** |
| | | 10 | **XS4H-D421-110-A** |
|  | T-branch Connector | -- | **XS4R-D424-5** |
| | Panel mounting connector socket<br>Cable: 50 cm | -- | **XS4P-D421-1C5-A** |
| | Panel mounting connector plug<br>DIP terminals | -- | **XS4M-D421-1** |
| - | Waterproofing Cap for Plug | -- | **XS4Z-11** |
| - | Waterproofing Cap for Socket | -- | **XS4Z-12** |

## Read and Understand This Catalog

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- Nuclear energy control systems, combustion systems, railroad systems, aviation systems, medical equipment, amusement machines, vehicles, safety equipment, and installations subject to separate industry or government regulations.
- Systems, machines, and equipment that could present a risk to life or property.

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NEVER USE THE PRODUCTS FOR AN APPLICATION INVOLVING SERIOUS RISK TO LIFE OR PROPERTY WITHOUT ENSURING THAT THE SYSTEM AS A WHOLE HAS BEEN DESIGNED TO ADDRESS THE RISKS, AND THAT THE OMRON PRODUCTS ARE PROPERLY RATED AND INSTALLED FOR THE INTENDED USE WITHIN THE OVERALL EQUIPMENT OR SYSTEM.

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