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Find the *OMRON G720-VID16C* at our website: *Click HERE*

OMRON

Remote I/O Terminal

G720

Space-saving Remote I/O Terminal with Consolidated Functions Reduces Wiring

- Vertical type with 202 (W) x 63 (H) x 45 (D).
- Each Output Terminal transmits 16-point signals to the C500-or C200H-RM201 Remote I/O Master Unit and the Input Terminal receives 16-point signals from the Remote I/O Master Unit.
- Can share transmission lines with the G71, G7TC, or G72C.
- Isolated transmission lines eliminate noise interference.
- I/O signals can be confirmed with the easy-to-see LED indicators.

Ordering Information

Internal I/O circuit common	Rated voltage	Model
NPN	24 VDC	G720-VID16C

■ Accessories (Order Separately)

Mounting Track	PFP-100N, PFP-50N, PFP-100N2
End Plates	PFP-M
Spacers	PFP-S

Specifications

■ Ratings

Input Terminal

Rated input voltage	24 VDC
Input current	9.7 mA/point
ON delay time	1.5 ms max.
OFF delay time	1.5 ms max.
Number of circuits	16 points/common
ON voltage	15 VDC max.
OFF voltage	5.6 VDC min.
Insulation method	Photocoupler
Input indication	LEDs (green)

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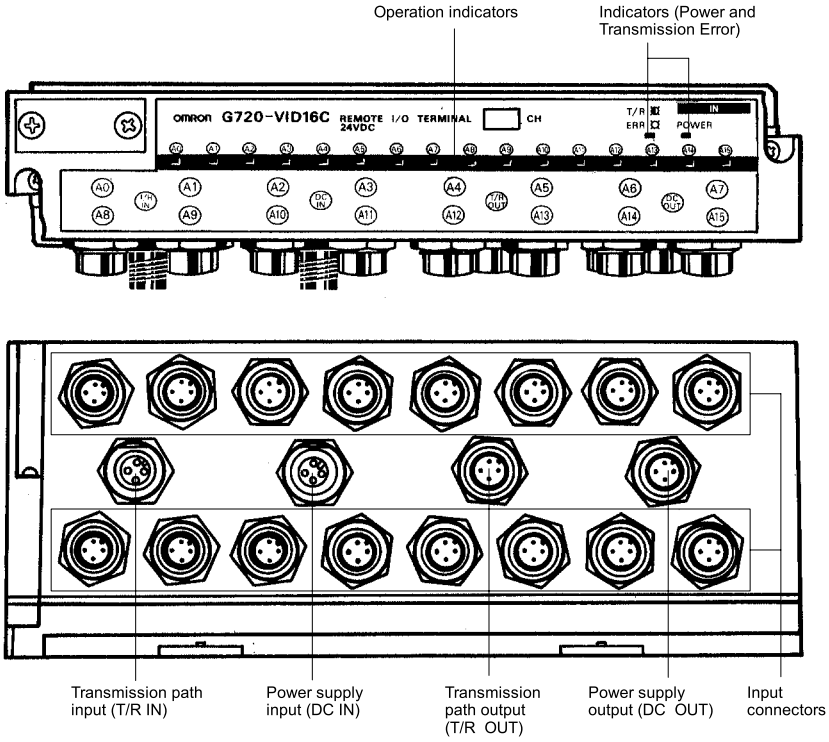
■ Characteristics

Communication method	Two-conductor, half duplex
Synchronization method	Asynchronous
Transmission distance	200 m (total length)
Transmission speed (baud rate)	187.5 kbps (transmission time: 2 ms max. per G720)
Interface	RS-485
Operating voltage range	24 VDC $^{+10\%}/_{-15\%}$
Current consumption	24 VDC: 200 mA max. (see Note)
Diagnosis	Transmission error check (BCC plus inverted 2-transmission verification check) and CPU error monitor
Insulation resistance	20 MW min. (at 250 VDC)
Dielectric strength	2,000 VAC, 50/60 Hz for 1 min between transmission circuits and DIN rail
Noise immunity	Noise level: 1.5 kV; pulse width: 100 ns to 1 ms (transmission path line winding noise only)
Vibration resistance	10 to 55 Hz, 0.75-mm double amplitude for 2 hrs each in X, Y, and Z directions (both mounted and not mounted to DIN rail)
Shock resistance	300 m/s^2 (approx. 30G)
Ambient temperature	Operating: 0%C to 55%C Storage: –20%C to 65%C
Ambient humidity	Operating: 35% to 85%
Mounting strength	No damage when 5 kgf (49N) pull load was applied for 1 s in all directions (except for 1 kgf (9.8 N) in direction of rail)
Enclosure rating	Drip-proof construction
Weight	Approx. 680 g

Note: The current consumption shows the current that is consumed when all 16 points are ON excluding the current consumed by the external sensor. When all points are OFF, the current consumption will be 40 mA max. at 24 VDC.

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Nomenclature

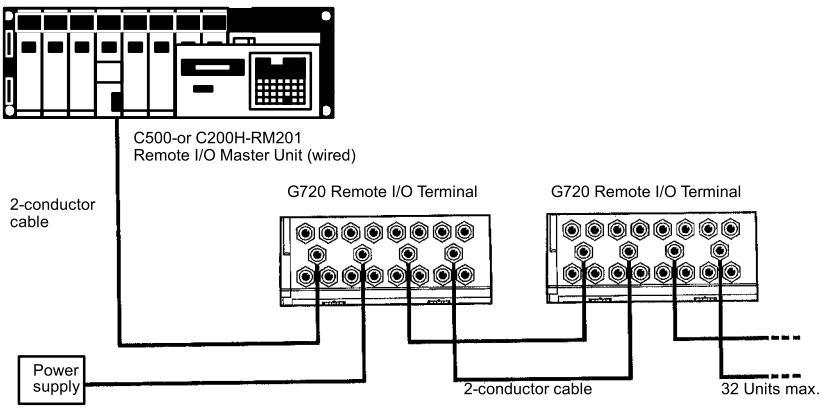


LED Operation

Display		Function
POWER	**Lit**	Lit when power is supplied and the unit is operating.
	Not lit	Not lit when power supply is abnormal.
T/R ERR	**Flashing**	Flashes during normal data transmission.
	Lit	Lit during standby and transmission error.
	Not lit	Not lit during CPU (watchdog timer) error.

Operation

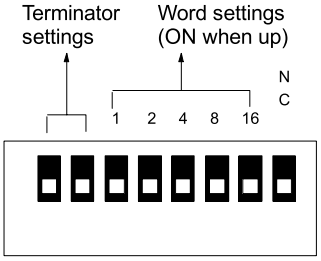
■ System Configuration



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■ Setting the Back-panel DIP Switch

Turn off the power supply before setting the DIP switch.



Terminator Settings

To specify the Terminal as the terminator and connect terminator resistance, turn ON both pins. These pins must be turned ON on only the End Slave for each Master. The terminals are not factory-set as a terminator.

Assign words to the Terminals starting backward from word 31. The Terminal is factory-set to word 31.

Word Settings

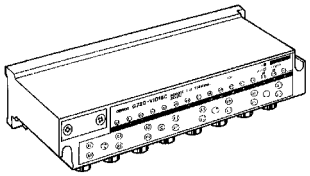
Word	Pin					Word	Pin				
	1	2	4	8	16		1	2	4	8	16
0	OFF	OFF	OFF	OFF	OFF	**16**	OFF	OFF	OFF	OFF	ON
1	ON	OFF	OFF	OFF	OFF	**17**	ON	OFF	OFF	OFF	ON
2	OFF	ON	OFF	OFF	OFF	**18**	OFF	ON	OFF	OFF	ON
3	ON	ON	OFF	OFF	OFF	**19**	ON	ON	OFF	OFF	ON
4	OFF	OFF	ON	OFF	OFF	**20**	OFF	OFF	ON	OFF	ON
5	ON	OFF	ON	OFF	OFF	**21**	ON	OFF	ON	OFF	ON
6	OFF	ON	ON	OFF	OFF	**22**	OFF	ON	ON	OFF	ON
7	ON	ON	ON	OFF	OFF	**23**	ON	ON	ON	OFF	ON
8	OFF	OFF	OFF	ON	OFF	**24**	OFF	OFF	OFF	ON	ON
9	ON	OFF	OFF	ON	OFF	**25**	ON	OFF	OFF	ON	ON
10	OFF	ON	OFF	ON	OFF	**26**	OFF	ON	OFF	ON	ON
11	ON	ON	OFF	ON	OFF	**27**	ON	ON	OFF	ON	ON
12	OFF	OFF	ON	ON	OFF	**28**	OFF	OFF	ON	ON	ON
13	ON	OFF	ON	ON	OFF	**29**	ON	OFF	ON	ON	ON
14	OFF	ON	ON	ON	OFF	**30**	OFF	ON	ON	ON	ON
15	ON	ON	ON	ON	OFF	**31**	ON	ON	ON	ON	ON

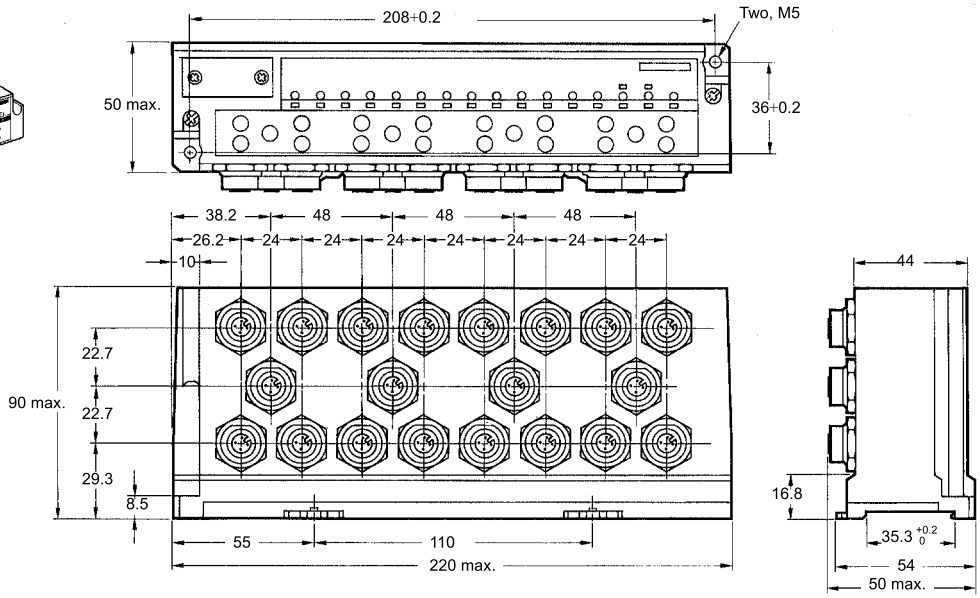
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Dimensions

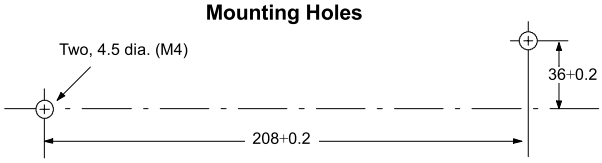
Note: All units are in millimeters unless otherwise indicated.

G720-VID16C



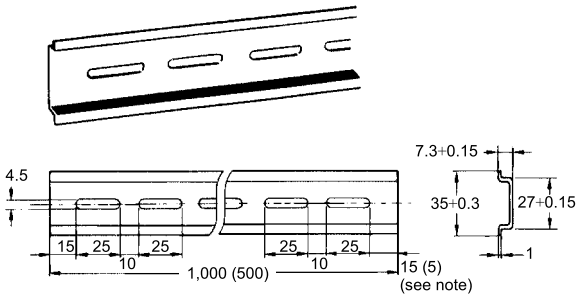


Mounting Holes



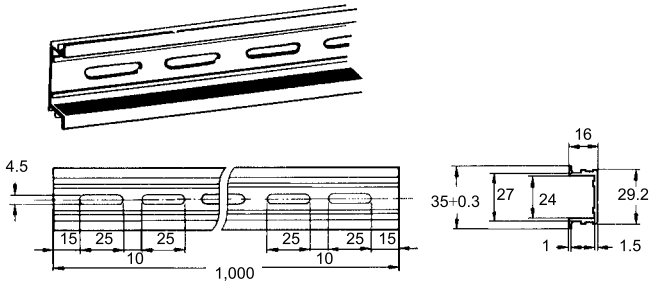
Accessories

Mounting Track
PFP-100N/PFP-50N

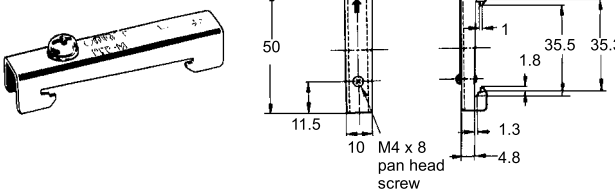


Note: The values shown in parenthesis are for the PFP-50N.

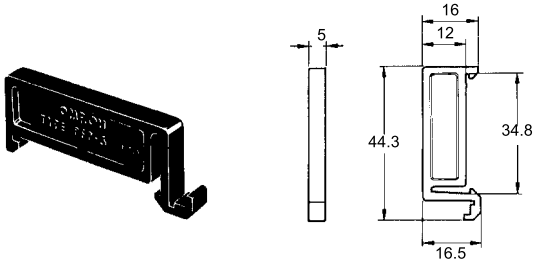
PFP-100N2



End Plates
PFP-M



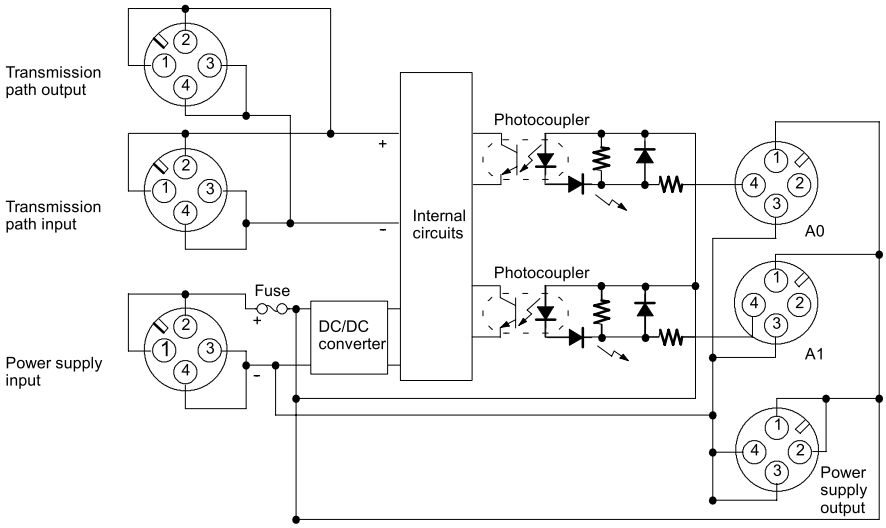
Spacers
PFP-S



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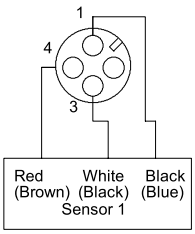
Installation

■ Internal Circuit Configuration

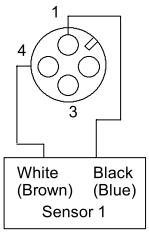


■ External Circuit Configuration

Three-wire Connection



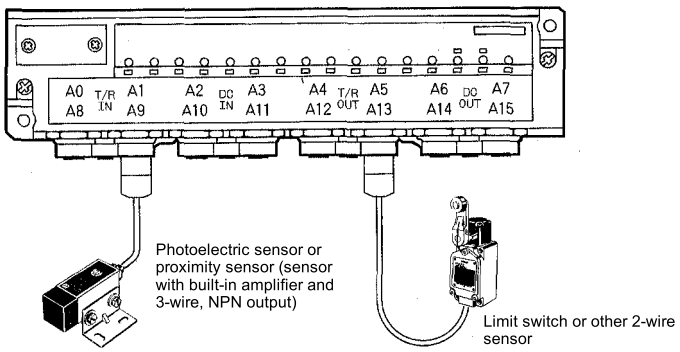
Two-wire Connection



■ Terminal Arrangement/I/O Device Connection Examples

A power supply relay terminal block is not required for sensors/loads.

Input Terminal



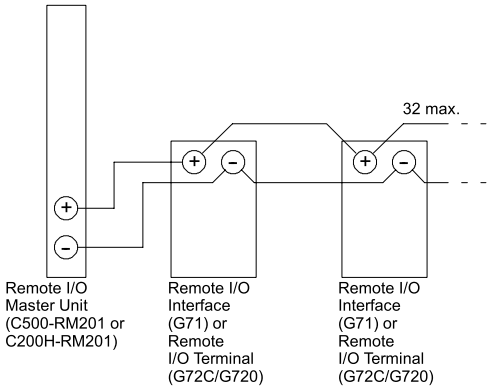
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Precautions

Connection Example

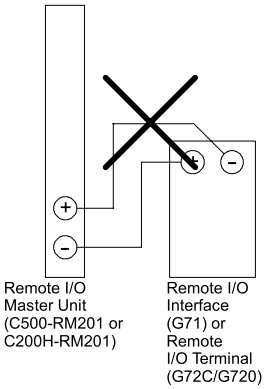
Correct Example

Connect the Slaves in series starting from the Master.



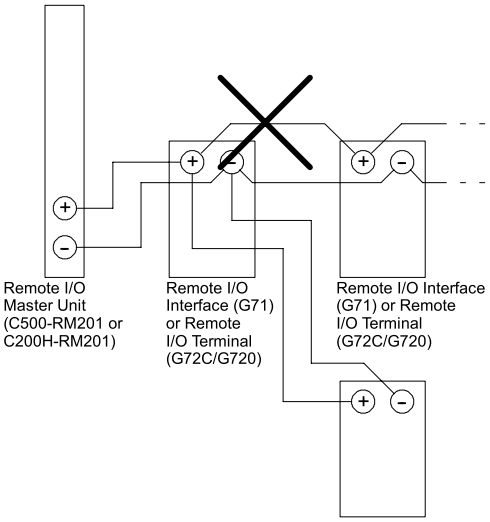
Incorrect Example 1

Do not reverse polarity.



Incorrect Example 2

Do not branch connections.



Recommended Connecting Methods of OMRON's Sensor and Connector with Cable

When connecting a sensor I/O connector to OMRON's sensor, refer to the following table and select the colors of the cable conductor covers for the purposes of unification and easy maintenance.

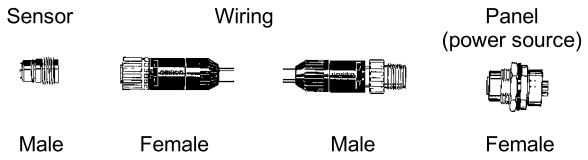
Connector terminal number	Recommended color	Sensor output stage		
		Two-wire	Three-wire	Four-wire
1	Red	Not used	Power supply (+V)	Power supply (+V)
2	Orange (see note)	Not used	Not used	Output (2)
3	Black	Power supply (0 V)	Power supply (0 V)	Power supply (0 V)
4	White	Output (1)	Output (1)	Output (1)

Recommended Cables

Any cable available on the market with an external diameter of 3 to 6 mm with a conductor size of 0.18 to 0.75 mm^2 (crimp-type) or 0.5 mm^2 (solder-type) can be used as a cable for an Assembly-type Connector. If water-tight and oil resistive capabilities are required, use the following cable.
Maker: Shinagawa Densen
Model: S-FLEX [V1] SKCVV

Connector Wiring

When configuring a system using a Sensor I/O Connector, for safety reasons, always attach a male connector to the sensor cable and a female connector to the sensor end of the power source cable when wiring from a Sensor I/O Connector to the control panel. Similarly, the power supply end of the connector cable should be male, and the power outlet connector should be female.



Tightening the Cap

1. Use of pliers or other tools may damage the cap. Tighten the cap firmly by hand. (4 to 5 kgf $ cm) (0.39 to 0.49 N $ m)
2. If the cap is not on tight enough, it may not be possible to use the IP67 protective housing. Also, it may become loose from vibration.

Inserting and Removing the Connector

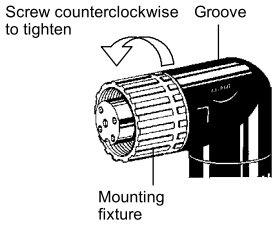
Be sure to turn off the power before inserting or removing any connector.

Before mating any connector, insert the mateable part fully, and tighten the anchors so as not to damage the threads.

When tightening the anchors, do not use a tool, but tighten firmly (4 to 5 kgf $ cm (0.39 to 0.49 N $ m)) by hand so that the threads cannot be seen.

When removing a connector, do not loosen the cap, but loosen the anchor.

Loosen the anchor in the direction of the groove.



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The Protective Housing

Do not use the IP67 device in a place where it will be continually under stress. This may decrease its protective ability.

The IP67 is not completely waterproof. Do not use it in a place where it will be continually underwater.

The IP67 body is made of resin. Do not step on it, or put heavy objects on top of it.

Assembly Instructions (for XS2B/XS2C/XS2G)

Check the Final Diameters of the Connector and Cable

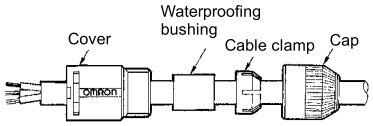
Recommended cables are 6-mm (diameter 5 to 6 mm), 4-mm (diameter 4 to 5 mm), and 3-mm (diameter 3 to 4 mm).

Before assembling, make sure that a proper size cable is used.

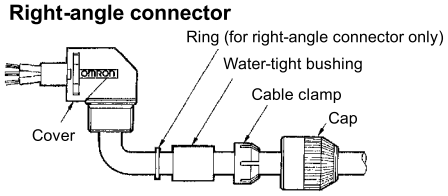
The cable clamp for the 6-mm cable is white. The cable clamp for the 4-mm and the 3-mm cable is black.

Insertion

Straight Connector

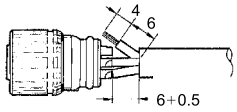


Right-angle connector



If using a cable that has been prepared as shown previously, assemble all parts as shown here.

Wiring (Connecting the Cable Terminals)



The wire should extend 10 mm (0.39 in.) from the cable sheath, and the core should be exposed 4 mm (0.16 in.) from the covering.

The core guide and the solder cup should be pre-soldered before final soldering.

Soldering iron: 30 to 60 W
Iron temperature: 280%C to 340%C
Soldering time: Under 3 seconds

If the cable length is more than 6.5 mm (0.26 in.) after soldering, then the protective housing cannot be used.

ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.
To convert millimeters into inches, multiply by 0.03937. To convert grams into ounces, multiply by 0.03527.

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