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Find the *OMRON G72C-ID16* at our website: *Click HERE*

OMRON

SYSMAC Transistor Remote Module

G72C

Terminal Block and Transmission Capability in One Module



- Two-conductor cable communications available using Omron Wired Remote I/O Master Modules (C200H-RM201 and C500-RM201)
- Can share transmission lines with G72C-V Remote Terminal Blocks
- 187.5 kbps communication speed with maximum 200 m transmission distance
- Isolated transmission lines ensure excellent noise immunity
- Easily mounts to DIN rail track or with screws for panel mounting

Ordering Information

Classification	Internal I/O circuit common	I/O points	Rated voltage	Part number
For input	NPN (+ common)	16 points per module	24 VDC	**G72C-ID16 DC24V**
	PNP (– common)			**G72C-ID16-1 DC24V**
For output	NPN (– common)			**G72C-OD16 DC24V**
	PNP (– common)			**G72C-OD16-1 DC24V**

Specifications

■ RATINGS

G72C-ID16-1 Input

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 (8 points/common)
ON voltage	15 VDC max.
OFF voltage	5.6 VDC max.
Insulation method	Photocoupler
Input indication	LEDs (green)

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G72C-OD16-1 Output

Rated input voltage	24 VDC
Rated output current	0.3 A/point
Residual voltage	1.2 V max.
Leakage current	100 μA max.
Number of circuits	16 points (8 points/common)
Insulation method	Photocoupler
Input indication	LEDs (green)

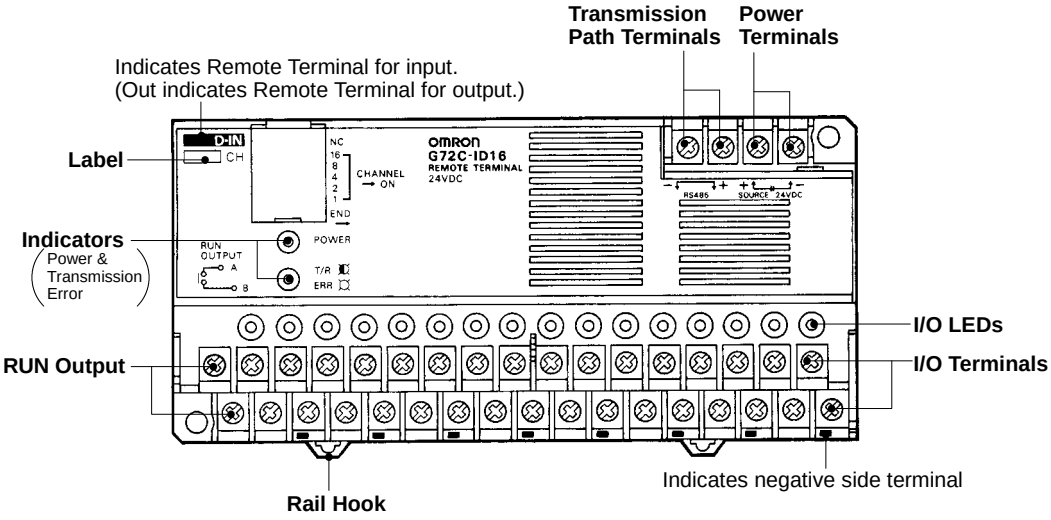
■ CHARACTERISTICS

Communication system	Two-conductor, half duplex
Synchronization method	Asynchronous
Transmission speed (baud rate)	187.5 kbps (transmission time: 2 ms max. per G72C)
Transmission distance	200 m (total length)
Transmission path	Two-conductor cable (VCTF 0.75 x DPDT recommended)
Interface	RS-485
Operating voltage range	24 VDC $^{+10\%}/_{-15\%}$
Current consumption (See Note)	24 VDC: 200 mA max.
RUN output	SPST-NO contact output (closed during operation) Contact capacity: 100,000 operations at 2 A, 250 VAC ($\cos\phi = 1$)
Diagnostics	Transmission error check (BCC plus inverted two-transmission verification check), CPU error monitor
Insulation resistance	20 MΩ min. at 250 VDC
Dielectric strength	2,000 VAC, 50/60 Hz for 1 min between RUN output circuit and other terminals 500 VAC, 50/60 Hz for 1 min for other terminals
Noise immunity	Noise level: 1.5 kV; pulse width: 100 ns to 1 μs
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 track)
Shock resistance	50G, 3 times each in X, Y, and Z directions
Ambient temperature	Operating: 0°C to 55°C (32°F to 131°F) Storage: −20°C to 65°C (−4°F to 149°F)
Ambient humidity	Operating: 35% to 85%
Mounting strength	No damage when 5 kgf (4.9 N) pull load was applied for 1 s in all directions (except for 1 kgf (0.9 N) in direction of rail)
Terminal strength	No abnormality when 5 kgf (4.9 N) pull load was applied for 1 s in all directions
Weight	Approx. 380 g
Approvals	UL recognized, File No. E41515; CSA certified, File No. LD31928 for G72C-ID16, G72C-OD16

Note: Consumption when all 16 points are ON. Excludes external current for Remote Input Terminal and external load current for Remote Output Terminal. Maximum current consumption for both input and output when all points are OFF will be 40 mA at 24 VDC.

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Nomenclature



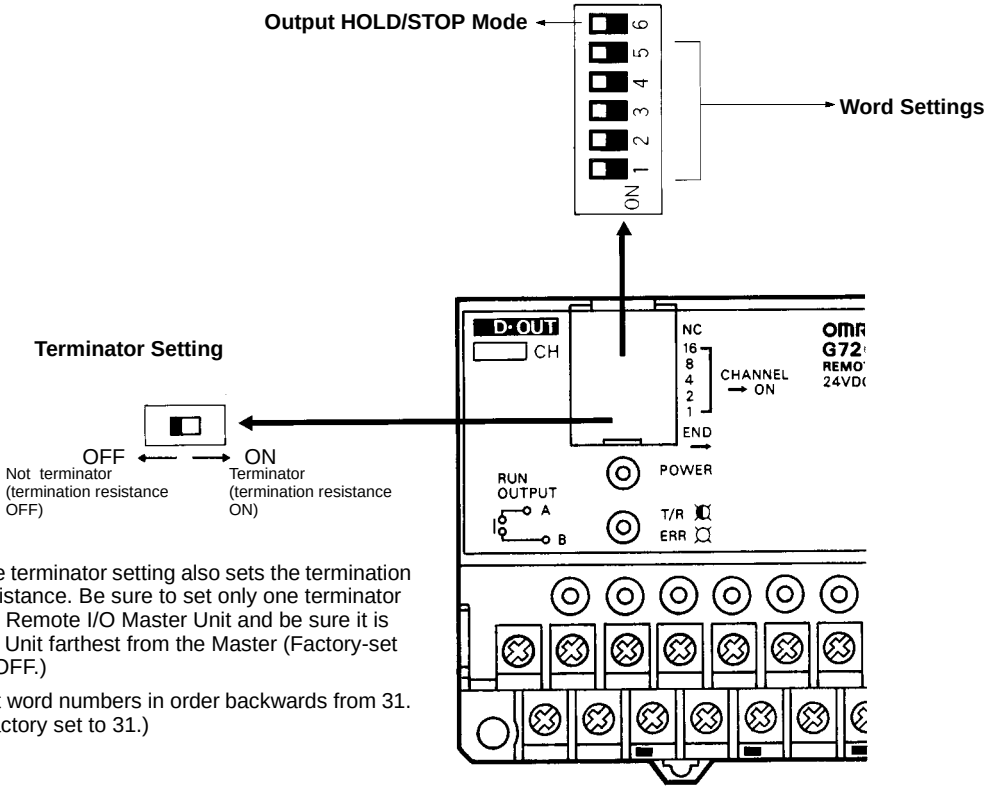
■ INDICATOR OPERATION

Display		Meaning
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.

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Operation

■ SETTING



The terminator setting also sets the termination resistance. Be sure to set only one terminator per Remote I/O Master Unit and be sure it is the Unit farthest from the Master (Factory-set to OFF.)

Set word numbers in order backwards from 31. (Factory set to 31.)

Output HOLD/STOP Mode

(for Remote Output Interface only)

Pin 6	
HOLD	**STOP**
OUT channel status is held during a slave transmission error.	All OUT channel bits go OFF for a slave transmission error. (See Note)

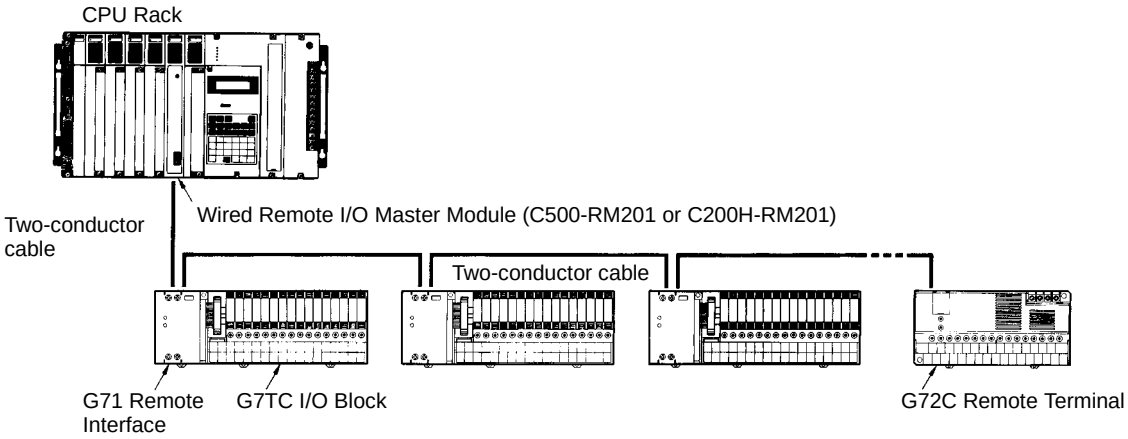
Note: A slave transmission error results if no data or abnormal data is sent from the Master Unit. (Factory-set to STOP mode.)

Word Settings

Word	Pin				
	1	2	3	4	5
0	OFF	OFF	OFF	OFF	OFF
1	ON	OFF	OFF	OFF	OFF
2	OFF	ON	OFF	OFF	OFF
3	ON	ON	OFF	OFF	OFF
. . .	. . .	. . .	. . .	. . .	. . .
28	OFF	OFF	ON	ON	ON
29	ON	OFF	ON	ON	ON
30	OFF	ON	ON	ON	ON
31	ON	ON	ON	ON	ON

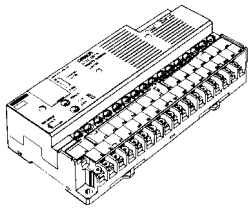
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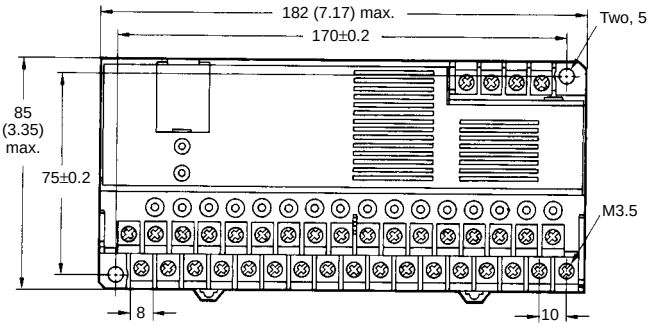
■ SYSTEM CONFIGURATION

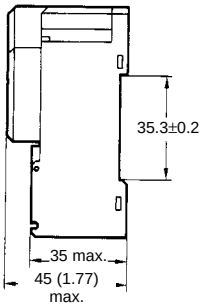


Dimensions

Unit: mm (inch)





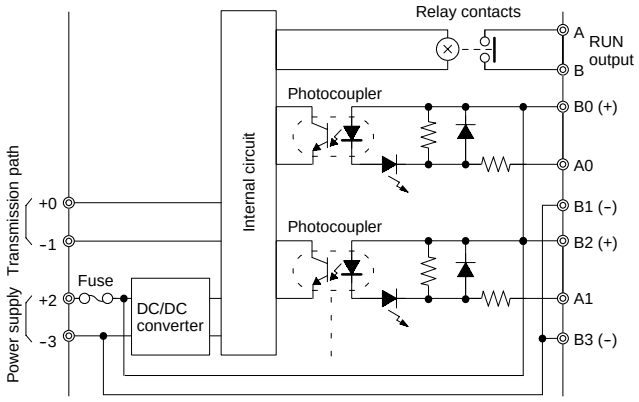


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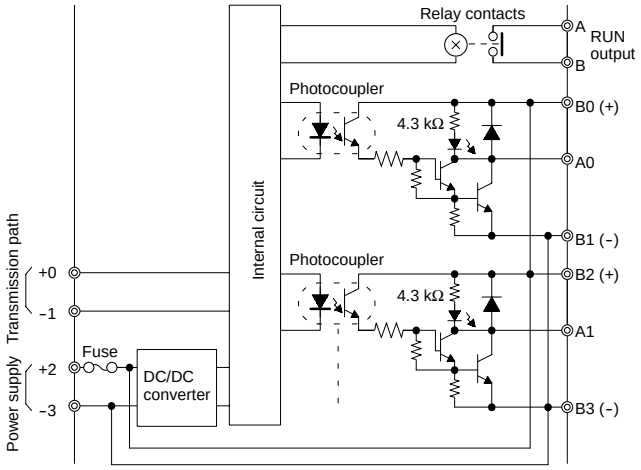
Installation

■ INTERNAL CIRCUITS

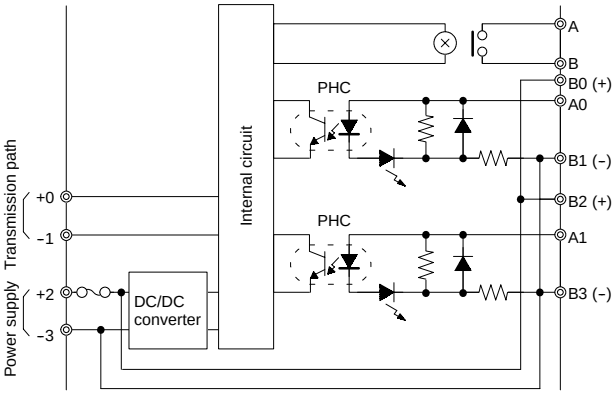
G72C-ID16 for Input



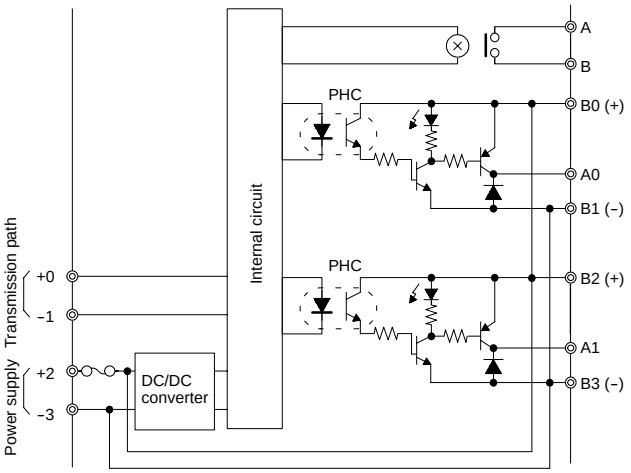
G72C-OD16 for Output



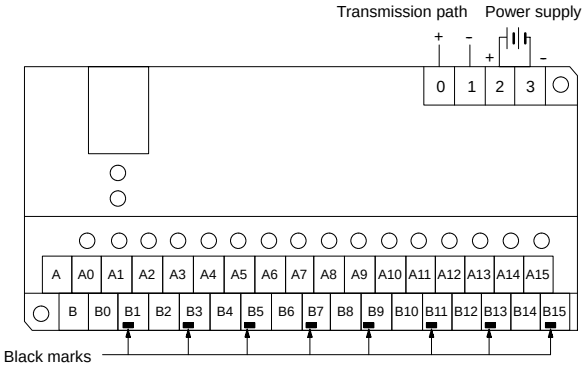
G72C-ID16-1 for Input



G72C-OD16-1 for Output



■ TERMINAL ARRANGEMENT

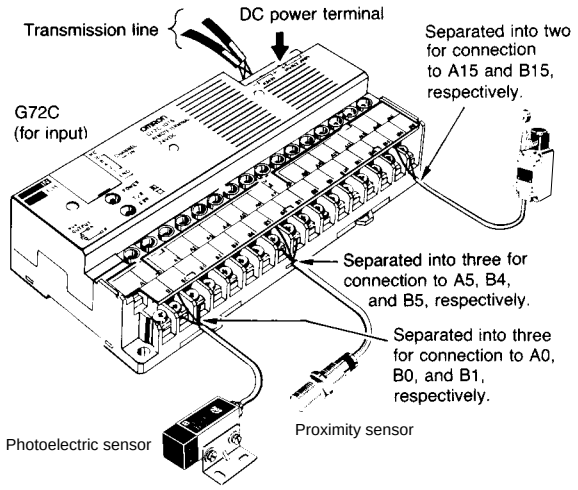


Note: Positive power terminal no. 2 at the upper-right part is internally connected to the B0, B2, B4, B6, B8, B10, B12, and B14 I/O terminals at the lower part, and negative power terminal no. 3 at the upper-right part is internally connected to the B1, B3, B5, B7, B9, B11, B13, and B15 I/O terminals at the lower part and have black marks.

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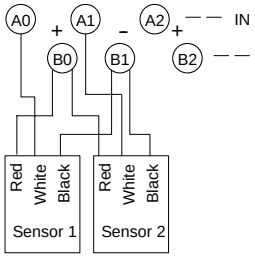
■ CONNECTION WITH I/O DEVICES

(Repeater terminal block for sensor/load power wiring is not required.)

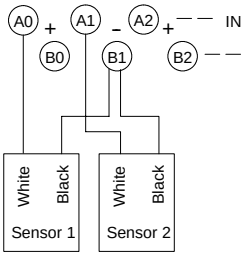


For Input

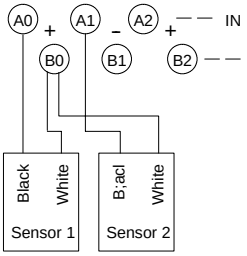
Three-wire Connection



Two-wire Connection
G72C-ID16

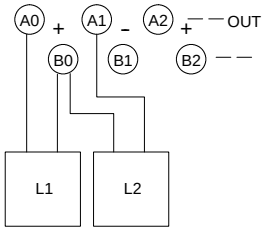


Two-wire Connection
G72C-ID16-1

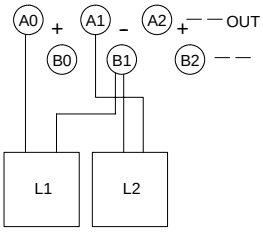


For Output

G72C-OD16



G72C-OD16-1



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Precautions

■ PROPER APPLICATION

Each node can consist of either a G72C Remote Terminal or a G71 Remote Interface and G7TC I/O Block pair.

Each Remote I/O Subsystem connected to a Master Module can contain up to 32 nodes.

Never connect or disconnect a G71 Remote Interface without first turning off the power. Failure to turn off the power can result in operational errors.

All Remote Modules are available as 24 VDC Input or 24 VDC Output models.

Be sure to supply the correct power to each Remote Module and combine only compatible units.
I/O specifications are provided in the following. Proper combinations can be checked with label colors.
The G71 Remote Output Interface corresponds to NPN (– common). Use the NPN-output G7TC Models (+ common) when connecting.

Always confirm that all G71 and G72C Units have been turned on before turning providing power to the Master.

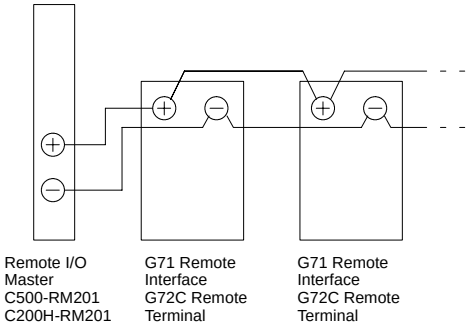
Item	G71 Remote Interface		G7TC I/O Block		G72C Remote Terminal	
	Model	Label color	Model	Label display (color)	Model	Label color
Input	G71-IC16	Red	G7TC-IA16 G7TC-ID16	IA16 (red)	G72C-ID16	Red
Output	G71-OD16	Yellow	G7TC-OC16 G7TC-OC08	OS16/OS08 (yellow)	G72C-OD16	Yellow

Note: Do not connect a G71 Remote Interface to a G7TC-OC16-1 I/O Block, which is a PNP model (– common); they are incompatible.

Connections

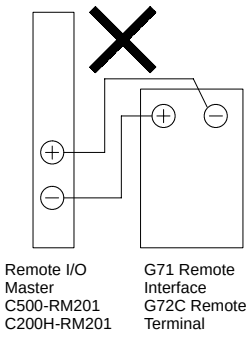
Correct Example

Always wire in order from the Master, connecting positive to positive and negative to negative, without branching.



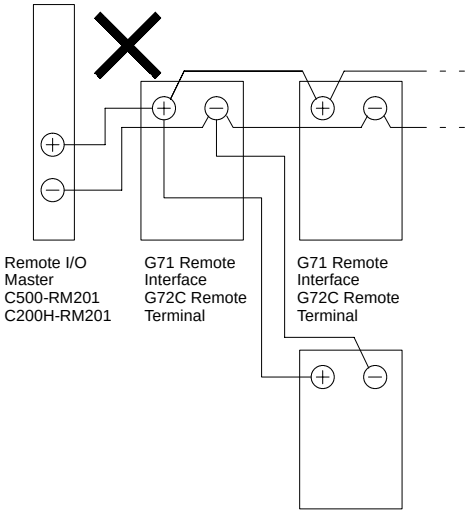
Incorrect Example 1

The wiring below is incorrect because positive has been connected to negative.



Incorrect Example 2

The wiring below is incorrect because a branch has been created.



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NOTE: DIMENSIONS SHOWN ARE IN MILLIMETERS. To convert millimeters to inches divide by 25.4.

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