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Find the *OMRON G71-ID16* at our website: ***Click HERE***

OMRON

SYSMAC Remote Interface Module

G71

Connects G70A and G7TC I/O Relay Blocks to SYSMAC BUS Remote I/O Communications



- Reduces wiring requirements to ensure easy installation
- Diagnostic functions simplify troubleshooting
- Two-conductor cable communications available using Omron Wired Remote I/O Master Modules (C200H-RM201 and C500-RM201)
- Isolated transmission lines ensure excellent noise immunity
- Easily mounts to DIN rail track or with screws for panel mounting
- Can share transmission lines with G72C and G72C-V Remote Terminal Blocks

Ordering Information

■ REMOTE INTERFACE MODULES

Classification	Internal I/O circuit common	Rated voltage	Required I/O block family	Part number
For input	NPN (+ common)	24 VDC	G7TC-IA16, G7TC-ID16	**G71-IC16 DC24V**
			G70A-ZIM-16-5	**G71-IC16-3 DC24V**
For output	NPN (– common)	24 VDC	G7TC-OC08, G7TC-OC16, G70A-ZOC16-3	**G71-OD16 DC24V**

■ COMBINATIONS OF REMOTE INTERFACE MODULES AND RELAY TERMINAL BLOCKS

Remote Interface	Applicable I/O Block		
G71-IC16 24 VDC	AC input block	110/120 VAC	G7TC-IA16 110/120 VAC
		220/240 VAC	G7TC-IA16 220/240 VAC
G71-IC16-3 24 VDC		230 VAC (See Note 2)	G70A-ZIM16-5 + G3R-IAZR-1SN AC100/2400
G71-IC16 24 VDC	DC input block	24 VDC	G7TC-ID16 24 VDC
G71-IC16-3 24 VDC		24 VDC (See Note 2)	G70A-ZIM16-5 + G3R-IDZR-1SN DC12-24
G71-OD16 24 VDC	Output block	24 VDC	G7TC-OC16 24 VDC G7TC-OC08 24 VDC G70A-ZOC16-3 + G2R-1-SND DC24V

Note: 1. Do not connect the G71 with the G7TC-OC16-1 or G7TC-OC08-1 (PNP output, – common). Due to the difference in polarity, the G71 will be damaged if the G71 and G7TC-OC16 (or 08)-1 are connected to each other.
Use the G7TC-OC16 or G7TC-OC08 (NPN output, + common) instead, to connect to the G71.

2. The rated voltages and relay models are typical examples. Refer to the *G70A Data Sheet* for details.

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Specifications

■ RATINGS

G71-IC16, G71-C16-3 Input

Rated input voltage	24 VDC
Input current	6.7 mA/point
ON delay time (See Note**)**	9 ms max.
OFF delay time (See Note)	14.5 ms max.
Number of circuits	16 points (8 points/common)
ON voltage	15 VDC max.
OFF voltage	5.6 VDC max.

Note: Transistor inputs with an ON-delay time of 1 ms, and OFF-delay time of 1.45 ms are available.

G71-OD16 Output

Rated input voltage	24 VDC
Rated output current	30 mA/point
Residual voltage	1.2 V max.
Leakage current	100 μA max.
Number of circuits	16 points (8 points/common)

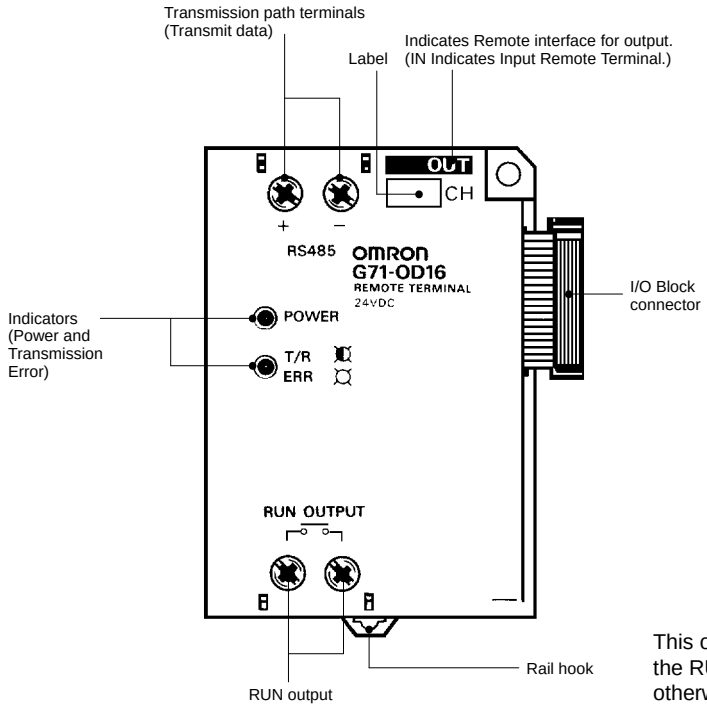
■ CHARACTERISTICS

Communication system	Two-conductor, half duplex
Synchronization method	Asynchronous
Transmission speed (baud rate)	187.5 kbps (transmission time: 2 ms max. per Remote Terminal Block)
Transmission distance	200 m (656 ft) 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. for input terminal; 500 mA max. for output terminal
RUN output	SPST-NO contact output (closed during operation) Contact capacity: 100,000 operations at 2 A, 250 VAC ($\cos\phi = 1$)
Diagnosis	Transmission error check (BCC plus inverted two-transmission verification check), CPU error monitor
Insulation resistance	20 MΩ min. at 250 VDC between transmission circuits and RUN output circuit 20 MΩ min. at 250 VDC between RUN output circuit and power circuits 20 MΩ min. at 250 VDC between transmission circuits and power circuits
Dielectric strength	2,000 VAC, 50/60 Hz for 1 min between transmission circuits and RUN output circuit 2,000 VAC, 50/60 Hz for 1 min between RUN output circuit and power circuits 500 VAC, 50/60 Hz for 1 min between transmission circuits and power circuits
Noise immunity	Noise level: 1.5 kV; pulse width: 100 ns to 1 ms
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 DIN rail
Terminal strength	No abnormality when 5 kgf (4.9 N) pull load was applied for 1 s in all directions
Weight	Approx. 200 g
Approvals	UL recognized, File No. E41515; CSA certified, File No. LD31928

Note: Consumption for both G71 Remote Interface and G7TC I/O Block when all 16 points are ON. Includes G7T relay coil current for Remote Output Interface. Maximum current consumption when all points are OFF is as follows: 40 mA at 24 VDC.

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Nomenclature



This output turns ON when the programmable controller is in the RUN or MONITOR mode and no error has occurred; otherwise OFF.

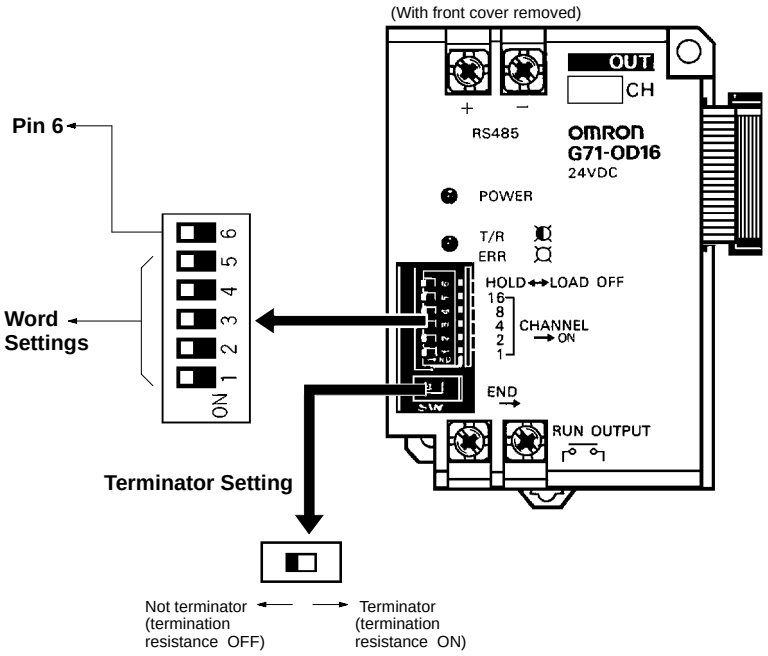
Indicator Operation

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 FRONT-PANEL DIP SWITCH



Note: 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. (Set to OFF at the factory).
Set word numbers in backwards order from 31. (Set to 31 at the factory).
See G72C-5 for system configurations and operating precautions.

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.)

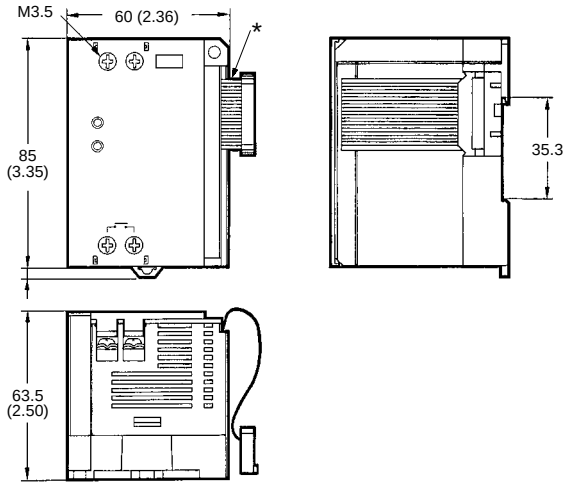
Word Settings

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

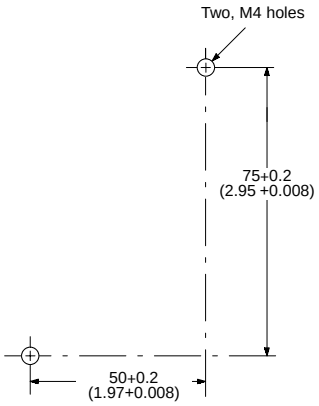
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Dimensions

Unit: mm (inch)



Mounting Holes

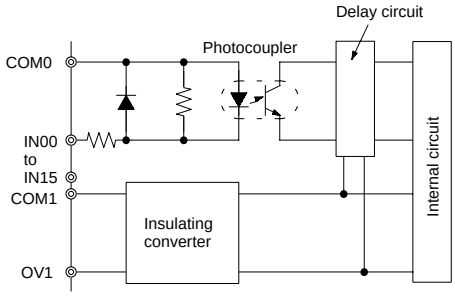


*A flat cable with a length of 85 mm can be used.

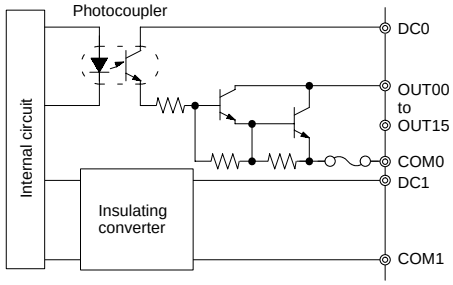
Installation

■ INTERNAL CIRCUIT

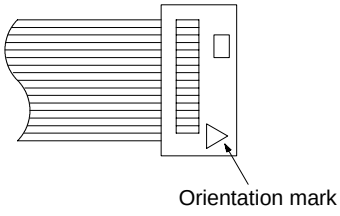
Input (NPN: + Common)



Output (NPN: - Common)



■ TERMINAL ARRANGEMENT



G71-IC16

IN08	IN00
IN09	IN01
IN10	IN02
IN11	IN03
IN12	IN04
IN13	IN05
IN14	IN06
IN15	IN07
COM1	COM0
OV1	NC

G71-IC16-3

IN08	IN00
IN09	IN01
IN10	IN02
IN11	IN03
IN12	IN04
IN13	IN05
IN14	IN06
IN15	IN07
OV1	NC
COM1	COM0

G71-OD16

OUT08	OUT00
OUT09	OUT01
OUT10	OUT02
OUT11	OUT03
OUT12	OUT04
OUT13	OUT05
OUT14	OUT06
OUT15	OUT07
COM1	COM0
DC1	DC0

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

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