



# DRT1-COM COMMUNICATION UNIT

## INSTRUCTION MANUAL

Thank you for purchasing this OMRON product.

This manual primarily describes precautions required in installing and operating the digital controller. Before operating the product, read this manual thoroughly to acquire sufficient knowledge of the product. Keep this manual for future reference.

Karasuma Nanajo, Shimogyo-ku,  
Kyoto 600-8216, Japan

OMRON Corporation

0646054-7D

To ensure safe and correct use of this product, also read the following manuals:

- DeviceNet MULTIPLE I/O TERMINAL OP/MANUAL (Man.No.W348)
- DeviceNet USER'S MANUAL (Man.No.W267)

The above manuals can be obtained from any OMRON sales office or dealer.

### NOTICE

Items shown below are necessary for safe usage.

Please note them carefully.

- (1) Never disassemble, repair or modify the product.
- (2) Do not submit the product to abnormal shock. Doing so might result in faulty operation.
- (3) Do not use the product in the following places:
  - Places subject to icing, condensation, dust or corrosive gas (especially sulfide gas or ammonia gas)
  - Places subject to splashing liquid or oil atmosphere
  - Places subject to static electricity or other forms of severe noise
- (4) Mount the product correctly.
- (5) Fit the product to a DIN rail correctly.
- (6) Use the communication cable that is separate from the one used for high-tension lines.
- (7) Avoid connecting or disconnecting cables with the power ON. Doing so might result in trouble or faulty operation.
- (8) Use the product within communications distance of specifications.
- (9) Use the appointed communications cable.
- (10) Locking I/O Unit Connecting cables

- Before turning the power ON, make sure that the I/O Unit Connecting cables are firmly connected.
- Be sure that I/O interface connector is properly locked into place.

- (11) Tightening Screws
  - Tighten screws to the stipulated torque to prevent faulty operation.
  - Internal power terminal screw tightening torque  
0.3 to 0.5 N • m [2.9 to 4.9 kgf • cm]
  - Communication connector screw tightening torque  
0.25 to 0.3 N • m [2.4 to 2.9 kgf • cm]

- (12) Cleaning
  - Never use paint thinner to clean the product. Doing so might melt or discolor the surface.

- (13) Separate Communication Power Supply from Internal and I/O Power Supply.

### SPECIFICATIONS

#### ● Ratings

Communications Power Voltage	DC11 to 25V (supplied from communications connector)
Communication Power Current	30mA (supplied from communications connector)
Internal Circuit Power Voltage	DC20.4 to 26.4V (DC24V -15 to +10%)
Internal Current Consumption	0.6A max. (at DC20.4V)
Unit Power Consumption	4W max. (at DC24V)
Inrush Current	30A max.
Ambient Temperature	-10 to 55°C
Ambient Humidity	25 to 85% (no condensation)
Storage temperature	-25 to +65°C
Installation	Mounted in a panel
Weight	135g typ.

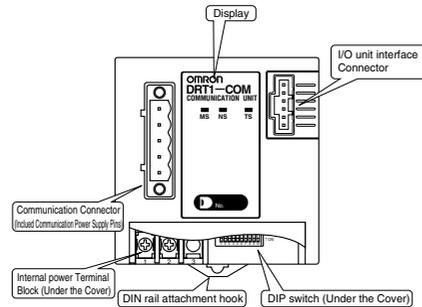
#### ● Characteristics (I/O-UnitBus)

I/O units connections	8 units max.
Rated Power supply output	7.2W max. (0.4A)
Total distance	3m max. with 1m max. between each slaves.
Total I/O points	1024 points
Status Flag	32 points

#### ● Characteristics (CompoBus/D)

Slave connections		64 slaves max.		
baud rate	Network distance (thick cable)	Network distance (thin cable)	branch distance	Total branch distance
500kbps	100m max.	100m max.	6m max.	39m max.
250kbps	250m max.	100m max.	6m max.	78m max.
125kbps	500m max.	100m max.	6m max.	156m max.

### NOMENCLATURE

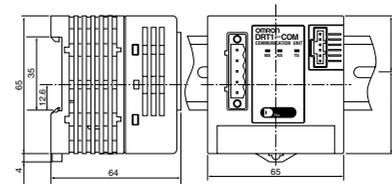


### DISPLAY

The meanings of the MS, NS and TS display as follows.

LED name	LED Display Color	State	Description
MS	Green	Lit	Device Operational
		Flashing	Device in Standby (The Device Needs Commissioning)
	Red	Lit	Uncoverable Fault
		Flashing	Minor Fault
	—	Out	Not Powered
NS	Green	Lit	Link OK On-line, Connected
		Flashing	On-line, Not Connected
	Red	Lit	Critical Link Failure
		Flashing	Connection Time-Out
—	Out	Not Powered/Not On-line	
TS	Green	Lit	Normal
		Flashing	I/O Unit error
	Red	Lit	I/O Unit Interface error
—	Out	Overcurrent for I/O units	

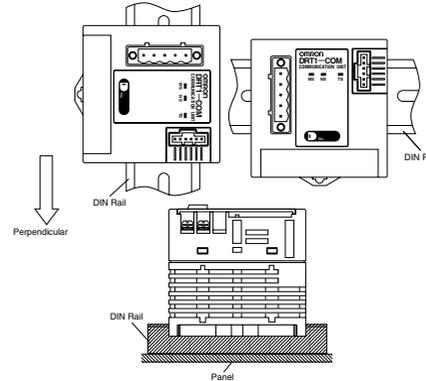
### DIMENSIONS (unit : mm)



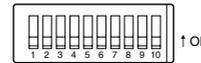
### DIN Rail Attachment

Mount the product on a 35mm DIN rail using the DIN rail attachment hook. Do not install the product in places to be touched by accident to avoid mal-function caused by static electricity.

Mount the product shown below.



### DIP SWITCH SETTING



#### ● SW1 to 6

Set the node address.

SW1	SW2	SW3	SW4	SW5	SW6
2 <sup>1</sup>	2 <sup>2</sup>				

All pins are Factory-set to OFF.

#### ● SW7, 8

Communications Speed	SW7	SW8
125kbit/s (Factory Setting)	OFF	OFF
250kbit/s	ON	OFF
500kbit/s	OFF	ON
setting impossible	ON	ON

#### ● SW9

Always OFF.

#### ● SW10

Set the output state of I/O Units when communication error occurs.

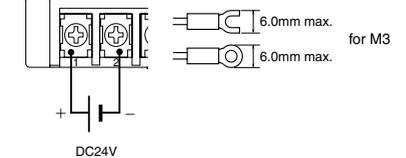
OFF : Clear (Factory Setting)

ON : Hold.

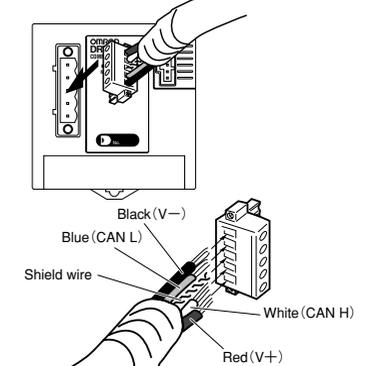
If an I/O Unit has a HOLD/CLEAR switch, I/O Unit have priority over the communications Unit in HOLD/CLEAR setting.

### WIRING

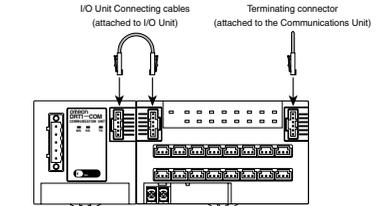
#### ● Connecting Internal Circuit Power Supply



#### ● Connecting Communication Cables



#### ● Connecting I/O units



Terminating connector must be on the end unit.

### PRECAUTIONS IN USING THE PRODUCT

When the product is used under the circumstances or environment below, ensure adherence to limitations of the ratings and functions. Also, take countermeasures for safety precautions such as fail-safe installations.

- (1) Use under circumstances or environment which are not described in the instruction manual.
- (2) Use for nuclear power control, railway, aircraft, vehicle, incinerator, medical equipment, entertainment equipment, safety device etc...
- (3) Use for applications where death or serious property damage is possible and extensive safety precautions are required.

OMRON ELECTRONICS LLC  
After Sales Support  
Engineering Services Department  
One Commerce Drive, Schaumburg, IL 60173-5302 U.S.A.  
Phone : 1-847-843-7900  
Fax : 1-847-843-7787

OMRON EUROPE B.V.  
Weglaan 67-69 P.O. BOX 13 2130AA Hoofddorp The Netherlands  
Phone : 31-23-56-81-300  
Fax : 31-23-56-81-388

OMRON ASIA-PACIFIC PTE LTD  
83 Clemenceau Avenue, #11-01 UE  
Square, Singapore 239920 Singapore  
Phone : 65-635-3011  
Fax : 65-635-2711

