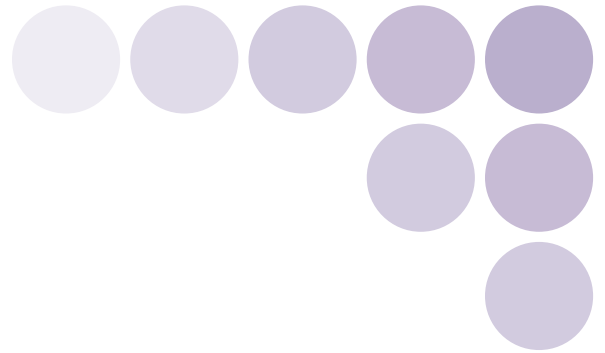


Open Network for High-Speed Control

# CompoNet

- CompoNet Master Unit  
CS1W-CRM21/CJ1W-CRM21
- CompoNet Slave Unit  
CRT1 Series
- CompoNet Repeater Unit  
CRS1 Series



Fast and  
Intelligent

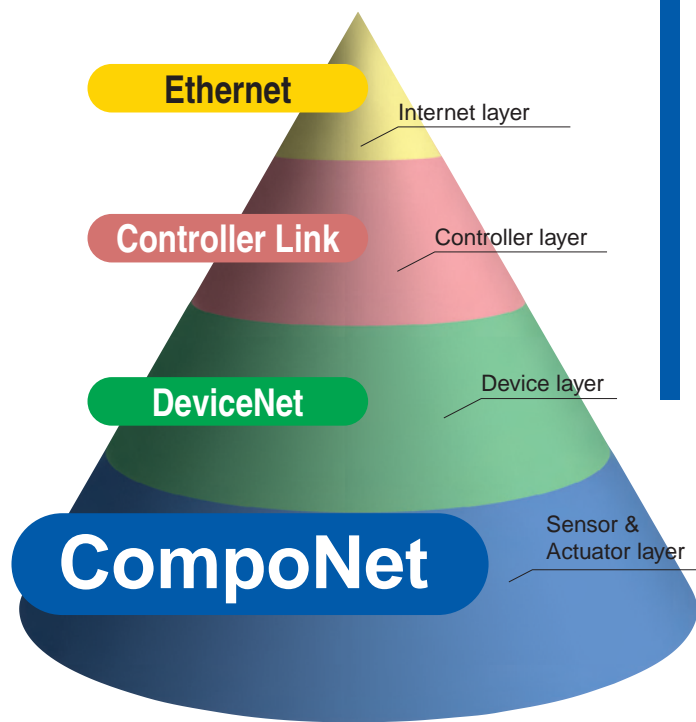
# CompoNet





# A new global standard for smarter control networking

## What is CompoNet?



By combining OMRON's application experience with proven CIP communications technology, CompoNet provides an efficient networking solution for smart sensors, actuators and remote I/O. Fast I/O data exchange and easy setup are combined with transparent messaging for access to intelligent field devices.

Seamless CIP messaging through multiple layers of networks means you can access intelligent field devices from anywhere in your control system, and without having to program communications code in your controller.

Using CompoNet as the control network shortens your development time, reduces wiring, and simplifies troubleshooting and machine maintenance. All to help you build the best machines in less time.

### What is CIP?

CIP (Common Industrial Protocol) was developed as a communications protocol for industrial applications. Initially used in DeviceNet on CAN networks, it is now an open standard operating on several different physical layers.

The main advantage of CIP is its seamless data transfer between different layers of CIP networks. Whether transferring cyclic I/O data, configuration settings or downloading control programs, you will not have to worry which device is connected where.

Therefore you can freely choose the best CIP network for each part of your system, and mix them any way you want.

## CompoNet is an ODVA network

The CIP communications standard, as used in the EtherNet/IP™, DeviceNet™ and CompoNet™ networks, is controlled by the ODVA, the Open DeviceNet Vendors Association. With nearly 300 member companies worldwide developing a wide variety of products, the ODVA promotes the advantages of seamless networking, and makes sure that products adhere to the standard for easy interconnection between vendors. OMRON, as one of the four founding members of the ODVA, plays a leading role in developing future technologies for industrial networking.

**Note:** CompoNet and DeviceNet are registered trademarks of the ODVA.

ODVA Website: <http://www.odva.org/>



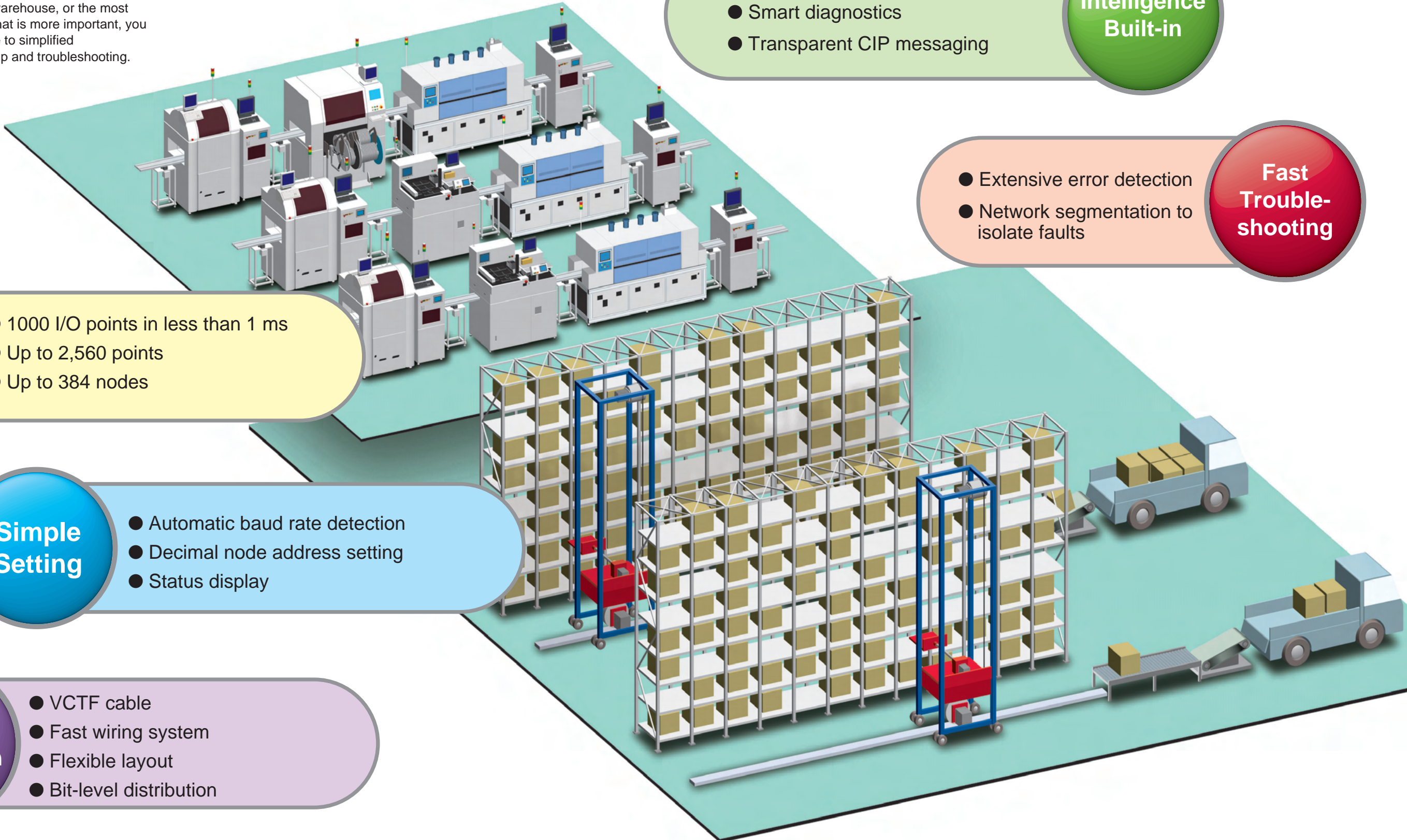
## INDEX

Concept .....	4
CompoNet Network Specifications .....	12
CompoNet Open-network Information .....	13
CompoNet Product Introductions .....	14
CompoNet Family .....	16



# CompoNet - Achieve more with less effort.

Conventional networks are either fast, but simple limited-capacity buses for control, or complex information-exchange systems for configuration and monitoring. CompoNet, however, offers the ideal mix of high speed, ample capacity, and ease-of-use needed to let you build the best machine, the smartest warehouse, or the most flexible conveyor system. And what is more important, you can achieve this in less time, due to simplified programming, wiring, device setup and troubleshooting.



**High Performance**

- 1000 I/O points in less than 1 ms
- Up to 2,560 points
- Up to 384 nodes

**Simple Setting**

- Automatic baud rate detection
- Decimal node address setting
- Status display

**Easy Installation**

- VCTF cable
- Fast wiring system
- Flexible layout
- Bit-level distribution

**Intelligence Built-in**

- Preventive maintenance data
- Smart diagnostics
- Transparent CIP messaging

**Fast Troubleshooting**

- Extensive error detection
- Network segmentation to isolate faults



# CompoNet enhances machine performance!

● In electronic parts production, every millisecond counts



## Simple Setting

CompoNet is up and running in minutes. Set the master's mode and baud rate, and the address on each slave. Then plug in and go; no software settings required.



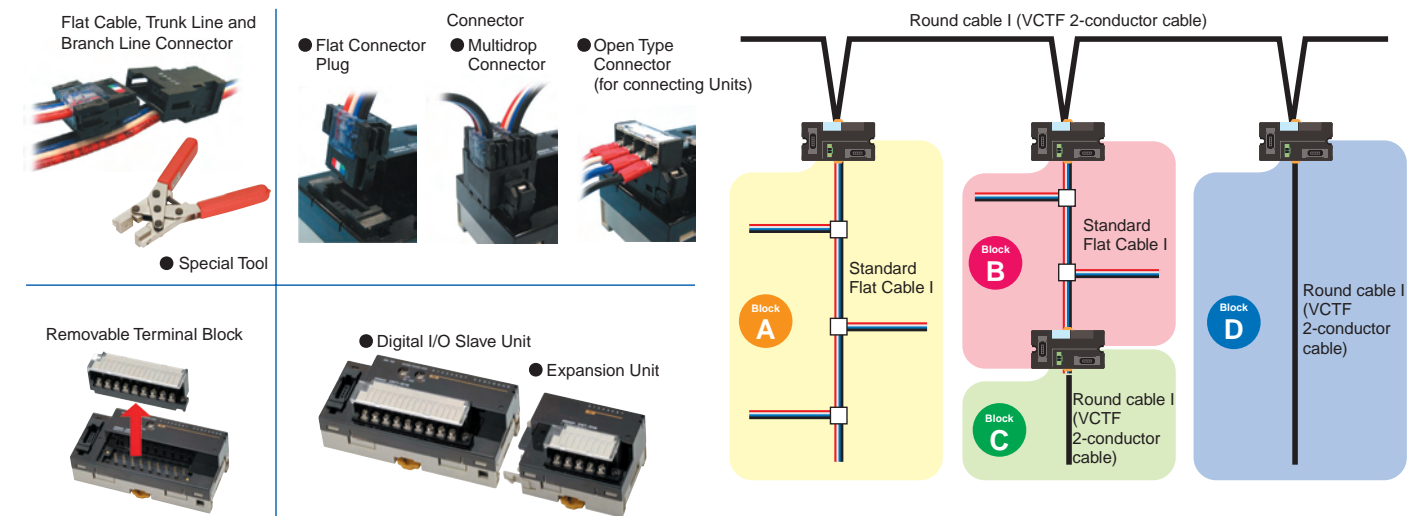
## Easy Installation

CompoNet flat cable and isolation-displacement connectors make installation fast and faultless. Power and communications are combined in one cable.

Branch connectors allow you to easily add or remove devices for maintenance and troubleshooting.

Repeater Units can link sections of different cable types, allowing mixed topology networks.

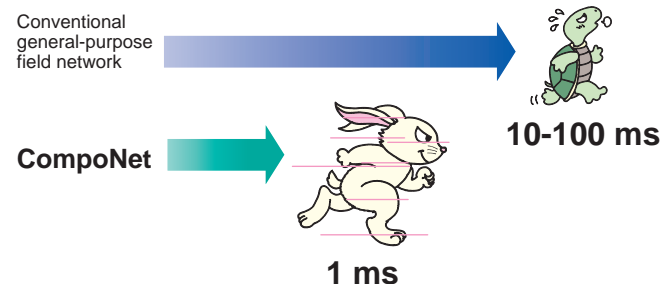
● Alternatively, you can use simple twisted-pair cable and power each node individually.



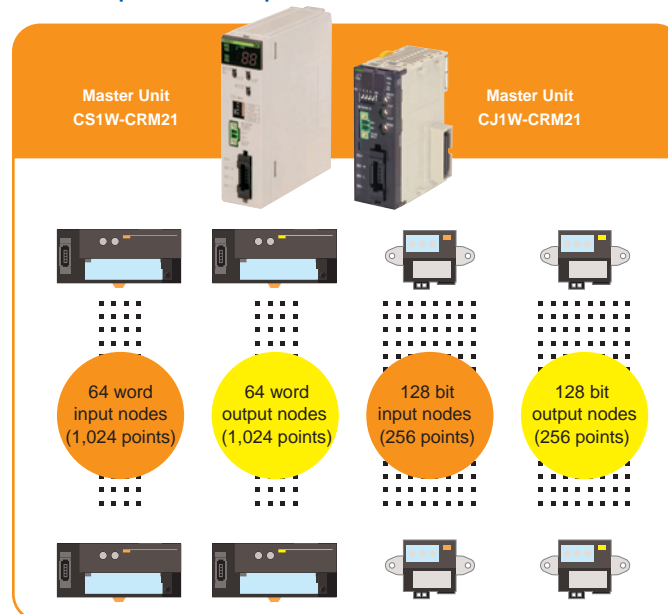
## High Performance, Large Capacity

Splitting production machines into logical modules allows easy customization to meet specific end-user demands.

To keep high performance, a fast and easy-to-extend network is required. The efficiency of CompoNet delivers fast cycle times, even when extending the network with repeaters.



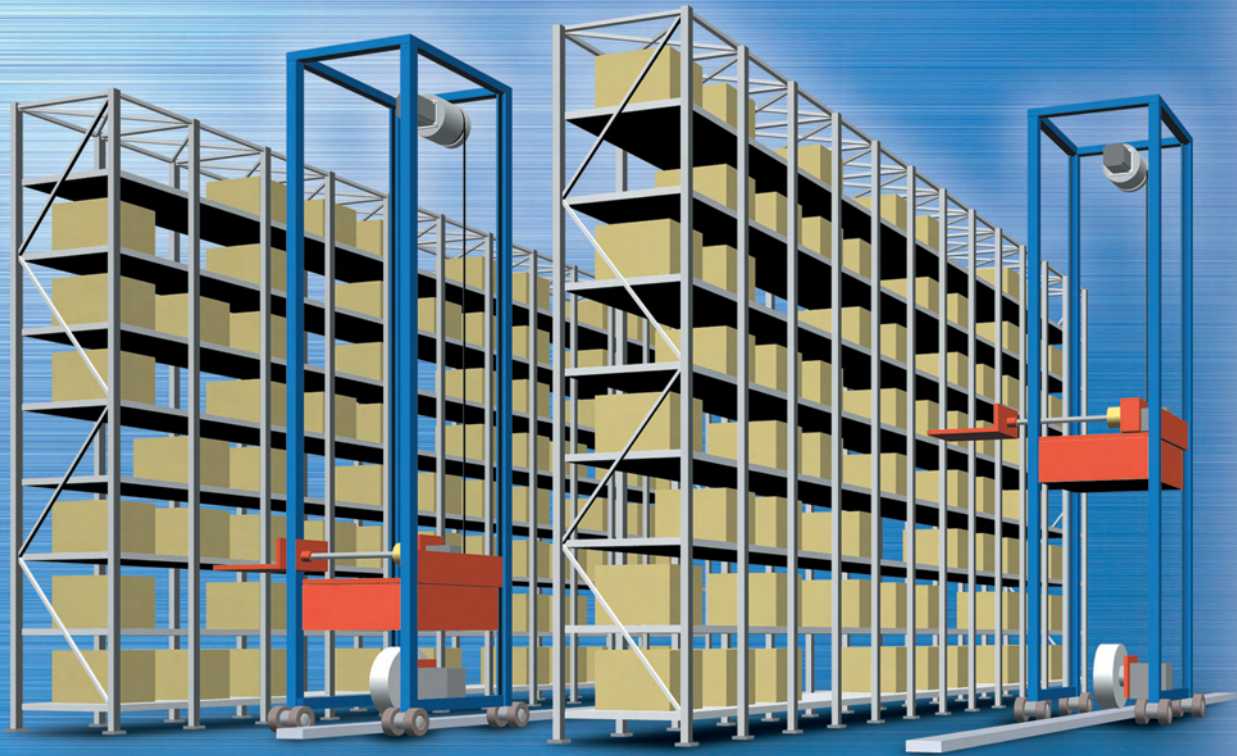
● Each Master Unit can control up to 2,560 I/O points in up to 384 nodes.





# CompoNet helps you decrease engineering!

● In warehouse automation, efficient wiring saves cost

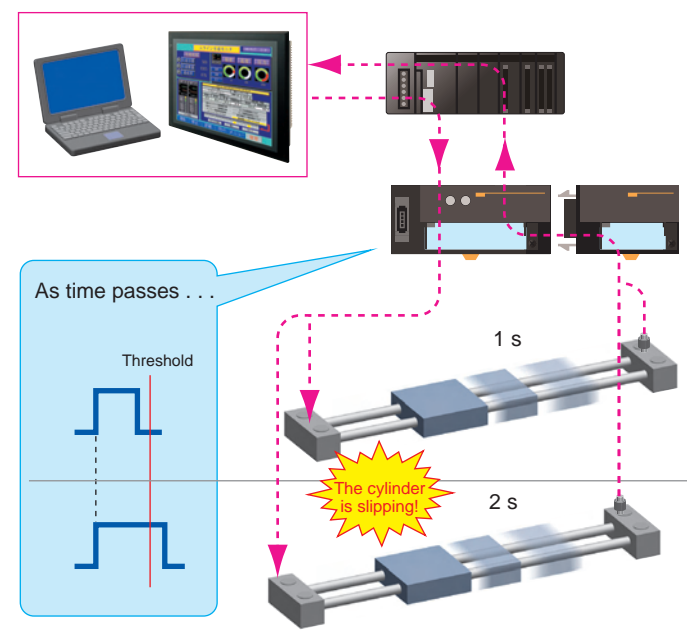
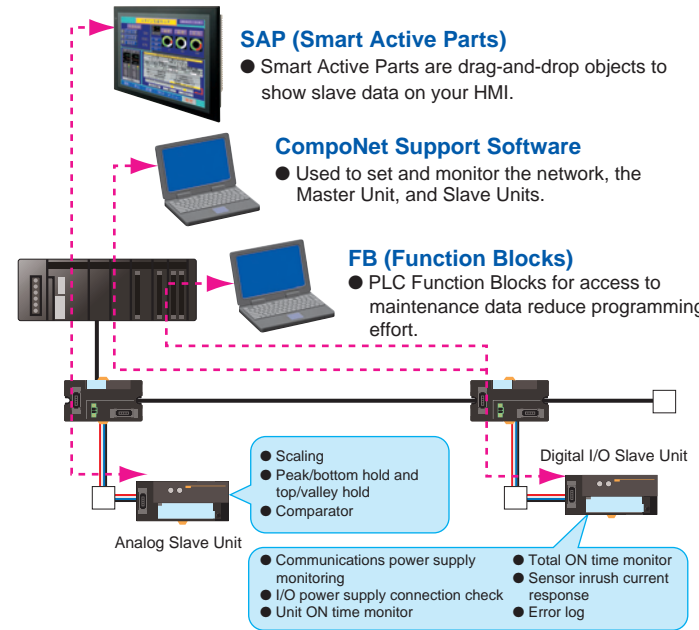


## Intelligence Built-in

All CompoNet slaves contain early-warning systems that monitor system performance continuously. The transparent CIP communications of CompoNet makes it easy to access the diagnostic data in each device.

### Smart Features

- Set limit values in each slave to detect reduced machine performance before breakdown.

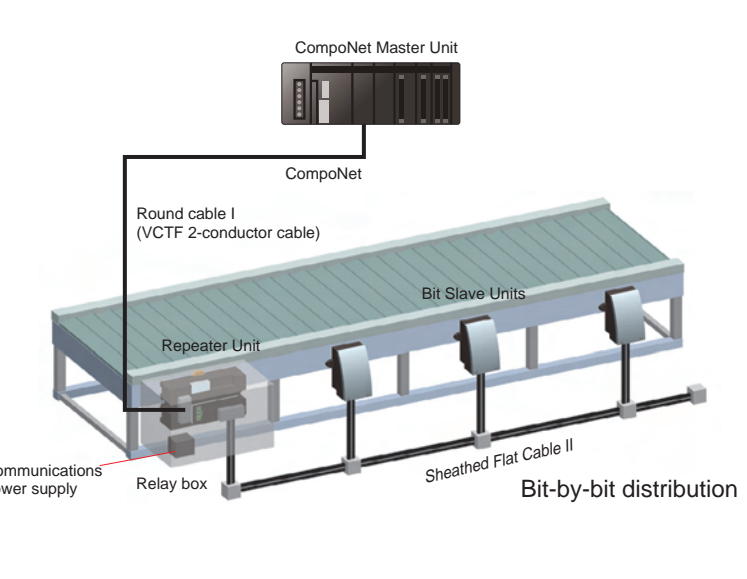
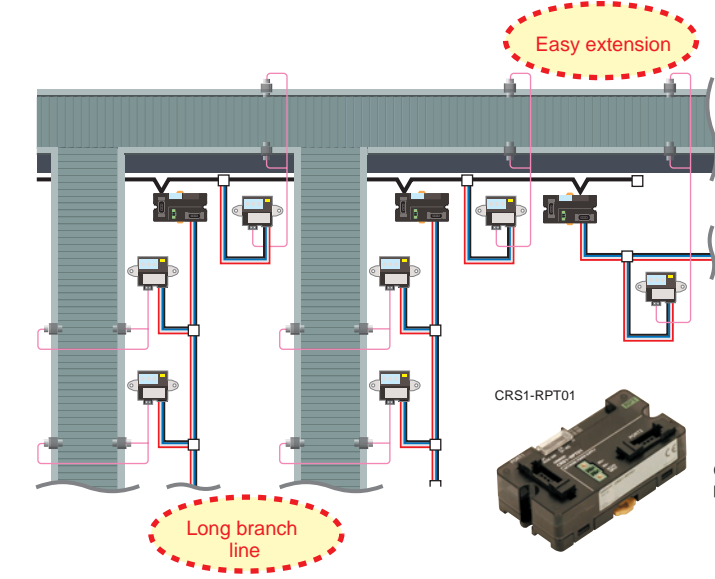


## Flexible Installation

- Using CompoNet flat cable and repeaters allows easy extensions and changes in network layout. By using repeaters, long branch lines can cover a wide area with less cable.

## Bit-level Distribution

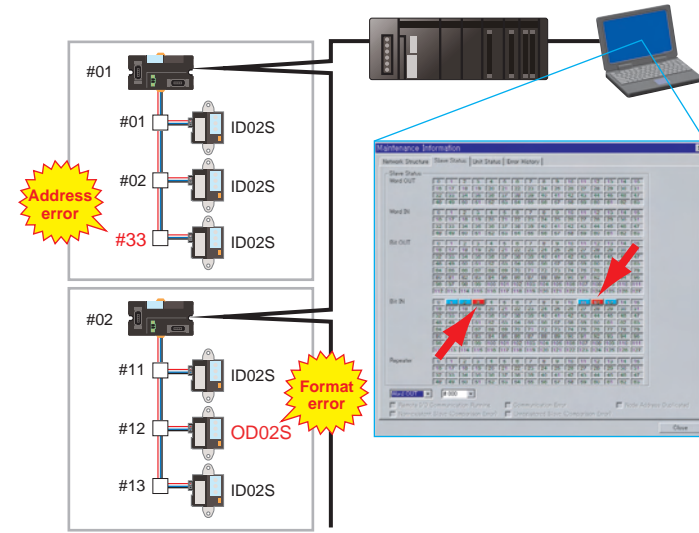
- Mount them wherever you need them. Conveyor lines require just one or two I/O points every few meters. Dust- and splash-proof IP54 bit slaves allow efficient installation with reduced cabling, directly on the line.



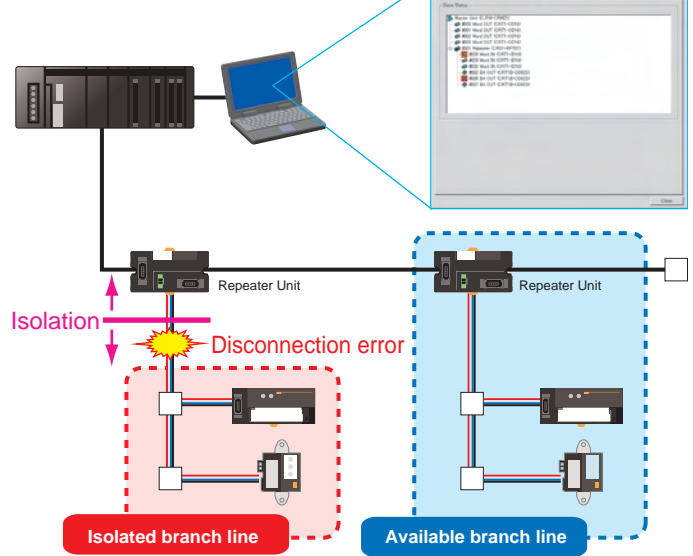
## Fast Troubleshooting

Indication on the Master Unit helps to quickly assess the network status. CompoNet Support Software helps you identify wiring errors, power failures or malfunction. By creating network segments separated by repeaters, faults can be isolated to reduce the impact on overall operation.

### Extensive Error Detection



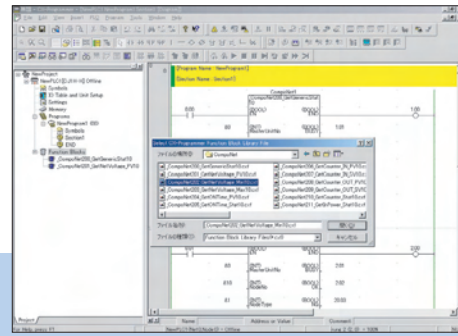
### Network Isolation



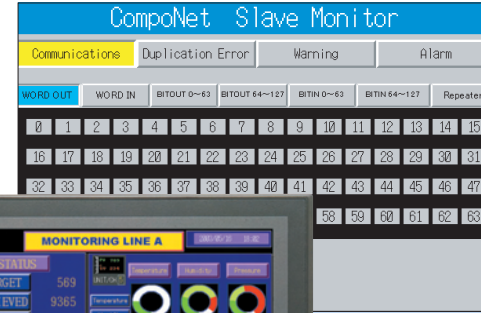


# The open CompoNet system is prepared for the future.

Supported by the members of the ODVA worldwide, CompoNet allows you to select the best devices for your application. OMRON's technology and the ODVA's certification will assure plug-and-play operation between devices from different vendors.

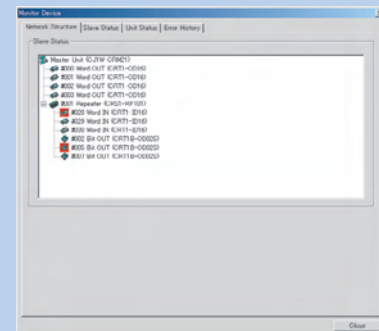
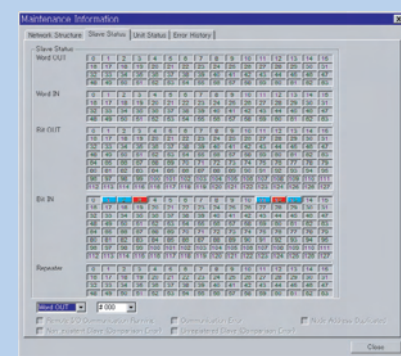
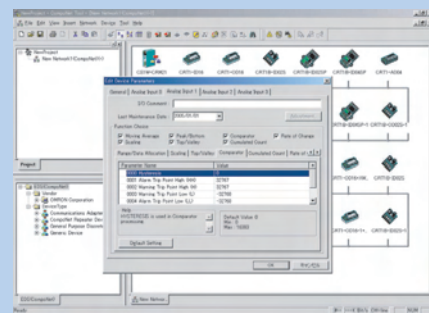


**Function Block Library**  
The function block library is a collection of functional objects for Programmable Controllers (PLCs). The function blocks provided by OMRON can be incorporated into user programming to reduce design work and increase standardization and quality of control device interfaces.



**Smart Active Parts Library**  
The SAP library is a collection of screen parts for Programmable Terminals. The parts provided by OMRON can be incorporated into user-created screens to reduce design work and increase standardization and quality for control device interfaces.  
SAP (Smart Active Parts)  
<http://www.omron.com/>

## CompoNet Support Software



## CompoNet Support Software (See note.)

**Note:**  
• Special setting and monitoring software for CompoNet.  
• The CompoNet Support Software can be downloaded from OMRON's website at [www.fa.omron.co.jp](http://www.fa.omron.co.jp).  
• The CompoNet Support Software is also available on CD (Cat. No. R142).  
For details, consult with an OMRON sales representative.

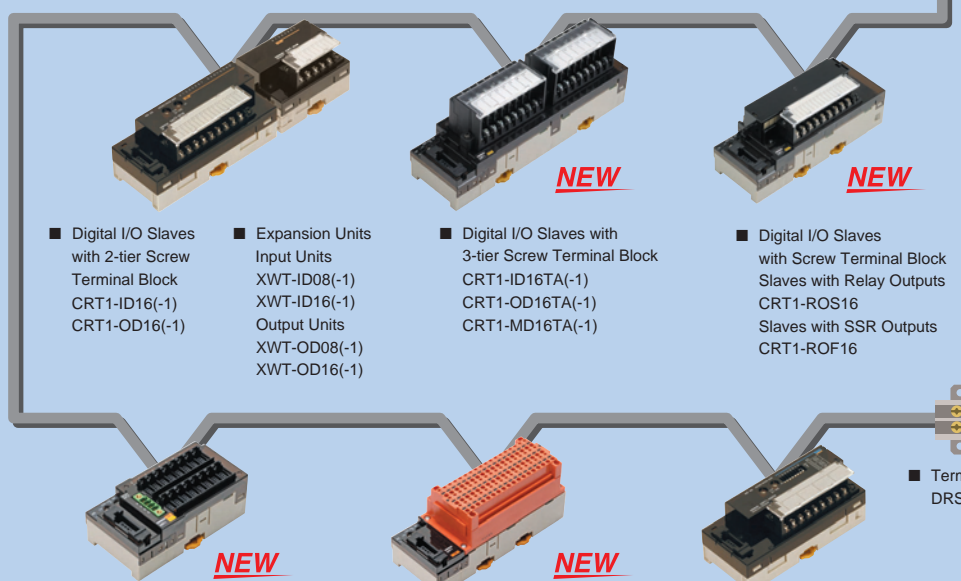


## SYSMAC CS/CJ Series

- CompoNet Master Units  
CJ1W-CRM21  
CS1W-CRM21

## Repeater Unit

- CRS1-RPT01



- Digital I/O Slaves with 2-tier Screw Terminal Block  
CRT1-ID16(-1)  
CRT1-OD16(-1)

- Expansion Units  
Input Units  
XWT-ID08(-1)  
XWT-ID16(-1)  
Output Units  
XWT-OD08(-1)  
XWT-OD16(-1)

- Digital I/O Slaves with 3-tier Screw Terminal Block  
CRT1-ID16TA(-1)  
CRT1-OD16TA(-1)  
CRT1-MD16TA(-1)

- Digital I/O Slaves with Screw Terminal Block  
Slaves with Relay Outputs  
CRT1-ROS16  
Slaves with SSR Outputs  
CRT1-ROF16

- Digital I/O Slaves with Connector  
CRT1-ID16S(-1)  
CRT1-OD16S(-1)  
CRT1-MD16S(-1)

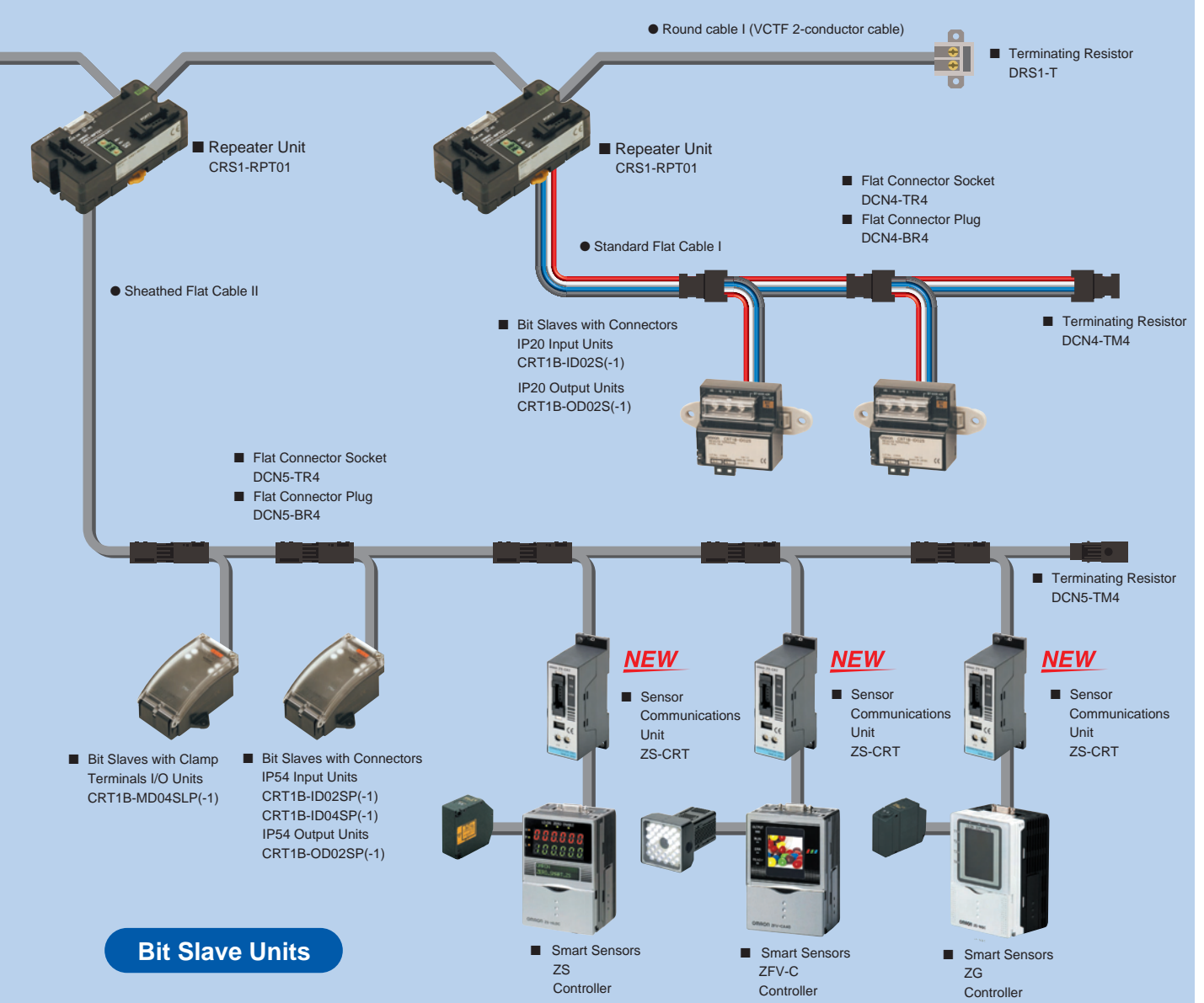
- Digital I/O Slaves with Clamp Terminal Block  
CRT1-ID16SL(-1)  
CRT1-OD16SL(-1)

- Analog I/O Slave Units  
Analog Input Unit  
CRT1-AD04  
Analog Output Unit  
CRT1-DA02

## Word Slave Units



- NS-series Programmable Terminal



- Bit Slaves with Clamp Terminals I/O Units  
CRT1B-MD04SLP(-1)

- Bit Slaves with Connectors  
IP54 Input Units  
CRT1B-ID02SP(-1)  
CRT1B-ID04SP(-1)  
IP54 Output Units  
CRT1B-OD02SP(-1)

## Bit Slave Units

- Smart Sensors ZS Controller

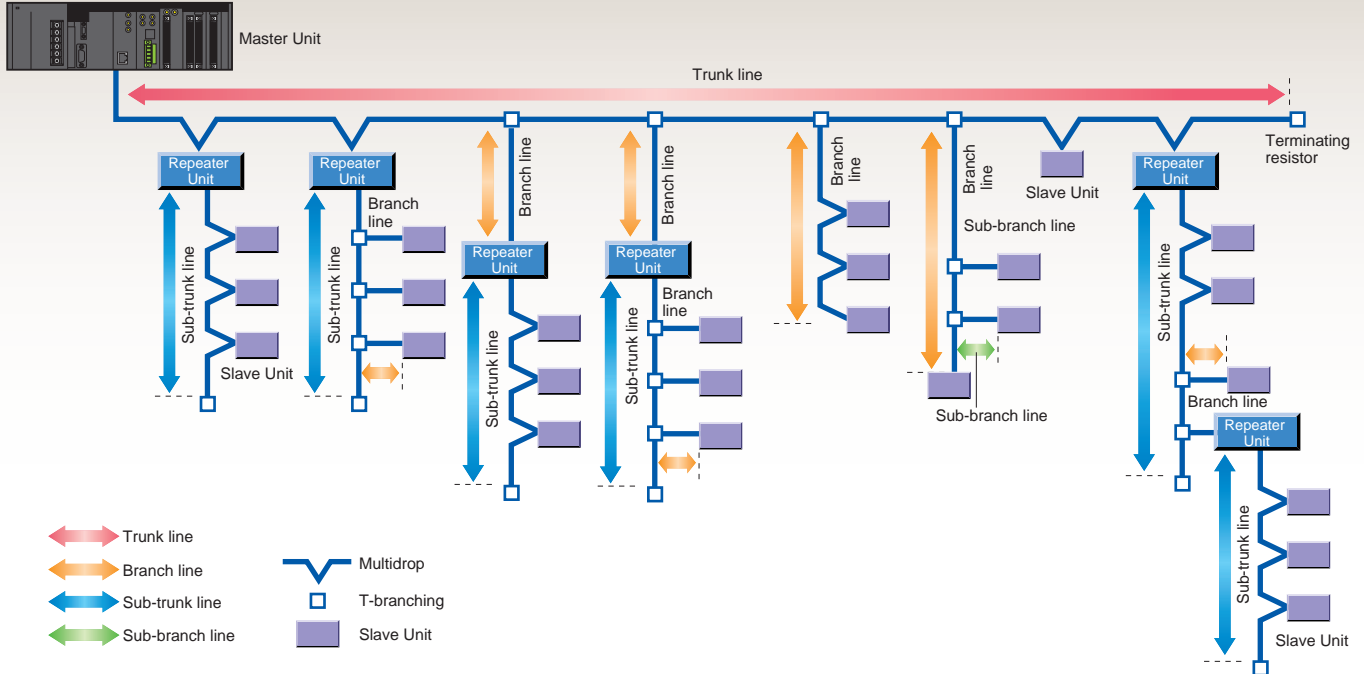
- Smart Sensors ZFV-C Controller

- Smart Sensors ZG Controller

# CompoNet Network Specifications

## Cable Types, Baud Rates, and Maximum Distances

This section provides specifications on the maximum cable length and maximum number of nodes for each type of cable. Do not exceed these specifications.



### Restrictions (at Baud Rate of 4 Mbits/s (No Branch Lines))

Cable type	Maximum length per segment (maximum length with Repeater Units)	Branch line length per segment	Total branch line length per segment	Branch location restrictions	Maximum number of Slave Units per segment (See note 2.)
Round cable I	30 m (90 m)	0 m (See note 1.)	0 m (See note 1.)	---	32 nodes
Flat Cable I and Flat Cable II	30 m (90 m)	0 m (See note 1.)	0 m (See note 1.)	---	32 nodes

Note 1: T-branches cannot be connected (only multidrop connections are possible).

2: Number of nodes including Repeater Units

### Restrictions (at Baud Rate of 3 Mbits/s)

Cable type	Maximum length per segment (maximum length with Repeater Units)	Branch line length per segment	Total branch line length per segment	Branch location restrictions	Maximum number of nodes per branch (See note 1.)	Sub-branch line length per segment	Total sub-branch line length per segment	Maximum number of Slave Units per segment (See note 2.)
Round cable I	30 m (90 m)	0.5 m	8 m	3 branches/m	1 node	0 m	0 m	32 nodes
Flat Cable I and Flat Cable II	30 m (90 m)	0.5 m	8 m	3 branches/m	1 node	0 m	0 m	32 nodes

Note 1: The maximum number of nodes per branch is the maximum number of Slave Units or Repeater Units that can be connected to one branch line using multidrop or T-branch connections (sub-branches).

2: Number of nodes including Repeater Units

### Restrictions (at Baud Rate of 1.5 Mbits/s)

Cable type	Maximum length per segment (maximum length with Repeater Units)	Branch line length per segment	Total branch line length per segment	Branch location restrictions	Maximum number of nodes per branch (See note 1.)	Sub-branch line length per segment	Total sub-branch line length per segment	Maximum number of Slave Units per segment (See note 2.)
Round cable I	Without branches	0 m (See note 3.)	0 m (See note 3.)	---	---	---	---	32 nodes
	With branches	30 m (90 m)	2.5 m	25 m	3 branches/m	3 nodes	0 m	0 m
Flat Cable I and Flat Cable II	30 m (90 m)	2.5 m	25 m	3 branches/m	3 nodes	0.1 m (See note 4.)	2 m (See note 4.)	32 nodes

Note 1: The maximum number of nodes per branch is the maximum number of Slave Units or Repeater Units that can be connected to one branch line using multidrop or T-branch connections (sub-branches).

2: Number of nodes including Repeater Units

3: T-branches cannot be connected (only multidrop connections are possible).

4: T-branch connections from sub-branch lines.

### Restrictions (at Baud Rate of 93.75 kbits/s)

Cable type	Maximum length per segment (maximum length with Repeater Units)	Branch line length per segment	Total branch line length per segment	Branch location restrictions	Maximum number of nodes per branch (See note 1.)	Sub-branch line length per segment	Total sub-branch line length per segment	Maximum number of Slave Units per segment (See note 2.)	
Round cable I	500 m (1500 m)	6 m	120 m	3 branches/m	1 node	---	---	32 nodes	
Flat Cable I and Flat Cable II	No restrictions to a total length per segment of 200 m								32 nodes

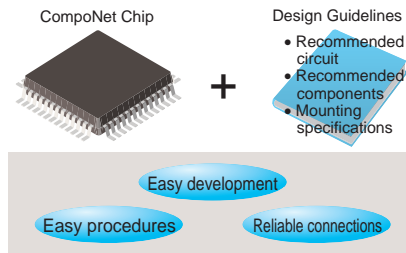
Note 1: The maximum number of nodes per branch is the maximum number of Slave Units or Repeater Units that can be connected to one branch line using multidrop or T-branch connections (sub-branches).

2: Number of nodes including Repeater Units

# CompoNet Open-network Information

## OMRON actively promotes open networks.

OMRON sells CompoNet-compatible ASICs and MPUs while providing development support with a specialized team. Adopting this open network effectively reduces development costs and shortens development time by simplifying the development of CompoNet devices. The following two types of CompoNet slaves are available to match the characteristics of the device to be developed.



Bit Slave Units	Thirty-two or fewer I/O For bit-level ON/OFF control I/O port interface
Word Slave Units	Interface for 256 points User-set messages can be sent and received. DPRAM I/F
Masters	Communications for 1,280 inputs and 1,280 outputs User-set messages can be sent and received. DPRAM I/F

Refer to the following for inquiries regarding open networks.

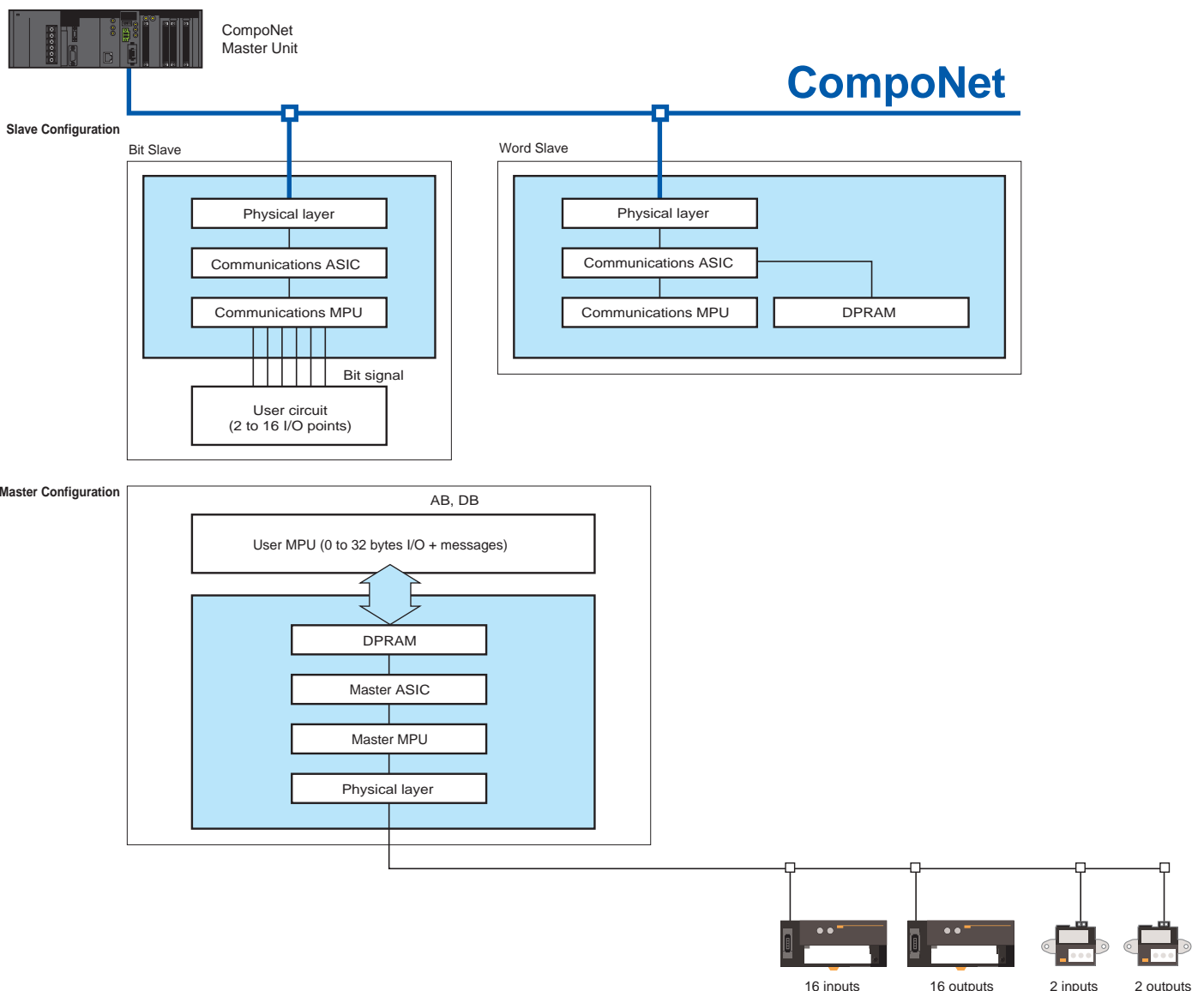
Technology Development Center Headquarters, Integration Strategy & Business Development Center,  
Telephone: +81-77-565-5315, Email: open\_integration@omron.co.jp

The latest information is available on the following site.

<http://www.omron.com/>

From the home page, select *Products Index - FA System Devices - Open Technology*

### ● Range of Open Technology





# CompoNet Product Introductions

## Master Units

### ■ Master Units



CJ Series  
CJ1W-CRM21

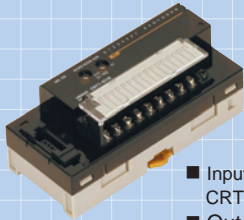


CS Series  
CS1W-CRM21

## Word Slaves

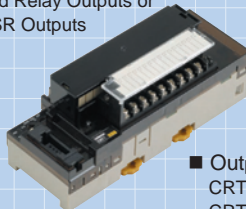
### Digital I/O Slaves

#### ■ Two-tier Screw Terminal Block



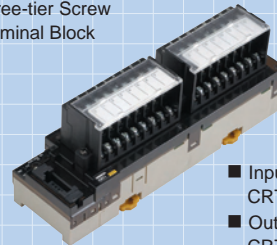
- Input Units  
CRT1-ID16(-1)
- Output Units  
CRT1-OD16(-1)

#### ■ Screw Terminal Block and Relay Outputs or SSR Outputs



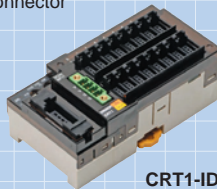
- Output Units  
CRT1-ROS16  
CRT1-ROF16

#### ■ Three-tier Screw Terminal Block



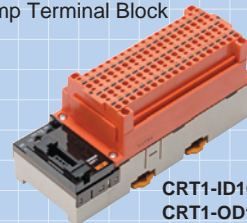
- Input Units  
CRT1-ID16TA(-1)
- Output Units  
CRT1-OD16TA(-1)
- I/O Units  
CRT1-MD16TA(-1)

#### ■ Connector



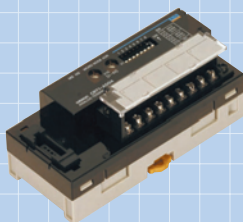
- CRT1-ID16S(-1)
- CRT1-OD16S(-1)
- CRT1-MD16S(-1)

#### ■ Clamp Terminal Block



- CRT1-ID16SL(-1)
- CRT1-OD16SL(-1)

### Analog I/O Slaves



- Analog Input Unit  
CRT1-AD04
- Analog Output Unit  
CRT1-DA02

### Expansion Units



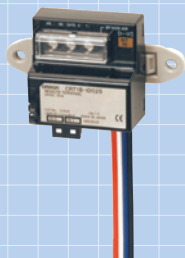
- Input Units  
XWT-ID08(-1)  
XWT-ID16(-1)
- Output Units  
XWT-OD08(-1)  
XWT-OD16(-1)

## Bit Slaves

## Repeater Unit

### Bit Slave with Connectors

- IP20 Input Units with Connectors  
CRT1B-ID02S(-1)
- IP20 Output Units with Connectors  
CRT1B-OD02S(-1)



- IP54 Input Units with Connectors  
CRT1B-ID02SP(-1)  
CRT1B-ID04SP(-1)
- IP54 Output Units with Connectors  
CRT1B-OD02SP(-1)



### Bit Slaves with Clamps

- IP54 I/O Units with Clamps  
CRT1B-MD04SLP(-1)



### ■ Repeater Unit



CRS1-RPT01





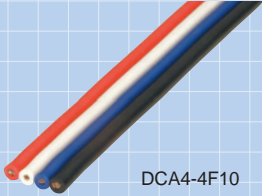


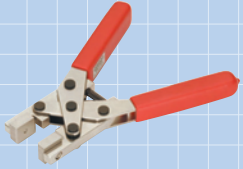


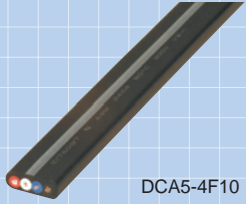




## Peripheral Devices

With CompoNet, connectors can be attached to communications cables and Units to connect to Units and branch or extend cables. The communications cable connection and branching methods depend on the type of cable and the type of branch.

■ There are three types of cable used with CompoNet.

- Round Cable I (VCTF 2-conductor cable), Commercially Available
- Standard Flat Cable I: DCA4-4F10
- Sheathed Flat Cable II: DCA5-4F10

■ The terminating resistors, connectors, and tools depend on the type of cable.

Round cable I (VCTF 2-conductor cable)			
<p>Commercially available</p>	<ul style="list-style-type: none"> <li>● Open Type Connector (for connecting Units) DCN4-TB4</li> </ul> 	<ul style="list-style-type: none"> <li>● Terminating Resistor DRS1-T</li> </ul> 	
Standard Flat Cable I			
 <p>DCA4-4F10</p>	<ul style="list-style-type: none"> <li>● Flat Connector Socket DCN4-TR4</li> </ul> 	<ul style="list-style-type: none"> <li>● Terminating Resistor DCN4-TM4</li> </ul> 	<ul style="list-style-type: none"> <li>● Special Tool for Standard Flat Cable I IDWT-A01</li> </ul> 
	<ul style="list-style-type: none"> <li>● Flat Connector Plug DCN4-BR4</li> </ul> 		
	<ul style="list-style-type: none"> <li>● Multidrop Connector DCN4-MD4</li> </ul> 		
Sheathed Flat Cable II			
 <p>DCA5-4F10</p>	<ul style="list-style-type: none"> <li>● Flat Connector Socket DCN5-TR4</li> </ul> 	<ul style="list-style-type: none"> <li>● Terminating Resistor DCN5-TM4</li> </ul> 	<ul style="list-style-type: none"> <li>● Special Tool for Sheathed Flat Cable II DWT-A02</li> </ul> 
	<ul style="list-style-type: none"> <li>● Flat Connector Plug DCN5-BR4</li> </ul> 		



## KOGANEI CORPORATION

Overseas sales area /  
Europe , North America , Asia-Pacific



+81-42-383-7271



[www.koganei.co.jp](http://www.koganei.co.jp)



### Conforming to CompoNet [Solenoid Valves JA Series]

#### Feature

1. Thin and Compact: Valve width of only 10.5mm and effective area is 3.5mm<sup>2</sup>.
2. Achieving lower power consumption.  
Standard: 0.5W Low current type: 0.25W
3. Two 3-port valve function in one valve body.

### Conforming to CompoNet [Solenoid Valves F Series]

#### Feature

1. Single/double dual-use valves.
2. 3 types of valve width which are 10,15 and 18mm.
3. Uses dual-use fittings for different tube sizes.

## IAI Corporation

Overseas sales area /  
Europe , North America , China , Asia-Pacific



<http://www.intelligentactuator.com/>



ACON-C

PCON-C

### Controller for RCA series ROBO CYLINDER [ACON-C/CG]

#### Feature

1. Designed for DC24V servomotor.
2. Multipoint positioning: up to 512 points.
3. High speed: Max. 800 mm/sec.

Release 2007/4Q

### Controller for RCP2 series ROBO CYLINDER [PCON-C/CG]

#### Feature

1. Designed for DC24V pulse motor.
2. Multipoint positioning: up to 512 points.
3. High power at lower speed range.

Release 2007/4Q

## PATLITE Corporation

Overseas sales area /  
Europe , North America , China , Asia-Pacific



+81-72-948-8110



[www.patlite.co.jp](http://www.patlite.co.jp)



### CompoNet Supported Signal Tower [LE-K3(B)P/W-RYG]

#### Feature

1. Use of ultra-bright LED enhanced for illumination.
2. 2 selectable sound patterns with adjustable volume.

### CompoNet Supported Wall-Mount Signal Tower [WEP-K3(B)-RYG]

#### Feature

1. 37.5mm-thin design that significantly enhances integration with the equipment as a built-in signal system.
2. Clear vertical cut lens enhanced for illumination over a wide perspective.
3. Built-in audible alarm.

Available soon

## JSK Co.,Ltd.



+81-72-661-4071



[www.nihon-seigyo.co.jp](http://www.nihon-seigyo.co.jp)



### Componet-serial transducer [CHU-001]

#### Feature

1. Supports a bar-code reader.
2. Allows setting from CompoNet master.
3. Equipped with function of supplying power to bar-code reader.

Available soon





+81-3-3597-7117



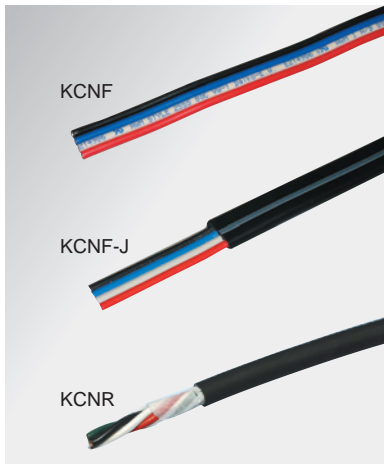
www.swcc.co.jp/

**CompoNet Cable**

- Ⓐ TCN-F1 Flat Cable I (4-wire)
- Ⓑ TCN-F2 Flat Cable II (4-wire, with sheath)
- Ⓒ TCN-R1 Round Cable I (2-wire)

Available soon

**KANETSU Co.,LTD**



+81-75-662-0996  
(FAX)+81-75-662-1184



info\_kanetsu@kanetuu.co.jp



kanetuu.co.jp/english/top\_ehtml

**CompoNet Flat Cable I**

[Standard Type]  
KCNF

**Feature**

1. Adapt to unique isolation-displacement connectors for CompoNet.
2. Easy one-step IDC connection without insulation stripping.
3. Approval: UL AWM, cUL.

**CompoNet Flat Cable II**

[Sheath Type, Adapt to IP54 class system]  
KCNF-J

**Feature**

1. Adapt to unique isolation-displacement connectors for CompoNet.
2. Easy one-step IDC connection without insulation stripping.
3. Jackets PVC with polarity guide line for IP54 class system.
4. Approval: UL AWM, cUL.

**CompoNet Round Cable I**

[Oil resistant and Highly Flexible  
Round Cable for CompoNet]  
KCNR-2 (2 conductors)

**Feature**

1. The cable can be used for mobile wiring.
2. Jackets Oil and Heat resistant PVC for outer sheath.
3. Approval: UL and cUL.

Available soon

**Japan Mobile Platform co.,Ltd**



www.jmpc.jp



infojmp@jmpc.jp

**CompoNet PCI Interface Card**

[N11]

**Feature**

1. PCI Standard.
2. Isolated by photo coupler electrically, protects main PC.
3. High performance Processor, 512K Bytes DPRAM.

N11 links High Speed CompoNet to PCI bus for seamless hierarchy nodes.

**3M Company**



www.3M.com/interconnects

**Mini-Clamp Connector**

[3710x-xxxx-000 FL]

**Feature**

1. IDC technology reduces process/cost of wire termination.
2. Operation by general tool "pliers" reduces tooling cost.
3. Design offers multiple gauges and wire size diameter.

**Tyco Electronics AMP K.K**



+81-44-844-8080



www.tycoelectronics.com

**RITS Connector (e-CON)**

[X-1473562-4]

**Feature**

1. New Chisel Press Contact applies for sensor cable.
2. No special crimping tool required makes easy termination.
3. Two contact points keep good connection with more security.





## Read and Understand this Catalog

Please read and understand this catalog before purchasing the products. Please consult your OMRON representative if you have any questions or comments.

## Warranty and Limitations of Liability

### WARRANTY

OMRON's exclusive warranty is that the products are free from defects in materials and workmanship for a period of one year (or other period if specified) from date of sale by OMRON.

OMRON MAKES NO WARRANTY OR REPRESENTATION, EXPRESS OR IMPLIED, REGARDING NON-INFRINGEMENT, MERCHANTABILITY, OR FITNESS FOR PARTICULAR PURPOSE OF THE PRODUCTS. ANY BUYER OR USER ACKNOWLEDGES THAT THE BUYER OR USER ALONE HAS DETERMINED THAT THE PRODUCTS WILL SUITABLY MEET THE REQUIREMENTS OF THEIR INTENDED USE. OMRON DISCLAIMS ALL OTHER WARRANTIES, EXPRESS OR IMPLIED.

### LIMITATIONS OF LIABILITY

OMRON SHALL NOT BE RESPONSIBLE FOR SPECIAL, INDIRECT, OR CONSEQUENTIAL DAMAGES, LOSS OF PROFITS, OR COMMERCIAL LOSS IN ANY WAY CONNECTED WITH THE PRODUCTS, WHETHER SUCH CLAIM IS BASED ON CONTRACT, WARRANTY, NEGLIGENCE, OR STRICT LIABILITY.

In no event shall the responsibility of OMRON for any act exceed the individual price of the product on which liability is asserted.

IN NO EVENT SHALL OMRON BE RESPONSIBLE FOR WARRANTY, REPAIR, OR OTHER CLAIMS REGARDING THE PRODUCTS UNLESS OMRON'S ANALYSIS CONFIRMS THAT THE PRODUCTS WERE PROPERLY HANDLED, STORED, INSTALLED, AND MAINTAINED AND NOT SUBJECT TO CONTAMINATION, ABUSE, MISUSE, OR INAPPROPRIATE MODIFICATION OR REPAIR.

## Application Considerations

### SUITABILITY FOR USE

OMRON shall not be responsible for conformity with any standards, codes, or regulations that apply to the combination of products in the customer's application or use of the products.

Take all necessary steps to determine the suitability of the product for the systems, machines, and equipment with which it will be used.

Know and observe all prohibitions of use applicable to the products.

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.

### PROGRAMMABLE PRODUCTS

OMRON shall not be responsible for the user's programming of a programmable product, or any consequence thereof.

## Disclaimers

### CHANGE IN SPECIFICATIONS

Product specifications and accessories may be changed at any time based on improvements and other reasons. Consult with your OMRON representative at any time to confirm actual specifications of purchased products.

### DIMENSIONS AND WEIGHTS

Dimensions and weights are nominal and are not to be used for manufacturing purposes, even when tolerances are shown.

### PERFORMANCE DATA

Performance data given in this catalog is provided as a guide for the user in determining suitability and does not constitute a warranty. It may represent the result of OMRON's test conditions, and the users must correlate it to actual application requirements. Actual performance is subject to the OMRON *Warranty and Limitations of Liability*.

This catalog mainly provides information that is necessary for selecting suitable models, and does not contain precautions for correct use. Always read the precautions and other required information provided in product operation manuals before using the product.

- The application examples provided in this catalog are for reference only. Check functions and safety of the equipment before use.
- Never use the products for any application requiring special safety requirements, such as nuclear energy control systems, railroad systems, aviation systems, medical equipment, amusement machines, vehicles, safety equipment, or other 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.

**Note: Do not use this document to operate the Unit.**

**OMRON Corporation**  
**Industrial Automation Company**  
**Control Devices Division H.Q.**  
**Network Devices Department**

Shiokoji Horikawa, Shimogyo-ku,  
Kyoto, 600-8530 Japan  
Tel: (81) 75-344-7116/Fax: (81) 75-344-7149

**Regional Headquarters**

**OMRON EUROPE B.V.**  
Wegalaan 67-69, NL-2132 JD Hoofddorp  
The Netherlands  
Tel: (31)2356-81-300/Fax: (31)2356-81-388

**OMRON ELECTRONICS LLC**

One Commerce Drive Schaumburg,  
IL 60173-5302 U.S.A.  
Tel: (1) 847-843-7900/Fax: (1) 847-843-7787

**OMRON ASIA PACIFIC PTE. LTD.**

No. 438A Alexandra Road # 05-05/08 (Lobby 2),  
Alexandra Technopark, Singapore 119967  
Tel: (65) 6835-3011/Fax: (65) 6835-2711

**OMRON (CHINA) CO., LTD.**

Room 2211, Bank of China Tower,  
200 Yin Cheng Zhong Road,  
Pu Dong New Area, Shanghai, 200120, China  
Tel: (86) 21-5037-2222/Fax: (86) 21-5037-2200

**Authorized Distributor:**

In the interest of product improvement,  
specifications are subject to change without notice.  
**Cat. No. R140-E1-03**

Printed in Japan  
1207 (1106)