New!

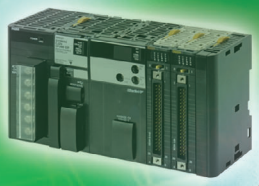
OMRON

Industrial Switching Hubs

W4S1-□□□

Provides the environmental resistance and functionality required in factory automation built around Industrial Ethernet communications.

EtherNet/IP™



realizing

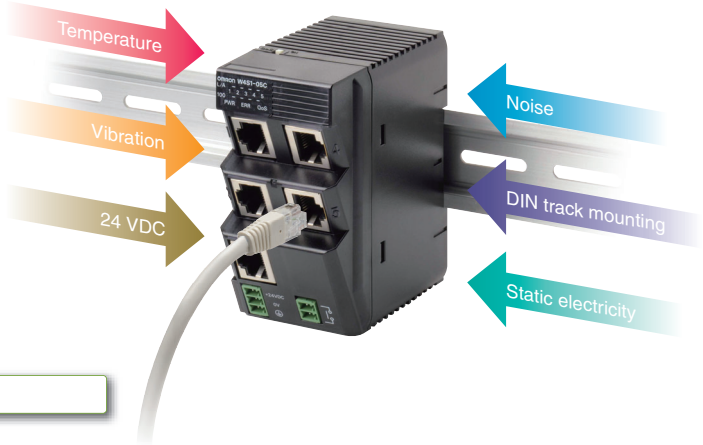
Environmentally Resistant and Highly Reliable Ethernet Communications for Production Sites

The W4S1 Switching Hub from OMRON is a low-cost, unmanaged switch that does not require software settings to maintain superior reliability and consistent control data performance on an Ethernet/IP network. It can be used with confidence because it carries a brand name well known at production sites and because it is backed by OMRON's total support package for products ranging from PLCs to switching hubs.

Environmentally Resistant

Perfect Fit for Factory Automation Environments

Tough environmental resistance assures users that the W4S1 Switching Hub can perform in any environment where PLCs and robots are found. Add to this simple DIN track mounting and well-thought out cable mounting angles and the result is a significant reduction in the man-hours and space requirements for control panel installation.



Highly Reliable

Enhanced Network Reliability

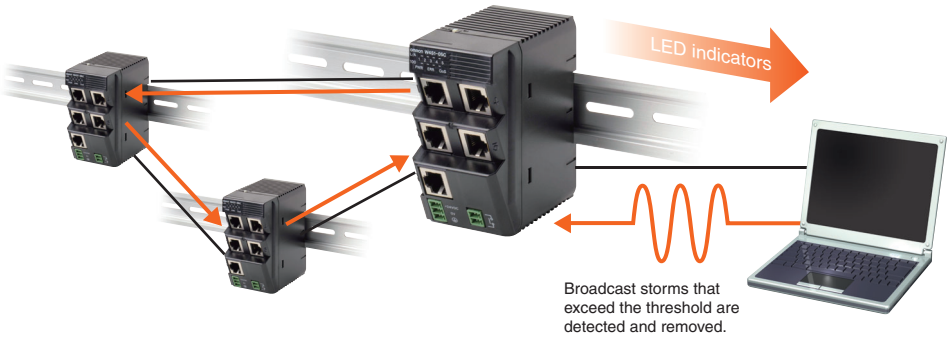
The W4S1 Switching Hub is an unmanaged switch that is fully capable of failure detection and broadcast storm detection. It improves network reliability by notifying users immediately via contact outputs and LED indicators when an error occurs to quickly pinpoint the location of the error.

Failure Notification

LED indicators and external outputs notify users when an SW-LSI or microcomputer error has occurred.

Broadcast Storm Detection and Suppression

The W4S1 Switching Hub detects and suppresses broadcast storms that occur when switches are accidentally connected in a loop.



Full Line of Products

The 3- or 5-port Product Variation Ensures the Right Product Choice

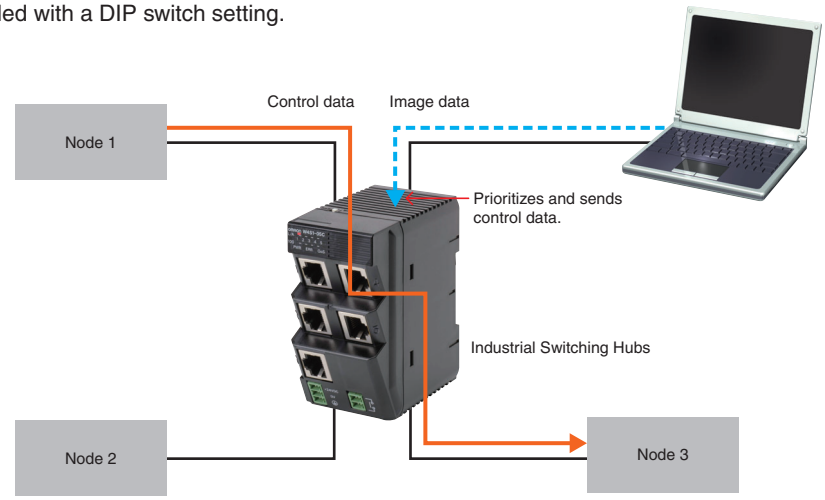
We offer a low-cost 3-port model that can be used as easily as a T-branch to let you select the best model for your application.

3-port model　　5-port model

Maintaining EtherNet/IP Performance

Quality of Service (QoS) without Support Software

The QoS (packet prioritization control) for EtherNet/IP ensures high-speed delivery of control data even if it is dispersed among images and similar data-intensive applications. And complex software settings are eliminated because QoS can be enabled with a DIP switch setting.



No Support Software required.

Simply turn ON a DIP switch pin to enable QoS.

Ordering Information

Product name	Specifications			Current consumption (A)	Model
	Functions	No. of ports	Failure detection		
Industrial Switching Hubs	Quality of Service (QoS): EtherNet/IP control data priority Failure detection: Broadcast storm and LSI error detection 10/100BASE-TX, Auto-Negotiation	3	×	0.08	**W4S1-03B**
		5	×	0.12	**W4S1-05B**
		5	❍	0.12	**W4S1-05C**

Summary of Functions

	W4S1-03B	W4S1-05B	W4S1-05C
No. of ports (10/100TX)	3	5	5
Auto MDI/MDI-X	Supported	Supported	Supported
Buffer	80 KB		
MAC addresses	2,000		
SW-LSI and microcomputer error detection	Not supported	Not supported	Supported
Broadcast storm detection	Not supported	Not supported	Supported
QoS for EtherNet/IP	Supported	Supported	Supported

Specifications

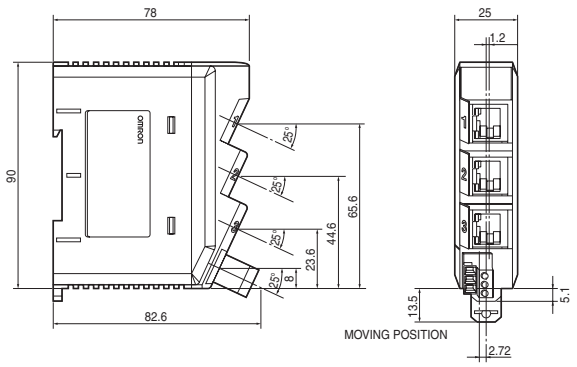
Power supply voltage	24 VDC ±5%
Power consumption	1.92 W max, (WS41-03B) 2.88 W max, (WS41-05B/WS41-05C)
Inrush current	Ip = 1.42 A
Dielectric strength	1 mA at 250 VAC for 1 minute (Between LAN connectors, between error output connectors, and between FG and power supply connectors)
EMI and EMS	EN: 61000-6-4 2007 and EN: 61000-6-2 2005
Vibration and shock resistance	Complies with JIS C60028-2-6 and JIS C60068-2-27
Setting method	Settings are made in the Switching Hub.
Ambient operating environment	No corrosive gas
Ambient operating temperature	0 to 55°C (with no icing and no condensation)
Ambient operating humidity	10% to 90% (with no condensation)
Ambient storage temperature	-20 to 75°C (with icing and no condensation)
International standards (See note.)	EC Directives

Note: Contact your OMRON representative for further details and applicable conditions for these standards.

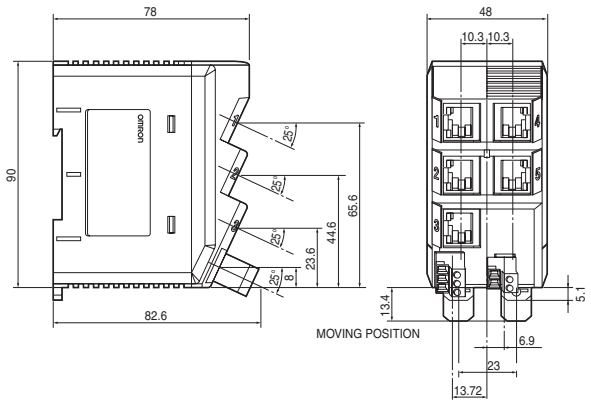
Dimensions

(Unit: mm)

W4S1-03B



W4S1-05B
W4S1-05C



- 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.

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.

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

OMRON Corporation
Industrial Automation Company
Control Devices Division H.Q.
PLC Division
Shiokoji Horikawa, Shimogyo-ku,
Kyoto, 600-8530 Japan
Tel: (81) 75-344-7084/Fax: (81) 75-344-7149

Regional Headquarters
OMRON EUROPE B.V.
Wegalaan 67-69-2132 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,
PuDong New Area, Shanghai, 200120, China
Tel: (86) 21-5037-2222/Fax: (86) 21-5037-2200

OMRON Industrial Automation Global: **www.ia.omron.com**

Authorized Distributor:

© OMRON Corporation 2008 All Rights Reserved.
In the interest of product improvement,
specifications are subject to change without notice.

Printed in Japan
Cat. No. V227-E1-02
0309 (1008)