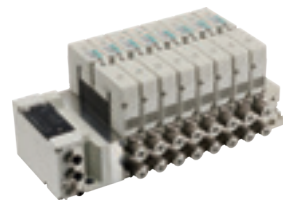# CKD

CC-Link IE Field / TSN
Serial Transmission
Device Unit
W4G-T7 Series

Fastest response for the next generation

New

Added CC-Link IE TSN
compatibility to the
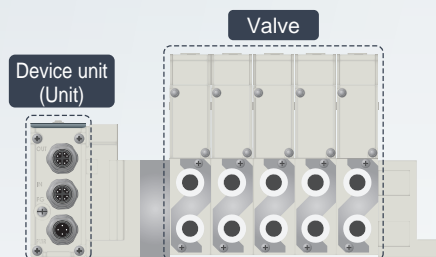CC-Link IE Field

CC-Link IE Field CC-Link IE TSN Compatible

CKD Corporation

CC-1574A

W4G Series
Directly connected to CC-Link IE Field/CC-Link IE TSN

Information from production sites monitored through valves

Information monitored/set by device (unit) stations

Valve

Device unit (Unit)

Time for unit to energize

Unit energizing threshold setting

Valve ON cycles

Valve ON cycle threshold setting

Applications

● Component operation time management and replacement guidelines can be confirmed.

● Depending on the threshold value, preventative maintenance can be conducted by confirming the number of actuator operations, such as the cylinder, etc.

Easy-to-use interface

Separate power supply

Since the unit power supply and valve power supply are separated, the solenoid valve can be replaced without interrupting communication, enabling early equipment recovery.
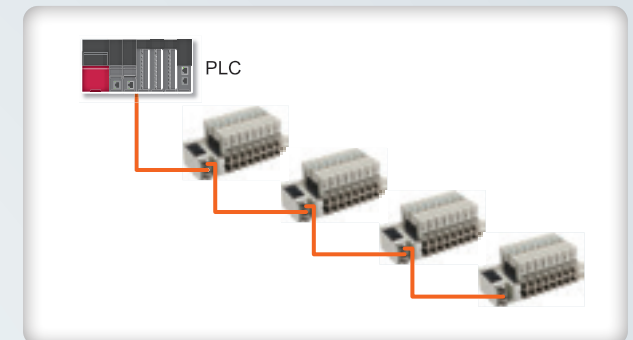
PLC

Car electronics assembly equipment, etc.

Unit power

Valve power supply

IP65 Compatible

M12
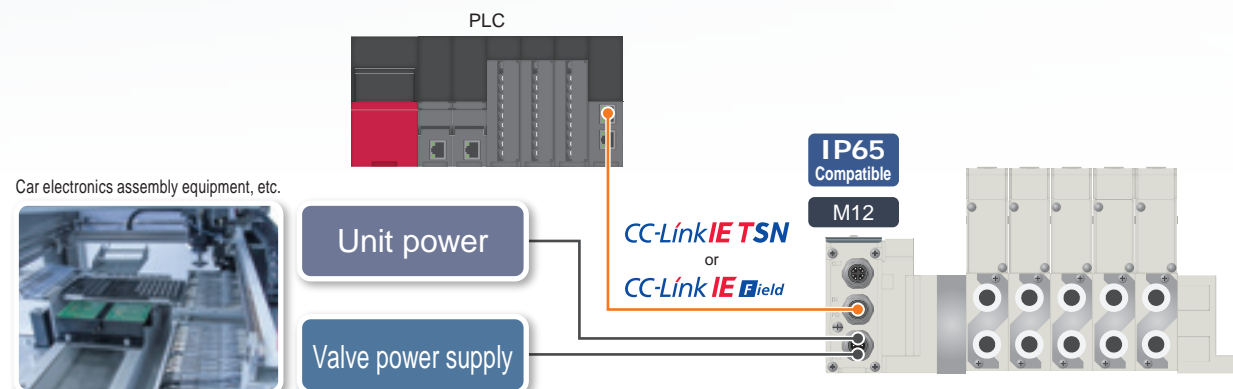
CC-Link IE TSN
or
CC-Link IE Field

A wide variety of wiring formats
Network compatible with : CC-Link IE Field CC-Link IE TSN

Line wiring

A configuration that connects all components on a single line. A simple configuration that can reduce the total length of the wires.

PLC

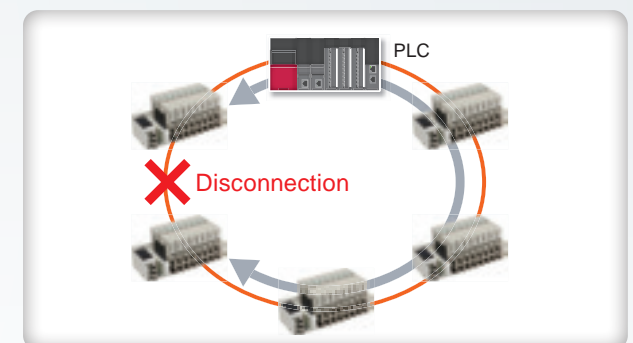### Star wiring

Where equipment is connected radially around an Ethernet switch. Communication can continue with other devices, even if communication errors are encountered with some of the devices.

PLC

Switching hub
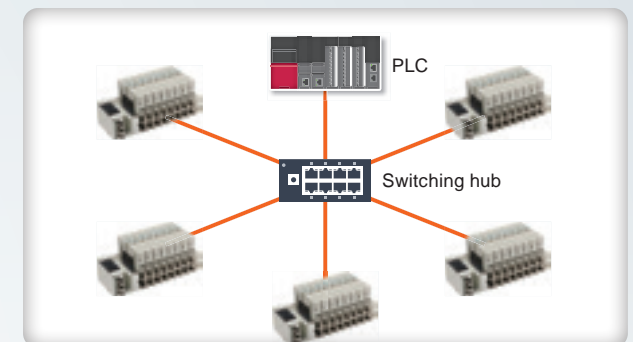
Ring wiring

Even if one location is disconnected, communication in the reverse direction can be used as a dual circuit to prevent communication errors from occurring.

PLC

Disconnection

* Line wiring and Star wiring can be combined.
  Ring wiring cannot be combined with other wiring formats.

Fast-link-up compatible
Network compatible with [1]: CC-Link IE Field

When the communication is reconnected from a disconnected state, it can be connected faster than usual. Improve tact time by reducing boot time on systems using tool changers, etc.

* 1. CC-Link IE TSN does not have a fast link-up function, but the connection is completed in about one second after the power is turned ON.

Time from power ON to communication connection.

10 sec. ▶ 1 sec.

Communication connection time with fast link-up function ON
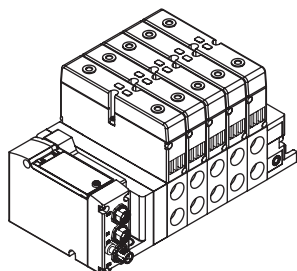
Various certifications acquired

Supports CE marking.
It can also be shipped to the EU nations.

CE RoHS

W4G-T7 Series

Specifications

●Valve dedicated device unit

Item		T7EF1	T7EFP1	T7TG1	T7TGP1
Network name		CC-Link IE Field		CC-Link IE TSN	
Power Voltage	Unit side	24 VDC ±10%			
	Valve side	24 VDC +10%, -5%			
Consumption Current	Unit side	100 mA or less			
	Valve side	15 mA or less (excluding load current)			
Valve output		NPN output	PNP output	NPN output	PNP output
No. of I/O points		16 point output		16 point output	
LED Indicator	Power	PW, PW(V)			
	Communication	L ERR, D Link, RUN/ERR, INFO LINK/ACT(IN, OUT)		D Link, RUN/ERR, INFO LINK/ACT(IN, OUT)	
Degree of protection		IP65 (IP20 when no connector is connected)			
Output setting during communication error		Hold (hold all points final output)/Clear (clear all points output) *When setting the address during the software setting, output setting is possible one point at a time.			
Address setting	Station No.	Switch and Software settings		-	
	Network address	Switch and Software settings		-	
	IP address	-		Switch and Software settings	

Compatibility

MW4GB4, MW4GZ4

Individual specifications

●MW4G*4

Item		T7EF*1	T7TG*1
Network name		CC-Link IE Field	CC-Link IE TSN
Max. station No.	Standard wiring	16	
	Double wiring	8	
Max. No. of solenoids		16	

⚠Read the safety precautions in "Pneumatic Valves (Catalog No.CB-023SA)" before use.

CKD

How to order

● MW4G*4 manifold equipped model No. (example)

MW4GB4 — **8** 0 - **10** - **T7EFP1** **W** **M** - **6** - **3**

*1

Ⓐ Model No.

Ⓑ Solenoid position

Ⓒ Port size

Ⓓ Serial transmission

Ⓔ Terminal/Connector pin array

Ⓕ Option

Ⓖ Station No.

Ⓗ Voltage

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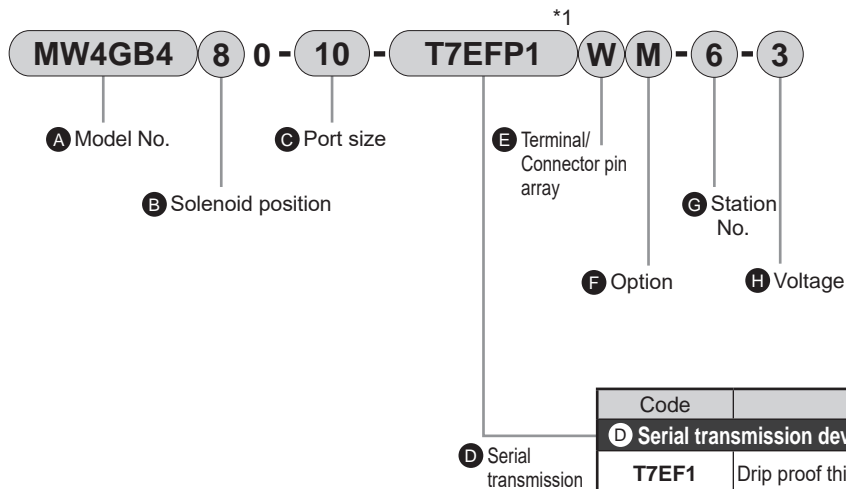
* Model Nos.

Only models of the newly added serial transmission device units (T7EF*, T7TG*) are shown in this catalog. Refer to "Pneumatic Valves (Catalog No.CB-023SA)" for details (specifications, model No., etc.) of the W4G4 Series.

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*1 : There is no right side (R) specification.

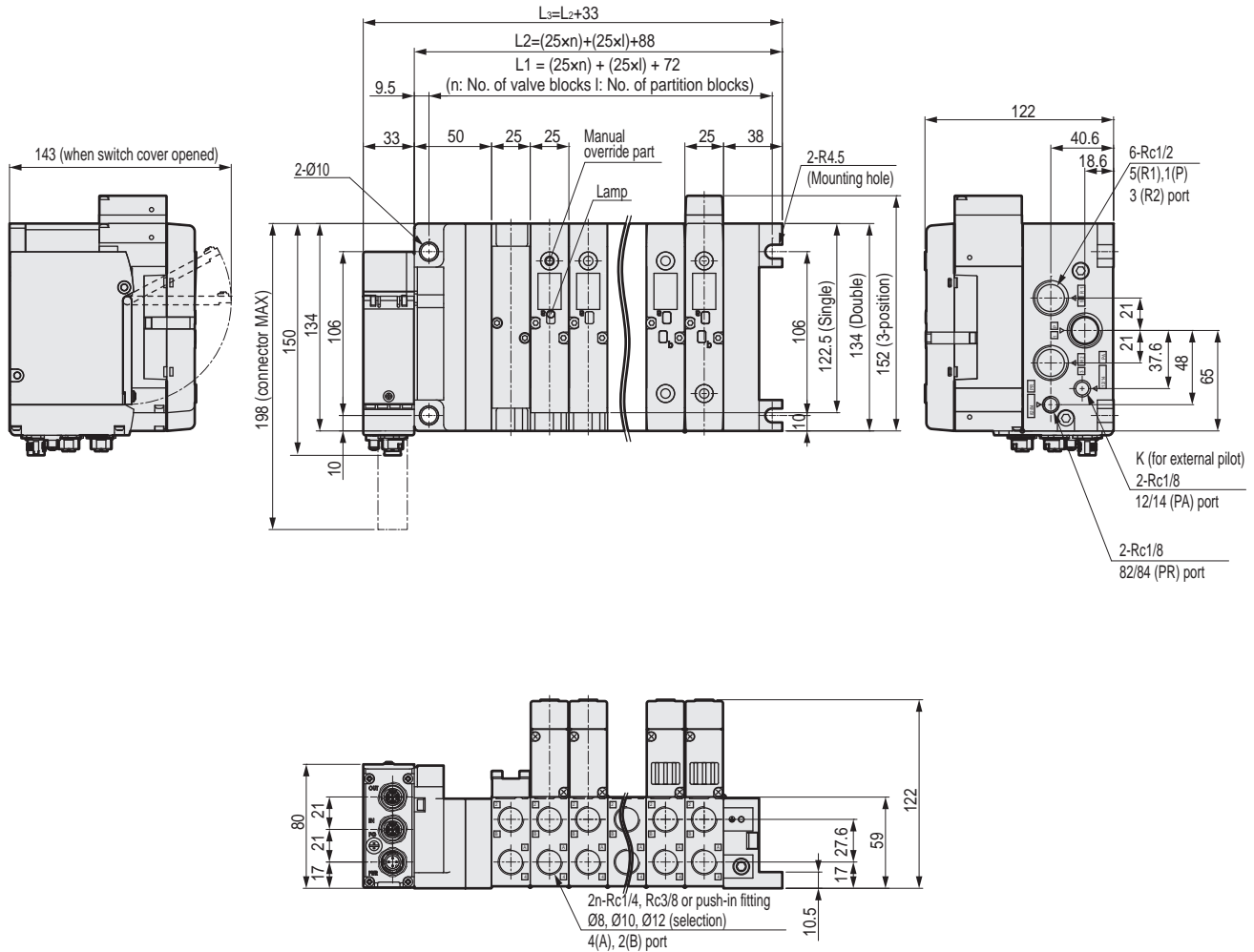| Code	Description
Ⓓ **Serial transmission device unit (lamp/surge suppressor provided as standard)**	
T7EF1	Drip proof thin type CC-Link IE Field 16 point output (NPN valve output)
T7EFP1	Drip proof thin type CC-Link IE Field 16 point output (PNP valve output)
T7TG1	Drip proof thin type CC-Link IE TSN 16 point output (NPN valve output)
T7TGP1	Drip proof thin type CC-Link IE TSN 16 point output (PNP valve output)

[Example of model No.]

Ⓐ Model No.　　　　: 5-port valve base piping
Ⓑ Solenoid position　: Mix manifold
Ⓒ Port size　　　　　: Rc3/8
Ⓓ Serial transmission : Drip proof thin type CC-Link IE Field 16 point output (PNP valve output)
Ⓔ Terminal/connector pin array
　　　　　　　　　　: Double wiring
Ⓕ Options　　　　　 : Manual override of non-locking
Ⓖ Station No.　　　　: 6 stations
Ⓗ Voltage　　　　　 : 24 VDC

W4G-T7 Series

Dimensions

● MW4GB4-T7EF**, MW4GB4-T7TG**

143 (when switch cover opened)

$L_3 = L_2 + 33$

$L_2 = (25 \times n) + (25 \times l) + 88$

$L_1 = (25 \times n) + (25 \times l) + 72$

(n: No. of valve blocks l: No. of partition blocks)

9.5

33　50　25　25

Manual override part

Lamp

25　38

2-Ø10

2-R4.5 (Mounting hole)

198 (connector MAX)

150

134

106

10

106

122.5 (Single)

134 (Double)

152 (3-position)

110

122

40.6

18.6

6-Rc1/2
5(R1),1(P)
3 (R2) port

21

21

37.6

48

65

K (for external pilot)
2-Rc1/8
12/14 (PA) port

2-Rc1/8
82/84 (PR) port

80

21

17

21

17

122

59

27.6

17

10.5

2n-Rc1/4, Rc3/8 or push-in fitting
Ø8, Ø10, Ø12 (selection)
4(A), 2(B) port

* For dimensions of other model Nos., (refer to No.CB-023SA) "Pneumatic Valves"

3

CKD

Technical data: T7EF* (CC-Link IE Field)

Device unit wiring

● Wiring of communication line

Please purchase communication cables or connectors that are compatible with the specifications of this product.

For wiring method, refer to the following communication connector pin array and communication cable wiring example.

Use Cat.5e or higher for communication cable lines.

Cable with recommended plug : SC-E5EW-☐ Straight   Mitsubishi Electric System Services Co., Ltd.

(☐ differs depending on the cable specifications.)

Recommended communication connector : 1411043 (SACC-MSX-8QO) Assembly M12 connector Manufactured by Phoenix Contact

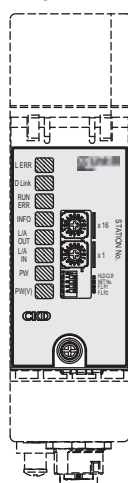* Compatible with SPEEDCON system

● Power cable wiring

Please purchase power cables or connectors that are compatible with the specifications of this product.
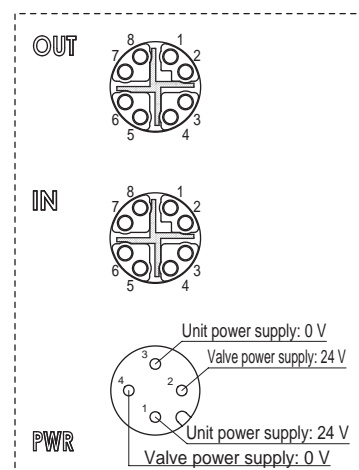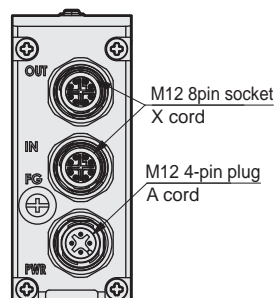
Recommended M12-loose wire type power cable : Type XS2F-D421-/straight OMRON

Recommended power connector and cable : Part No.: 1424655 (SACC-M12FS-4PL M) Assembly M12 connector Phoenix Contact

Electric wire size: AWG26-18, applicable cable diameter: Ø4-8

* ☐ differs depending on the cable specifications

LED display

Wiring

M12 8pin socket
X cord

M12 4-pin plug
A cord

OUT

IN

PWR

Unit power supply: 0 V
Valve power supply: 24 V
Unit power supply: 24 V
Valve power supply: 0 V

LED display description

Name		Indicator description
L ERR		Link status of Ethernet port is indicated by the LED state
D Link		Communication status of CC-Link IE Field is indicated by the LED state
RUN / ERR		Status of device unit operation/communication is indicated by the LED state
INFO		Status of the device unit is indicated by the LED state
Link/ACT	OUT(P1)	Status of the Ethernet port (OUT side) is indicated by the LED state
	IN(P2)	Status of the Ethernet port (IN side) is indicated by the LED state
PW		Indicates the power status of the unit power supply. Lights when power is turned ON.
PW(V)		Indicates the power status of the valve power supply. Lights when power is turned ON. (Cannot be monitored when the unit power is not turned ON.)

communication plug pin array

Port	Pin	Signal name	Function
IN/ OUT	1	BI_DA+	Transmit/receive data, positive
	2	BI_DA-	Transmit/receive data, negative
	3	BI_DB+	Transmit/receive data, positive
	4	BI_DC+	Transmit/receive data, positive
	5	BI_DC-	Transmit/receive data, negative
	6	BI_DB-	Transmit/receive data, negative
	7	BI_DD+	Transmit/receive data, positive
	8	BI_DD-	Transmit/receive data, negative

* 1000BASE-T (Cat.5e) compliant

Power supply connector pin array

Port	Pin	Function
PWR	1	Unit power: 24V
	2	Valve power supply: 24V
	3	Unit power: 0V
	4	Valve power supply: 0V

W4G-T7 Series

Technical data: T7TG* (CC-Link IE TSN)

Device unit wiring

● Wiring of communication line

Please purchase communication cables or connectors that are compatible with the specifications of this product.
For wiring method, refer to the following communication connector pin array and communication cable wiring example.
Use Cat.5e or higher for communication cable lines.

Cable with recommended plug : SC-E5EW-□ Straight Mitsubishi Electric System Services Co., Ltd.
(□ differs depending on the cable specifications.)
Recommended communication connector : 1411043 (SACC-MSX-8QO) Assembly M12 connector Manufactured by Phoenix Contact
* Compatible with SPEEDCON system
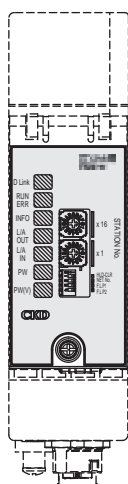
● Power cable wiring

Please purchase power cables or connectors that are compatible with the specifications of this product.

Recommended M12-loose wire type power cable : Type XS2F-D421-□ Straight OMRON
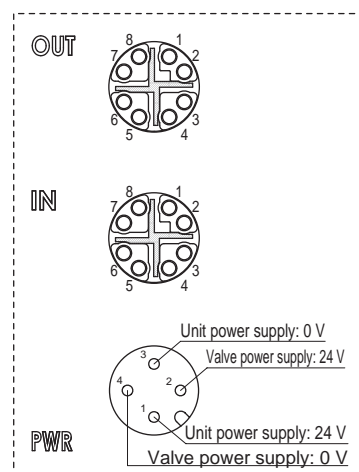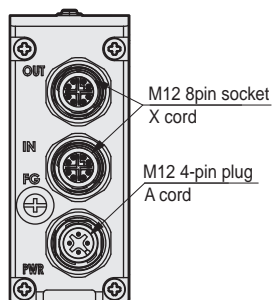Recommended power connector and cable : Part No.: 1424655 (SACC-M12FS-4PL M) Assembly M12 connector Phoenix Contact
Electric wire size: AWG26-18, applicable cable diameter: Ø4-8
* □ differs depending on the cable specifications

LED display

Wiring

M12 8pin socket
X cord

M12 4-pin plug
A cord

OUT

IN

PWR

Unit power supply: 0 V
Valve power supply: 24 V
Unit power supply: 24 V
Valve power supply: 0 V

LED display description

Name		Indicator description
D Link		Communication status of CC-Link IE TSN is indicated by the LED state
RUN / ERR		Status of device unit operation/communication is indicated by the LED state
INFO		Status of the device unit is indicated by the LED state
Link/ACT	OUT(P1)	Status of the Ethernet port (OUT side) is indicated by the LED state
	IN(P2)	Status of the Ethernet port (IN side) is indicated by the LED state
PW		Indicates the power status of the unit power supply. Lights when power is turned ON.
PW(V)		Indicates the power status of the valve power supply. Lights when power is turned ON. (Cannot be monitored when the unit power is not turned ON.)

communication plug pin array

Port	Pin	Signal name	Function
IN/ OUT	1	BI_DA+	Transmit/receive data, positive
	2	BI_DA-	Transmit/receive data, negative
	3	BI_DB+	Transmit/receive data, positive
	4	BI_DC+	Transmit/receive data, positive
	5	BI_DC-	Transmit/receive data, negative
	6	BI_DB-	Transmit/receive data, negative
	7	BI_DD+	Transmit/receive data, positive
	8	BI_DD-	Transmit/receive data, negative

* 1000BASE-T (Cat.5e) compliant

Power supply connector pin array

Port	Pin	Function
PWR	1	Unit power: 24V
	2	Valve power supply: 24V
	3	Unit power: 0V
	4	Valve power supply: 0V

CKD

MW4G 4 Block manifold specifications sheet

● Contact　　　　　● Quantity set(s)　● Delivery date　　　　　/

Slip No.	Order No.

● Manifold model No.

Issued　　　/　　　/

Company

Contact:

Order No.

MW4G 4 □ 0 - □ - □ □ □ - □ - □

Ⓐ Model No.　Ⓑ Solenoid position　Ⓒ Port size　Ⓓ Wiring method Note　Ⓔ Terminal/ Connector pin array　Ⓕ Option　Ⓖ Station No.　Ⓗ Voltage

When inputting, select a model No. from "Block component configuration" for "Pneumatic valves" (No. CB-023SA).

Part name		Model No.	Installation position																						Quantity
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	
	End block	**NW4G4-E□R□**																							
	Wiring block	**NW4G4-T7□**																							
	Valve block with solenoid valve	**NW4G□4□0-□-□-□**																							
		NW4G□4□0-□-□-□																							
		NW4G□4□0-□-□-□																							
		NW4G□4□0-□-□-□																							
		NW4G□4□0-□-□-□																							
	Valve block with masking plate	**NW4G□4-MP□-□-□**																							
		NW4G□4-MP□-□-□																							
Spacers	Independent supply spacer	**W4G4-P-□**																							
	Independent exhaust spacer	**W4G4-R-□**																							
Accessories	Silencer (resin)	**SLW-15A**	List the number of units to be used in the quantity field on the right.																						
	Blanking plug	**GWP 8-B**																								
		GWP 10-B																								
		GWP 12-B																								

* As one side is for air supply and another side is for exhaust, use the air supply spacer or exhaust spacer when operating valves simultaneously.
* As one side is for air supply and another side is for exhaust, the partition block and partition plug cannot be used.
* There is no right side (R) specification.

W4G-T7 Series

Related products

CC-Link IE Field compatible serial transmission slave unit M4G/MN4G-T8 Series

Catalog No.CC-1475A

■ Two types of I/O points available
   (16-point output, 32-point output)

■ Two output types are available (NPN, PNP output)

■ Thin and space saving

■ RJ45 connector with high versatility

■ Compatible with Fast Link-Up function
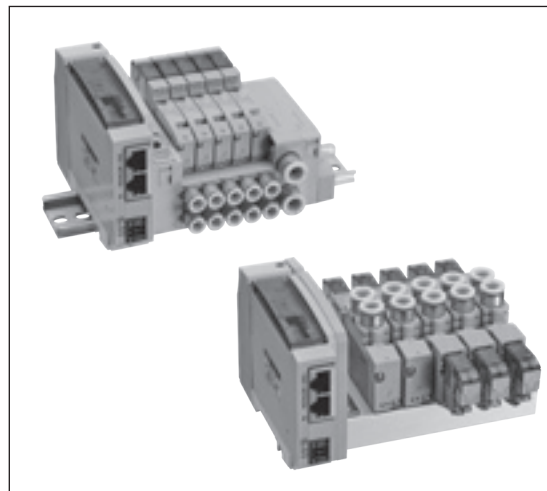
IoT Compatible components Series

Catalog No.CC-1466A

■ Supports various industrial networks to accommodate the creation of IoT at production sites. Contributes to making actuators operating within equipment and sensors visible.

■ In addition to electric components such as electric actuators and direct drive motors with high reduced wiring needs, there is a wide lineup of network components with a sensor level that is closer to the workpiece.

■ Since the air and electric components are listed by network, it is possible to reduce the man-hours for examining the network inside the equipment.

CKD
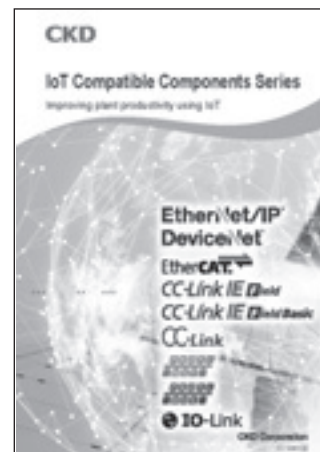
CC-Link IE TSN Compatible Serial Transmission Device Unit M4G/MN4G-T8 Series

■ Thin, space saving and CC-Link IE TSN compatible

■ RJ45 connector with high versatility

■ Counter function to check equipment operation time management and Component replacement guidelines
(Counter function: Unit power ON time, valve ON cycle)

■ Abundant wiring configurations
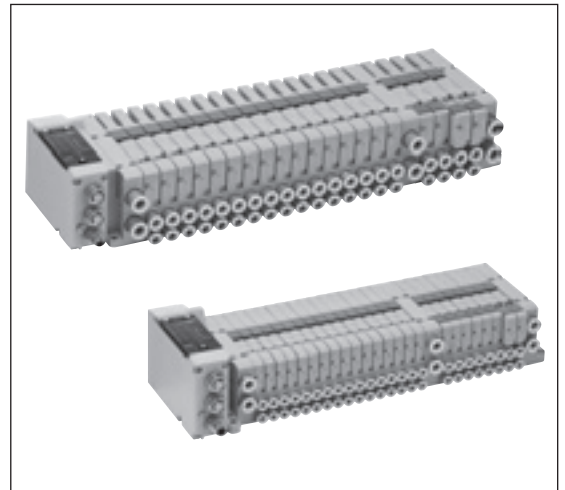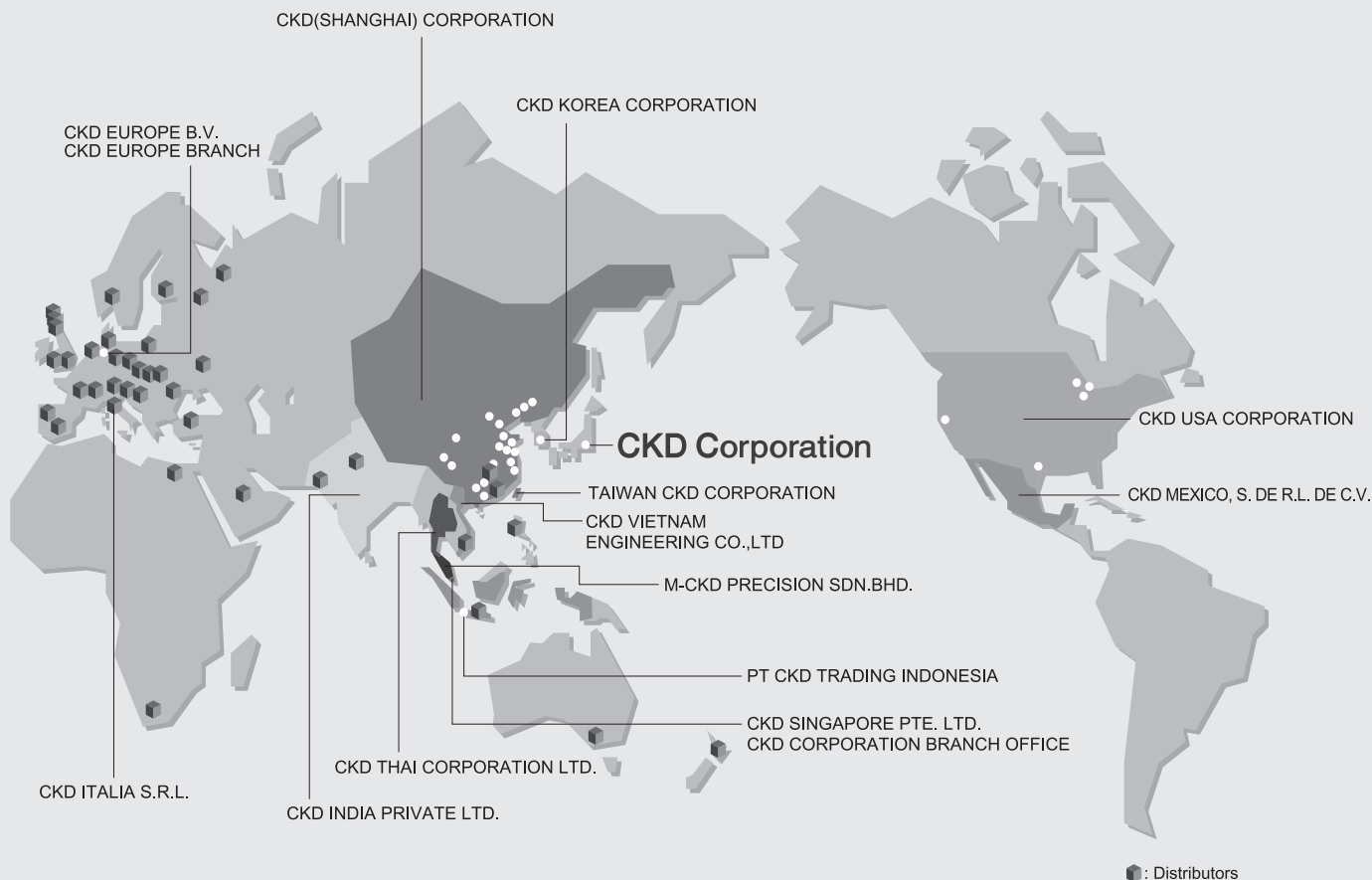Line wiring, star wiring, ring wiring

Catalog No.CC-1531A
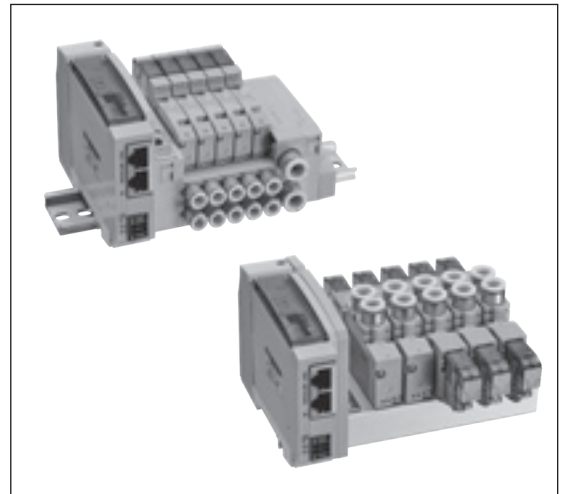
3, 5-port pilot operated valve, plug-in block manifold TVG Series

■Carbon neutral
● Reduces air leakage and power consumption.
● 0.1W power consumption (Energy saving option)

■High reliability
● Long service life 120 million cycles (twice that of conventional models) *HP1
● Stable response time due to special treatment of the sliding surface

■Easy to use
● Thoroughly brushed up maintainability from the customer's point of view
● Compatible with both IP65/IP67
● Industry's first IO-Link Wireless (wireless), compatible with a wide variety of communications
● Compatible with various spacers such as 10 mm width spacer regulator

Catalog No.CC-1595A

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CKD EUROPE B.V.
CKD EUROPE BRANCH

CKD Corporation

TAIWAN CKD CORPORATION

CKD VIETNAM
ENGINEERING CO.,LTD

M-CKD PRECISION SDN.BHD.

PT CKD TRADING INDONESIA

CKD SINGAPORE PTE. LTD.
CKD CORPORATION BRANCH OFFICE

CKD USA CORPORATION

CKD MEXICO, S. DE R.L. DE C.V.

CKD ITALIA S.R.L.

CKD INDIA PRIVATE LTD.

CKD THAI CORPORATION LTD.

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ASIA

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CKD CORPORATION BRANCH OFFICE
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・LAMPHUN OFFICE
・KORAT OFFICE
・AMATANAKORN OFFICE
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・SARABURI OFFICE

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