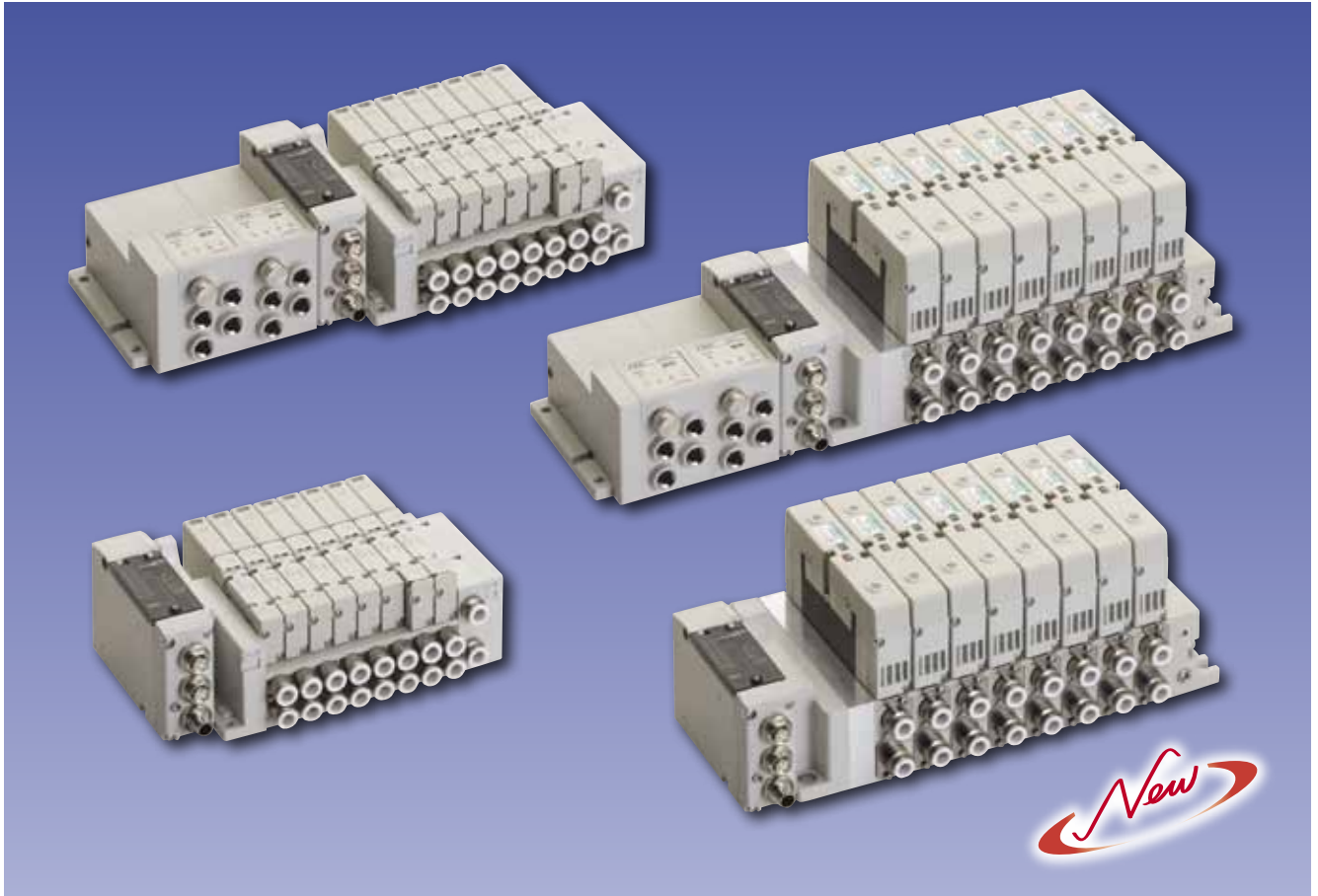


EtherCAT Compatible Serial Transmission Slave Unit W4G-OPP8 Series



EtherCAT compatible Slave Unit added to the Series


Overview

Valve wiring is reduced through the support of high-speed EtherCAT communication.



Features

- 32-point output /16-point output /16-point input-output PNP/NPN versions can be chosen.
- The compact design helps to save space.
- Less spare parts are needed as they can connect to both W4G2 and W4G4 valves.
- IP65 structure.

 Be sure to read the safety precautions in the "Pneumatic Valves" section (catalog No. CB-023SA) before use.

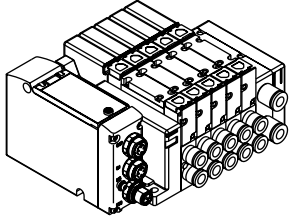
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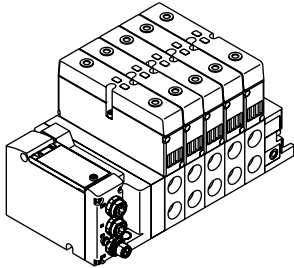
W4G-OPP8 Series

Specifications

W4G2
(Without I/O block)



W4G4
(Without I/O block)

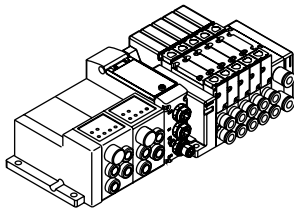


● Slave unit for valve (without I/O block)

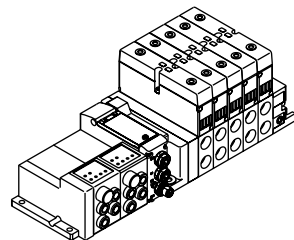
Description		W4G-OPP8-1EC	W4G-OPP8-2EC Note 1	W4G-OPP8-1EC-P	W4G-OPP8-2EC-P Note 1
Network name		EtherCAT			
Power supply Voltage	Unit side	24 VDC ±10%			
	Valve side	24 VDC +10%, -5%			
Consumed Current	Unit side	110 mA or less			
	Valve side	15 mA or less (without load current)			
Valve output type		NPN output		PNP output	
Input/Output points		16 point output	32 point output	16 point output	32 point output
LED Display	Power supply	Two: Unit power supply and valve power supply			
	Communication	Four: RUN, ERR, L/A IN, L/A OUT			
	Slave unit	One: INFO			
Degree of protection		IP65			

Note 1: When connected to W4G4 valve, 32-point output is not available.

W4G2
(with I/O block)



W4G4
(with I/O block)



● Slave unit with I/O block

Description		W4G-OPP8-7EC-B	W4G-OPP8-7EC-PB
Network name		EtherCAT	
Power supply Voltage	Unit side	24 VDC ±10%	
	Valve side	24 VDC +10%, -5%	
Consumed Current	Unit side	110 mA or less (Note 1: Input block current excluded)	
	Valve side	15 mA or less (without load current)	
Valve output type		NPN output	PNP output
Input/Output points		16/16 I/O	16/16 I/O
LED Display	Power supply	Two: Unit power supply and valve power supply	
	Communication	Four: RUN, ERR, L/A IN, L/A OUT	
	Slave unit	One: INFO	
Degree of protection		IP65	

Note 1: If the feed power supply for the input blocks serves also as the unit power supply, refer to "Pneumatic Valves" (Catalog No. CB-023SA).

* When you order slave units individually, use the slave unit model No. in the above table.

* Current slave units (OPP2, OPP5) cannot be replaced with these.

Applicable models

MW3/4GA2, MW4GB2, MW3/4GZ2
MW4GB4, MW4GZ4

Individual specifications

● MW4G*2

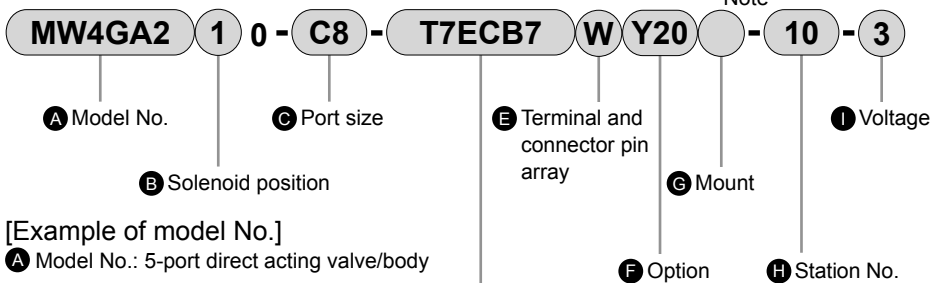
Descriptions		T7EC*1	T7EC*2	T7EC*7
Max. station number	Standard wiring	16	18	16
	Double wiring	8	16	8
Max. number of solenoids		16	32	16
Maximum number of I/O blocks (Input/Output)		-	-	(16/8)

● MW4G*4

Descriptions		T7EC*1	T7EC*7
Max. station number	Standard wiring	16	16
	Double wiring	8	8
Max. number of solenoids		16	16
Maximum number of I/O blocks (Input/Output)		-	(16/8)

How to order

● MW4G*2 manifold model No. (example)



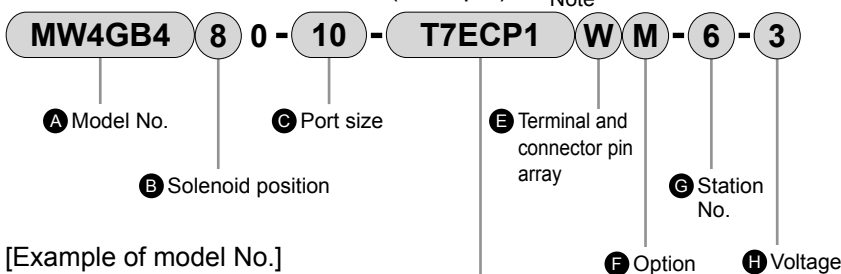
[Example of model No.]

- A Model No.: 5-port direct acting valve/body piping
- B Solenoid position: 2-position single
- C Port size: φ 8 push-in fitting
- D Serial transmission: 16/16-point splash proof thin I/O type EtherCAT I/O (NPN valve output)
- E Terminal connector pin array: double wiring
- F Option: Two input blocks
* This cannot be selected for Y01 through Y04.
- G Mount: Direct mount type
- H Station No.: 10 stations
- I Voltage: 24 VDC

Note: DIN rail mount type is not available.

Code	Description
D Serial transmission slave unit	
T7EC1	16 output points splash proof thin type EtherCAT (NPN valve output)
T7ECP1	16 output points splash proof thin type EtherCAT (PNP valve output)
T7EC2	32 output points splash proof thin type EtherCAT (NPN valve output)
T7ECP2	32 output points splash proof thin type EtherCAT (PNP valve output)
T7ECB7	16/16 I/O points splash proof thin type EtherCAT (NPN valve output)
T7ECPB7	16/16 I/O points splash proof thin type EtherCAT (PNP valve output)

● MW4G*4 manifold model No. (example)



[Example of model No.]

- A Model No.: 5-port valve base piping
- B Solenoid position: mixed manifold
- C Port size: Rc3/8
- D Serial transmission: 16-point splash proof thin output type EtherCAT (PNP valve output)
- E Terminal connector pin array: double wiring
- F Option: Non-locking manual override
- G Station No.: 6 stations
- H Voltage: 24 VDC

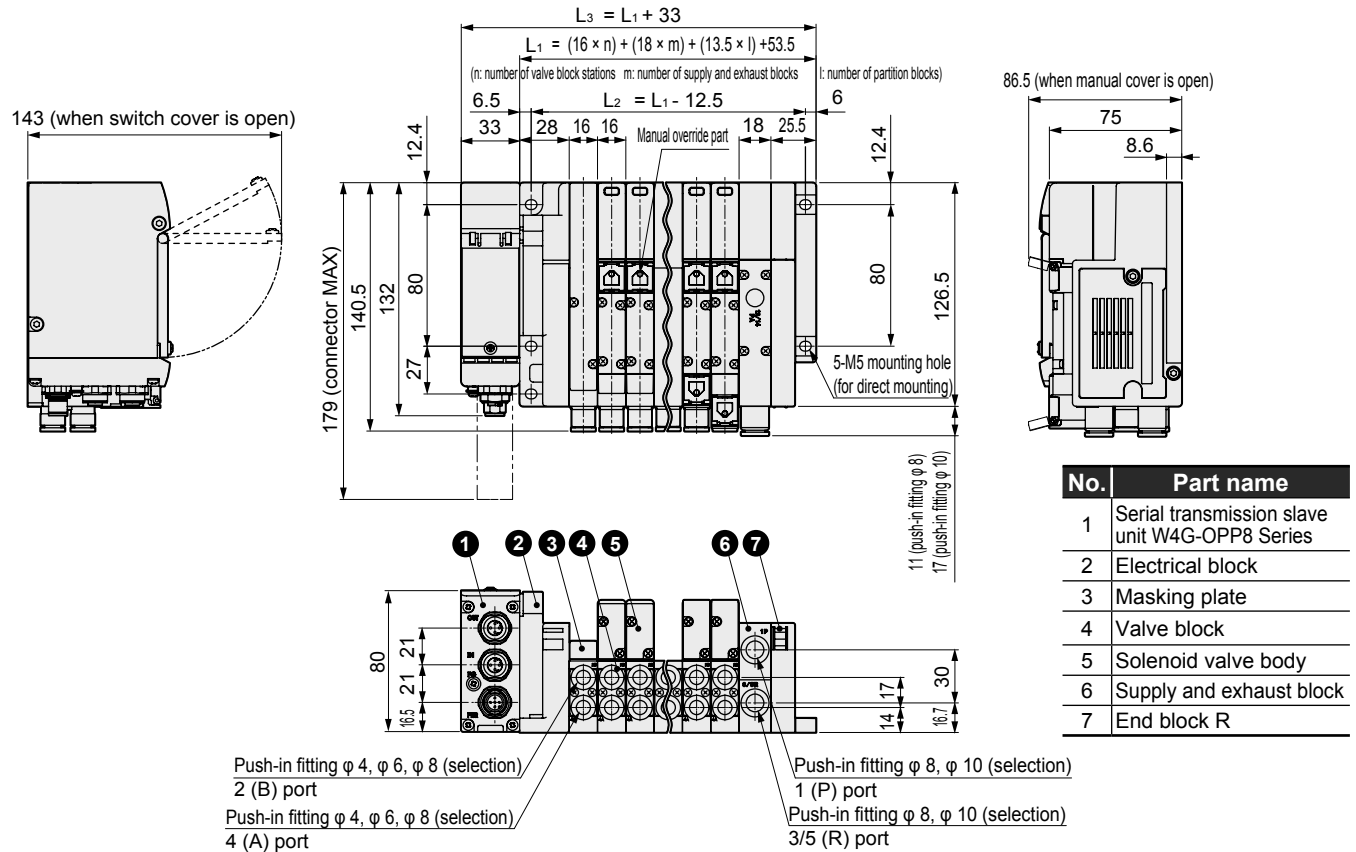
Note: There are no right (R) specifications.

Code	Description
D Serial transmission slave unit	
T7EC1	16 output points splash proof thin type EtherCAT (NPN valve output)
T7ECP1	16 output points splash proof thin type EtherCAT (PNP valve output)
T7ECB7	16/16 I/O points splash proof thin type EtherCAT (NPN valve output)
T7ECPB7	16/16 I/O points splash proof thin type EtherCAT (PNP valve output)

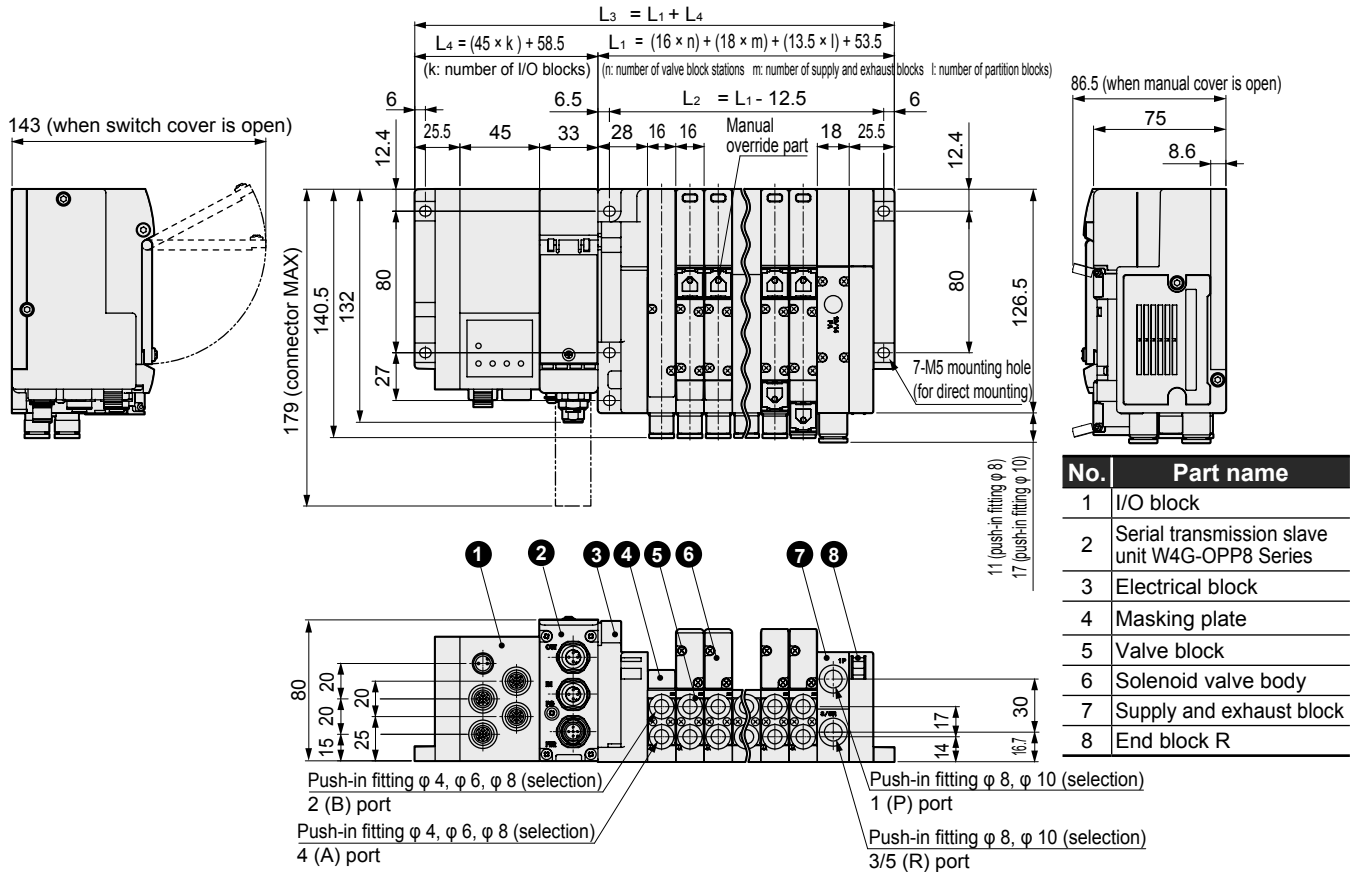
W4G-OPP8 Series

Dimensions

● MW4GB2-T7EC**



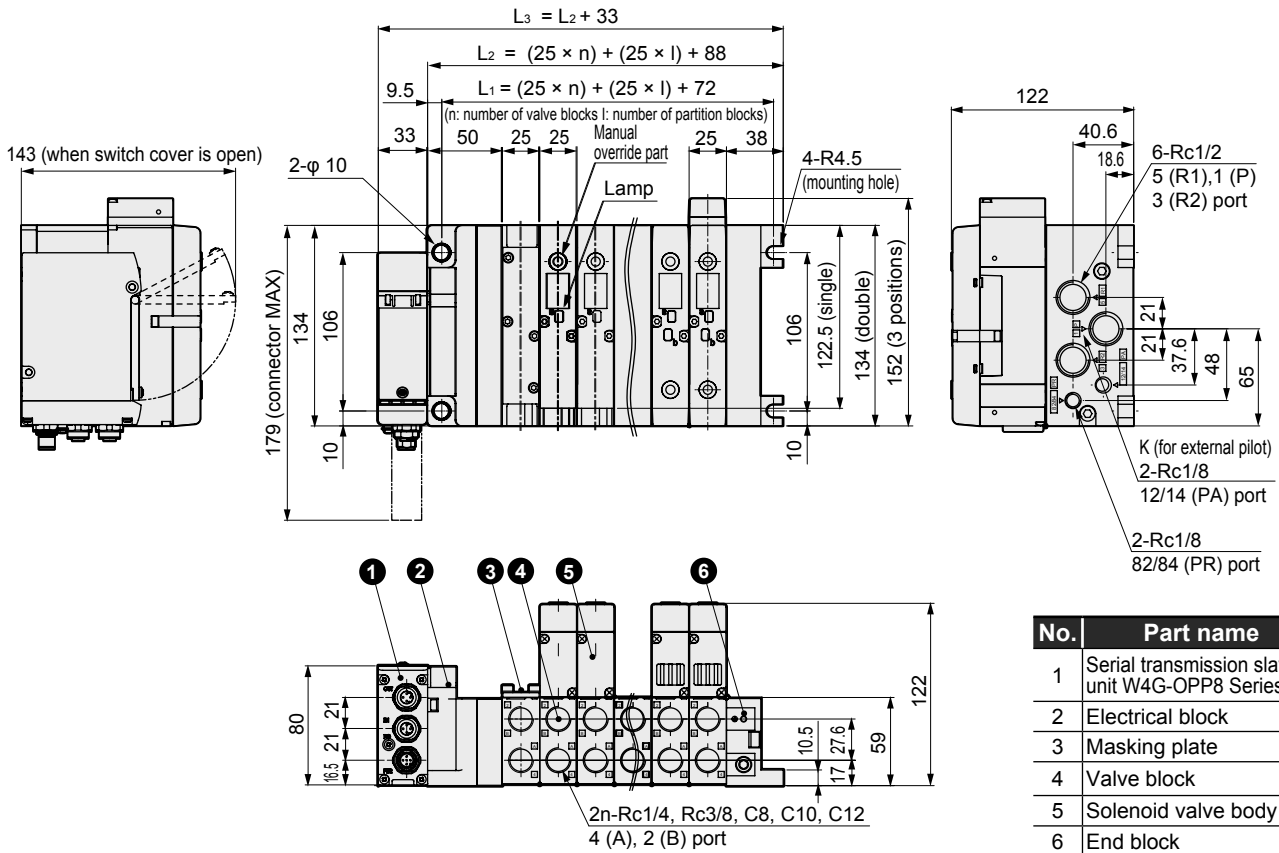
● MW4GB2-T7EC*B7 (with I/O)



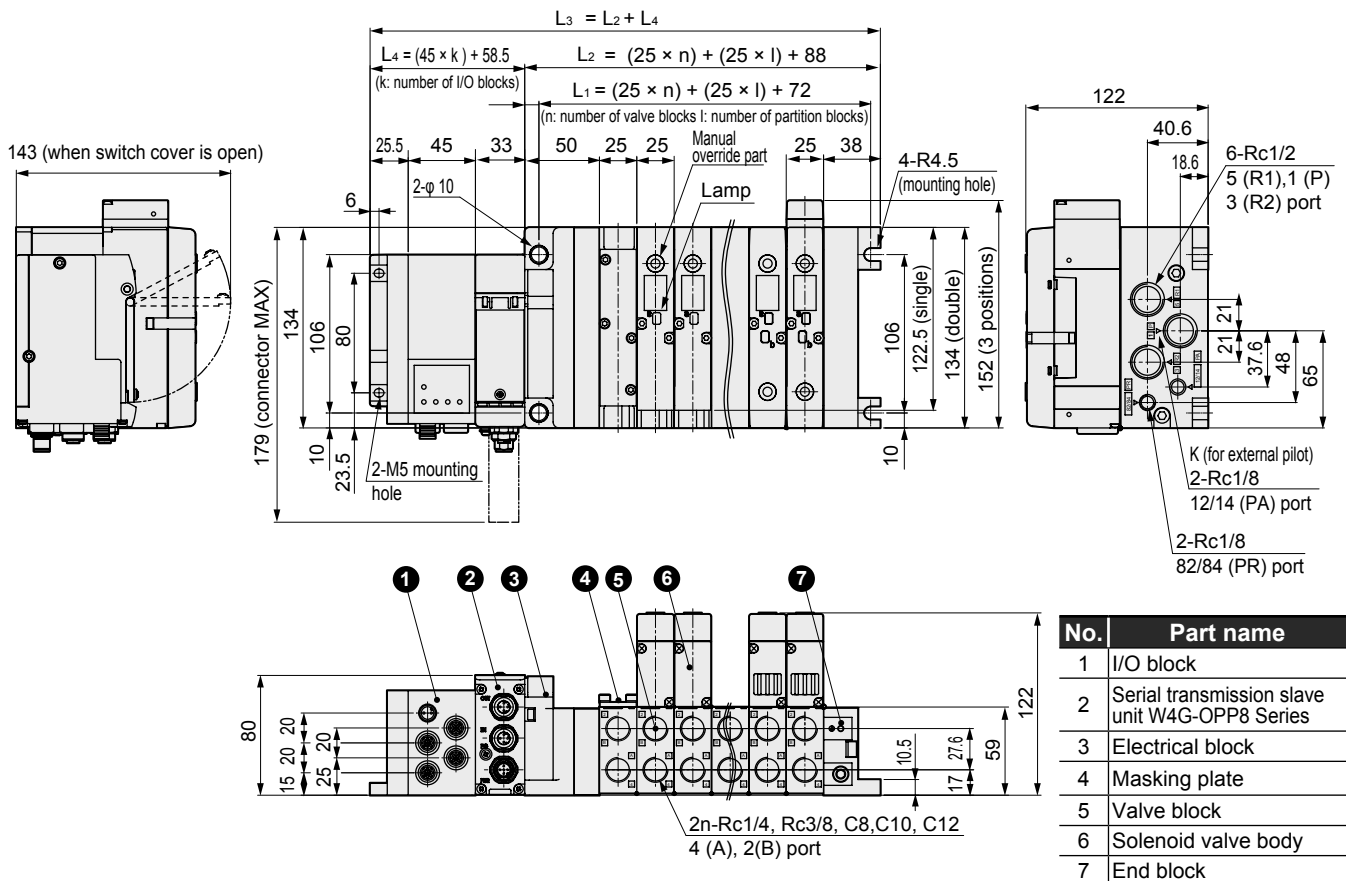
* For dimensions of other models, refer to "Pneumatic Valves" (No. CB-023SA).

Dimensions

● MW4GB4-T7EC**



● MW4GB4-T7EC*B7 (with I/O)



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

Technical data

Slave unit wiring

● Wiring of communication lines

Use the communication cables and connectors which fit the specifications of the products.

For the wiring method, refer to the communication connector pin array and the communication cable wiring sample below.

Use CAT5 or higher for the communication cables.

Recommended communication cable with M12-RJ45 connector : XS5W-T421-*MC-K straight, made by OMRON
: 09 45 700 50** straight, made by HARTING

Recommended communication connector and communication cable: 09 45 600 01** individual cable, made by HARTING
: 21 03 281 1405, assembly type M12 connector, made by HARTING
: 09 45 151 1100, assembly type RJ-45 connector, made by HARTING

● Power supply wiring

Use the power supply cables and connectors which fit the specifications of the products.

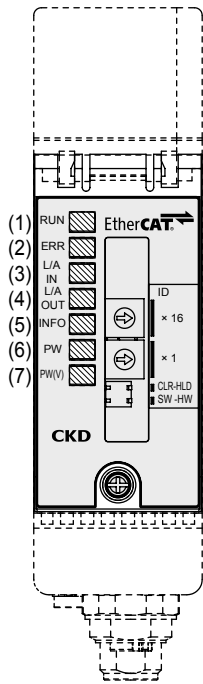
Recommended M12-separate wire type power supply cable: XS2F-D421-*8-* straight, made by OMRON

Recommended power supply connector and cable: 21 03 212 2305, assembly type M12 connector, made by HARTING

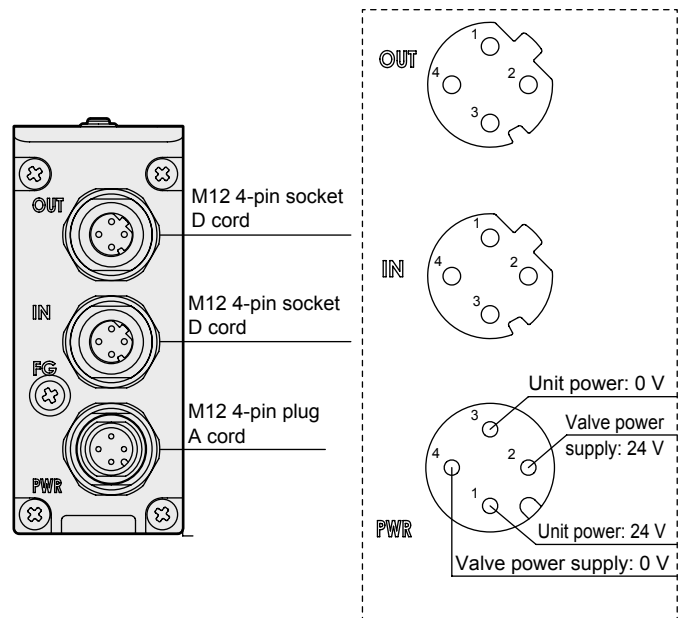
Wire size: AWG22-18, supported cable diameter: ϕ 6-8

** varies depending on the cable specifications.

LED display



Wiring



Communication connector pin layout

LED	Name	Function	Status	
(1)	RUN	EtherCAT state	Off	INIT state
			3 green flashes/sec	PRE-OPERATIONAL state
			1 green flash/sec	SAFE-OPERATIONAL state
			10 green flashes/sec	BOOTSTRAP state
			Green light on	OPERATIONAL state
(2)	ERR	Communication status	Off	Communication normal
			Double red flashing	Communication error (WD time out)
			3 red flashes/sec	Communication error
(3)	L/A IN	EtherCAT Inside Link status	Off	NO LINK , NO ACTIVITY
			Green light on	LINK , NO ACTIVITY
			10 green flashes/sec	LINK , ACTIVITY
(4)	L/A OUT	EtherCAT OUTside Link status	Off	NO LINK , NO ACTIVITY
			Green light on	LINK , NO ACTIVITY
			10 green flashes/sec	LINK , ACTIVITY
(5)	INFO	Model No. difference	Double red flashing	Model No. difference
			Green light on	Unit power ON
(6)	PW	Unit power status	Off	Unit power OFF
			Green light on	Unit power ON
(7)	PW (V)	Valve power status	Off	Valve power OFF
			Green light on	Valve power ON

Pin	Signal name	Function	
OUT	1	TD+	Transferred data, positive
	2	RD+	Received data, positive
	3	TD-	Transferred data, negative
	4	RD-	Received data, negative
IN	1	TD+	Transferred data, positive
	2	RD+	Received data, positive
	3	TD-	Transferred data, negative
	4	RD-	Received data, negative

Switch	Name	Function
ID	$\times 16$	Address setting (Second digit in hexadecimal)
	$\times 1$	Address setting (First digit in hexadecimal)
CLR-HLD		Output setting for communication error (ON: clear, OFF: hold)
SW-HW		Not used

MW4G*2 (reduced wiring) block manifold specifications

● Contact ● Quantity set(s) ● Request date / / /
 Issued date / /

Slip No.	Order No.
----------	-----------

● Manifold model No. Your company name _____
 Contact _____
 Order No. _____

MW4G - - - -

Ⓐ Model No. Ⓑ Solenoid position Ⓒ Port size Ⓓ Reduced wiring Ⓔ Terminal/Connector pin array Ⓕ Option Note Ⓖ Mount type Ⓗ Station No. Ⓘ Voltage No.

Note: DIN rail mount type is not available.

When you fill in the form, choose model No. from the block configurations described in "Pneumatic Valves" (No. CB-023SA).

Parts name (page)	Model No.	Layout position																														Qty.	
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30		
I/O block	NW4GB2-IN- <input type="text"/> - <input type="text"/>																																
	NW4GB2-OUT- <input type="text"/> -B																																
Electrical block	NW4G2-T7EC <input type="text"/>																																
With solenoid valve Valve block	NW4G <input type="text"/> 2 <input type="text"/> 0- <input type="text"/>																																
	NW4G <input type="text"/> 2 <input type="text"/> 0- <input type="text"/>																																
	NW4G <input type="text"/> 2 <input type="text"/> 0- <input type="text"/>																																
	NW4G <input type="text"/> 2 <input type="text"/> 0- <input type="text"/>																																
	NW4G <input type="text"/> 2 <input type="text"/> 0- <input type="text"/>																																
	NW4G <input type="text"/> 2 <input type="text"/> 0- <input type="text"/>																																
	NW4G <input type="text"/> 2 <input type="text"/> 0- <input type="text"/>																																
With masking plate Valve block	NW4G <input type="text"/> 2-MPS- <input type="text"/>																																
	NW4G <input type="text"/> 2-MPD- <input type="text"/>																																
Supply and exhaust block	NW4G2-Q <input type="text"/> - <input type="text"/> - <input type="text"/>																																
	NW4G2-Q <input type="text"/> - <input type="text"/> - <input type="text"/>																																
	NW4G2-Q <input type="text"/> - <input type="text"/> - <input type="text"/>																																
	NW4G2-Q <input type="text"/> - <input type="text"/> - <input type="text"/>																																
Various spacers	Air supply spacer W4G2-P <input type="text"/> - <input type="text"/>																																
	Exhaust spacer W4G2-R <input type="text"/>																																
	Spacer type pilot check valve W4G2-PC-M																																
	Individual air supply compatible spacer with in-stop valve W4G2-PIS <input type="text"/>																																
Partition block	NW4G2- <input type="text"/>																																
	NW4G2- <input type="text"/>																																
	NW4G2- <input type="text"/>																																
End block	NW4G2- <input type="text"/> R																																
		Blank plugs						Silencer						Tag plate		Accessories																	
		GWP4-B						GWP6-B						SLW-H8			B																
		GWP8-B						GWP10-B						SLW-H10																			

* Only horizontal wiring for I/O blocks.

W4G-OPP8 Series

MW4G*4 block manifold specifications

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

Slip No. Order No.

● Manifold model No.

Issued date / /

Your company name

Contact

Order No.

MW4G **4** **0-** - - -

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

Note: There are no right-hand (R) specifications.

When you fill in the form, choose model No. from the block configurations described in "Pneumatic Valves" (No. CB-023SA).

Parts 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- <input type="text"/> R- <input type="text"/>																							
I/O block	NW4GB2-IN- <input type="text"/> - <input type="text"/>																							
	NW4GB2-OUT- <input type="text"/> -B																							
Electrical block	NW4G4-T7EC: <input type="text"/>																							
Valve block with solenoid valve	NW4G <input type="text"/> 4 <input type="text"/> 0- <input type="text"/> - <input type="text"/> - <input type="text"/>																							
	NW4G <input type="text"/> 4 <input type="text"/> 0- <input type="text"/> - <input type="text"/> - <input type="text"/>																							
	NW4G <input type="text"/> 4 <input type="text"/> 0- <input type="text"/> - <input type="text"/> - <input type="text"/>																							
	NW4G <input type="text"/> 4 <input type="text"/> 0- <input type="text"/> - <input type="text"/> - <input type="text"/>																							
Valve block with masking plate	NW4G <input type="text"/> 4-MP: <input type="text"/> - <input type="text"/> - <input type="text"/>																							
	NW4G <input type="text"/> 4-MP: <input type="text"/> - <input type="text"/> - <input type="text"/>																							
Spacer	Individual air supply spacer W4G4-P- <input type="text"/>																							
	Individual exhaust spacer W4G4-R- <input type="text"/>																							
Included accessories	Silencer (resin) SLW-15A	List the number of units to be used in the quantity field on the right.																						
	Blank plugs GWP8-B																							
	GWP10-B																							
	GWP12-B																							

- * Only lateral wiring for I/O blocks.
- * Because of the single side air supply/exhaust layout, use an intake spacer or an exhaust spacer if you want simultaneous operation of the valves.
- * Because of the single side air supply/exhaust layout, a partition block or plug cannot be used.

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CKD Corporation

[Website]
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