

MVE2-100 / 156 / 188 / 220 series

FIELD BUS SYSTEM



Features



IOL User manual



MPL User manual



MBR User manual



Inquiry sheet



Blocking plate



Caution for safety
(Read before installing)



PROFINET

EtherNet/IP™

IO-Link

CC-Link IE Basic

Modbus

EtherCAT®

Features

- Solenoid valve can match different modules, like IO-Link, MPL, Modbus-RTU.
- Quick tube fittings can be installed.
- Fast troubleshooting thanks to multi-angle LED display.
- It is easy to repair due to solenoid valves can be replaced simple and fast.
- Labor cost can be reduced.
- Reduce error of wiring.
- Web server function.
- The voltage is DC24V.

Specification

Model	MVE2			
Solenoid valve	100	156	188	220
Medium	Air			
Operating pressure range (MPa)	2 position	0.2~0.7	0.15~0.7	0.2~0.8
	3 position	0.2~0.7	0.2~0.7	0.3~0.8
	4 position	—	0.2~0.7	—
Proof pressure	1 MPa			
Intake & exhaust	Centralized			
Port size	A,B port	M5	Rc1/8	Rc1/4
	P,R port	G1/8	G1/4	G1/4

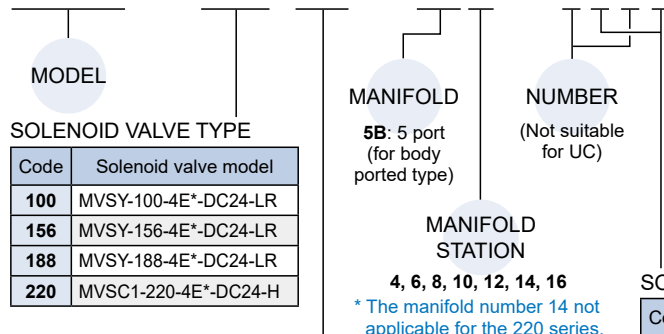
Remark

- Maximum stations: 16 stations

Order example of fieldbus valve terminal

* The connector and power cables need to be purchased separately. Please refer to next page.

MVE2 — 156 C6 — 5B6 — 3S3D — MPL1



SI UNIT (Max. power of the module: 48W) ☐ For factory default settings

Code	Protocol	Code	Protocol
IOL	IO-Link	1	EtherNet/IP
MBR	Modbus-RTU	2	EtherCAT
MPL	EtherNet/IP, EtherCAT, CC-Link IEFB, PROFINET (Multi-protocol)	3	CC-Link IEFB
		4	PROFINET

SOLENOID VALVE / BLOCKING PLATE

Code	Description	Code	Description
S	4E1: 5/2 Single solenoid valve	X*	4E23: 5/4 way (N.C. / N.O.)
D	4E2: 5/2 Double solenoid valve	Y*	4E24: 5/4 way (N.O. / N.O.)
C	4E2C: 5/3 Double solenoid valve	Z*	4E25: 5/4 way (N.C. / N.O.)
P	4E2P: 5/3 Double solenoid valve	B	Blocking plate
R	4E2R: 5/3 Double solenoid valve	UC	Order for customized combination

* Only for 156 series.

Order example

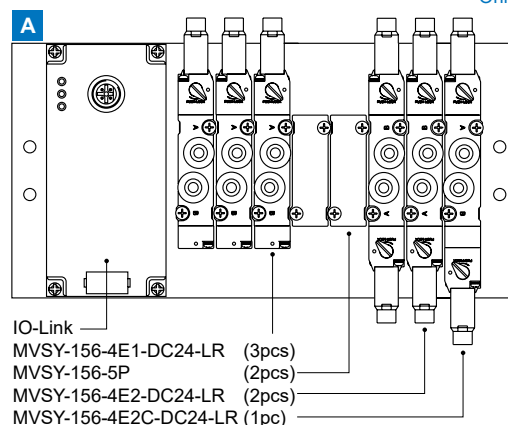
MVE2-156-5B8-3S2B2D1C-IOL

IO-Link interface + 8 manifolds +
4E1 × 3 + Blocking plate × 2 + 4E2 × 2 + 4E2C × 1
(Solenoid valves are arranged from the communication module side : SSSBDDC)

MVE2-188-5B8-UC-MPL1

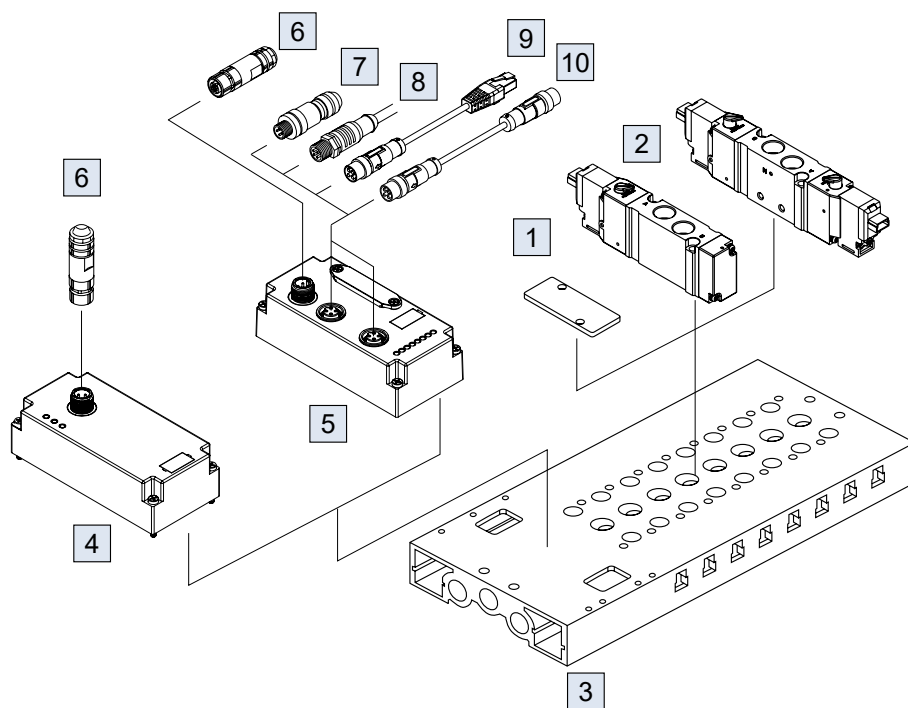
Multi-protocol interface (EtherNet/IP) + 8 manifolds +
MVSY-188 solenoid valves
Place an order according to the customized order form.

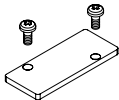
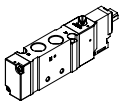
* The order of solenoid valves can be free combined, please refer to page 9 "Customized combination - Order form."



MVE2-100 / 156 / 188 / 220 Valve / Accessories

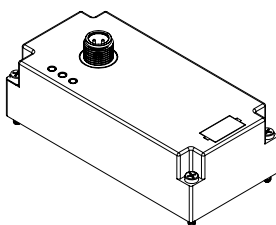
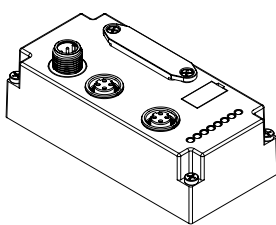
FIELD BUS SYSTEM



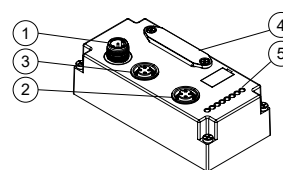
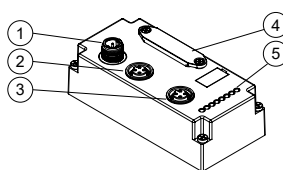
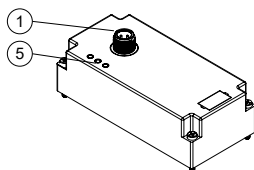
No.	Part	Order number	Page link
1		MVSY-100-5P	Link
		MVSY-156-5P	Link
		MVSY-188-5P	Link
		MVSC-220-5P	Link
2		MVSY-100-4E*-DC24-LR	Link
		MVSY-156*-4E*-DC24-LR	Link
		MVSY-188-4E*-DC24-LR	Link
		MVSC1-220-4E*-DC24-H	Link

No.	Part	Description	Page link
3	Manifold	-	Link
4	Communication module	IOL: IO-Link	Link Link
5		MPL: EtherNet/IP, EtherCAT, CC-Link IEFB, PROFINET	
		MBR: Modbus-RTU	
6	Connector	M124A-SF	Link
7	Connector	M124D-SM	Link
8	Cable with connector	M124D-SMW-PVC-3M	Link
9	Communication cable	M124D-SMSR-PVC-3M	Link
10	Communication cable	M124D-SMSM-PVC-3M	Link

Specification of SI unit (Communication module)

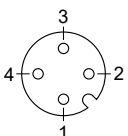
Specification		IOL	MPL		MBR
Exterior					
Communication spec.	Protocol type	IO-Link	EtherCAT PROFINET	EtherNet/IP CC-Link IEFB	Modbus-RTU
	Serial transmission speed (kbps)	COM2: 38.4 kbps COM3: 230.4 kbps	100 Mbps	10 Mbps/ 100 Mbps	9600/ 19200/ 38400/ 115200 baud rate
Power	Power type	M12 plug, 4-pin, A-coded	M12 plug, 4-pin, A-coded		
	Intrinsic power consumption, operational power (PS)	30 mA	-		
	Intrinsic power consumption, load power (PL)	30 mA	-		
	Communication module	-	0.1 A		
	Solenoid valve	-	4 A		
Solenoid valve output	Output	NPN (+com)			
	Max. manifold number	16			
	Output points	32			
Environment	Operating temp. range	-5~50 °C			
	Operating humidity range	35~85% RH (no condensation)			
	Protection	IP65	IP54		
	weight	49 g	85 g		85 g

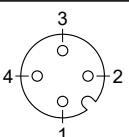
Exterior

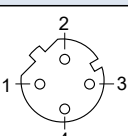


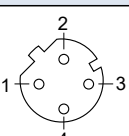
No.	Specification	IOL	MPL	MBR
1	Power interface	M12 plug, A-coded (Male)	M12 plug, A-coded (Male)	M12 plug, A-coded (Male)
2	Fieldbus communication module (OUT)	—	M12 socket, D-coded (Female)	M12 socket, D-coded (Female)
3	Fieldbus communication module (IN)	—	M12 socket, D-coded (Female)	M12 socket, D-coded (Female)
4	Dial switch	—	Protocol switching, IP address and coil settings	8-bit dial code, baud rate setting, 485 communication load resistance selection, coil number setting, slave station address setting.
5	LED indicator	Indicates operating status	Indicates operating status	Indicates operating status

Interface pin

IOL ① Power interface			
Fig	Pin	Distribute	Description
	1	24V EL/SEN	Operational power (Electronic component, Sensor switch/ Input)
	2	24V VAL/OUT	Load power (Valve / Output)
	3	0V GND	Grounding
	4	C/Q	Data communication

MPL, MBR ① Power interface			
Fig	Pin	Distribute	Description
	1	24V VAL	Solenoid valve power
	2	0V GND	Grounding
	3	24V EL	Module power
	4	0V GND	Grounding

MPL Fieldbus Communication module ② (OUT) ③ (IN)			
Fig	Pin	Distribute	Description
	1	Tx+	Send data +
	2	Rx+	Receive data +
	3	Tx-	Send data -
	4	Rx-	Receive data -

MBR 485 Communication module ② (OUT) ③ (IN)			
Fig	Pin	Distribute	Description
	1	NC	NC
	2	RS485_A	RS485 interface
	3	NC	NC
	4	RS485_B	RS485 interface

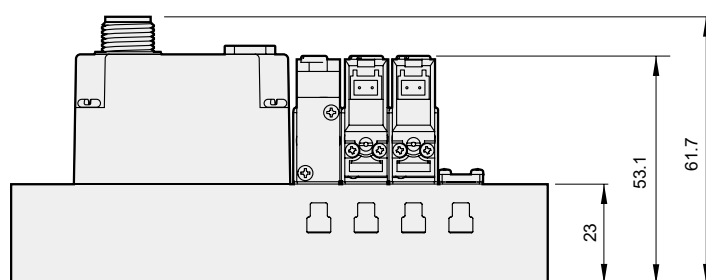
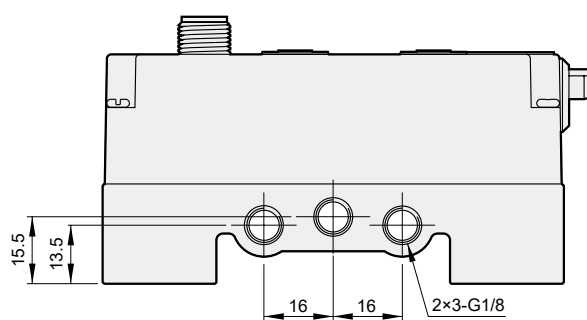
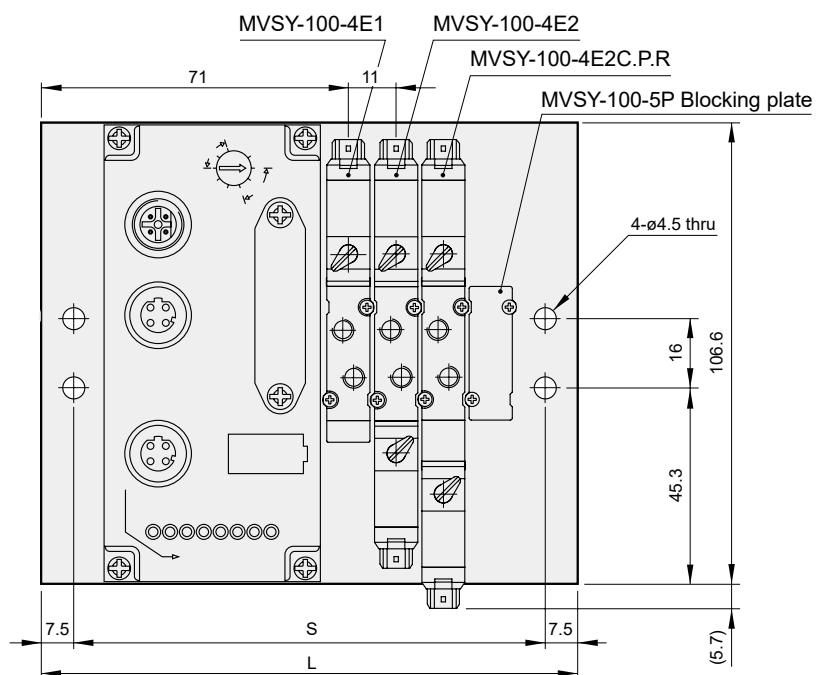
MVE2-100 Dimensions

FIELD BUS SYSTEM



Mindman

No. of stations	L	S
4	124	109
6	146	131
8	168	153
10	190	175
12	212	197
14	234	219
16	256	241



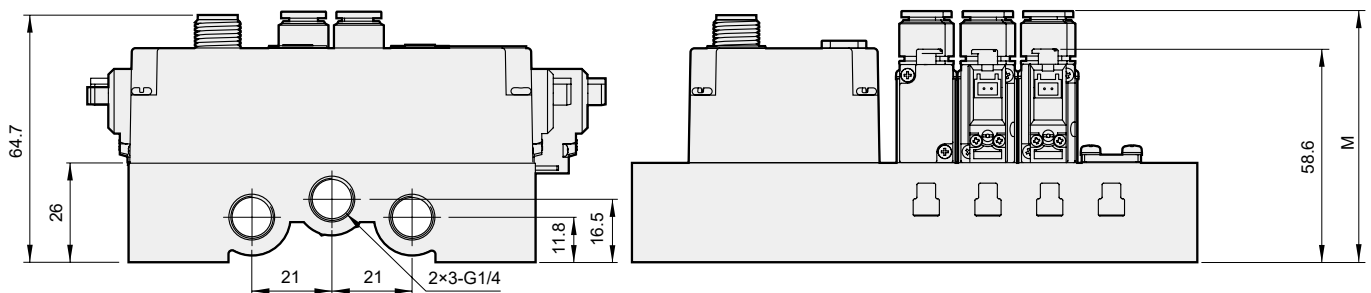
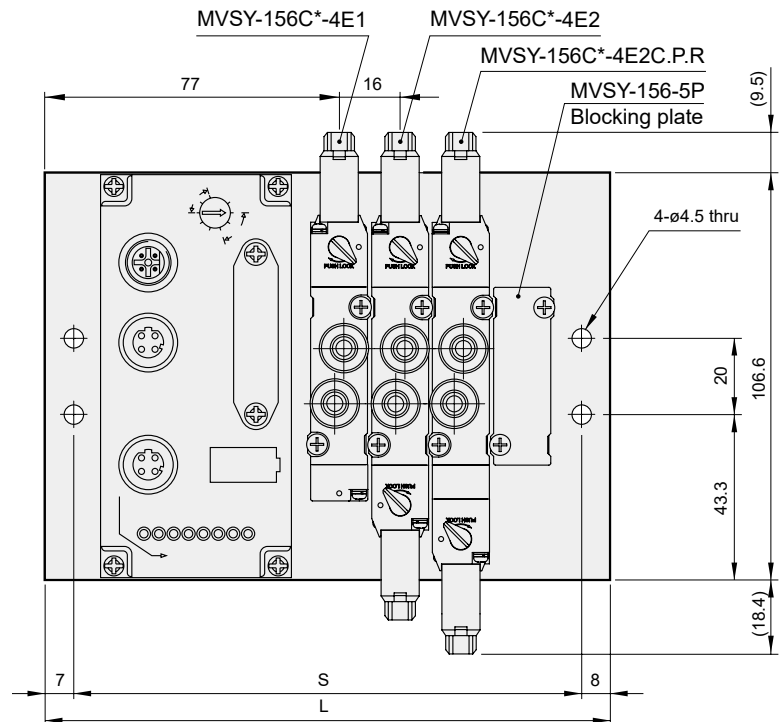
MVE2-156 Dimensions

FIELD BUS SYSTEM



Mindman

No. of stations	L	S
4	148	133
6	180	165
8	212	197
10	244	229
12	276	261
14	308	293
16	340	325
Code	M	
Tube fitting		
C4 (ø4)	(68.1)	
C6 (ø6)	(69)	
C8 (ø8)	(73.6)	



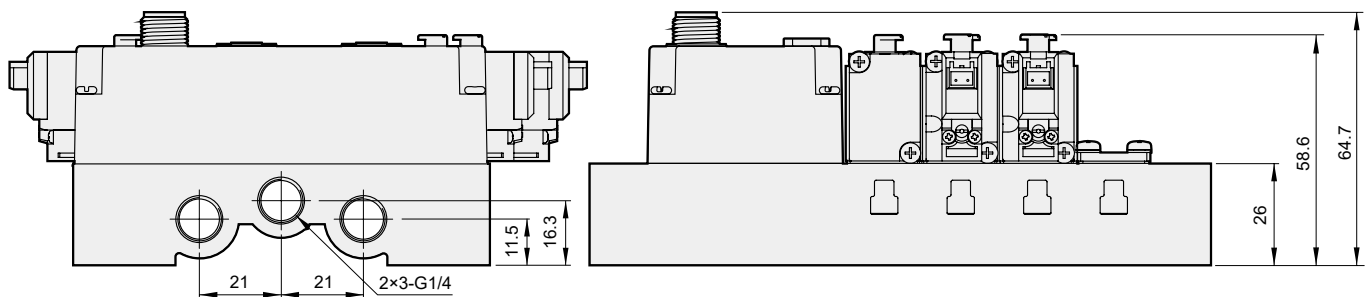
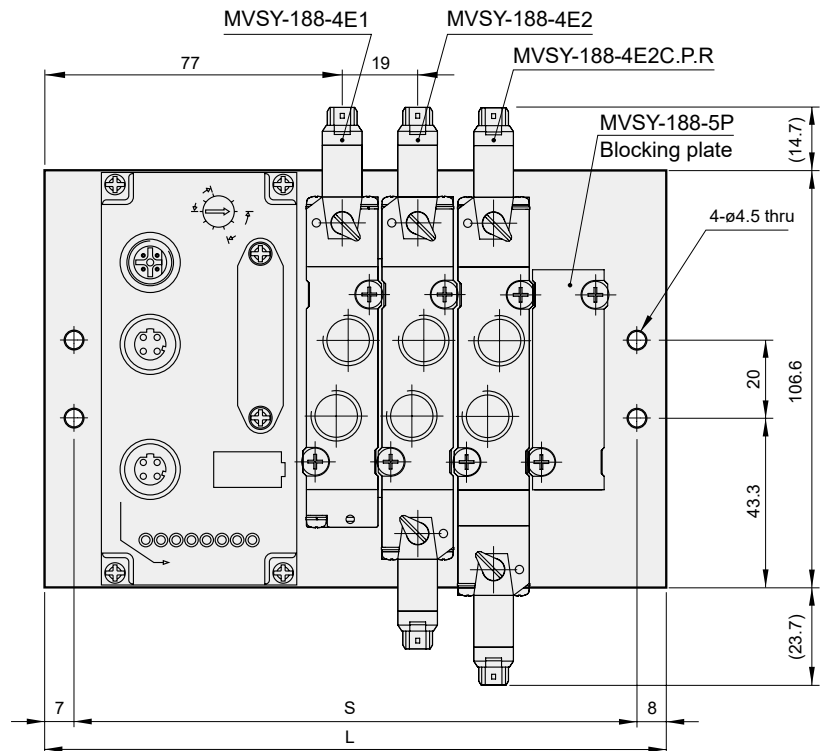
MVE2-188 Dimensions

FIELD BUS SYSTEM



Mindman

No. of stations	L	S
4	159	144
6	197	182
8	235	220
10	273	258
12	311	296
14	349	334
16	387	372



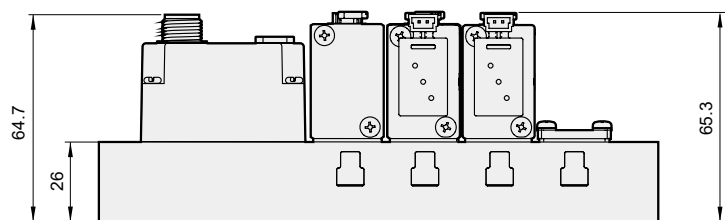
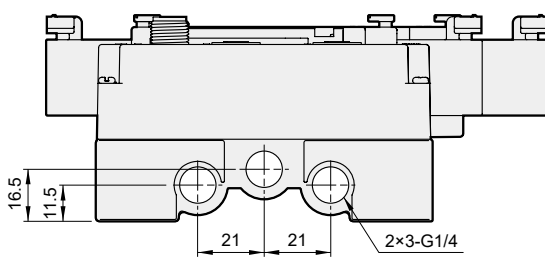
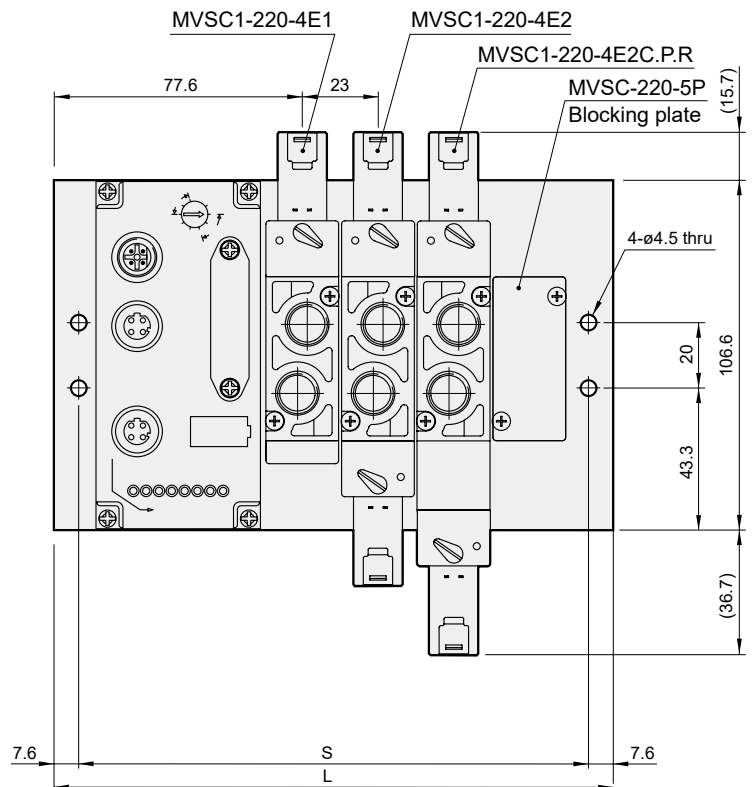
MVE2-220 Dimensions

FIELD BUS SYSTEM



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No. of stations	L	S
4	172.2	157
6	218.2	203
8	264.2	249
10	310.2	295
12	356.2	341
16	448.2	433



MVE2-UC Example of Customized combination - Order form

FIELD BUS SYSTEM



Customer information

Date Issued	Quantity	Business Unit / Sales
Company	Delivery Dat	
Contact Mr. / Ms.	☐ Complete the quotation, and place an order.	

Order Number
MVE2 — 188 — 5B 8 — UC — MPL1
Solenoid valve type Manifold Manifold station Customized combination SI unit

<table border="1"> <tr> <th colspan="2">Piping port configuration fitting</th> </tr> <tr> <td>R_{LU}</td> <td>R1/4 (Plug)</td> </tr> <tr> <td>P_L</td> <td>PL10-02</td> </tr> <tr> <td>R_{LD}</td> <td>R1/4 (Plug)</td> </tr> </table>	Piping port configuration fitting		R_{LU}	R1/4 (Plug)	P_L	PL10-02	R_{LD}	R1/4 (Plug)		<table border="1"> <tr> <th colspan="2">Piping port configuration fitting</th> </tr> <tr> <td>R_{RU}</td> <td>MSL-S-02</td> </tr> <tr> <td>P_R</td> <td>R1/4 (Plug)</td> </tr> <tr> <td>R_{RD}</td> <td>MSL-S-02</td> </tr> </table>	Piping port configuration fitting		R_{RU}	MSL-S-02	P_R	R1/4 (Plug)	R_{RD}	MSL-S-02
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R_{RU}	MSL-S-02																	
P_R	R1/4 (Plug)																	
R_{RD}	MSL-S-02																	
Solenoid valves/ Accessories (specification)	Qty	Installation Position																Note
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
MVSY-188-4E1-DC24-LR	1			√														
MVSY-188-4E2-DC24-LR	2					√		√										
MVSY-188-4E2C-DC24-LR	1						√											
MVSY-188-4E2P-DC24-LR	2				√			√										
MVSY-188-4E2R-DC24-LR	1	√																
MVSY-188-5P	1		√															
Piping port configuration fitting	Port	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Note
① PC6-02 ② PL6-02	A port	3		2	3	1	3	2	1									
③ POC8-02 ④ PLL8-02	B port	3		4	3	1	3	4	1									

Cable connector	Qty
M124A-SF	1
M124D-SMW-PVC-3M	2

Special Note

MVE2-UC Customized combination - Order form

FIELD BUS SYSTEM



Customer information

Date Issued	Quantity	Business Unit / Sales
Company	Delivery Date	
Contact Mr. / Ms.	☐ Complete the quotation, and place an order.	

Order Number				
MVE2	—	5B	—	UC
	Solenoid valve type	Manifold	Manifold station	Customized combination
				SI unit

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① ②	A port																				
③ ④	B port																				

Cable connector	Qty

Special Note