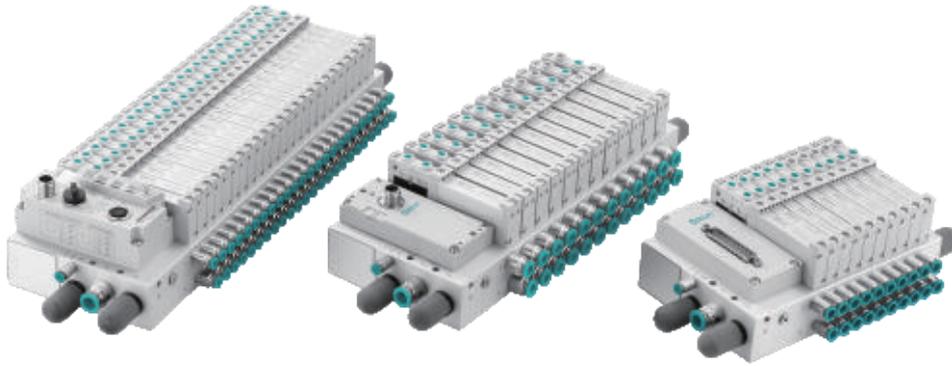


Bus-Controlled Valve Terminal

MSY Series

Product Information



Product Features

- For modular pneumatic control systems
- Excellent flexibility and scalability
- Solenoid valves available in 10mm and 14mm sizes
- Each coil has an independent power management module, reducing power consumption by up to 70%
- Indicators visible from all angles for quick troubleshooting
- Up to 24 valve positions
- Protection rating IP65
- Internal or external pilot option available

Specifications

Number of Stations	4, 5, 6, 7, 8, 9, 10, 12, 14, 16, 20, 24	
Electrical Connection	D-SUB25 Multipin, IO-Link, PROFINET, EtherCAT, EtherNet/IP, CC-Link IE Field Basic	
Voltage	24VDC ± 10%	
Power Consumption	Maximum 1.2W per coil	
Flow Rate	Up to 600L/min (depending on valve type)	
Working Ports	10mm: Inlet=Outlet=G1/4" Working Port=M7*1	14mm: Inlet=Outlet=G1/4" Working Port=G1/8"
Working Pressure	Pilot Pressure	Refer to P08RDF solenoid valve specifications

Ordering Code

MSY	C	14	E	1C	2D	5S	IOL
	↓	↓	↓	↓	↓	↓	↓
	Valve Type	Valve width	Pilot air source	Number of valve positions and valve functions			Communication module
	C: Plate-type outlet F: Semi-tubular outlet B: Plate-type bottom outlet	10: 10mm 14: 14mm	Blank: Internal pilot E: External pilot	Letters represent valve function, numbers represent quantity C: 3-position, 5-port, center closed E: 3-position, 5-port, center exhaust P: 3-position, 5-port, center pressure D: 2-position, 5-port, double coil NC: Double 2-position, 3-port NC NO: Double 2-position, 3-port NO OC: 2-position, 3-port NC /NO S: 2-position, 5-port, single coil B: Blanking plate			MC:D-SUB25 IOL: IO-Link PNT: PROFINET ECT: EtherCAT EIP: EtherNet/IP CIEBS: CC-Link IE Field Basic
Q10	L	A	U	L	Q4		
↓	↓	↓	↓	↓	↓		
Inlet Connector Size	Inlet Connector Mounting Position	Inlet Connector type	Silencer options	Silencer Mounting Position	Working Port Connector Size		
Blank: No connector installed Q6: 6mm quick plug connector Q8: 8mm quick plug connector Q10: 10mm quick plug connector Q12: 12mm quick plug connector	Blank: Mounted on both sides L: Left side mounted, right side blocked R: Right side mounted, left side blocked	Blank: Straight plug type A: 90-degree elbow connector	Blank: No silencer installed U: Silencer installed	Blank: Mounted on both sides L: Left side mounted, right side blocked R: Right side mounted, left side blocked	Blank: No connector installed Q4: 4mm quick plug connector Q6: 6mm quick plug connector Q8: 8mm quick plug connector		

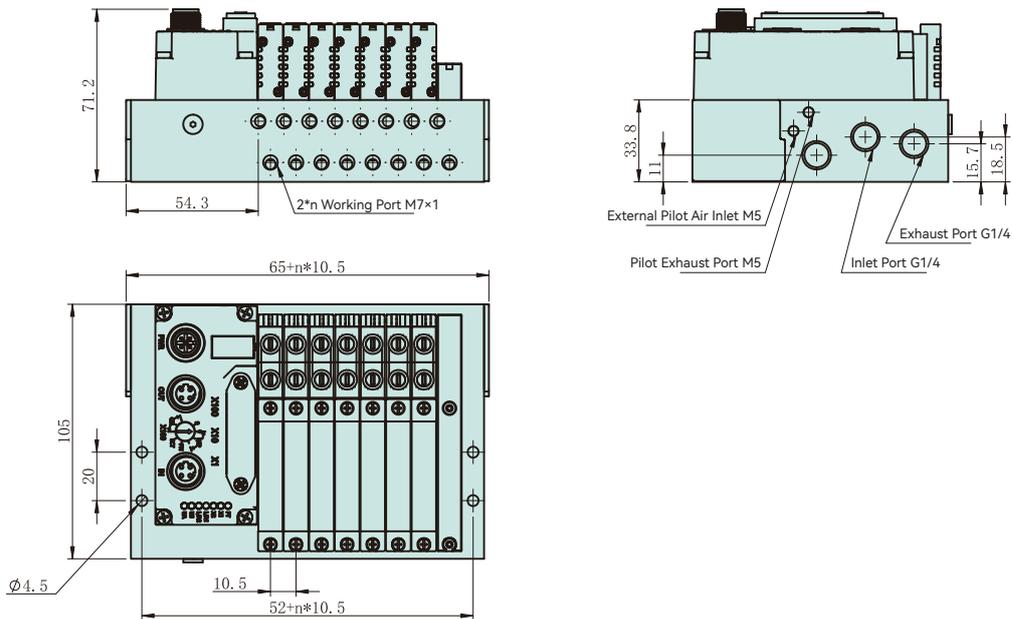
- When mixing different valve types, the default installation order from left to right is C, E, P, D, NC, NO, NOC, S, B;
- The side near the electrical interface is defined as the left side of the valve bank.

Bus-Controlled Valve Terminal MSY Series

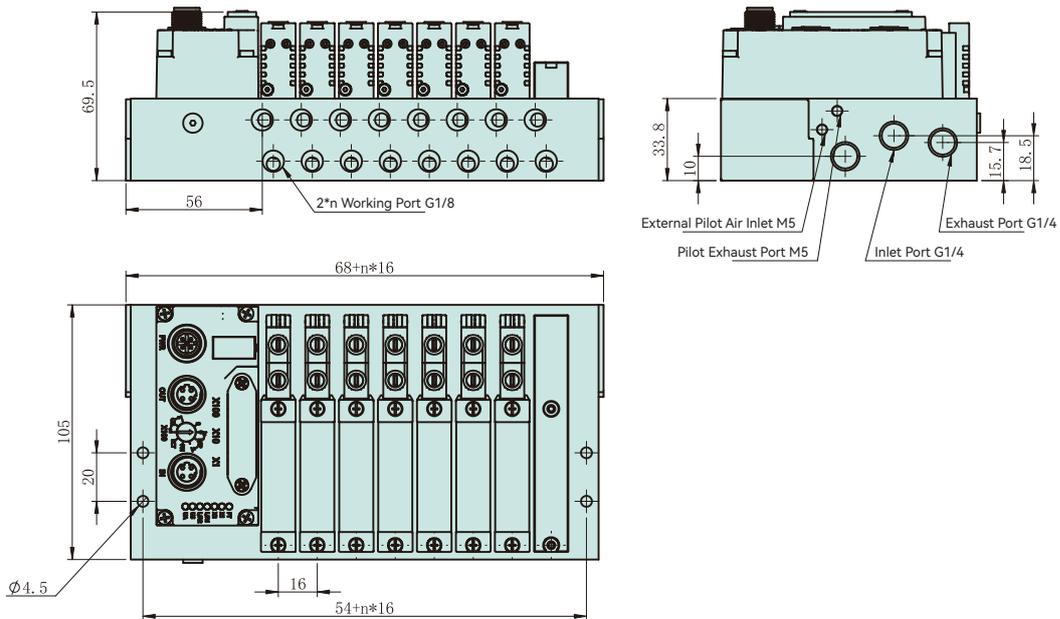
Product Information

External Dimensions

• 10mm



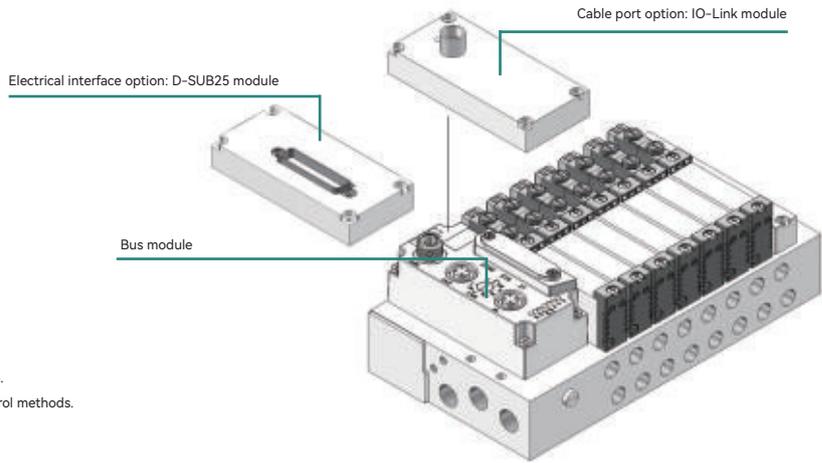
• 14mm



Bus-Controlled Valve Terminal MSY Series

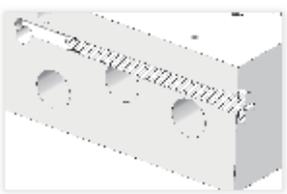
Product Information

Structure Diagram



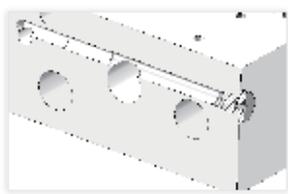
- The control module uses a quick-installation form.
- Allows switching between different buses or control methods.

Internal/External Pilot Switching Function



External Pilot

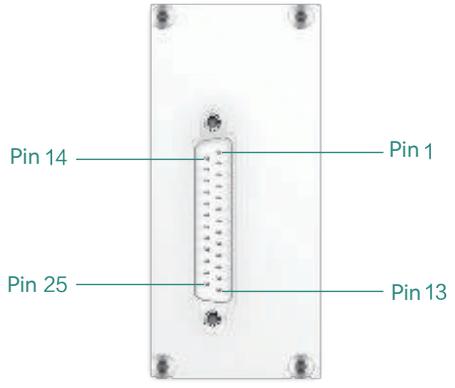
- Installing a pilot switching screw at the pilot switching hole enables external pilot function. Pilot air is supplied through the external pilot inlet M5 threaded hole on the end face of the base plate.



Internal Pilot

- Installing an M5 plug at the pilot switching hole enables internal pilot function. Pilot air directly uses the air from the base plate inlet.

Multipin Module Introduction



Name	Ordering Code
Multipin Module	M1-25-SUB

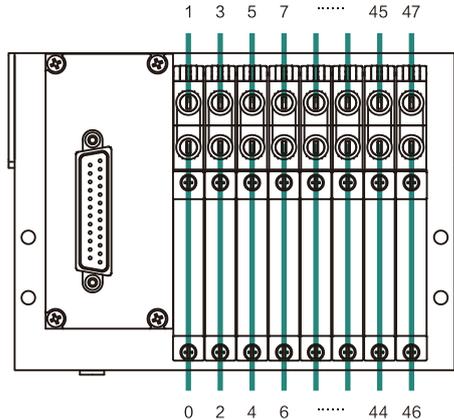
- Depending on the connection method, the valve terminal can control up to 24 valve coils. Each valve coil of the terminal corresponds to a specific pin on the multipin plug.

Bus-Controlled Valve Terminal

MSY Series

Product Information

Multipin Module Coil Definition



PIN	Address	Maximum Number of Valve Positions			
		4~12	16	20	24
		Valve Position No./Coil Name			
1	0	0/14	0/14	0/14	0/14
2	1	0/12	0/12	0/12	23/14
3	2	1/14	1/14	1/14	1/14
4	3	1/12	1/12	1/12	22/14
5	4	2/14	2/14	2/14	2/14
6	5	2/12	2/12	2/12	21/14
7	6	3/14	3/14	3/14	3/14
8	7	3/12	3/12	3/12	20/14
9	8	4/14	4/14	4/14	4/14
10	9	4/12	4/12	19/14	19/14
11	10	5/14	5/14	5/14	5/14
12	11	5/12	5/12	18/14	18/14
13	12	6/14	6/14	6/14	6/14
14	13	6/12	6/12	17/14	17/14
15	14	7/14	7/14	7/14	7/14
16	15	7/12	7/12	16/14	16/14
17	16	8/14	8/14	8/14	8/14
18	17	8/12	15/14	15/14	15/14
19	18	9/14	9/14	9/14	9/14
20	19	9/12	14/14	14/14	14/14
21	20	10/14	10/14	10/14	10/14
22	21	10/12	13/14	13/14	13/14
23	22	11/14	11/14	11/14	11/14
24	23	11/12	12/14	12/14	12/14
25		COM			

● Valve positions corresponding to the gray area can accommodate double-coil valves.

Bus-Controlled Valve Terminal MSY Series

Product Information

IO-LINK Module Introduction



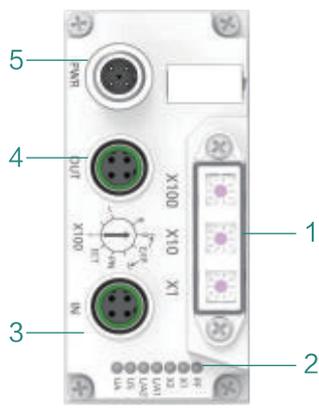
Name	Ordering Code	Explanation
IO-Link Module - 8 Valve Positions	MSY-VTE-8-PT	Base Plate for up to 8 Valve Positions
IO-Link Module - 16 Valve Positions	MSY-VTE-16-PT	Base Plate for up to 16 Valve Positions
IO-Link Module - 24 Valve Positions	MSY-VTE-24-PT	Base Plate for up to 24 Valve Positions

IO-Link Cable Connector Pin Assignment			
Interface	Pin	Assignment	Function
	1	24V EL/SEN(PS)	Operating Power
	2	24V BAL/OUT(PL)	Load Power
	3	0V EL/SEN(PS)	Operating Power
	4	C/Q	Communication power
	5	0V VAL/OUT(PL)	Load Power

O-Link LED Indicator		Driver File IO-Link Properties			
Green light blinking	Normal operation status	Specification Version	V1.1	Interface	2 bytes
Red light steady on	24V load power fault or no IO-Link signal	Data Transfer Rate	COM2(38.4KBit)		4 bytes
Blue light steady on	Communication open circuit or overload				6 bytes

• If required, ODD files can be provided.

Multipin Module Coil Definition



Name	Ordering Code	Explanation
Bus Module - PNT	CTEU-PNT	PROFINET Protocol
Bus Module - ECT	CTEU-ECT	EtherCAT Protocol
Bus Module - EIP	CTEU-EIP	therNet/IP Protocol
Bus Module - CIEBS	CTEU-CIEBS	CC-Link IE Field Basic Protocol
Bus Module - Multi-protocol	CTEU-MPL	Supports the above four protocols

No.	Name	Description
1	DIP Switch	Protocol switching, IP address, and coil settings
2	LED Status Indicator	Indicates operation status
3	Bus Communication Interface (IN)	M12 female 4-pin port
4	Bus Communication Interface (OUT)	M12 female 4-pin port
5	Power Interface	M12 male A-coded 4-pin port, supplies power to communication module and solenoid valves

Power Interface			
M12, 4-pin, A-coded, male (PWR)			
	Pin	Function	
	1	UA	Load Power
	2	GND	Load Power
	3	US	Module Power
	4	GND	Module Power

Bus Communication Interface (OUT)			
M12, 4-pin, D-coded female			
	Pin	Function	
	1	TX+	Transmit Data+
	2	RX+	Receive Data+
	3	TX-	Transmit Data-
	4	RX-	Receive Data-

Bus Communication Interface (IN)			
M12, 4-pin, D-coded female			
	Pin	Function	
	1	TX+	Transmit Data+
	2	RX+	Receive Data+
	3	TX-	Transmit Data-
	4	RX-	Receive Data-

• If required, the corresponding driver files can be provided.

Bus-Controlled Valve Terminal

MSY Series

Product Information

FDF Solenoid Valve Specifications

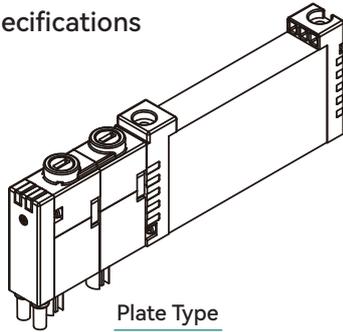
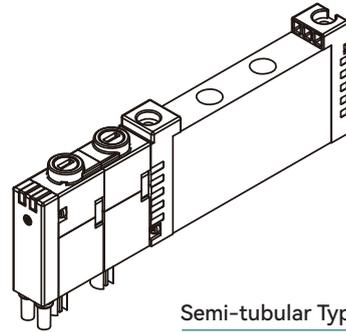


Plate Type



Semi-tubular Type

- For the plate-type FDF valve, all 5 ports (inlet, exhaust, and 2 working ports) are located on the bottom. For the semi-tubular FDF valve, the inlet and exhaust ports are on the bottom, while the 2 working ports are on the top.
- All solenoid valves are externally piloted valves. Internal pilot function can be achieved by adjusting the switching screw on the valve base plate.

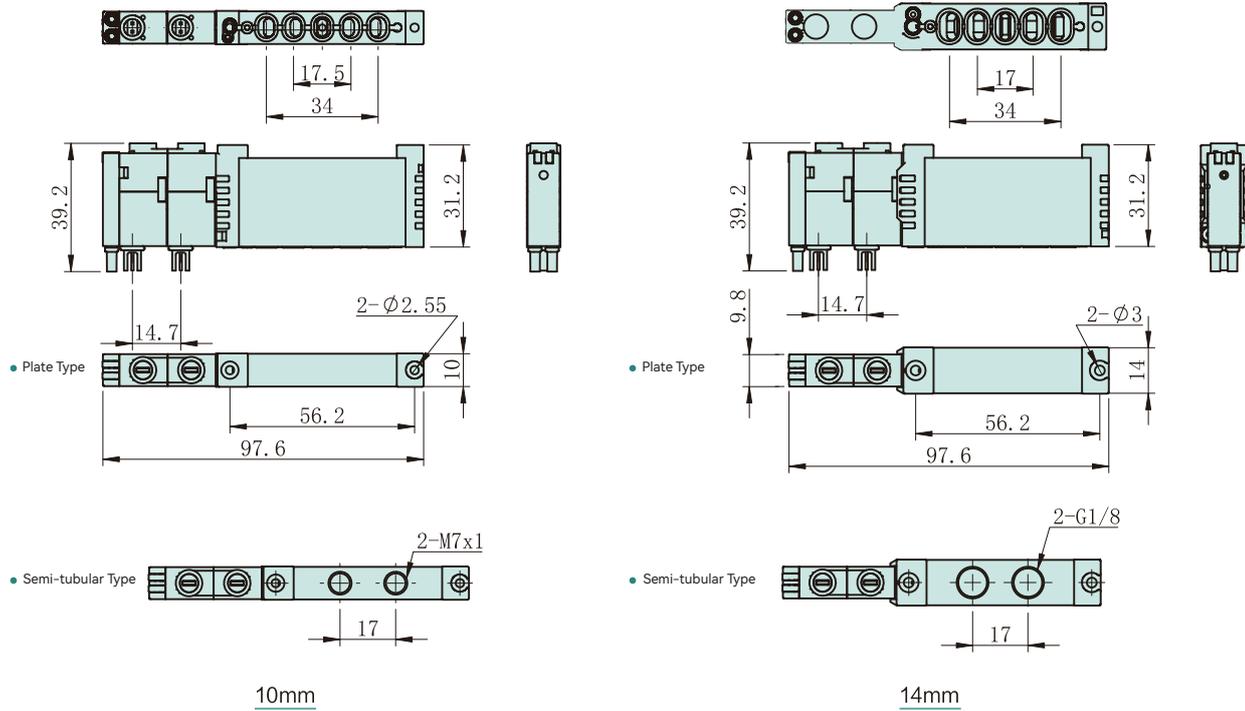
Ordering Code	Port Connection Types	Valve width	Function	Graphic symbols
M-FDF-C14-510	Plate Type	14	2-position, 5-port, single solenoid	
M-FDF-F14-510	Semi-tubular Type			
M-FDF-C10-510	Plate Type	10	2-position, 5-port, single solenoid	
M-FDF-F10-510	Semi-tubular Type			
M-FDF-C14-520	Plate Type	14	2-position, 5-port, double solenoid	
M-FDF-F14-520	Semi-tubular Type			
M-FDF-C10-520	Plate Type	10	2-position, 5-port, double solenoid	
M-FDF-F10-520	Semi-tubular Type			
M-FDF-C14-530	Plate Type	14	3-position, 5-port, center closed	
M-FDF-F14-530	Semi-tubular Type			
M-FDF-C10-530	Plate Type	10	3-position, 5-port, center closed	
M-FDF-F10-530	Semi-tubular Type			
M-FDF-C14-533	Plate Type	14	3-position, 5-port, center exhaust	
M-FDF-F14-533	Semi-tubular Type			
M-FDF-C10-533	Plate Type	10	3-position, 5-port, center exhaust	
M-FDF-F10-533	Semi-tubular Type			
M-FDF-C14-534	Plate Type	14	3-position, 5-port, center pressure	
M-FDF-F14-534	Semi-tubular Type			
M-FDF-C10-534	Plate Type	10	3-position, 5-port, center pressure	
M-FDF-F10-534	Semi-tubular Type			
M-FDF-C14-310	Plate Type	14	Two (units of) 2-position, 3-port valves	
M-FDF-F14-310	Semi-tubular Type			
M-FDF-C10-310	Plate Type	10	Two (units of) 2-position, 3-port valves	
M-FDF-F10-310	Semi-tubular Type			
M-FDF-C14-312	Plate Type	14	Two (units of) 2-position, 3-port valves	
M-FDF-F14-312	Semi-tubular Type			
M-FDF-C10-312	Plate Type	10	Two (units of) 2-position, 3-port valves	
M-FDF-F10-312	Semi-tubular Type			
M-FDF-C14-314	Plate Type	14	Two (units of) 2-position, 3-port valves	
M-FDF-F14-314	Semi-tubular Type			
M-FDF-C10-314	Plate Type	10	Two (units of) 2-position, 3-port valves	
M-FDF-F10-314	Semi-tubular Type			

Bus-Controlled Valve Terminal

MSY Series

Product Information

Solenoid Valve External Dimensions



Solenoid Valve Performance Introduction

Specification		Internal Pilot		External Pilot		Flow Rate (L/min)
		Working Pressure	Pilot Pressure (bar)	Working Pressure (bar)	Working Pressure (bar)	
10mm	M-FDF-510	2-8	2-8	0-8	300	
	M-FDF-520	2-8	2-8	0-8	300	
	M-FDF-530	3-8	3-8	0-8	260	
	M-FDF-533	3-8	3-8	0-8	260	
	M-FDF-534	3-8	3-8	0-8	260	
	M-FDF-310	2.5-8	2.5-8	2-8	280	
	M-FDF-312	2.5-8	2.5-8	2-8	280	
	M-FDF-314	2.5-8	2.5-8	2-8	280	
14mm	M-FDF-510	2-8	2-8	0-8	560	
	M-FDF-520	2-8	2-8	0-8	560	
	M-FDF-530	3-8	3-8	0-8	500	
	M-FDF-533	3-8	3-8	0-8	500	
	M-FDF-534	3-8	3-8	0-8	600	
	M-FDF-310	2.5-8	2.5-8	2-8	600	
	M-FDF-312	2.5-8	2.5-8	2-8	500	
	M-FDF-314	2.5-8	2.5-8	2-8	500	

Bus-Controlled Valve Terminal

MSY Series

Product Information

Valve Terminal Other Accessories

Multipin Module Cabl	Name	Ordering Code
	Communication Cable (DB25 Female-Bare Wire) 2.5M	S1WA25-K-2.5
	Communication Cable (DB25 Female-Bare Wire) 5M	S1WA25-K-5
IO-Link Module Communication Cable	Name	Ordering Code
	Communication Cable (M12 Female-Bare Wire) Straight 2M	M12-5FS-2115-2M
	Communication Cable (M12 Female-Bare Wire) Straight 4M	M12-5FS-2115-4M
Bus Module Cables	Name	Ordering Code
	Power Cable 2M	M12-4FS-2104-2M
	Power Cable 4M	M12-4FS-2104-4M
	Communication Cable (M12 Male-Bare Wire) 2M	M12D-4MS.P-5544-2M
	Communication Cable (M12 Male-Bare Wire) 4M	M12D-4MS.P-5544-4M
	Communication Cable (M12 Male-M12 Male) 2M	M12D-4MS/M12D-4MS.P-5544-2M
	Communication Cable (M12 Male-M12 Male) 4M	M12D-4MS/M12D-4MS.P-5544-4M
	Communication Cable (M12 Male-RJ45) 2M	M12D-4MS/RJ45Y.P-5544-2M
	Communication Cable (M12 Male-RJ45) 4M	M12D-4MS/RJ45Y.P-5544-4M

• For cables of other lengths, please inquire before ordering.

Ordering Code

Ordering Code	Valve Width	Connection	Ordering Code	Valve Width	Connection
M-FDM-C10-4F	10	4	M-FDM-C14-4F	14	4
M-FDM-C10-5F	10	5	M-FDM-C14-5F	14	5
M-FDM-C10-6F	10	6	M-FDM-C14-6F	14	6
M-FDM-C10-7F	10	7	M-FDM-C14-7F	14	7
M-FDM-C10-8F	10	8	M-FDM-C14-8F	14	8
M-FDM-C10-9F	10	9	M-FDM-C14-9F	14	9
M-FDM-C10-10F	10	10	M-FDM-C14-10F	14	10
M-FDM-C10-12F	10	12	M-FDM-C14-12F	14	12
M-FDM-C10-16F	10	16	M-FDM-C14-16F	14	16
M-FDM-C10-20F	10	20	M-FDM-C14-20F	14	20
M-FDM-C10-24F	10	24	M-FDM-C14-24F	14	24

• 10mm

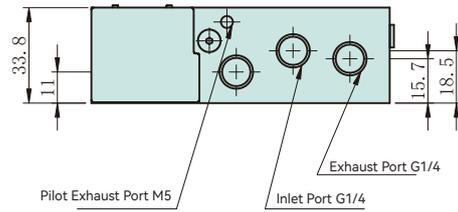
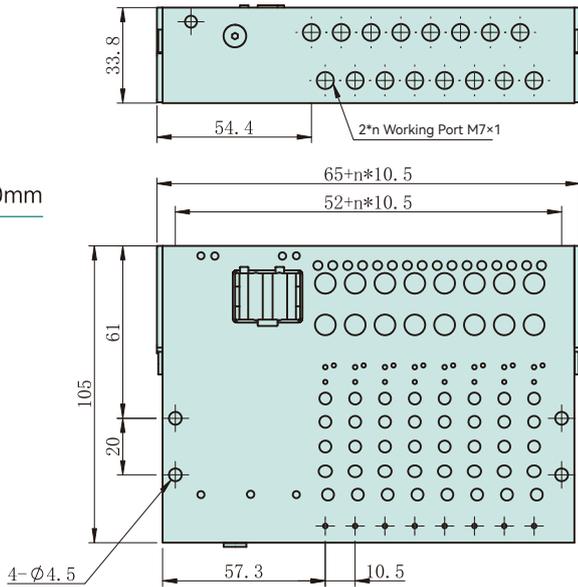
• 14mm

Bus-Controlled Valve Terminal MSY Series

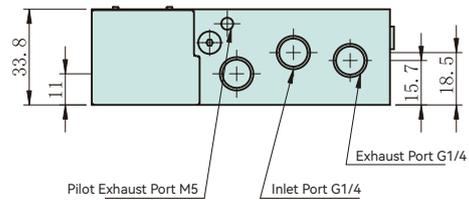
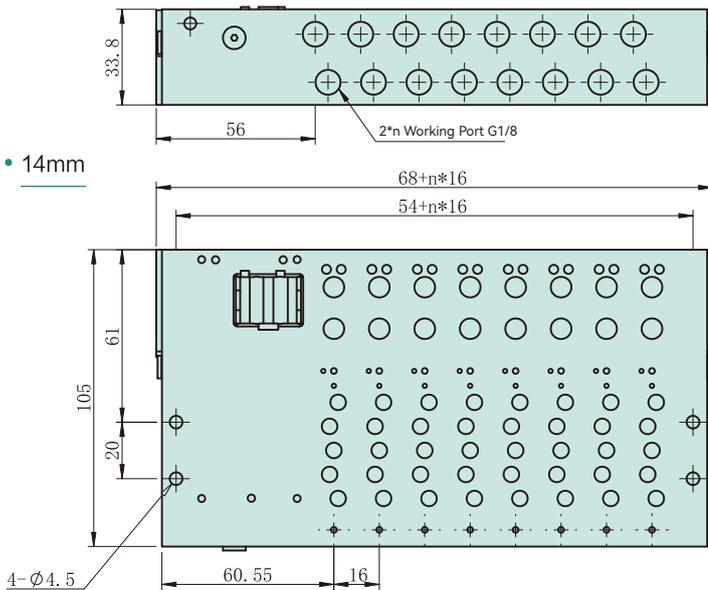
Product Information

External Dimensions

• 10mm



• 14mm



IO-Link Controlled Valve Terminal MSY-100 Series

Product Information



Product Features

- Centralized arrangement of supply and exhaust ports for compact interfaces
- Uses D-SUB25 multipin or IO-Link interface, saving wiring time and effort
- Each valve equipped with a working indicator light for easy debugging
- Can integrate up to 24 single-coil solenoid valves
- Can provide double-coil valve solutions

Specifications

Model	100 Series		
Position Type	2-position, 5-port, single solenoid	2-position, 5-port, Double solenoid	3-position, 5-port, Double solenoid
Effective Cross-sectional Area	12mm ² (CV=0.67)		9mm ² (CV=0.5)
Port Sizes	Inlet/Exhaust Port=G1/4 Working Port=G1/8		
Working Medium	Air filtered to 40 microns		
Actuation Method	Internal Pilot		
Operating Pressure Range	0.15~0.8Mpa		
Maximum Withstand Pressure	1.2Mpa		
Operating Temperature	-10° ~ 60°		
Voltage Range	24VDC ± 10%		
Power Consumption	2.5W per valve		
Insulation Class & Protection Rating	Class F		
Maximum Operating Frequency	5 times per second		
Minimum Excitation Time	0.05 seconds		

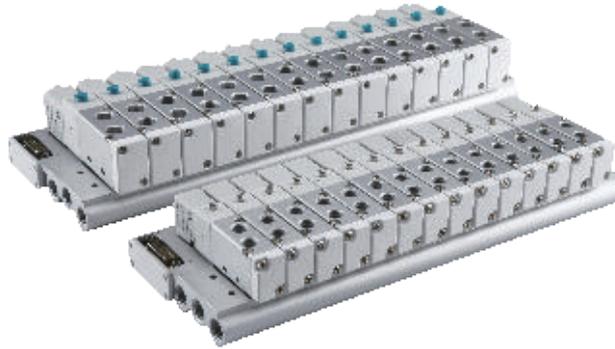
Ordering Code

MSY	-	100	-	4S	-	2D	-	1C	1E	1P	-	IOL
Specification Code		Series		Coils & Positions		Coils & Positions		Coils & Positions				Communication Module
		100 Series		Blank: No single solenoid 4S: Single solenoid valve		Blank: No double solenoid 2D: Double solenoid valve (2 pcs)		Blank: No double solenoid 3-position valve 1C: Double solenoid 3-position, center closed (1 pc) 1E: Double solenoid 3-position, center exhaust (1 pc) 1P: Double solenoid 3-position, center pressure (1 pc)				IOL: IO-Link MC: D-SUB25 Multipin

Multipin Controlled Valve Terminal

M-MCS2 Series

Product Information



Product Features

- Centralized arrangement of supply and exhaust ports for compact interfaces
- Uses D-SUB15 interface, saving wiring time and effort
- Each valve equipped with a working indicator light for easy debugging
- Can integrate up to 14 single-coil solenoid valves
- Can provide double-coil valve solutions

Specifications

Model	100 Series			200 Series		
Position Type	2-pos, 5-port single solenoid	2-pos, 5-port double solenoid	3-pos, 5-port double solenoid	2-pos, 5-port single solenoid	2-pos, 5-port double solenoid	3-pos, 5-port double solenoid
Effective Cross-sectional Area	12mm ² (CV=0.67)		9mm ² (CV=0.5)	16mm ² (CV=0.89)		12mm ² (CV=0.5)
Port Sizes	Inlet/Exhaust=G1/4 Working Port=G1/8			Inlet/Exhaust=G1/4 Working Port=G1/4		
Working Medium	Air filtered to 40 microns					
Actuation Method	Internal Pilot					
Operating Pressure Range	0.15~0.8Mpa					
Maximum Withstand Pressure	1.2Mpa					
Operating Temperature	-10° ~ 60°					
Voltage Range	24VDC ± 10%					
Power Consumption	2.5W per valve			3W per valve		
Insulation Class & Protection Rating	Class F					
Maximum Operating Frequency	5 times per second					
Minimum Excitation Time	0.05 seconds					

Ordering Code

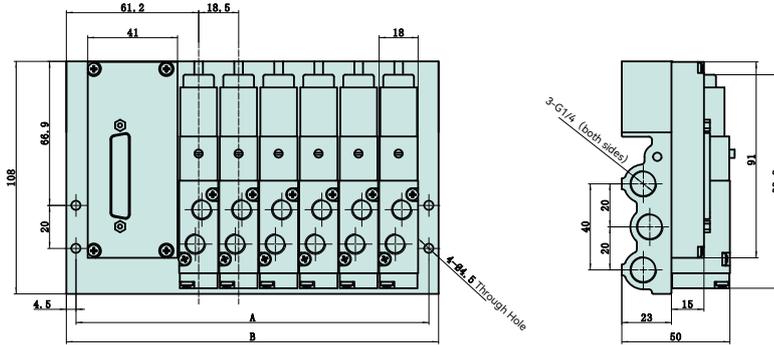
M-MCS2	-	100	-	4S	-	2D	-	1C	1E	1P	-	DC24V
Specification Code		Series		Coils & Positions		Coils & Positions		Coils & Positions				stranded voltage
		100 Series		Blank: No single solenoid		Blank: No double solenoid		Blank: No double solenoid 3-position valve				DC24V
		200 Series		4S: Single solenoid valve		2D: Double solenoid valve (2 pcs)		1C: Double solenoid 3-position, center closed (1 pc)				
								1E: Double solenoid 3-position, center exhaust (1 pc)				
								1P: Double solenoid 3-position, center pressure (1 pc)				

IO-Link/Multipin Controlled Valve Terminal

MSY-100/M-MCS2 Series

Product Information

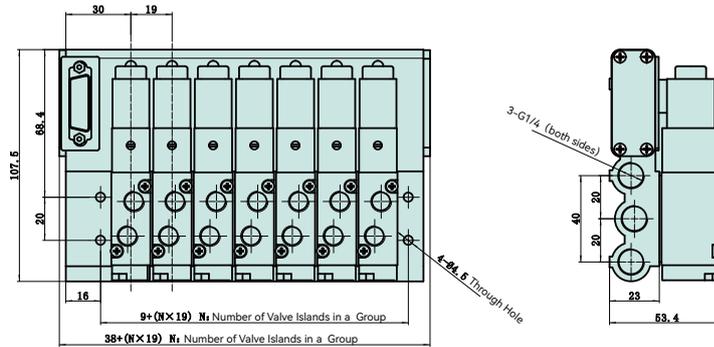
MSY-100 Series External Dimensions



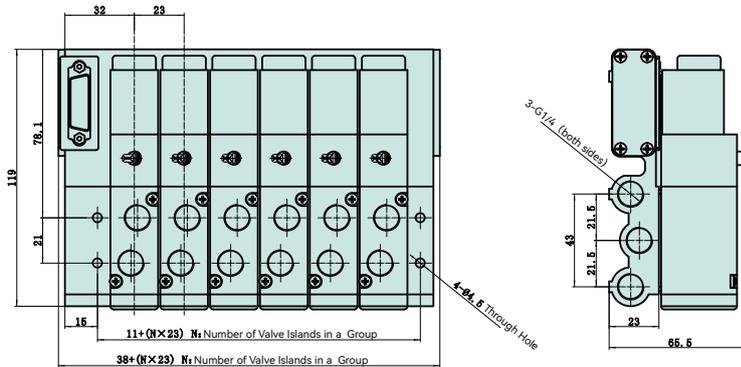
Number of Valve Positions	4	5	6	7	8	9	10	12	16	20	24
A	126.2	144.7	163.2	181.7	200.2	218.7	237.2	274.2	348.2	422.2	496.2
B	135.2	153.7	172.2	190.7	209.2	227.7	246.2	283.2	357.2	431.2	505.2

M-MCS2 Series External Dimensions

M-MCS2-100 Series



M-MCS2-200 Series



Valve Terminal Other Accessories

MSYE Series Cables

Communication Cable (DB25 Female to Bare Wire) 2.5M

Communication Cable (DB25 Female to Bare Wire) 5M

ordering code

S1WA25-K-2.5

S1WA25-K-5

M-MCS2 Series Cables

MCS2 Series Cable 3 Meter

MCS2 Series Cable 5 Meter

ordering code

DB15-S-14-300 Cable

DB15-S-14-500 Cable