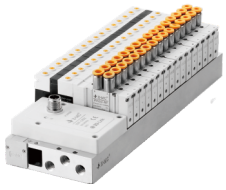
ESV

Solenoid Valve&Valve Terminal

PROFINET
EtherCAT
EtherNet/IP
DeviceNet
CC-Link

Product Features

* Compatible Protocols:PROFINET、EtherCAT、EtherNet/IP、DeviceNet and CC–Link.
* 32 output and 48 output optional
* Equipped with two M12 BUS Interface, realize daisy–chain wiring communication, branch connector is not neccessary.
* system diagnosis,communication error,working life count,short circuit protection,open circuit inspection, opposite connection protection , undervoltage and overvoltage diagnosis .
* Safe output can be set at any point in module parameter interface. For example, when the bus connection is interrupted, the valve could keep the last condition, or be forced to close or open.
* The shielded cable has strong anti–interference ability and the communication is stable and reliable.



IO-Link

Product Features

* Compatible Protocols: I/O–Link,general–purpose 5–wire unshielded cables are used for connection I/O–Link master and exchange data with PLC.
* Support hot swap,data is stored in the I/O–LINK master,no need to reconfigure parameters to replace the valve island,The newly replaced is automatically identified and start to work at once,reduce equipment downtime, reduce maintenance costs, and improve production efficiency
* Diagnostic functions:system diagnosis,communication error,short circuit protection.
* Independent of fieldbus,possess strong industrial network compatibility,supply popular fieldbus and industry ethernet.
* Communication is completely digitally transmitted,reduce the accuracy loss of analog–to–digital conversion,possess strong anti–interference ability. Maximum transmission distance is 20 meters.

How to Order?

ES Fieldbus Valve Terminal

Series No. — Body Size — Piping Type — Communication Protocol — □ □ — □ □ — Voltage — Pilot Type — Wiring Type — Manifold Port — Mounting — Thread Type

- Series No.: ES: Fieldbus valve terminal; ESN:Energy saving fieldbus valve terminal
- Body Size: 1: 1 series; 2: 2 series
- Piping Type: V: Top ported; VM: Side ported; VB: Bottom ported
- Communication Protocol: see table below
- Qty: (Max.24 links for same valve of single control; Max.16 links for same valve of double control)
- Valve quantity for different port: see table below
- Voltage: E4: DC24V
- Pilot Type: Blank: Interal pilot; WB: External pilot①
- Wiring Type: Blank: Double control wiring (max.24 links); S: Single control wiring (max.24 links); (Note:Mix wiring is available to customize)
- Manifold Port: see table below
- Mounting: Blank: Without accessories; D: With DIN rail clip and 1M guide rail; D0: With DIN rail clip, no guide rail; DIN guide rail packed separatly (if order with guide rail, the guide rail will be packed separately)
- Thread Type: Blank: G; P: PT; T: NPT

Protocols type	Communication Protocol	Output	Max Valve Quatity	
			Single control	Double control
EC32	EtherCAT	32	24	16
EC48		48	—	24
PN32	PROFINET	32	24	16
PN48		48	—	24
EP32	EtherNet/IP	32	24	16
EP48		48		24
CC32	CC–Link	32	24	16
CC48		48	—	24
DN16	DeviceNet	16	16	8
DN32		32	24	16
LK16	IO-Link	16	16	8
LK32		32	24	16
LK48		48	—	24
DB44	D–SUB44	42	②	

No.	Code	Port size	Remark
1Series	M5	M5: M5 port	assembly sequence, 1st link start from U side
	C4	ϕ4 one–touch fitting(ZPOC04–M7C)	
	M7	M7: M7 port	
	C6	ϕ6 one–touch fitting(ZPOC06–M7C)	
2Series	06	1/8 port	
	C4	ϕ4 one–touch fitting(ZPOC04–01G)	
	C6	ϕ6 one–touch fitting(ZPOC06–01G)	
	C8	ϕ8 one–touch fitting(ZPOC08–01G)	

Code	Port entry	1Series	2Series	Remark
Blank	Both side without silencer, fitting, plug	–	–	1) plugs are mounted on the opposite of the selected ports; 2) only U,U1,UL is available for bottom ported 3) No need this code if order manifold only
U	U side with silencer, PC fitting	ϕ8	ϕ10	
N	Station N with silencer, PC fitting			
UN	Both side with silencer, PC fitting			
UL	U side with silencer,PL fitting			
NL	Station N with silencer,PL fitting			
UNL	Both side with silencer,PL fitting			
U1	U side with silencer, POC fitting	ϕ10	ϕ12	
N1	Station N with silencer, POC fitting			
UN1	Both side with silencer, POC fitting			

Code	Function	Remark
S	5/2 single	assembly sequence, 1st link start from U side
D	5/2 double	
C	5/3 center closed	
P	5/3 center pressure	
E	5/3 center exhaust	
①Y	2pcs 3/2 (N.C.)	
①H	2pcs 3/2 (N.O.)	
①U	2pcs 3/2 (N.O./N.C.)	
①YK	2pcs 3/2 (N.C.) spring return	
①HK	2pcs 3/2 (N.O.) spring return	
①UK	2pcs 3/2 (N.O./N.C.) spring return	
B	blind plate	
TA	port 1 air supply pressure separate	
TG	port 3/5 air exhaust pressure separate	
TL	port 1/3/5 air supply & exhaust pressure separate	
N	air supply & exhaust moudle	

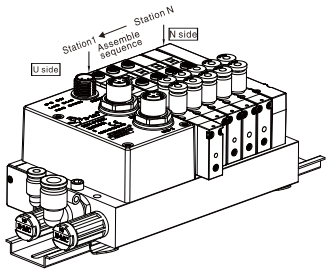
Note:

1、①Y/H/U is not available for external pilot due to the air return.YK/HK/UK is available for external pilot due to the spring return.
2、16 output points module can control 16 coils maximum,suitable for 2 to 8 pcs double control valves, or 2 to 16 pcs single control valves .
3、32 output points module can control 32 coils maximum,suitable for 2 to 16 pcs double control valves, or 2 to 24 pcs single control valves .
4、48 output points module can control 48 coils maximum,when the coils is more than 32, suitable for 17 to 24 pcs double control valves only .
5、ESV–DB44 is multi–pins valve termianl, can control 42 coils maximun and 24 valve stations maximum, suitable for 13 to 18 pcs double control valves, when the coils is more than 36, station 19 to 24 can be single control valves only .
6、Pressure separate is same as SV series .

Order Example:

1. Same valve: ES Fieldbus Valve Terminal, 1 series body, top ported, PROFINET,32 outputs, 6 links 5/2 double controled, port size M5, DC24V, G thread, internal pilot, double control wiring, both side without silencer, fitting, plug, the ERP code is ES1V–PN32–6D–M5E4

2. Mix different valves: ES series fieldbus system, 1 series body, top ported, PROFINET, 32 outputs, see right picture : station 1 is 5/3 center closed SV5312C, station 2 is 5/2 double control SV5212, station 3 is 2pcs 3/2 (N.O.) SV5412H ,station 4 & station 5 are 5/2 single SV5211, station 6 is blind plate. station 1 & 2 with ϕ6 one–touch fitting ZPOC06–M7C, station 3~5 with with ϕ4 one–touch fitting ZPOC04–M7C, DC24V,G thread, external pilot, double control wiring, U–sub side with silencer, ϕ8 one–touch fitting EPL, with DIN rail clip and 1M guide rail, the ERP code is ES1V–PN32–CDH2SB–2C63C4E4–WB–UL–D



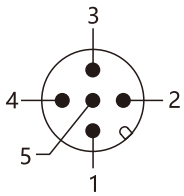
3、Mix different valve with pressure separate: ES series valve terminal, 1 series body, top ported, PROFINET protocol,32 output points,see right picture : station 1 is 5/3 center closed SV5312C, port 1 air supply pressure separate between station 1 and station 2,station 2 is 5/2 double control SV5212, station 3 is air supply & exhaust module ,station 4 is 2pcs 3/2 (N.O.) SV5412Hport 1 air supply pressure separate between station 4 and station 5,station 5 is 5/2 single SV5211, station 6 is blind plate,working port is M7 , DC24V, internal pilot, double control wiring,both sides without silencer, fittings ,plugs, G thread, the ERP code is ES1V–PN32–CTADNHTASB–M7E4

ESV–PN/EC/EP/DN/CC Series

Specifications

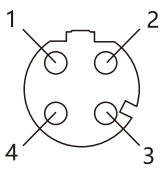
Code	ES1V(VM/VB)–PN32/48 ES2V(VM/VB)–PN32/48	ES1V(VM/VB)–EC32/48 ES2V(VM/VB)–EC32/48	ES1V(VM/VB)–EP32/48 ES2V(VM/VB)–EP32/48	ES1V(VM/VB)–DN16/32 ES2V(VM/VB)–DN16/32	ES1V(VM/VB)–CC32/48 ES2V(VM/VB)–CC32/48
Output	PROFINET	EtherCAT	EtherNet/IP	DeviceNet	CC–Link
Protocols	GSDML file	XML file	EDS file		CSP+file
Baud rate	32/48			16/32	32/48
Configuration files	100Mbps			125/250/500Kbps	156/625kbps/2.5/5/10Mbps
Control power supply – Voltage	DC24V(DC21.6 ~ 26.4V)				
Control power supply – Current consumption	120mA以下			50mA以下	
Output voltage(valve)	DC24V(DC22.8 ~ 26.4V)				
Power interface	M12, 5pin, A encode				
Bus Interface	2xM12 socket, 4 holes, D encode			M12 pin +M12 socket, 5 holes, A encode	
Diagnostic	system diagnosis,communication error,short circuit protection,open circuit inspection, opposite connection protection , undervoltage and overvoltage diagnosis				
Protection	IP40				
Storage temperature(℃)	–20 ~ 70℃				
Working temperature(℃)	–10 ~ 60℃				

Power interface



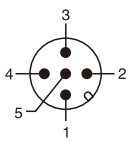
Pin	Type	Description
1	PS24	+24V Control voltage +24V
2	PL24	+24V Operating voltage of load valve
3	PS0	0V Control voltage 0V
4	PL0	0V Operating voltage of load valve
5	FE	Grounding

PN/EC/EP Bus Interface

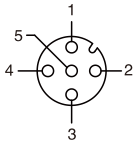


Pin	Type	Description
1	TD+	Send data+
2	RD+	Receive data+
3	TD-	Send data-
4	RD-	Receive data-

DN/CC Bus Interface



BUS IN



BUS OUT

DN

Pin	Type	Description
1	DRAIN	Shield
2	V+	24V+
3	V–	24V–
4	CAN_H	High level signal
5	CAN_L	Low level signal

CC

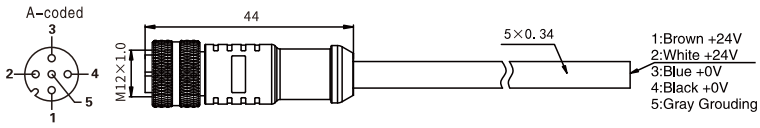
Pin	Type	Description
1	SLD	Blocking
2	DB	Data Exchange
3	DG	
4	DA	
5	Blank	Unused

Cable Ordering Code

PN/EC/EP/DN/CC Power Cable (Unshielded)

M125 □ – PVC – □

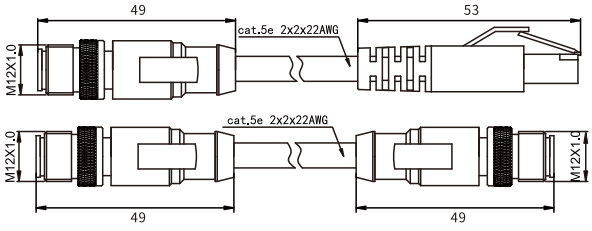
M12 Female 5 cores	R:Straight–through type RL:Rectangular type	2M:2 meters 5M:5 meters (Other length could be customized)



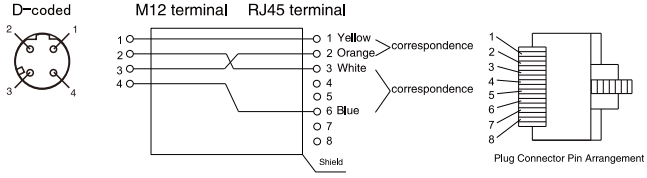
PN/EC/EP Bus cable (shielded)

ESV–EN – □ – □

Ethernet fieldbus wiring	M12RJ:M12male connectors⟷RJ45 M12M12:M12male connectors⟷M12male connectors	2M: 2 meters 5M: 5 meters (Other length could be customized)



Wiring diagram (through cable)



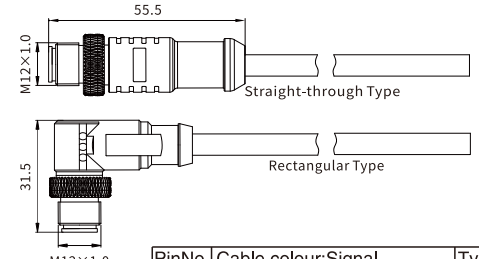
DN/CC Bus cable (shielded)

ESV – Protocol – □ – □

DN:DeviceNet CC:CC–Link	2M: 2 meters 5M: 5 meters (Other length could be customized)

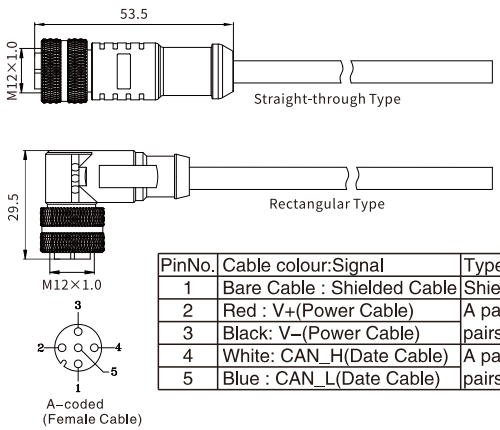
M12: M12 Female(Straight–through type)
M12L: M12 Female(Rectangular type)
M12F: M12 Male(Straight–through type)
M12FL: M12 Male(Rectangular type)
M12M12: M12 Male & Female(Straight–through type)
M12M12L: M12 Male & Female(Rectangular type)

DN Male Cable (Shielded)



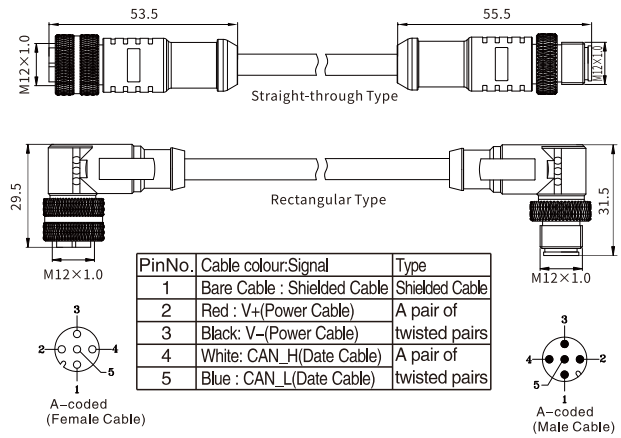
PinNo.	Cable colour:Signal	Type
1	Bare Cable: Shielded Cable	Shielded Cable
2	Red : V+(Power Cable)	A pair of twisted pairs
3	Black: V–(Power Cable)	
4	White: CAN_H(Date Cable)	A pair of twisted pairs
5	Blue : CAN_L(Date Cable)	

DN Female Cable (Shielded)



PinNo.	Cable colour:Signal	Type
1	Bare Cable : Shielded Cable	Shielded Cable
2	Red : V+(Power Cable)	A pair of twisted pairs
3	Black: V–(Power Cable)	
4	White: CAN_H(Date Cable)	A pair of twisted pairs
5	Blue : CAN_L(Date Cable)	

DN Male & Female Cable (Shielded)



PinNo.	Cable colour:Signal	Type
1	Bare Cable : Shielded Cable	Shielded Cable
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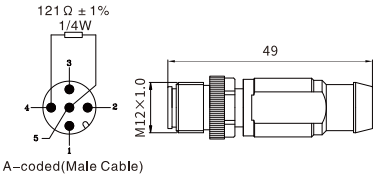
3	Black: V–(Power Cable)	
4	White: CAN_H(Date Cable)	A pair of twisted pairs
5	Blue : CAN_L(Date Cable)	

Cable Ordering Code

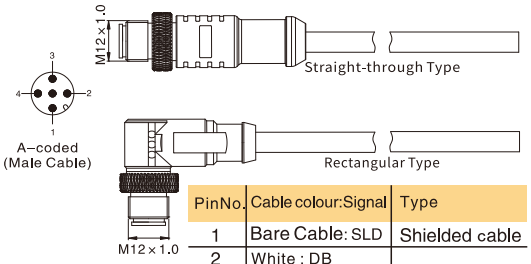
DeviceNet terminal resistance



Series — Communication Protocol — R

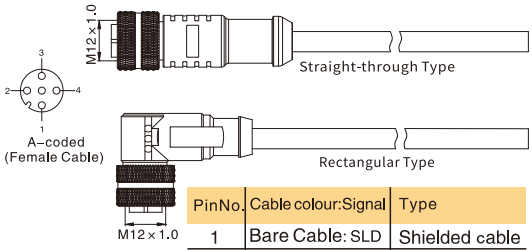
ESV	DN：DeviceNet	R:terminal resistance

CC Male Cable (Shielded)



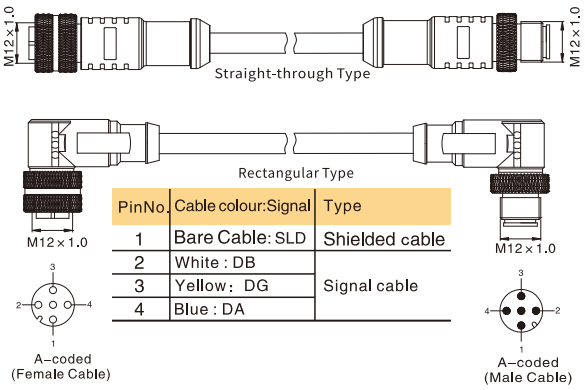
PinNo.	Cable colour:Signal	Type
1	Bare Cable: SLD	Shielded cable
2	White : DB	Signal cable
3	Yellow：DG	
4	Blue : DA	

CC Female Cable (Shielded)



PinNo.	Cable colour:Signal	Type
1	Bare Cable: SLD	Shielded cable
2	White : DB	Signal cable
3	Yellow：DG	
4	Blue : DA	

CC Male & Female Cable (Shielded)

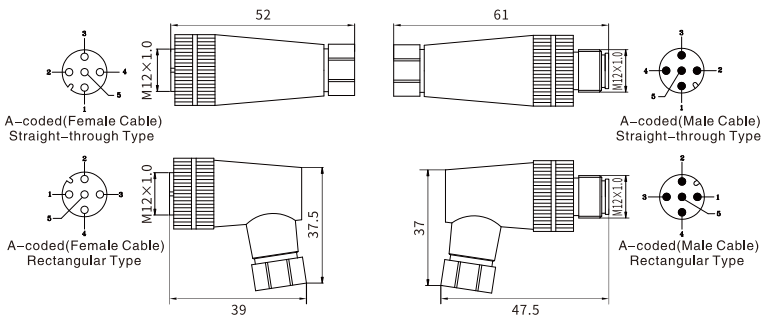


PinNo.	Cable colour:Signal	Type
1	Bare Cable: SLD	Shielded cable
2	White : DB	Signal cable
3	Yellow：DG	
4	Blue : DA	

5–Cores Connector(M12–A Code)

M125 — □

5–Cores Connector (M12–A Code)	R:Rotating Female Head(Straight–through Type) RL:Rotating Female Head(Rectangular Type) RF:Rotating Male Head(Straight–through Type) RFL:Rotating Male Head(Rectangular Type)



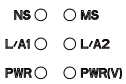
Note: these connectors can be used as power cable , or communication cable for DeviceNet / CC Link

Status LED Indicator

PROFINET

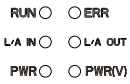
Indicators	Status	Meaning
BF	Red light on	Communication not connected,IP address or device name are duplicated.
	Green light flash	Module is connecting with PN master station,no module address assigned
	Green light on	System is normal
SF	Green light on	System is normal
	Green light flash	short cirsuit,open-circuit,reverse polarity,count limited
L/A1	Yellow light on	BUS1 PROFINET internet connection
	OFF	BUS1 no internet connection
	Yellow light flash	BUS1 internet communication is normal
L/A2	Yellow light on	BUS2 PROFINET internet connection
	OFF	BUS2 no internet connection
	Yellow light flash	BUS2 internet communication is normal
PWR	OFF	Module without power supply
	Green light on	Module with 24V power supply
	Red light on	Module overvoltage
	Green light flash	Module undervoltage
PWR(V)	OFF	Load without power supply
	Green light on	Load with 24V power supply
	Red light on	Load overvoltage
	Green light flash	Load undervoltage

EtherNet/IP



Indicators	Status	Meaning
NS	OFF	No power supply or no module address assigned
	Green light flash	EtherNet/IP timeout
	Green light flash	EtherNet/IP no communication connection
	Green light on	System is normal
MS	Green light flash	short cirsuit,open-circuit,reverse polarity,count limited
	Green light on	System is normal
L/A1	Yellow light on	BUS1 EtherNet/IP internet connection
	OFF	BUS1 no internet connection
	Yellow light flash	BUS1 internet communication is normal
L/A2	Yellow light on	BUS2 EtherNet/IP internet connection
	OFF	BUS2 no internet connection
	Yellow light flash	BUS2 internet communication is normal
PWR	OFF	Module without power supply
	Green light on	Module with 24V power supply
	Red light on	Module overvoltage
	Green light flash	Module undervoltage
PWR(V)	OFF	Load without power supply
	Green light on	Load with 24V power supply
	Red light on	Load overvoltage
	Green light flash	Load undervoltage

EtherCAT



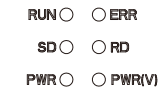
Indicators	Status	Meaning
RUN	OFF	Initial status
	Green light flash	Pre-operation or safe operation
	Green light on	Normal working status
ERR	OFF	Initialization normal
	Green light flash	Initialization fail
L/A IN	Green light on	BUS1 EtherCAT internet connection
	OFF	BUS1 no internet connection
	Green light flash	BUS1 internet communication is normal
L/A OUT	Green light on	BUS2 EtherCAT internet connection
	OFF	BUS2 no internet connection
	Green light flash	BUS2 internet communication is normal
PWR	OFF	Module without power supply
	Green light on	Module with 24V power supply
	Red light on	Module overvoltage
	Green light flash	Module undervoltage
PWR(V)	OFF	Load without power supply
	Green light on	Load with 24V power supply
	Red light on	Load overvoltage
	Green light flash	Load undervoltage

DeviceNet

Indicator	NS	MS	Meaning
	Off	Off	Network Power Supply
	Off	Red Light On	Offline, the watchdog timer is incorrect
	Off	Blinking Red	The parameter is incorrectly written
	Red Light On	Green light on	Bus off, MAC ID repeated
	Blinking Red	Blinking Green	The IO connection times out
	Green light on	Green light on	Normal Communication

Indicator	PWR	PWR(V)	Meaning
	Off	Off	Module is not powered on
	Green light on	Blinking Red	Load is not powered on
	Red Light On	Green light on	Module Overvoltage
	Blinking Red	Green light on	Module Undervoltage
	Green light on	Red Light On	Load Overvoltage
	Green light on	Blinking Red	Load Undervoltage
	Green light on	Green light on	Normal Communication

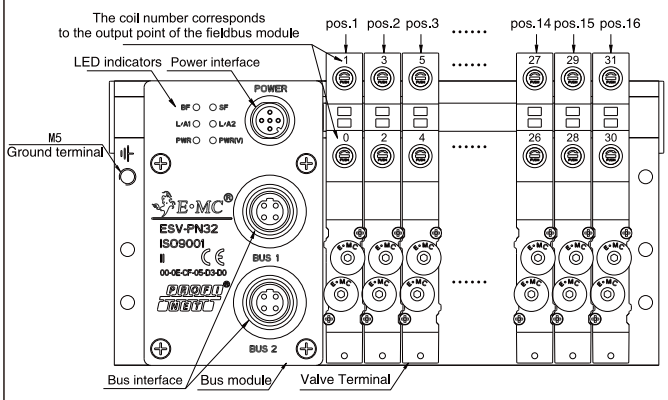
CC–Link



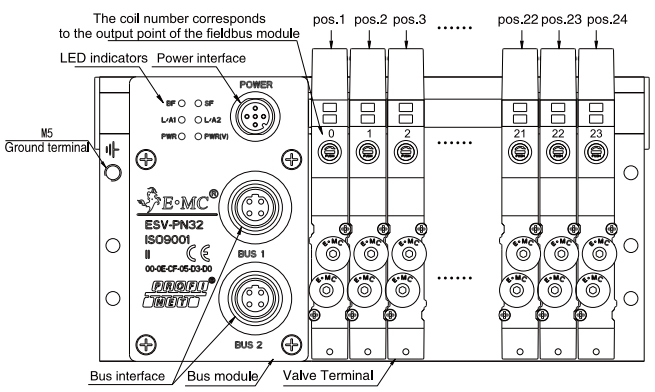
Indicator	Status	Meaning
RUN	Green light on	normal internet connection
	OFF	no internet connection
ERR	Red light on	abnormal internet communication
	Red light flash	The station number setting and baud rate were changed in the communication
	OFF	normal internet communication
SD	Green light on	normal data transmission
	OFF	No data interaction or data sending exception
RD	Green light on	normal data reception
	OFF	No data interaction or Data reception exception
PWR	Green light on	Module with 24V power supply
	OFF	Module without power supply
	Red light flash	Module undervoltage
	Red light on	Module overvoltage
	OFF	Module with 24V power supply
PWR(V)	Green light on	Load with 24V power supply
	OFF	Load without power supply
	Red light flash	Load undervoltage
	Red light on	Load overvoltage
	OFF	Load with 24V power supply

Wiring Diagram——ESV–PN/EC/EP/DN/CC Series

Wiring for double control(maximum 16 positions)



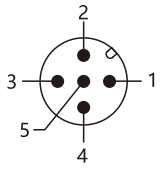
Wiring for single control(maximum 24 positions)



ESV–LK Series

Power interface

M12, A encode, Class B



Pin	Type	Description
1	PS24	+24V Control voltage
2	PL24	+24V Operating voltage of load valve
3	PS0	0V Control voltage
4	C/Q	Data communication
5	PL0	0V Operating voltage of load valve

LED Indicators

Indicators	Status	Meaning
X1	LED Close	Abnormal power supply
	Green open	Normal power supply，no establish protocols
	Red open	Fault or abnormal load power supply
	Green flash	Normal working

Specifications

Code		ES1V(VM/VB)–LK16 ES2V(VM/VB)–LK16	ES1V(VM/VB)–LK32 ES2V(VM/VB)–LK32	ES1V(VM/VB)–LK48 ES2V(VM/VB)–LK48
Output		16	32	48
Protocols		IO–Link		
Baud rate		COM2 (38.4kbps)		
Configuration files		IODD file		
Specification		V1.1		
Output voltage	Voltage	DC24V(DC21.6～26.4V)		
	Current consumption	25mA below		
Output type		DC24V(DC22.8 ~ 26.4V)		
Power interface		M12, 5pin, A encode		
Type		Class B		
Diagnostic		System diagnosis,communication error,short circuit protection		
Protection		IP40		
Storage temperature		–20 ~ 70℃		
Working temperature		–10 ~ 50℃		

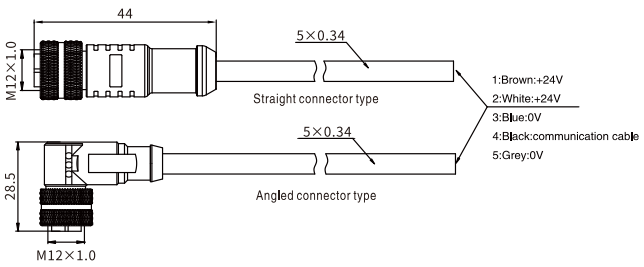
Wiring

M125 □ — PVC — □

- R:Straight connector type / RL:Angled connector type
- 2M: 2 meters / 5M: 5 meters / (Other length could be customized)

M12 Female 5 cores single connecting cable

Single connecting cable(Class B)

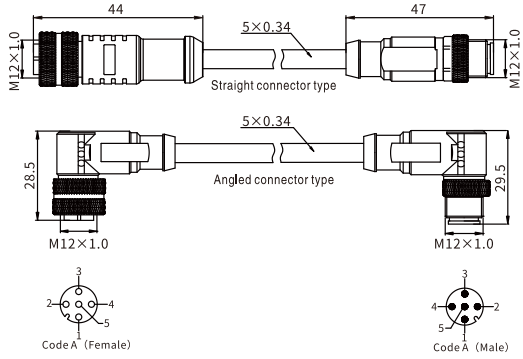


M12M125 □ — PVC — □

M12 Female 5 cores double connecting cable

- 2M: 2 meters / 5M: 5 meters / (Other length could be customized)
- R:Straight connector type : M12 male connectors ↔ M12 female connectors
- RL:Angled connector type : M12 male connectors ↔ M12 female connectors

Double connecting cable(Class B)

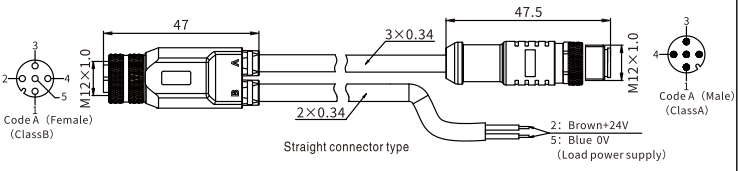


M12YM12 □ — PVC — □

M12, Y-type connecting cable

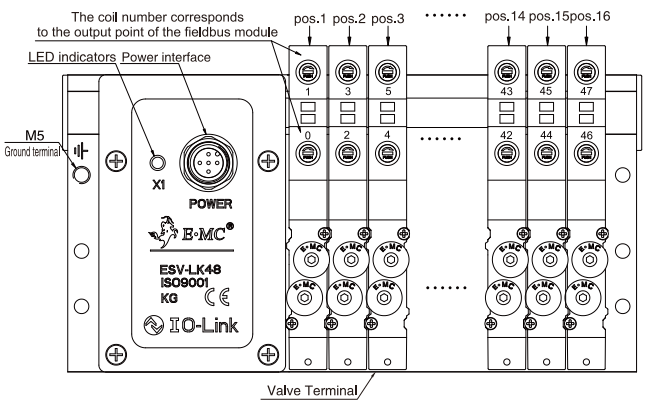
- R:Straight connector type / RL:Angled connector type
- 2M: 2 meters / 5M: 5 meters / (Other length could be customized)

Y-type connecting cable(Class A&Class B)

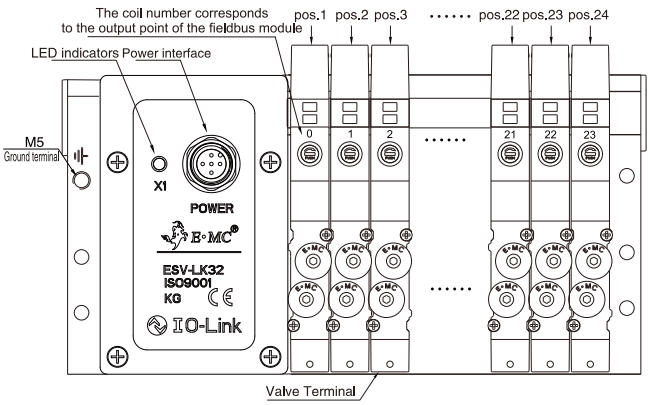


Wiring Diagram——ESV-LK Series

Wiring for double control(maximum 24 positions)



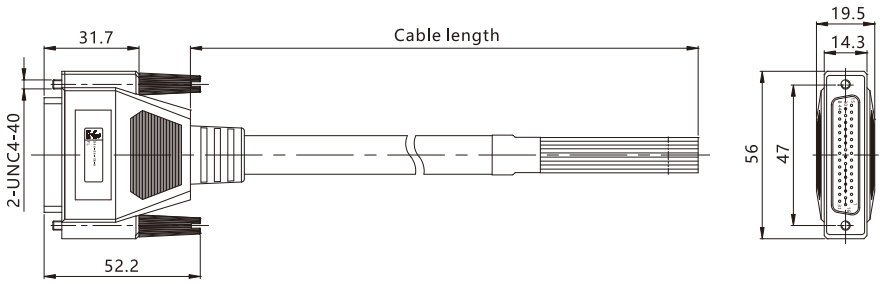
Wiring for single control(maximum 24 positions)

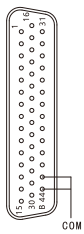


Precautions for Use

1. Do not disassemble, modify(including replacing printed circuit boards) or repair without authorization, which may cause injury or failure.
2. Do not operate the product exceeding the parameters(limited values), and do not use it for flammable or harmful liquids, which may cause fire, malfunction or damage to the product. Please verify the manual before using.
3. Do not operate in an environment containing flammable and explosive gases, which may cause fire or explosion. This product is not designed of explosion–proof.
4. If use this product in the interlock circuit:(1)Provide double interlocking systems, such as mechanical system;(2)Check the products regularlly,avoid accidents by malfunctions.
5. The following instructions must be followed during maintenance: (1)turn off the power;(2) stop providing air, remove the remaining pressure and make sure that there is no air supply before maintenance; otherwise, it may cause injury.
6. After the maintenance is completed, check the functions properly. If the equipment does not work properly, please stop the operation. In case of unexpected failure, safety cannot be guaranteed.
7. The product designed used for industries. Ecept under industrial environments, when used under enviroments such as: mixed commercial and residential areas, measures must be taken to prevent radio interference.
8. The bus manifold and power cord must be functionally grounded to ensure the safety and anti–noise performance of the fieldbus system.
9. IO–Link valve terminal provide the opetrating voltage through the B–type port,normally,please provide power separately when A–type port used .

Connector Cable



PINs of connector cable diagram	PIN number & Wire color							
	PIN number	D44–44 wire color	PIN number	D44–44 wire color	PIN number	D44–44 wire color	PIN number	D44–44 wire color
	1	orange	12	purple with 1 point	23	blue with 2 points	34	white with 3 points
	2	orange with 1 point	13	purple with 2 points	24	blue with 3 points	35	white with 4 points
	3	orange with 2 points	14	purple with 3 points	25	blue with 4 points	36	grey
	4	orange with 3 points	15	purple with 4 points	26	brown	37	grey with 1 point
	5	orange with 4 points	16	black	27	brown with 1 point	38	grey with 2 points
	6	pink	17	black with 1 point	28	brown with 2 points	39	grey with 3 points
	7	pink with 1 point	18	black with 2 points	29	brown with 3 points	40	grey with 4 points
	8	pink with 2 points	19	black with 3 points	30	brown with 4 points	41	yellow
	9	pink with 3 points	20	black with 4 points	31	white	42	yellow with 1 point
	10	pink with 4 points	21	blue	32	white with 1 point	43	red (COM)
	11	purple	22	blue with 1 point	33	white with 2 points	44	green (COM)

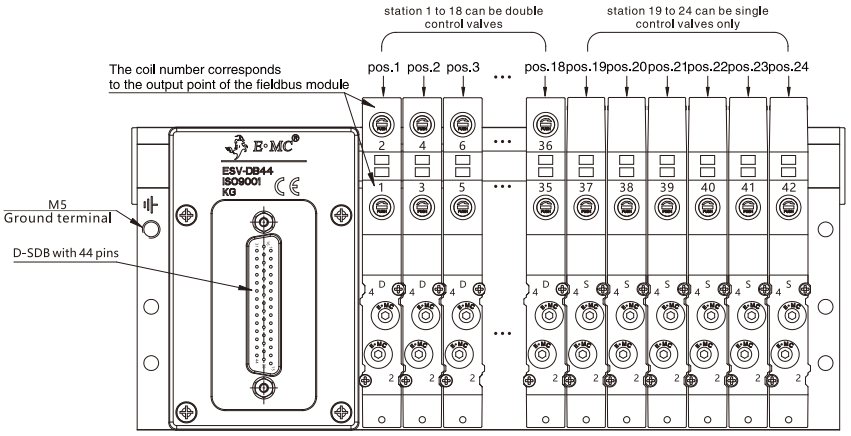
Note:PIN number from 1 to 36 pins can use double control valves , PIN number from 37 to 42 pins can use singal control valves only (18 pcs double control valves ,6 pcs single control valves)

Cable Ordering Code

Connect Types	—	Wires In Cable	—	Cable Length	—	A
D44: D-SDB connector with 44 pins		44: 44 wires(42 coils or less)		1M: 1 meters 2M: 2 meters 3M: 3 meters ..... (Other length could be customized)		

ESV-DB44 Valve Terminal Inner Wiring Diagram

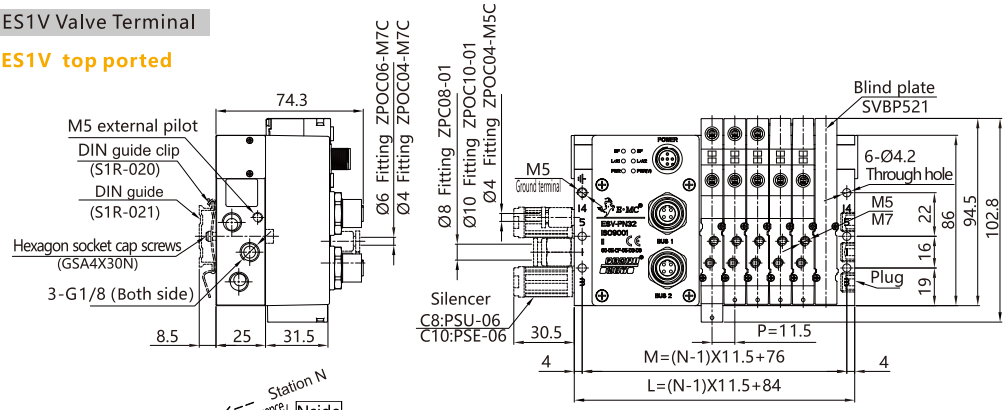
Wiring diagram of mixed signle/ double control (control 42 coils maximun and 24 valve stations maximum, suitable for 13 to 18 pcs double control valves, when the coils is more than 36, station 19 to 24 can be single control valves only)

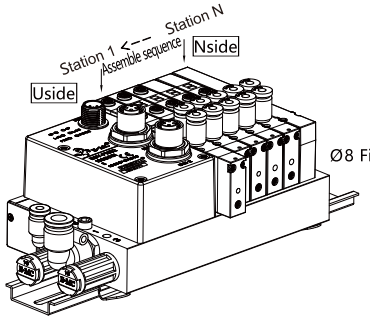


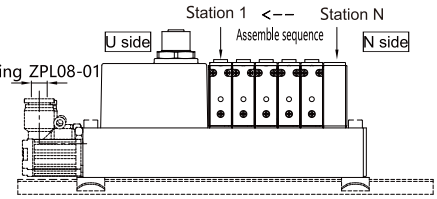
Main Dimension

ES1V Valve Terminal

ES1V top ported





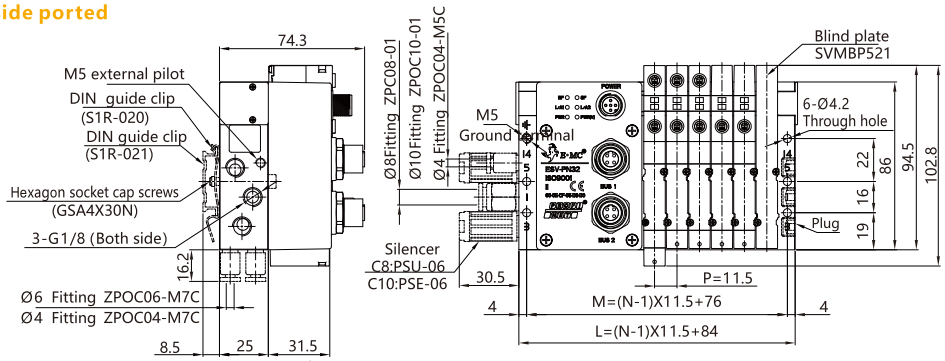


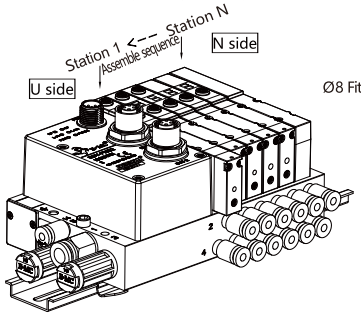
Note: N means valve link

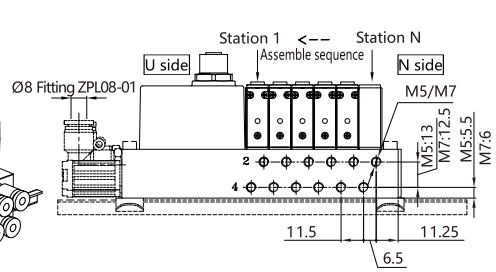
Sign \ Model	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
L	95.5	107	118.5	130	141.5	153	164.5	176	187.5	199	210.5	222	233.5	245	256.5	268	279.5	291	302.5	314	325.5	337	348.5
M	87.5	99	110.5	122	133.5	145	156.5	168	179.5	191	202.5	214	225.5	237	248.5	260	271.5	283	294.5	306	317.5	329	340.5

Main Dimension

ES1VM side ported



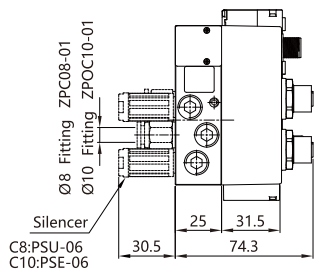


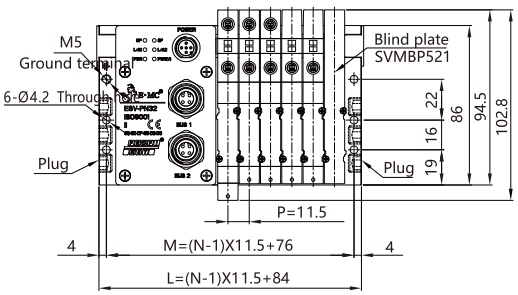


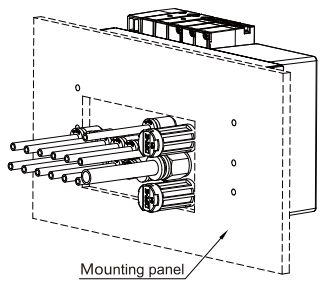
Note: N means valve link

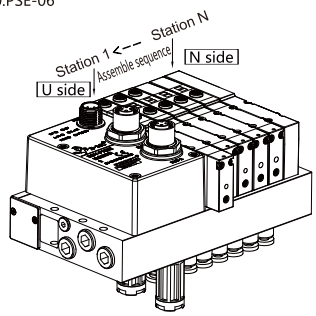
Sign \ Model	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
L	95.5	107	118.5	130	141.5	153	164.5	176	187.5	199	210.5	222	233.5	245	256.5	268	279.5	291	302.5	314	325.5	337	348.5
M	87.5	99	110.5	122	133.5	145	156.5	168	179.5	191	202.5	214	225.5	237	248.5	260	271.5	283	294.5	306	317.5	329	340.5

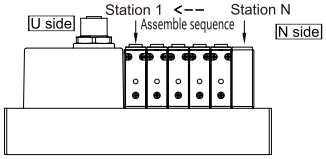
ES1VB bottom ported

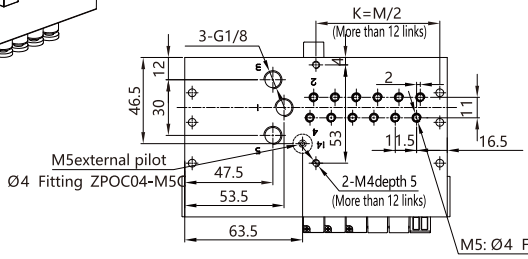


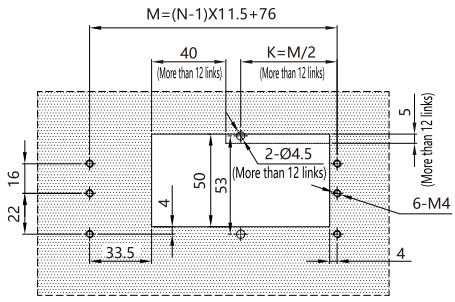












M5: Ø4 Fitting ZPOC04-M5C
M7: Ø6 Fitting ZPOC06-M7C
M7:Ø4 Fitting ZPOC04-M7C

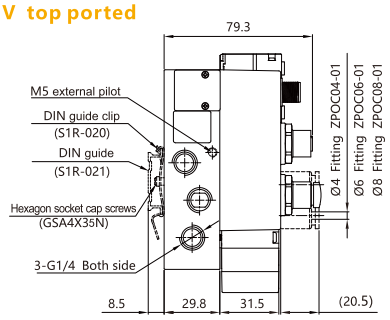
Note: N means valve link

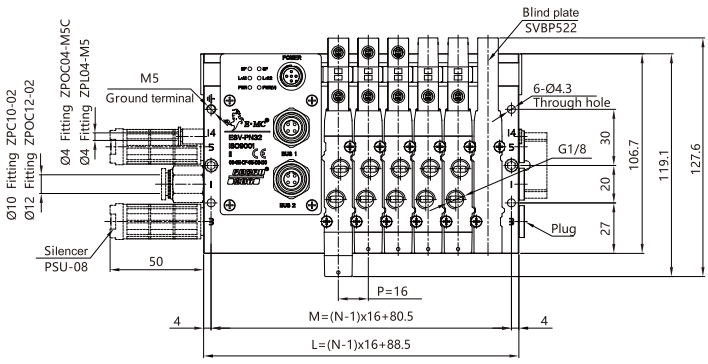
Sign \ Model	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
L	95.5	107	118.5	130	141.5	153	164.5	176	187.5	199	210.5	222	233.5	245	256.5	268	279.5	291	302.5	314	325.5	337	348.5
M	87.5	99	110.5	122	133.5	145	156.5	168	179.5	191	202.5	214	225.5	237	248.5	260	271.5	283	294.5	306	317.5	329	340.5
K												107	112.75	118.5	124.25	130	135.75	141.5	147.25	153	158.75	164.5	170.25

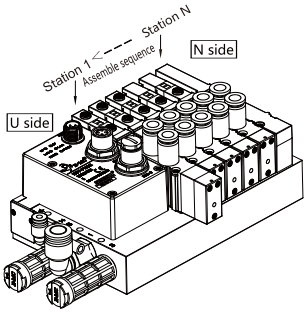
Main Dimension

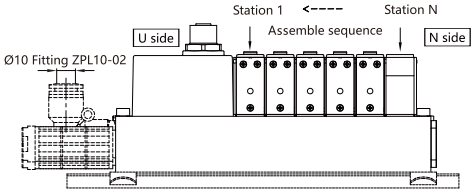
ES2V Valve Terminal

ES2V top ported







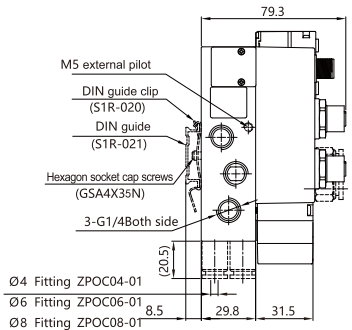


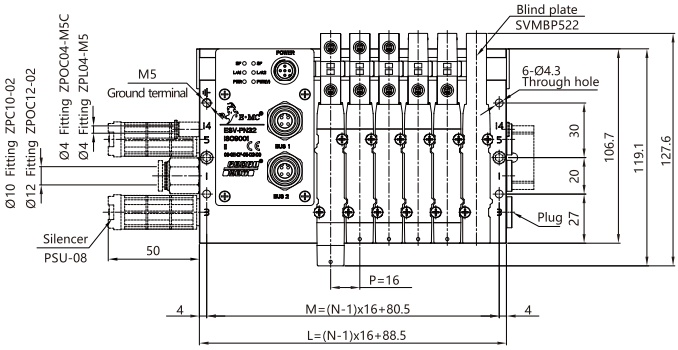
Note: N means valve link

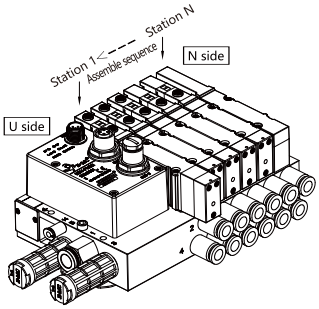
Sign \ Model	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
L	104.5	120.5	136.5	152.5	168.5	184.5	200.5	216.5	232.5	248.5	264.5	280.5	296.5	312.5	328.5	344.5	360.5	376.5	392.5	408.5	424.5	440.5	456.5
M	96.5	112.5	128.5	144.5	160.5	176.5	192.5	208.5	224.5	240.5	256.5	272.5	288.5	304.5	320.5	336.5	352.5	368.5	384.5	400.5	416.5	432.5	448.5

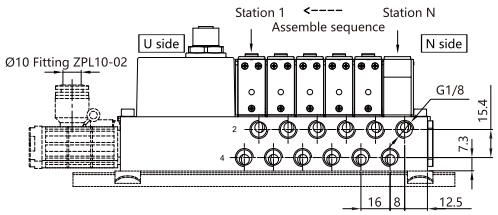
ES2V Valve Terminal

ES2VM side ported







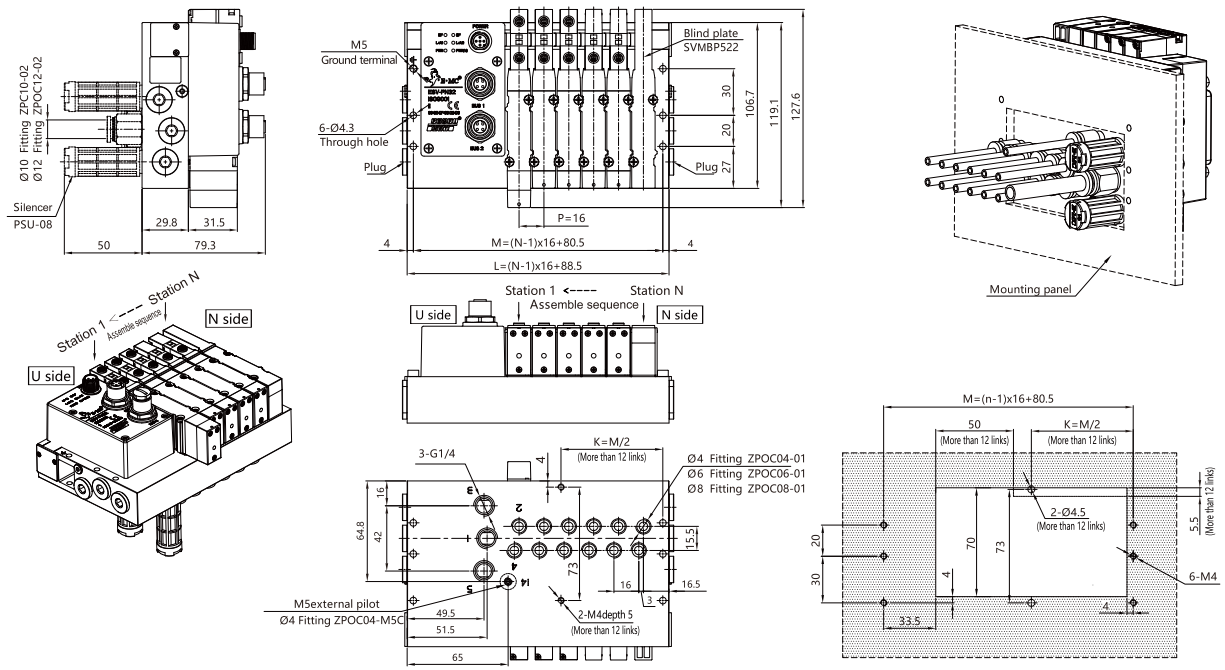


Note: N means valve link

Sign \ Model	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
L	104.5	120.5	136.5	152.5	168.5	184.5	200.5	216.5	232.5	248.5	264.5	280.5	296.5	312.5	328.5	344.5	360.5	376.5	392.5	408.5	424.5	440.5	456.5
M	96.5	112.5	128.5	144.5	160.5	176.5	192.5	208.5	224.5	240.5	256.5	272.5	288.5	304.5	320.5	336.5	352.5	368.5	384.5	400.5	416.5	432.5	448.5

Main Dimension

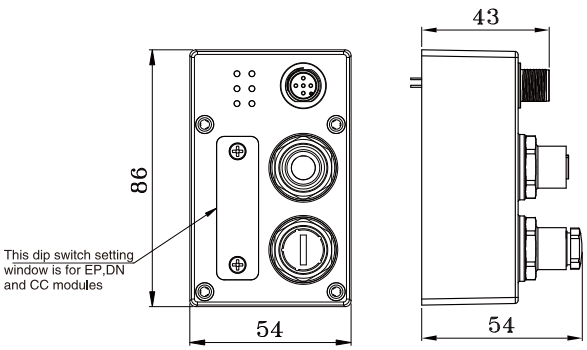
ES2VB bottom ported



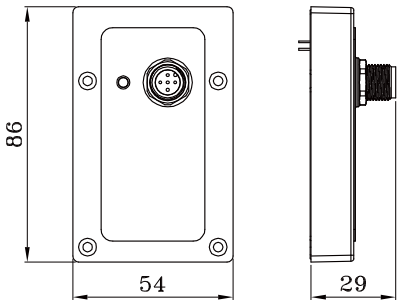
Sign \ Model	2	3	4	5	6	7	8	9	10	11	12	
L	104.5	120.5	136.5	152.5	168.5	184.5	200.5	216.5	232.5	248.5	264.5	
M	96.5	112.5	128.5	144.5	160.5	176.5	192.5	208.5	224.5	240.5	256.5	
Sign \ Model	13	14	15	16	17	18	19	20	21	22	23	24
L	280.5	296.5	312.5	328.5	344.5	360.5	376.5	392.5	408.5	424.5	440.5	456.5
M	272.5	288.5	304.5	320.5	336.5	352.5	368.5	384.5	400.5	416.5	432.5	448.5
K	136.25	144.25	152.25	160.25	168.25	176.25	184.25	192.25	200.25	208.25	216.25	224.25

Note: N means valve link

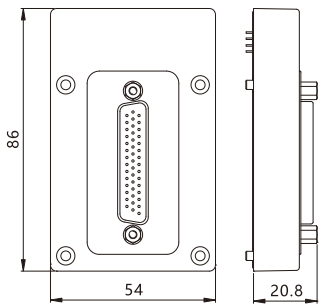
◎ Dimensions of Control Module



PN/EC/EP/DN/CC Protocol control module



IO-Link Protocol control module



DB44 dimensions

Note: The valve terminal dimensions of ESV–DB44/LK/EC/PN/EP/DN/CC are same ,except the modules.