Spider67

IP67 Extensible
Distributed I/O Modules

ELCO Industrie Automation GmbH

Benzstrasse 7
71720 Oberstenfeld
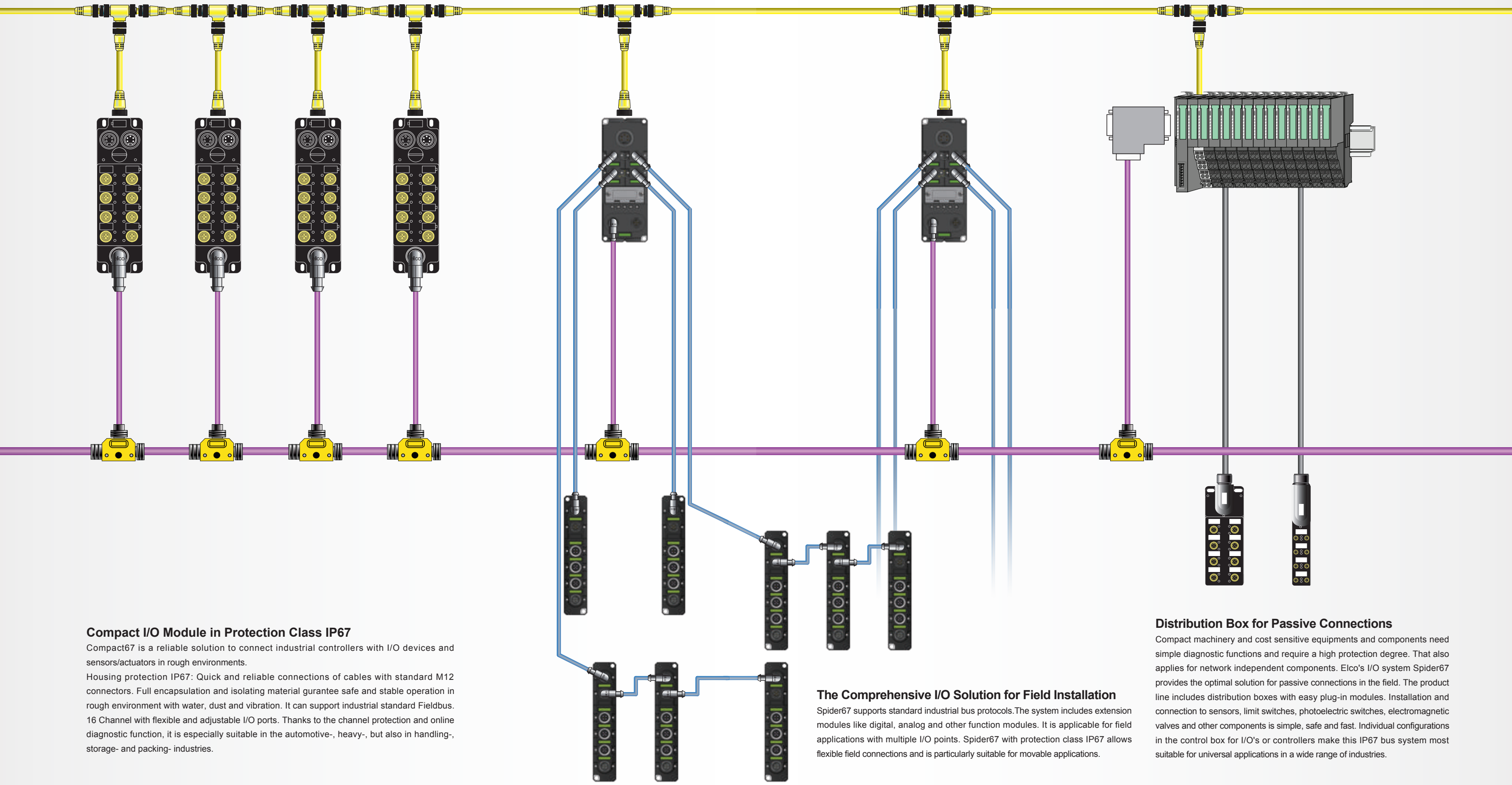Deutschland
E-Mail: info@elco-automation.de

www.elco-automation.de

ELCO (TIANJIN) ELECTRONICS CO . , LTD.

No. 12, 4th XEDA Branch Road
Xiqing Economic Development Area
Tianjin 300385, P. R. China
E-Mail: info@elco.cn

www.elco-holding.com.cn

Compact I/O Module in Protection Class IP67

Compact67 is a reliable solution to connect industrial controllers with I/O devices and sensors/actuators in rough environments.

Housing protection IP67: Quick and reliable connections of cables with standard M12 connectors. Full encapsulation and isolating material gurantee safe and stable operation in rough environment with water, dust and vibration. It can support industrial standard Fieldbus. 16 Channel with flexible and adjustable I/O ports. Thanks to the channel protection and online diagnostic function, it is especially suitable in the automotive-, heavy-, but also in handling-, storage- and packing- industries.

The Comprehensive I/O Solution for Field Installation

Spider67 supports standard industrial bus protocols.The system includes extension modules like digital, analog and other function modules. It is applicable for field applications with multiple I/O points. Spider67 with protection class IP67 allows flexible field connections and is particularly suitable for movable applications.

Distribution Box for Passive Connections

Compact machinery and cost sensitive equipments and components need simple diagnostic functions and require a high protection degree. That also applies for network independent components. Elco's I/O system Spider67 provides the optimal solution for passive connections in the field. The product line includes distribution boxes with easy plug-in modules. Installation and connection to sensors, limit switches, photoelectric switches, electromagnetic valves and other components is simple, safe and fast. Individual configurations in the control box for I/O's or controllers make this IP67 bus system most suitable for universal applications in a wide range of industries.

Overview

The wide and increasing employment of FieldBus systems has a big impact on the automation industry. Conventional centralized controls are substituted with discrete intelligent control points in the field. In order to save costs and reduce installation and maintenance time, more and more devices are transferred from the control cabinet into the field. Spider67 from Elco supports these modern installation methods with a new and revolutionary expandable I/O system. The new gateway module supports standard bus protocols like PROFIBUS、PROFINET、CC-Link、CC-Link IE、DeviceNet、EtherCAT and EtherNet/IP. Various sub-modules (analog-, digital-, and function modules) are available. The simple and easy installation makes Spider67 especially suitable for applications in rough environments. It can also be installed in control cabinets. Spider67 is particularly suitable for flexible installations on lifting or rotating equipments and therefore provides the most effective I/O solution for application in the field.

Product Overview

- Gateway: supports standard bus and extensible sub-modules
- Connection cables: wiring sub-modules and gateways
- Digital module: input and output of digital signals
- Analog modules: input and output for current and voltage signals
- Function modules: high speed counting and communication modules

Applications

- Automotive industry
- Heavy industry
- Logistics industry
- Machine tools industry
- Food and beverage processing industry
- Especially suitable in harsh environments requiring a high protection degree

Key Features

- Supports standard industrial ProfiBus protocols etc.
- Compact design minimizes mounting space requirement
- Flexible I/O configuration with a combination of analog-, digital-, and function- extension modules
- LED status indication, fast function diagnosis
- Online diagnosis function for modules and channels
- Protection class IP67

Gateway

- Supports standard industrial protocols
- Flexible connection of extension modules
- LED status display, fast function analysis and channel protection circuit
- Protection class IP67

Type	SPEI-GW-001	SPPN-GW-001	SPEC-GW-001	SPCE-GW-001	SPDP-GW-001	SPDN-GW-001	SPCL-GW-001
Description	EtherNet/IP interface module	ProfiNet interface module	EtherCat interface module	CC-Link IE interface module	ProfiBus-DP interface module	DeviceNet interface module	CC-Link interface module
Protocol	EtherNet/IP	ProfiNet-IO	EtherCat	CC-Link IE	ProfiBus-DP	DeviceNet	CC-Link
Interface							
Bus interface	Male in + Female out, M12 D-code			Male in + Female out, M12 X-code	Male in + Female out, M12 B-code	Male in + Female out, 7/8" 5-core	Male in + Female out, M12 A-code
Power interface	1-Male 7/8", Max.current 8A						
Extension interface	4-Female M12 B-code, Max. current 6A						
Electrical parameter							
Operating voltage	24VDC (18…30V)						
Operating current	≤200mA						
Address range	0…254, configurable				1...125, dial switch	0...62, dial switch	1...64, dial switch
Transmission rate	10/100Mbps				9.6K - 12Mbps	125K-500Kbps	156K-10Mbps
Number of extension modules	Up to 6 for one way, up to 4x6=24 for overall extension						4 for one way, Max.14
Distance between extension modules	Max.100m for one way						
Protection class	IP67						
Operating temperature	-25…+70°C						
Module size	60mm x 155mm x 30mm						

Digital module

- Direct connection of sensor and actuator
- Up to 8 I/O signals, configured by user
- Short circuit and overload protection
- Protection class IP67

Type	SPDB-0800D-001【1】	SPDB-0800D-003【1】	SPDB-0404D-001【1】	SPDB-0404D-003【1】	SPDB-08UP-001【1】	SPDB-08UN-003【1】	SPDB-0008D-001【1】	SPDB-0008-003【1】	SPDB-0006D-001【4】
Description	8DI, 4xM12	8DI, 4xM12	4DI+4DO, 4xM12	4DI+4DO, 4xM12	8DI/DO, 4xM12	8DI/DO, 4xM12	8DO, 4xM12	8DO, 4xM12	6DO, 3xM12
Type	SPDB-0800D-011【2】	SPDB-0800D-013【2】	SPDB-0404D-011【2】	SPDB-0404D-013【2】	SPDB-08UP-011【2】	SPDB-08UN-013【2】	SPDB-0008D-011【2】	SPDB-0008-013【2】	
Description	8DI, 8xM8	8DI, 8xM8	4DI+4DO, 8xM8	4DI+4DO, 8xM8	8DI/DO, 8xM8	8DI/DO, 8xM8	8DO, 8xM8	8DO, 8xM8	
Type	SPDB-0800D-Mxxx【3】		SPDB-0404D-Mxxx【3】		SPDB-08UP-Mxxx【3】		SPDB-0008D-Mxxx【3】		
Description	8DI, Open cable		4DI+4DO, Open cable		8DI/DO, Open cable		8DO, Open cable		
Interface									
Extended interface	Male in + Female out, M12 B-code								
Power interface	Supplied by extended interface								1xM12(male)
Signal interface	4xM12 or 8xM8 or open cable								3xM12
Electrical parameter									
Rated voltage	24VDC (18…30V)								
Input channel	8 x PNP	8 x NPN	4 x PNP	4 x NPN	Max. 8 x PNP	Max. 8 x NPN	——	——	——
Output channel	——	——	4 x 0.5A(PNP)	4 x 0.5A(PNP)	Max. 8 x 0.5A(PNP)	Max. 8 x 0.5A(NPN)	8 x 0.5A(PNP)	8 x 0.5A(NPN)	6 x 2A(PNP)
Input signal "0"	Low level：0...5V						——	——	——
Input signal "1"	High level：15...30V						——	——	——
Input delay	2.5ms						——	——	——
Input current	6.4mA						——	——	——
Input supply current	Max.200mA for each channel						——	——	——
Max. output current	——	——	0.5A for each channel						2A for each channel
Max. switching frequency	——	——	Resistive load: 100Hz, inductive load: 5Hz						
Protection class	IP67								
Operating temperature	-25…+70°C								
Module size	30mm x 155mm x 30mm								

Valve Module

Type	SPDB-0008D-Vxxx	SPDB-0016D-Vxxx	SPDB-0024D-Vxxx	SPDB-0032D-Vxxx
Description	8DO, Open cable, Optional interface	16DO, Open cable, Optional interface	24DO, Open cable, Optional interface	32DO, Open cable, Optional interface
Cable parameter				
Cable cores and cross section	10 × 0.34mm²	18 × 0.25mm²	28 × 0.14mm²	36 × 0.14mm²
Cable length	Customized length			
Cable material	PVC			
Interface				
Extended interface	Male in + Female out，M12 B-code			
Power interface	Supplied by extended interface			
Electrical parameter				
Rated voltage	24VDC (18…30V)			
Output channel	8DO module with open cable	16DO module with open cable	24DO module with open cable	32DO module with open cable
Max. output current	0.5A for each channel, Max. 4A for module			
Max. switching frequency	5Hz			
Protection class	IP67			
Operating temperature	-25℃…+70℃			
Module size	30mm x 155mm x 30mm			

*V001 is SMC connector with 0.5m cable , V101 is FESTO connector with 0.5 m cable. Other inquiries for cable length and valve plug output module, please contact us.

Analog Module

- Direct connection of active and passive current and voltage signal
- Up to 4 signals with flexible configuration
- 14 bits input & ouput resolution
- Protection class IP67

Type	SPDB-0300A-001	SPDB-0300A-002	SPDB-0003A-001	SPDB-0003A-002
Description	3AI（Current mode)	3AI（Voltage mode)	3AO（Current mode)	3AO（Voltage mode)
Interface				
Extended interface	Male in + Female out, M12 B-code			
Power interface	Supplied by extended interface			
Signal interface	3-Female, M12 A-code connector			
Electrical parameter				
Rated supply voltage	24VDC (18…30V)			
Number of input channel	3	3	——	——
Number of output channel	——	——	3	3
Input signal type	0...20mA, 4...20mA, ±20mA	0…+10V, ±10V	——	——
Output signal type	——	——	0...20mA, 4...20mA	0…+10V
Internal impedance	250Ω	1MΩ	<450Ω	>1kΩ
Resolution	14Bit			
Switching time	12ms			
Measurement accuracy	± 0.3%			
Sensor power supply	Depending on load power supply, Max.200mA			
Protection class	IP67			
Operating temperature	-25℃…+70℃			
Module size	30mm x 155mm x 30mm			

RTD/TC Module

Type	SPDB-0400A-005	SPDB-0400A-006
Description	4*RTD, 4 channels thermal resistor	4*TC, 4 channels thermocouple
Interface		
Extended interface	Male in + Female out, M12 B-code	
Power interface	Supplied by extended interface	
Signal interface	3-male M12 A-code connector	
Connection Length	Max.30m	
Electrical parameter		
Rated supply voltage	24VDC (18…30V)	
Number of input channel	4	4
Number of output channel	——	——
Input signal type	150/300/600/3000Ω	Type E, J, K, N, R
	Ni100	Internal temperature compensation
	Ni200	
	Ni500	
	Ni1000	
	Pt100	
	Pt200	
	Pt500	
	Pt1000	
	2/3/4 wires	
Measurement principle	Integral	
Resolution	15Bit + sign	
Switching time	50ms switching time	
Measurement accuracy	± 0.3%	
Sensor power supply	Depending on load power supply, Max.200mA	
Protection class	IP67	
Operating temperature	-25℃…+70℃	
Module size	30mm x 155mm x 30mm	

Pre-wired Extension Cable

- Pre-wired extension cables
- Customized length
- Supply cables for special application
- Easy installation on site

Type	BB6S30P01Dxxx BB6S30P01Mxxx	BB6S30P03Dxxx BB6S30P03Mxxx	BB6S30P09Dxxx BB6S30P09Mxxx
Description	Standard extended cable	Flexible extended cable	Long distance extended cable
Parameter			
Cable length	D=cm（D020=0.2m）；M=dm（M010=1m)		
Cable diameter	6.5±0.2mm	6.5±0.2mm	8±0.2mm
Cable specifications	2*0.5+3*0.34 mm²	2*0.5+3*0.34 mm²	2*0.82 + 3*0.34 mm²
Cable material	PVC, single strand cable	PUR, multi-strand cable	PVC, multi-strand cable
Connector type	Male+female M12 B-code connector		
Connector material	Nylon+Rubber+Nickel plated brass		
Voltage grade	300V		
Protection class	IP67		
Operating temperature	-25℃…+70℃		

Terminal Resistor

Type	BB6S06
Description	120Ω. One for each circuit.

Field Attachable Connector for Extended Module

Type	BB6S00-32
Description	B-code, Female, 5-core

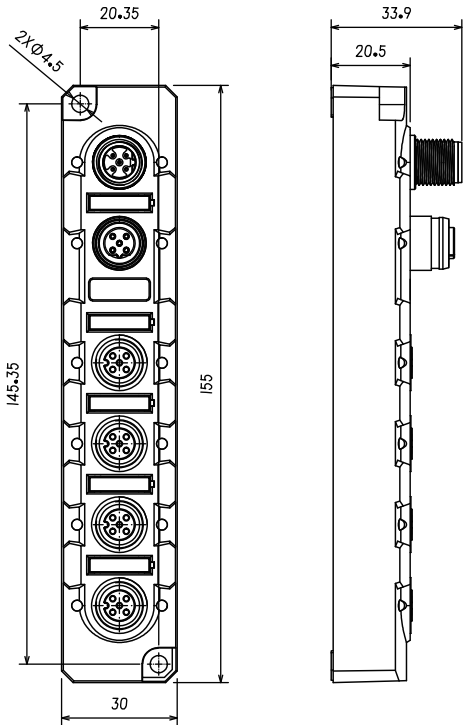| Type	BB6S06-32
Description	B-code, Male, 5-core

Extension Cable

Type	65-0001
Description	Dual-shield Cable, 5-core

Dimensions

Gateway dimensions
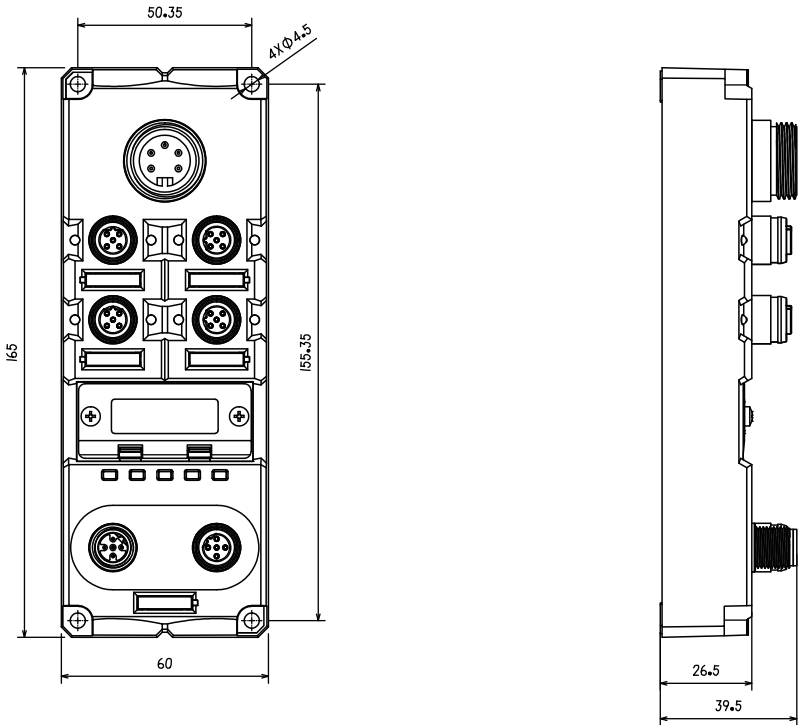
Extension module dimensions

Valve module dimensions