H Series Industrial Communication System

Moduflex Bus / TURCK BL67

*H Series Industrial Communication System for **centralised** and **decentralised** applications*

H Series Industrial Communication System for Centralised applications

H Series Industrial Communication System has 4 major components :

- **Communication interface modules** provide the network-interface circuitry
- **I/O modules** provide the field interface, system-interface circuitry, and bases for mounting
- **Power distribution module** provide the solution to expandability of the H Series Industrial Communication System or multiple power supply

Moduflex Bus System for Decentralised applications

The Moduflex communication module is directly attach the either, a Moduflex, H Series Micro or H Series ISO manifold in a compact valve island directly connectable to the industrial network.

Pneumatic variants using H Series Industrial Communication system for Centralised applications

Device with electric modules only

H Series Industrial Communication with H Series Micro Valves extended device

H Series Industrial Communication with H Series Micro Valves island

H Series Industrial Communication with H Series ISO valves island

ISO 15407-2 – HA & HB
ISO 5599-2 – H1 to H3

Pneumatic variants using Moduflex Fieldbus modules for Decentralised applications

Moduflex Bus with Moduflex Valve System

Moduflex Bus with H Series Micro Valves island

Moduflex Bus With H Series ISO 15407-2 or 5599-2 valves island

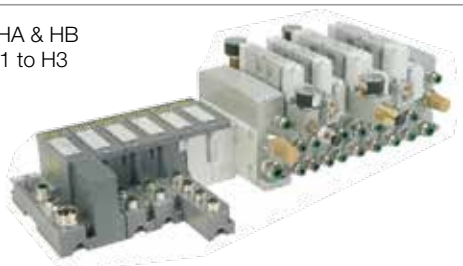
ISO 15407-2 – HA & HB
ISO 5599-2 – H1 to H3

Pneumatic variants using TURCK BL67 H Series Industrial Communication system for Centralised applications

TURCK BL67 with H Series Micro Valves Island

TURCK BL67 with H Series ISO Valves Island

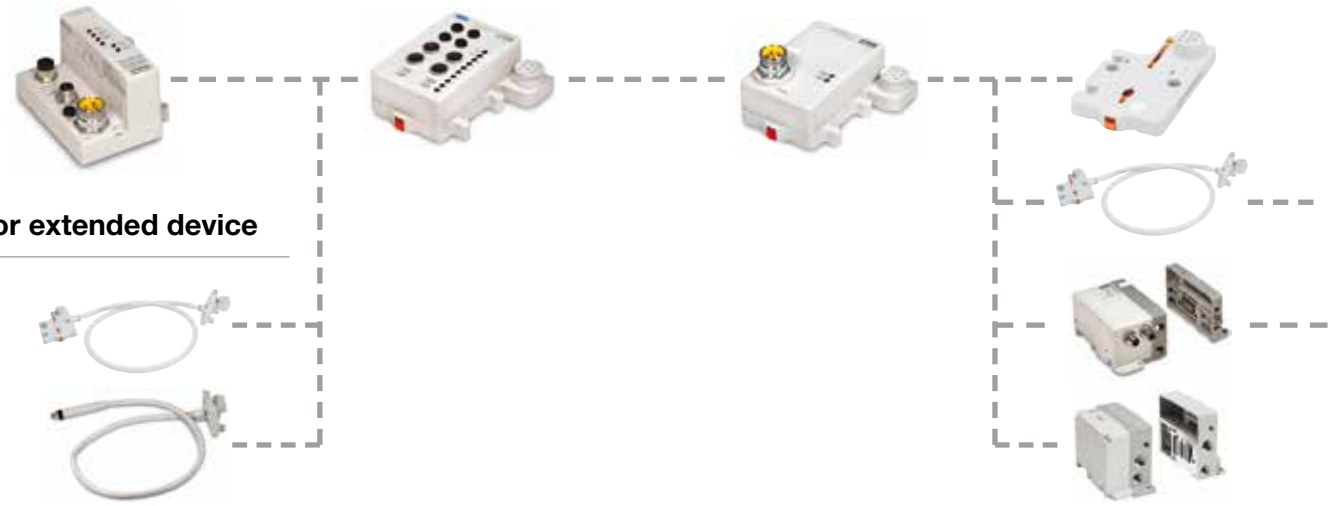
ISO 15407-2 – HA & HB
ISO 5599-2 – H1 to H3



H Series Industrial Communication Device constitution overview for a Centralised application

For main device

For both main and extended devices



For extended device

Communication modules :
- Fieldbus or Industrial Ethernet protocol
- Network connection
- Separated 24VDC for logic and user power supply
- Configuration with codding wells and bus status display by LED

Bus extender cable :
- Cable linking extended device through the Sub-network
- Sub-network connection from H Series Industrial Communication module or H Series Micro Valve driver
- Transfering both sub-network communication and 5VDC for bus power supply

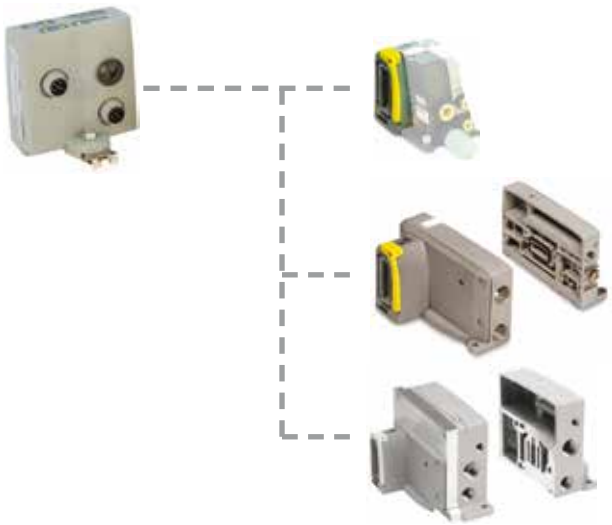
I/O modules :
- Choice of Digital or Analogic I/O modules offering multiple industrial connection types
- Connection to the Sub-network and the separated 24VDC for both logic and user through the socket
- I/O and sub-network status display by LEDs

Power extender module :
- Additional separated 24VDC power supply for logic and user allowing multiple permanant or safety power supply recommandations
- Both Logic and User electrical power supply display by separated LEDs

End section :
- Specific socket or valve driver without extender bus connector for end section

Prologation section :
- Specific socket with sub-network extender cable and extended device head plate
- Valve driver including extender bus connector for sub-network continuity

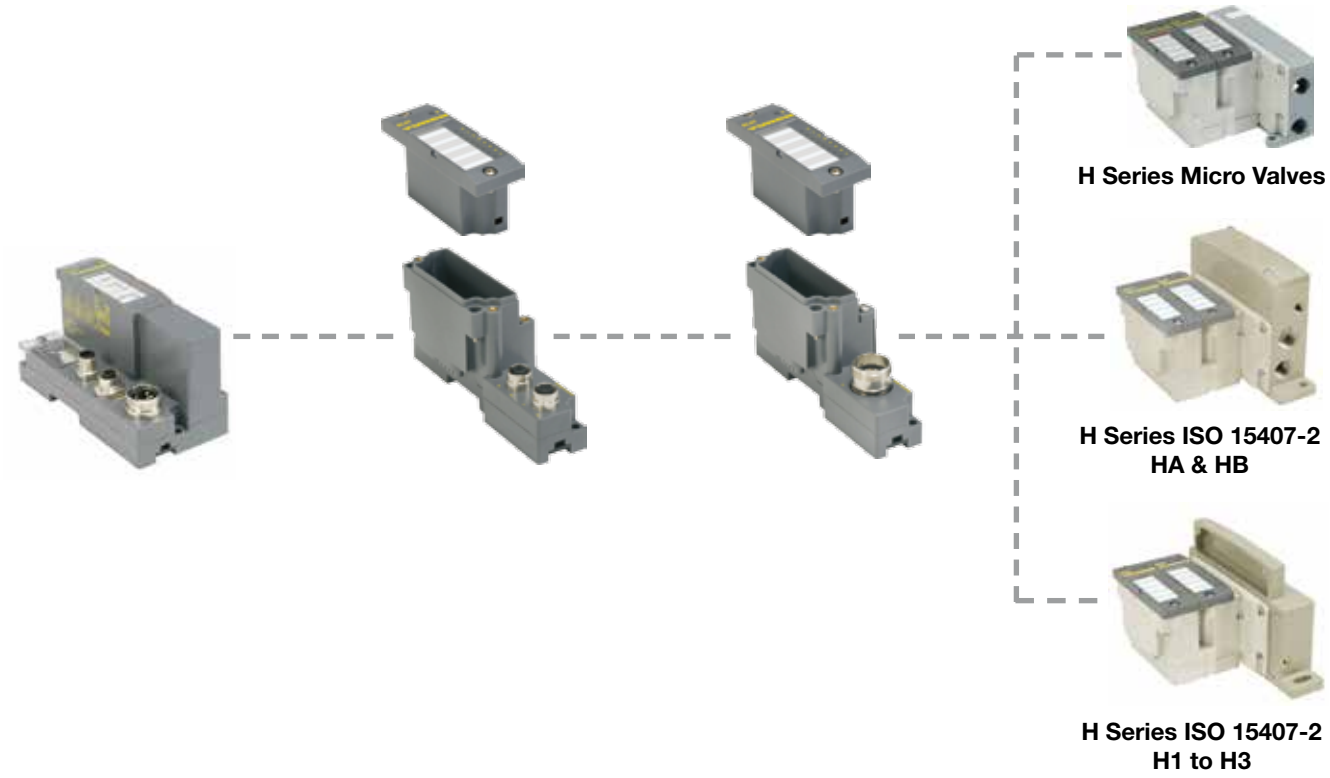
Moduflex constitution overview for a Decentralised application



Communication module :
- Fieldbus protocols
- Network connection
- Separated power supply for commmunication and solenoid valves
- Addressing and speed communication configuration by codding wells
- Bus status display by LED

Bus module adaptor :
Using the appropriate adaptor, the Moduflex Bus module can be assembled to :
- Moduflex Valve System
- H Series Micro Valves
- H Series ISO 15407-2 – HA & HB
- H Series ISO 5599-2 – H1

TURCK BL67 Device constitution overview for a Centralised application



TURCK BL67 communication gateway

H Series Industrial Communication :

- Linked to a TURCK BL67 communication module (programmable or not programmable), the device can be connected to a wide choice of Fieldbus or Industrial Ethernet protocols.

TURCK BL67 I/O and Base modules

The separation between electronic and base module for connectivity allows to complete the device with a choice through a full digital or analogue **I/O modules** range populating the **base module** existing with a multiple choice of electrical connection (M8, M12, M23)

The complete resulting configuration can handle :

- Up to 32 electrical modules (up to 2 in the Valve Driver Module)
- Up to 512 digital I/O (up to 32 outputs in the Valve Driver Module)
- Up to 128 analog I/O

Other TURCK BL67 Electronic modules

Other electronic modules, as CANopen gateway alowing a sub-network connectivity with other CANopen slaves, RFID System or counting modules complet the full TURCK BL67 Remote I/O System.

Valve driver Module for 16 or 32 Outputs

Modularity up to 16 or 32 Outputs :
Thanks to its modularity, the H Series Micro Valve Driver Module to Turck BL67 Remote I/O System adaptor can be configure up to either a 16 or 32 solenoid valves configuration :

For a light configuration up to 16 solenoid valves (2 double address or 4 single address manifolds), the Valve Driver Module can be optimized being populated with:

- 1 Standard Turck 16 DO module BL67-16DO-0.1A-P in slot 1
- 1 blank module BL67-E in slot 2

For a full configuration up to 32 solenoid valves (4 double address or 8 single address manifolds), the Valve Driver Module must be fully populated with 1 Standard Turck 16 DO module BL67-16DO-0.1A-P in each slot.

H Series Industrial Communication modules

A choice of different protocols to connect the Isysnet device to the requested industrial network :

- DeviceNet
- Profibus DP
- ControlNet
- Ethernet I/P

Digital and Analogue I/O modules :

Application always needs a wide sensor quantity, diversity and additional electric actuators as well, with an appropirate electrical connection.
With a modularity from 2 to 16 chanels, the wide range of digital or analogue inputs and outputs modules offers a choice of industrial connection :

- M8 -3 PINs
- M12 -5 PINs
- M23 - 12 PINs

Extension power supply module :

The auxiliary power from the communication module supports up to 10 I/O modules. For applications requiring a larger I/O module quantity, this 24VDC extension power module extends the backplane bus power to support up to 10 more I/O modules.

Also, when safety recommendations require multiple permanent and safety power supplies, this 24VDC extension power module avoids the need for a separate power supply section in the H Series Industrial Communication device.

H Series Industrial Communication and H Series Micro Valve bus extender cable

An H Series Industrial Communication device can be split into the H Series Industrial Communication section or, from an H Series Micro valve manifold to an extended section.
Both cables avoide the backplane Bus power and communication.

The H Series Industrial Communication device has to be closed with a 32 output driver (internally ending the backplane bus) or using the terminating base module

32 Outputs driver for valve islands in centralised applications

32 Outputs driver for H Series Micro Valve Islands

- H Series Micro valve nominal flow up to 280 Nl/mn
- 32 outputs per module to handle up to 32 solenoids per valve island
- Up to 4 valve islands linked through the internal sub-network for a total of 128 solenoids per device
- With or without additional user power supply
- With or without bus extender

32 Outputs driver for H Series ISO Valve Islands

ISO 15407-2

ISO 5599-2

- ISO 15407-2 Size 02 (HB) 18 mm 380 Nl/mn
- ISO 15407-2 Size 01 (HA) 26 mm 590 Nl/mn
- ISO 5599-2 Size 1 (H1) 42 mm 1030 Nl/mn
- 32 outputs per module to handle up to 32 solenoids per valve island.

Moduflex fieldbus modules for valve islands in decentralised applications

Moduflex fieldbus adaptor for H Series Micro and H Series ISO valve islands

Moduflex valve system

H Series Micro Valves

ISO 15407-2
HA - HB

ISO 5599-2
H1

- Compatible with all Moduflex fieldbus protocol modules handling up to 16 solenoids:
  - DeviceNet
  - CANopen
  - Profibus DP
  - InterBus-S
  - AS-i standard and extended a-b coding versions.

TURCK BL67 H Series Industrial Communication modules

- A choice of different protocols to connect the TURCK BL67 device to the requested industrial network:
  - CANopen
  - DeviceNet
  - Profibus DP
  - Ethernet Modbus TCP, EtherNet/IP™ and PROFINET

Programmable versions CODESYS

TURCK BL67 Electronic and Base Modules

The separation between electronic and base module for connectivity allows to complete the device with a choice through a full digital or analogue **I/O modules** range populating the **base module** existing with a multiple choice of electrical connection (M8, M12, M23)

The complete resulting configuration can handle :

- Up to 32 electrical modules (up to 2 in the Valve Driver Module)
- Up to 512 digital I/O (up to 32 outputs in the Valve Driver Module)
- Up to 128 analog I/O

32 Outputs Driver for H Series Micro and H Series ISO Valve Islands

H Series Micro Valves

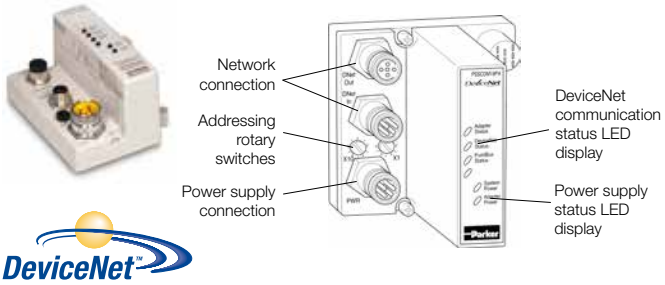
ISO 15407-2
HA & HB

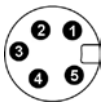
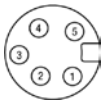
ISO 15407-2
H1 to H3

• H Series Micro	4 valve function in	42 mm	280 Nl/mn
• ISO 15407-2	Size 02 (HB)	18 mm	390 Nl/mn
• ISO 15407-2	Size 01 (HA)	26 mm	920 Nl/mn
• ISO 5599-2	Size 1 (H1)	42 mm	1200 Nl/mn
• ISO 5599-2	Size 2 (H2)	56 mm	2500 Nl/mn
• ISO 5599-2	Size 3 (H3)	71 mm	5000 Nl/mn

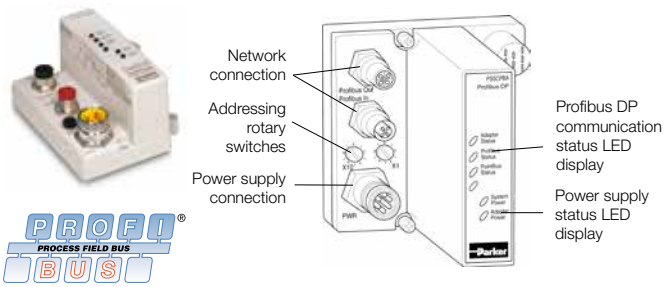
- Modularity of 16 or 32 outputs per module to handle up to 32 solenoids per valve island.

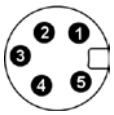
DeviceNet communication module



DeviceNet Adapters	
DeviceNet module order code	
PSSCDM12A	**PSSCDM18PA**
Adapters connection	
Power supply connection 7/8" - 4 PINs - Male :  - PIN 1 : User power + - PIN 2 : Adapter power + - PIN 3 : Adapter power - - PIN 4 : User power -	
Bus IN connection	
M12 - 5 PINs - Male - A coding 	M18 - 5 PINs - Male : 
- PIN 1 : Drain - PIN 2 : DeviceNet V+ - PIN 3 : DeviceNet V- - PIN 4 : CAN High - PIN 5 : CAN Low	
Bus OUT connection	
M12 - 5 PINs - Female - A coding 	M18 - 5 PINs - Female : 
- PIN 1 : Drain - PIN 2 : V+ - PIN 3 : V- - PIN 4 : CAN High - PIN 5 : CAN Low	
LED display 1 - Adapter status : green/red 2 - DeviceNet status : green/red 3 - Status : green/red 4 - System power (5V power) : green 5 - Adapter power (24V from field supply) : green	

Profibus DP communication module



Profibus DP Adapters	
Profibus DP module order code	
PSSCPBA	
Adapters connection	
Power supply connection 7/8" - 5 PINs - Male :  - PIN 1 : User power + - PIN 2 : Adapter power + - PIN 3 : Protective GND - PIN 4 : Adapter power - - PIN 5 : User power -	
Bus IN connection	
M12 - 5 PINs - Male - B coding  - PIN 1 : + 5 VDC Bus - PIN 2 : A - Line - PIN 3 : GND Bus - PIN 4 : B - Line - PIN 5 : Shield	
Bus OUT connection	
M12 - 5 PINs - Female - B coding  - PIN 1 : + 5 VDC Bus - PIN 2 : A - Line - PIN 3 : GND Bus - PIN 4 : B - Line - PIN 5 : Shield	
LED display 1 - Adapter status : green/red 2 - Profibus DP status : green/red 3 - Bus status : green/red 4 - System power (5V power) : green 5 - Adapter power (24V from field supply) : green	

DeviceNet communication module connection accessories


P8CS1205BA

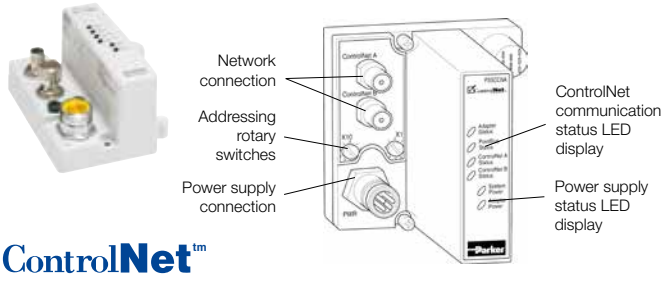
Description	Connector type	W (g)	Order code
Power supply connector	7/8" - 4 PINs	40	**P8CS7804AA**
Bus IN connector	M12 female - A coding	25	**P8CS1205AA**
Bus OUT connector	M12 male - A coding	25	**P8CS1205BA**
Line terminaiton	M12 male - A coding	25	**P8BPA00MA**

Profibus DP communication module connection accessories


P8CS1205BB

Description	Connector type	W (g)	Order code
Power supply connector	7/8" - 5 PINs	40	**P8CS7805AA**
Bus IN connector	M12 female - B coding	25	**P8CS1205AB**
Bus OUT connector	M12 male - B coding	25	**P8CS1205BB**
Line terminaiton	M12 male - B coding	25	**P8BPA00MB**

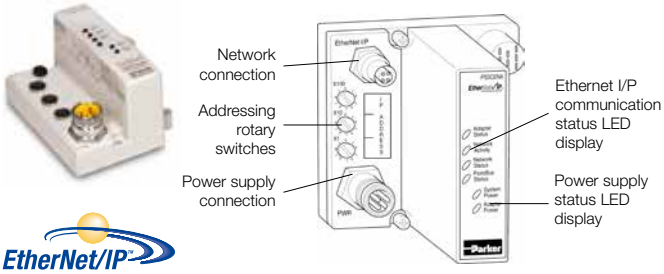
ControlNet communication module



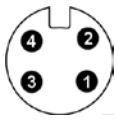
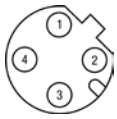
ControlNet™

ControlNet Adapters	
ControlNet module order code	
PSSCCNA	
Adapters connection	
Power supply connection 7/8" - 4 PINs - Male : 	- PIN 1 : User power + - PIN 2 : Adapter power + - PIN 3 : Adapter power - - PIN 4 : User power -
ControlNet IN connection	TNC style connector
ControlNet OUT connection	TNC style connector
LED display 1 - Adapter status : green/red 2 - Bus status : green/red 3 - ControNet A status : green/red 4 - ControNet B status : green/red 5 - System power (Bus 5V power) : green 6 - Adapter power (24V from field supply) : green	

Ethernet I/P communication module



EtherNet/IP™

Ethernet I/P Adapters	
Ethernet I/P module order code	
PSSCENA	
Adapters connection	
Power supply connection 7/8" - 4 PINs - Male : 	- PIN 1 : User power + - PIN 2 : Adapter power + - PIN 3 : Adapter power - - PIN 4 : User power -
Ethernet I/P connection	
M12 - 4 PINs - Female - D coding : 	- PIN 1 : Tx + - PIN 2 : Rx + - PIN 3 : Tx - - PIN 4 : Rx -
LED display 1 - Adapter status : green/red 2 - Network activity : green 3 - Network status : green/red 4 - Bus status : green/red 5 - System power (Bus 5V power) : green 6 - Adapter power (24V from field supply) : green	

ControlNet communication module connection accessories


P8CS7804AA

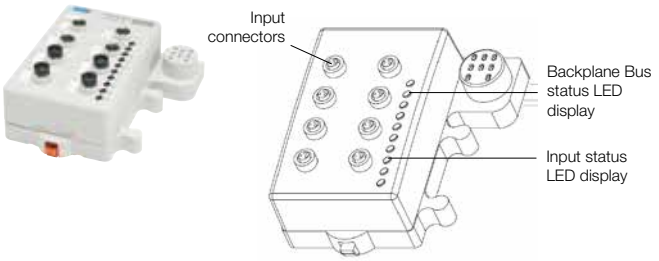
Description	Connector type	W (g)	**Order code**
Power supply connector	7/8" - 4 PINs	40	**P8CS7804AA**

Ethernet I/P communication module connection accessories


P8CS7804AA

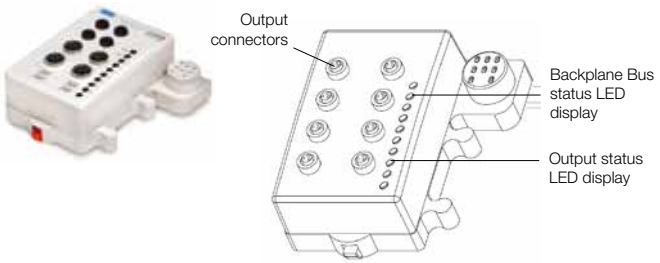
Description	Connector type	W (g)	**Order code**
Power supply connector	7/8" - 4 PINs	40	**P8CS7804AA**

Digital Input modules



Digital DC Input modules		
Input module order code		
PSSN8M8A	**PSSN8M12A**	**PSSP8M12A**
		
Nb of Inputs		
8	8	8
Nb of Input connectors		
8 x M8	4 x M12	4 x M12
Input density/connector		
1	2	2
Sensor polarity		
PNP	PNP	NPN
Input module connection		
Input connector		
M8 - 3 PINs Female  - PIN 1 : + 24 VDC - PIN 3 : Common - PIN 4 : Input	M12 - 5 PINs Female  - PIN 1 : + 24 VDC - PIN 2 : Odd input (1, 3, 5, 7) - PIN 3 : Common - PIN 4 : Even input (0, 2, 4, 6) - PIN 5 : n/a	
Input status LED display (Logic side)		
8 x Yellow / Red		
Backplane Bus status LED display (Logic side)		
Module status : 1 x green / red Network status : 1 x green / red		

Digital Output modules



Digital DC Output modules			
Output module order code			
PSST8M8A	**PSST8M12A**	**PSST8M23A**	**PSSTR4M12A**
			
Nb of Outputs			
8	8	8	8
Nb of Output connectors			
8 x M8	4 x M12	1 x M23	4 x M12
Output density/connector			
1	2	8	1
Output module connection			
Output connector			
M8 - 3 PINs Female  - PIN 1 : + 24 VDC - PIN 3 : Common - PIN 4 : Outputs (0 to 7)	M12 - 5 PINs Female  - PIN 1 : + 24 VDC PIN 2 : Odd output (1, 3, 5, 7) - PIN 3 : Common PIN 4 : Even output (0, 2, 4, 6) - PIN 5 : n/a	M23 - 12 PINs Female  - PIN 1 : Output 0 - PIN 2 : Output 1 - PIN 3 : Output 2 - PIN 4 : Output 3 - PIN 5 : Output 4 - PIN 6 : Output 5 - PIN 7 : Output 6 - PIN 8 : Output 7 - PIN 9 : Return (common) - PIN 10 : Return (common) - PIN 11 : +24 VDC - PIN 12 : Chassis	M12 - 5 PINs Female  - PIN 1 : +24 VDC - PIN 2 : Odd outputs - PIN 3 : Common - PIN 4 : Even outputs - PIN 5 : n/a
Output status LED display (Logic side)			
8 x Yellow / Red			4 x Yellow/Red
Backplane Bus status LED display (Logic side)			
Module status : 1 x green / red Network status : 1 x green / red			

Backplane Bus accessories

Description	Cable length	W (g)	**Order code**
Backplane Bus extender	1 meter	380	**PSSEXT1**
	3 meter	760	**PSSEXT3**
Termination module		200	**PSSTERM**

Connectors for outputs

Description	Connector type	W (g)	**Order code**
Cable quick connect connector	M8 male	25	**P8CS0803J**
	M12 male - A coding	25	**P8CS1204J**
Y shape	M12 male - 2 x M12 female	25	**P8CSY1212A**

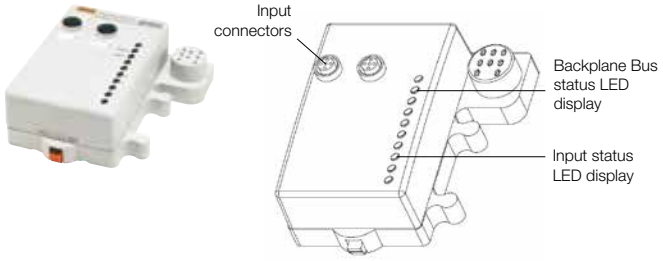
Backplane Bus accessories

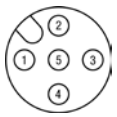
Description	Cable length	W (g)	**Order code**
Backplane Bus extender	1 meter	380	**PSSEXT1**
	3 meter	760	**PSSEXT3**
Termination module		200	**PSSTERM**

Connectors for outputs

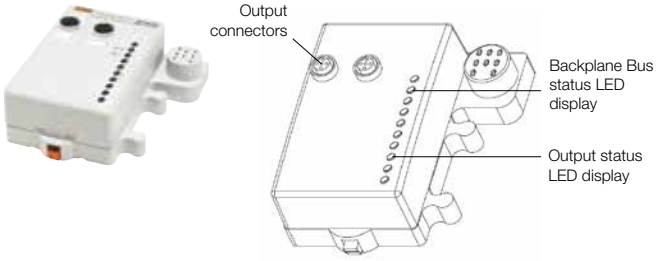
Description	Connector type	W (g)	**Order code**
Cable quick connect connector	M8 male	25	**P8CS0803J**
	M12 male - A coding	25	**P8CS1204J**
Y shape	M12 male - 2 x M12 female	25	**P8CSY1212A**

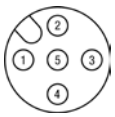
Analogue Input modules



Analogue Input modules		
Input module order code	**PSSNAVM12A**	**PSSNACM12A**
		
Nb of Inputs	2	2
Nb of Input connectors	2 x M12	2 x M12
Input density/connector	1	1
Input signal	0 - 10 V	4 - 20 mA
Analogue Input module connection		
Input connector	M12 - 5 PINs - Female  - PIN 1 : +24 VDC - PIN 2 : Inputs - PIN 3 : Common - PIN 4 : Common - PIN 5 : n/a	
Input status LED display (Logic side)	2 x green / red	
Backplane Bus status LED display (Logic side)	Module status : 1 x green / red Network status : 1 x green / red	

Analogue Output modules



Analogue Output modules		
Output module order code	**PSSTAVM12A**	**PSSTACM12A**
		
Nb of Outputs	2	2
Nb of Output connectors	2 x M12	2 x M12
Output density/connector	1	1
Output signal	0 - 10 V	4 - 20 mA
Analogue Output module connection		
Output connector	M12 - 5 PINs - Female  - PIN 1 : Outputs - PIN 2 : +24 VDC - PIN 3 : Common - PIN 4 : Common - PIN 5 : n/a	
Output status LED display (Logic side)	2 x green / red	
Backplane Bus status LED display (Logic side)	Module status : 1 x green / red Network status : 1 x green / red	

Backplane Bus accessories

Description	Cable length	W (g)	**Order code**
Backplane Bus extender	1 meter	380	**PSSEXT1**
	3 meter	760	**PSSEXT3**
Termination module		200	**PSSTERM**

Backplane Bus accessories

Description	Cable length	W (g)	**Order code**
Backplane Bus extender	1 meter	380	**PSSEXT1**
	3 meter	760	**PSSEXT3**
Termination module		200	**PSSTERM**

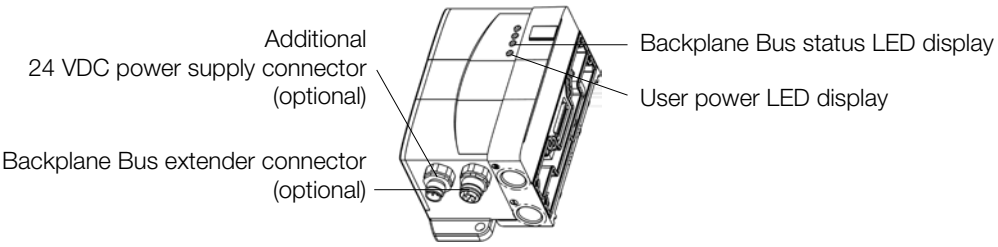
Connectors for inputs

Description	Connector type	W (g)	**Order code**
Staight connector	M12 male - A coding	25	**P8CS1205BA**

Connectors for outputs

Description	Connector type	W (g)	**Order code**
Staight connector	M12 male - A coding	25	**P8CS1205BA**

32 Output drivers

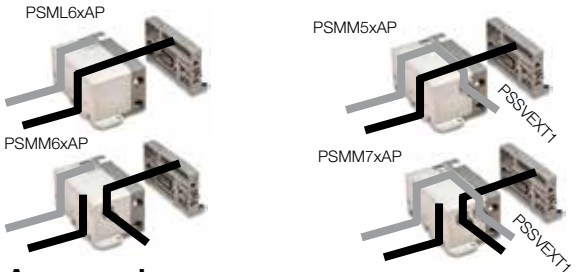


32 Output driver modules

Dedicated valve range		H Series Micro Valves				H Series ISO 15407-2	H Series ISO 5599-2
32 Output driver modules order code	Side ported	PSML61AP	PSMM61AP	PSMM71AP	PSMM51AP	PS5620L61P	PS4020L61CP
	Bottom ported	PSML62AP	PSMM62AP	PSMM72AP	PSMM52AP	-	-
							
Pneumatic port sizes	Power supply	G3/8"					
	Exhaust	G3/8"					
Pneumatic pilot port sizes	Power supply	Internal or M7				Internal	
	Exhaust	G1/8"				Internal	
32 Output driver module connection							
24 VDC power supply connector		NO	YES M12 - 5 PINs - Male - PIN 1 : +24 VDC - PIN 2 : n/a - PIN 3 : Common - PIN 4 : n/a - PIN 5 : Protective Earth	YES	NO	NO	NO
Backplane Bus Extender connector		NO	NO	YES M12 - 5 PINs - Female To use with PSSVEXT1 - PIN 1 : CAN SHLD - PIN 2 : CAN V+ - PIN 3 : CAN GND - PIN 4 : CAN High - PIN 5 : CAN Low	YES	NO	NO
Backplane Bus status LED display (Logic side)		Backplane Bus power supply : 1 x green / red Backplane Bus status : 1 x green / red Output fault : 1 x red Valve power supply : 1 x green				Module status : 1 x green / red Backplane Bus status : 1 x green/red Output fault : 1 x yellow / red	

Backplane Bus and Solenoid Valves Power Supply Sourcing :

H Series Micro 32 output driver modules



H Series ISO 32 output driver modules

Backplane Bus power supply
Solenoid Valves power supply

For further details on Multiple Power supply, see at end of this section.

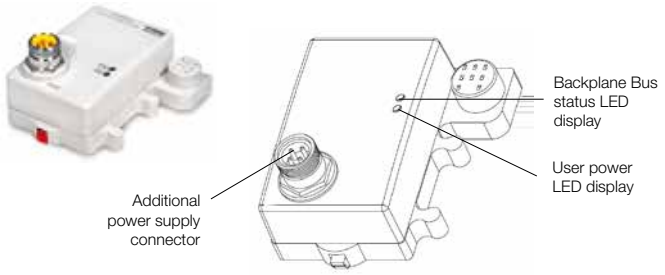
Accessories

Description	Connector type	W (g)	Order code
Backplane Bus extension cable with 1 meter cable	M12 male - A coding Head plate	380	**PSSVEXT1**


P8CS1205AA

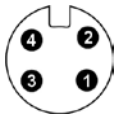
Connector for 24 VDC power supply connector	M12 Female - A coding	25	**P8CS1205AA**
Line termination	M12 Male - A coding	25	**P8BPA00MA**

Power Extender module



Backplane Bus Extension Power Supply module	
Power Supply Extender module order code	**PSSE24A**

Extender module connection

Power supply connection	7/8" - 4 PINs - Male  - PIN 1 : User power + - PIN 2 : Backplane bus power + - PIN 3 : Backplane bus power + - PIN 4 : User power -
Status LED display (Logic side) 1 x green	Field power status : 1 x green 5 VDC system power status:

Backplane Bus connector

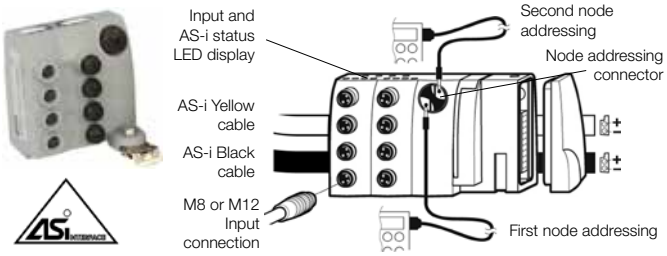

P8CS7804AA

Description	Connector type	W (g)	Order code
Power supply connector	7/8" - 4 PINs	40	**P8CS7804AA**

Backplane Bus accessories

Description	Cable length	W (g)	Order code
Backplane Bus extender from Industrial communication module	1 meter	380	**PSSEXT1**
	3 meter	760	**PSSEXT3**
Backplane Bus extender cable from 32 outputs driver	1 meter	380	**PSSVEXT1**

AS-interface communication module



AS-i Adapters

	P2M2HBVA 10400	P2M2HBVA 10800	P2M2HBVA 20600	P2M2HBVA 10808A	P2M2HBVA 20608A	P2M2HBVA 10404B	P2M2HBVA 10404B	P2M2HBVA 20608B
								
AS-i Version								
	V2.0	V2.0	V2.1	V2.0	V2.1	V2.0	V2.0	V2.1
Number of addresses								
	1 / 31	2 / 31	2 / 31a + 31b	2 / 31	2 / 31a + 31b	1 / 31	2 / 31	2 / 31a +31b
Nb of outputs for solenoid valves								
	4	8	6	8	8	4	8	6
Nb of Inputs								
	-			8	8	4	8	8
Nb of Input connectors								
	-			8 x M8	8 x M8	4 x M12	4 x M12	4 x M12
Input density / connector								
	-			1	1	1	2	2

Adapter connection

Yellow cable				
Bus signal Bus module and sensors power supply				
Black cable				
24 VDC outputs for solenoid valves				
INPUTS connection	M8 - 3 Pins - Female		M12 - 5 PIns Female	
				
	- PIN 1 : +24 VDC - PIN 3 : Common - PIN 4 : Input	PIN 1: +24 VDC PIN 2*: Input 2 & 3 PIN 3: Common PIN 4: Input 0 to 3 PIN 5: n/a *on left connectors only	PIN 1: +24 VDC PIN 2*: Odd Input PIN 3: Common PIN 4: Even Input PIN 5: n/a	
LED Display				
Node status : 2 x green/red per node Input status : 4 x yellow per node Valve power (24V from field supply) : 1 x green / red				

Valve range adapters


PSMM41AP

Description	Valve range		W (g)	Order code
Moduflex Bus adapter without communication module	Moduflex Valve		30	**P2M2HEV0B**
	H Series	Side ported	200	**PSMM41AP**
	Micro Valve	Bottom ported	200	**PSMM42AP**
	ISO 15407-2-HA-HB		200	**PS5620M41P**
	ISO 5599-2 - H1		300	**PS4020M41CP**

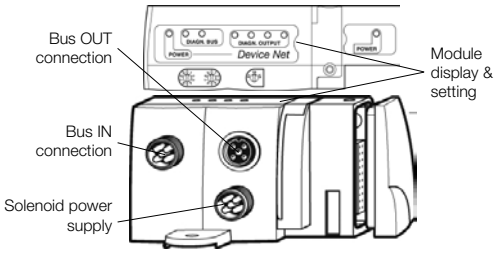
Connectors for Inputs


P8CS0803J


P8CSY1212A

Description	Valve range	W (g)	Order code
Cable quick connect connector	M8 Male	25	**P8CS0803J**
	M12 Male - A coding	25	**P8CS1204J**
"Y" shape	M12 Male - 2 x M12 Female	25	**P8CSY1212A**
Addressing cable	M12 Male - Jack	100	**P8LS12JACK**

DeviceNet 16 outputs communication module



DeviceNet

DeviceNet Adapters

Moduflex Valve System		H Series Micro
P2M2HBVD11600	**P2M2HBVD21600**	**Side ported : PSMMD1AP** **Bottom ported : PSMMD2AP**

Adapter connection

Power supply connection

M12 - 5 PINs Male - B coding	M12 - 5 PINs Male - A coding
 - PIN 1 : n/a - PIN 2 : n/a - PIN 3 : 0 VDC Solenoid - PIN 4 : 24 VDC Solenoid - PIN 5 : Protected earth (PE)	 - PIN 1 : n/a - PIN 2 : n/a - PIN 3 : 0 VDC Solenoid - PIN 4 : 24 VDC Solenoid - PIN 5 : Protected earth (PE)

Bus IN connection

M12 - 5 PINs - Male - A coding


- PIN 1 : Drain
- PIN 2 : CAN V+
- PIN 3 : CAN V-
- PIN 4 : CAN High
- PIN 5 : CAN Low)

Bus OUT connection

M12 - 5 PINs - Female - A coding


- PIN 1 : Drain
- PIN 2 : CAN V+
- PIN 3 : CAN V-
- PIN 4 : CAN High
- PIN 5 : CAN Low)

LED Display

Adapter power : 1 x green
DeviceNet status : 2 x green/red
Solenoid pilots power : 1 x green/red
Solenoid pilots diagnostic : 4 x red

Valve range adapters


PSMM41AP

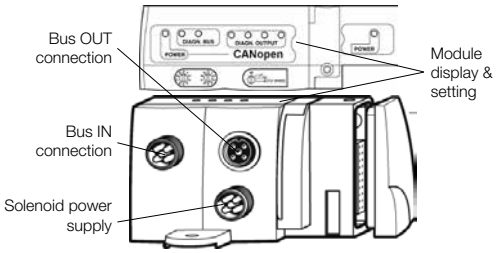
Description	Valve range	W (g)	Order code
Moduflex Bus adapter without communication module	Moduflex Valve	30	**P2M2HEV0B**
	H Series Micro valves Side ported	200	**PSMM41AP**
	H Series Micro valves Bottom ported	200	**PSMM42AP**
	ISO 15407-2-HA-HB	200	**PS5620M41P**
	ISO 5599-2 - H1	300	**PS4020M41CP**

DeviceNet communication module connection accessories


P8CS1205BA

Description	Connector type	W (g)	Order code
Power supply connection	M12 Female - A coding	40	**P8CS1205AA**
	M12 Female - B coding	40	**P8CS1205AB**
Bus IN connector	M12 Female - A coding	25	**P8CS1205AA**
Bus OUT connector	M12 Male - A coding	25	**P8CS1205BA**
Line termination	M12 Male - A coding	25	**P8BPA00MA**

CANopen 16 outputs communication module



CANopen

CANopen Adapters

Moduflex Valve System		H Series Micro
P2M2HBVC11600	**P2M2HBVC21600**	**Side ported : PSMMC1AP** **Bottom ported : PSMMC2AP**

Adapter connection

Power supply connection

M12 - 5 PINs Male - B coding	M12 - 5 PINs Male - A coding
 - PIN 1 : n/a - PIN 2 : n/a - PIN 3 : 0 VDC Solenoid - PIN 4 : 24 VDC Solenoid - PIN 5 : Protected earth (PE)	 - PIN 1 : n/a - PIN 2 : n/a - PIN 3 : 0 VDC Solenoid - PIN 4 : 24 VDC Solenoid - PIN 5 : Protected earth (PE)

Bus IN connection

M12 - 5 PINs - Male - A coding


- PIN 1 : Drain
- PIN 2 : CAN V+
- PIN 3 : CAN V-
- PIN 4 : CAN High
- PIN 5 : CAN Low)

Bus OUT connection

M12 - 5 PINs - Female - A coding


- PIN 1 : Drain
- PIN 2 : CAN V+
- PIN 3 : CAN V-
- PIN 4 : CAN High
- PIN 5 : CAN Low)

LED Display

Adapter power : 1 x green
CANopen status : 2 x green/red
Solenoid pilots power : 1 x green/red
Solenoid pilots diagnostic : 4 x red

Valve range adapters


PSMM41AP

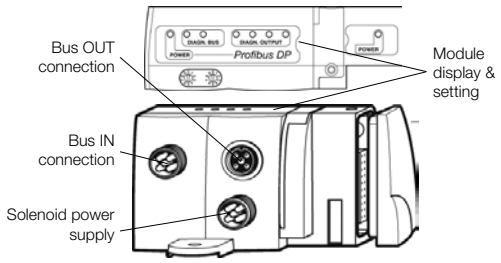
Description	Valve range	W (g)	Order code
Moduflex Bus adapter without communication module	Moduflex Valve	30	**P2M2HEV0B**
	H Series Micro valves Side ported	200	**PSMM41AP**
	H Series Micro valves Bottom ported	200	**PSMM42AP**
	ISO 15407-2-HA-HB	200	**PS5620M41P**
	ISO 5599-2 - H1	300	**PS4020M41CP**

CANopen communication module connection accessories


P8CS1205BA

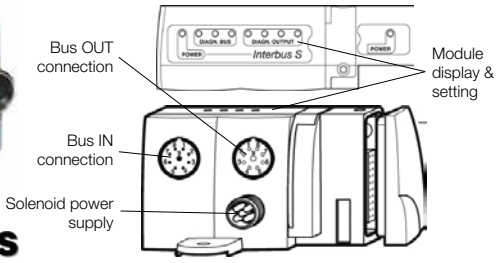
Description	Connector type	W (g)	Order code
Power supply connection	M12 Female - A coding	40	**P8CS1205AA**
	M12 Female - B coding	40	**P8CS1205AB**
Bus IN connector	M12 Female - A coding	25	**P8CS1205AA**
Bus OUT connector	M12 Male - A coding	25	**P8CS1205BA**
Line termination	M12 Male - A coding	25	**P8BPA00MA**

Profibus DP 16 outputs communication module



Profibus DP Adapters	
Moduflex Valve System	**H Series Micro Valves**
P2M2HBVC11600	**Side ported : PSMMC1AP** **Bottom ported : PSMMC2AP**
	
Adapter connection	
Power supply connection	
M12 - 5 PINs - Male - A coding  - PIN 1 : +24 VDC adapter - PIN 2 : n/a - PIN 3 : 0 VDC Adapter & Solenoids - PIN 4 : 24 VDC Solenoids - PIN 5 : Protected earth (PE)	
Bus IN connection	
M12 - 5 PINs - Male - B coding  - PIN 1 : +5 VDC Bus - PIN 2 : A - Line - PIN 3 : GND Bus - PIN 4 : B - Line - PIN 5 : Shield	
Bus OUT connection	
M12 - 5 PINs - Female - B coding  - PIN 1 : +5 VDC Bus - PIN 2 : A - Line - PIN 3 : GND Bus - PIN 4 : B - Line - PIN 5 : Shield	
LED Display	
Adapter power : 1 x green Profibus DP status : 2 x green/red Solenoid pilots power : 1 x green/red Solenoid pilots diagnostic : 4 x red	

InterBus-S 16 outputs communication module



InterBus-S Adapters
Moduflex Valve System
P2M2HBVS11600

Adapter connection
Power supply connection
M12 - 5 PINs - Male - A coding  - PIN 1 : +24 VDC adapter - PIN 2 : n/a - PIN 3 : 0 VDC Adapter & Solenoids - PIN 4 : 24 VDC Solenoids - PIN 5 : Protected earth (PE)
Bus IN connection
M23 - 9 PINs - Male  - PIN 1 : DO - PIN 2 : DO - PIN 3 : DI - PIN 4 : DI - PIN 5 : Ground - PIN 6 : n/a - PIN 7 : n/a - PIN 8 : n/a - PIN 9 : n/a
Bus OUT connection
M23 - 9 PINs - Female  - PIN 1 : DO - PIN 2 : DO - PIN 3 : DI - PIN 4 : DI - PIN 5 : Ground - PIN 6 : n/a - PIN 7 : n/a - PIN 8 : n/a - PIN 9 : RBST
LED Display
Adapter power : 1 x green InterBus S status : 2 x green/red Solenoid pilots power : 1 x green/red Solenoid pilots diagnostic : 4 x red

Valve range adapters

PSMM41AP

Description	Valve range	W (g)	Order code
Moduflex Bus adapter without communication module	Moduflex Valve	30	**P2M2HEV0B**
	H Series Side ported	200	**PSMM41AP**
	Micro valves Bottom ported	200	**PSMM42AP**
	ISO 15407-2-HA-HB	200	**PS5620M41P**
	ISO 5599-2 - H1	300	**PS4020M41CP**

Valve range adapters

PSMM41AP

Description	Valve range	W (g)	Order code
Moduflex Bus adapter without communication module	Moduflex Valve	30	**P2M2HEV0B**
	H Series Side ported	200	**PSMM41AP**
	Micro valves Bottom ported	200	**PSMM42AP**
	ISO 15407-2-HA-HB	200	**PS5620M41P**
	ISO 5599-2 - H1	300	**PS4020M41CP**

Profibus DP communication module connection accessories

P8CS1205BB

Description	Connector type	W (g)	Order code
Power supply connection	M12 Female - A coding	40	**P8CS1205AA**
Bus IN connector	M12 Female - B coding	25	**P8CS1205AB**
Bus OUT connector	M12 Male - B coding	25	**P8CS1205BB**
Line termination	M12 Male - B coding	25	**P8BPA00MB**

InterBus S communication module connection accessories

P8CS1205AA

Description	Connector type	W (g)	Order code
Power supply connection	M12 Female - A coding	40	**P8CS1205AA**

TURCK BL67 Communication Gateway

Protocol	Network connection	Power Sup. Connection	Weight (g)	Order code
CANopen (Bus IN & OUT)	M12 - A coding	7/8" - 5 Pin's	375	**BL67-GW-CO**
DeviceNet™	7/8" - 5 Pin's	7/8" - 5 Pin's	360	**BL67-GW-DN**
Profibus-DP (DPV0/DPV1)	M12 - B coding	7/8" - 5 Pin's	370	**BL67-GW-DPV1**
Multiprotocol Ethernet: Modbus TCP, EtherNet/IP™ and PROFINET	M12 - D coding	7/8" - 5 Pin's	375	**BL67-GW-EN**

All TURCK BL67 System Modules can be ordered directly from TURCK under the same part number

TURCK BL67 Programmable CODESYS Communication Gateway

Protocol	Network connection	Power Sup. Connection	Weight (g)	Order code
Profibus-DP	M12 - B coding	7/8" - 5 Pin's	380	**BL67-PG-DP**
EtherNet/IP™	M12 - D coding	7/8" - 5 Pin's	375	**BL67-PG-EN-IP**
Modbus TCP	M12 - D coding	7/8" - 5 Pin's	375	**BL67-PG-EN**

All TURCK BL67 System Modules can be ordered directly from TURCK under the same part number

TURCK BL67 Electronic Modules

Decription	Characteristic	Polarity	Weight (g)	Order code
Blank module			15	**BL67-E**
4 Digital Inputs		PNP	55	**BL67-4DI-P**
		NPN	55	**BL67-4DI-N**
	Channel diagnostics	PNP	55	**BL67-4DI-PD**
8 Digital Inputs		PNP	55	**BL67-8DI-P**
		NPN	55	**BL67-8DI-N**
	Channel diagnostics	PNP	55	**BL67-8DI-PD**
16 Digital Inputs		PNP	55	**BL67-16DI-P**
4 Digital Ouputs	0.5 A	PNP	55	**BL67-4DO-0.5A-P**
	2.0 A	PNP	55	**BL67-4DO-2A-P**
		NPN	55	**BL67-4DO-2A-N**
	4.0 A	PNP	55	**BL67-4DO-4A-P**
8 Digital Ouputs	0.5 A	PNP	55	**BL67-8DO-0.5A-P**
		NPN	55	**BL67-8DO-0.5A-N**
16 Digital Ouputs	0.1 A	PNP	55	**BL67-16DO-0.1A-P**
4 Digital Inputs & Ouputs	0.5 A - Channel Diagnostic	PNP	55	**BL67-4DI4DO-PD**
8 Configurable Digital Channels	0.5 A	PNP	55	**BL67-8XSG-P**
	0.5 A - Channel Diagnostics	PNP	55	**BL67-8XSG-PD**
8 Isolated Relay Ouputs	Normally open		55	**BL67-8DO-R-NO**
2 analogue Inputs	16 bit resolution	Current	55	**BL67-2AI-I**
		Voltage	55	**BL67-2AI-V**
	For Pt and Ni sensors		55	**BL67-2AI-PT**
	For thermoelements		55	**BL67-2AI-TC**
4 analogue Inputs	16 bit resolution	Current / Voltage	55	**BL67-4AI-V/I**
	For thermoelements		55	**BL67-4AI-TC**
2 analogue Outputs	16 bit resolution	Current	55	**BL67-2AO-I**
		Voltage	55	**BL67-2AO-V**
4 analogue Outputs	16 bit resolution	Voltage	55	**BL67-4AO-V**

All TURCK BL67 System Modules can be ordered directly from TURCK under the same part number

The complete TURCK BL67 Remote I/O System range on http://www.turck/com and http:// www.parker,com/pneu/fieldbus

TURCK BL67 Base modules for Digital and Analog I/O Modules

Description	Connector Type	Con. Number	Weight (g)	Order code
Base Modules	M8, 3-pole, female	4	160	**BL67-B-4M8**
		8	215	**BL67-B-8M8**
	M8, 4-pole, female	8	215	**BL67-B-8M8-4**
	M12, 5-pole, female, A-coded	2	185	**BL67-B-2M12**
	M12, 5-pole, female, A-coded, paired	2	185	**BL67-B-2M12-P**
	M12, 5-pole, female, A-coded	4	245	**BL67-B-4M12**
	M12, 5-pole, female, A-coded, paired	4	245	**BL67-B-4M12-P**
	M23, 12-pole, female	1	190	**BL67-B-1M23**
	M23, 19-pole, female	1	190	**BL67-B-1M23-19**

All TURCK BL67 System Modules can be ordered directly from TURCK under the same part number

Electronic and Base Module Combinations

	BL67-B-4M8	BL67-B-8M8	BL67-B-2M12	BL67-B-2M12-P	BL67-B-4M12	BL67-B-4M12-P	BL67-B-1M23	BL67-B-1M23-19	BL67-B-8M8-4
Digital Input Modules									
BL67-4DI-P	✓		✓	✓	✓		✓		
BL67-4DI-N	✓		✓	✓	✓		✓		
BL67-4DI-PD	✓		✓	✓	✓				
BL67-8DI-P		✓			✓	✓	✓		
BL67-8DI-N		✓			✓	✓	✓		
BL67-8DI-PD		✓			✓	✓			
BL67-16DI-P								✓	✓
Digital Output Modules									
BL67-4DO-0.5A-P	✓		✓	✓	✓		✓		
BL67-4DO-2A-P	✓		✓	✓	✓		✓		
BL67-4DO-2A-N	✓		✓	✓	✓		✓		
BL67-4DO-4A-P	✓		✓	✓	✓		✓		
BL67-8DO-0.5A-P		✓			✓	✓	✓		
BL67-8DO-0.5A-N		✓			✓	✓	✓		
BL67-16DO-0.1A-P								✓	✓
BL67-4DI4DO-PD		✓			✓	✓			
Configurable Digital Input/Output Modules									
BL67-8XSG-P		✓			✓	✓			
BL67-8XSG-PD		✓			✓	✓			
Relay Output Module									
BL67-8DO-R-NO						✓			
Analogue Input Module									
BL67-2AI-I			✓						
BL67-2AI-V			✓						
BL67-2AI-PT			✓						
BL67-2AI-TC			✓						
BL67-4AI-V/I					✓				
BL67-4AI-TC					✓				
Analogue Output Module									
BL67-2AO-I			✓						
BL67-2AO-V			✓						
BL67-4AO-V					✓				

The complete TURCK BL67 Remote I/O System range on http://www.turck/com

TURCK BL67 Power Feeding and Base Modules

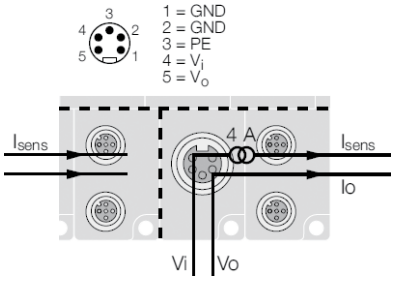
Description	Connector Type		Weight (g)	Order code
Power Feeding Module for 24 VDC additional sourcing			55	**BL67-PF-24VDC**
Base Modules	1 x 7/8", 5-pole, male	VI / VO Sourcing	55	**BL67-B-1RSM**
		VO Sourcing	55	**BL67-B-1RSM-VO**
	1 x 7/8", 4-pole, male		55	**BL67-B-1RSM-4**

All TURCK BL67 System Modules can be ordered directly from TURCK under the same part number

Power Feeding Base Modules Connection

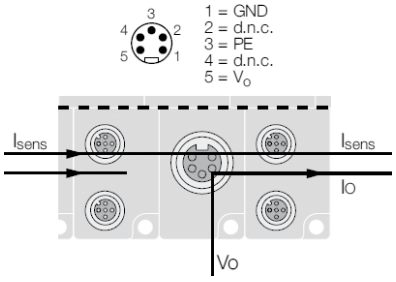
Standard version

BL67-B-1RSM

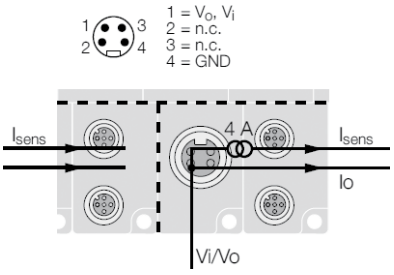


Other possible versions

BL67-B-1RSM-VO



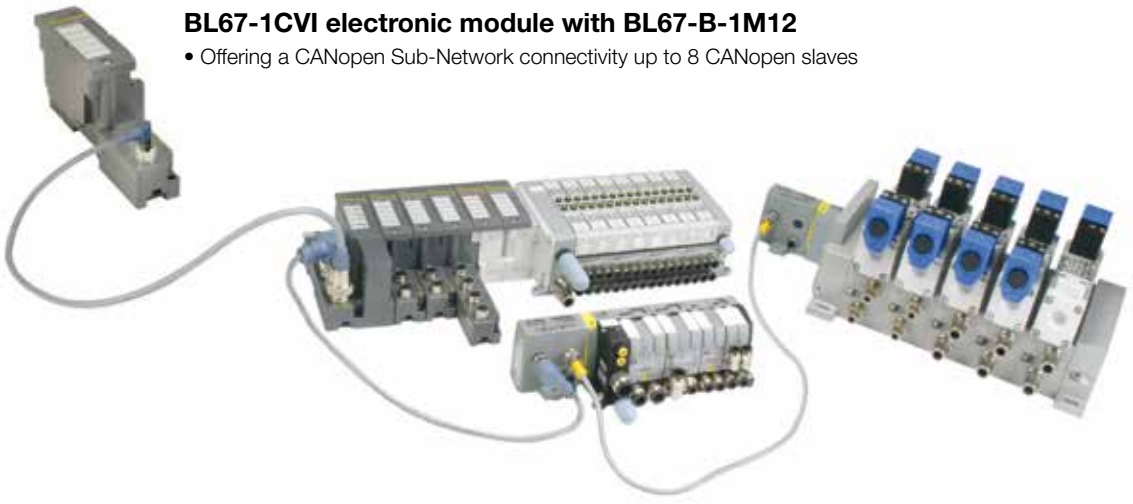
BL67-B-1RSM-4



TURCK BL67 CANopen Gateway and Base Module

Description	Connector Type	Weight (g)	Order code
CANopen Gateway Module for CANopen Valve Island Interface		55	**BL67-1CVI**
Base Modules	1 x M12, 5-pole, female, A-coded	170	**BL67-B-1M12**

All TURCK BL67 System Modules can be ordered directly from TURCK under the same part number

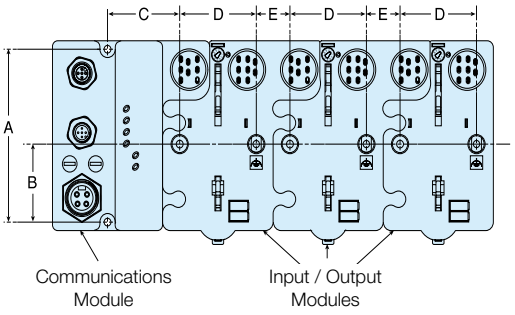


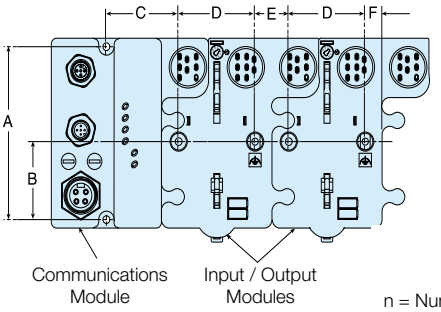
BL67-1CVI electronic module with BL67-B-1M12

- Offering a CANopen Sub-Network connectivity up to 8 CANopen slaves

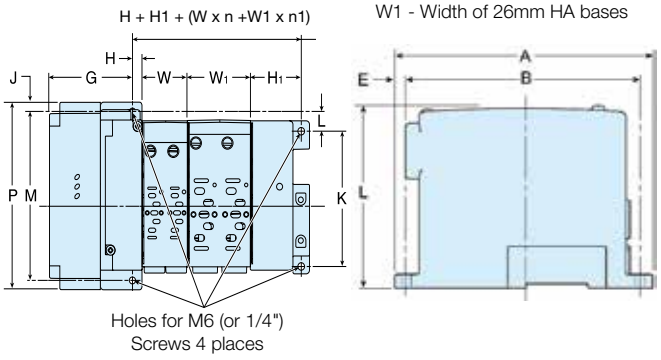
The complete TURCK BL67 Remote I/O System range on http://www.turck/com

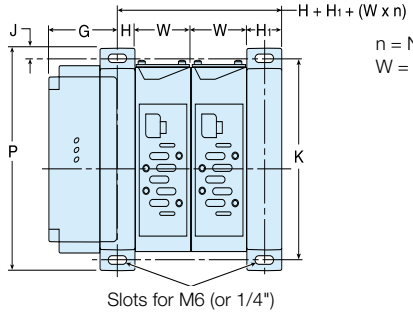
H Series ISO 15407-2 & 5599-2 Sizes 02 to 3 with H Series Industrial Communication Fieldbus System



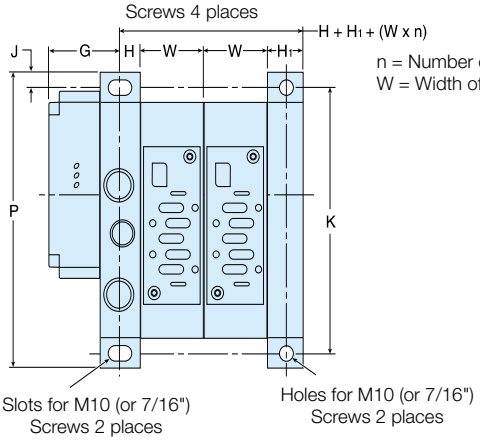


n = Number of 18mm HB bases
N1 = Number of 26mm HA bases
W = Width of 18mm HB bases
W1 - Width of 26mm HA bases





n = Number of H1 bases
W = Width of H1 bases



n = Number of H2 / H3 bases
W = Width of H2 / H3 bases

HA / HB Dimensions

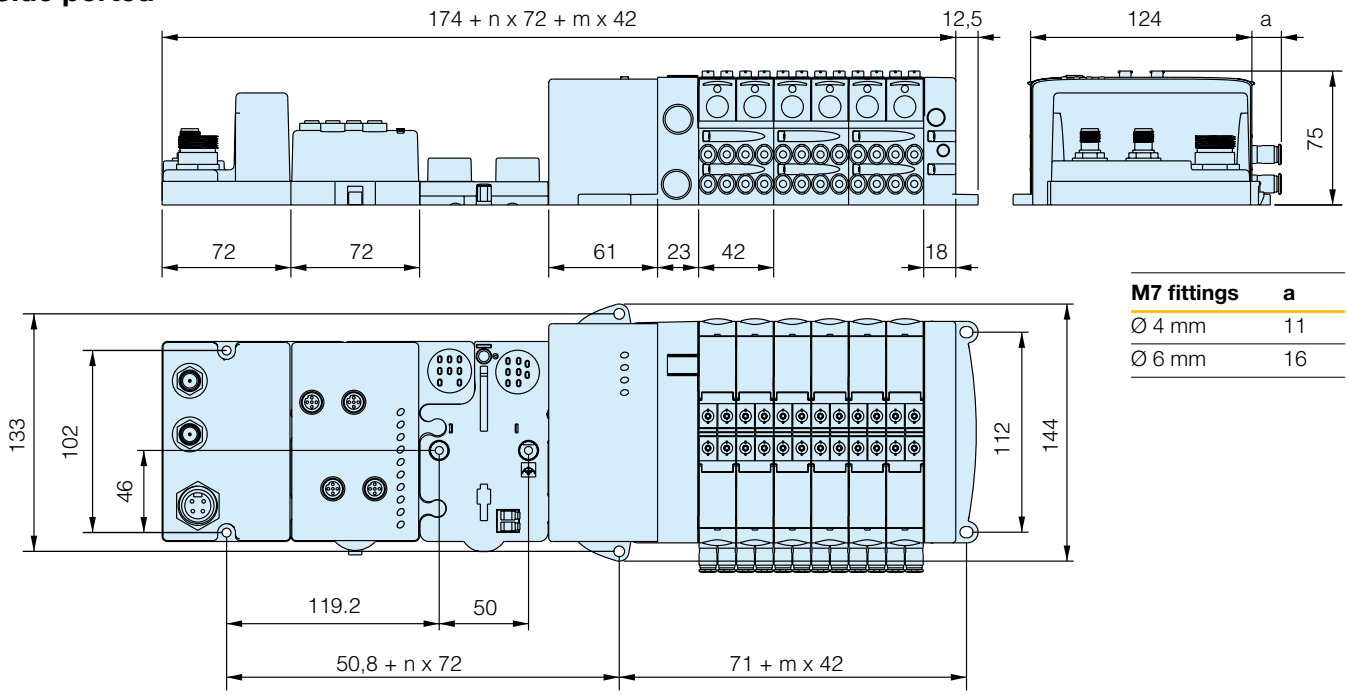
	A	B	C	D	E	F
HA/HB	102	46	48	51	22	11

	A	B	E	L	G	H	H_1
HA/HB	152	137	7,5	106	68	8,4	45,8
	J	**K**	**L**	**M**	**P**	**W**	**W_1**
HA/HB	4	110	16	137	152	40,8	56,8

	G	H	H_1	J	K	P	W
H1	56	15,9	15,9	8,5	165	182	49
H2	58	18	15	12	215	239	56
H3	64	24	16,5	15	265	295	71

H Series Industrial Communication with H Series Micro Valves

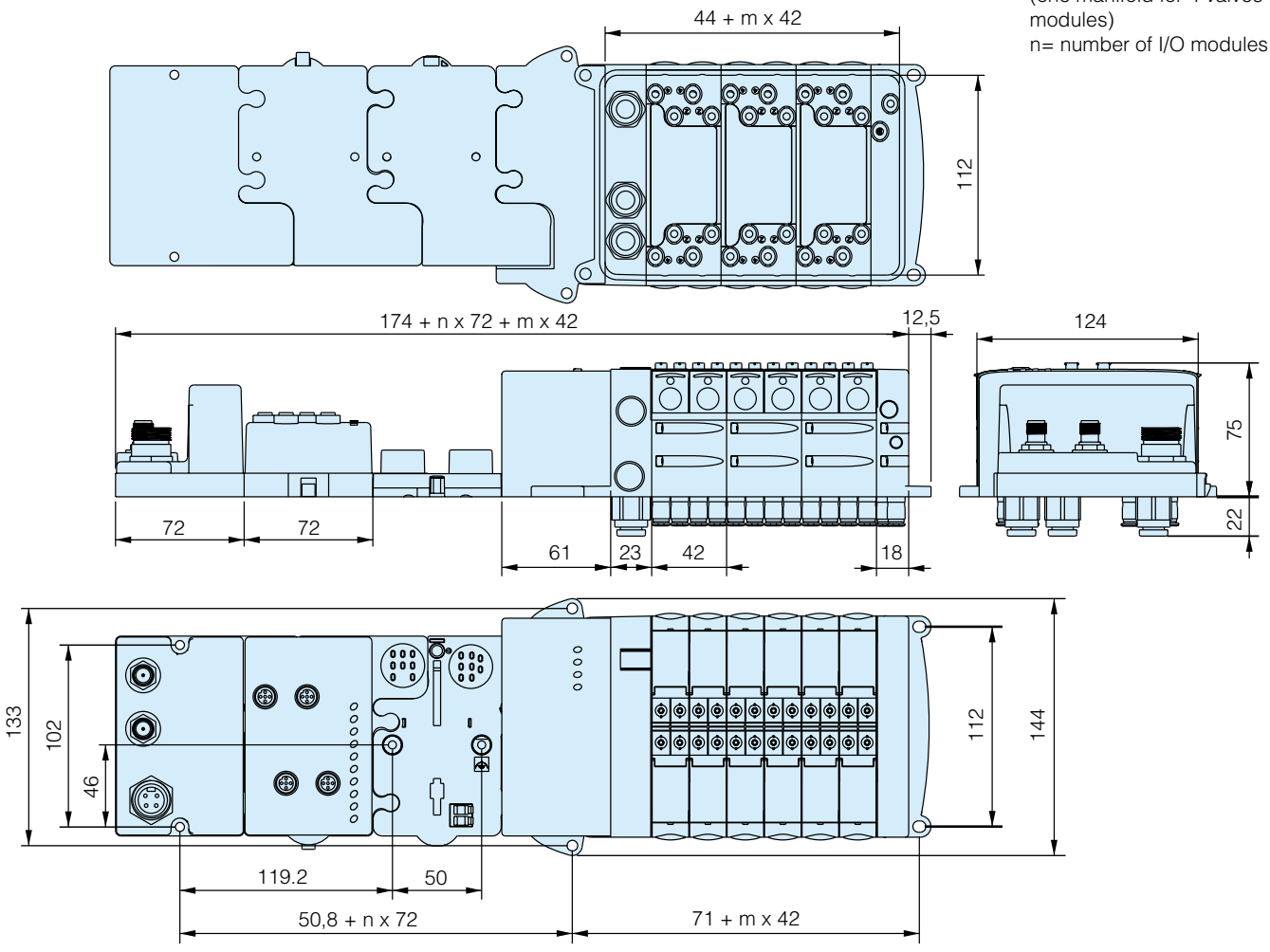
Side ported



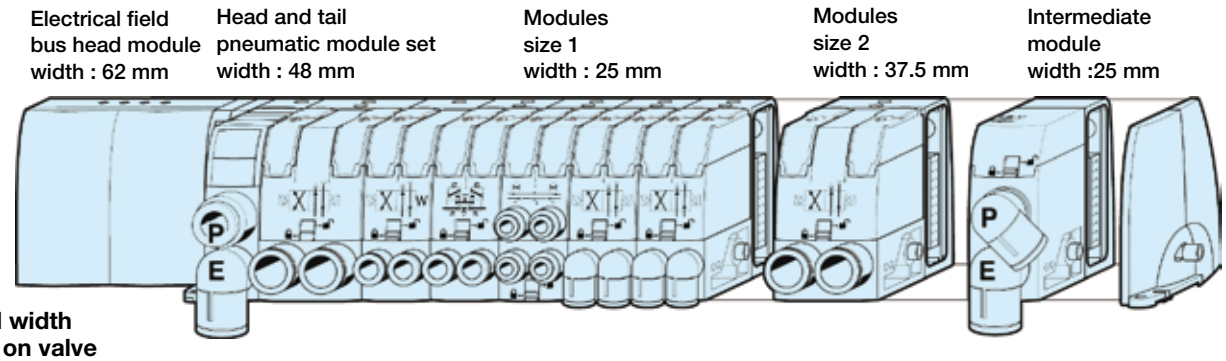
M7 fittings	a
Ø 4 mm	11
Ø 6 mm	16

Note:
m = number of manifolds (one manifold for 4 valves modules)
n= number of I/O modules

Bottom ported

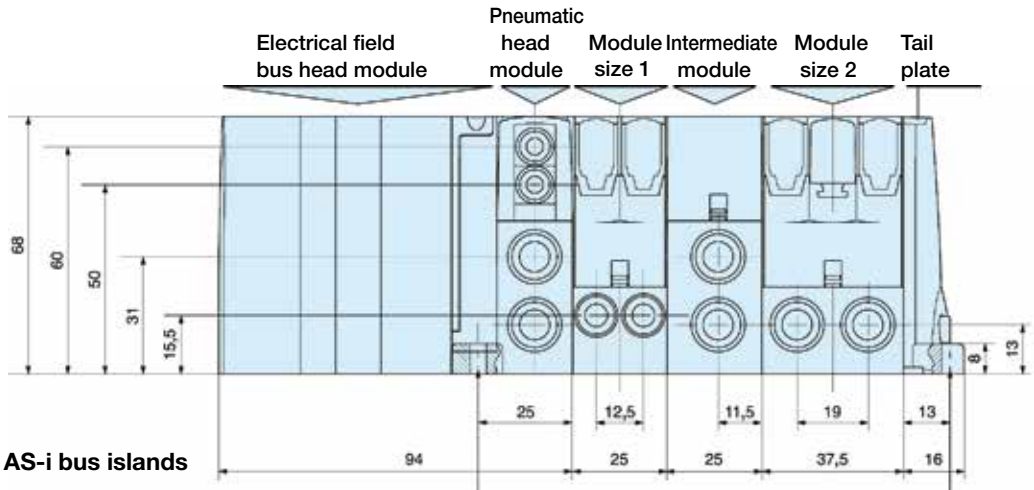


Moduflex Bus with Moduflex Valve



Island total width depending on valve composition

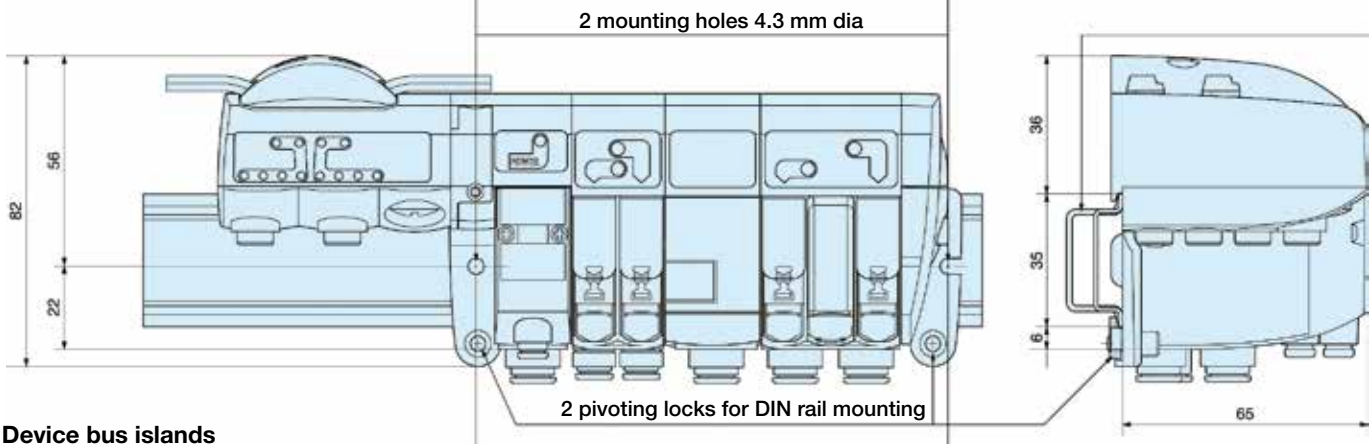
AS-i bus islands



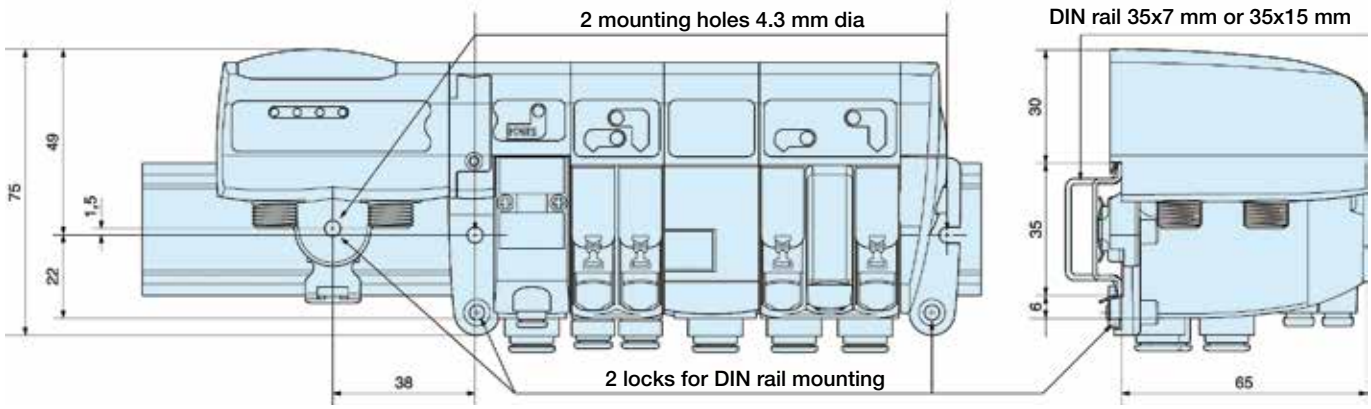
2 screws 4 mm dia. surface mounting

or DIN rail mounting

DIN rail 35x7 mm or 35x15 mm

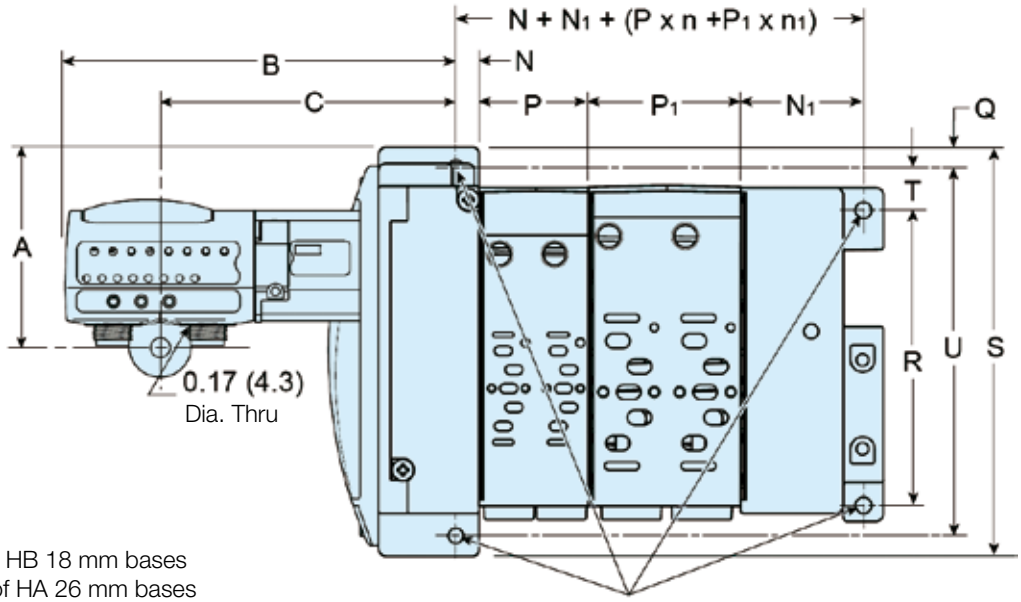


Device bus islands



H Series ISO 15407-2 & 5599-2 Sizes 02 to 3 with Moduflex Bus

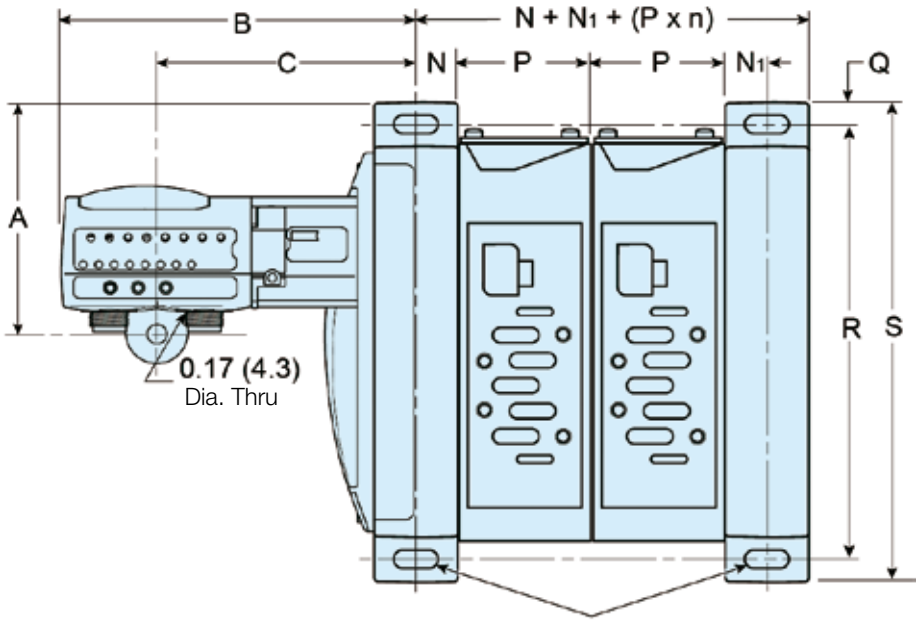
HA/HB Series



n = Number of HB 18 mm bases
n1 = Number of HA 26 mm bases

Holes for M6 (or 1/4")
Screws 4 places

H1/H2/H3 Series



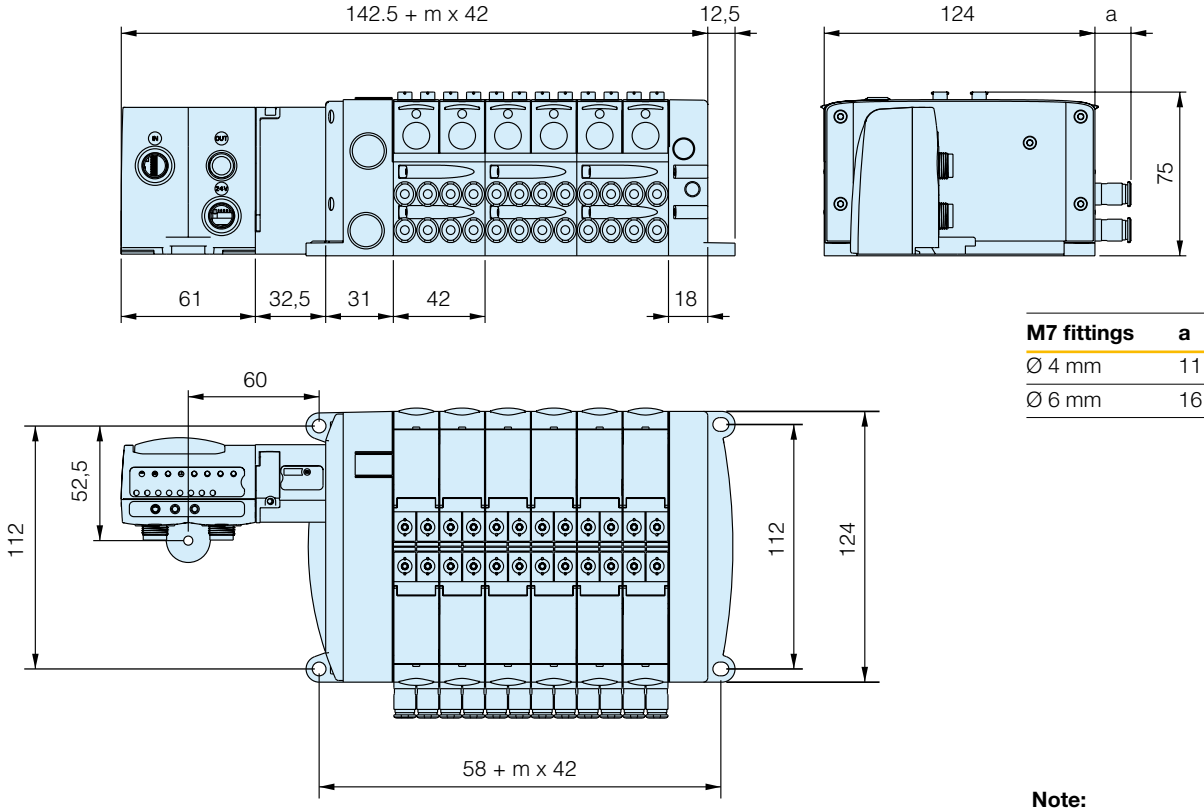
n = Number of H1/H2/H3 bases

Slots for M6 (or 1/4")
Screws 4 places

	A	B	C	N	N1	P	P1	Q	R	S	T	U
HA/HB	69,8	142,5	111,8	8,4	45,8	40,8	56,8	4	110	152	16	137
H1	82	130,2	160,9	15,9	15,9	49	-	8,5	165	182	-	-
H2	78,2	130,3	161	18	15	56	-	12	215	239	-	-
H3	84,2	138,2	168,9	24	16,5	71	-	15	265	295	-	-

Moduflex Bus with H Series Micro Valves

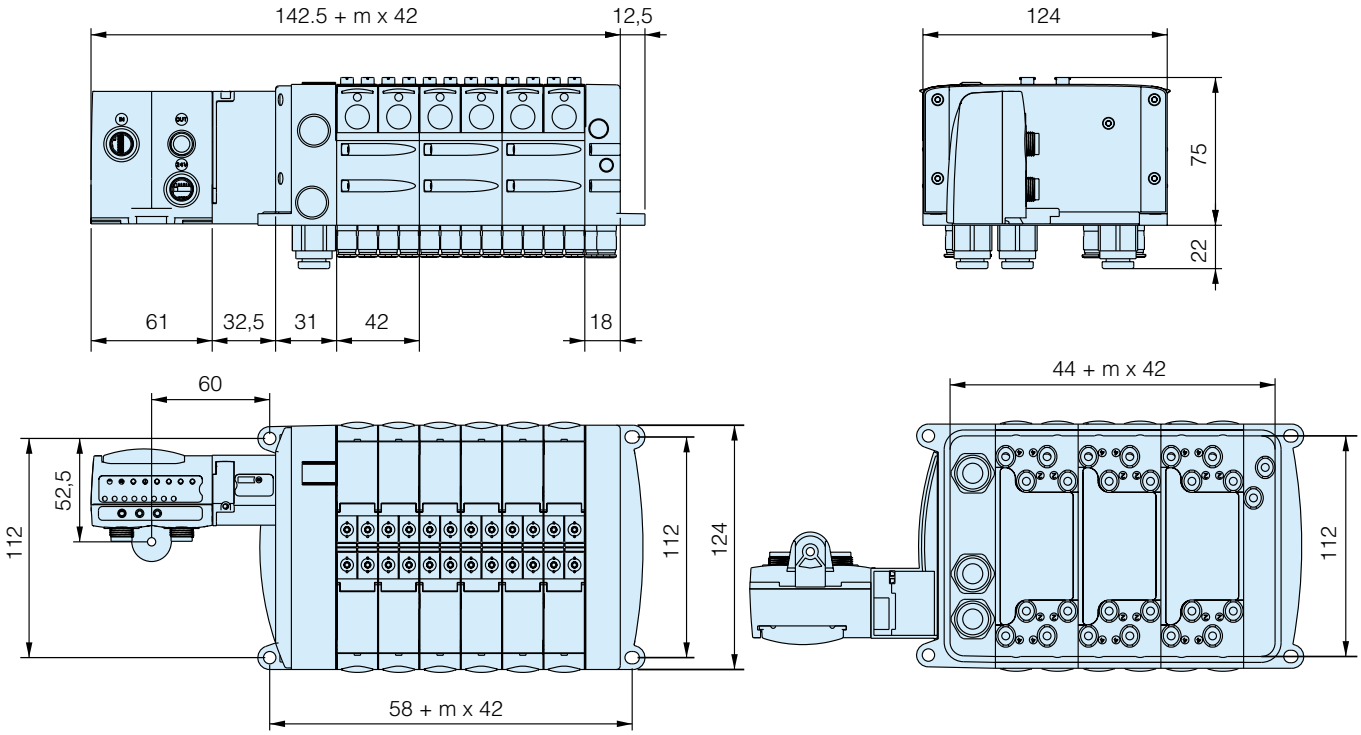
Side ported



M7 fittings	a
Ø 4 mm	11
Ø 6 mm	16

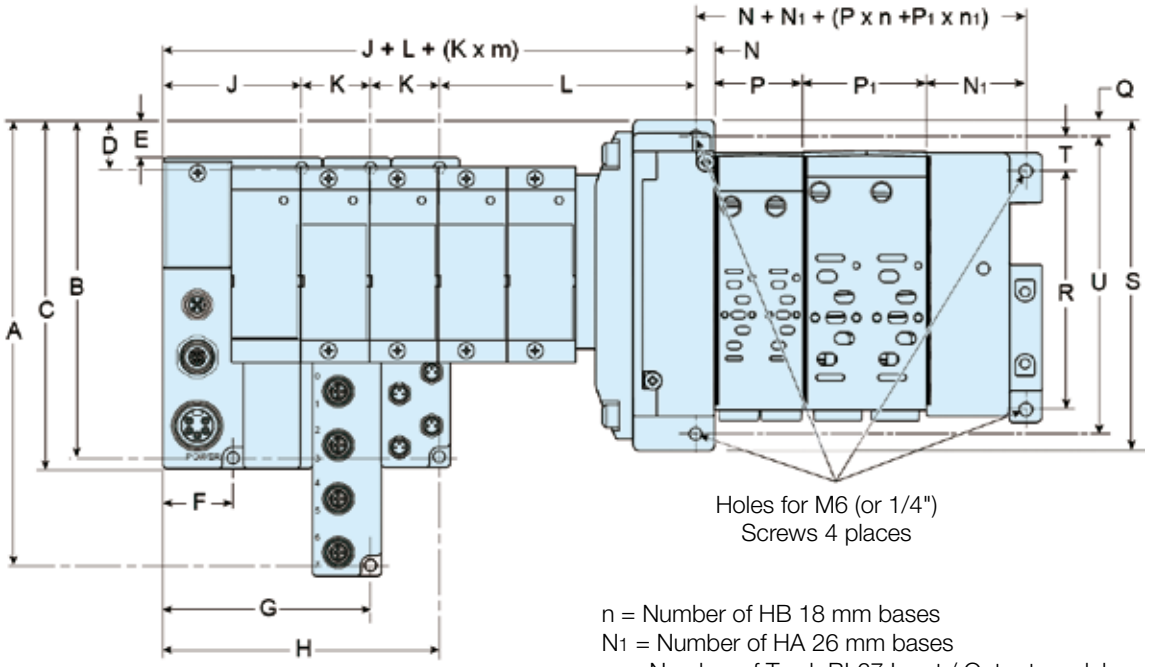
Note:
m = number of manifolds (one manifold for 4 valves modules)

Bottom ported



H Series ISO 15407-2 & 5599-2 Sizes 02 to 3 with Turck BL67 Remote IO System

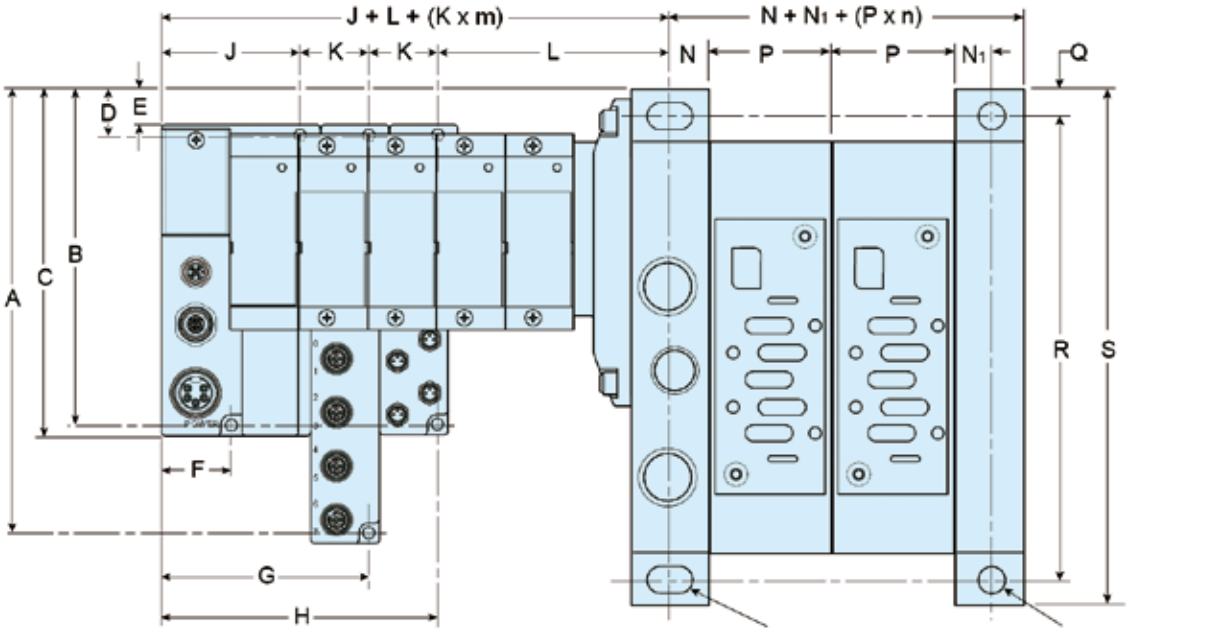
HA/HB Series



Holes for M6 (or 1/4")
Screws 4 places

n = Number of HB 18 mm bases
N1 = Number of HA 26 mm bases
m = Number of Turck BL67 Input / Output modules

H1/H2/H3 Series



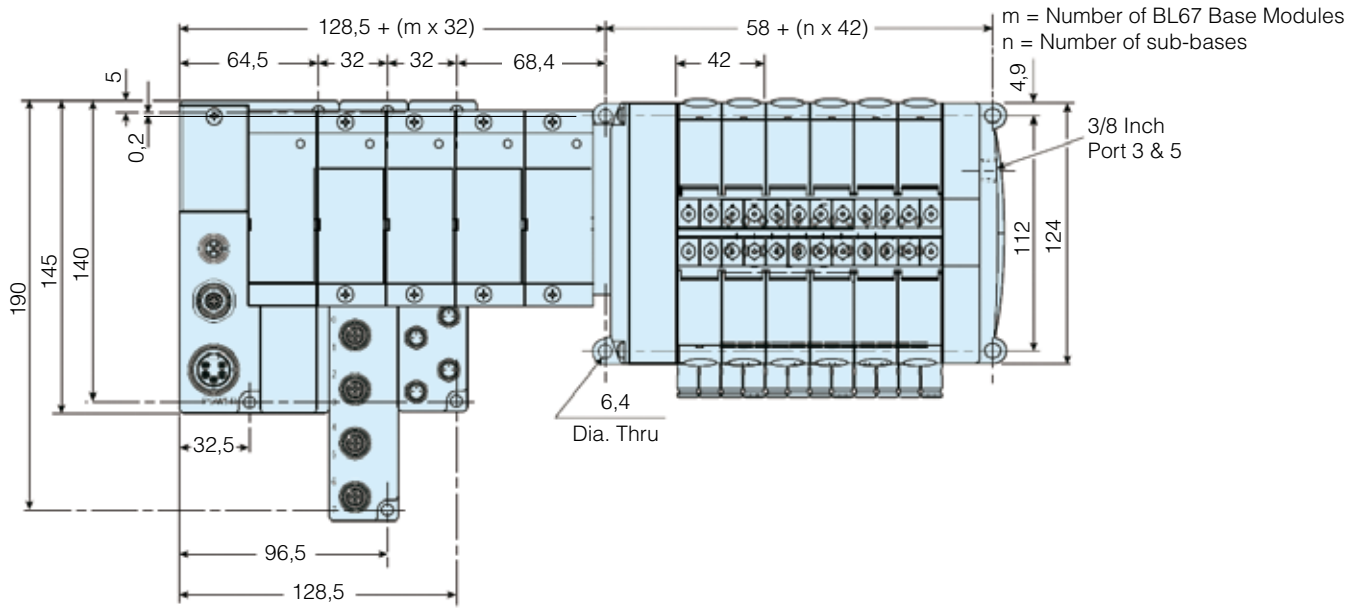
Slots for M10 (or 7/16")
Screws 2 places

Holes for M10 (or 7/16")
Screws 2 places

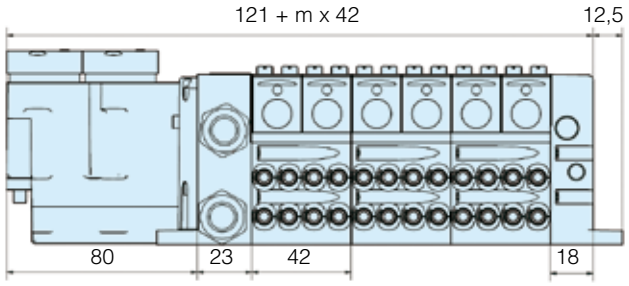
n = Number of H1/H2/H3 bases
m = Number of Turck BL67 Input / Output modules

	A	B	C	D	E	F	G	H	J	K	L	N	N1	P	P1	Q	R	S	T	U
HA/HB	204,5	154,5	159,5	19,5	14,5	32,5	96,5	128,5	64,5	32	120,8	8,4	45,8	40,8	56,8	4	110	152	16	137
H1	216,7	166,7	171,7	31,7	26,7	32,5	96,5	128,5	64,5	32	108,5	15,9	15,9	49	-	8,5	165	182	-	-
H2	212,9	162,9	167,9	27,9	22,9	32,5	96,5	128,5	64,5	32	108,6	18	15	56	-	12	215	239	-	-
H3	218,9	168,9	173,9	33,9	28,9	32,5	96,5	128,5	64,5	32	116,6	24	16,5	71	-	15	265	295	-	-

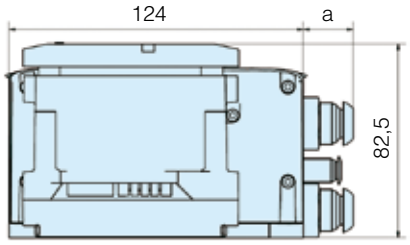
H Series Micro Valves with TURCK BL67 Remote I/O System



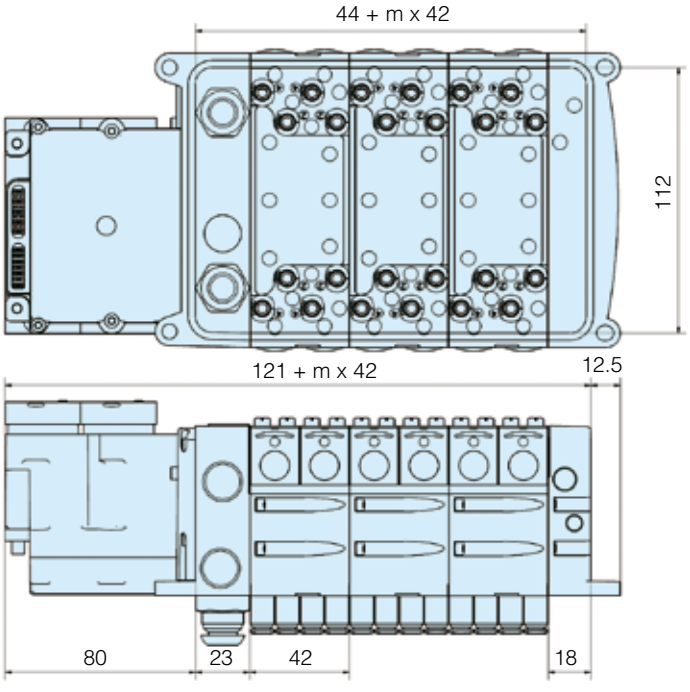
H Series Micro Valves with TURCK BL67 adaptor - Side ported



M7 fittings	a
Ø 4 mm	11
Ø 6 mm	16



H Series Micro Valves with TURCK BL67 adaptor - Bottom ported



Note:
m = number of manifolds (one manifold for 4 valves modules)