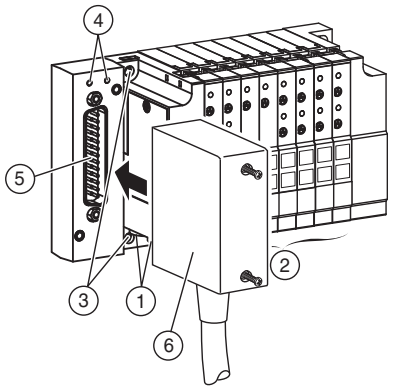
JOUCOMATIC

VALVE ISLANDS
COMPACT 8 & 13
connection by multiwire cable

Series
676-677
Type
MUTIPOL

FEATURES
- *Solenoid air operated valve island for connection with a control system (PLC) with a multiwire cable for simple wiring.*
- *Connection with 25-pin SUB-D connector.*
- *IP65 rated protection with Sub-D connector in IP65 housing. The IP65 protection class allows for direct incorporation of the COMPACT 8 or 13 island into a machine, close to the actuators and enables an increased number of production cycles.*
- *Island delivered pre-assembled in accordance with customer specifications.*

COMBINATIONS
- Modules of up to 16 COMPACT 8 or 13 spool valves can be grouped together. The maximum number of spool valves depends on the type of valve chosen:
  - 10 bistable or 2x3/2 spool valves
  - 16 monostable spool valves
  - 21 monostable and/or bistable solenoid coils .
- Optional mixing of:
  - All functions of 2x3/2 NC, 3/2 NC-NO, 5/2 monostable or bistable, and 5/3 spool valves.
  - Pressure separation plate and intermediate pressure supply module.
- The valve islands are intended for frame or DIN-EN 50022 rail mounting.
- The connection between the pins of the Sub-D connector and the solenoid pilot valves is ensured by an internal bus. MULTIPOL valve islands are available in two version according to which type of addressing is used:
  - Standard pinning (based on bistable spool valves - max. 10 components)
  - Optimised pinning (see following pages)



① Ports 1 - 3/5 :
with instant fittings 8 or 10 mm O.D.

② Ports 2 - 4 :
with instant fittings 4-6 or 8 mm O.D.
or push-in hose connection for tube 4 mm I.D. x 6 mm

③ Frame (4 Ø4.2) or DIN rail mounting

④ Green LED : control of power on
Yellow LED : error signal (no reply)

⑤ Electrical connection over 25-pin male Sub-D socket

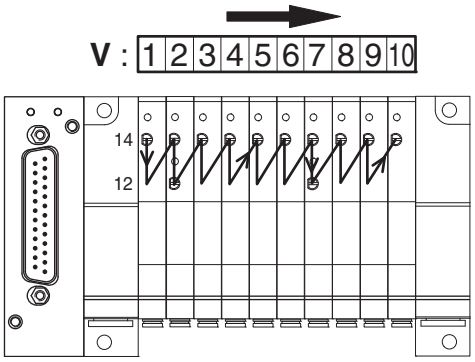
⑥ IP65 rated connector housing with 25 female Sub-D pins + PVC cable lengths of 5m

ELECTRICAL CHARACTERISTICS

Supply voltage	: 24 VDC +/- 10%
Max. ripple	: 15 %
No-load consumption	: 0,5W + 80 mW per spool valve
Consumption per pilot	: Inrush : 1 W, Hold: 0,15 W
Pilot input voltage	: 24 VDC +/- 10 %
Input impedance	: 7 KΩ

TYPES OF ADRESSING

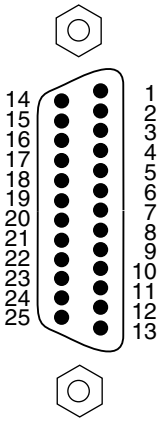
■ Adressing with standard pinning



This version is the standard for 1 to max. 10 spool valves:
2 pins (or 2 wires) are reserved on the Sub-D socket for each spool valve.

Advantages:
- Same connector reference irrespective of the valve island's configuration.
- Possibility to replace one function by another without modification of the address on the Sub-D socket.

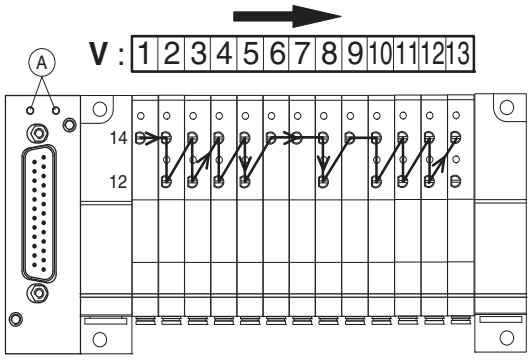
25-pin male Sub-D 25 socket
(view from male pin side
the same, whatever the spool valves functions)



Pin no.	Address	Pin no.	Address
1	V1.14	14	V7.12
2	V1.12	15	V8.14
3	V2.14	16	V8.12
4	V2.12	17	V9.14
5	V3.14	18	V9.12
6	V3.12	19	V10.14
7	V4.14	20	V10.12
8	V4.12	21	-
9	V5.14	22	+24V DC
10	V5.12	23	+24V DC
11	V6.14	24	Ground
12	V6.12	25	Ground
13	V7.14		

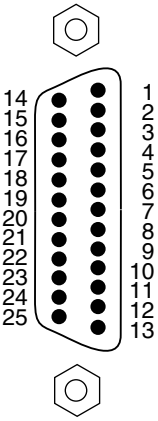
Legend:
V1 = Consecutive spool valve number (see above)
14 = Pilot
12 = Return
To address 2 x 3/2 NC spool valves (monostable - type K) the following pilot signals must be considered:
- 12A instead of 12
- 12B instead of 14

■ Adressing with optimised pinning



When the valve island is switched on for the first time, the pins of the Sub-D socket are automatically assigned to each spool valve in accordance with its function (1 pin for a monostable spool valve and 2 pins for a bistable spool valve).
Advantages:
- The pins used on the Sub-D socket are optimised.
- A maximum number of 16 spool valves can be mounted.
- The pin assignment of the Sub-D socket can be adapted to the valve island.

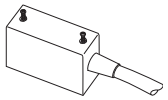
25-pin male Sub-D 25 socket
(view from male pin side,
depending on the spool valves functions)
(addressing example see below)



Pin no.	Address	Pin no.	Address
1	V1.14	14	V9.14
2	V2.14	15	V10.14
3	V2.12	16	V10.12
4	V3.14	17	V11.14
5	V3.12	18	V11.12
6	V4.14	19	V12.14
7	V4.12	20	V12.12
8	V5.14	21	V13.14
9	V5.12	22	+24V DC
10	V6.14	23	+24V DC
11	V7.14	24	Ground
12	V8.14	25	Ground
13	V8.12		

Legend:
V1 = Consecutive spool valve number (see above)
14 = Pilot
12 = Return
To address 2 x 3/2 NC spool valves (monostable - type K) the following pilot signals must be considered:
- 12A instead of 12
- 12B instead of 14

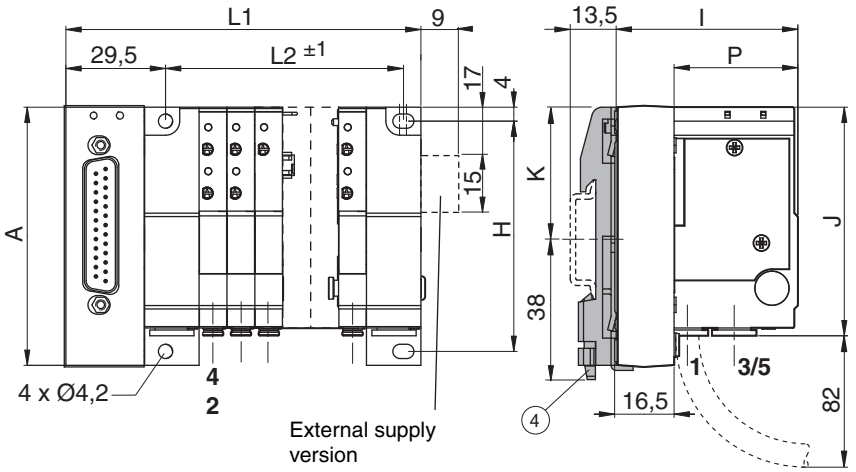
ACCESSORIES FOR MULTIPOL

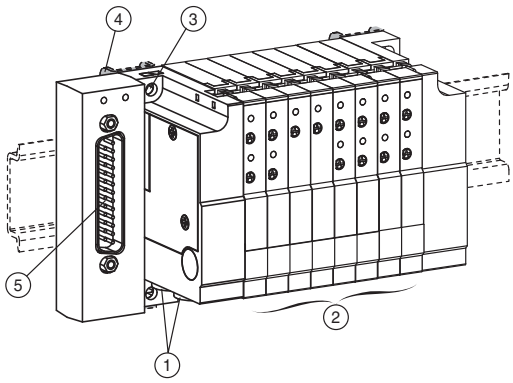
accessory	description		catalogue number
	**IP65** rated connector housing for COMPACT 8 & 13 - MULTIPOL with 25 female Sub-D pins + PVC cable	Length: 5 m	**88157644**
		Length: 2 m	**88100901**

pin n° of SUB-D connector	1	2	3	4	5	6	7	8	9	10	11	12	13
colours of the wires	white green	white yellow	white grey	green	yelow	yellow black	grey	yellow red	pink	yellow blue	orange	blue	khaki

pin n° of SUB-D connector	14	15	16	17	18	19	20	21	22	23	24	25
colours of the wires	white brown	white black	purple	white pink	white red	white purple	white blue	blue	white	red	brown	black

DIMENSIONS AND WEIGHTS





	A	H	I	J	K	P
COMPACT 8	76	67,8	53	67,5	38	36,5
COMPACT 13	91	82,8	86	83	53	69,5

① Ports 1 - 3/5 :
with instant fittings 8 or 10 mm O.D.

② Ports 2 - 4 :
with instant fittings 4-6 or 8 mm O.D.
or push-in hose connection for tube 4 mm I.D. x 6 mm

③ Frame mounting (4 Ø4.2)

④ DIN-EN 50022 rail mounting with mounting kit (grey shaded part)

⑤ 25-pin Sub-D socket

		number of spool valves												
		4	5	6	7	8	9	10	11	12	13	14	15	16
COMPACT 8	L2	53,5	61,7	69,9	78,1	86,3	94,5	102,7	110,9	119,1	127,3	135,5	143,7	151,9
	L1	88,2	96,4	104,6	112,8	121	129,2	137,4	145,6	153,8	162	170,2	178,4	186,6
	weight (kg)	0,440	0,488	0,536	0,584	0,632	0,680	0,728	0,776	0,824	0,872	0,920	0,968	1,016
COMPACT 13	L2	83,5	96,5	109,5	122,5	135,5	148,5	161,5	174,5	187,5	200,5	213,5	226,5	239,5
	L1	119	132	145	158	171	184	197	210	223	236	249	262	275
	weight (kg)	0,620	0,700	0,780	0,860	0,940	1,020	1,100	1,180	1,260	1,340	1,420	1,500	1,580

Weight of adapter for DIN rail mounting: 0.024 kg

Dimensions en mm

JOUCOMATIC

VALVE ISLANDS
COMPACT 8 & 13
connection by field bus

Series
676-677
Type
BUSLINK

FEATURES
- *Solenoid air operated valve island for data exchange via fieldbus and standardised PROFIBUS-DP protocol.*
- *Fieldbus connection between a control system (PLC) and the valve island is made by means of a single 5-wire cable with RS 485 interface.*
- *The BUSLINK system meet modern needs for automated installations by avoiding bulky and difficult wiring and providing for simple operation and maintenance.*

COMBINATIONS
- Modules with up to 16 COMPACT 8 or 13 spool valves can be grouped together and mounted on a machine frame or DIN-EN 50022 rail
- Optional mixing of:
  - All functions of 2x3/2 NC, 3/2 NC-NO, 5/2 monostable or bistable, and 5/3 spool valves, with a limitation of 21 coils piloted at the same time.
  - Pressure separation plate and intermediate pressure supply module.

COMMUNICATION CHARACTERISTICS

Protocol	: **PROFIBUS-DP**, (DIN 19245 - part 3 - EN 50170)
Transmission	: shielded twisted pair, RS 485 interface
Bus structure	: line or tree structure with repeaters
Max. number of valve islands	: 121
Number of valves per island	: max. 16 spool valves
Max. bus cable length	: 100 m to 1200 m, depending on the transmission speed
Transmission speed	: automatic selection from 9.6 kbaud to **12 Mbaud** depending on distance
Island addressing	: by rotary switch
Compatibility with control system	: no modification of current programmes

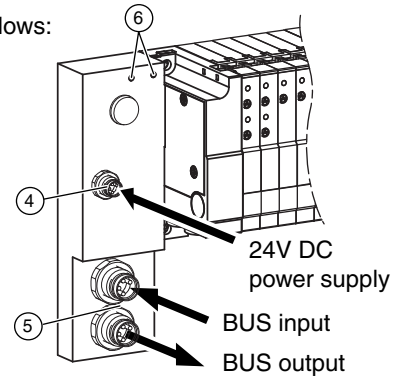
ELECTRICAL CHARACTERISTICS

Supply voltage	: 24 V=, ±10%. The outputs (valves) and the bus electronics are supplied separately.
Max. ripple ratio	: 15 %
Bus consumption	: <1.45 mA
Consumption per pilot valve	: Inrush: 1 W - Hold: 0.15 W
Protection of island only	: IP65
Peak voltage suppression	: integrated for each coil
24 V supply connection	: 4-pin male M8 socket
Bus connection (IN/OUT)	: 5-pin 2 x M12 socket, code B (IN: M12-B male, OUT M12-B female)
Earth connection	: metal plate on back panel
Electromagnetic compatibility	: in accordance with EU directive EMC 2004/108/EC CE mark

PROFIBUS-DP CONNECTION

The left side of the front panel of the pneumatic valve island for Profibus-DP is equipped as follows:

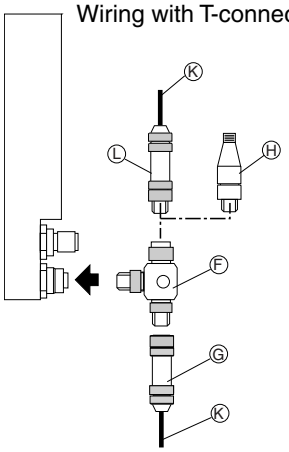
- one 4-pin male M8 socket for power supply (4)
- one 5-pin (male + female) M12-B socket for bus connection (5)



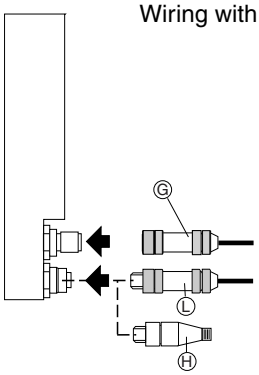
(6) LED indicator lights

■ Connection of standardised fieldbus

Wiring with T-connector

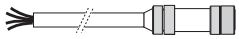
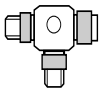
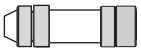
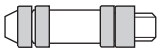
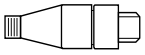


Wiring with 2 x M12



The modules on either side of the system must be equipped with terminating resistors (H).

ACCESSORIES FOR PROFIBUS-DP

	accessory	description		catalogue number
I		4-pin straight female M8 connector - IP65 with PVC cable 5m long (other end stripped)		**88157771**
F		T-connector M12-B for Profibus-DP network connection	unshielded, max. 3 MBaud	**88100711**
			shielded, max. 12 MBaud	**88100712**
G		5-pin **female** connector M12-B for Profibus-DP - cable **6 - 8** mm		**88100713**
L		5-pin **male** connector M12-B for Profibus-DP - cable **6 - 8** mm		**88100714**
H		terminating resistor M12-B, **male** plug	max. 12 MBaud	**88100716**
M		female protection cap for M12 **male** connector		**88157773**
		configuration file (.gsd)		**www.asconumatics.eu**

(K) The cable is not included in the scope of delivery and must be ordered separately.
For connector dimensions see Installation Manual

ELECTRICAL CONNECTION

■ Of M12 connectors - code B (5)

View on screw side of male connector (L)

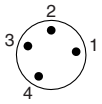
View on screw side of female connector (G)

pin	signal name	description
1	VP(*)	-
2	R x D/T x D - N	data line A
3	DGND (*)	-
4	R x D/T x D - P	data line B
5	shield (**)	shield

(*) These terminating signals are for the terminating shunt only. They must not be wired.

(**) Supply a shielded cable (K) to wire pin 5 of the connector.

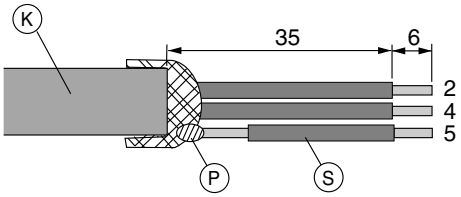
■ Of power supply (4)



Pin 1 (brown wire) : +24V DC (bus)
Pin 2 (white wire) : +24V DC (spool valve)
Pin 3 (blue wire) : 0V - Common GND
Pin 4 (black wire) : 0V - Common GND

Connection of the shielded bus cable (K) to the M12 connector (G) and (L) (except when using a shielded T-connector):

- Strip the cable as shown opposite.
- Prepare an additional isolated piece of wire (S)
- Fit the the braided shield through the locking ring and insert it into the cable gland to ensure the shielding continuity of the Faraday Cage.
- Solder the shield (P) onto the end of the additional wire.
- Connection 5 allows for continuous shielding via the T-connector.



JOUCOMATIC

VALVE ISLANDS
COMPACT 8 & 13
connection by field bus

DeviceNet™ et CANopen

Series **676-677** Type BUSLINK

FEATURES
- *Solenoid air operated valve island for data exchange via fieldbus and standardised DEVICE NET or CAN OPEN protocol.*
- *Fieldbus connection between a control system (PLC) and the valve island is made with a single 2x2-wire cable + earth.*
- *The BUSLINK system meet modern needs for automated installations by avoiding bulky and difficult wiring and providing for simple operation and maintenance.*

COMBINATIONS
- Modules with up to 16 COMPACT 8 or 13 spool valves can be grouped together and mounted on a machine frame or DIN-EN 50022 rail.
- Optional mixing of:
  - All functions of 2x3/2 NC, 3/2 NC-NO, 5/2 monostable or bistable, and 5/3 spool valves, with a limitation of 21 coils piloted at the same time.
  - Pressure separation plate and intermediate pressure supply module.

COMMUNICATION CHARACTERISTICS

Protocol	: **DEVICE NET** or **CAN OPEN**
Transmission	: shielded 2x2-wire cable twisted in pairs
Bus structure	: line or tree structure
Max. number of valve islands	: 63
Number of valves per island	: max. 16 spool valves
Max. bus cable length	: 500 m at a transmission speed of 125 kbaud 200 m at a transmission speed of 250 kbaud 100 m at a transmission speed of 500 kbaud
Transmission speed	: 125, 250 or 500 kbaud, adjustable with integrated DIP switches
Island addressing (participants)	: coding wheel integrated in the housing
Compatibility with control system	: no modification of current programmes

ELECTRICAL CHARACTERISTICS

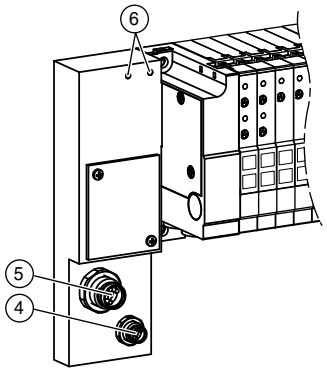
Supply voltage	: 24 V=, ±10%. The outputs (valves) and the bus electronics are supplied separately.
Max. ripple ratio	: 15 %
Bus consumption	: <1.45 W
Consumption per pilot valve	: Inrush: 1 W, Hold: 0.15 W
Protection of island only	: IP65
Peak voltage suppression	: integrated for each coil
24 V supply connection	: 4-pin male M8 socket
Bus connection (IN/OUT)	: 5-pin male M12 socket
Electromagnetic compatibility	: in accordance with EU directive EMC 2004/108/EC CE mark

DEVICE NET CONNECTION

The left side of the front panel of the pneumatic valve island for DEVICE NET or CAN OPEN is equipped as follows:

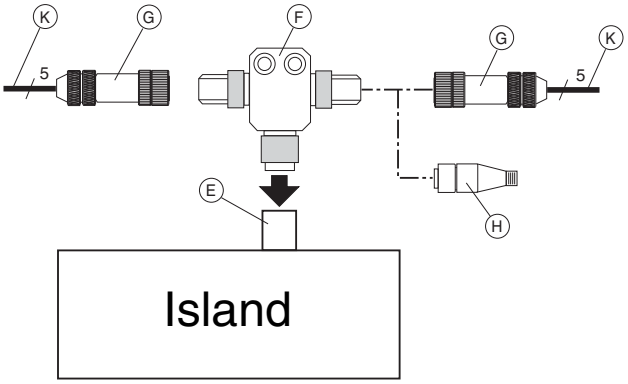
- one 4-pin male M8 socket for power supply (4)
- one 5-pin female M12 socket for bus connection (5)

The modules on either side of the system must be provided with terminating resistors (H).

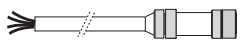
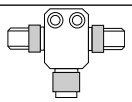
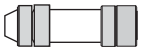
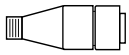


(6) Led indicator lights

■ **T-connection**



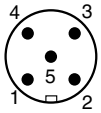
ACCESSORIES FOR DEVICE NET OR CAN OPEN

	accessory	description	catalogue number
		4-pin straight female M8 connector - IP65 for 24V DC power supply + PVC cable, 5 m long	**88157771**
F		T-connector M12-A for network connection	**88100251**
G		5-pin **female** connector M12-A for cable **6 - 8** mm	**88100256**
H		terminating resistor M12-A for DEVICE NET or CAN OPEN, **female** plug	**88157770**
		configuration file (.eds)	**www.asco numatics.eu**

(K) The cable is not included in the scope of delivery and must be ordered separately.
For connector dimensions see installation manual.

ELECTRICAL CONNECTION

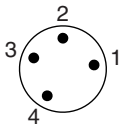
■ Fieldbus
view from screw side of female connector



pin	signal name	description
1	shield	shield
2	V+ (24 V)	network supply
3	V- (24 V)	network supply
4	CAN - H	network signal +
5	CAN - L	network signal -

(*) These terminating signals are for the terminating shunt only.
They must not be wired.

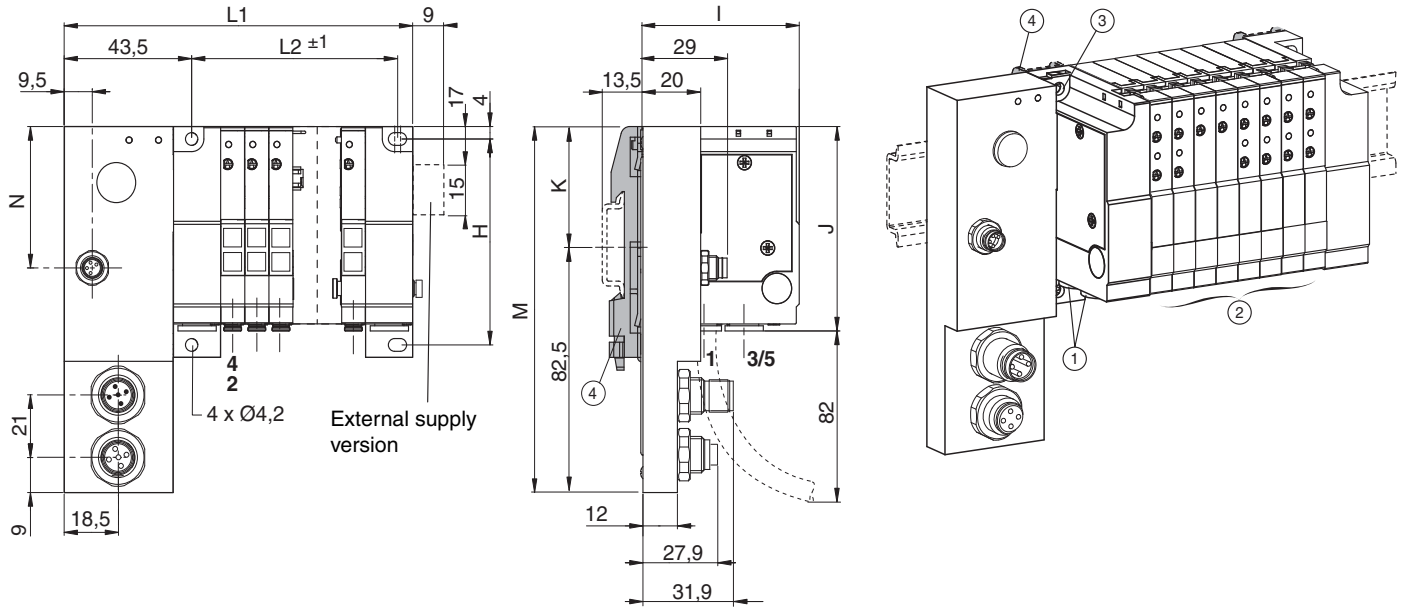
■ Power supply
view from male pin side



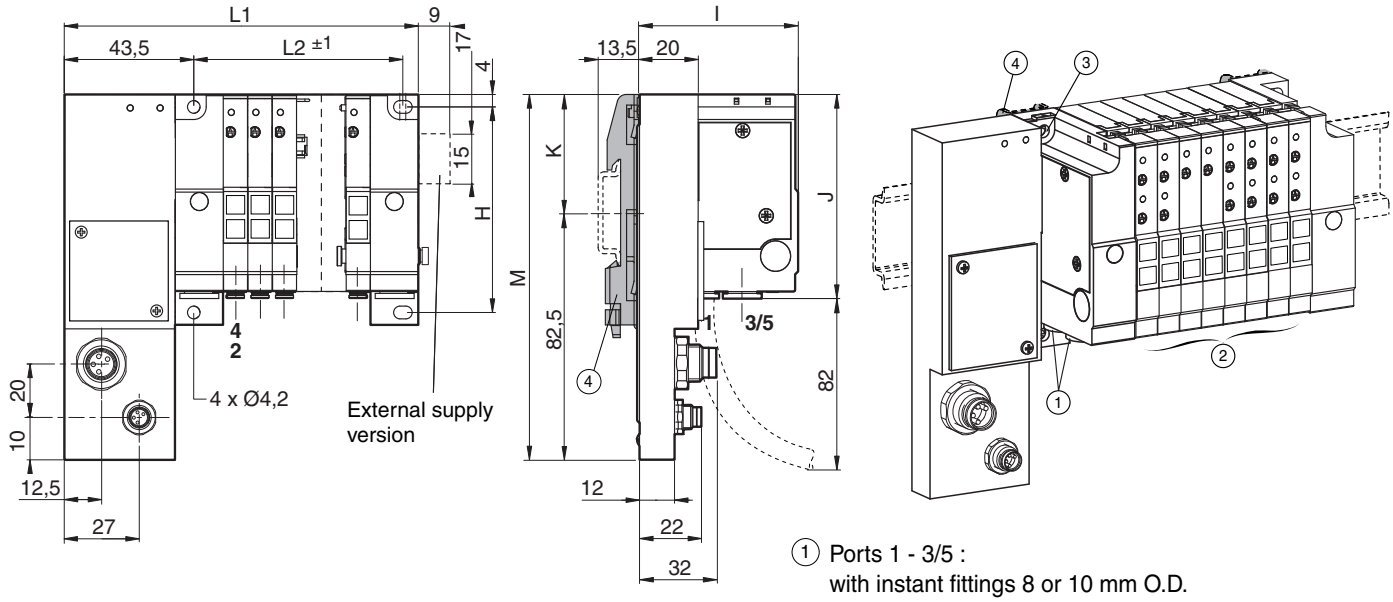
Pin 1 (brown wire) : +24V DC (spool valve)
Pin 2 (white wire) : +24V DC (spool valve)
Pin 3 (blue wire) : 0V - Common GND
Pin 4 (black wire) : 0V - Common GND

DIMENSIONS AND WEIGHTS

■ Valve island with PROFIBUS-DP



■ Valve island with DEVICE NET or CAN OPEN



	H	I	J	K	M	N
COMPACT 8	67,8	53	67,5	38	120,5	46,5
COMPACT 13	82,8	86	83	53	135,5	61

① Ports 1 - 3/5 :
with instant fittings 8 or 10 mm O.D.

② Ports 2 - 4 :
with instant fittings 4-6 or 8 mm O.D.
or push-in hose connection for tube 4 mm I.D. x 6 mm

③ Frame mounting (4 Ø4.2)

④ DIN-EN 50022 rail mounting with mounting kit (grey shaded part)

		number of spool valves												
		4	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
COMPACT 8	L2	53,5	61,7	69,9	78,1	86,3	94,5	102,7	110,9	119,1	127,3	135,5	143,7	151,9
	L1	102	110,2	118,4	126,6	134,8	143	151,2	159,4	167,6	175,8	184	192,2	200,4
	weight (kg)	0,470	0,518	0,566	0,614	0,662	0,710	0,758	0,806	0,854	0,902	0,950	0,998	1,046
COMPACT 13	L2	83,5	96,5	109,5	122,5	135,5	148,5	161,5	174,5	187,5	200,5	213,5	226,5	239,5
	L1	132	145	158	171	184	197	210	223	236	249	262	275	288
	weight (kg)	0,640	0,720	0,800	0,880	0,960	1,040	1,120	1,200	1,280	1,360	1,440	1,520	1,600

Weight of adapter for DIN rail mounting: 0.024 kg

Dimensions in mm

JOUCOMATIC

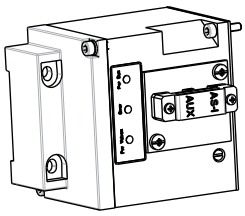
VALVES ISLANDS
COMPACT 8 & 13
connection by field bus

Series
676-677
Type
BUSLINK

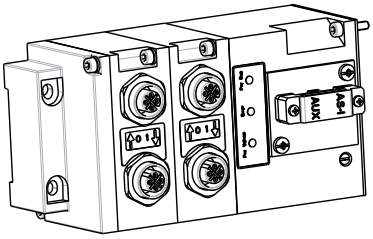
FEATURES
- *Solenoid air operated spool valve island for data exchange via fieldbus and standardised AS interface protocol version 3.0.*
- *Fieldbus connection between a control system (PLC) and the spool valve island is made with one or two cables (depending on wiring method).*
- *The BUSLINK system meet modern needs for automated installations by avoiding bulky and difficult wiring and providing for simple operation and maintenance.*

COMBINATIONS
- Modules with 16 monostable or 8 bistable series COMPACT 8-13 spool valves can be grouped together.
- Frame or DIN-EN 50022 rail mounting (only one valve size per island).
- Optional mixing of:
  - All functions of 2x3/2 NC, 3/2 NC-NO, 5/2 monostable or bistable, and 5/3 spool valves.
  - Pressure separation plate and intermediate pressure supply module.
- The spool valve islands are available in the **three following versions** (2 and 4 nodes):

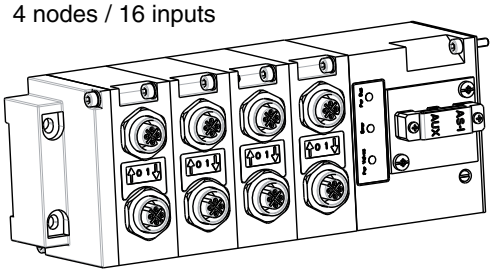
2 and 4 nodes / without input



2 and 4 nodes / 8 inputs



4 nodes / 16 inputs



COMMUNICATION CHARACTERISTICS

Communication protocol	**AS-Interface** V3.0 **(simple addressing)**
Profile	version with inputs = FE78 / version without inputs = FE88
Transmission	Flat AS-Interface cable (2 wires) or cable (5 wires)
Bus structure	optional in accordance with AS-Interface recommendations
Max. number of spool valve islands	31 nodes
Number of valves per island	16 monostable spool valves (16 coils max.)
Max. number of inputs	16 inputs
Max. bus cable length	100 m (300 m with repeater)
Island addressing (participants)	AS-interface cable or jack socket
Compatibility with control system	no modification of current programmes
Supply voltage	26.5 V to 31.6 V over the bus
AS-Interface bus consumption	< 250 mA
Status indication	LED

ELECTRICAL CHARACTERISTICS

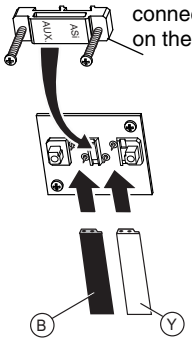
Supply voltage	24 V DC, ±10% at the island (max. ripple ratio: 10 %). Supply to the valves with an additional flat AS-Interface cable, (black, 2 wires) class 3 (PELV).
Consumption	0.5 W + 80 mW per spool valve
Max. consumption	black cable: 1W (inrush) per spool valve / 0.15 W (holding) per spool valve yellow cable: <300mA per node on AS-Interface bus cable
Max. consumption for the sensors	250 mA per node
Protection	IP65 (coil insulation class: F)
Electrical insulation	optocouplers
Peak voltage suppression	integrated in the island for each coil
Bus connection (IN/OUT) and 24 V supply	vampire-type panel connector for yellow and black cable
Earth connection	earthing screw on the connection module with inputs
Electromagnetic compatibility	in accordance with EU directive EMC 2004/108/EC CE mark

INPUT CHARACTERISTICS

Max. number of inputs	8 or 16 inputs for 2- or 3-wire PNP sensors
Input connection	5-pin female panel connector M12
Supply voltage	related to bus supply
Protection / short circuit	by internal current limitation
Consumption	6 mA per input with 24V DC
Indication	1 yellow LED per input (ON = input on)

ELECTRICAL CONNECTION OF AS-Interface BUS

The front side of the COMPACT spool valve islands for AS-Interface is equipped with vampire-type adapters for instant connection without having to strip the yellow (bus cable) and black (power cable) flat cables.
The yellow cable (Y) is for data transmission and power supply to the sensor inputs.
The black cable (B) is for power supply to the spool valves.



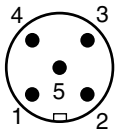
ELECTRICAL CONNECTION OF INPUTS

The front of the left-hand end cover is equipped with maximum 16 inputs (2 x 2 modules of 8 inputs or 1 x module of 16 inputs)

ELECTRICAL CONNECTION

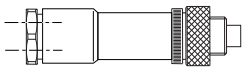
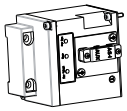
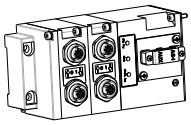
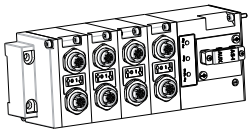
M12 connectors connection (G)

View from screw side of female connector



Pin 1 = sensor 24 V
Pin 2 = input n + 1
Pin 3 = GND
Pin 4 = input n
Pin 5 = earth

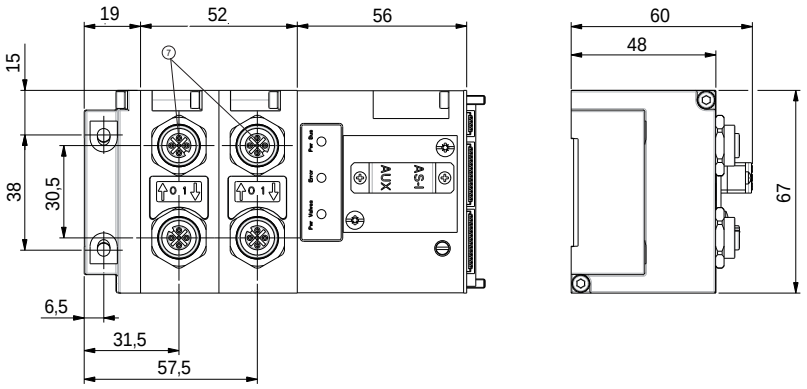
ACCESSORIES FOR AS-Interface

accessory		description			catalogue number
inputs		5-pin straight **male** M12 connector for 2 inputs (cable Ø6-8mm)			**88100253**
		input modules	without input	2 nodes	**88100907**
				4 nodes	**88100909**
			8 inputs	2 nodes	**88100908**
				4 nodes	**88100910**
			16 inputs	4 nodes	**88100911**

Cables B and Y are not included in the scope of delivery and must be ordered separately.

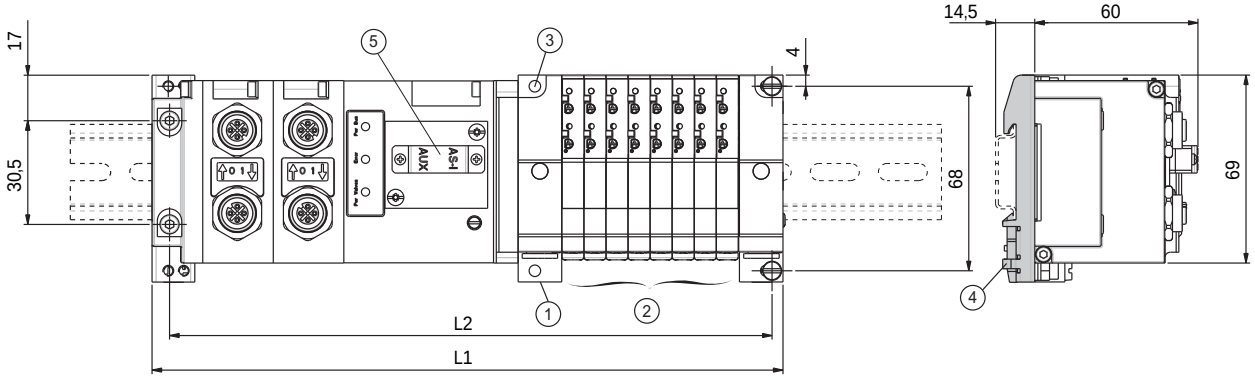
DIMENSIONS (mm), WEIGHT (kg)

■ AS-Interface input module

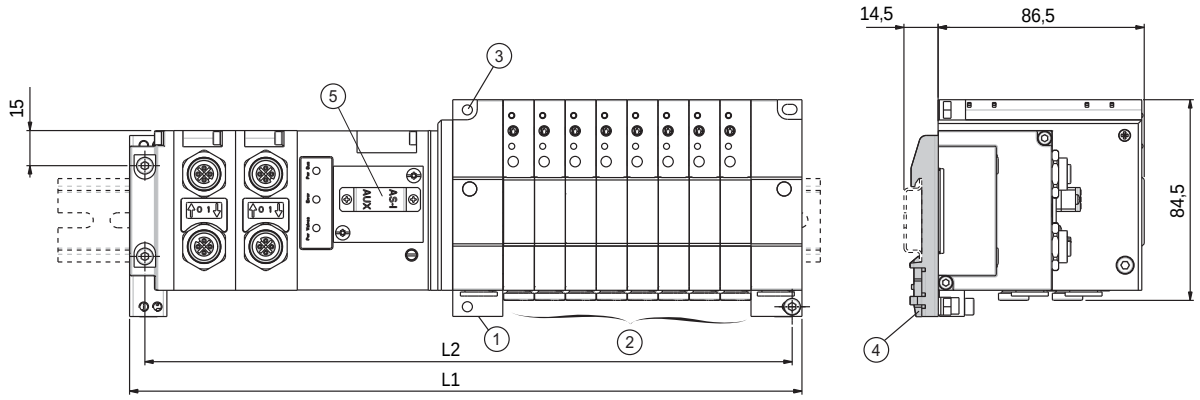


1. Ports 1 - 3/5 : with instant fittings for flexible hose 8 or 10 mm O.D.
2. Ports 2 - 4 : with instant fittings for flexible hose 4-6 or 8 mm O.D. or push-in hose connection for tube 4 mm I.D. x 6 mm
3. Frame mounting (4 Ø4.2)
4. DIN EN 50022 rail mounting with a mounting kit (grey shaded part)
5. Vampire-type connector for AS-Interface connection
6. 5-pin female M12 socket for AS-Interface connection

■ Compact 8 AS-Interface island



■ Compact 13 AS-Interface island



		number of spool valves															
		1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
COMPACT 8	L2	164,1	172,3	180,5	188,7	196,9	205,1	213,3	221,5	229,7	237,9	246,1	254,3	262,5	270,7	278,9	287,1
	L1	174,4	182,6	190,8	199	207,2	215,4	223,6	231,8	240	248,2	256,4	264,6	272,8	281	289,2	297,4
	island weight	0,234	0,282	0,33	0,378	0,426	0,474	0,522	0,57	0,618	0,666	0,714	0,762	0,81	0,858	0,906	0,954
COMPACT 13	L2	180,7	193,7	206,7	219,7	232,7	245,7	258,7	271,7	284,7	297,7	310,7	323,7	336,7	349,7	362,7	375,7
	L1	191,3	204,3	217,3	230,3	243,3	256,3	269,3	282,3	295,3	308,3	321,3	334,3	347,3	360,3	373,3	386,3
	island weight	0,696	0,776	0,856	0,936	1,016	1,096	1,176	1,256	1,336	1,416	1,496	1,576	1,656	1,736	1,816	1,896

input module weight	**without input**	**8 inputs**	**16 inputs**
2 nodes	0,209	0,345	-
4 nodes	0,222	0,358	0,394

Weight of the adapter for DIN rail mounting: 0.024 kg

ORDERING INFORMATION

The products can be delivered as follows:

- Pre-assembled and tested modules ready for installation **1**
- Separate components **2** (to be mounted by customer)

1 Pre-assembled module according to customer specifications, tested and ready for operation
To order:

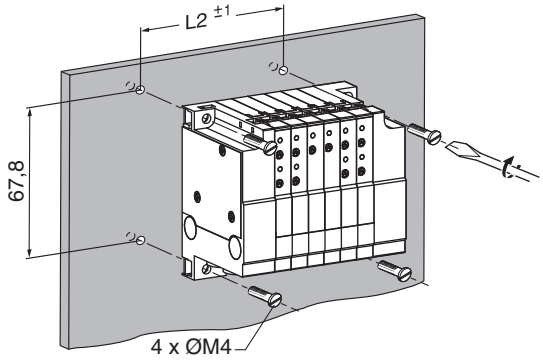
- Specify the valve island in the 2 or 3 reference lines according to the desired assembly (see page 20 or use the **configuration software available on: www.asconumatics.eu**).
- Mounting and pneumatic accessories as required (see below).

2 Separately supplied components
To order please specify the codes of all the components necessary to assemble a valve island (type and quantity of each component):

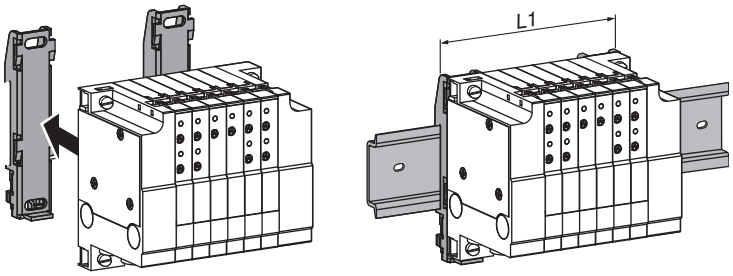
- Spool valves (see page 21)
- End covers (see page 22)
- Pressure separation plate or intermediate pressure supply module (see page 24)
- Mounting and pneumatic accessories (see below)
- Island assembly (see below)

ISLAND ASSEMBLY - CHOICE OF ISLAND MOUNTING

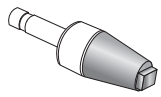
• On machine frame



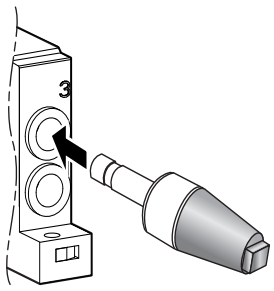
• On DIN-EN50022 rail
using a set of adapters **88157640**
(available as accessory)



MOUNTING AND PNEUMATIC ACCESSORIES

accessory	description			catalogue number
	DIN-EN 50022 rail (7.5 x 35 mm) - Lengths:		1 m	**88157858**
			5 x 1 m	**33400033**
	set of adapters for DIN-EN50022 rail mounting of valve islands		**COMPACT 8**	**88157640**
			COMPACT 13	**88157772**
	sintered bronze exhaust silencer for direct mounting to ports with instant fittings (1)	**COMPACT 8**	Ø8 mm extr.	**88157684**
		COMPACT 13	Ø10 mm extr.	**88157826**

(1) Exhaust silencer to be mounted to ports 3/5 of end covers with instant fittings (see opposite)



COMPACT 8 & 13 ISLAND REFERENCE

COMPACT 8 & 13 → 67_ M - (1)

COMPACT 8 ISLAND	**676**
COMPACT 13 ISLAND	**677**

Island versions			type
MULTIPOL Standard pinning (2)			**M3**
MULTIPOL Optimised pinning (3)			**M4**
BUSLINK PROFIBUS-DP			**P1**
BUSLINK DEVICE-NET			**D1**
BUSLINK CAN OPEN			**O1**
AS-INTERFACE	2 nodes	without input	**I1**
		8 inputs	**I2**
	4 nodes	without input	**I3**
		8 inputs	**I4**
		16 inputs	**I5**

Versions distributeurs	Port connections: 2 - 4		type
	COMPACT 8	Instant fittings 4mm O.D.	**F**
		Hose connection (tube 4 I.D. x 6 mm) polyamide tube	**H**
		Hose connection (tube 4 I.D. x 6 mm) polyurethane tube	**U**
	COMPACT 13	Instant fittings 8mm O.D.	**E**
		Instant fittings 6mm O.D.	**S**
	Mixed (F, H & U or E & S) on island (1)		**P**

Auxiliary manual override	type
(▼) impulse	**1**
(●) locking (push-turn)	**2**
Mixed (1 & 2) on island (1)	**P**

Pilot supply 12/14	type
Internal	**I**
External	**E**

Port connections: 1 - 3 / 5	type
1 + 3/5 instant fittings Ø8mm (Compact 8)	**Q**
1 + 3/5 instant fittings Ø10mm (Compact 13)	**E**

Option	
without option	**00**
other options	**..** **99**

Island mounting	Island delivery	type
On frame (2 x Ø4,2)	Assembled	**A**
	Unassembled	**B**
On rail EN 50022-DIN	Assembled	**C**
	Unassembled	**D**

(2) Spool valve position (2) (3)

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

Please indicate the type of spool valve or accessory required (2)

Spool valves (Functions)	type
2 x 3/2 NC - Solenoid air operated pilot, Differential return (Compact 8) or Spring return (Compact 13)	**K**
3/2 NC - Solenoid air operated pilot, Spring return	**Z**
3/2 NO - Solenoid air operated pilot, Spring return	**L**
5/2 - Solenoid air operated pilot, Spring return (monostable)	**S**
5/2 - Solenoid air operated pilot and return (bistable)	**J**
5/3 - Pressure held (W1)	**G**
5/3 - Exhaust released (W3)	**E**

For detailed information on spool valves see following page

Accessories (see page 24)	type
Intermediate pressure supply module (connection is identical to that selected for ports 1 - 3/5 on end covers, see opposite)	**D**
Pressure separation plate: Blocking of port 1 (all other connections maintained)	**W**

(3) Spool valve position

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

Spool valve versions **(with mixed connections)**

Connection ports 2 - 4 COMPACT 8	Connection ports 2 - 4 COMPACT 13	Manual override	type
Instant fittings 4 mm O.D.	Instant fittings 8 mm O.D.	(▼) impulse	**1**
		(●) locking	**2**
Hose connection for polyamide tube 4 I.D.x 6mm	Instant fittings 6 mm O.D.	(▼) impulse	**4**
		(●) locking	**5**
Hose connection for polyurethane tube 4 I.D.x 6mm	-	(▼) impulse	**6**
		(●) locking	**7**

(1) Different spool valve versions can be mixed on an island.
In this case:
- indicate type "P" in the basic reference (1)
- fill in reference line (3)

(2) Standard pinning (see page 9):
Max. 10 spool valves in mixed function

(3) Optimised pinning (see page 9):
Max. 16 spool valves with 21 coils = 16 monostable or 10 bistable or 2x3/2 spool valve

ORDERING EXAMPLE
(1) : **676M4PPEQ00A**
(2) : **KKSJJJJEEW L**
(3) : **1 1 4 1 4 2 5 2 2W1**

COMPACT 8 Multipol valve island, optimised version for frame mounting. Supplied assembled with 12 spool valves with mixed port connections with instant fittings for flexible hose 6 and 8mm O.D., mixed manual override, external pilot pressure supply.
Spool valve types:
- Four (4) bistable 5/2 spool valves, type J, in positions 4 to 7.
- Two (2) 2x3/2 NC differential return spool valves, type K, in positions 1 and 2.
- Two (2) 5/3 spool valves, centre open to exhaust (W3), type E, in positions 8 and 9.
- One (1) monostable 5/2 spool valve, type S, in position 3.
- One (1) 3/2 spool valve NO, type L, in position 11.
- One (1) pressure separation plate, type W, in position 10.

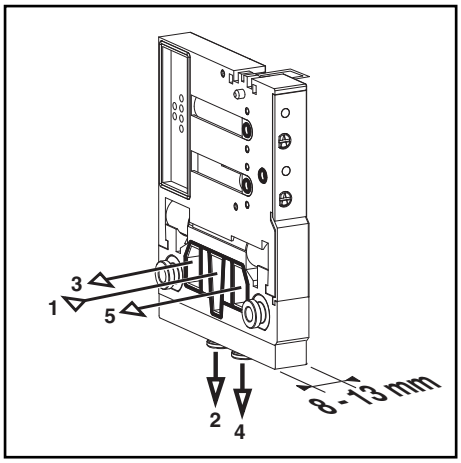
How to fill in reference line (3):
- Fill in **only** if different spool valve versions are to be mixed on an island.
- Use the spool valve position numbers specified in reference (2).
- Repeat the type of accessory in the same position number as specified in reference (2).

GENERAL

FLUIDS : Air or neutral gas, filtered at 40µm, lubricated or not
OPERATING PRESSURE : -0.9 to 8 bar (with external pressure supply) except for 2x3/2
: 2 to 8 bar (with internal pressure supply on bistable version)
: 3.5 to 8 bar (with internal pressure supply monostable version)
ALLOWABLE TEMPERATURE : +5°C to +50°C

CONNECTION	COMPACT 8	COMPACT 13
- Spool valve (ports 2 - 4)	: instant fittings 4mm O.D. push-in hose connection for tube 4mm I.D. x 6	instant fittings 6mm O.D. instant fittings 8mm O.D.
- End covers (ports 1 - 3 / 5)	: instant fittings 8mm O.D.	instant fittings 10mm O.D.

FLOW (Qv at 6 bar) : see table opposite
FUNCTION : 2x3/2 NC, 3/2 NC-NO, 5/2 monostable or bistable, 5/3
PILOT CONTROL : solenoid air operated with internal or external pressure supply
PILOT PRESSURE : 2 to 8 bar (bistable function)
3.5 to 8 bar (monostable function)
VIBRATION FATIGUE LIMIT : to EN 60068-2-6



CONSTRUCTION

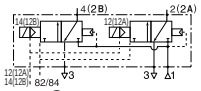
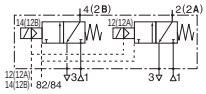
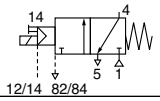
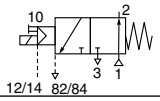
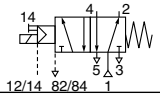
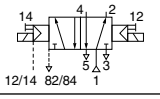
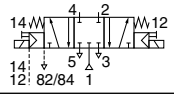
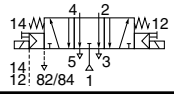
Body and end covers: glass-fibre reinforced synthetic material
Internal parts: aluminium, stainless steel, zinc-plated steel, brass and synthetic material
Sealings: nitrile (NBR) and PUR
Impulse-type or locking push/turn-type manual override

flow (l/min - ANR)				
connection of spool valve ports 2-4	COMPACT 8		COMPACT 13	
	instant fittings Ø 4 mm O.D.	hose connection tube 4 I.D x 6 mm	instant fittings Ø 6 mm O.D.	instant fittings Ø 8 mm O.D.
2 x 3/2 NC	190	240	550	800
3/2 NC-NO	250	300	550	900
5/2	250	300	550	900
5/3	250	270	550	800

ELECTRICAL CHARACTERISTICS

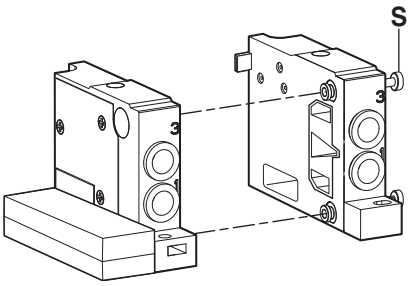
voltage	consumption	spool valve	insulation class	protection degree
24 V DC ±10%	Inrush : 1 W Hold : 0,15 W	monostable or bistable	F	IP 65

JOINABLE SPOOL VALVES FOR COMPACT 8 & 13 ISLANDS

type	function symbols		operators pilot (14) return (12)	(M)	catalogue number (24 V CC) connection of spool valve ports 2-4: COMPACT 8 instant fittings Ø **4mm** O.D.	COMPACT 8 hose connection tube **4mm** I.D. x 6 mm for polyamide rigid/semirigid tube	COMPACT 8 hose connection tube **4mm** I.D. x 6 mm for polyurethane soft tube	COMPACT 13 instant fittings Ø **6mm** O.D.	COMPACT 13 instant fittings Ø **8mm** O.D.
K	2x3/2 NC	 Compact 8	Solenoid air operated pilot Differential return (Compact 8)	▼	**57601123**	**57601041**	**57601557**	-	-
				●	**57601133**	**57601042**	**57601567**		
		 Compact 13	Solenoid air operated pilot Spring return (Compact 13)	▼	-	-	-	**57700041**	**57700013**
				●				**57700042**	**57700014**
Z	3/2NC		Solenoid air operated pilot Spring return	▼	**57601125**	**57601107**	**57601559**	**57700107**	**57700105**
				●	**57601135**	**57601111**	**57601569**	**57700111**	**57700109**
L	3/2NO		Solenoid air operated pilot Spring return	▼	**57601126**	**57601108**	**57601560**	**57700108**	**57700106**
				●	**57601136**	**57601112**	**57601570**	**57700112**	**57700110**
S	5/2		Solenoid air operated pilot Spring return	▼	**57601128**	**57601030**	**57601562**	**57700030**	**57700002**
				●	**57601138**	**57601036**	**57601572**	**57700036**	**57700008**
J	5/2		Solenoid air operated pilot and return	▼	**57601127**	**57601029**	**57601561**	**57700029**	**57700001**
				●	**57601137**	**57601035**	**57601571**	**57700035**	**57700007**
G	5/3		Centre closed **W1** Solenoid air operated pilot and return	▼	**57601130**	**57601032**	**57601564**	**57700032**	**57700004**
				●	**57601140**	**57601038**	**57601574**	**57700038**	**57700010**
E	5/3		Centre open to exhaust **W3** Solenoid air operated pilot and return	▼	**57601132**	**57601034**	**57601566**	**57700034**	**57700006**
				●	**57601142**	**57601040**	**57601576**	**57700040**	**57700012**

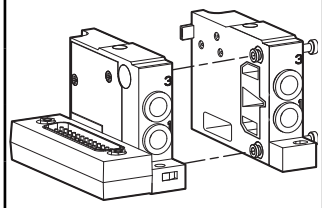
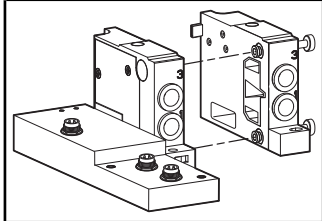
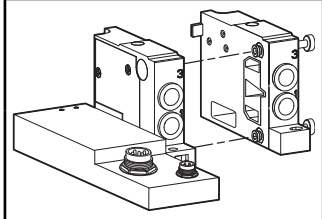
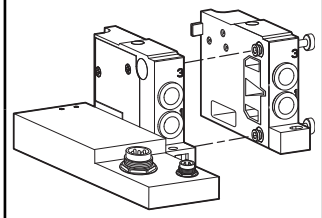
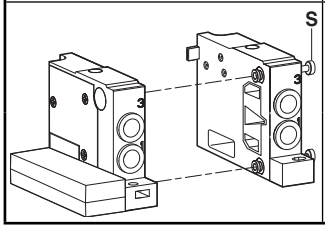
(M) Manual operator ▼ : impulse-type ● : locking push/turn-type

END COVERS



The end covers ensure the following functions:

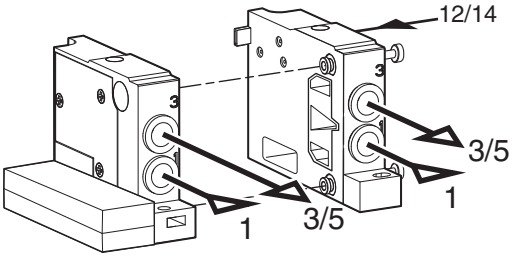
- **Island assembly** : The spool valves are directly fitted into the retention knobs on the end covers.
  The island is tightened by hand with the knurled screws (S). There is no need for tools.
- **Choice of island mounting** :
  • on machine frame (4 Ø 4.2),
  • on DIN EN 50022 rail (for cabinet installation).
- **Pneumatic connection**: With the exception of the versions with individual connection (screw terminals, wire ends), all electrical connections of the MULTIPOL, BUSLINK and ASi valve islands are grouped together in the left-hand end cover.

accessory	description	island version	pilot pressure supply	catalogue number COMPACT 8	catalogue number COMPACT 13
	set of 2 end covers for pneumatic (1) and electrical connection for **MULTIPOL**	with standard pinning	internal	**88157687**	**88157748**
			external (2)	**88157692**	**88157749**
		with optimised pinning	internal	**88157686**	**88157703**
			external (2)	**88157691**	**88157704**
	set of 2 end covers for pneumatic(1) and electrical connection for **PROFIBUS-DP**		internal	**88157688**	**88157711**
			external (2)	**88157693**	**88157712**
	set of 2 end covers for pneumatic(1) and electrical connection for **DEVICE NET**		internal	**88157689**	**881 57 713**
			external (2)	**88157694**	**88157714**
	set of 2 end covers for pneumatic(1) and electrical connection for **CAN OPEN**		internal	**88157690**	**88157715**
			external (2)	**88157695**	**88157716**
	set of 2 end covers for pneumatic(1) and electrical connection for **AS-INTERFACE**		internal	**88157790**	**88157791**
			external (2)	**88157792**	**88157793**

(1) Pneumatic connections of ports 1 - 3/5 with instant fittings 8mm O.D. (Compact 8) or 10mm O.D. (Compact 13)
End covers for direct mounting to valve island frame. A set of adapters 88157640 is required for DIN rail mounting.

(2) The external pilot pressure supply (3.5 to 8 bar) is located on the right-hand end cover. Connection with instant fittings for flexible hose 4 mm O.D.

PNEUMATIC CONNECTION

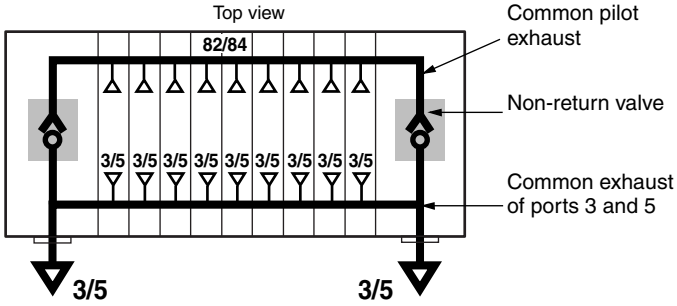


port n°.	function	connection size (type: Q)	
		COMPACT 8	COMPACT 13
1	pressure supply	instant fittings for flexible hose **8**mm O.D	instant fittings for flexible hose **10**mm O.D
3/5	exhausts (*)		
12/14	external pilot pressure supply	instant fittings for flexible hose 4mm O.D.	

* Exhausts 3 and 5 channelled and connectable to a common port (3/5) on each end cover.

The exhausts of the pilot circuit (82/84) are collected in the main exhaust circuit 3/5 and a protective **non-return valve** is integrated in the end covers.

Top view

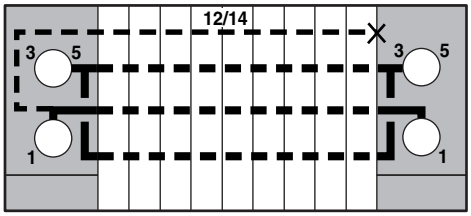


Common pilot exhaust

Non-return valve

Common exhaust of ports 3 and 5

Front view, connection side

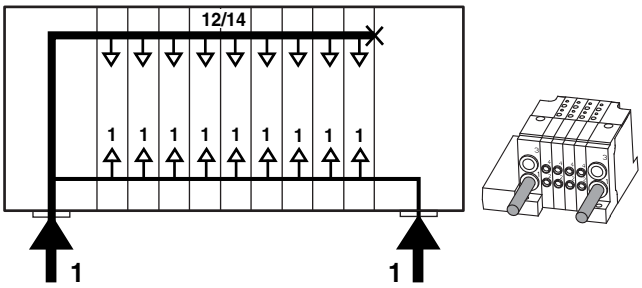


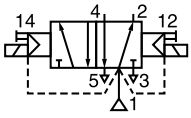
PRESSURE SUPPLY OF PILOT VALVES

COMPACT 8 & 13 valve islands are available with either **internal** or **external** pilot pressure supply.
The choice is made over different end covers.

• **Internal** pilot pressure supply

Top view

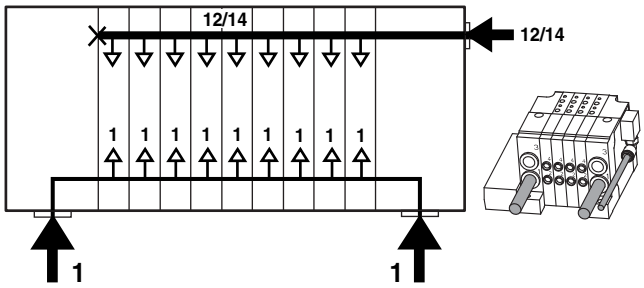


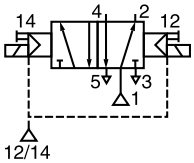


In this configuration:
- The pilot valves are directly supplied with pressure over the general pressure supply (1)
- Common supply pressure (spool valves and pilot valves):
  2 to 8 bar, bistable function
  3.5 to 8 bar, monostable function

• **External** pilot pressure supply

Top view





In this configuration:
- The spool valves on an island can be supplied with low pressure and vacuum.
- The pilots and the spool valves on an island can be supplied with pressure over 2 **separate** lines.

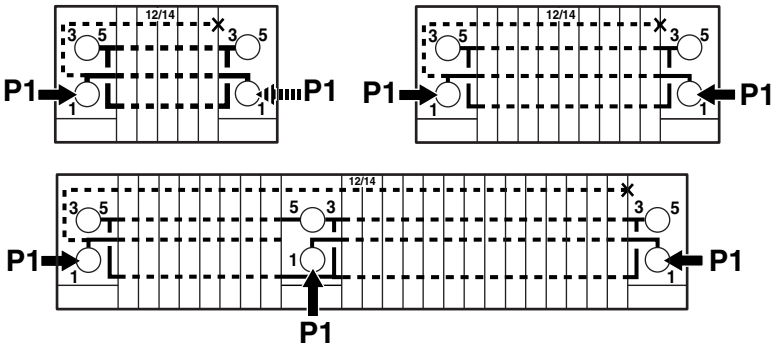
- Supply pressure of pilot valves (P12/14): 3.5 to 8 bar
- Supply pressure of spool valves: P1 = -0.950 bar to + 8 bar

Special case for 2x3/2: P1= 3.5 to 8 bar with P12/14 ≥ P1
- Connection of pilot circuit supply no. 12/14 with instant fittings on the lateral side of the right-hand end cover.

SUPPLY WITH 1, 2 OR 3 DIFFERENT PRESSURES

COMPACT 8 & 13 islands are especially designed to be supplied with more than one pressure level.

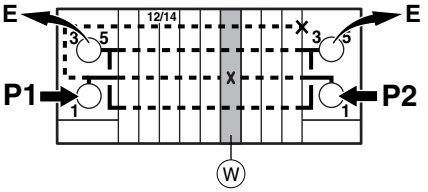
■ Supply with 1 pressure (P1)



- All islands are provided with 2 end covers for choice of pressure supply side (left or right).
  For more than 7 spool valves or for **simultaneous** operation of 4 spool valves, the unit must be supplied with pressure from both sides.

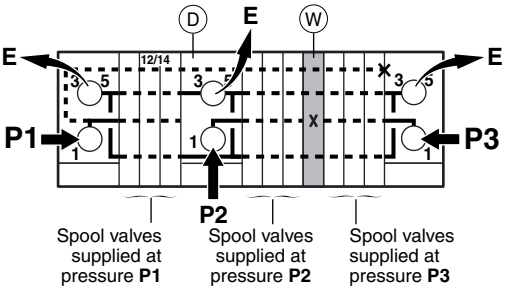
- Units with more than 14 spool valves must be supplied with pressure from three sides using an intermediate pressure supply module, type D, which should be placed in the first third on the left-hand side of the island.

■ Supply with 2 different pressures (P1-P2)



- For this configuration use a pressure separation module, type W, to be incorporated in the right order.
  Common exhaust (see detail below)
  P1>P2
  P1: 3.5 to 8 bar (version with internal pressure supply)

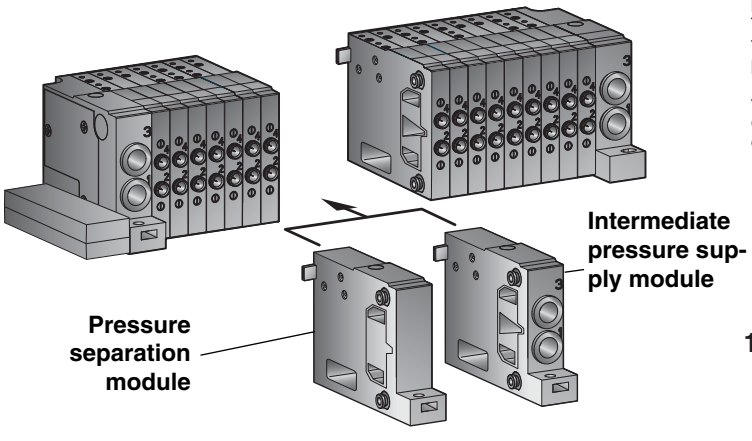
■ Supply with 3 different pressures (P1-P2-P3)



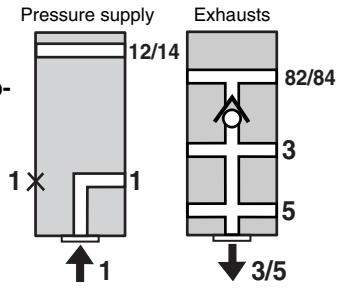
For this configuration use:
- 1 intermediate pressure supply module, type D
- 1 pressure separation module, type W
  Open and blocked flow parts are shown (see detail below)
  P1>P2 and P3
  P1: 3.5 to 8 bar (version with internal pressure supply)

PRESSURE SEPARATION MODULE AND INTERMEDIATE PRESSURE SUPPLY MODULE

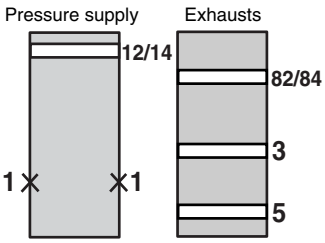
To obtain the configurations described below, these accessories must be incorporated in the right order.



Intermediate pressure supply module
This module allows for pressure (1) to be supplied to the right while flow paths 12/14, 82/84 (with protective non-return valve) + 3 and 5 are maintained. The exhausts are collected and channelled over port 3/5.



Pressure separation module
This accessory blocks the main common pressure supply (1) while flow paths 12/14, 82/84, 3 and 5 are maintained.



description				width (mm)	type	catalogue number
	intermediate pressure supply module	COMPACT 8	ports 1 and 3 / 5 with instant fittings **8** mm O.D. (1)	16	D	**88157696**
		COMPACT 13	ports 1 and 3 / 5 with instant fittings **10** mm O.D. (1)	22	D	**88157733**
	pressure separation module	COMPACT 8	blocking of port 1 (all other connections maintained)	16	W	**88157697**
		COMPACT 13	blocking of port 1 (all other connections maintained)	22	W	**88157736**

(1) An exhaust silencer can be mounted to port 3 / 5 (see page 19)