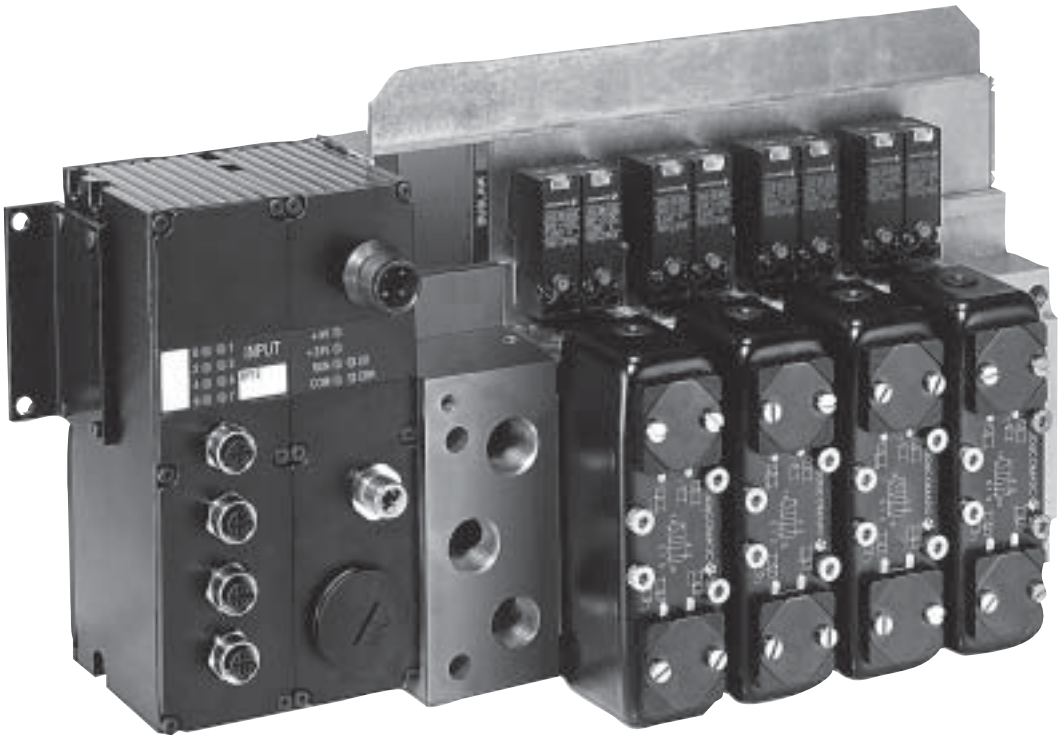
PNEUMATIC SPOOL VALVE ISLANDS

ISO 5599 sizes 1 and 2 - series 541-542

designed for connection to a PLC by field bus

BUSLINK-ISO



PROFI PROCESS FIELD BUS BUS · INTERBUS · DeviceNet™ · WorldFIP · MODBUS · ASi INTERFACE N° 21401

P589.GB.R6a

ASCO® JOUCOMATIC

BUSLINK-ISO

Field bus version for easy communication with PLC

The BUSLINK system avoids bulky and costly wiring thanks to a standard connection between the PLC and the pneumatic spool valve islands by means of a serial 2- or 9-wire cable - depending on which communication protocol is used.
ASCO/JOUCOMATIC has designed versions adapted to the following standardized communication protocols:

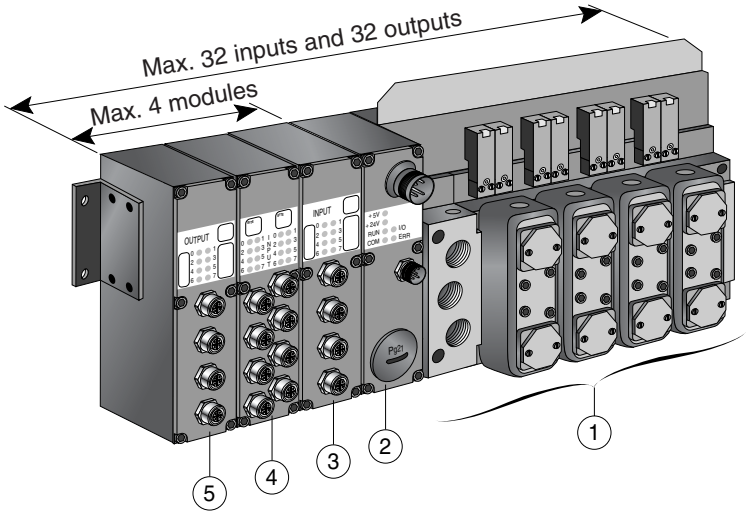
PROFI PROCESS FIELD BUS BUS

INTERBUS

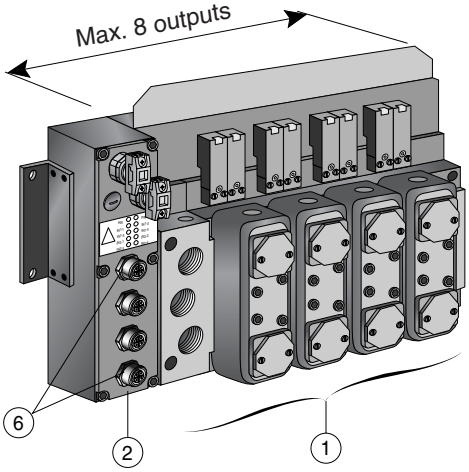
DeviceNet™

WorldFIP

MODBUS



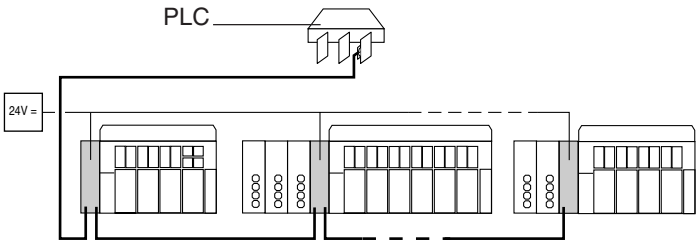
ASi INTERFACE N° 21401



BUSLINK AS-Interface : see page P589-17

1. Spool valves
2. Module for bus connection
3. Module with 8 inputs (except for AS-Interface)
4. Module with 16 inputs (except for AS-Interface)
5. Module with 8 additional outputs (except for AS-Interface)
6. 4 to 8 inputs for AS-Interface connection module

CONNECTION STRUCTURE



CHARACTERISTICS

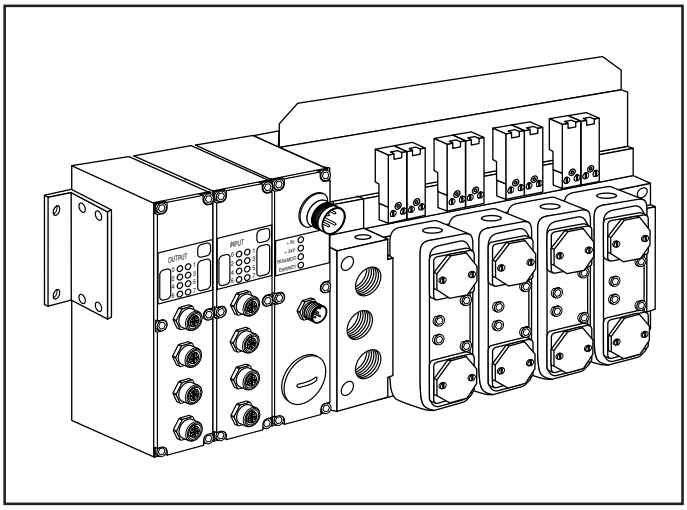
- Island of 4 to 8 monostable or bistable 5/2 - 5/3 spool valves with ISO1 - ISO2 mounting surface (G1/4 or G1/2).
- 8 monostable or 4 bistable spool valves at maximum per AS-Interface island.
- Integrated connections
- Power supply: 24 V DC
- Visual indicator (LED) for each coil and each input/output.
- Common pressure supply to all valves
- Built-in exhaust outlet in the subbase for environmental protection.
- Versions with or without inputs for sensor status display.

PROFIBUS-DP

Pneumatic valve island for data exchange via field bus and standardized Profibus-DP protocol.

The connection between a control system (PLC) and pneumatic spool valve islands by means of a field bus with RS485 interface allows the transmission of data with a 2-wire cable :

- control signals to the spool valves and additional outputs
- information signals from the sensor inputs.



ADVANTAGES

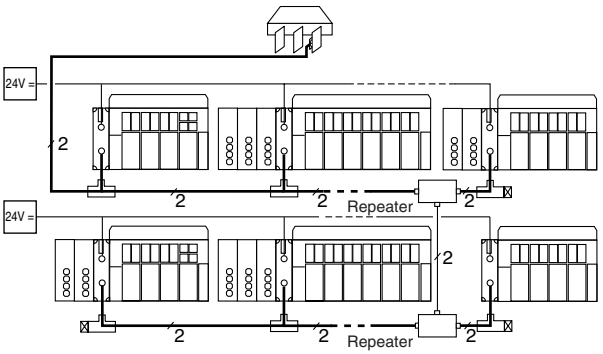
With the many advantages it offers, the Buslink system meets modern needs for automated installations:

- No bulky and difficult wiring.
- Time and money saved due to direct electric cabling and common air supply.
- Visual display and quick disconnection for easy maintenance.
- Unit tested and equipped with spool valves at delivery.

COMBINATIONS

Buslink units can be grouped as follows:

- Modules for monostable or bistable 5/2 or 5/3 spool valves to ISO1 (G1/4) or ISO2 (G1/2).
- Modules with 8 or 16 inputs and modules with 8 additional outputs. Any configuration possible upon request (only one valve size per island).



OPTIONS (consult us)

- Island with air supplied at two different pressure rates.
- Island with external air supply for pilot pressure.

COMMUNICATION CHARACTERISTICS

Communication 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 spool valve islands	: 97 islands (121 participants)
Number of valves per island	: 4 to 8 spool valves
Max. number of inputs/outputs	: 32 inputs and 32 outputs per island (including valve outputs)
Max. bus cable length	: 100 m - 1200 m, depending on the transmission speed
Transmission speed	: automatic selection from 9.6 Kbaud to **12 Mbaud**
Island addressing (participants)	: integrated rotary-type switches
Compatibility with control system	: no modification of current programmes
Compatible equipment	: SIEMENS, BOSCH, etc.

ELECTRICAL CHARACTERISTICS

Supply voltage	: 24 V DC, ±10%. The outputs (valves) and the bus electronics/sensor inputs can be supplied separately.
Max. ripple ratio	: 10 %
Consumption	: 2.2 W per pilot (with LED) and 9 mA per input
Coil insulation class	: F
Protection	: IP65
Electrical insulation	: optocouplers
Peak voltage suppression	: integrated in the island for each coil
24 V supply connection	: 4-pin male panel connector M18
Bus connection (IN/OUT)	: 5-pin male panel connector M12 (IP65) Option 01: protection to IP40 with 9-pin female SUB-D panel connector
Input connection	: 5-pin female panel connector M12 or screw terminals
Output connection	: 5-pin female panel connector M12 or screw terminals
Earth connection	: at supply connector or screw on the pneumatic subbase
Electromagnetic compatibility	: in accordance with EU directive EMC 89/336/EEC CE identification

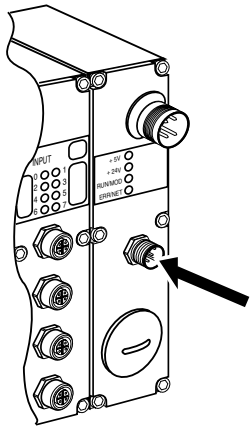
PNEUMATIC CHARACTERISTICS

Fluid		: air or neutral gas, filtered at 30 µm, lubricated or not
Operating pressure		: 3 to 8 bar with internal supply to pilot -1 to 12 bar with external supply to pilot at 3 to 8 bar
Flow rate (Qv at 6 bar)	ISO 1 (G1/4)	: 1400 l/min
	ISO 2 (G1/2)	: 2800 l/min
Allowable temperature		: +5°C to +50°C

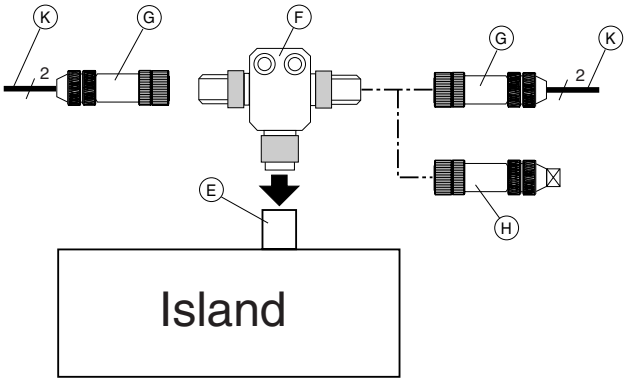
ACCESSORIES : see following page

PROFIBUS-DP CONNECTION

The front panel of the pneumatic spool valve island for Profibus-DP is equipped with a 5-pin male panel connector M12 (E).
The modules on either side of the system must be provided with terminating resistors (H).

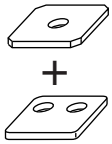
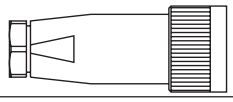
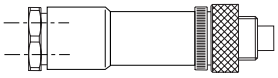
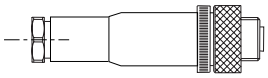
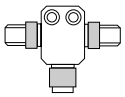
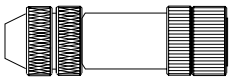
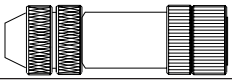
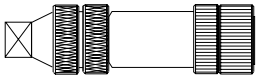


■ **T-connection**



The following accessories are required for wiring:

PROFIBUS-DP ACCESSORIES

	Description		Codes
	Blanking plate for electrical and pneumatic pilot mating surface (<u>one</u> pilot only)		**881 64 110**
	Straight 4-pin female connector M18 for 24 V DC power supply		**881 61 903**
	Straight 5-pin male duo connector M12 for 2 inputs/outputs (2 cables, Ø3 - 5 mm)		**881 00 253**
	Straight 5-pin male mono connector M12 (1 cable Ø 4-6 mm) for inputs/outputs		**881 00 330**
F	T-connector for Profibus-DP		**881 00 251**
G	5-pin female connector M12 for Profibus-DP for **4 - 6** mm cable		**881 00 304**
G	5-pin female connector M12 for Profibus-DP for **6 - 8** mm cable		**881 00 256**
H	Female terminating resistor for Profibus-DP (max 3MBaud)		**881 00 262**
	(from 3 to 12 MBaud)		**881 00 332**
	3 1/2" floppy disk JM-VB-JOUCOMATIC for the configuration of the PLC controller card intended for Buslink Profibus-DP islands		**881 61 925**

(K) Cable to be ordered separately.
Connectors dimensions : see installation manual

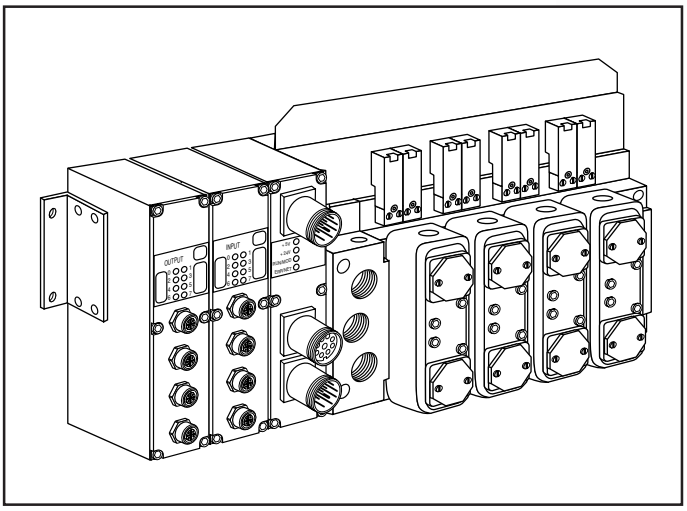
PNEUMATIC ACCESSORIES (see page 24)

INTERBUS-S

Pneumatic spool valve island for data exchange via field bus and standardized INTERBUS-S protocol.

The connection between a control system (PLC) and several spool valve islands by means of a field bus with RS485 interface allows the transmission of the following data with a single 9-wire cable :

- control signals to the spool valves and additional outputs
- information signals from the sensor inputs.



ADVANTAGES

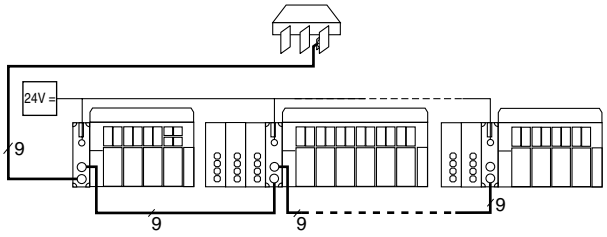
With the many advantages it offers, the Buslink system meets modern needs for automated installations:

- No bulky and difficult wiring.
- Time and money saved due to direct electric cabling and common air supply.
- Visual display and quick disconnection for easy maintenance.
- Unit tested and equipped with spool valves at delivery.

COMBINATIONS

Buslink units can be grouped as follows:

- Modules for monostable or bistable 5/2 or 5/3 spool valves to ISO1 (G1/4) or ISO2 (G1/2).
- Modules with 8 or 16 inputs and modules with 8 additional outputs. Any configuration possible upon request (only one valve size per island).



OPTIONS (consult us)

- Island with air supplied at two different pressure rates.
- Island with external air supply for pilot pressure.

5

COMMUNICATION CHARACTERISTICS

Communication protocol	: INTERBUS-S
Transmission	: shielded 3 x 2-wire cable, twisted in pairs, + 3 wires (2 forward, 2 return, 2 ground + 3 power supply wires), RS 485 interface
Bus structure	: loop
Max. number of spool valve islands	: 256 (with max. 2048 inputs and 2048 outputs)
Number of valves per island	: 4 to 8 spool valves
Max. number of inputs/outputs	: 32 inputs and 32 outputs per island (including valve outputs)
Max. bus cable length	: 400 m per segment, max. 13 km
Transmission speed	: 500 kbaud (fixed)
Island addressing (participants)	: automatic
Compatibility with control system	: no modification of current programmes
Compatible equipment	: SIEMENS, BOSCH, KLÖCKNER MOELLER, AEG, ALLEN BRADLEY, GE FANUC etc. VME system

ELECTRICAL CHARACTERISTICS

Supply voltage	: 24 V DC, ±10%. The outputs (valves) and the bus electronics/sensor inputs can be supplied separately.
Max. ripple ratio	: 10 %
Consumption	: 2.2W per pilot (with LED) and 9 mA per input
Coil insulation class	: F
Protection	: IP65
Electrical insulation	: optocouplers
Peak voltage suppression	: integrated in the island for each coil
24 V supply connection	: 6-pin male panel connector M23
Bus connection (IN/OUT)	: 9-pin male panel connector M23 (IN) and 9-pin female panel connector M23 (OUT)
Input connection	: 5-pin female panel connector M12 or screw terminals
Output connection	: 5-pin female panel connector M12 or screw terminals
Earth connection	: at supply connector or screw on the pneumatic subbase
Electromagnetic compatibility	: in accordance with EU directive EMC 89/336/EEC CE identification

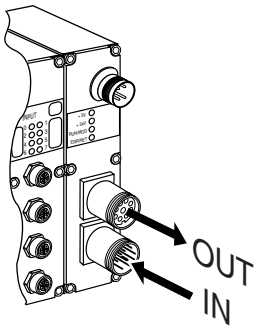
PNEUMATIC CHARACTERISTICS

Fluid		: air or neutral gas, filtered at 30 µm, lubricated or not
Operating pressure		: 3 to 8 bar with internal supply to pilot -1 to 12 bar with external supply to pilot at 3 to 8 bar
Flow rate (Qv at 6 bar)	ISO 1 (G1/4)	: 1400 l/min
	ISO 2 (G1/2)	: 2800 l/min
Allowable temperature		: +5°C to +50°C

ACCESSORIES : see following page

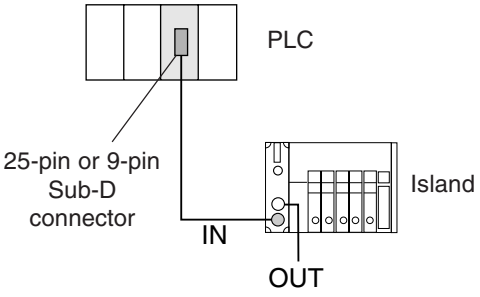
INTERBUS-S CONNECTION

The front panel of the pneumatic spool valve island for Interbus-S is equipped with a 9-pin male panel connector M23 (BUS-IN) and a 9-pin female panel connector M23 (BUS-OUT).

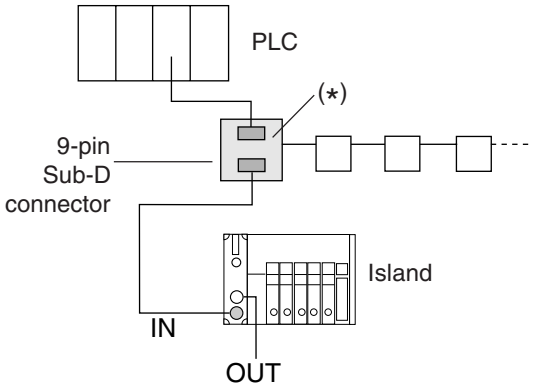


The bus can be connected in the two following ways:
- directly to the Interbus-S card
- to the Phoenix bus terminal

■ **Connection directly to the Interbus-S card**

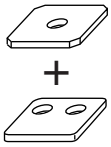
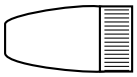
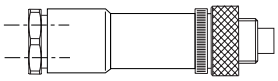
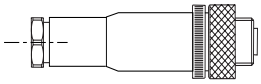
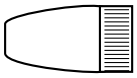
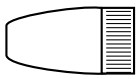


■ **Connection to the Phoenix Contact bus terminal(*)**



The following accessories are required for wiring:

INTERBUS-S ACCESSORIES

Description		Codes
Blanking plate for electrical and pneumatic pilot mating surface (<u>one</u> pilot only)		**881 64 110**
Straight 6-pin female connector M23 for 24 V DC power supply		**881 61 960**
Straight 5-pin male duo connector M12 for 2 inputs/outputs (2 cables, Ø3 - 5 mm)		**881 00 253**
Straight 5-pin male mono connector M12 (1 cable Ø4 - 6 mm) for inputs/outputs		**881 00 330**
9-pin female connector M23 for Interbus-S input (BUS-IN)		**881 61 951**
9-pin male connector M23 for Interbus-S output (BUS-OUT)		**881 61 952**

Connectors dimensions : see installation manual

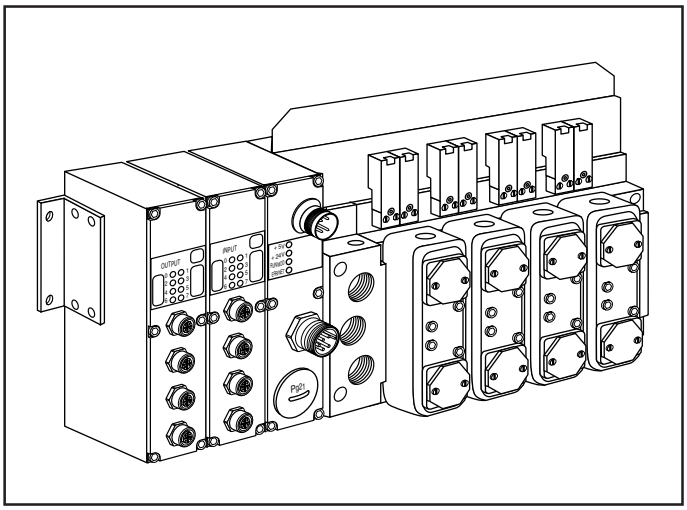
PNEUMATIC ACCESSORIES (see page 24)

DEVICE NET

Pneumatic spool valve island for data exchange via field bus and standardized DEVICE NET protocol.

The connection between a control system (PLC) and several spool valve islands by means of a field bus with DEVICE NET interface allows the transmission of the following data with a 2 x 2-wire cable:

- control signals to the spool valves and additional outputs
- information signals from the sensor inputs.



ADVANTAGES

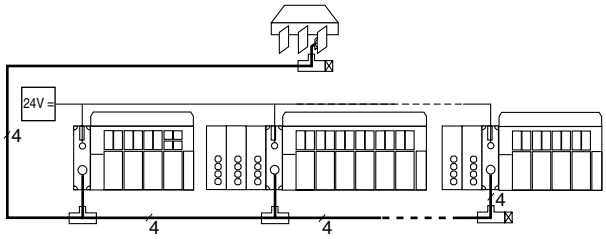
With the many advantages it offers, the Buslink system meets modern needs for automated installations:

- No bulky and difficult wiring.
- Time and money saved due to direct electric cabling and common air supply.
- Visual display and quick disconnection for easy maintenance.
- Unit tested and equipped with spool valves at delivery.

COMBINATIONS

Buslink units can be grouped as follows:

- Modules for monostable or bistable 5/2 or 5/3 spool valves to ISO1 (G1/4) or ISO2 (G1/2).
- Modules with 8 or 16 inputs and modules with 8 additional outputs. Any configuration possible upon request (only one valve size per island).



OPTIONS (consult us)

- Island with air supplied at two different pressure rates.
- Island with external air supply for pilot pressure.

5

COMMUNICATION CHARACTERISTICS

Communication protocol	: DEVICE NET (Allen Bradley)
Transmission	: shielded 2x2-wire cable, twisted in pairs (2 power supply, 2 signal wires)
Bus structure	: line or tree structure
Max. number of spool valve islands	: 63
Number of valves per island	: 4 to 8 spool valves
Max. number of inputs/outputs	: 32 inputs and 32 outputs per island (including valve outputs)
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)	: 8 DIP switches integrated in the connector housing
Compatibility with control system	: no modification of current programmes
Compatible equipment	: ALLEN BRADLEY, etc.

ELECTRICAL CHARACTERISTICS

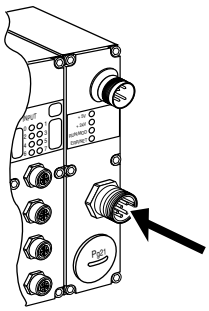
Supply voltage	: 24 V DC, ±10%. The outputs (valves) and the bus electronics/sensor inputs can be supplied separately.
Max. ripple ratio	: 10 %
Consumption	: 2.2 W per pilot (with LED) and 9 mA per input
Coil insulation class	: F
Protection	: IP65
Electrical insulation	: optocouplers
Peak voltage suppression	: integrated for each coil
24 V supply connection	: 4-pin male panel connector M18
Bus connection (IN/OUT)	: 5-pin male panel connector 7/8" UN
Input connection	: 5-pin female panel connector M12 or screw terminals
Output connection	: 5-pin female panel connector M12 or screw terminals
Earth connection	: at supply connector or screw on the pneumatic subbase
Electromagnetic compatibility	: in accordance with EU directive EMC 89/336/EEC CE identification

PNEUMATIC CHARACTERISTICS

Fluid		: air or neutral gas, filtered at 30 µm, lubricated or not
Operating pressure		: 3 to 8 bar with internal supply to pilot -1 to 12 bar with external supply to pilot at 3 to 8 bar
Flow rate (Qv at 6 bar)	ISO 1 (G1/4)	: 1400 l/min
	ISO 2 (G1/2)	: 2800 l/min
Allowable temperature		: +5°C to +50°C

ACCESSORIES : see following page

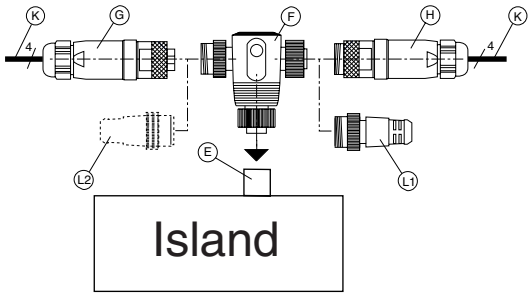
DEVICE NET CONNECTION



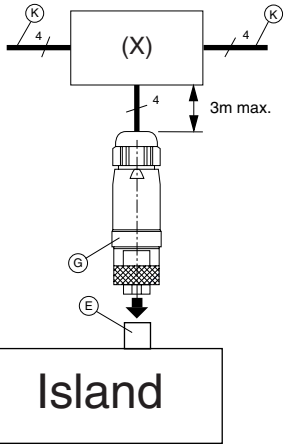
The front panel of the pneumatic spool valve island for DEVICE NET is equipped with a 5-pin male panel connector 7/8 - 16 UN (E).
The bus can be connected in the two following ways:
- directly to the island with the T-connector,
- with a straight connector, cable (max. length: 3 m) and the Device Net distributor box.

The modules on either side of the system must be provided with terminating resistors (L1 and L2).

■ **T-connection**

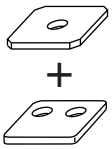
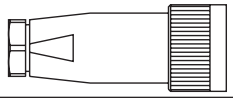
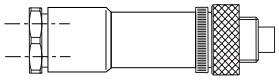
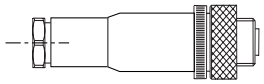
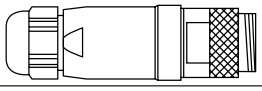
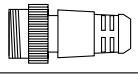
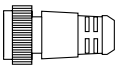


■ **Connection with Device Net distributor box (X)**



The following accessories are required for wiring:

DEVICE NET ACCESSORIES

	Description		Codes
	Blanking plate for electrical and pneumatic pilot mating surface (one pilot only)		**881 64 110**
	Straight 4-pin female connector M18 for 24 V DC power supply		**881 61 903**
	Straight 5-pin male duo connector M12 for 2 inputs/outputs (2 cables, Ø3 - 5 mm)		**881 00 253**
	Straight 5-pin male mono connector M12 (1 cable, Ø 4 - 6 mm) for inputs/outputs		**881 00 330**
G	Straight 5-pin female connector 7/8-16 UN for DEVICE NET		**881 61 930**
H	Straight 5-pin male connector 7/8-16 UN for DEVICE NET		**881 61 931**
F	5-pin male / female / female T-connector 7/8-16 UN for DEVICE NET		**881 61 932**
L1	120 ohms male terminating resistor for DEVICE NET		**881 61 934**
L2	120 ohms female terminating resistor for DEVICE NET		**881 61 933**
	3 1/2" floppy disk for the configuration of the PLC controller card intended for Buslink Device-Net islands		**881 66 909**

(K) Cable to be ordered separately.
Connectors dimensions : see installation manual

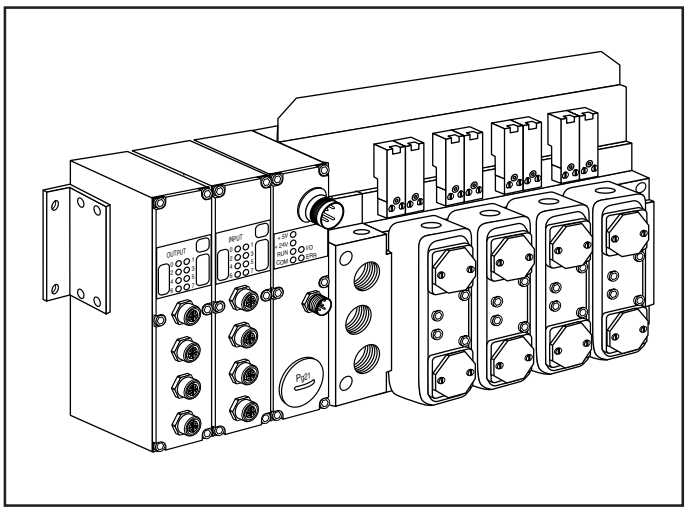
PNEUMATIC ACCESSORIES (see page 24)

FIPIO

Pneumatic spool valve island for data exchange via field bus and standardized FIPIO protocol.

The connection between a control system (PLC) and several spool valve islands by means of a field bus with FIPIO interface allows the transmission of the following data with a 2 x 2-wire cable:

- control signals to the spool valves and additional outputs
- information signals from the sensor inputs.



ADVANTAGES

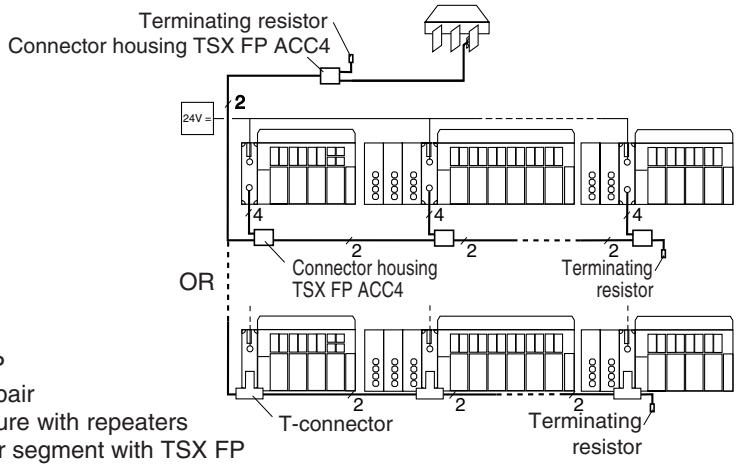
With the many advantages it offers, the Buslink system meets modern needs for automated installations.

- No bulky and difficult wiring.
- Time and money saved due to direct electric cabling and common air supply.
- Visual display and quick disconnection for easy maintenance.
- Unit tested and equipped with spool valves at delivery.

COMBINATIONS

Buslink units can be grouped as follows:

- Modules for 5/2 or 5/3 spool valves to ISO1 (G1/4) or ISO2 (G1/2).
- Modules with 8 or 16 additional inputs and 8 additional outputs. Any configuration possible upon request (only one valve size per island).



OPTIONS

- Island with air supplied at two different pressure rates.
- Island with external air supply for pilot pressure.

COMMUNICATION CHARACTERISTICS

Communication protocol	: FIPIO / World FIP
Transmission	: shielded twisted pair
Bus structure	: line or tree structure with repeaters
Max. number of spool valve islands	: 62 islands, 32 per segment with TSX FP ACC4 connector housings or T-connectors
Number of valves per island	: 4 to 8 spool valves
Max. number of inputs/outputs	: 32 inputs and 32 output per island (including valve outputs)
Max. bus cable length	: 1000 m per segment max. 5000 m
Transmission speed	: 1 MBaud
Island addressing	: 8 DIP switches integrated in the connector housing
Compatible equipment	: TSX Model 7 (⩾ 47) or APRIL 5000, Schneider Automation

ELECTRICAL CHARACTERISTICS

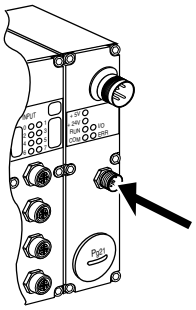
Supply voltage	: 24 VDC, ±10%. The outputs (valves) and the bus electronics/sensor inputs can be supplied separately.
Max. ripple ratio	: 10 %
Consumption	: 2.2 W per pilot (with LED) and 9 mA per input
Coil insulation class	: F
Protection	: IP65
Electrical insulation	: optocouplers
Peak voltage suppression	: integrated in the island for each coil
24 V supply connection	: 4-pin male panel connector M18
Bus connection (IN/OUT)	: 5-pin male panel connector M12
Input connection	: 5-pin female panel connector M12 or screw terminals
Output connection	: 5-pin female panel connector M12 or screw terminals
Earth connection	: at supply connector or screw on the pneumatic subbase
Electromagnetic compatibility	: in accordance with EU directive EMC 89/336/EEC CE identification

PNEUMATIC CHARACTERISTICS

Fluid		: air or neutral gas, filtered at 30 µm, lubricated or not
Operating pressure		: 3 to 8 bar with internal supply to pilot -1 to 12 bar with external supply to pilot at 3 to 8 bar
Flow rate (Qv at 6 bar)	ISO 1 (G1/4)	: 1400 l/min
	ISO 2 (G1/2)	: 2800 l/min
Allowable temperature		: +5°C to +50°C

ACCESSORIES : see following page

FIPIO CONNECTION

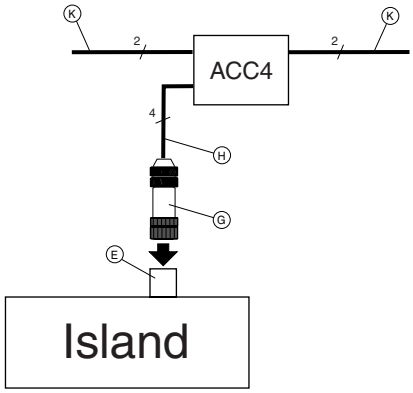


The front panel of the pneumatic spool valve island for FIPIO is equipped with a 5-pin male panel connector ØM12 (E).

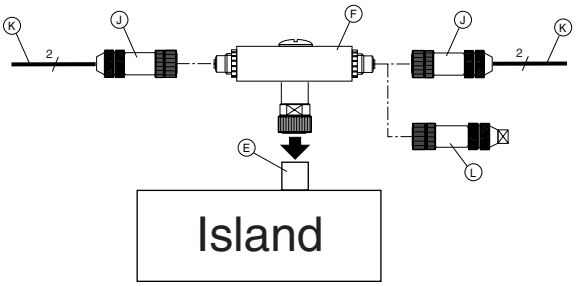
The bus can be connected in the two following ways:

- with a TSX FP ACC4 connector housing,
- with a T-connector directly plugged into the M12 outlet on the island.

■ **Connection with TSX FP ACC4 connector housing**

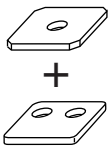
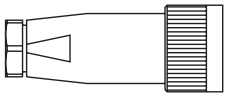
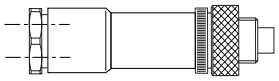
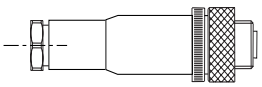
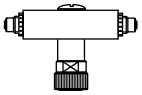
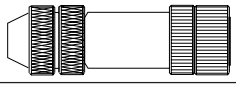
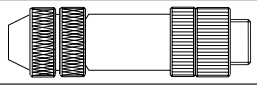
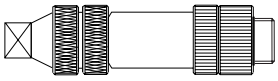


■ **Connection with T-connector**



The following accessories are required for wiring:

FIPIO ACCESSORIES

	Description		Codes
	Blanking plate for electrical and pneumatic pilot mating surface (one pilot only)		**881 64 110**
	Straight 4-pin female connector M18 for 24 V DC power supply		**881 61 903**
	Straight 5-pin male duo connector M12 for 2 inputs/outputs (2 cables, Ø3 - 5 mm)		**881 00 253**
	Straight 5-pin male mono connector M12 (1 cable, Ø4 - 6 mm)) for inputs/outputs		**881 00 330**
F	5-pin female / female / female T-connector M12 for FIPIO		**881 00 252**
G	Straight 5-pin female connector M12 for FIPIO		**881 00 256**
J	Straight 5-pin male connector M12 for cable dia. 6 - 8 mm		**881 00 279**
L	Terminating resistor for FIPIO for a T-connector, male M12 plug		**881 00 333**

(K) (H) Cables to be ordered separately.
Connectors dimensions : see installation manual

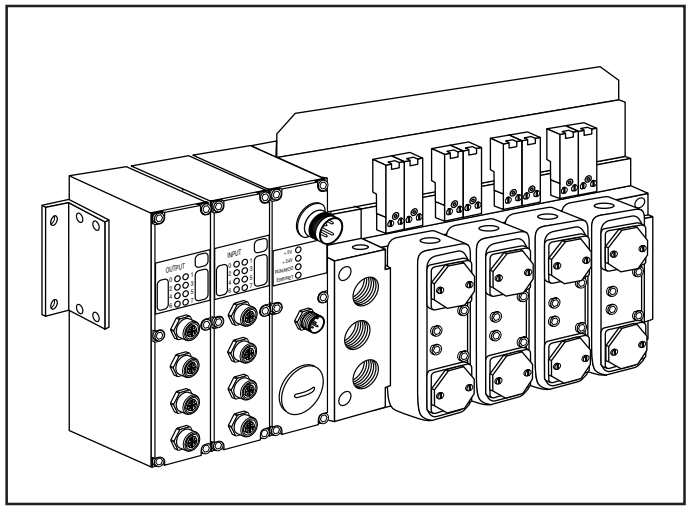
PNEUMATIC ACCESSORIES (see page 24)

MODBUS

Pneumatic valve island for data exchange by means of a field bus and standardized MODBUS protocol.

The connection between a control system (PLC) and several spool valve islands by means of a field bus with MODBUS interface allows the transmission of the following data with a 2-wire cable:

- control signals to the spool valves and additional outputs
- information signals from the sensor inputs.



ADVANTAGES

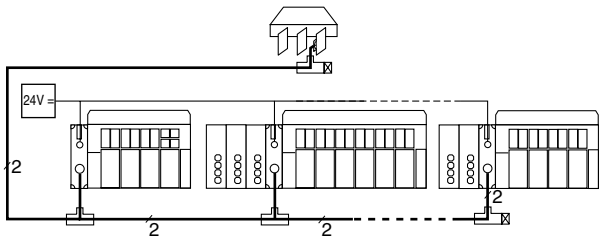
With the many advantages it offers, the Buslink system meets modern needs for automated installations.

- No bulky and difficult wiring.
- Time and money saved due to direct electric cabling and common air supply.
- Visual display and quick disconnection for easy maintenance.
- Unit tested and equipped with spool valves at delivery.

COMBINATIONS

Buslink units can be grouped as follows:

- Modules for 5/2 or 5/3 spool valves to ISO1 (G1/4) or ISO2 (G1/2).
- Modules with 8 or 16 additional inputs and 8 additional outputs.
  Any configuration possible upon request (only one valve size per island).



OPTIONS

- Island with air supplied at two different pressure rates.
- Island with external air supply for pilot pressure.

5

COMMUNICATION CHARACTERISTICS

Communication protocol	: Modbus in RTU format, 8 bits with parity
Transmission	: shielded 2-wire cable, twisted in pairs, conforming to RS 485 interface
Bus structure	: line structure
Max. number of spool valve islands	: 255
Number of valves per island	: 4 to 8 spool valves
Max. number of inputs/outputs	: 32 input and 32 outputs per island (including valve outputs)
Max. bus cable length	: 1200 m
Transmission speed	: 4800, 9600 or 19200 baud, adjustable with integrated DIP switches
Island addressing (participants)	: 8 DIP switches integrated in the connector housing
Compatibility with control system	: no modification of curre&nt programmes
Compatible equipment	: Crouzet, AEG-Schneider, OMRON etc.

ELECTRICAL CHARACTERISTICS

Supply voltage	: 24 VDC, ±10%. The outputs (valves) and the bus electronics/sensor inputs can be supplied separately.
Max. ripple ratio	: 10 %
Consumption	: 2.2 W per pilot (with LED) and 9 mA per input
Coil insulation class	: F
Protection	: IP65
Electrical insulation	: optocouplers
Peak voltage suppression	: integrated in the island for each coil
24 V supply connection	: 4-pin male panel connector M18
Bus connection (IN/OUT)	: 5-pin male panel connector M12
Input connection	: 5-pin female panel connector M12 or screw terminals
Output connection	: 5-pin female panel connector M12 or screw terminals
Earth connection	: at supply connector or screw on the pneumatic subbase
Electromagnetic compatibility	: in accordance with the EU directive EMC 89/336/EEC CE identification

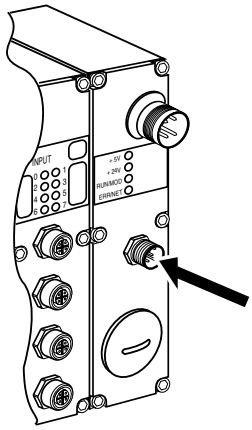
PNEUMATIC CHARACTERISTICS

Fluid		: air or neutral gas, filtered at 30 µm, lubricated or not
Operating pressure		: 3 to 8 bar with internal supply to pilot -1 to 12 bar with external supply to pilot at 3 to 8 bar
Flow rate (Qv at 6 bar)	ISO 1 (G1/4)	: 1400 l/min
	ISO 2 (G1/2)	: 2800 l/min
Allowable temperature		: +5°C to +50°C

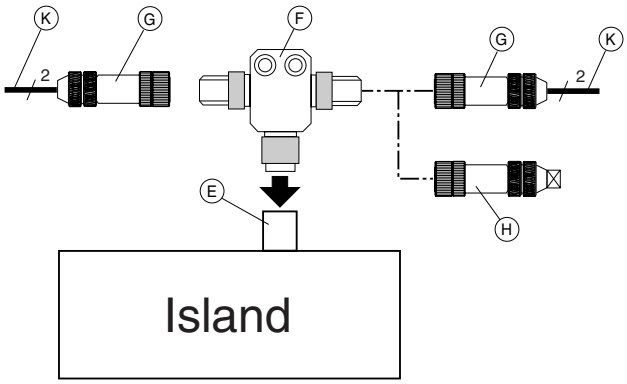
ACCESSORIES : see following page

MODBUS CONNECTION

The front panel of the pneumatic spool valve island for MODBUS is equipped with a 5-pin male panel connector ØM12 (E).
The modules on either side of the system must be provided with terminating resistors (H).

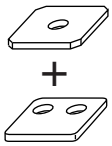
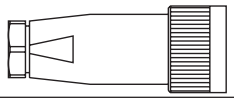
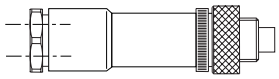
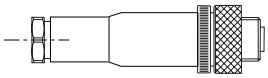
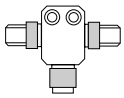
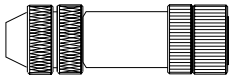
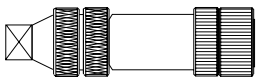


■ **T-connection**



The following accessories are required for wiring:

MODBUS ACCESSORIES

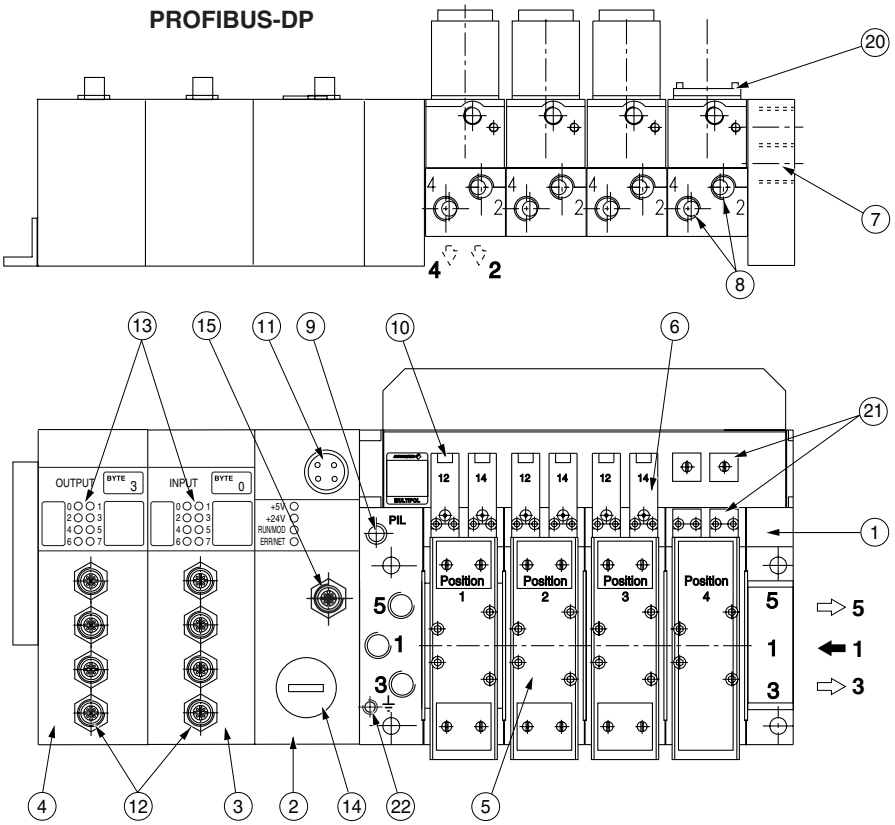
	Description		Codes
	Blanking plate for electrical and pneumatic pilot mating surface (<u>one</u> pilot only)		**881 64 110**
	Straight 4-pin female connector M18 for 24 V DC power supply		**881 61 903**
	Straight 5-pin male duo connector M12 for 2 inputs/outputs Ø3 - 5 mm		**881 00 253**
	Straight 5-pin male mono connector M12 (1 cable) for inputs/outputs		**881 00 330**
F	5-pin male / female / male T-connector for Modbus		**881 00 251**
G	Straight 5-pin female connector M12 for Modbus for cable dia. 6 - 8 mm		**881 00 256**
H	Female plug - terminating resistor for Modbus		**881 00 262**

(K) Cable to be ordered separately
Connectors dimensions : see installation manual

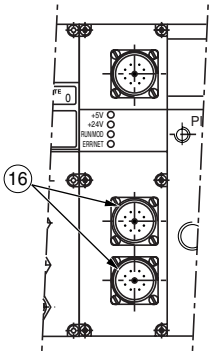
PNEUMATIC ACCESSORIES (see page 24)

BUSLINK DESCRIPTION

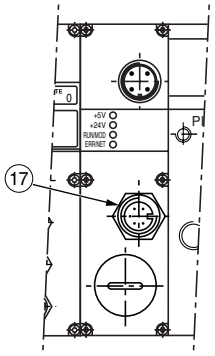
PROFIBUS-DP



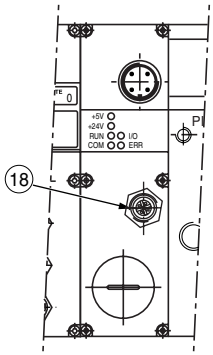
INTERBUS-S



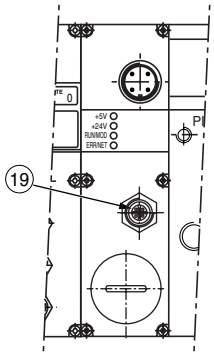
DEVICE NET



WORLDFIP/FIPIO



MODBUS



No.	Description
1	Subbase for pneumatic connection of the Buslink valve island
2	Bus connection module
3	Module with 8 or 16 inputs (max. 4 modules)
4	Module with 8 additional outputs (max. 2 modules)
5	Monostable or bistable spool valves to ISO1 - ISO2 (max. 8)
6	Miniature 3/2 pilot valve NC to CNOMO size 15 for spool valves (2 pilots on the same side for bistable function)
7	Pressure supply "1" and exhausts "3-5" with threaded connections
8	Lateral operating ports "2-4" with threaded connection (or combined upon request)
9	External pilot pressure supply
10	"Pilots on" indicator LED
11	24 V DC supply connection with 4-pin male panel connector ØM18 or 6-pin male connector ØM23 (Interbus-S only)
12	Input/output connection with female panel connector ØM12 or detachable screw terminals

No.	Description
13	LED visual indicator for inputs and outputs
14	Island addressing, speed etc.
15	Profibus-DP input and output with 5-pin male panel connector ØM12
16	Interbus-S input and output with 9-pin male/female panel connector ØM23
17	Device Net input and output with 5-pin male connector 7/8-16 UN
18	FIPIO input and output with 5-pin male connector ØM12
19	MODBUS input and output with 5-pin male connector ØM12
20	Blanking plate for pneumatic mating surface of spool valves to ISO1 or ISO2
21	Electrical and pneumatic pilot blanking plates (see accessories)
22	Earth protection

SPOOL VALVE ISLAND DESIGN

BUSLINK spool valve islands are connected to a PLC with a bus cable to pilot the spool valves and detect the sensor status. An additional male connector is used to supply the islands with power. It is recommended to use two separate 24 V DC power supplies and safety fuses for the electrically operated spool valves and the bus electronics in order to prevent bus system failure in case of a short-circuit at the outputs. This also makes it possible to continue detecting the sensor status. The spool valves are piloted electrically via the electronic bus interface.
The pressure supply and exhaust are collected in the pneumatic subbase. The spool valves ensure the pressure supply and exhaust of the pneumatic actuators. The pneumatic connection of the actuators is made on the side or bottom of the subbase.
The island can be equipped with additional input and/or outputs. The electrical sensors are connected to the additional input modules with male connectors M12 or screw terminals upon request.

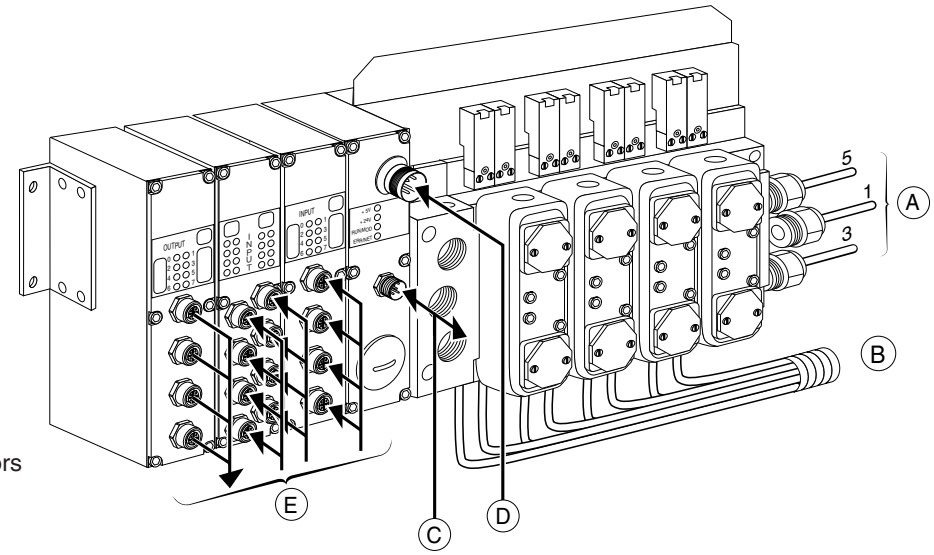
Ⓐ Pressure supply 1 and exhausts 3 - 5

Ⓑ Operating ports 2 - 4

Ⓒ Bus input/output

Ⓓ 24 VDC power supply

Ⓔ Additional inputs and outputs for magnetic position detectors/sensors



MAXIMUM CAPACITY OF A BUSLINK SPOOL VALVE ISLAND

The spool valve islands can be equipped with 32 inputs and 32 outputs. The outputs can be occupied with spool valves only or with a mix of spool valves and additional 24 VDC outputs which must be grouped on modules with 8 outputs (see below). You can also extend an island with modules with 8 or 16 inputs (for the sensors). Only 4 input or output modules may be connected to one island.

Example for maximum configuration:

input or output modules				BUS connection module	**Number of spool valves** 4 5 6 7 8
O or I	O or I	I	I		4, 5, 6, 7 or 8 valves (8 to 16 outputs)
-	-	I5	I5		4, 5, 6, 7 or 8 valves (8 to 16 outputs)

max. 32 inputs / 16 outputs

max. 32 outputs / 32 inputs

O : output module
I : 8 inputs module (I1 or I2)
I5 : 16 inputs module

NOTE:
- The additional **output modules** must always be connected to the **left** side of the island.
- The maximum configuration is 8 bistable spool valves (16 outputs) and 4 modules with 8 inputs or 2 modules with 16 inputs (32 inputs).

ORDERING INFORMATION FOR A BUSLINK-ISO ISLAND (except for AS-Interface)

When ordering please specify the **electrical components (1)**, the **pneumatic components (2)**, and the optional accessories separately.

1 Electrical components

	TYPE	OPTION	Electrical module (max. 4) 1	2	3	4
C E						

Generation **C**

E	Electrical components

BA	BUSLINK/ DEVICE NET
BP	BUSLINK/PROFIBUS-DP
BS	BUSLINK/INTERBUS-S
BF	BUSLINK/FIPIO
BM	BUSLINK/MODBUS

OPTIONS	
00	without option
13	Inactivation of diagnosis power 24V DC OFF (version Interbus-S/BS)
25	**13** + M23 connector for supply (version Interbus-S)
- - **99**	other options

Please indicate the type of module required (1)

Type	Function of the input/output modules
E1	8 PNP inputs, screw terminals (max. 4 modules)
E2	8 PNP inputs, female panel connector M12 (max. 4 modules)
E5	16 PNP inputs, female panel connector M12 (max. 2 modules)
S1	8 PNP outputs 0.2A, screw terminals (max. 2 modules)
S2	8 PNP outputs 0.2A, female panel connector M12 (max. 2 modules)

2 Pneumatic components

	GR	OPTION	Valve position 1	2	3	4	5	6	7	8
C P										

Generation **C**

P	Pneumatic components

GR	Spool valve series and size
5	541 (ISO1)
6	542 (ISO2)

OPTIONS	
00	without
35	external supply of pilot valves
- - **99**	other options

PORTS: 2 - 4

Connection	
G	Gaz thread
N	NPT thread

Position	
1	lateral
3	combined (lateral/bottom) (with plugs)

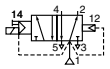
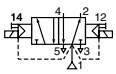
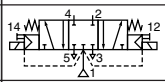
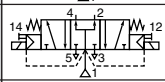
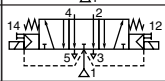
PORTS: 1 - 3 - 5

Connection	
G	Gaz thread
N	NPT thread

Position	
1	lateral

04 : **08**	Number of spool valve places on the island

Positions for 4 to 8 spool valves

Type	Spool valves functions
A	Blanking plate for unused valve place
M	 5/2 - Solenoid air operated pilot Differential return
J	 5/2 - Solenoid air operated pilot and return
G	 5/3 - Pressure held (W1) Solenoid air operated pilot
B	 5/3 - Pressure applied (W2) Solenoid air operated pilot
E	 5/3 -Exhaust released (W3) Solenoid air operated pilot

SANDWICH-TYPE PNEUMATIC ACCESSORIES

	1	2	3	4	5	6	7	8
ACC								

(for details see page 24)

RE	Sandwich FLOW REGULATOR module
AS	Sandwich PRESSURE SUPPLY module
RP	Sandwich PRESSURE REGULATOR module

SELECTOR PLATES (see page 22)

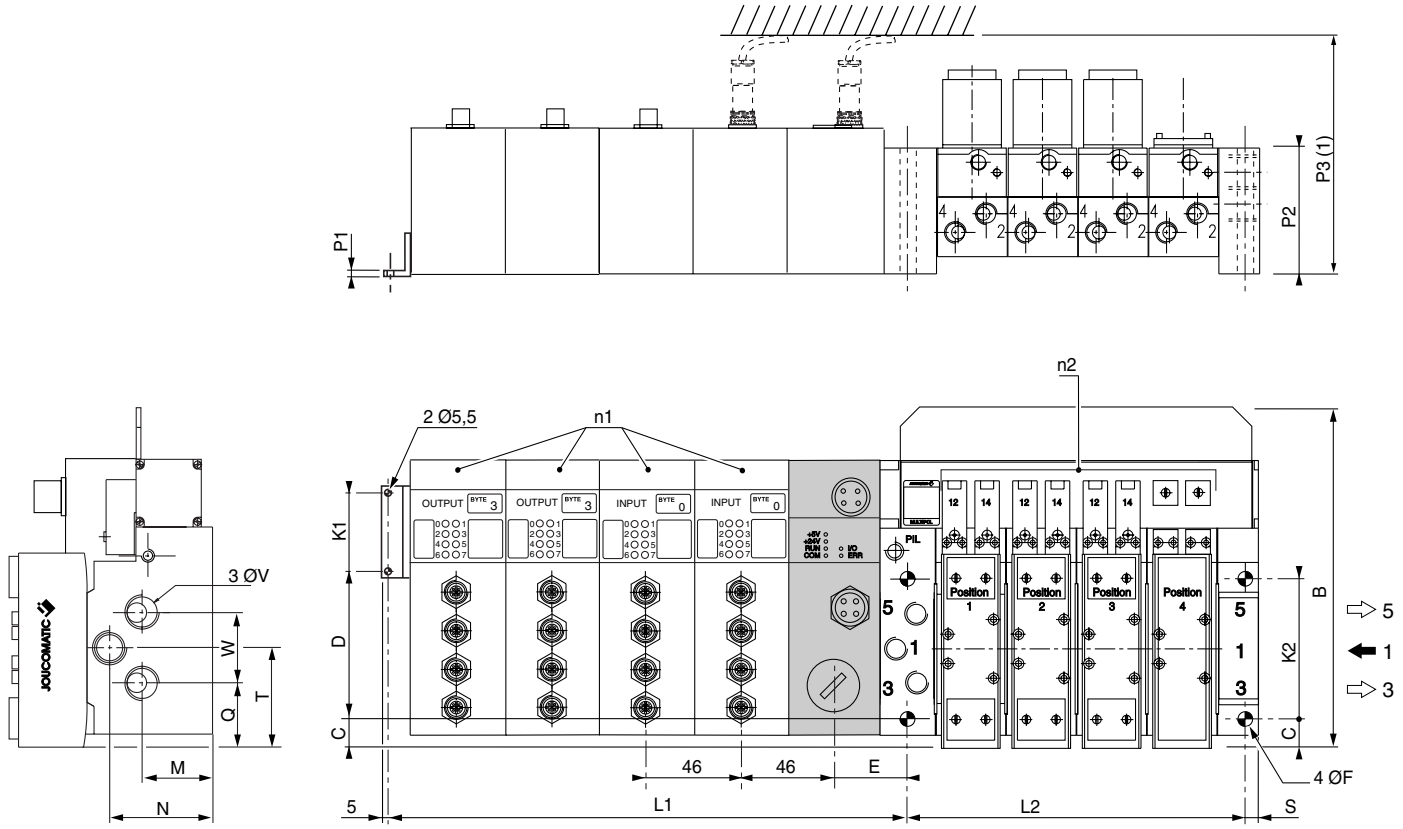
selector plate code: **881 35 . . .** – selector plate position: | | **S** | |

- Position number **before** the selector plate
- Selector plate
- Position number **after** the selector plate

ACCESSORIES ELECTRIQUES (see reverse side of each protocol)

DIMENSIONS - MOUNTING

The island is provided with four mounting holes in the spool valve subbase and two mounting holes on the left side for the input/output modules. The centre distances L1 and L2 are dependent on the number and size of the spool valves (L2) and on the number of additional input/output modules (L1); see table below.



Valve series	L1					L2				
	n1 : number of I/O modules					n2 : number of spool valves				
	without	1	2	3	4	4	5	6	7	8
ISO 1	83.2	129.2	175.2	221.2	267.2	238.5	281.6	324.7	367.8	411
ISO 2	97.8	143.8	189.8	235.8	281.8	293.2	349.2	405.2	461.2	517.2

Valve series	B	C	D	E	ØF	K1	K2	M	N	P1	P2	P3(1)	Q	S	T	ØV	W	Overall length of island
ISO 1	202	18	81.6	45.2	8.5	60.4	86	45,7	63,6	3	92.5	190	37	7	61	G1/2	48	**L1 + L2 + 12.5**
ISO 2	237	22.5	112.1	59.8	8.5	60.4	111	42	82	3	115	190	53,5	7,5	84	G3/4	61	

(1) Height P3 is the minimum dimension required for connector and cable mounting.

WEIGHTS

Weight of a Buslink island without I/O module (including valves) (kg)					
Valve series	n2 : number of valves				
	4	5	6	7	8
ISO 1	9.2	10.4	11.5	12.6	13.8
ISO 2	16	18.2	20.2	22.4	24.6

Weight of one bus module: 0.550 kg

Weight of one input or output module: 0.545 kg

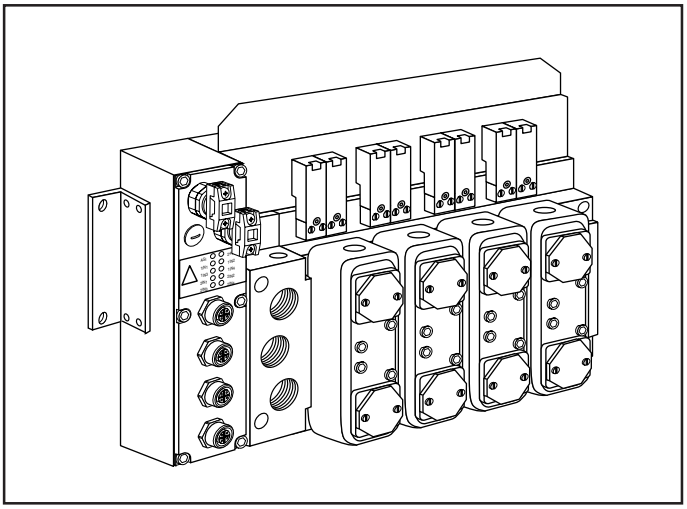
Total weight of a BUSLINK spool valve island - generation C: define the weight of the pneumatic components from the spool valve series and number of valves required (see above table) + the weight of the bus connection module + the weight of optional I/O modules (= 0.545 kg x n1 modules).

AS-INTERFACE

Pneumatic spool valve island for data exchange via field bus and standardized AS-Interface protocol.

The connection between a control system (PLC) and several spool valve islands by means of a field bus allows the transmission of data with a standard AS-Interface cable :

- control signals to the spool valves
- information signals from the sensor inputs.



ADVANTAGES

With the many advantages it offers, the Buslink system meets modern needs for automated installations.

- No bulky and difficult wiring.
- Time and money saved due to direct electric cabling and common air supply.
- Visual display and quick disconnection for easy maintenance.
- Unit tested and equipped with spool valves at delivery.

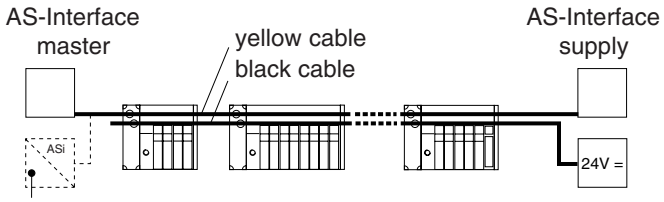
COMBINATIONS

Buslink units can be grouped as follows:

- Modules for 5/2 or 5/3 spool valves to ISO1 (G1/4) or ISO2 (G1/2.

OPTIONS

- Island with air supplied at two different pressure rates.
- Island with external air supply for pilot pressure.



AS-Interface bridge to other protocols (Profibus-DP, FIPIO, Device NET etc.)

COMMUNICATION CHARACTERISTICS

Communication protocol	: AS-Interface (bidirectional mode)
Transmission	: flat AS-Interface cable (yellow, 2 wires)
Bus structure	: any structure according to AS-Interface standards
Max. number of spool valve islands	: 31 nodes (1 valve island can have 2 nodes)
Number of valves per island	: 4 to 8
Number of inputs/outputs	: 0, 4 or 8 inputs
Max. bus cable length	: 100 m (300 m with repeaters)
Island addressing (participants)	: AS-Interface master
Compatibility with control system	: no modification of current programmes
Compatible equipment	: various options

ELECTRICAL CHARACTERISTICS

Supply voltage	: 24 V DC, ±10% at the island. Supply to the valves with an additional flat AS-Interface cable (black 2 wires).
Max. ripple ratio	: 10 %
Consumption	: 2.2 W per pilot (with LED) and 9 mA per input
Coil insulation class	: F
Protection	: IP65
Electrical insulation of the inputs	: optocouplers
Peak voltage suppression	: integrated in the island for each coil
Additional 24 V supply connection	: vampire-type panel connector for AS-Interface cable (black cable)
Bus connection (IN/OUT)	: vampire-type panel connector for AS-Interface cable (yellow cable)
Input connection	: 5-pin female panel connector M12
Earth connection	: earthing screw on the pneumatic subbase
Electromagnetic compatibility	: in accordance with the EU directive EMC 89/336/EEC CE identification

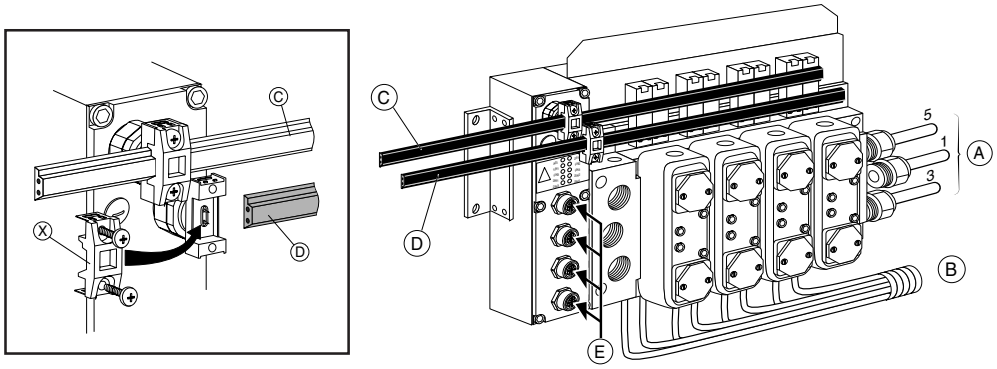
PNEUMATIC CHARACTERISTICS

Fluid		: air or neutral gas, filtered at 30 µm, lubricated or not
Operating pressure		: 3 to 8 bar with internal supply to pilot -1 to 12 bar with external supply to pilot at 3 to 8 bar
Flow rate (Qv at 6 bar)	ISO 1 (G1/4)	: 1400 l/min
	ISO 2 (G1/2)	: 2800 l/min
Allowable temperature		: +5°C to +50°C

ACCESSORIES : see page 20

AS-Interface SPOOL VALVE ISLAND DESIGN

The spool valve islands are connected to a PLC with a (yellow) AS-Interface bus cable to pilot the spool valves and detect the sensor status if the island is provided with inputs. A second adapter is used to supply the valves with power (black cable).
The pressure supply and exhaust are collected in the pneumatic subbase. The spool valves ensure the pressure supply and exhaust of the pneumatic actuators. The pneumatic connection of the actuators is made on the top side of the spool valves. The island can be equipped with inputs upon request. The electrical sensors are connected to the input modules with male connectors ØM12.



- (A) Pressure supply 1 and exhausts 3 - 5
- (B) Operating ports 2 - 4
- (C) Yellow AS-Interface bus cable
- (D) 24VDC supply to valves, (black cable)
- (E) Sensor inputs (upon request)

Example for maximum configuration:

Number of nodes	Max. number of valves	Max. number of inputs
1	4 monostable or 2 bistable	4
2	8 monostable or 4 bistable or 4 monostable + 2 bistable (1)	8

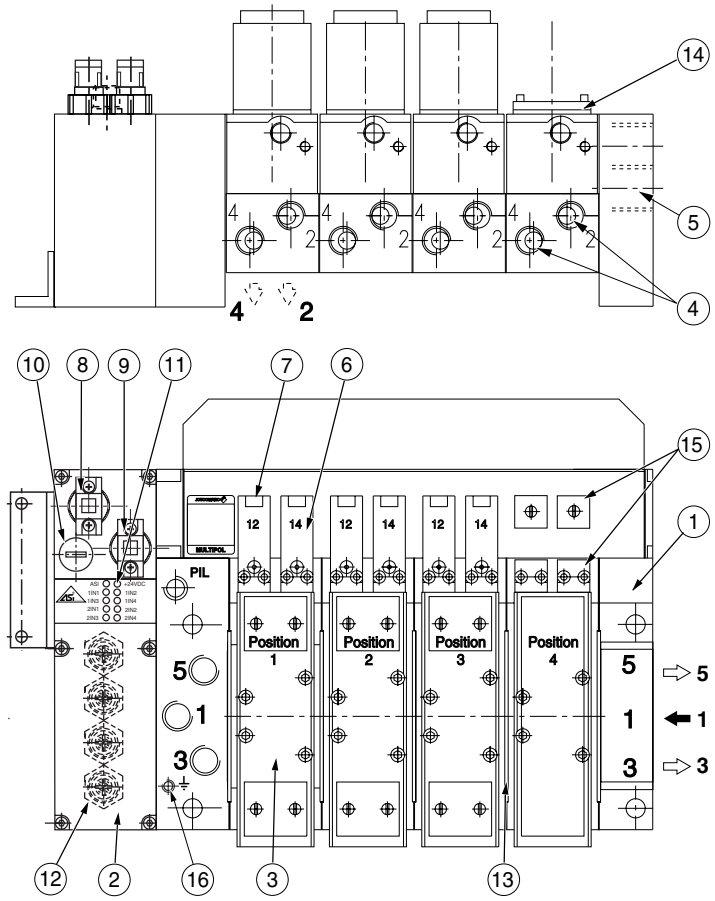
MAXIMUM CAPACITY OF THE SPOOL VALVE ISLAND

According to the configuration you choose, the islands can be equipped with a maximum of 8 inputs and 8 outputs (1 output = 1 spool valve pilot).
The maximum capacity of the island depends on the number of nodes (see table below).

NOTE:
- Maximum configuration for 1 node: 4 outputs / 4 inputs
- Maximum configuration for 2 nodes: 8 outputs / 8 inputs
- 1 output = 1 monostable spool valve
- 2 outputs = 2 monostable spool valves or 1 bistable spool valve

(1) In this configuration, the bistable spool valves are **always** to be placed on the right-hand side of the island.

COMPONENT ASSEMBLY



No.	Description
1	Subbase for pneumatic connection of the Buslink island
2	AS-Interface bus connection module
3	Monostable or bistable 5/2-5/3 spool valves (max. 8)
4	Lateral operating ports "2-4" with threaded connection (or combined upon request)
5	Pressure supply "1" and exhausts "3-5" with threaded connections
6	Miniature 3/2 pilot valve NC to CNOMO size 15 for spool valves (2 pilots on the same side for bistable function)
7	"Pilots on" indicator LED
8	AS-Interface; adapter for AS-Interface bus cable (yellow)
9	AS-Interface; adapter for additional AS-Interface power supply cable (black)
10	Island addressing
11	2 LEDs for AS-Interface and supply and 8 LEDs for inputs
12	Input connection with female panel connectors ØM12 (on request)
13	Selector plate for integrated piping of main flow paths
14	Blanking plate for unused valve place
15	Blanking plate for electrical and pneumatic pilot mating surface
16	Earth protection

ORDERING INFORMATION FOR A BUSLINK-ISO ISLAND WITH AS-Interface

When ordering please specify the **electrical components (1)**, the **pneumatic components (2)**, and the optional accessories separately.

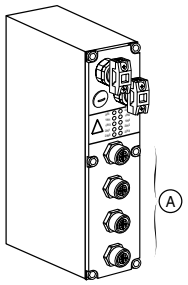
1 Electrical components

		TYPE		OPTION			
C	E	B	I			-	

Generation **C**	
E	Electrical components
BI	BUSLINK-AS-Interface

OPTION	
00	without option
- - } **99**	other options

Input/Output number	
A1	1 node - 4 outputs
A2	1 node - 4 outputs / 4 inputs
A3	2 node - 8 outputs
A4	2 node - 8 outputs / 8 inputs



An island can be equipped with two or four M12 connectors (A) for connection of four or eight input/sensors as shown in the table opposite.

2 Pneumatic components

			GR	OPTION					No. of places	1	2	3	4	5	6	7	8
C	P								-								

								4	5	6	7	8
								Number of positions:	- 4 bistable valves or - 4 to 8 monostable valves (1)			

Generation **C**	
P	Pneumatic components

GR	Spool valve series and size
5	541 (ISO1)
6	542 (ISO2)

OPTION	
00	without
35	external supply of pilot valves
- - } **99**	other options

PORTS: 2 - 4

Connection	
G	Gaz thread
N	NPT thread

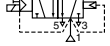
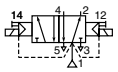
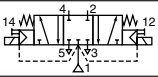
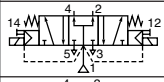
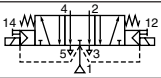
Position	
1	lateral
3	combined (side/bottom) (with plugs)

PORTS: 1 - 3 - 5

Connection	
G	Gaz thread
N	NPT thread

Position	
1	lateral

04 : **08**	Number of spool valve places on the island (1)

Type	Spool valve functions
A	Blanking plate for unused valve place
M	 5/2 - Solenoid air operated pilot Differential return
J	 5/2 - Solenoid air operated pilot and return
G	 5/3 - Pressure held (W1) Solenoid air operated pilot
B	 5/3 - Pressure applied (W2) Solenoid air operated pilot
E	 5/3 - Exhaust released (W3) Solenoid air operated pilot

(1) Max. configuration of AS-Interface island

SANDWICH-TYPE PNEUMATIC ACCESSORIES

	1	2	3	4	5	6	7	8
ACC								

RE	Sandwich FLOW REGULATOR module
AS	Sandwich PRESSURE SUPPLY module
RP	Sandwich PRESSURE REGULATOR module

(for details see page 24)

SELECTOR PLATES (see page 22)

selector plate code **881 35 - - -** – | | **S** | | selector plate position

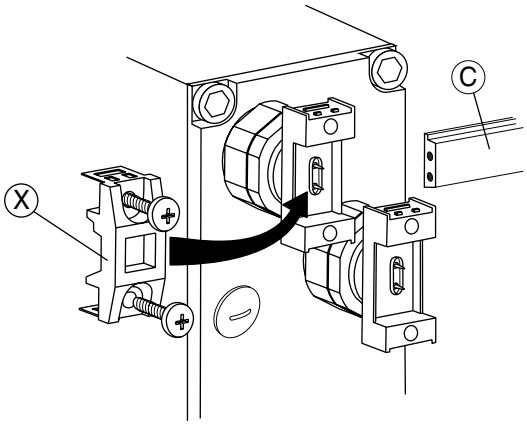
- Position number **before** the selector plate
- Selector plate
- Position number **after** the selector plate

ELECTRICAL ACCESSORIES (see following page)

AS-Interface CONNECTION

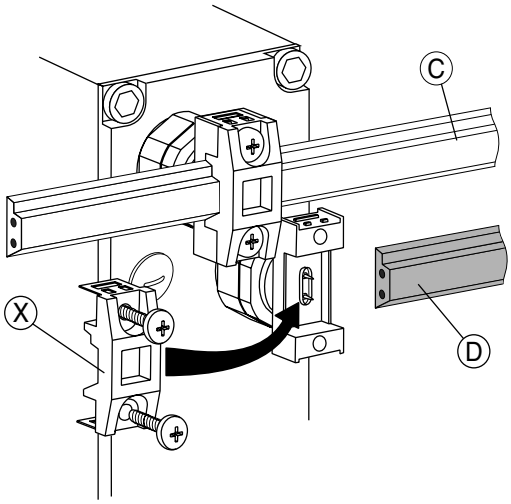
The front panel of the pneumatic spool valve island for AS-Interface is equipped with vampire-type panel connectors for instant connection. The yellow flat profiled bus cable and the black flat profiled power supply cable are screwless and unstripped. Transmission of control signals and supply of the sensor inputs is carried out via the yellow cable. Power to the valves is supplied with the black cable.

■ **AS-Interface bus connection**



Ⓒ **Yellow** AS-Interface cable
Ⓧ AS-Interface connector adapter

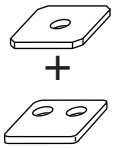
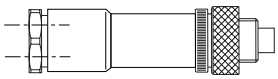
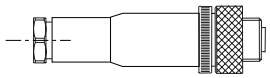
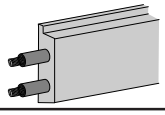
■ **Power supply connection**



Ⓓ **Black** AS-Interface cable
Ⓧ AS-Interface connector adapter

The following accessories are required for wiring:

ACCESSOIRES FOR AS-Interface

	Description		Codes
	Blanking plate for electrical and pneumatic pilot mating surface (<u>one</u> pilot only)		**881 64 110**
	Straight 5-pin male duo connector M12 for 2 inputs/outputs Ø3 - 5 mm		**881 00 253**
	Straight 5-pin male mono connector M12 (1 cable Ø 4-6 mm) for inputs		**881 00 330**
D	Black profiled cable for 24V power supply	 25 m 50 m 100 m	**881 57 940** **881 57 941** **881 57 928**

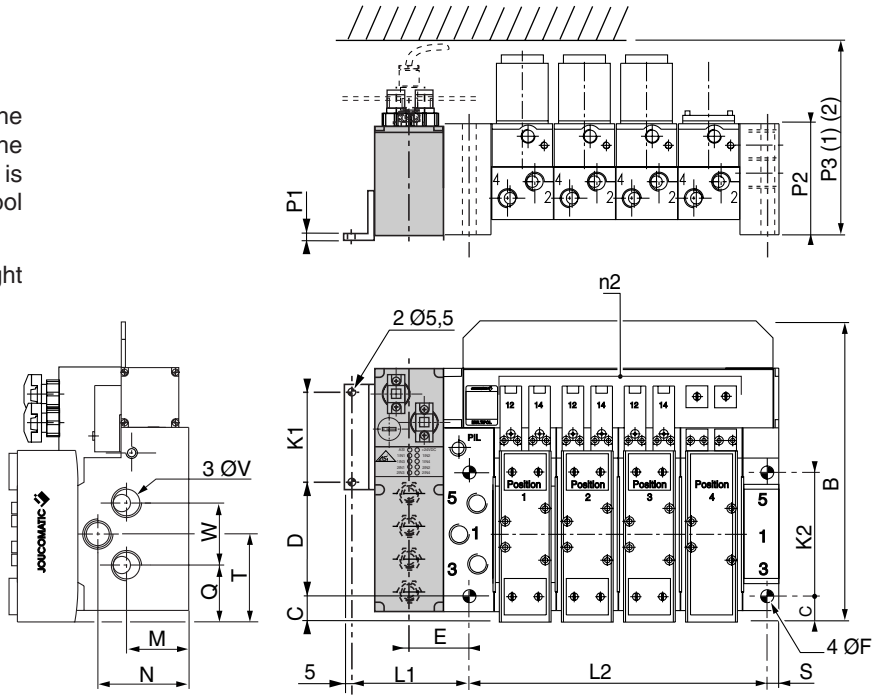
Connectors dimensions : see installation manual

PNEUMATIC ACCESSORIES (see page 24)

DIMENSIONS - MOUNTING

The island is provided with four mounting holes in the spool valve subbase and two mounting holes on the left side for the bus module. The centre distance L2 is dependent on the number and size of the spool valves.

Make sure to provide for enough room on the right side for pressure supply and optional exhaust silencers.



Valve series	B	C	D	E	ØF	K1	K2	L1	L2 n2: number of spool valves 4	5	6	7	8
ISO 1	202	18	81,6	45,2	8,5	60,4	86	83,2	238,5	281,6	324,7	367,8	411
ISO 2	237	22,5	112,1	59,8	8,5	60,4	111	97,8	293,2	349,2	405,2	461,2	517,2

mm

Valve series	M	N	P1	P2	P3 (1)	P3 (2)	Q	S	T	ØV	W	Total length of spool valve island
ISO 1	45,7	63,6	3	92,5	127	190	37	7	61	G1/2	48	**L1 + L2 + 12**
ISO 2	42	82	3	115	155	190	53,5	7,5	84	G3/4	61	**L1 + L2 + 12,5**

mm

(1) BUSLINK AS-Interface **without** input : height required for pneumatic cabling (the AS-Interface cables are connected horizontally).
(2) BUSLINK AS-Interface **with** inputs : height required for electric connection with M12 connectors and cables.

WEIGHTS

Weight of a Buslink island without I/O module(including valves) (kg)					
Valve series	n2 : number of spool valves 4	5	6	7	8
ISO 1	9,2	10,4	11,5	12,6	13,8
ISO 2	16	18,2	20,2	22,4	24,6

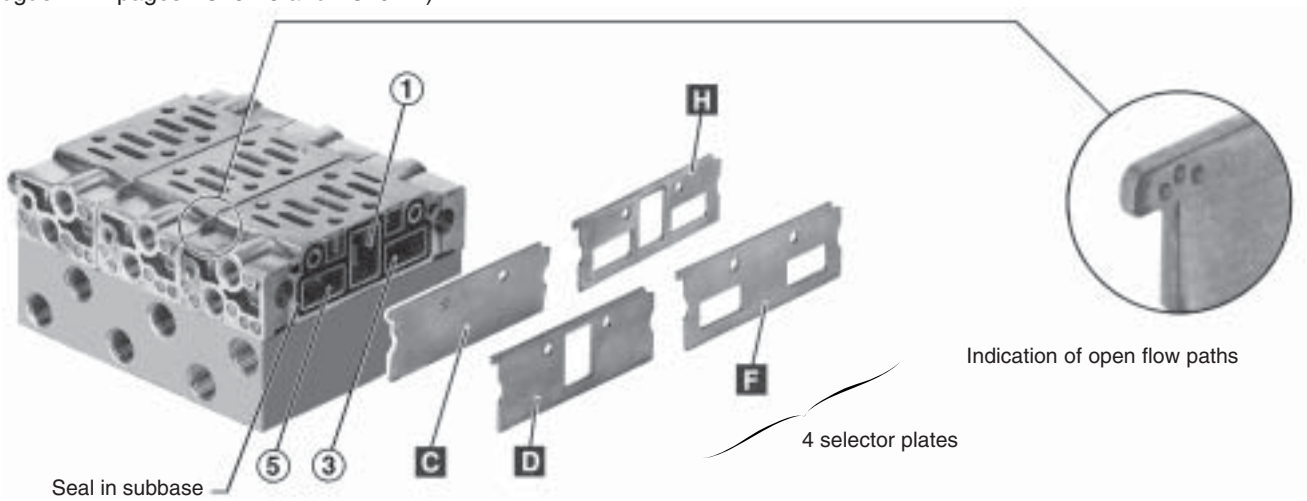
Weight of one bus module
- without input : 0.550 kg
- with inputs : 0.600 kg

Total weight of a BUSLINK-ISO spool valve island with AS-Interface: define the weight of the pneumatic components from the spool valve series and number of valves required (see above table) + the weight of the bus connection module (with or without inputs).

PNEUMATIC CONNECTION (all buslink modules)

■ Possibility of integrated piping

The subbases have 3 flow paths (1, 3 and 5), all of which can be connected through the endplates of each manifold assembly. Each subbase is equipped with a selector plate which determines how the internal connections are made. In the standard configuration each island is delivered with standard selector plates allowing the flow via paths 1, 3 and 5 (see general documentation in air control equipment catalogue PNE pages P570-16 and P570-27).

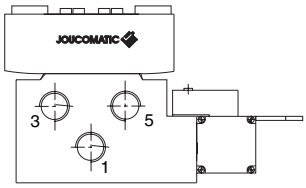


		ISO 1	ISO 2
Blank selector plate (without flow paths)	C	**881 35 501**	**881 35 506**
Selector plate (flow path 1 open)	D	**881 35 512**	**881 35 513**
Selector plate (flow paths 3 and 5 open)	F	**881 35 510**	**881 35 511**
Selector plate (flow paths 1 - 3 - 5 open) (standard)	H	**881 35 502**	**881 35 507**

■ Connection of pressure supply (1) and exhausts (3 - 5) on the end plates

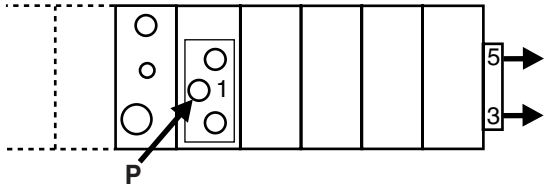
The connections for ports (1 - 3 - 5) are on the lateral side of the right end plate and on the top side of the left end plate.

Standard version
(view from right side)



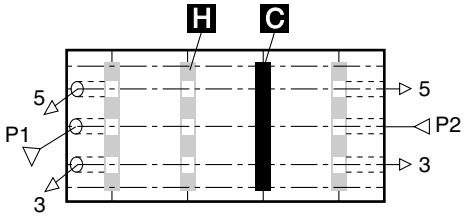
Ports 1-3-5	
ISO 1	G1/2
ISO 2	G3/4

The ports on the end plates and the different types of selector plates allow you:
- to choose the connection side,
- to supply pressure to the island from both sides (see recommendation on the following page),
- to supply the island with two different pressures using the appropriate selector plate,
- to connect the pressure supply (1) to one side and the exhausts 3 - 5 to the other side.



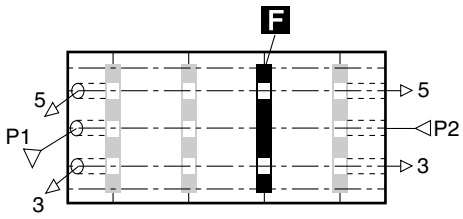
■ Connection examples using selector plates

• Assembly with two separate pressure inlets and exhausts.



For this assembly a selector plate (C) blanking flow paths 1, 3 and 5 is necessary.

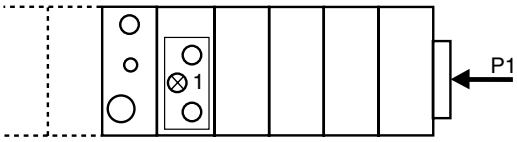
• Assembly with two separate pressure inlets and common exhausts at the end plates.



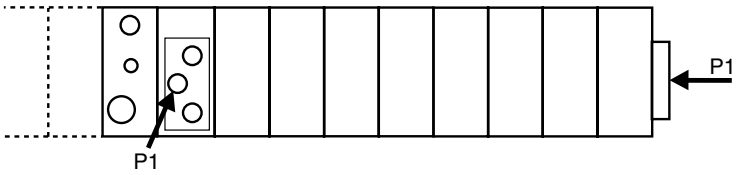
For this assembly a selector plate (F) with connections between 3 and 5 is necessary.

■ Mounting recommendations

A maximum of 3 spool valves can be operated **simultaneously** without pneumatic interference when pressure is supplied from one side only.

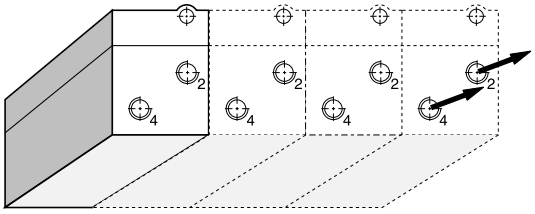


For more than 3 valves, the island must be supplied with pressure from both sides.



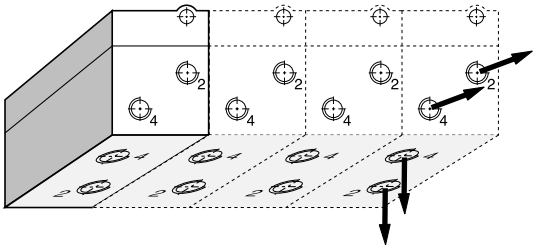
■ Connection of operating ports (2) (4)

Standard version
Lateral connection
of ports 2-4



Ports 2-4	
ISO 1	G1/4
ISO 2	G1/2

Upon request:
Combined connection (lateral/bottom)
of ports 2-4
(2 plugs per subbase supplied at delivery)



TECHNICAL CHARACTERISTICS OF PILOT SOLENOID VALVES (CODE : 30215187--P)

SPECIFICATIONS

FLUID	: air or neutral gas, filtered 50µm, lubricated or not
PRESSURE	: 0 to 10 bar
MAX. ALLOWABLE PRESSURE (MAP)	: 10 bar
TEMPERATURE AMBIENT min.-max.	: -10°C, + 40°C
FUNCTION	: 3/2 NC
Ø ORIFICE	: 1,1 mm
ENDURANCE	: 30 millions cycles at 6 bar

CONSTRUCTION

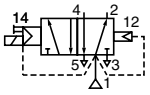
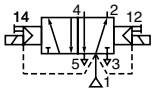
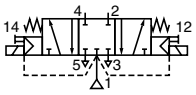
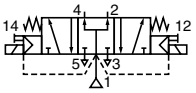
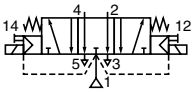
Manual override impulse type
Integrated led visual indicator and protection by varistor

ELECTRICAL CHARACTERISTICS

VOLTAGE	: 24V DC +10%; -15% (maximum ripple 10%)
POWER REQUIRED	: 2,15W (with LED)
INSULATION CLASS	: F
DEGREE OF PROTECTION	: IP65

SPOOL VALVES TO ISO 1 (541/PH), ISO 2 (542/PH) AND PNEUMATIC ACCESSORIES

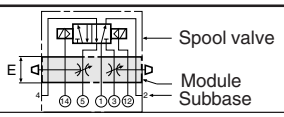
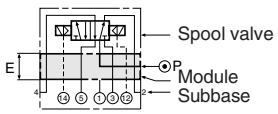
SPOOL VALVES
ISO 1 (series 541/PH)
and
ISO 2 (series 542/PH)

REQUIRED FUNCTION (1)				= SPOOL VALVE			+ SOLENOID VALVE(2) (s)	
Type	**Function symbol**	**Operators** Pilot (14)	Rerturn (12)	**ISO size**	**CODE** air operated spool valve **ALONE** **WITHOUT** manual tester — General applications	**WITH** manual tester — **Car industry specifications**	**QUANTITY and CODE solenoid valve(s)** (with LED)	**Visual indication**
M	Function : 5/2 	solenoid air	differential	ISO 1	**541 01 018**	**541 01 002**	+ *1* x **30215187--P**	Led
				ISO 2	**542 02 018**	**542 02 002**	+ *1* x **30215187--P**	Led
J	Function : 5/2 	solenoid air	solenoid air	ISO 1	**541 01 019**	**541 01 003**	+ *2* x **30215187--P**	Led
				ISO 2	**542 02 019**	**542 02 003**	+ *2* x **30215187--P**	Led
G	Function : 5/3 	solenoid air centre closed **W1**		ISO 1	**541 01 020**	**541 01 004**	+ *2* x **30215187--P**	Led
				ISO 2	**542 02 020**	**542 02 004**	+ *2* x **30215187--P**	Led
B	Function : 5/3 	solenoid air centre open to pressure **W2**		ISO 1	**541 01 022**	**541 01 013**	+ *2* x **30215187--P**	Led
				ISO 2	**542 02 022**	**542 02 013**	+ *2* x **30215187--P**	Led
E	Function : 5/3 	solenoid air centre open to exhaust **W3**		ISO 1	**541 01 021**	**541 01 005**	+ *2* x **30215187--P**	Led
				ISO 2	**542 02 021**	**542 02 005**	+ *2* x **30215187--P**	Led
A	Pneumatic mating surface blanking plate			ISO 1	**881 35 517**			
				ISO 2	**881 35 518**			

(1) To obtain the equipment necessary to achieve one of the above basic functions, please specify the code of the corresponding spool valve alone (solenoid air operated) **with or without manual tester** and - depending on the ISO size - one or two pilot valves with LED (the solenoid valves have built-in interference suppressors).

(2) Technical characteristics of pilot solenoid valves see P589-23

PNEUMATIC ACCESSORIES SANDWICH

Type				**CODES**	E (mm)
RE	EXHAUST RESTRICTOR module sandwich This unit fitted between the subbase and a valve incorporates two exhaust restrictors, one for flow path 3 and one for flow path 5. These can be used to control the speed of a double-acting cylinder.		ISO 1	**346 00 476**	28
			ISO 2	**346 00 477**	30
AS	SEPARATE PRESSURE SUPPLY module sandwich This plate fitted between the subbase and the valve allows an individual valve to be supplied with a different pressure from that of the main manifold. Pressure feed within the subbases is not blocked by adding this plate. Port P connection: G 1/4 (ISO 1)		ISO 1	**355 00 118**	30
RP	PRESSURE CONTROL module sandwich This unit fitted between sub-base and the valve makes it possible to regulate the pressure supply to the latter (0,5 to 10 bar). (A) Port G 1/8 for a possible installation of a pressure gauge, code : 343 00 014 *Diagram see page P570-9*	On port 1 button side 12	ISO 1	**346 00 474**	45
			ISO 2	**346 00 475**	60
RT		On port 1 button side 14	ISO 1	**346 00 471**	45
			ISO 2	**346 00 472**	60
RU		On port 2	ISO 1	**346 00 458**	45
			ISO 2	**346 00 461**	60
RV		On port 4	ISO 1	**346 00 459**	45
			ISO 2	**346 00 462**	60
RW		On ports 2 & 4	ISO 1	**346 00 460**	45
			ISO 2	**346 00 463**	60

NOTE: All the above versions can be installed and combined **in one ISO-size** on the same spool valve island.

ELECTRICAL CONNECTION OF INPUTS (see page P586-23)

ELECTRICAL CONNECTION OF OUTPUTS (see page P586-24)