




SUMMARY OF VALVE ISLANDS AND FIELDBUS

**EB 80****EB 80 ELECTRO-PNEUMATIC SYSTEM**

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**HDM**

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MULTIMACH


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INPUT/OUTPUT PROFIBUS-DP



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- **INPUT PROFIBUS-DP IP67 M8**  **B2.189**

EB 80 ELECTRO-PNEUMATIC SYSTEM

EB 80 is defined as an electro-pneumatic system as it would be simplistic to use the term "solenoid valve island". In effect, a single assembly can combine solenoid valves of all types, multi-position bases, pneumatic and electric supplies arranged as desired in a system, digital or analogue input or output signal control modules and much more besides.

The EB 80 system is protected by numerous patents and utility models, which enhance the most innovative design solutions.

The possible combinations are endless, but the most amazing thing is that they can be obtained using a small number of basic components.

In order to achieve this objective, a single size of small yet high-performance valves to cover the vast majority of applications was conceived.





A single electronic control unit is provided when supplying 12VDC or 24VDC valves with multi-pole cables or with a field bus for each protocol.

All EB 80 versions come with an efficient diagnostic system.

The EB 80 catalogue consists of a first overall introductory chapter followed by a chapter for each subsystem.

NSF H1-certified grease is used to lubricate the valve spool and seals.



TECHNICAL DATA							
Supply voltage range	VDC	12 -10%		24 +30%			
Minimum operating voltage	VDC			10.8 *			
Maximum operating voltage	VDC			31.2			
Maximum admissible voltage	VDC			32 ***			
Power for each controlled pilot	W			3 for 15 ms, then holding 0.3			
Drive (for multi-pole)				PNP or NPN			
Solenoid rating				100% ED			
Solenoid valve supply power				See chapter "Electrical connection - E"			
Signal module supply power				See chapter "Signal module - S"			
Protection				Overload and short-circuit protected solenoid pilot Output			
Diagnostics				See chapter "Electrical connection - E"			
Maximum number of solenoid pilots				21 or 38 multi-pole connection; field bus 128			
Ambient temperature	°C			-10 to + 50 (at 8 bar)			
	°F			14 to 122 (at 8 bar)			
Operating pressure		5/2 and 5/3				2/2 and 3/2	
Non-assisted valves	bar	3 to 8				3.5 to 8	
	MPa	0.3 to 0.8				0.35 to 0.8	
	psi	43 to 116				51 to 116	
Assisted valves	bar			Vacuum to 10			
	MPa			Vacuum to 1			
	psi			Vacuum to 145			
Servo pressure	bar	3 to 8				min. (see graph on page B2.53) / max. 8	
	MPa	0.3 to 0.8				min. (see graph on page B2.53) / max. 0.8	
	psi	43 to 116				min. (see graph on page B2.53) / max. 116	
Valve flow rate, at 6.3 bar ΔP 1 bar		Ø 4 (5/32")	Ø 6	Ø 8 (5/16")	Ø 1/4"	Ø 10 **	Ø 3/8" **
	valve 2/2 NI/min	350	430	500	430	-	-
	valve 3/2 NI/min	350	600	700	600	1250	1250
	valve 5/2 NI/min	350	650	800	650	1250 - 1400	1250 - 1400
	valve 5/3 NI/min	350	460	500	460	1000 - 1250	1000 - 1250
	valve V3V (R) NI/min	-	-	-	-	1000	1000
Actuation response time (TRA) / reset response time (TRR) at 6 bar							
	TRA/TRR valve 2/2 and 3/2	ms		14 / 28			
	TRA/TRR valves 5/2 monostable and shut-off valve	ms		12 / 45			
	TRA/TRR valve 5/2 bistable	ms		12 / 14			
	TRA/TRR valve 5/3	ms		15 / 45			
	TRA/TRR valve 3/2 high flow	ms		13 / 36			
Fluid				Unlubricated air			
Air quality required				ISO 8573-1 class 4-7-3			
Degree of protection				IP65 (with connectors connected or plugged if not used)			
Category ATEX				Ex II 3G Ex ec IIC T5 Gc X -10°C<Ta<50°C			
				Ex II 3D Ex tc IIIC T100°C Dc X			
Certifications				 -  -  us - 			

* Minimum voltage 10.8VDC required at solenoid pilots. Check the minimum voltage at the power supply output using the calculations shown on page B2.24

** Using high-flow valves or connected valves - see pages B2.54

*** IMPORTANT! Voltage greater than 32VDC will damage the system irreparably.

N.B.: Refer to the chapter of each EB 80 sub-assembly for specific technical data.

CERTIFICATIONS

The **UL** certification for the part concerning only CSA (Canadian market) is bound to the following conditions of use:

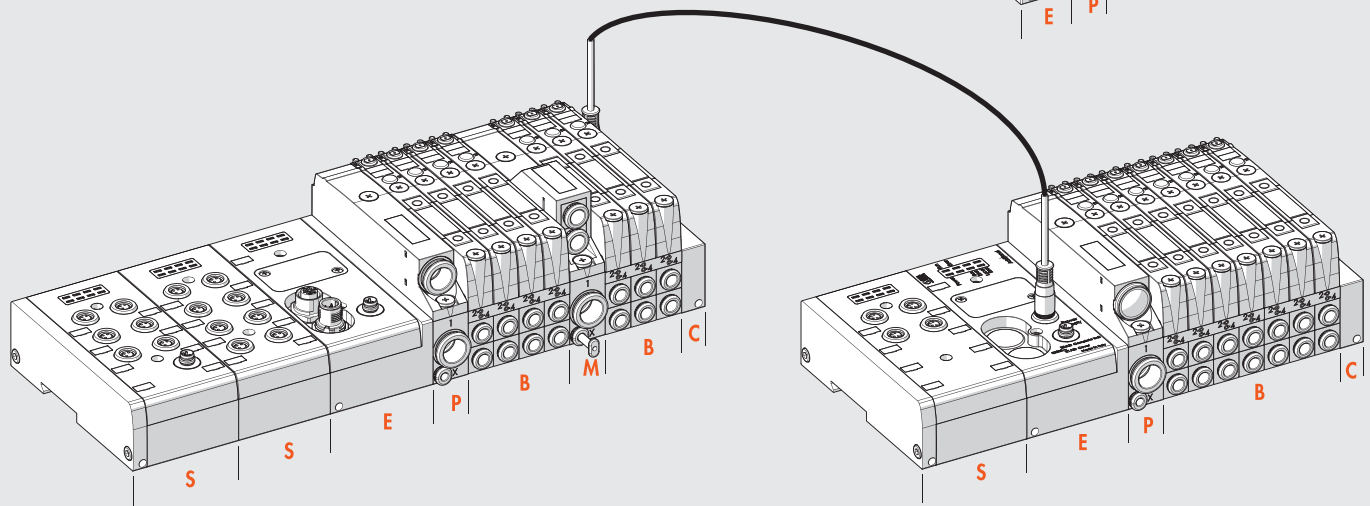
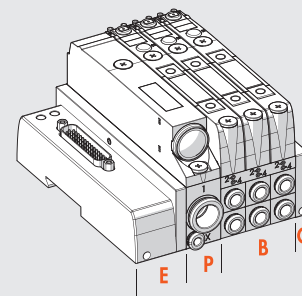
- environment temperature: max 45°C
- ED max 70%

If non-adjointing valves are used, ED max can reach 100% (environment temperature max 45°C)

COMPONENTS

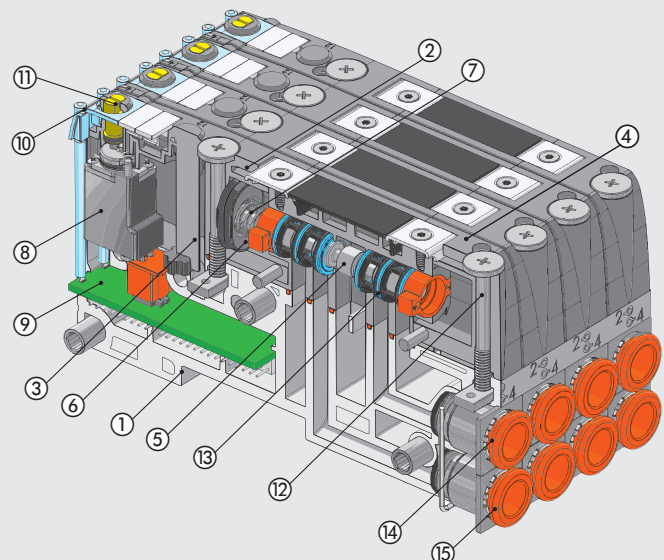
EB 80 systems are identified by a set of sub-assemblies:

- S** I/O Signal Modules
- E** Electrical connection
- P** Pneumatic supply
- B** Bases for solenoid valves; the valves are fixed on the bases
- M** InterMediate Modules
- C** Closed end-plate















COMPONENTS – SOLENOID VALVE AND BASE

- ① BASE: technopolymer
- ② VALVE BODY: technopolymer
- ③ CONTROL: technopolymer
- ④ BASE: technopolymer
- ⑤ SPOOL: chemically nickel-plated aluminium
- ⑥ CONTROL PISTON: Stainless steel and NBR
- ⑦ SPRING: Oteva® steel and Dacromet treatment
- ⑧ SOLENOID VALVE
- ⑨ ELECTRONIC BOARD
- ⑩ LED light display: technopolymer
- ⑪ MANUAL CONTROL: nickel-plated brass
- ⑫ SCREW SECURING VALVE TO THE BASE: zinc-plated steel
- ⑬ SPOOL GASKET: NBR
- ⑭ Push-in fitting CARTRIDGE for port 2
- ⑮ Push-in fitting CARTRIDGE for port 4

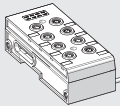
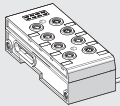
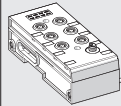
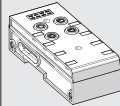
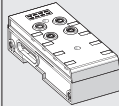
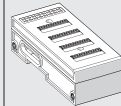
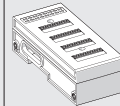
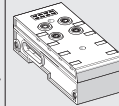


THE EB 80 WORLD

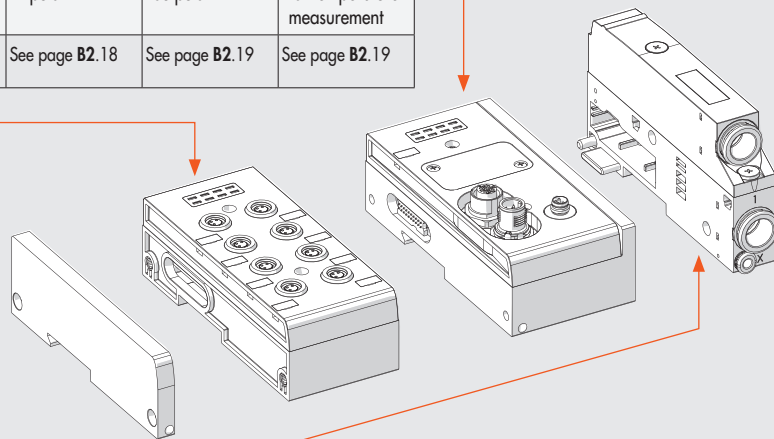
ELECTRICAL CONNECTION - E

E025	E044	E0EN	E0EC	E0PN	E0CN	E0PB	E0PL	E0IO	E0LK	E0CC	E0AD
											
EB 80 25-pin electrical connection	EB 80 44-pin electrical connection	EB 80 Electrical connection EtherNet/IP	EB 80 Electrical connection EtherCAT	EB 80 Electrical connection Profinet IO	EB 80 Electrical connection CANopen	EB 80 Electrical connection Profibus-DP	EB 80 Electrical connection Ethernet POWERLINK	EB 80 Electrical connection IO-Link 32 IN/32 OUT	EB 80 Electrical connection IO-Link 64 OUT	EB 80 Electrical connection CC-Link IE Field Basic	Additional electrical connection EB 80
See page B2.26	See page B2.26	See page B2.39	See page B2.39	See page B2.39	See page B2.39	See page B2.39	See page B2.39	See page B2.39	See page B2.39	See page B2.39	See page B2.44

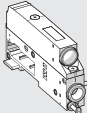
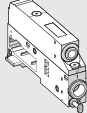
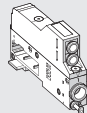
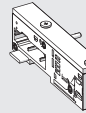
SIGNAL MODULE - S

S01	S02	S03	S04	S05	S06	S07	S08
							
EB 80 module with 8 M8 digital inputs	EB 80 module with 8 M8 digital outputs	EB 80 module with 6 M8 digital outputs + electrical supply	EB 80 module with 4 M8 analogue inputs	EB 80 module with 4 M8 analogue outputs	EB 80 module with 16 digital terminal block inputs	EB 80 module with 16 digital terminal block outputs	EB 80 module with 4 M8 analogue inputs for temperature measurement
See page B2.16	See page B2.16	See page B2.17	See page B2.17	See page B2.18	See page B2.18	See page B2.19	See page B2.19

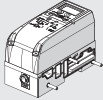
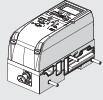
Part included in the ELECTRICAL CONNECTION - E with Fieldbus



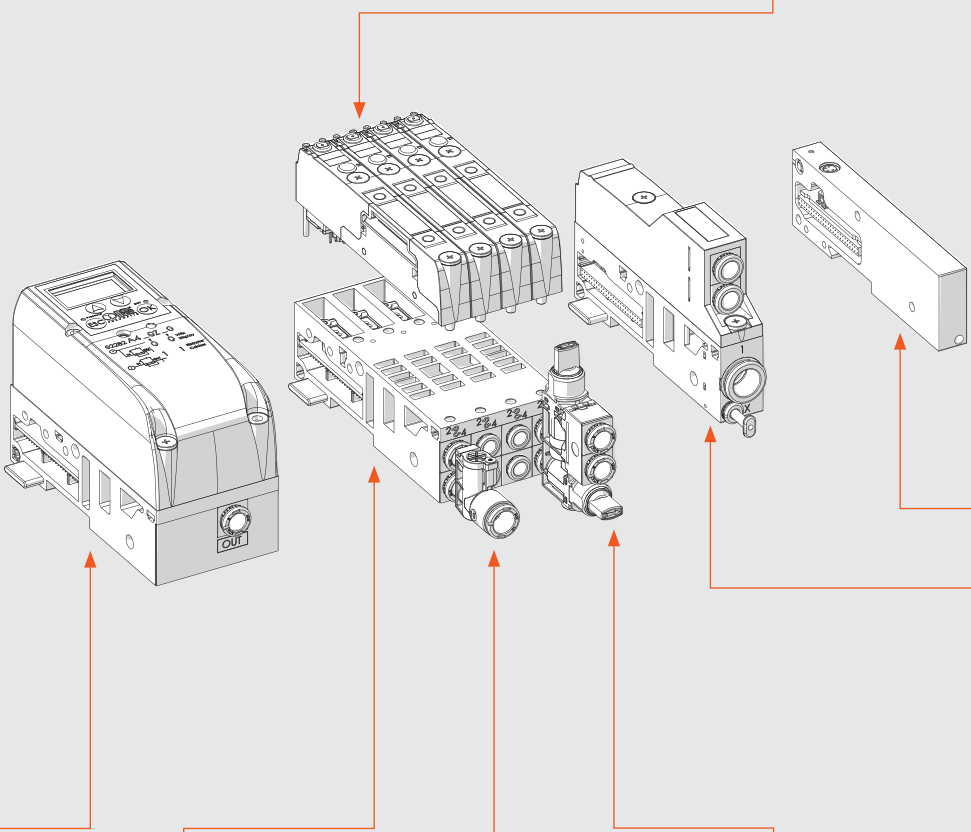
COMPRESSED-AIR SUPPLY - P

P__Z00	P__Z__	P__Z_0	P91Z90
			
Compressed air supply - Silenced relief	Compressed air supply - Conveyed relief	Compressed air supply - Separate reliefs	Module for electric version only
See page B2.47	See page B2.47	See page B2.47	See page B2.48

PROPORTIONAL PRESSURE REGULATOR - A

A40_Z_0	A41_Z_0
	
Base port 1 pass-through local outlet	Base port 1 sectioned in-series regulation
See page B2.61	See page B2.61

VALVES											
Z_ ▲	I_ ▲	W_ ▲	L_ ▲	V_	K_ ▲	O_ ▲	G_	J_	R_ +	NO	Y8
2 valvole 2/2 NC	2 valvole 3/2 NC (vale come 5/3 OC)	2 valvole 3/2 NO (vale come 5/3 PC)	3/2 NC + 3/2 NO	5/2 monostabile	5/2 bistabile	5/3 CC	3/2 NC alta portata	3/2 NO alta portata	Valvola sezionatrice di circuito	Falsa valvola	Bypass
See page B2.53	See page B2.53	See page B2.53	See page B2.53	See page B2.53	See page B2.53	See page B2.53	See page B2.54	See page B2.54	See page B2.55	See page B2.56	See page B2.56



CLOSED END-PLATE - C		
C1	C2	C3
Closed end-plate for islands with multi-pole connector	Closed end-plate for islands with fieldbus	Closed end-plate for electrical connection of islands with fieldbus to additional islands
See page B2.70	See page B2.70	See page B2.70

INTERMEDIATE SUPPORT - M		
M_ Z0	M_ Z	M_ Z
Intermediate module - Silenced relief	Intermediate module - Conveyed relief	Intermediate module - Separate relief
See page B2.65	See page B2.66	See page B2.67

BASES FOR VALVES - B	
B3_ 0	B4_
3-position base for valves	4-position base for valves
See page B2.50	See page B2.50

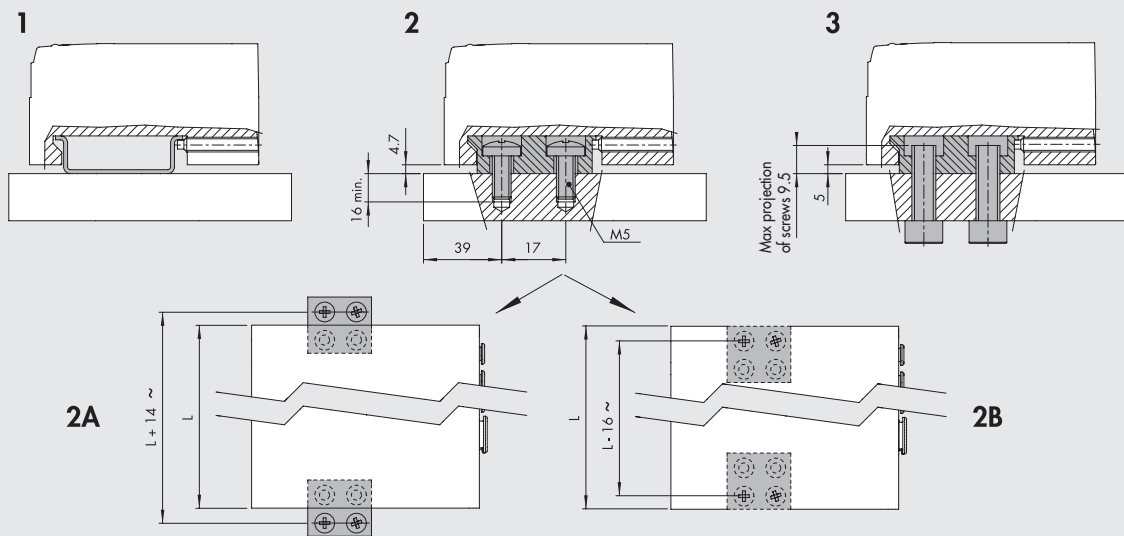
Y-FITTING
Y-fitting
See page B2.57

MULTI-FUNCTION MODULE
Fittings with pneumatic functions
See page B2.88

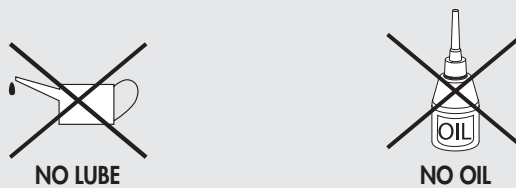
▲ Can only be used with 6 or 8 control bases.
 + Requires inlet port X slave synchronisation.

FIXING OPTIONS

- 1 - **Fixing on a DIN bar:** tighten the grub screws into modules E (electrical connection) and C (closed end-plate).
For islands with more than 40 valves or 5 modules, also use the additional plate code 02282R4001.
 - 2 - **Fixing on a flat surface:** use the pair of brackets code 02282R4000 and the M5x20 screws supplied.
You can choose where to position the brackets in relation to the island:
 - 2A - **Protruding brackets:** can be used to install the island + brackets unit from above. First secure the brackets to the modules E and C using the grub screws, then secure everything with M5x20 screws.
 - 2B - **Concealed brackets:** the overall dimensions of the island are reduced. First secure the brackets to the flat top with M5x20 screws, then place the island onto the brackets and lock the two grub screws provided in the modules E and C.
 - 3 - **Fixing through a wall:** use the brackets code 02282R4000. The brackets come with M6 threaded holes and can be fixed with M6 screws (not included in the supply) passing through the wall. The brackets can be fixed either protruded or concealed.
- N.B.:** Planar surfaces are required to ensure correct fixing. Avoid twisting or bending the valve units.



LUBRICATION

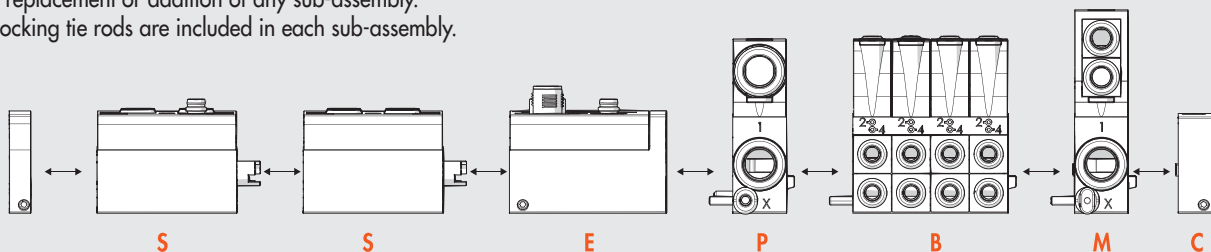


The EB 80 electro-pneumatic system is designed to run millions of cycles without the need for any lubrication. This is possible thanks to the optimisation of its components and the use of a special grease with excellent properties and NSF H1 certified. To avoid removing the grease, it is highly recommended not to lubricate the valve input and output ports and check the quality (to ISO 8573-1 class 4-7-3) of the compressed air used, which is often contaminated by particularly aggressive oils that are released by compressors and are not always compatible with the elastomers used in the valves.

SOME CHARACTERISTICS OF EB 80 SYSTEMS

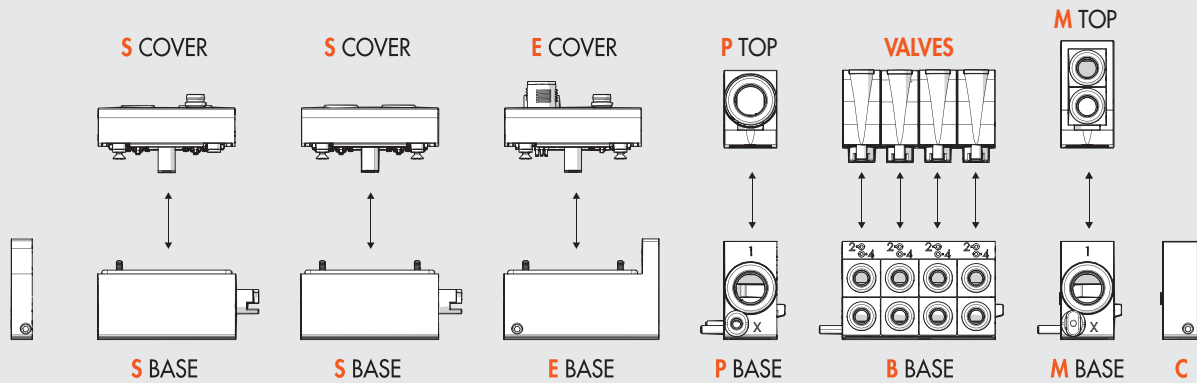
HORIZONTAL MODULARITY

- Easy replacement or addition of any sub-assembly.
The locking tie rods are included in each sub-assembly.



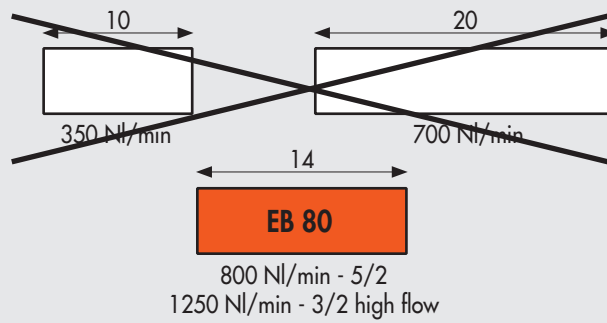
VERTICAL MODULARITY

- Easy replacement – no need to disassemble the pack – of the valves on the Bases – B and also of the top part (cover) of subsystems S, E, P, M using a single Phillips-head screwdriver.
- N.B.:** All protocols can be mounted on the base for field buses and all input or output modules can be mounted on the same base for signals.



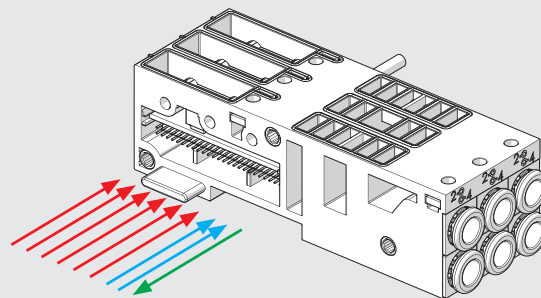
ONE SIZE FITS ALL

- Reduced dimensions
- High flow rate
- One warehouse and spares

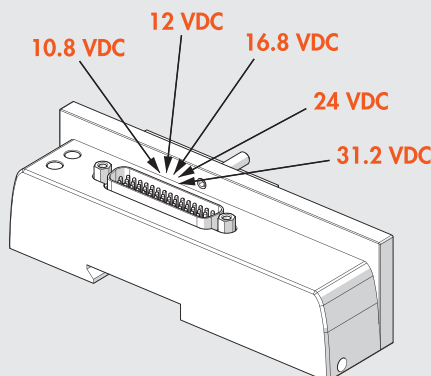


THE SAME BASE FITS BOTH MULTI-POLE CONNECTIONS AND FIELD BUSES

- Controls from multi-pole connection
- Controls from field buses
- Diagnostics

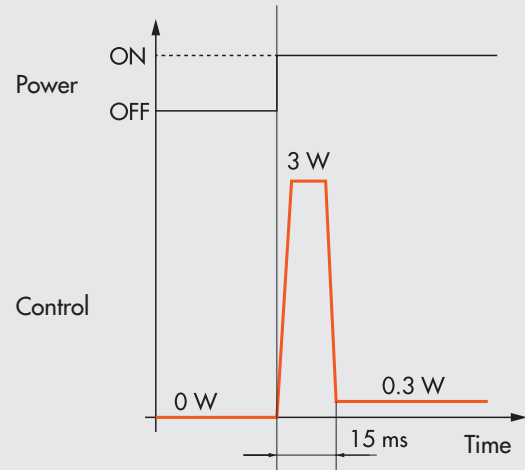


THE SAME ISLAND CAN BE SUPPLIED 10.8 - 31.2 VDC



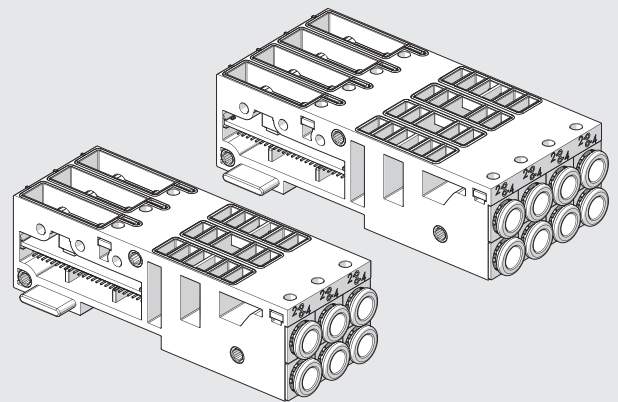
ONLY 0.3 W FOR EACH SOLENOID VALVE

- Speed-up solenoid valve control:
 - high power for a few milliseconds ensures high performance and rapid and safe switching;
 - reduced holding power resulting in reduced temperatures and energy saving.



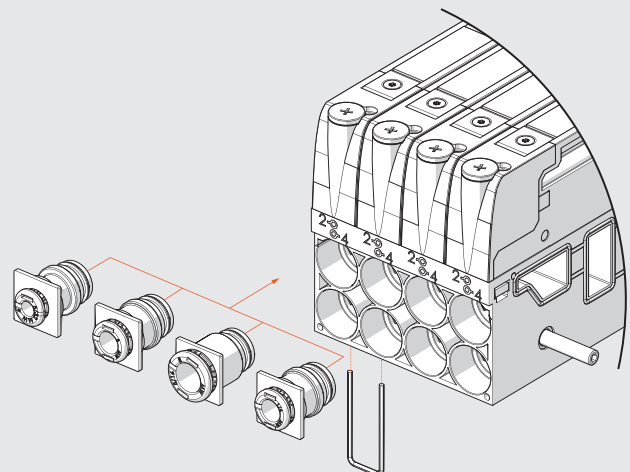
3- OR 4-POSITION BASES FOR VALVES

- Island layout options:
 - 3 1 base with 3 positions
 - 4 1 base with 4 positions
 - (5 2 bases with 3 positions and 1 dummy valve)
 - 6 2 bases with 3 positions
 - 7 1 base with 3 and 1 with 4 positions
 - 8 2 bases with 4 positions
 - ...
- Compared to single-base solutions, this configuration is advantageous because:
 - just a few bases are required for multiple positions;
 - the base is sturdy and rigid;
 - there is plenty of space to accommodate smart electronics



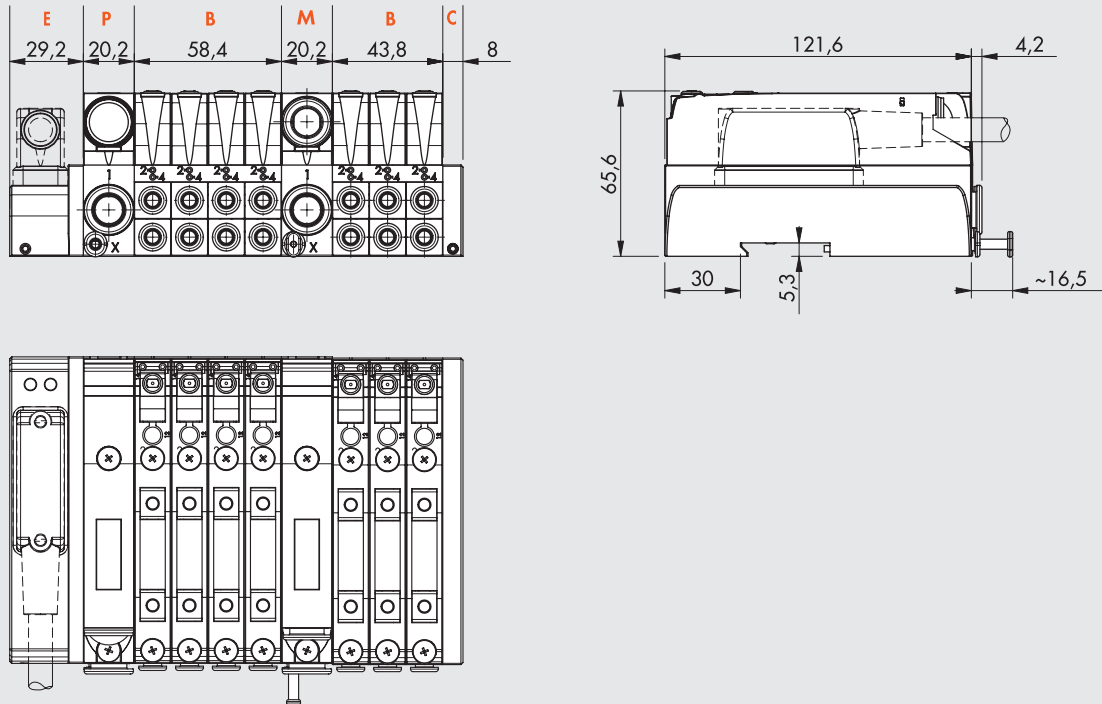
INTERCHANGEABLE CARTRIDGE FITTINGS

- For pipes \varnothing 4 (5/32"), 6, 8 (5/16"), 1/4"

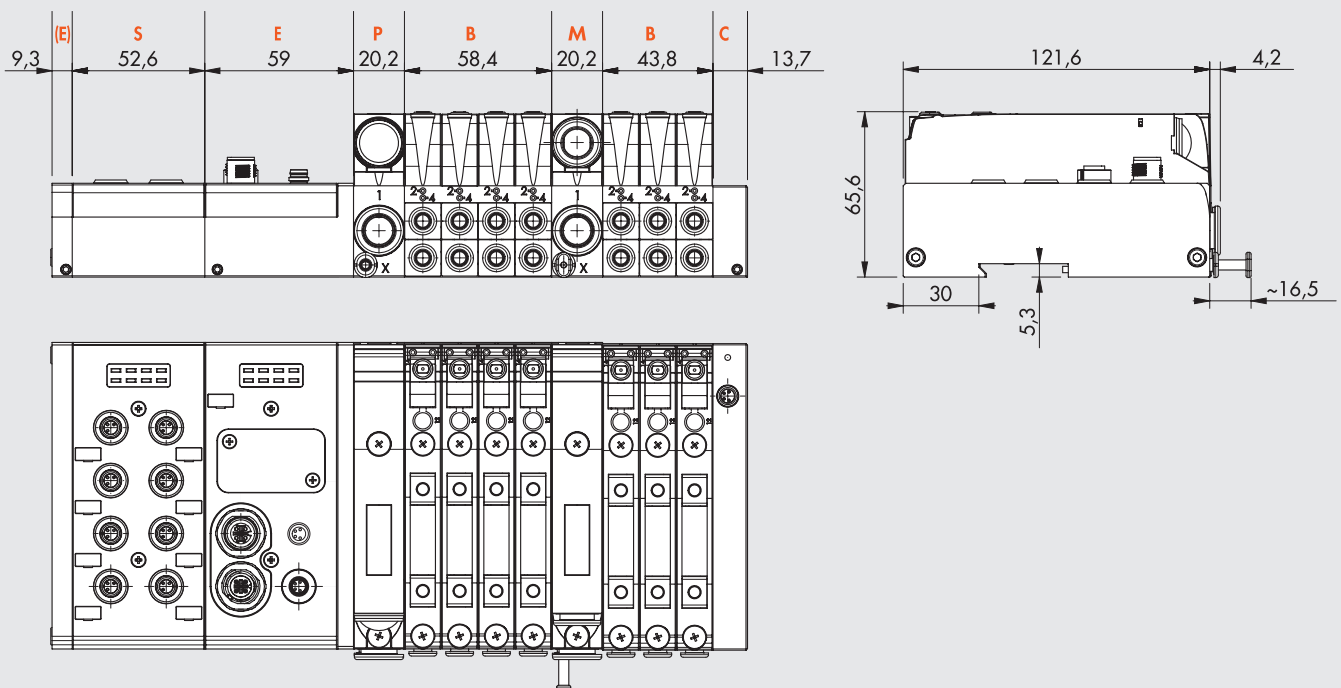


DIMENSIONS

DIMENSION OF VERSIONS WITH MULTI-POLE CONNECTION



DIMENSION OF VERSIONS WITH FIELD BUS OR ADDITIONAL CONNECTION



DESCRIPTION

A complete system has a compound **description** of all its subsystems listed in sequence from left to right, as shown below. The abbreviation of each subsystem is obtained by taking the code and omitting the first digits 02282. For example: the digital 8-input signal module is identified with code 02282S01; only write S01 in the description.

The abbreviation of each base for valves consists of:

Abbreviation of the Base	Manual valve control	Type of valves
Obtained from the code, after removing 02282	0 = monostable 1 = bistable	Valves Dummy valve Bypass
Example 4-position base, 8 solenoid pilots, Ø 6 pipe; code 02282B4086666	Monostable	2 monostable 5/2 valves - V 1 double 3/2 NO - W 1 dummy valve - F
Abbreviation B4086666	0	VVWF

The description is therefore a sequence of this type:

EB 80	- S _ _	- E _ _	- P _ _ _	- B _ _ _ _ _	- M _ _ _	- C _
EB 80 system	Signal module (if present)	Electrical connection	Compressed air supply	Base for valves (as many as there are) with normal or dummy	Intermediate (if present)	Closed end-plate
For the codes:	see page B2.20	see page B2.24	see page B2.48	see page B2.51 and B2.56	see page B2.68	see page B2.71

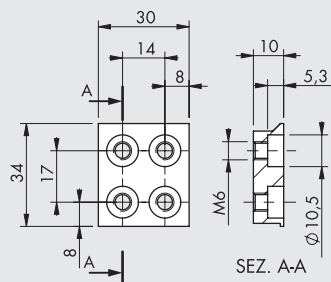
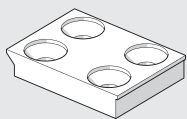
Example:
EB 80-S01-E0EN-P3XZ00-B4086660VWKN-M300Z30-B30388800VVN-C2

EB 80	- S01	- E0EN	- P3XZ00	- B4086660VWKN	- M300Z30	- B30388800VVN	- C2
EB 80 system	Signal module complete 8 M8 digital inputs	Electrical connection EtherNet/IP	Compressed air supply - fitting Ø 12 - pilot servo Ø 4 - silenced relief	Base for valves - 4 positions - 8 controls - fittings for pipe Ø 6 - manual monostable control - 5/2 monostable valve - 2 3/2 NO valves - bistable 5/2 valve - dummy valve	Intermediate - fittings for pipe Ø 12 - through ports - without supplementary power supply	Base - 3 positions - 3 controls - fittings for pipe Ø 8 - manual monostable control - 5/2 monostable valve - 5/2 monostable valve - dummy valve	Closed end-plate for valve Island with field bus

Endless number of EB 80 systems can be obtained and their description is variable in length, which can be very extended. The actual ordering CODE of an EB 80 system is created by Metal Work S.p.a. with a limited number of characters. The ordering code is not explicative. The description only is univocal, complete and explicative.

ACCESSORIES

FIXING BRACKET



Code	Description	Weight [g]
02282R4000	EB 80 base fixing bracket	47

Note: 2 pieces per pack complete with 4 M5x20 screws

NOTES

Please refer to the subsystem chapter for other accessories (e.g. connectors) and spare parts.

EB 80 INDUSTRY 4.0

The new advanced EB 80 diagnostic functions, known as EB 80 I4.0, provide a powerful analysis tool for traditional maintenance operations, ensuring the safe, reliable and lasting operation of production units.

They are available for all electrical connections with fieldbuses and bases marked I4.0, with advanced diagnostics integrated in accordance with Industry 4.0 philosophy.

These functions use the original EB 80 diagnostics, integrating them with the ability of the station itself to control IOs.

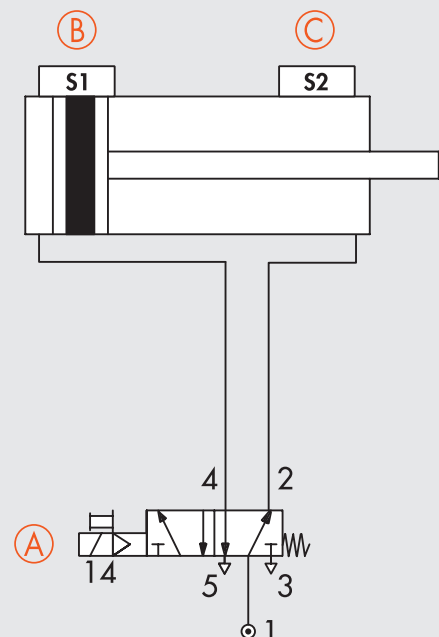
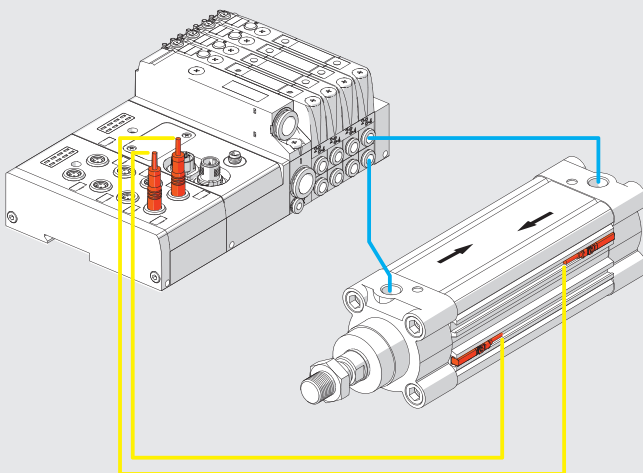
They re-organise and optimise maintenance management by developing predictive maintenance in order to:

- predict faults;
- intervene early to avoid system downtime;
- have all information on equipment operation available in real time;
- monitor component end-of-lifetime;
- optimise warehouse spare parts management.

This makes it possible to turn the data collected into concrete actions using standard EB 80 stations without needing additional modules.

Description of EB 80 I4.0 functions:

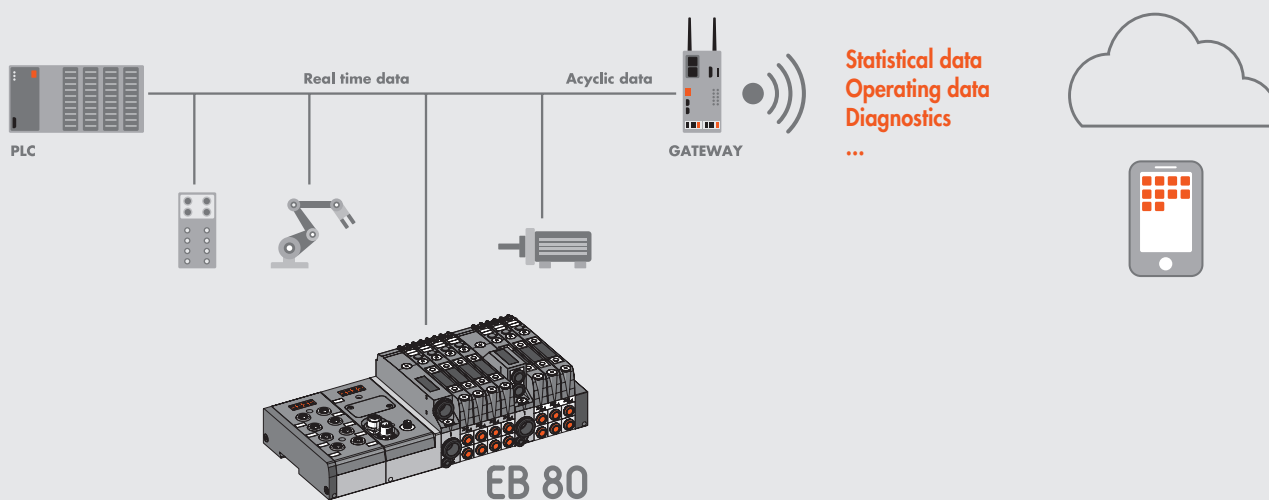
- System data:
 - EB 80 system startup counter;
 - supply alert counter.
- Valve data. Each valve base for each solenoid valve permanently stores the following information:
 - cycle counter;
 - counter for total solenoid valve excitation time;
 - activation of a flag to signal average lifetime exceeded;
 - short circuit alert counter;
 - open circuit alert counter.
- Electropneumatic system control functions (data updated with each cycle):
 - measurement of the delay between activating the solenoid valve "A" and actuator movement commencing via the signal of sensor "B", with delays that exceed the limit flagged;
 - measurement of actuator movement time using two linked sensors "B" and "C", with exceeded time limits flagged;
 - measurement of the delay between deactivating the solenoid valve "A" (or activating a second valve) and actuator return commencing via the signal of sensor "B", with exceeded time limits flagged;
 - measurement of actuator return time using two linked sensors "B" and "C", with exceeded time limits flagged;
 - counter for actuator range of motion.



Electrical connection modules can be used to complement the EB 80 with the main field buses available in the market. In this way, the control system (generally a PLC) can handle in real time the behaviour of the solenoid valve island, including signal modules.

With the introduction of the I4.0 version, the field bus connection modules also send to the network the historical and diagnostic data relating to the behaviour of the island (such as the number of cycles for each solenoid pilot, total activation time and alarms) and the controlled pneumatic circuit (such as the delay times in sensor switching and actuator activation times).

This data is also sent to the control system and can be handled differently depending on the situation: in some cases, it can be used in real time, like in the case of fault alarms; in other cases, it can be sent to a storage local unit or one remotely controlled on a cloud server, and is analysed in a subsequent stage; in other cases, the alarms can be sent to a teleservice station that can monitor the state of the system remotely.



EB 80 SIGNAL MODULES - S

The EB 80 systems come with numerous input or output signal modules, which can be mounted on systems with fieldbus electrical connection or additional systems.

The signal modules can be added at any time. You only need to unscrew the aluminium plate to the left side of the "Electrical connection - E" module and install the "Signal Modules - S" (ready fitted with fixing tie rods) and retighten the end plate to the left.

Each signal module consists of two parts: the lower part, which contains transmission electronics of the controls, is unique and valid for all modules; the upper part, which is specific for each type.

This design highlights the modular features of the EB 80 system: the upper part of the "Signal Module - S" can be replaced either with a similar one by simply unscrewing the screws in the event of failure or one of another type. All this without having to remove anything from the system.



TECHNICAL DATA		
Supply voltage range	VDC	12 -10% 24 +30%
Minimum operating voltage	VDC	10.8 *
Maximum operating voltage	VDC	31.2
Maximum admissible voltage	VDC	32 ***
Power and current		see individual "Signal Modules - S"
Protection		Overload and polarity inversion protection
Diagnostics		Local via LED light and software message
Maximum number of signal modules		Undervoltage, overvoltage, short-circuit and overload of individual connector and the entire module, 16 digital inputs modules 8 M8 + 16 digital outputs modules 8 M8 (or 8 modules with 16 Inputs + 8 modules with 16 Outputs) ** + 4 analogue inputs modules + 4 analogue outputs modules + 4 analogue input modules for temperature measurement
Ambient temperature	°C	-10 to + 50
	°F	14 to 122
Versions		digital input, digital output, analogue input, analogue output
Degree of protection		IP65 (with connectors connected or plugged if not used) IP40 for 16-position I/O modules

* Minimum voltage 10.8V required at solenoid pilots. Check the minimum voltage at the power supply output using the calculations shown on page B2.24

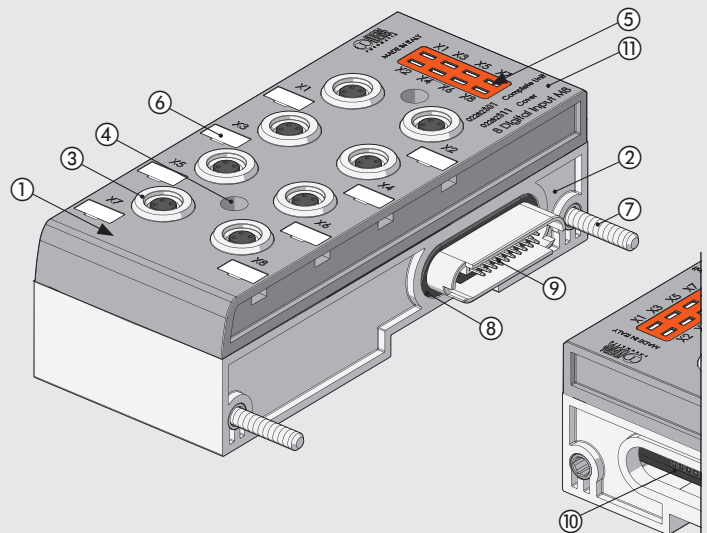
** For 16-IN/OUT modules, powered via the fieldbus. Check that the total current of simultaneously connected Inputs and Outputs is not greater than 3.5 A.

*** IMPORTANT! Voltage greater than 32VDC will damage the system irreparably.

N.B.: Refer to the following pages for specific technical data of each module.

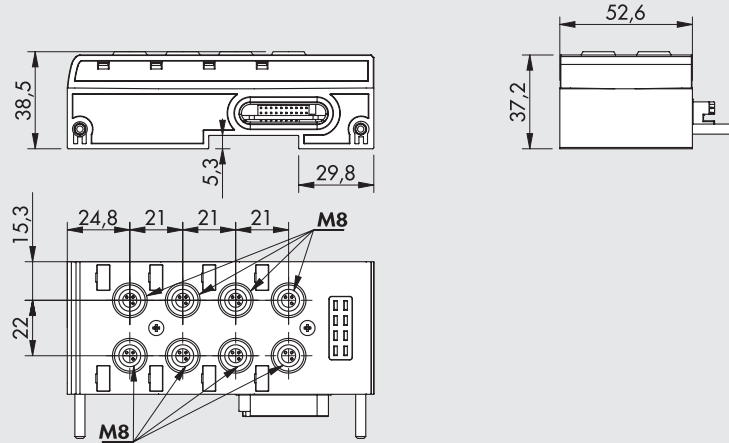
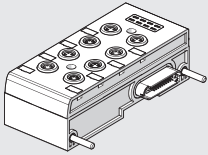
COMPONENTS

- ① UPPER PART BODY: technopolymer
- ② LOWER PART BODY: technopolymer
- ③ M8 CONNECTOR: signal connection
- ④ SCREW securing the upper part to the lower part
- ⑤ LED light
- ⑥ NAMEPLATE: removable
- ⑦ TIE ROD to secure modules: nickel-plated brass + stainless steel grub screw
- ⑧ GASKET: NBR
- ⑨ MALE CONNECTOR for other modules - S or fieldbus connection - E
- ⑩ FEMALE CONNECTOR for other modules - S or fieldbus connection - E
- ⑪ IDENTIFICATION of wording with laser



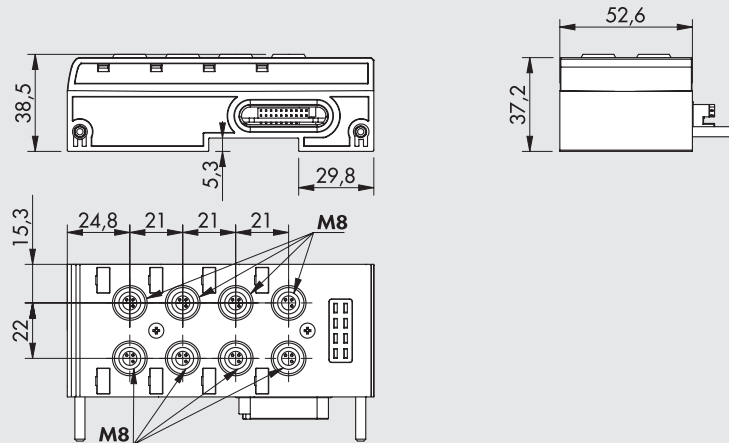
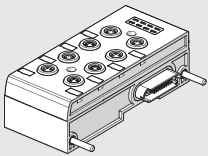
DIMENSIONS - ORDERING CODES

8 M8 DIGITAL INPUTS



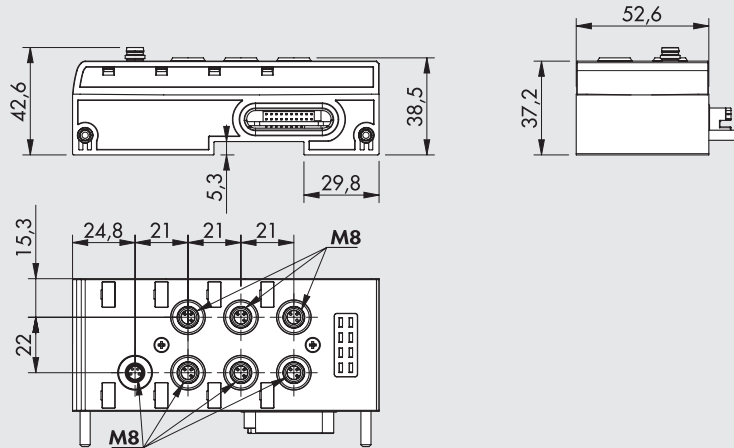
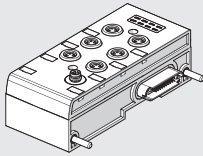
Code	Description	Weight [g]	TECHNICAL DATA	
02282501	EB 80 module with 8 M8 digital inputs	240	Sensors supply voltage	Corresponding to the supply voltage
			Current for each connector	mA max 200
			Current for each module	mA max 500
			Input impedance	kΩ 3.9
			Type of input	Software-configurable PNP/NPN
			Protection	Overload and short-circuit protected inputs
			Connections	8 M8 3-pole female connectors
			Input active signals	One LED for each input

8 M8 DIGITAL OUTPUTS



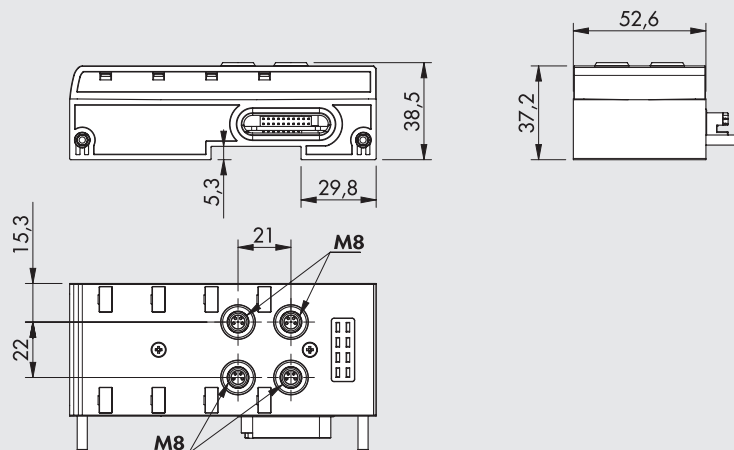
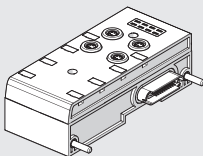
Code	Description	Weight [g]	TECHNICAL DATA	
02282502	EB 80 module with 8 M8 digital outputs	240	Output voltage	Corresponding to the supply voltage
			Current for each connector	mA max 500
			Current for each module	mA max 3000
			Type of output	Software-configurable PNP/NPN
			Protection	Overload and short-circuit protected outputs
			Connections	8 M8 3-pole female connectors
			Outputs active signals	One LED for each output

6 M8 DIGITAL OUTPUTS + ELECTRICAL POWER SUPPLY



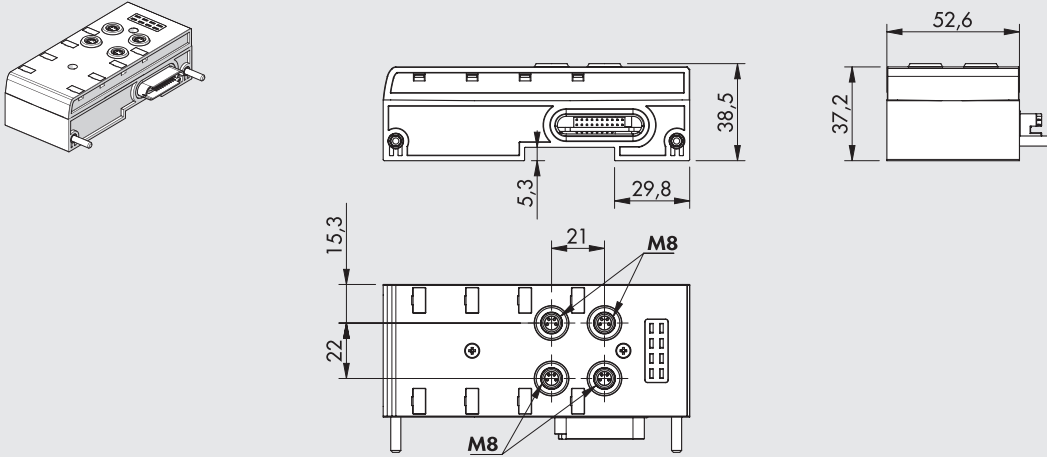
Code	Description	Weight [g]	TECHNICAL DATA	
02282503	EB 80 module with 6 M8 digital outputs + electrical supply	248	Bus supply voltage range	VDC 12 -10% 24 +30%
			Digital out supply voltage range	VDC 12 -10% 24 +30%
			Minimum operating voltage	VDC 10.8 *
			Maximum operating voltage	VDC 31.2
			Maximum admissible voltage	VDC 32 ***
			Output voltage	Corresponding to the supply voltage
			Current for each connector	mA max 1000
			Current for each module	mA max 4000
			Type of output	Software-configurable PNP/NPN
			Protection	Overload and short-circuit protected outputs
			Connections	6 M8 3-pole female connectors for Signals 1 M8 4-pole male connector for Supply
			Output active signals	One LED for each output
			* Minimum voltage 10.8VDC required at solenoid pilots. Check the minimum voltage at the power supply output using the calculations shown on page B2.24	
			*** IMPORTANT! Voltage greater than 32VDC will damage the system irreparably.	

4 M8 ANALOGUE INPUTS



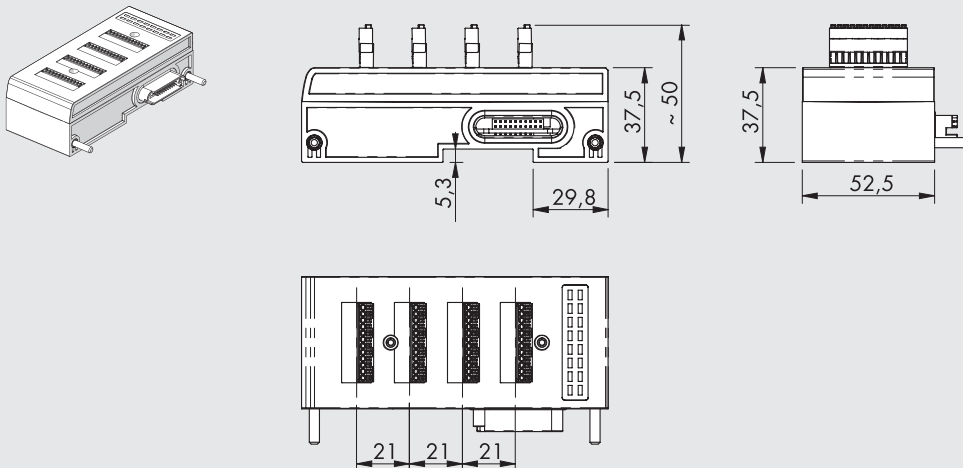
Code	Description	Weight [g]	TECHNICAL DATA	
02282504	EB 80 module with 4 M8 analogue inputs	223	Sensors supply voltage	Corresponding to the supply voltage
			Current for each connector	mA max 200
			Current for each module	mA max 650
			Type of input, software configurable	0/10VDC; 0/5VDC; +/-10VDC; +/-5VDC; 4/20 mA; 0/20 mA
			Protection	Overload and short-circuit protected inputs
			Connections	4 M8 4-pin female connectors
			Local diagnostic signal via LED	Overload, short-circuit or type of input not complying with the configuration
			Digital convert resolution	15 bit + prefix

4 M8 ANALOGUE OUTPUTS



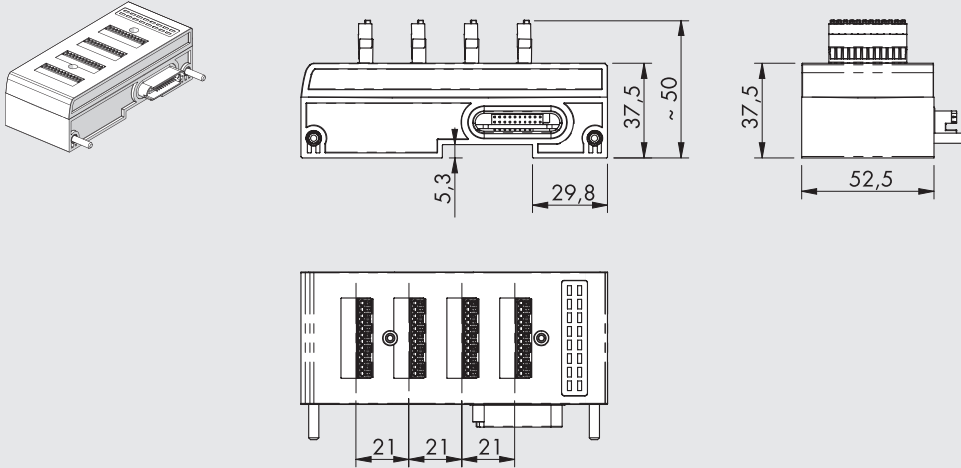
Code	Description	Weight [g]	TECHNICAL DATA	
02282S05	EB 80 module with 4 M8 analogue outputs	223	Devices supply voltage	Corresponding to the supply voltage
			Current for each connector	max 200 mA
			Current for each module	max 650 mA
			Type of output	0/10VDC; 0/5VDC; +/-10VDC; +/-5VDC; 4/20 mA; 0/20 mA
			Protection	Overload and short-circuit protected outputs
			Connections	4 M8 4-pole female connectors
			Local diagnostic signal via LED	Overload, short-circuit or type of connection not complying with the configuration
			Digital convert resolution	15 bit + prefix

16 DIGITAL TERMINAL BLOCK INPUTS



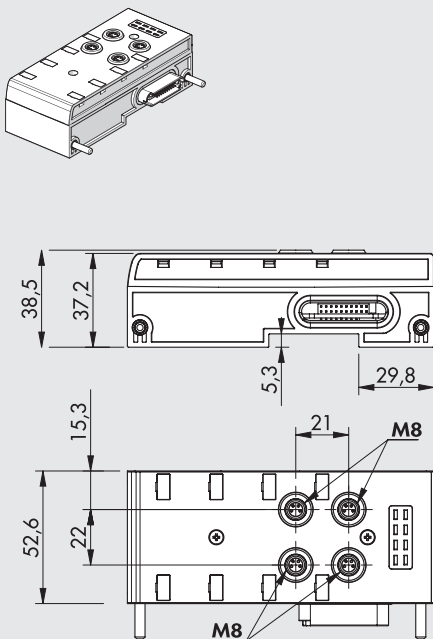
Code	Description	Weight [g]	TECHNICAL DATA	
02282S06	EB 80 module with 16 digital terminal block inputs	240	Sensors supply voltage	Corresponding to the supply voltage
			Current for each connector	max 200 mA
			Current for each module	max 500 mA
			Input impedance	3.9 kΩ
			Type of input	Software-configurable PNP/NPN
			Protection	Overload and short-circuit protected inputs
			Connections	4 12-pin connectors with spring clamping
			Input active signals	One LED for each input
			Degree of protection	IP40

16 DIGITAL TERMINAL BLOCK OUTPUTS



Code	Description	Weight [g]	TECHNICAL DATA	
02282S07	EB 80 module with 16 digital terminal block outputs	240	Output voltage	Corresponding to the supply voltage
			Current for each connector	max 500 mA
			Current for each module	max 3000 *
			Type of output	Software-configurable PNP/NPN
			Protection	Overload and short-circuit protected outputs
			Connections	4 12-pin connectors with spring clamping
			Outputs active signals	One LED for each Output
			Degree of protection	IP40
* IMPORTANT: the module is powered via the fieldbus. Check that the total current of connected outputs is not greater than 3.5A.				

4 M8 ANALOGUE INPUTS FOR TEMPERATURE MEASUREMENT



Code	Description	Weight [g]	TECHNICAL DATA	
02282S08	EB 80 module with 4 M8 analogue inputs for temperature measurement	223	Sensors supply voltage	Corresponding to the supply voltage
			Maximum input voltage	VDC 30
			Sensor type (RTD)	platinum (-200 to +850°C) nickel (-60 to +180°C)
			Connections type (RTD)	Pt100, Pt200, Pt500, Pt1000 (TK = 0.00385 and TK = 0.00391) Ni100, Ni120, Ni500, Ni1000 (TK = 0.00618)
			Type of thermocouple (TC)	2, 3 or 4-wire J, E, T, K, N, S, B, R
			Cold junction compensation for thermocouples	internal external (recommended in case of sudden changes in the ambient temperature)
			Temperature range	With internal electronic sensor included PT1000 sensor for connection with the M8 thermocouple connector - 200 to + 800 °C - 328 to + 1472 °F
			Digital convert resolution	15 bit + prefix
			Max error compared to ambient temperature	±0.5% (TC) ±0.06% (RTD)
			Max. basic error (ambient T 25°C)	±0.4% (TC) ±0.6 (with 4-wire RTD with 0.1 resolution) ±0.2 (with 4-wire RTD with 0.01 resolution)
			Repeatability (ambient T 25°C)	±0.03%
			Address employment	2 bytes for each input - 8 bytes per module
			Cycle time (module)	ms 240
			Software linearization	for RTD for TC
			Maximum length of shielded cable for the connection	m < 30
			Diagnostics	One LED for each input and reporting to the Master

KEY TO CODES

02282	S	0	1
FAMILY	SUBSYSTEM	SUPPLY	TYPE
02282 EB 80	S Signals	0 Complete	1 8 M8 digital inputs 2 8 M8 digital outputs 3 6 M8 digital outputs + electrical supply 4 4 M8 analogue inputs 5 4 M8 analogue outputs 6 16 digital terminal block inputs 7 16 digital terminal block outputs 8 4 M8 analogue inputs for temperature measurement

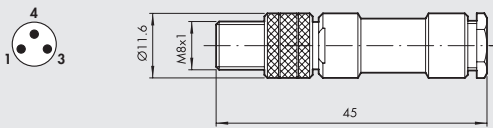
ACCESSORIES

M8 PLUG



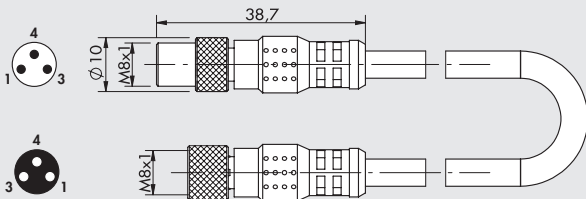
Code	Description
0240009039	Plug for M8 connector

M8 CONNECTOR FOR DIGITAL INPUTS / OUTPUTS



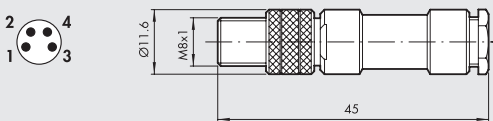
Code	Description
0240009010	M8 3-pin straight connector

M8 CONNECTOR WITH CABLE FOR DIGITAL INPUTS / OUTPUTS



Code	Description
0240009009	M8-M8 3-pin straight connector with cable L = 3 m

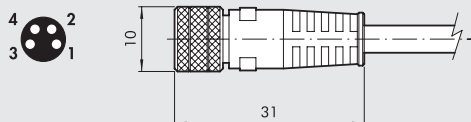
M8 MALE CONNECTOR FOR ANALOGUE INPUTS/OUTPUTS



Code	Description
0240010300	M8 4-pin male connector

M8 CONNECTOR FOR POWER SUPPLY

Pin	Cable color
1	Brown
2	White
3	Blue
4	Black

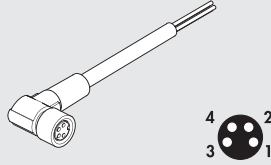


Code	Description
0240009060	M8 4-pin female connector for power supply, cable L = 3 m
0240009037	M8 4-pin female connector for power supply, cable L = 5 m
0240009058	M8 4-pin female connector for power supply, cable L = 10 m
0240009059	M8 4-pin female connector for power supply, cable L = 15 m
0240009P60 *	M8 4-pin female connector for power supply, H-FLEX CL6, cable L = 3 m
0240009P37 *	M8 4-pin female connector for power supply, H-FLEX CL6, cable L = 5 m
0240009P58 *	M8 4-pin female connector for power supply, H-FLEX CL6, cable L = 10 m
0240009P59 *	M8 4-pin female connector for power supply, H-FLEX CL6, cable L = 15 m

* Very flexible cables, class 6 according to IEC 60228

90° M8 CONNECTORS WITH SHIELDED CABLE

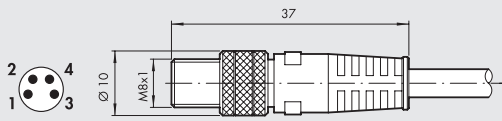
Pin	Cable color
1	Brown
2	White
3	Blue
4	Black



Code	Description
0240009102	M8 4-pin female, 90° connector with shielded cable L = 2 m
0240009103	M8 4-pin female, 90° connector with shielded cable L = 5 m

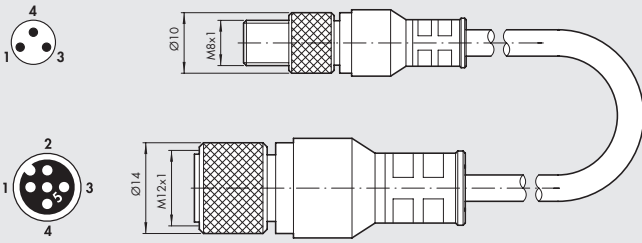
M8 4-POLE MALE CONNECTOR

Pin	Cable color
1	Brown
2	White
3	Blue
4	Black



Code	Description
0240010105	M8 4-pin connector shielded cable L = 5 m

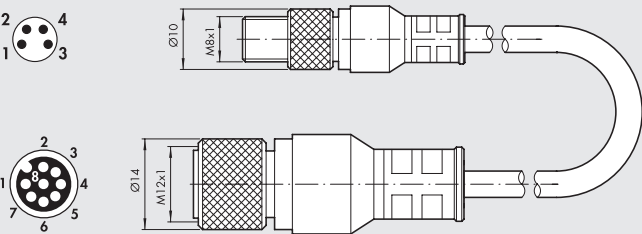
M8 3-POLE MALE – M12 5-POLE FEMALE CONNECTOR WITH CABLE FOR DIGITAL INPUTS/OUTPUTS



Code	Description
0240009045	M8 3-pole male straight - M12 5-pole female connector with cable L= 0.2 m

M8	M12
pin 1	pin 1
pin 4	pin 4
pin 3	pin 3

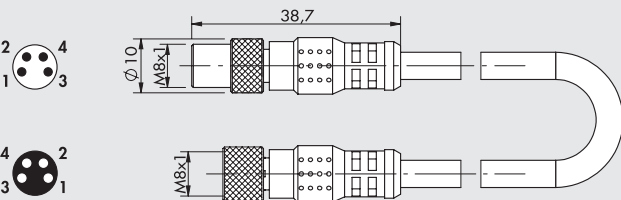
M8 4-POLE MALE – M12 8-POLE FEMALE CONNECTOR WITH CABLE FOR REGTRONIC CONNECTION



Code	Description
0240009046	M8 4-pole male straight - M12 8-pole female connector with cable L= 1 m

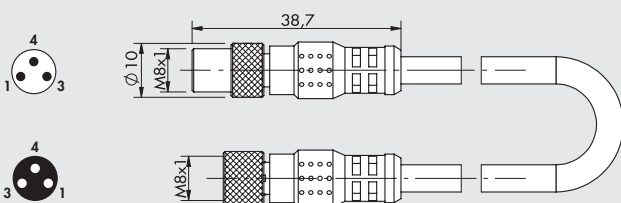
M8	M12
pin 1	pin 8
pin 2	pin 3
pin 3	pin 7
pin 4	disconnect

M8 CONNECTOR WITH SHIELDED CABLE FOR ANALOGUE INPUTS/OUTPUTS



Code	Description
0240005005	M8-M, M8-F 4-pole straight connector with shielded cable L = 1 m
0240005006	M8-M, M8-F 4-pole straight connector with shielded cable L = 3 m
0240005003	M8-M, M8-F 4-pole straight connector with shielded cable L = 5 m
0240005008	M8-M, M8-F 4-pole straight connector with shielded cable L = 10 m

M8 ADAPTER CABLE FOR CONNECTING THE PRESSURE SWITCH TO THE DIGITAL INPUTS MODULE

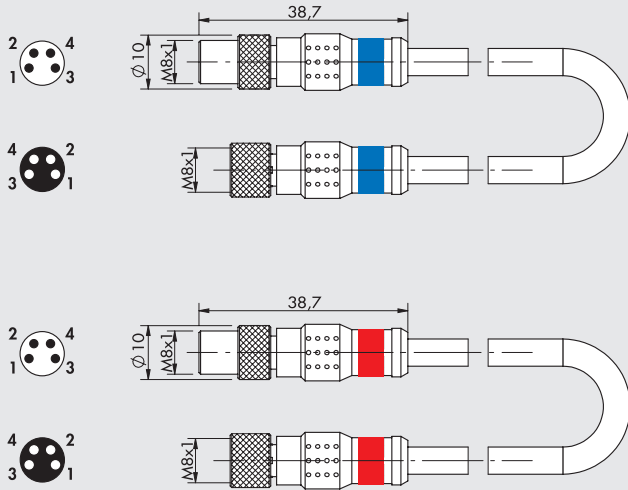


Code	Description
0240010501	M8-M, M8-F 3-pole adapter with cable L = 0.3 m

Note: Can be used for connecting 1/8-1/4, Syntesi®, Skillair®, PRS L pressure switches to the module of digital INPUT S01 of the EB 80 valves. Contact type NO (Normally-Open)

M8F	M8M	Function
pin 1	pin 1	Power supply +
pin 3	pin 2	Signal NO
pin 4	disconnect	

M8 SHIELDED ADAPTER CABLE FOR CONNECTING THE LTS-LTL POSITION TRANSDUCERS TO THE ANALOGUE INPUTS MODULE



Code Description

0240010601 M8-M, M8-F 4-pole adapter with shielded cable L = 0.3 m (blue collar)
 Note: Can be used for connecting the 4/20 mA analog output of the LTL-LTS position sensors to the module of analog INPUT S04 of the EB 80 valves.

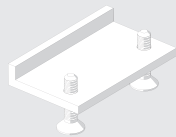
M8F	M8M	Function
pin 1	pin 1	Power supply +
pin 2	pin 2	Signal 4/20 mA
pin 3	pin 3	Power supply -
pin 4	disconnect	

Code Description

0240010701 M8-M, M8-F 4-pole adapter with shielded cable L = 0.3 m (red collar)
 Note: Can be used for connecting the 0/10 VDC analog output of the LTL-LTS position sensors to the module of analog INPUT S04 of the EB 80 valves.

M8F	M8M	Function
pin 1	pin 1	Power supply +
pin 4	pin 2	Signal 0/10 V
pin 3	pin 3	Power supply -
pin 2	disconnect	

ADDITIONAL FIXING BRACKET TO OMEGA BAR



Code	Description	Weight [g]
02282R4001	Additional fixing bar accessory to EB 80 Omega bar	5

Individually packed
 N.B.: to be used to improve the fixing to Omega bars of islands with more than 10 modules. The bracket must be positioned every 5-6 modules.

SPARE PARTS

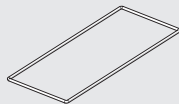
EB 80 BUS/SIGNAL INTERFACE OR SEAL



Code	Description
02282R1005	EB 80 BUS/Signal interface OR seal

Comes in 10-pc. packs

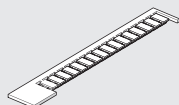
EB 80 GASKET BETWEEN BASE AND BUS/SIGNAL COVER



Code	Description
02282R1004	Kit of gaskets between base and BUS/Signal cover

Comes in 10-pc. packs

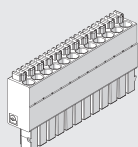
IDENTIFICATION PLATE KIT



Code	Description
0226107000	Identification plate kit

Comes in 16-pc. packs

CONNECTOR 12 POSITIONS



Code	Description
02282R5010	Connector 12 positions for modules S06 and S07

Comes in 4-pc. packs

EB 80 ELECTRICAL CONNECTION - E



The job of the "Electrical Connection - E" subsystem is to power the EB 80 systems, transmit control signals for the solenoid valves, send and receive signals for the input/output management modules and control diagnostics. Versions with a multi-pole connector or fieldbus are also available. It is worth noting that the island of solenoid valves functions equally with both systems. This means that all the valves, bases and intermediate elements can work both with parallel and serial controls (patented). Smart electronics of all electrical connection modules, including multi-pole ones, can be used to control unexpected functions, including very interesting diagnostics.

The system can be supplied with a very wide voltage range, so much so that the EB 80 island can be controlled either at 12VDC or 24VDC (patented). Overvoltages up to 30% of the rated value, i.e. up to 31.2VDC, are admitted. The minimum voltage for solenoid pilots can be 10.8VDC, i.e. 12VDC-10%. The body of the multi-pole version is made of metal in one piece (as the IO-Link 64 OUT version); simplified versions that can only manage solenoid valves, but that keeps the whole modularity and diagnostics of the EB 80 family.

Versions with a fieldbus instead consist of two parts: a lower part, with a single metal body separate from the bus protocol; an upper part with a technopolymer body dedicated to each specific bus protocol.



TECHNICAL DATA							
Supply voltage range	VDC	12 -10%		24 +30%			
Minimum operating voltage	VDC	10.8 *					
Maximum operating voltage	VDC	31.2					
Maximum admissible voltage	VDC	32 ***					
Drive (for multi-pole)		PNP or NPN					
Solenoid rating		100% ED					
Power supply without controlled valves:							
steady rate, with multi-pole connection	W	0.1 for "Electrical connection - E" + 0.25 for each "Base - B"					
steady rate, with fieldbus connection	W	4 for "Electrical connection - E" + 0.25 for each "Base - B"					
Signal module supply power		See chapter "Signal module - S"					
Maximum operating power supply (data useful for the sizing of the power supply unit)	W	3.15 for each solenoid pilot operated simultaneously + input and output					
Maximum current admissible							
with multi-pole connection	A	6 continuous, 9 instantaneous					
with fieldbus connection	A	4 continuous, 6 instantaneous for valve supply 4 continuous, 6 instantaneous for bus and signal supply					
Protection		Overload and short-circuit protected solenoid pilot Output					
Diagnostics		LED signal on valve, LED light on electrical connection. With multi-pole: fault signal OUT activation. With field bus: software message.					
Faults signalled		Short-circuited solenoid pilot; Solenoid pilot broken or missing Power supply out of range (under-voltage or over-voltage) With fieldbus only, different configuration, on switching on, compared to that stored; communication control between modules					
Ambient temperature	°C	-10 to + 50					
	°F	14 to 122					
Versions		Plug connectors, fieldbus with various protocols, additional island					
Maximum number of controllable solenoid pilots		25-pin connector	44-pin connector	Fieldbus	IO-link 32 IN / 32 OUT	IO-link 64 OUT	additional island
		21	38	128	32	64	128
Maximum number of controllable solenoid valves		Ditto as above, depending on the number of solenoid pilots and type of base					
Degree of protection		IP65 (with connectors connected or plugged if not used)					
Weight	g	180	180	350	350	180	320

* Minimum voltage 10.8VDC required at solenoid pilots. Check the minimum voltage at the power supply output using the calculations shown on page B2.24

*** IMPORTANT! Voltage greater than 32VDC will damage the system irreparably.

EB 80 MULTI-POLE ELECTRICAL CONNECTION - E

The job of the multi-pole version of the electrical connection subsystem is to power the EB solenoid valve islands. The system accepts to be supplied with a very wide range of voltages, to such an extent that the EB 80 island alone can be controlled at either 12VDC or 24VDC (patented). Overvoltages up to 30% of the rated value, i.e. up to 31.2VDC, are admitted. The minimum voltage for the solenoid pilots can be 10.8VDC, i.e. 12VDC - 10%. The body of the multi-pole version is made of metal in a single piece.



TECHNICAL DATA			
Supply voltage range	VDC	12 -10%	24 +30%
Minimum operating voltage	VDC	10.8 *	
Maximum operating voltage	VDC	31.2	
Maximum admissible voltage	VDC	32 ***	
Drive		Configurable PNP or NPN	
Power supply without controlled valves	W	0.1 for "Electrical connection - E" + 0.25 for each "Base - B"	
Solenoid pilot power on start-up (Speed Up)	W	3 for 15 msec	
Solenoid pilot power after start-up (holding)	W	0.3	
Maximum admissible current	A	6 continuous, 9 instantaneous	
Protection		System protected against overload short-circuit protected solenoid pilot Output	
Diagnostics		FAULT signal red light and Out signal on "Electrical connection - E" LED light signal on valve	
Faults signalled		Short-circuited solenoid pilot; Solenoid pilot broken or missing Power supply out of range (under-voltage or over-voltage)	
Ambient temperature	°C	-10 to + 50	
	°F	14 to 122	
Electrical connection		Plug connectors	
		25-pin connector	44-pin connector
Maximum number of controllable solenoid pilots **		21	38
Maximum number of controllable solenoid valves		Ditto as above, depending on the number of solenoid pilots and type of base	
Maximum number of simultaneously controllable solenoid pilots:			
at 24VDC		21	38
at 12VDC		Depending on the voltage drop – see page B2.24	
Maximum current at 24VDC	A	3	5
Maximum current at 12VDC	A	6	9
Degree of protection		IP65 (with connectors connected or plugged if not used)	
Weight	g	180	180

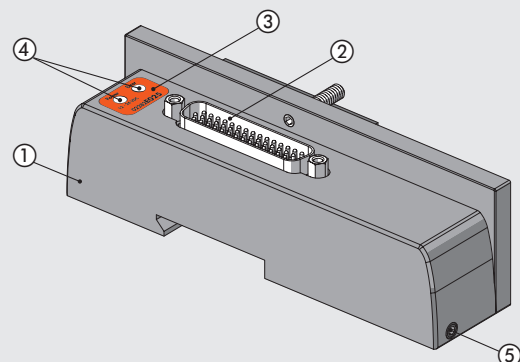
* Minimum voltage 10.8VDC required at solenoid pilots. Check the minimum voltage at the power supply output using the calculations shown on page B2.24

** If the units are made up of bases exceeding the maximum number of controllable solenoid pilots (by mounting a dummy valve N or a bypass Y in the excess positions), operation is only possible on the islands with a positive signal (PNP), conversely (with an NPN signal), an error message is generated by the diagnostic system.

*** IMPORTANT! Voltage greater than 32VDC will damage the system irreparably.

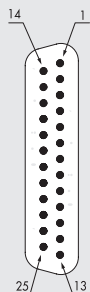
COMPONENTS

- ① BODY: painted metal
- ② CONNECTOR: plug type
- ③ NAMEPLATE: with product code
- ④ LED: signal on and alarm
- ⑤ GRUB SCREW securing the DIN bar or bracket: zinc-plated steel

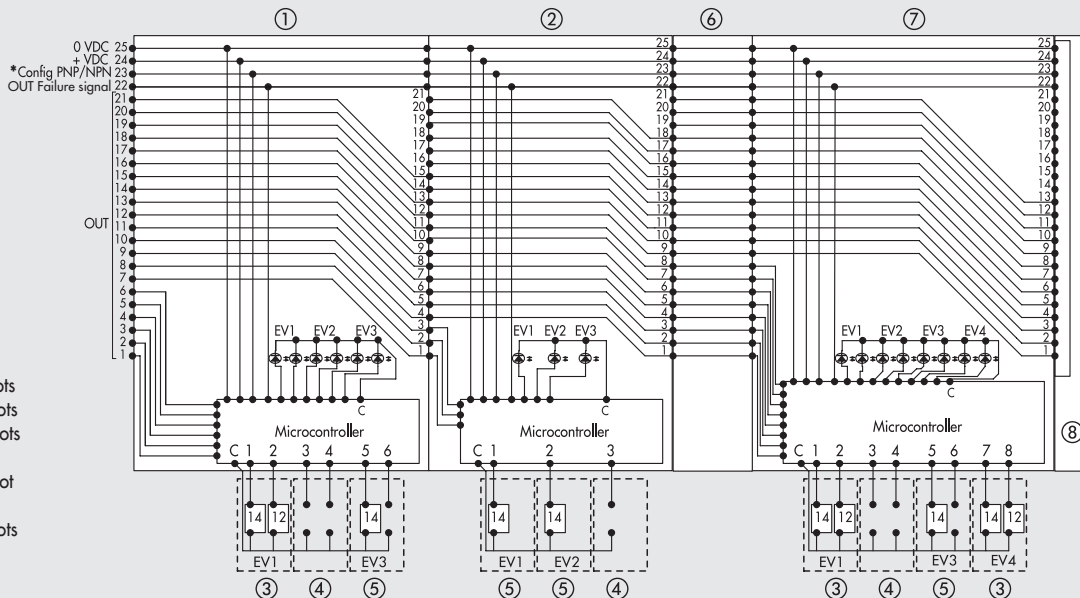


WIRING DIAGRAM

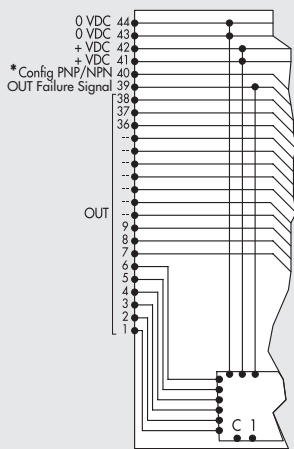
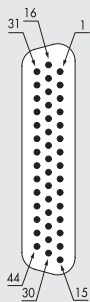
D-Sub 25-pin CONNECTOR



- ① 3-position base for 6 pilots
- ② 3-position base for 3 pilots
- ③ Valve with 2 solenoid pilots
- ④ Dummy valve or bypass
- ⑤ Valve with 1 solenoid pilot
- ⑥ Intermediate module
- ⑦ 4-position base for 8 pilots
- ⑧ Closed end-plate



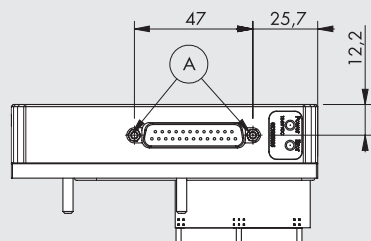
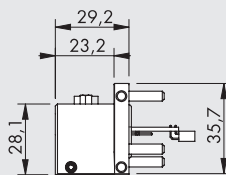
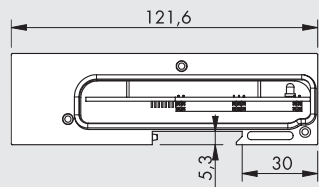
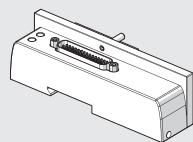
D-Sub 44-pin CONNECTOR



* Connect to +VDC if (Out) valves with a POSITIVE signal are to be controlled
Connect to 0VDC if (Out) valves with a NEGATIVE signal are to be controlled

DIMENSIONS - ORDERING CODES

DIMENSION OF A MULTI-POLE ELECTRICAL CONNECTION

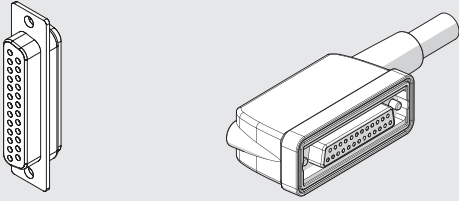


Ⓐ = Holes for D-Sub connector
25-pin or 44-pin

Code	Description	Weight [g]
02282E025	EB 80 25-pin electrical connection	180
02282E044	EB 80 44-pin electrical connection	180

ACCESSORIES

IP65 25-PIN PRE-WIRED PLUG CONNECTOR



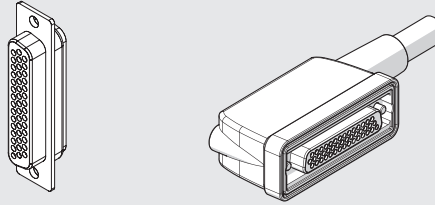
Code	Description	Weight [g]
02269A0100	IP65 25-pin 90° connector, UL cable L = 1 m	180
02269A0250	IP65 25-pin 90° connector, UL cable L = 2.5 m	365
02269A0500	IP65 25-pin 90° connector, UL cable L = 5 m	680
02269A1000	IP65 25-pin 90° connector, UL cable L = 10 m	1220
02269A2000	IP65 25-pin 90° connector, UL cable L = 20 m	2350
02269C0100 **	IP65 25-pin 90° connector, UL H-FLEX CL6, cable L = 1 m	180
02269C0250 **	IP65 25-pin 90° connector, UL H-FLEX CL6, cable L = 2.5 m	365
02269C0500 **	IP65 25-pin 90° connector, UL H-FLEX CL6, cable L = 5 m	680
02269C1000 **	IP65 25-pin 90° connector, UL H-FLEX CL6, cable L = 10 m	1220

** Very flexible cables, class 6 according to IEC 60228

Position of electrical contact	Colour of the corresponding wire	Function
1	White	Out 1
2	Brown	Out 2
3	Green	Out 3
4	Yellow	Out 4
5	Grey	Out 5
6	Pink	Out 6
7	Blue	Out 7
8	Red	Out 8
9	Black	Out 9
10	Violet	Out 10
11	Grey + Pink ring	Out 11
12	Red + Blue ring	Out 12
13	White + Green ring	Out 13
14	Brown + Green ring	Out 14
15	White + Yellow ring	Out 15
16	Yellow + Brown ring	Out 16
17	White + Grey ring	Out 17
18	Grey + Brown ring	Out 18
19	White + Pink ring	Out 19
20	Pink + Brown ring	Out 20
21	White + Blue ring	Out 21
22	Brown + Blue ring	Fault reporting
23	White + Red ring	Config. PNP/NPN *
24	Brown + Red ring	+VDC
25	White + Black ring	0VDC

* Connect to +VDC if (Out) valves with a POSITIVE signal are to be controlled
Connect to 0VDC if (Out) valves with a NEGATIVE signal are to be controlled

IP65 44-PIN PRE-WIRED PLUG CONNECTOR



Code	Description	Weight [g]
02269B0100	IP65 44-pin 90° connector, UL cable L = 1 m	275
02269B0250	IP65 44-pin 90° connector, UL cable L = 2.5 m	630
02269B0500	IP65 44-pin 90° connector, UL cable L = 5 m	1180
02269B1000	IP65 44-pin 90° connector, UL cable L = 10 m	2210
02269B2000	IP65 44-pin 90° connector, UL cable L = 20 m	4340
02269D0100 **	IP65 44-pin 90° connector, UL H-FLEX CL6, cable L = 1 m	275
02269D0250 **	IP65 44-pin 90° connector, UL H-FLEX CL6, cable L = 2.5 m	630
02269D0500 **	IP65 44-pin 90° connector, UL H-FLEX CL6, cable L = 5 m	1180
02269D1000 **	IP65 44-pin 90° connector, UL H-FLEX CL6, cable L = 10 m	2210

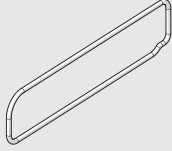
** Very flexible cables, class 6 according to IEC 60228

Position of electrical contact	Colour of the corresponding wire	Function
1	White	Out 1
2	Brown	Out 2
3	Green	Out 3
4	Yellow	Out 4
5	Grey	Out 5
6	Pink	Out 6
7	Blue	Out 7
8	Red	Out 8
9	Black	Out 9
10	Violet	Out 10
11	Grey + Pink ring	Out 11
12	Red + Blue ring	Out 12
13	White + Green ring	Out 13
14	Brown + Green ring	Out 14
15	White + Yellow ring	Out 15
16	Yellow + Brown ring	Out 16
17	White + Grey ring	Out 17
18	Grey + Brown ring	Out 18
19	White + Pink ring	Out 19
20	Pink + Brown ring	Out 20
21	White + Blue ring	Out 21
22	Brown + Blue ring	Out 22
23	White + Red ring	Out 23
24	Brown + Red ring	Out 24
25	White + Black ring	Out 25
26	Brown + Black ring	Out 26
27	Grey + Green ring	Out 27
28	Yellow + Grey ring	Out 28
29	Pink + Green ring	Out 29
30	Yellow + Pink ring	Out 30
31	Green + Blue ring	Out 31
32	Yellow + Blue ring	Out 32
33	Green + Red ring	Out 33
34	Yellow + Red ring	Out 34
35	Green + Black ring	Out 35
36	Yellow + Black ring	Out 36
37	Grey + Blue ring	Out 37
38	Pink + Blue ring	Out 38
39	Grey + Red ring	Fault reporting
40	Pink + Red ring	Config. PNP/NPN *
41	Grey + Black ring	+VDC
42	Pink + Black ring	+VDC
43	Blue + Black ring	0VDC
44	Red + Black ring	0VDC

* Connect to +VDC if (Out) valves with a POSITIVE signal are to be controlled
Connect to 0VDC if (Out) valves with a NEGATIVE signal are to be controlled

SPARE PARTS

EB 80 ELECTRICAL CONNECTION INTERFACE OR SEAL



Code	Description
02282R1003	EB 80 electrical connection interface OR seal

Comes in 10-pc. packs

NOTES

VALVES

EB 80 - MULTI-POLE ELECTRICAL CONNECTION - E

EB 80 ELECTRICAL CONNECTION WITH FIELDBUS - E

The job of the electrical connection with fieldbus is to power the EB 80 systems, transmit control signals for the solenoid valves, send or receive signals for input/output management modules and control diagnostics. The system can be supplied with a very wide voltage range, so much so that the EB 80 island can be controlled either at 12VDC or 24VDC (patented). Overvoltages up to 30% of the rated value, i.e. up to 31.2VDC, are admitted. The minimum voltage for solenoid pilots can be 10.8VDC, i.e. 12VDC - 10%. The modules come into parts: a lower part, with a single aluminium body separate from the bus protocol; an upper part with a technopolymer body dedicated to each specific bus protocol. The exception is the IO-Link 64 OUT version which is composed of a single aluminum element and can only manage solenoid valves (32 or 64) while maintaining all the modularity and diagnostic features of the EB 80 family.

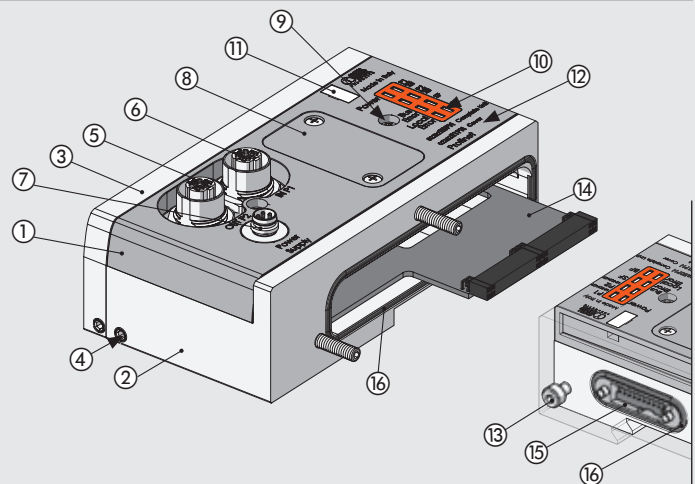


TECHNICAL DATA		
Supply voltage range	VDC	12 -10% 24 +30%
Minimum operating voltage	VDC	10.8 *
Maximum operating voltage	VDC	31.2
Maximum admissible voltage	VDC	32 ***
Power supply without controlled valves	W	4 for "Electrical connection - E" + 0.25 for each "Base - B"
Solenoid pilot power on start-up (Speed Up)	W	3 for 15 msec
Solenoid pilot power after start-up (holding)	W	0.3
Maximum admissible current	A	4 continuous, 6 instantaneous for valve supply 4 continuous, 6 instantaneous for bus and signal supply
Protection		Overload and short-circuit protected solenoid pilot Output
Diagnostics		LED signal on valve, LED on electrical connection and software message regarding: short-circuited solenoid pilot; solenoid pilot with coil failure; voltage out of range (undervoltage and overvoltage); module communication control; on switching, configuration other than that stored
Maximum number of solenoid pilots		128 (32 for IO-Link 32 IN / 32 OUT; 64 for IO-Link 64 OUT)
Maximum number of simultaneously controllable solenoid pilots to actuate a greater number of solenoid pilots at the same time, add "Intermediate modules - M" with electrical connection		38
Maximum number of signals **		128 digital inputs, 128 digital outputs, 16 analogue inputs, 16 analogue outputs (32 for IO-Link 32 IN / 32 OUT)
Maximum number of nodes **		40 Bases for valves + 16 digital inputs + 16 digital outputs + 4 analogue inputs + 4 analogue outputs
Ambient temperature	°C	-10 to +50
	°F	14 to 122
Versions		EtherNet/IP, EtherCAT, CANopen, Profinet IO, Profibus-DP, Ethernet POWERLINK, IO-Link, CC-Link IE Field Basic
Degree of protection		IP65 (with connectors connected or plugged if not used)
Weight	g	350 (180 for IO-Link 64 OUT)

* Minimum voltage 10.8VDC required at solenoid pilots. Check the minimum voltage at the power supply output using the calculations shown on page B2.24
 ** For topological limits (maximum lengths, etc.) see the instructions.
 *** IMPORTANT! Voltage greater than 32VDC will damage the system irreparably.

COMPONENTS

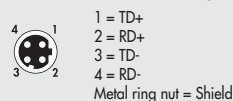
- ① UPPER PART BODY: technopolymer
- ② LOWER PART BODY: painted aluminium
- ③ CLOSING PLATE: painted aluminium
- ④ GRUB SCREW securing the DIN bar or bracket: zinc-plated steel
- ⑤ Fieldbus signal receive CONNECTOR
- ⑥ Fieldbus signal send CONNECTOR
- ⑦ M8 power supply CONNECTOR
- ⑧ COVER for access to bus address switches: technopolymer
- ⑨ SCREW securing the upper part to the lower part
- ⑩ LED light
- ⑪ NAMEPLATE: removable
- ⑫ IDENTIFICATION wording: laser etched
- ⑬ SCREW securing the end plate
- ⑭ CONNECTOR for solenoid valve base modules
- ⑮ CONNECTOR for input/output signal modules
- ⑯ GASKETS interfacing: NBR



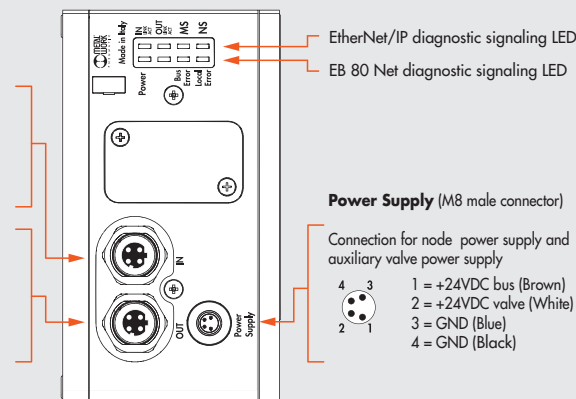
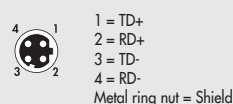
EtherNet/IP WIRING DIAGRAM

Connection to the EtherNet/IP network

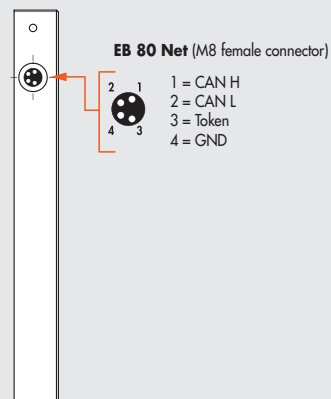
IN (M12 female connector, D encoding)



OUT (M12 female connector, D encoding)



End plate with intermediate control



TECHNICAL DATA	
Fieldbus	10 - 100 Mbit/S - Full-duplex - Half-duplex - Supports auto-negotiation and Quick Connect
Factory settings	IP address: 192.168.192.32
Addressing	Software - DHCP hardware
Supply voltage range	VDC 12 -10% 24 +30%
Minimum operating voltage	VDC 10.8 *
Maximum operating voltage	VDC 31.2
Maximum admissible voltage	VDC 32 ***
Protection	Module protected from overload and polarity inversion. Outputs protected from overloads and short-circuits.
Connections	Fieldbus: 2 M12 F, D encoding, internal switch. Power supply: M8, 4-pin
Diagnostics **	EtherNet/IP: via local LED lights and software messages. Outputs: via local LED lights and state bytes
Bus power supply current absorption	nominal Icc 180 mA at 24VDC
Maximum number of pilots	128
Maximum number of digital inputs	128
Maximum number of digital outputs	128
Maximum number of analogue inputs	16
Maximum number of analogue outputs	16
Maximum number of inputs for temperatures	16
Data bit value	0 = non-active; 1 = active
State of outputs in the absence of communication	Configurable for each output: non-active, holding of the state, setting of a preset state

* Minimum voltage 10.8VDC required at solenoid pilots. Check the minimum voltage at the power supply output using the calculations shown on page B2.24
 ** Refer to the user manual for a detailed description.
 *** IMPORTANT! Voltage greater than 32VDC will damage the system irreparably.

EtherCAT WIRING DIAGRAM

Connection to the EtherCAT network

IN (M12 female connector, D encoding)



- 1 = TD+
- 2 = RD+
- 3 = TD-
- 4 = RD-

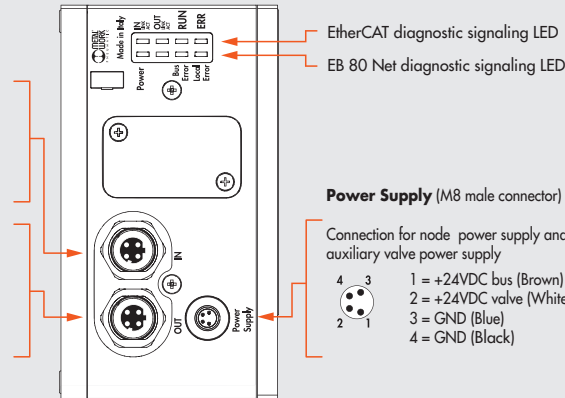
Metal ring nut = Shield

OUT (M12 female connector, D encoding)

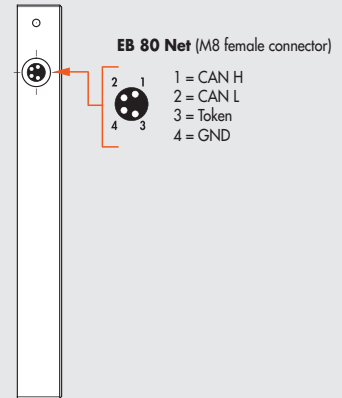


- 1 = TD+
- 2 = RD+
- 3 = TD-
- 4 = RD-

Metal ring nut = Shield



End plate with intermediate control



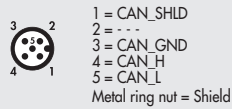
TECHNICAL DATA	
Fieldbus	100 Mbit/S - Full-duplex - Supports auto-negotiation
Factory settings	module denomination: EB80series
Addressing	Automatic from the master depending on its topological position. Fixes with the second slave address function
Supply voltage range	VDC 12 -10% 24 +30%
Minimum operating voltage	VDC 10.8 *
Maximum operating voltage	VDC 31.2
Maximum admissible voltage	VDC 32 ***
Protection	Module protected from overload and polarity inversion. outputs protected from overloads and short-circuits.
Connections	Fieldbus: 2 M12 F D encoding, internal switch. Power supply: M8, 4-PIN
Diagnostics **	EtherCAT: via local LED lights and software messages. Outputs: via local LED lights and state bytes
Bus power supply current absorption	nominal Icc 180 mA at 24VDC
Maximum number of pilots	128
Maximum number of digital inputs	128
Maximum number of digital outputs	128
Maximum number of analogue inputs	16
Maximum number of analogue outputs	16
Maximum number of inputs for temperatures	16
Data bit value	0 = non-active; 1= active
State of outputs in the absence of communication	Configurable for each output: non-active, holding of the state, setting of a preset state

* Minimum voltage 10.8VDC required at solenoid pilots. Check the minimum voltage at the power supply output using the calculations shown on page B2.24
 ** Refer to the user manual for a detailed description.
 *** IMPORTANT! Voltage greater than 32VDC will damage the system irreparably.

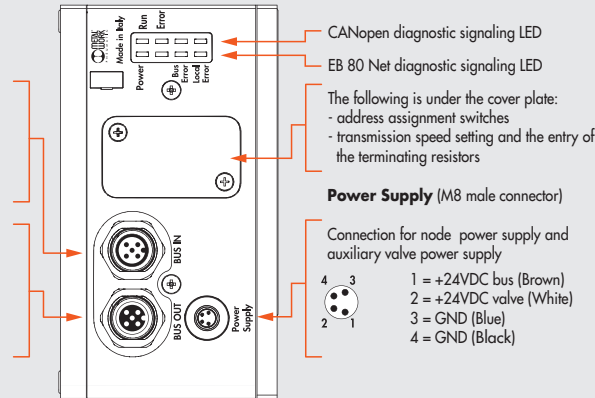
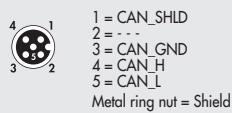
CANopen WIRING DIAGRAM

Connection to the CANopen network

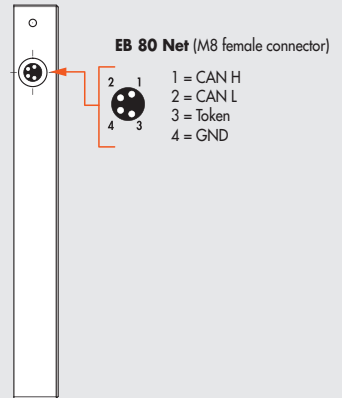
BUS IN (M12 male connector, A encoding)



BUS OUT (M12 female connector, A encoding)



End plate with intermediate control



TECHNICAL DATA

Fieldbus	Complying with CiA DS401 specification	
Factory settings	Module denomination: EB80series - Address 5	
Addressing	Hardware via DIP SWITCH	
Supply voltage range	VDC	12 -10% 24 +30%
Minimum operating voltage	VDC	10.8 *
Maximum operating voltage	VDC	31.2
Maximum admissible voltage	VDC	32 ***
Protection	Module protected from overload and polarity inversion. Outputs protected from overloads and short-circuits.	
Connections	Fieldbus: BUS IN M12 Male, 5 poles, A encoding - BUS OUT M12 Female, 5 poles, encoding A - Power supply: M8, 4-PIN	
Diagnostics**	CANopen: via local LED lights and software messages. Outputs: via local LED lights and state bytes	
Bus power supply current absorption	nominal Icc 180 mA at 24VDC	
Maximum number of pilots	128	
Maximum number of digital inputs	128	
Maximum number of digital outputs	128	
Maximum number of analogue inputs	16	
Maximum number of analogue outputs	16	
Maximum number of inputs for temperatures	16	
Data bit value	0 = non-active; 1= active	
State of outputs in the absence of communication	Configurable for each output: non-active, holding of the state, setting of a preset state	

* Minimum voltage 10.8VDC required at solenoid pilots. Check the minimum voltage at the power supply output using the calculations shown on page B2.24

** Refer to the user manual for a detailed description.

*** IMPORTANT! Voltage greater than 32VDC will damage the system irreparably.

Profinet IO WIRING DIAGRAM

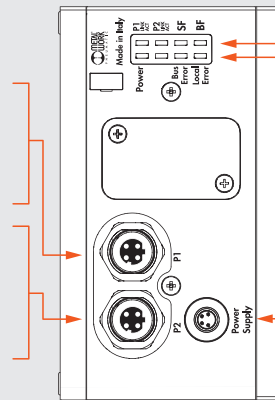
Connection to the Profinet IO network

P1 (M12 female connector, D encoding)

- 1 = TD+
 - 2 = RD+
 - 3 = TD-
 - 4 = RD-
- Metal ring nut = Shield

P2 (M12 female connector, D encoding)

- 1 = TD+
 - 2 = RD+
 - 3 = TD-
 - 4 = RD-
- Metal ring nut = Shield



- Profinet IO diagnostic signaling LED
- EB 80 Net diagnostic signaling LED

Power Supply (M8 male connector)

- Connection for node power supply and auxiliary valve power supply
- 1 = +24VDC bus (Brown)
 - 2 = +24VDC valve (White)
 - 3 = GND (Blue)
 - 4 = GND (Black)

End plate with intermediate control



EB 80 Net (M8 female connector)

- 1 = CAN H
- 2 = CAN L
- 3 = Token
- 4 = GND

TECHNICAL DATA

Fieldbus	100 Mbit/s - Full-duplex – Supports Fast Start Up, RT communication, Shared Device, Identification & Maintenance 1-4	
Factory settings	Module denomination: EB80series – IP address: 0.0.0.0	
Addressing	DCP Software	
Supply voltage range	VDC	12 -10% 24 +30%
Minimum operating voltage	VDC	10.8 *
Maximum operating voltage	VDC	31.2
Maximum admissible voltage	VDC	32 ***
Protection	Module protected from overload and polarity inversion. Outputs protected from overloads and short-circuits.	
Connections	Fieldbus: 2 M12 Female, D encoding, internal switch. Power supply: M8, 4-PIN	
Diagnostics **	Profinet IO: via local LED lights and software messages. Outputs: via local LED lights and state bytes	
Bus power supply current absorption	nominal Icc 180 mA at 24VDC	
Maximum number of pilots	128	
Maximum number of digital inputs	128	
Maximum number of digital outputs	128	
Maximum number of analogue inputs	16	
Maximum number of analogue outputs	16	
Maximum number of inputs for temperatures	16	
Data bit value	0 = non-active; 1= active	
State of outputs in the absence of communication	Configurable for each output: non-active, holding of the state, setting of a preset state	

* Minimum voltage 10.8VDC required at solenoid pilots. Check the minimum voltage at the power supply output using the calculations shown on page B2.24

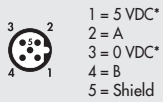
** Refer to the user manual for a detailed description.

*** IMPORTANT! Voltage greater than 32VDC will damage the system irreparably.

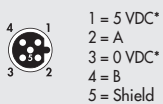
Profibus-DP WIRING DIAGRAM

Connection to the Profibus-DP network

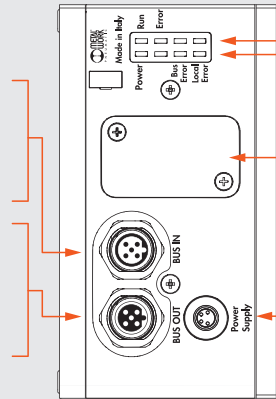
BUS IN (M12 Male Connector, B encoding)



BUS OUT (M12 female connector, B encoding)



* DO NOT CONNECT PIN 1 and PIN 3:
Only the power supply of external terminating resistors must be used.



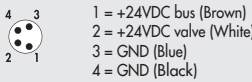
Profibus-DP diagnostic signaling LED

EB 80 Net diagnostic signaling LED

The following is under the cover plate:
- address assignment switches
- the entry of the terminating resistors

Power Supply (M8 male connector)

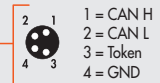
Connection for node power supply and auxiliary valve power supply



End plate with intermediate control



EB 80 Net (M8 female connector)



TECHNICAL DATA

Fieldbus	Complying with Profibus-DP DIN E 1924 specification	
Factory settings	Module denomination: EB80series - Address 5	
Addressing	Hardware via ROTARY SWITCH	
Supply voltage range	VDC	12 -10% 24 +30%
Minimum operating voltage	VDC	10.8 *
Maximum operating voltage	VDC	31.2
Maximum admissible voltage	VDC	32 ***
Protection	Module protected from overload and polarity inversion. Outputs protected from overloads and short-circuits.	
Connections	Fieldbus: BUS IN M12 Male, 5 poles, B encoding - BUS OUT M12 Female, 5 poles, B encoding - Power supply: M8, 4-PIN	
Diagnostics **	Profibus-DP: via local LED lights and software messages. Outputs: via local LED lights and state bytes	
Bus power supply current absorption		nominal I _{cc} 180 mA at 24VDC
Maximum number of pilots		128
Maximum number of digital inputs		128
Maximum number of digital outputs		128
Maximum number of analogue inputs		16
Maximum number of analogue outputs		16
Maximum number of inputs for temperatures		16
Data bit value		0 = non-active; 1 = active
State of outputs in the absence of communication		Configurable for each output: non-active, holding of the state, setting of a preset state

* Minimum voltage 10.8VDC required at solenoid pilots. Check the minimum voltage at the power supply output using the calculations shown on page B2.24

** Refer to the user manual for a detailed description.

*** IMPORTANT! Voltage greater than 32VDC will damage the system irreparably.

Ethernet POWERLINK WIRING DIAGRAM

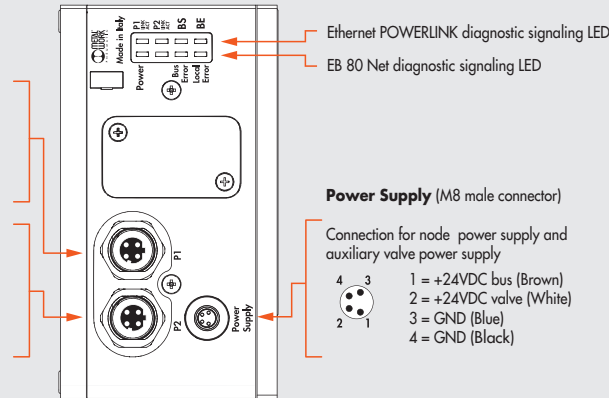
Connection to the Ethernet POWERLINK network

P1 (M12 female connector, D encoding)

- 1 = TD+
 - 2 = RD+
 - 3 = TD-
 - 4 = RD-
- Metal ring nut = Shield

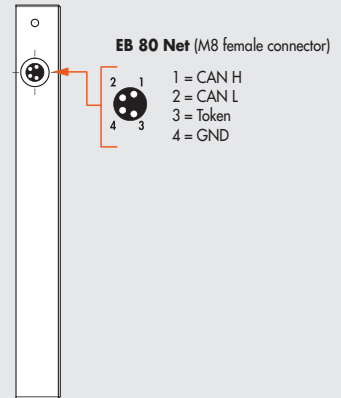
P2 (M12 female connector, D encoding)

- 1 = TD+
 - 2 = RD+
 - 3 = TD-
 - 4 = RD-
- Metal ring nut = Shield



- Power Supply** (M8 male connector)
- 1 = +24VDC bus (Brown)
 - 2 = +24VDC valve (White)
 - 3 = GND (Blue)
 - 4 = GND (Black)

End plate with intermediate control



TECHNICAL DATA

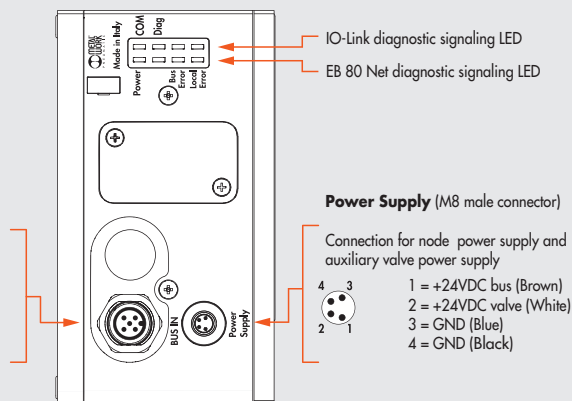
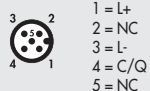
Fieldbus	100 Mbit/S - Half-duplex - Supports auto-negotiation
Factory settings	module denomination: EB80series address number 2
Addressing	Hardware by rotary switch
Supply voltage range	12 -10% 24 +30%
Minimum operating voltage	10.8 *
Maximum operating voltage	31.2
Maximum admissible voltage	32 ***
Protection	Module protected from overload and polarity inversion. Outputs protected from overloads and short-circuits.
Connections	Fieldbus: 2 M12 Female, D encoding, internal switch. Power supply: M8, 4-PIN
Diagnostics **	Ethernet POWERLINK: via local LED lights and software messages. Outputs: via local LED lights and state bytes
Bus power supply current absorption	nominal Icc 180 mA at 24VDC
Maximum number of pilots	128
Maximum number of digital inputs	128
Maximum number of digital outputs	128
Maximum number of analogue inputs	16
Maximum number of analogue outputs	16
Maximum number of inputs for temperatures	16
Data bit value	0 = non-active; 1 = active
State of outputs in the absence of communication	Configurable for each output: non-active, holding of the state, setting of a preset state

* Minimum voltage 10.8VDC required at solenoid pilots. Check the minimum voltage at the power supply output using the calculations shown on page B2.24
 ** Refer to the user manual for a detailed description.
 *** IMPORTANT! Voltage greater than 32VDC will damage the system irreparably.

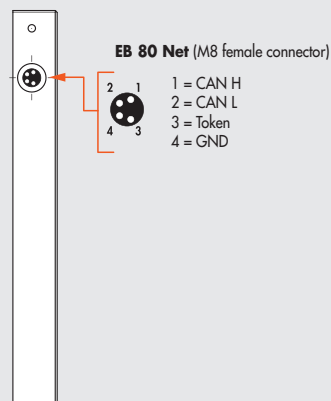
IO-Link 32 IN / 32 OUT WIRING DIAGRAM

Connection to the IO-Link network

BUS IN (M12 male connector, A encoding)



End plate with intermediate control



TECHNICAL DATA	
Fieldbus	IO-Link version 1.1
Communication speed	Kbps 230.4 (COM3)
Vendor ID / Device ID	1046 (hex 0x0416) / 32 (hex 0x000020)
Minimum cycle time	ms 2.8
Process data length	5 byte of Input / 4 byte of Output
Supply voltage range (M8 connector)	VDC 12 -10% 24 +30%
Minimum operating voltage	VDC 10.8 *
Maximum operating voltage	VDC 31.2
Maximum admissible voltage	VDC 32 ***
IO-Link power supply (L+L - Bus IN connector)	VDC min 20, max 30
Protection	Module protected from overload and polarity inversion. Outputs protected from overloads and short-circuits.
Connections	Fieldbus: M12 male, A-coded - port class A. Power supply: M8, 4-PIN
Diagnostics **	IO-Link: via local LED lights and software messages. Outputs: via local LED lights and state bytes
Power supply current absorption	See IO-Link instruction manual
Maximum number of pilots	32
Maximum number of digital inputs	32
Data bit value	0 = non-active; 1 = active
State of outputs in the absence of communication	Configurable for each output: non-active, holding of the state, setting of a preset state

* Minimum voltage 10.8VDC required at solenoid pilots. Check the minimum voltage at the power supply output using the calculations shown on page B2.24

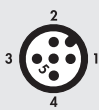
** Refer to the user manual for a detailed description.

*** IMPORTANT! Voltage greater than 32VDC will damage the system irreparably.

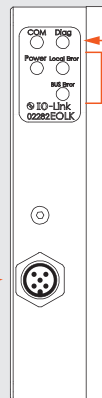
IO-Link 64 OUT WIRING DIAGRAM

Connection to the IO-Link network

BUS IN (M12 male connector, A encoding)



Port Class A	Port Class B
1 = L+	1 = L+
2 = NC	2 = 2L+
3 = L-	3 = L-
4 = C/Q	4 = C/Q
5 = NC	5 = 2L-



IO-Link diagnostic signaling LED
EB 80 Net diagnostic signaling LED

End plate with intermediate control



EB 80 Net (M8 female connector)



1	= CAN H
2	= CAN L
3	= Token
4	= GND

TECHNICAL DATA

Fieldbus	IO-Link version 1.1
Communication speed	Kbps 230.4 (COM3)
Vendor ID / Device ID	1046 (hex 0x0416) / 64 (hex 0x000040)
Minimum cycle time	ms 2.8
Process data length	1 byte of Input / 8 byte of Output
Valves supply voltage range	VDC 12 -10% 24 +30%
Minimum valves operating voltage	VDC 10.8 *
Maximum valves operating voltage	VDC 31.2
Maximum admissible voltage	VDC 32 ***
IO-Link power supply (L+L - Bus IN connector)	VDC min 18, max 30
Protection	Module protected from overload and polarity inversion. Outputs protected from overloads and short-circuits.
Connections	Fieldbus: M12 male, A-coded - port class A - port class B
Diagnostics**	IO-Link: via local LED lights and software messages. Outputs: via local LED lights and state bytes
Power supply current absorption	See IO-Link 64 OUT instruction manual
Maximum number of pilots	64
Data bit value	0 = non-active; 1 = active
State of outputs in the absence of communication	Configurable for each output: non-active, holding of the state, setting of a preset state

* Minimum voltage 10.8VDC required at solenoid pilots. Check the minimum voltage at the power supply output using the calculations shown on page B2.24

** Refer to the user manual for a detailed description.

*** IMPORTANT! Voltage greater than 32VDC will damage the system irreparably.

N.B.: The EB 80 island with IO-Link 64 OUT can be connected with an EB 80 island with Additional electrical control, but the latter cannot manage IN or OUT modules.

CC-Link IE Field Basic WIRING DIAGRAM

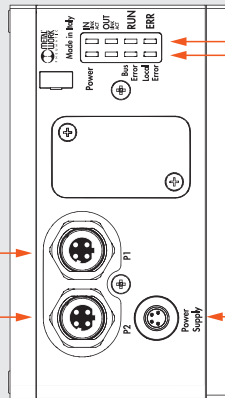
Connection to the CC-Link IE Field Basic network

P1 (M12 female connector, D encoding)

- 1 = TD+
 - 2 = RD+
 - 3 = TD-
 - 4 = RD-
- Metal ring nut = Shield

P2 (M12 female connector, D encoding)

- 1 = TD+
 - 2 = RD+
 - 3 = TD-
 - 4 = RD-
- Metal ring nut = Shield



CC-Link IE Field Basic diagnostic signaling LED
EB 80 Net diagnostic signaling LED

Power Supply (M8 male connector)

- Connection for node power supply and auxiliary valve power supply
- 1 = +24VDC bus (Brown)
 - 2 = +24VDC valve (White)
 - 3 = GND (Blue)
 - 4 = GND (Black)

End plate with intermediate control



EB 80 Net (M8 female connector)

- 1 = CAN H
- 2 = CAN L
- 3 = Token
- 4 = GND

TECHNICAL DATA

Fieldbus	100 Mbit/s Number of occupied stations: from 1 to 4	
Factory settings	IP address: 192.168.3.32 Subnet Mask: 255.255.255.0	
Addressing	Software	
Supply voltage range	VDC	12 -10% 24 +30%
Minimum operating voltage	VDC	10.8 *
Maximum operating voltage	VDC	31.2
Maximum admissible voltage	VDC	32 ***
Protection	Module protected from overload and polarity inversion. Outputs protected from overloads and short-circuits.	
Connections	Fieldbus: 2 M12 Female, D encoding, internal switch. Power supply: M8, 4-PIN	
Diagnostics **	CC-Link IE Field Basic: via local LED lights and software messages. Outputs: via local LED lights and state bytes	
Bus power supply current absorption	nominal Icc 180 mA at 24VDC	
Maximum number of pilots	128	
Maximum number of digital inputs	128	
Maximum number of digital outputs	128	
Maximum number of analogue inputs	16	
Maximum number of analogue outputs	16	
Maximum number of inputs for temperatures	16	
Data bit value	0 = non-active; 1= active	
State of outputs in the absence of communication	Configurable for each output: non-active, holding of the state, setting of a preset state	

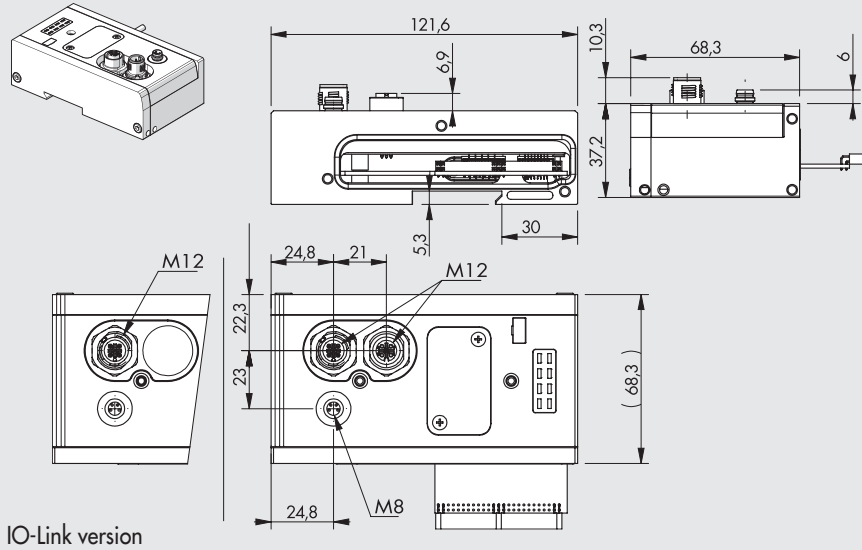
* Minimum voltage 10.8VDC required at solenoid pilots. Check the minimum voltage at the power supply output using the calculations shown on page B2.24

** Refer to the user manual for a detailed description.

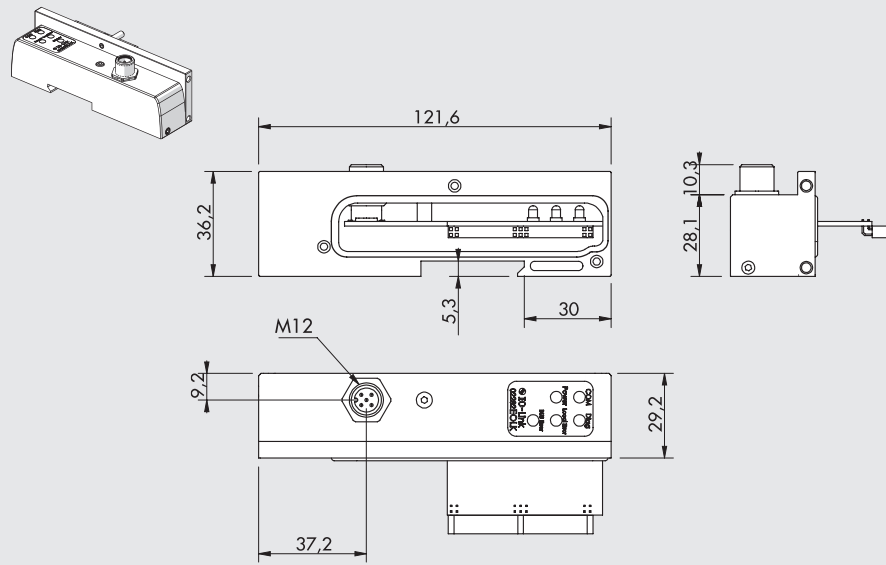
*** IMPORTANT! Voltage greater than 32VDC will damage the system irreparably.

DIMENSIONS - ORDERING CODES

ELECTRICAL CONNECTION FIELDBUS DIMENSION



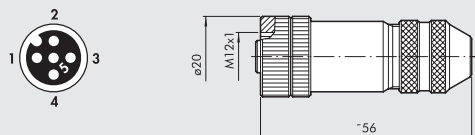
Code	Description	Weight [g]
02282E0EN	EB 80 Electrical connection EtherNet/IP	350
02282E0EC	EB 80 Electrical connection EtherCAT	350
02282E0PN	EB 80 Electrical connection Profinet IO	350
02282E0CN	EB 80 Electrical connection CANopen	350
02282E0PB	EB 80 Electrical connection Profibus-DP	350
02282E0PL	EB 80 Electrical connection Ethernet POWERLINK	350
02282E0IO	EB 80 Electrical connection IO-Link 32 IN / 32 OUT	350
02282E0LK	EB 80 Electrical connection IO-Link 64 OUT	180
02282E0CC	EB 80 Electrical connection CC-Link IE Field Basic	350



NOTES

ACCESSORIES

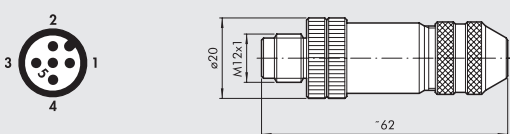
M12 FEMALE CONNECTOR FOR BUS-IN, A ENCODING



Code	Description
0240009055	M12 5-pin female connector, encoding A

Note: Can be used for Bus CANopen and IO-Link

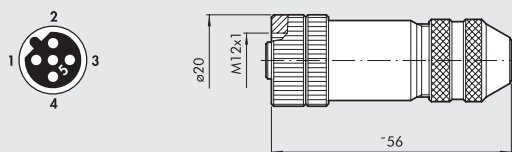
M12 MALE CONNECTOR FOR BUS-IN, A ENCODING



Code	Description
0240009038	M12 5-pin male connector, encoding A

Note: Can be used for Bus CANopen

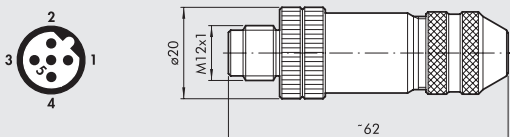
M12 FEMALE CONNECTOR FOR BUS-IN, B ENCODING



Code	Description
0240009036	M12 5-pin female connector, encoding B

Note: Can be used for Profibus-DP

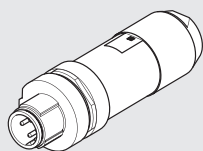
M12 MALE CONNECTOR FOR BUS-IN, B ENCODING



Code	Description
0240009035	M12 5-pin male connector, encoding B

Note: Can be used for Profibus-DP

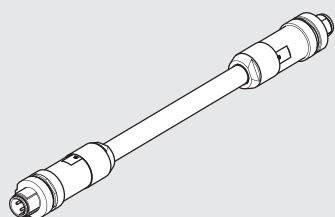
M12 BUS CONNECTOR, D ENCODING



Code	Description
0240005051	M12 4-pin BUS connector, D-coded

Note: Can be used for BUS units in the EtherNet family (Profinet IO, EtherCAT, EtherNet/IP, Ethernet POWERLINK, CC-Link IE Field Basic)

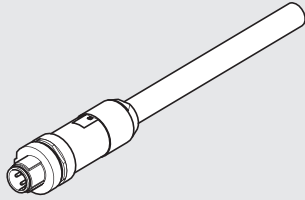
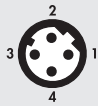
STRAIGHT CONNECTOR FOR M12-M12 BUS, D-CODED



Code	Description
0240005103	Straight connector for M12-M12 4-pin BUS, D-coded, with 3 m cable
0240005105	Straight connector for M12-M12 4-pin BUS, D-coded, with 5 m cable
0240005110	Straight connector for M12-M12 4-pin BUS, D-coded, with 10 m cable

Note: Can be used for BUS units in the EtherNet family (Profinet IO, EtherCAT, EtherNet/IP, Ethernet POWERLINK, CC-Link IE Field Basic)

STRAIGHT CONNECTOR FOR M12 BUS, D-CODED

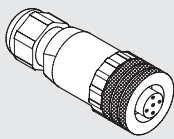
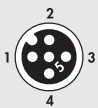


Pin	Cable color
1	Yellow
2	White
3	Red
4	Blue

Code	Description
0240005093	Straight connector for M12 4-pin BUS, D-coded, with 3 m cable
0240005095	Straight connector for M12 4-pin BUS, D-coded, with 5 m cable
0240005100	Straight connector for M12 4-pin BUS, D-coded, with 10 m cable

Note: Can be used for BUS units in the EtherNet family (Profinet IO, EtherCAT, EtherNet/IP, Ethernet POWERLINK, CC-Link IE Field Basic)

STRAIGHT CONNECTOR FOR M12, A-CODED

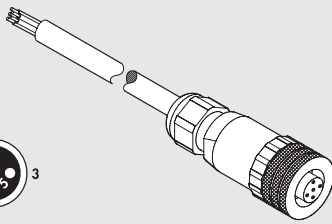
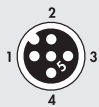


Code	Description
W0970513001	5-PIN M12x1 straight connector

Note: Can be used for IO-Link

STRAIGHT CONNECTOR WITH WIRE FOR M12, A-CODED

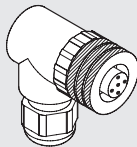
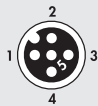
Pin	Cable color
1	Brown
2	White
3	Blue
4	Black
5	Gray



Code	Description
W0970513002	5-PIN M12x1 straight connector with wire L = 5 m

Note: Can be used for IO-Link

90° CONNECTOR FOR M12, A-CODED

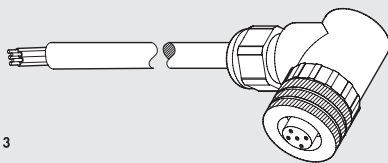
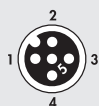


Code	Description
W0970513003	M12x1 5-PIN 90° connector

Note: Can be used for IO-Link

90° CONNECTOR WITH WIRE FOR M12, A-CODED

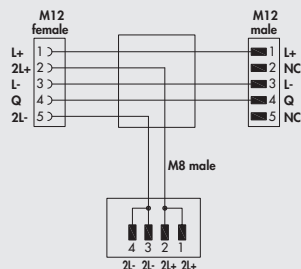
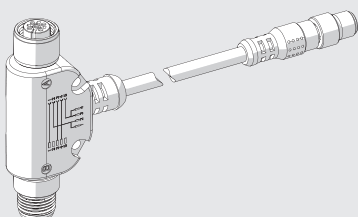
Pin	Cable color
1	Brown
2	White
3	Blue
4	Black
5	Gray



Code	Description
W0970513004	M12x1 5-PIN 90° connector with wire L = 5 m

Note: Can be used for IO-Link

T-CONNECTOR M12 A-CODED / M8 MALE FOR AUXILIARY POWER



Code	Description
0240009070	T - connector for auxiliary power

Note: Can be used for IO-Link 64 OUT

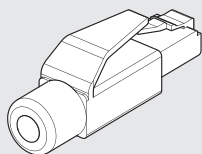
CABLE FOR BUS



Code	Description
0240005220*	Cable for BUS 20 m
0240005250	Cable for BUS CANopen BUS 20 m

* Can be used for BUS units in the EtherNet family (Profinet IO, EtherCAT, EtherNet/IP, Ethernet POWERLINK, CC-Link IE Field Basic)

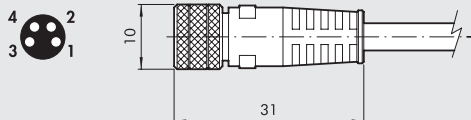
RJ45 CONNECTOR



Code	Description
0240005050	RJ45 connector with 4 contacts according to IEC 60603-7

M8 CONNECTOR FOR POWER SUPPLY

Pin	Cable color
1	Brown
2	White
3	Blue
4	Black



Code	Description
0240009060	M8 4-pin female connector for power supply, cable L = 3 m
0240009037	M8 4-pin female connector for power supply, cable L = 5 m
0240009058	M8 4-pin female connector for power supply, cable L = 10 m
0240009059	M8 4-pin female connector for power supply, cable L = 15 m
0240009P60 *	M8 4-pin female connector for power supply, H-FLEX CL6, cable L = 3 m
0240009P37 *	M8 4-pin female connector for power supply, H-FLEX CL6, cable L = 5 m
0240009P58 *	M8 4-pin female connector for power supply, H-FLEX CL6, cable L = 10 m
0240009P59 *	M8 4-pin female connector for power supply, H-FLEX CL6, cable L = 15 m

* Very flexible cables, class 6 according to IEC 60228

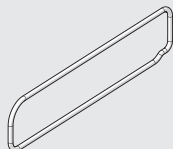
M8-M12 PLUG



Code	Description
0240009039	Plug for M8 connector
0240009040	Plug for M12 connector

SPARE PARTS

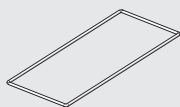
EB 80 ELECTRICAL CONNECTION INTERFACE OR-SEAL



Code	Description
02282R1003	EB 80 electrical connection interface or-seal

Comes in 10-pc. packs

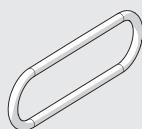
GASKET BETWEEN EB 80 BASE AND COVER BUS/SIGNALS



Code	Description
02282R1004	Kit of gaskets between EB 80 base and cover bus/signals

Comes in 10-pc. packs

EB 80 BUS/SIGNAL INTERFACE OR-SEAL



Code	Description
02282R1005	EB 80 BUS/Signal interface OR-seal

Comes in 10-pc. packs

EB 80 ADDITIONAL ELECTRICAL CONNECTION - E

The additional electrical connection can be used to connect different EB 80 systems to a single bus node. To do this, the main island is equipped with a C3-type closed end-plate, equipped with an M8 connector. An M8-M8 connected cable relays the signal to the additional system. The system can be supplied with a very wide range of voltages, so much so that the EB 80 island can be controlled at either 12VDC or 24VDC (patented). Overvoltages up to 30% of the nominal value are admitted, i.e. up to 31.2VDC. The minimum voltage for the solenoid pilots can be 10.8VDC, i.e. 12VDC-10%. The modules consist of two parts: a lower part with a single aluminium body similar to that used for fieldbuses; an upper part with a technopolymer body specific for the additional model.



TECHNICAL DATA		
Supply voltage range	VDC	12 -10% 24 +30%
Minimum operating voltage	VDC	10.8 *
Maximum operating voltage	VDC	31.2
Maximum admissible voltage	VDC	32 ***
Power supply without controlled valves	W	4 for "Electrical connection - E" + 0.25 for each "Base - B"
Solenoid pilot power on start-up (Speed Up)	W	3 for 15 msec
Solenoid pilot power after start-up (holding)	W	0.3
Maximum admissible current	A	4 continuous, 6 instantaneous for valve supply 4 continuous, 6 instantaneous for bus and signal supply
Protection		Overload and short-circuit protected solenoid pilot Output
Diagnostics		LED signal on valve, LED on electrical connection and software message regarding: short-circuited solenoid pilot; solenoid pilot with coil failure; voltage out of range (undervoltage and overvoltage); module communication control; on switching, configuration other than that stored.
Maximum number of solenoid pilots		128 **
Maximum number of simultaneously controllable solenoid pilots (to actuate a greater number of pilots at the same time, add "Intermediate modules - M" with "Electrical connection - E")		38
Maximum number of signals **		128 digital inputs, 128 digital outputs, 16 analogue inputs, 16 analogue outputs
Maximum number of nodes **		40 Bases for valves + 16 Digital inputs + 16 Digital outputs + 4 Analogue inputs + 4 Analogue outputs
Maximum length of the connection cables ****	m	40
Ambient temperature	°C	-10 to +50
	°F	14 to 122
Degree of protection		IP65 (with connectors connected or plugged if not used)
Weight	g	320

* Minimum voltage 10.8VDC required at solenoid pilots. Check the minimum voltage at the power supply output using the calculations shown on page B2.24

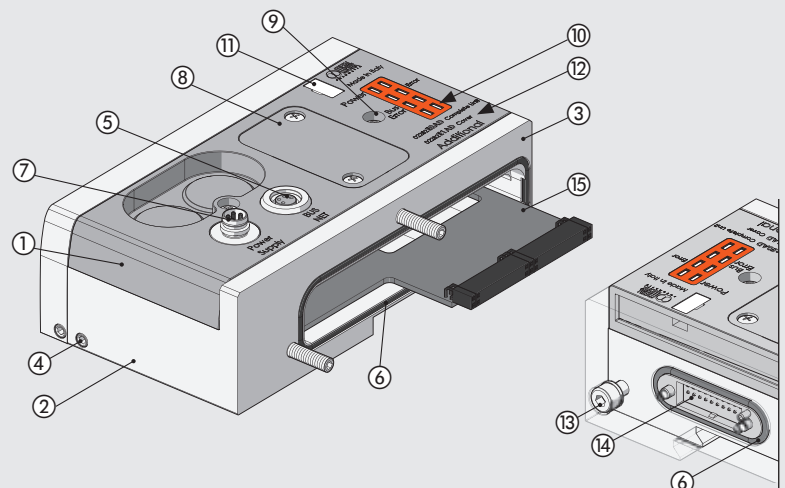
** Total numbers, by summing up those of the fieldbus connection and all additional connections.

*** **IMPORTANT! Voltage greater than 32VDC will damage the system irreparably.**

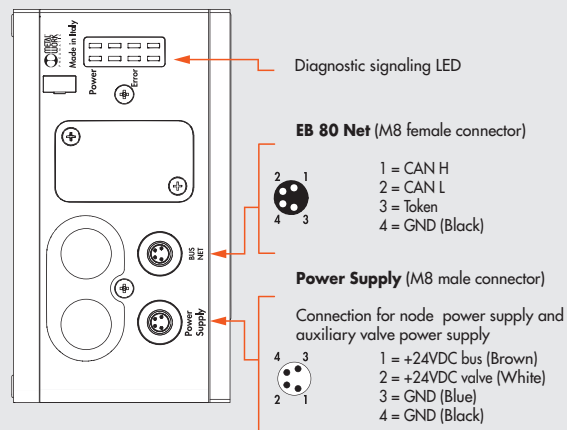
**** Sum of the lengths of the cables between the fieldbus electrical connection and any additional electrical connections.

COMPONENTS

- ① UPPER PART BODY: technopolymer
- ② LOWER PART BODY: painted aluminium
- ③ END PLATE: painted aluminium
- ④ GRUB SCREW securing the DIN bar or bracket: zinc-plated steel
- ⑤ CONNECTOR for connection to the valve island (main one)
- ⑥ GASKETS interfacing: NBR
- ⑦ M8 power supply CONNECTOR
- ⑧ COVER for access to bus address switches: technopolymer
- ⑨ SCREW securing the upper part to the lower part
- ⑩ LED light
- ⑪ NAMEPLATE: removable
- ⑫ IDENTIFICATION wording: laser etched
- ⑬ SCREW securing the end plate
- ⑭ CONNECTOR for solenoid valve base modules
- ⑮ CONNECTOR for Input/Output signal modules

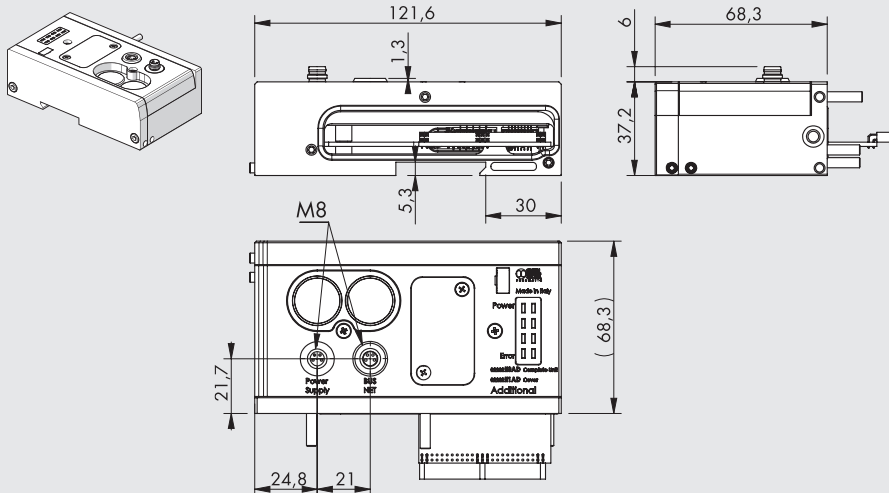


WIRING DIAGRAM



DIMENSIONS - ORDERING CODES

DIMENSION OF ADDITIONAL ELECTRICAL CONNECTION

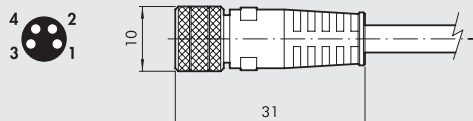


Code	Description	Weight [g]
02282E0AD	Additional electrical connection EB 80	320

ACCESSORIES

M8 CONNECTOR FOR POWER SUPPLY

Pin	Cable color
1	Brown
2	White
3	Blue
4	Black



Code	Description
0240009060	M8 4-pin female connector for power supply, cable L = 3 m
0240009037	M8 4-pin female connector for power supply, cable L = 5 m
0240009058	M8 4-pin female connector for power supply, cable L = 10 m
0240009059	M8 4-pin female connector for power supply, cable L = 15 m
0240009P60 *	M8 4-pin female connector for power supply, H-FLEX CL6, cable L = 3 m
0240009P37 *	M8 4-pin female connector for power supply, H-FLEX CL6, cable L = 5 m
0240009P58 *	M8 4-pin female connector for power supply, H-FLEX CL6, cable L = 10 m
0240009P59 *	M8 4-pin female connector for power supply, H-FLEX CL6, cable L = 15 m

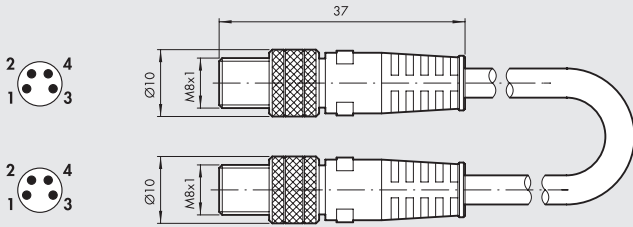
* Very flexible cables, class 6 according to IEC 60228

M8 PLUG



Code	Description
0240009039	Plug for M8 connector

M8 CONNECTOR WITH CABLE FOR CONNECTION BETWEEN EB 80 ISLANDS

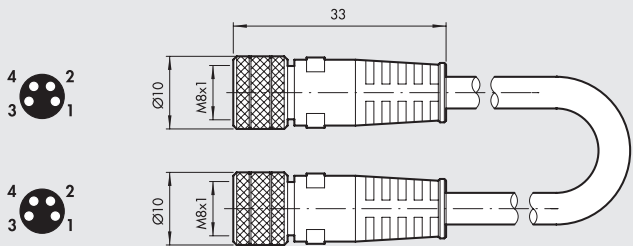


Code	Description	Weight [g]
0240010201	M8-M8 4-pin male straight connector with shielded cable L = 1 m	45
0240010205	M8-M8 4-pin male straight connector with shielded cable L = 5 m	185
0240010210	M8-M8 4-pin male straight connector with shielded cable L = 10 m	330
0240010215	M8-M8 4-pin male straight connector with shielded cable L = 15 m	475
0240010220	M8-M8 4-pin male straight connector with shielded cable L = 20 m	620
0240010405 *	M8-M8 4-pin male straight connector with shielded cable H-FLEX CL6, L = 5 m	185
0240010410 *	M8-M8 4-pin male straight connector with shielded cable H-FLEX CL6, L = 10 m	330
0240010415 *	M8-M8 4-pin male straight connector with shielded cable H-FLEX CL6, L = 15 m	475
0240010420 *	M8-M8 4-pin male straight connector with shielded cable H-FLEX CL6, L = 20 m	620

* Very flexible cables, class 6 according to IEC 60228

N.B.: For correct operation of the entire EB 80 system, use M8-M8 pre-wired, twisted and shielded cables only.

M8 ADAPTER CABLE

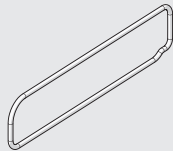


Code	Description	Weight [g]
0240010350	M8-M8 4-pin female adapter cable with shielded cable L = 200 mm	16

N.B.: Cannot be used with cables for mobile laying (H-FLEX CL6)

SPARE PARTS

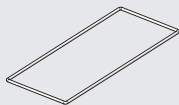
EB 80 ELECTRICAL CONNECTION INTERFACE OR-SEAL



Code	Description
02282R1003	EB 80 electrical connection interface OR-seal

Comes in 10-pc. packs

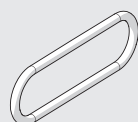
GASKET BETWEEN EB 80 BASE AND COVER BUS/SIGNALS



Code	Description
02282R1004	Kit of gaskets between EB 80 base and cover bus/signals

Comes in 10-pc. packs

EB 80 BUS/SIGNAL INTERFACE OR-SEAL



Code	Description
02282R1005	EB 80 BUS/Signal interface OR-seal

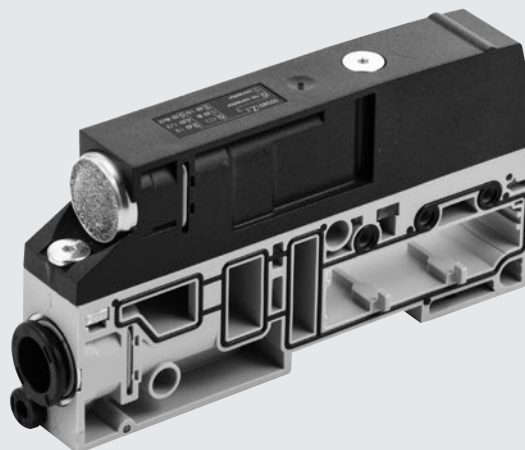
Comes in 10-pc. packs

EB 80 COMPRESSED-AIR SUPPLY - P

The Compressed air supply - P modules power the valve base and collect the air coming from the relief ports. Various versions are available, with pipe fittings of different diameter. The product code also identifies whether the module is set to supply the pilots without servo-assistance, in which case you only need to connect compressed air to the supply fitting; or with servo-assistance (recommended), in which case you only need to connect the compressed air to the Ø 4 pilot fitting. Switching from servo to non-servo operation or vice versa is possible, however, by changing the position of the orange gasket situated between the lower and the upper part of the module; the configuration is identified by a tab protruding at the back.

Relief ports 3 and 5 can be either connected using a silencer or conveyed via a fitting.

A version with separate ports 3 and 5 is also available. This feature is useful in versions with pilot servo-assistance to power the valves from ports 3 and 5, at different pressures from vacuum to 8 bar at different pressures from vacuum to 8 bar, including the version to configure a fieldbus island with signal modules only, without the pneumatic part.

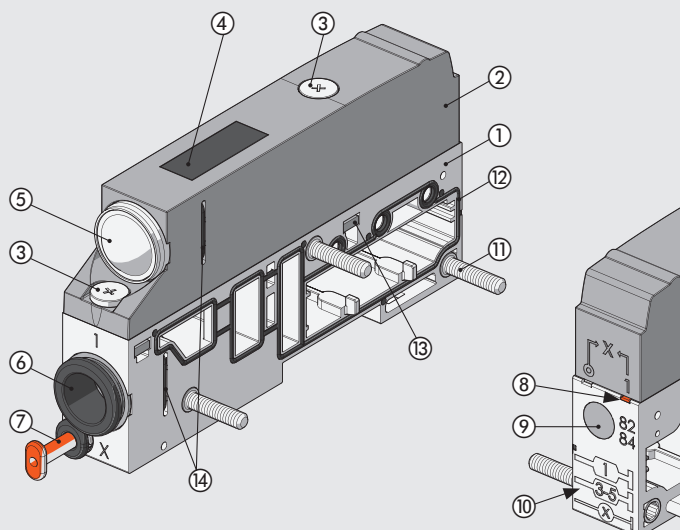


TECHNICAL DATA

Operating pressure					
Non-servo versions and solenoid pilot servo pressure		5/2 and 5/3		2/2 and 3/2	
	bar	3 to 8		min. (see graph on page B2.53) / max. 8	
	MPa	0.3 to 0.8		min. (see graph on page B2.53) / max. 0.8	
	psi	43 to 116		min. (see graph on page B2.53) / max. 116	
Assisted valves	bar	Vacuum to 10			
	MPa	Vacuum to 1			
	psi	Vacuum to 145			
Ambient temperature	°C	-10 to + 50			
	°F	14 to 122			
Flow rate at 6.3 bar ΔP 1 bar		Ø 8 (5/16")	Ø 10	Ø 12	Ø 1/2"
Feeding (port 1)	Nl/min	1800	2800	3500	3500
Exhaust with fitting (ports 3 and 5)	Nl/min	2000	3200	4400	4400
Separate exhausts Ø 8 (N.B.: Pmax 8 bar)	Nl/min	1800 x 2	-	-	-
Flow rate at 6.3 bar free exhaust					
Exhaust with fitting (ports 3 and 5)	Nl/min	2700	3900	6100	6100
Silenced exhaust	Nl/min			3600	
Exhaust with fitting Ø12 and silencer W0970530086	Nl/min			6000	
Separate exhausts Ø 8 (N.B.: Pmax 8 bar)	Nl/min	2700 x 2	-	-	-
Fluid		Unlubricated air			
Versions		Silenced relief or conveyed relief, fittings for pipes Ø 8, 10, 12, 1/2"			
Degree of protection		IP65			
Weight	g	140	130	125	125

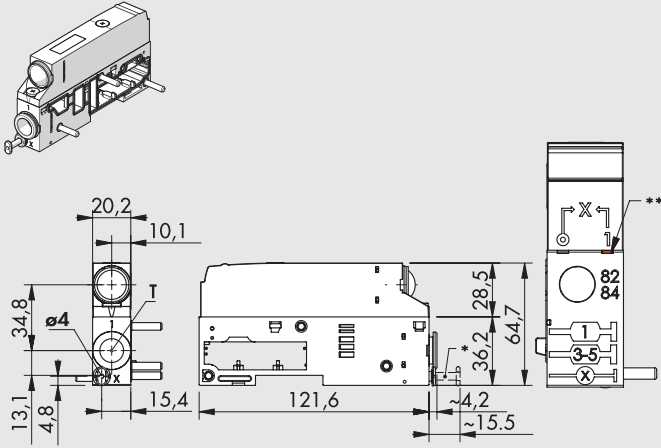
COMPONENTS

- ① LOWER PART BODY: technopolymer
- ② UPPER PART BODY: technopolymer
- ③ SCREWS securing the island bodies: zinc-plated steel (Tightening torque: 1.2 Nm)
- ④ TAG: with laser etched wording - technopolymer
- ⑤ RELIEF: silencer or pipe fitting
- ⑥ POWER SUPPLY: pipe fitting
- ⑦ PILOTING (X): Ø 4 pipe fitting
- ⑧ INDICATOR: indicates whether pilot power supply is separate or not
- ⑨ PILOT RELIEF: HDPE silencer
- ⑩ PICTOGRAM: showing compressed air system layout
- ⑪ TIE ROD: zinc-plated steel
- ⑫ GASKET: NBR
- ⑬ THREADED PLATE: zinc-plated steel
- ⑭ CARTRIDGE FIXING CLIP: stainless steel



DIMENSIONS - ORDERING CODES

COMPRESSED AIR SUPPLY - SILENCED RELIEF

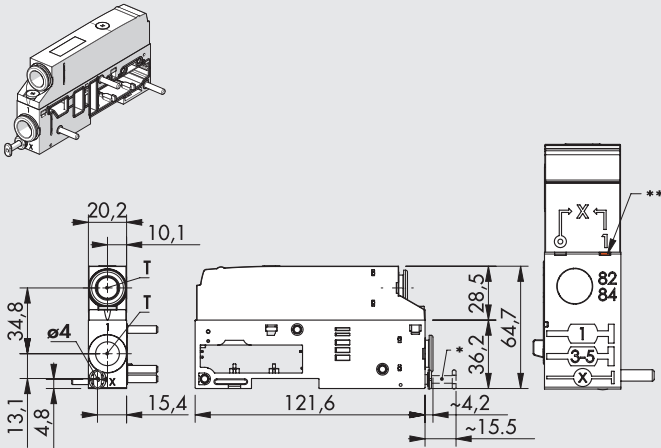


- * R9 plug for NON-SERVO-ASSISTED versions
- ** Orange tab in SERVO-ASSISTED (⊙) or NON-SERVO-ASSISTED (1) position

Symbol	T - Pipe fitting	Code	Weight [g]
	Ø 8 (5/16")	02282P1XZ00	140
	Ø 10	02282P2XZ00	130
	Ø 12	02282P3XZ00	125
	Ø 1/2"	02282P5XZ00	125

	Ø 8 (5/16")	02282P1IZ00	140
	Ø 10	02282P2IZ00	130
	Ø 12	02282P3IZ00	125
	Ø 1/2"	02282P5IZ00	125

COMPRESSED AIR SUPPLY - CONVEYED RELIEF

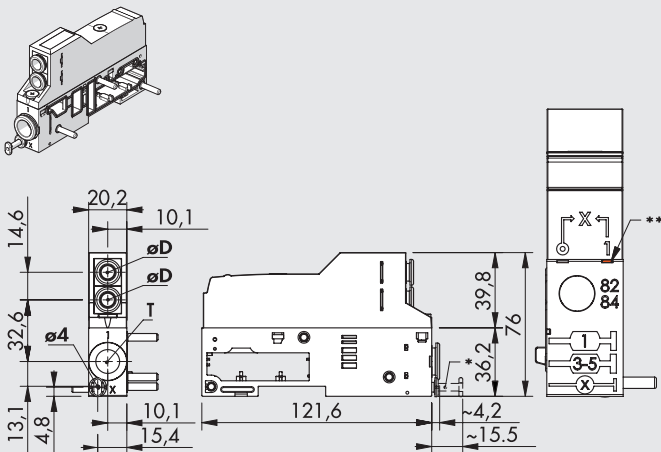


- * R9 plug for NON-SERVO-ASSISTED versions
- ** Orange tab in SERVO-ASSISTED (⊙) or NON-SERVO-ASSISTED (1) position

Symbol	T - Pipe fitting	Code	Weight [g]
	Ø 8 (5/16")	02282P1XZ10	140
	Ø 10	02282P2XZ20	130
	Ø 12	02282P3XZ30	125
	Ø 1/2"	02282P5XZ50	125

	Ø 8 (5/16")	02282P1IZ10	140
	Ø 10	02282P2IZ20	130
	Ø 12	02282P3IZ30	125
	Ø 1/2"	02282P5IZ50	125

COMPRESSED AIR SUPPLY - SEPARATE RELIEFS



- * R9 plug for NON-SERVO-ASSISTED versions
- ** Orange tab in SERVO-ASSISTED (⊙) or NON-SERVO-ASSISTED (1) position

Symbol	T - Pipe fitting	Code	Weight [g]
	Ø 8 (5/16")	02282P1XZ_0	155
	Ø 10	02282P2XZ_0	145
	Ø 12	02282P3XZ_0	140
	Ø 1/2"	02282P5XZ_0	140

_ = To complete the code enter:
 6: øD = 8 mm; 7: øD = 6 mm; 8: øD = 4 mm

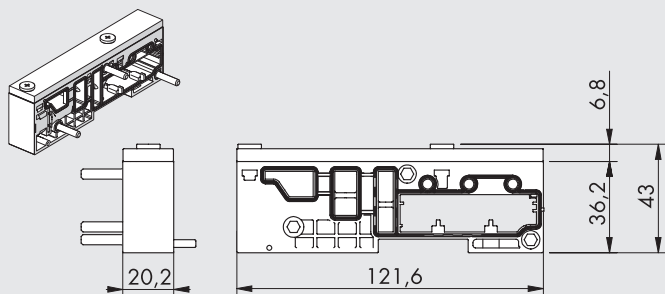
N.B.: Maximum pressure in the ports 3 and 5: 8 bar

	Ø 8 (5/16")	02282P1IZ_0	155
	Ø 10	02282P2IZ_0	145
	Ø 12	02282P3IZ_0	140
	Ø 1/2"	02282P5IZ_0	140

_ = To complete the code enter:
 6: øD = 8 mm; 7: øD = 6 mm; 8: øD = 4 mm

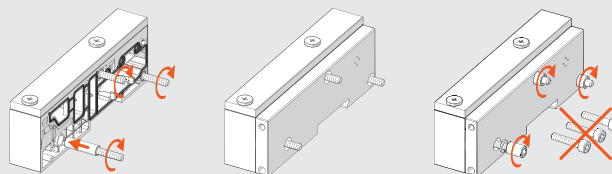
N.B.: Maximum pressure in the ports 3 and 5: 8 bar

MODULE FOR ELECTRIC VERSION ONLY



Code	Description	Weight [g]
02282P91Z90	Module for electric version only	120

N.B.: Version used to make up an EB 80 island without pneumatic part, but only with "S" signal modules and fieldbus or additional electrical connection "E". Bases and valves cannot be added.



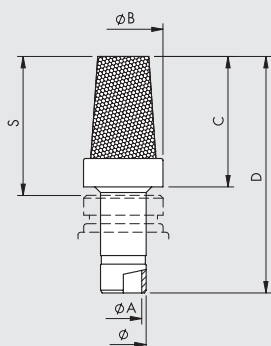
KEY TO CODES

02282 FAMILY	P SUBSYSTEM	3 PORT FITTING 1	1 PILOT SERVO-ASSISTED	Z UPPER PART	3 PORTS 3 AND 5 FITTING	0 SPECIALTY
02282 EB 80	P Compressed air supply	1 Pipe fitting Ø 8 (5/16") 2 Pipe fitting Ø 10 3 Pipe fitting Ø 12 5 Pipe fitting Ø 1/2"	1 Non-servo-assisted X Servo-assisted	Z The upper part is present	0 Silencer ▲ 1 Pipe fitting Ø 8 (5/16") ▲ 2 Pipe fitting Ø 10 ▲ 3 Pipe fitting Ø 12 ▲ 5 Pipe fitting Ø 1/2" 6 2 pipes fitting Ø 8 (5/16") (one for port 3, one for port 5) 7 2 pipes fitting Ø 6 (one for port 3, one for port 5) 8 2 pipes fitting Ø 4 (5/32") (one for port 3, one for port 5) 9 Without connection	0 Standard
		9 Module for electric version only	1 Non-servo-assisted			

▲ For ports 3 and 5 use the same pipe Ø of port 1.

ACCESSORIES

SILENCER FOR FITTING



Ø	ØA	ØB	C	D	S
8	6.5	14	23	42	24.5
12	10	18.8	29	51.5	31.5

Code	Description	Flow rate at 6.3 bar [Nl/min]	Weight [g]
W0970530084	Silencer for fitting, Ø 8	2400	15
W0970530086	Silencer for fitting, Ø 12	6000	24

SPARE PARTS

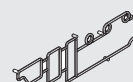
CARTRIDGE



Code	Description	Ø
02282R2110	EB 80 silencer cartridge kit	silencer
02282R2113	EB 80 Ø 8 power supply round cartridge kit	8 (5/16")
02282R2114	EB 80 Ø 10 power supply round cartridge kit	10
02282R2115	EB 80 Ø 12 power supply round cartridge kit	12
02282R2118	EB 80 Ø 1/2 power supply round cartridge kit	1/2"

Comes in 10-pc. packs

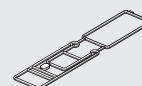
BASE INTERFACE GASKET



Code	Description
02282R1000	EB 80 base interface gasket kit

Comes in 10-pc. packs

LOWER /UPPER BODY GASKET



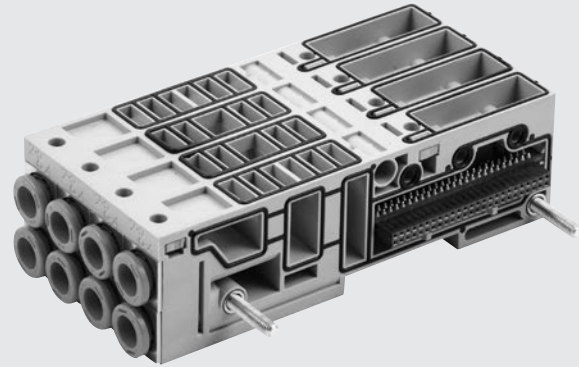
Code	Description
02282R1001	EB 80 lower/upper body gasket kit

Comes in 10-pc. packs

EB 80 BASES FOR VALVES - B

The EB 80 "Bases for valves - B" can be provided with 3 or 4 positions. A version is available with an electrical connection for a single control of each position, suitable for 5/2 monostable solenoid valves (physically impossible to install other valves). Another version comes with two electrical connections for each position and is suitable for all types of valves. The electronics in the base controls the signal coming from both the multi-pole connector and the fieldbus, so the base is the same, regardless of the control system of the island.

The air delivery ducts (ports 2 and 4) are made up of cartridge-type push-in fittings. The cartridge can be replaced, for example when the pipe diameter needs to be changed, by pulling out the clip placed under the base. The air flow ducts (ports 1, 3, 5, X) of the 4-position base are the full flow type. For the 3-position base, either full-flow or one or more sectioned ports can be mounted. With this solution, islands with zones with differentiated pressure can be created.

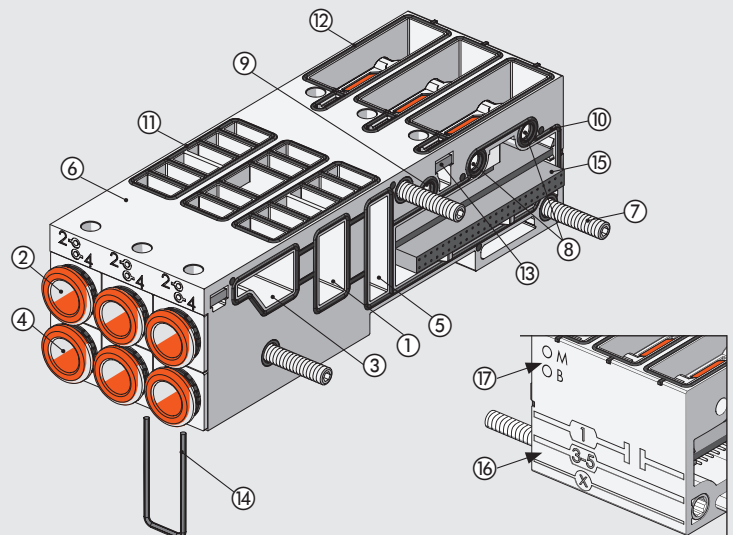


TECHNICAL DATA

Ambient temperature	°C	-10 to +50
	°F	14 to 122
Fluid		Unlubricated air
Versions		3-position base for controlling 3 solenoid pilots; 3 positions for 6 solenoid pilots; 4 positions for 4 solenoid pilots; 4 positions for 8 solenoid pilots.
		Pipe fittings Ø 4 (5/32"), 6, 8 (5/16"), 1/4" Ducts
		1, 3, 5 and X full flow
Degree of protection		3-position base with 1 sectioned duct; 1, 3 a 5 sectioned; 3 and 5 sectioned (after the first position)
		IP65

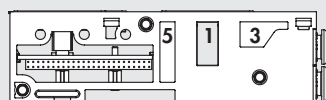
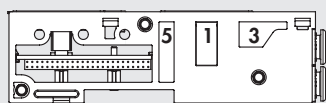
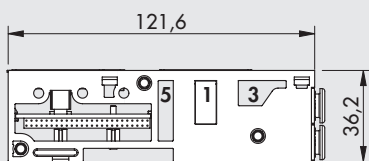
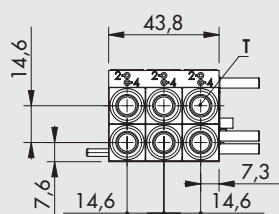
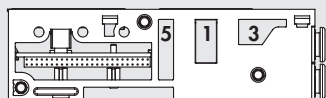
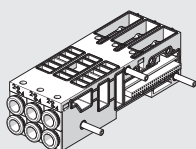
COMPONENTS

- ① PORT 1 DUCT
- ② PORT 2 CARTRIDGE: push-in fitting
- ③ PORT 3 DUCT
- ④ PORT 4 CARTRIDGE: push-in fitting
- ⑤ PORT 5 DUCT
- ⑥ BODY: technopolymer
- ⑦ TIE ROD: nickel-plated brass + stainless steel grub screw
- ⑧ 82/84 DUCT: pilot air relief
- ⑨ X DUCT: pilot control
- ⑩ GASKET BETWEEN BASES: NBR
- ⑪ GASKET FOR THE VALVE: NBR
- ⑫ GASKET FOR IP65: NBR
- ⑬ THREADED PLATE for securing the valves: zinc-plated steel
- ⑭ CLIP for securing the cartridge: stainless steel
- ⑮ ELECTRONICS
- ⑯ PICTOGRAM: indication of compressed air system layout
- ⑰ INDICATION of the type of electronic board:
M = to 3 or 4 controls - B = to 6 or 8 controls

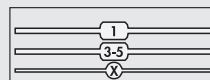


DIMENSIONS - ORDERING CODES

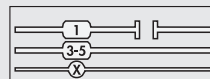
3-POSITION BASE FOR VALVES



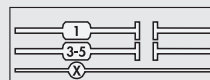
Symbol	T - Pipe fitting	Code		Weight [g]
		3 CONTROLS	6 CONTROLS	
	without cartridges	02282B3031110	02282B3061110	148
	Ø 4 (5/32")	02282B3034440	02282B3064440	210
	Ø 6	02282B3036660	02282B3066660	200
	Ø 8 (5/16")	02282B3038880	02282B3068880	183
	Ø 1/4"	02282B3032220	02282B3062220	200



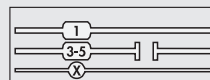
Symbol	T - Pipe fitting	Code		Weight [g]
		3 CONTROLS	6 CONTROLS	
	without cartridges	02282B3131110	02282B3161110	148
	Ø 4 (5/32")	02282B3134440	02282B3164440	210
	Ø 6	02282B3136660	02282B3166660	200
	Ø 8 (5/16")	02282B3138880	02282B3168880	183
	Ø 1/4"	02282B3132220	02282B3162220	200



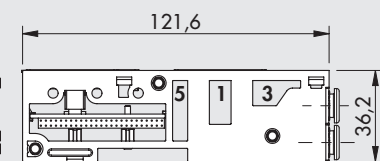
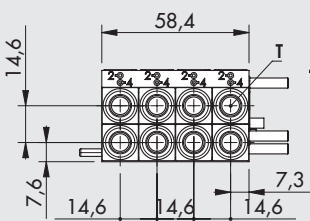
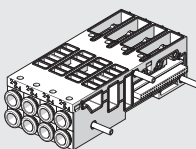
Symbol	T - Pipe fitting	Code		Weight [g]
		3 CONTROLS	6 CONTROLS	
	without cartridges	02282B3231110	02282B3261110	148
	Ø 4 (5/32")	02282B3234440	02282B3264440	210
	Ø 6	02282B3236660	02282B3266660	200
	Ø 8 (5/16")	02282B3238880	02282B3268880	183
	Ø 1/4"	02282B3232220	02282B3262220	200



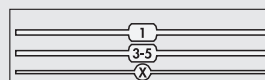
Symbol	T - Pipe fitting	Code		Weight [g]
		3 CONTROLS	6 CONTROLS	
	without cartridges	02282B3331110	02282B3361110	148
	Ø 4 (5/32")	02282B3334440	02282B3364440	210
	Ø 6	02282B3336660	02282B3366660	200
	Ø 8 (5/16")	02282B3338880	02282B3368880	183
	Ø 1/4"	02282B3332220	02282B3362220	200



4-POSITION BASE FOR VALVES



Symbol	T - Pipe fitting	Code		Weight [g]
		4 CONTROLS	8 CONTROLS	
	without cartridges	02282B4041111	02282B4081111	196
	Ø 4 (5/32")	02282B4044444	02282B4084444	276
	Ø 6	02282B4046666	02282B4086666	256
	Ø 8 (5/16")	02282B4048888	02282B4088888	244
	Ø 1/4"	02282B4042222	02282B4082222	256



KEY TO CODES

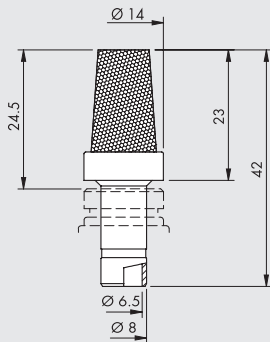
02282	B	3	0	6	8	8	8	0
FAMILY	SUBSYSTEM	NUMBER OF POSITIONS	PORTS IN THE BASE	NUMBER OF SOLENOID PILOT CONTROLS	1 st position (from left)	2 nd position	3 rd position	FITTINGS 4 th position
02282 EB 80	B Base for valve	3 3 positions 4 4 positions	0 Full-flow ports ▲ 1 Port 1 sectioned ▲ 2 Ports 1, 3 and 5 sectioned ▲ 3 Ports 3 and 5 sectioned	▲ 3 3 controls ■ 4 4 controls ▲ 6 6 controls ■ 8 8 controls	1 Without cartridges 2 Pipe fitting Ø 1/4" 4 Pipe fitting Ø 4 (5/32") 6 Pipe fitting Ø 6 8 Pipe fitting Ø 8 (5/16")			▲ 0 (for 3-position base) ■ 1 Without cartridges ■ 2 Pipe fitting Ø 1/4" ■ 4 Pipe fitting Ø 4 (5/32") ■ 6 Pipe fitting Ø 6 ■ 8 Pipe fitting Ø 8 (5/16")

▲ For 3-position base only.

■ For 4-position base only.

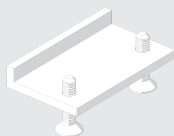
ACCESSORIES

SILENCER FOR FITTING, Ø 8



Code	Description	Flow rate at 6.3 bar [Nl/min]	Weight [g]
W0970530084	Silencer for fitting, Ø 8	2400	15

ADDITIONAL FIXING BRACKET TO OMEGA BAR



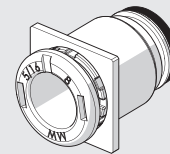
Code	Description	Weight [g]
02282R4001	Additional fixing bar accessory to EB 80 omega bar	5

Individually packed

N.B.: to be used to improve the fixing to Omega bars of islands with more than 40 valves. The bracket must be positioned every 20-25 valves.

SPARE PARTS

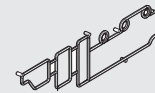
CARTRIDGE



Code	Description	Ø
02282R2001	EB 80 Ø 4 base square cartridge kit	4 (5/32")
02282R2002	EB 80 Ø 6 base square cartridge kit	6
02282R2003	EB 80 Ø 8 base square cartridge kit	8 (5/16")
02282R2006	EB 80 Ø 1/4 base square cartridge kit	1/4"

Comes in 10-pc. packs

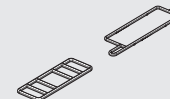
BASE INTERFACE GASKET



Code	Description
02282R1000	EB 80 base interface gasket kit

Comes in 10-pc. packs

BASE-VALVE GASKET



Code	Description
02282R1002	EB 80 base-valve gasket kit

Comes in 10-pc. packs

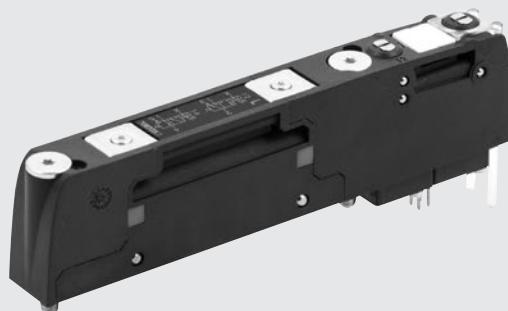
EB 80 VALVES

The valves in the EB 80 series are designed to ensure high flow using only one small size valve (14 mm wide), without the need of installing a larger size one, to the benefit of component standardisation.

Versions are available with all the main air supply diagrams - from 2/2 to 5/3. The valves are secured to the base with two sturdy M4 captive screws. They come with all the accessories that facilitate their use: manual control, monostable or bistable, LED light, plate with air supply diagram and technical data, white plates available to the customer.

The range also includes:

- High-flow valves which have an innovative system that reaches flow rates that are uncommon for this size of valve.
- Bypass element that makes it possible to boost supply and reliefs or create special pneumatic circuits.
- Circuit shut-off valve (V3V) to connect/disconnect all station valves.
- Dummy valve to plug blank base positions.



TECHNICAL DATA								
Operating pressure			5/2 and 5/3			2/2 and 3/2		
Non-assisted valves	bar		3 to 8			3.5 to 8		
	MPa		0.3 to 0.8			0.35 to 0.8		
	psi		43 to 116			51 to 116		
Assisted valves	bar		Vacuum to 10			Vacuum to 10		
	MPa		Vacuum to 1			Vacuum to 1		
	psi		Vacuum to 145			Vacuum to 145		
Servo pressure	bar		3 to 8			min. (see graph on page B2.53) / max. 8		
	MPa		0.3 to 0.8			min. (see graph on page B2.53) / max. 0.8		
	psi		43 to 116			min. (see graph on page B2.53) / max. 116		
Ambient temperature	°C		-10 to 50 (at 8 bar)			-10 to 50 (at 8 bar)		
	°F		14 to 122 (at 8 bar)			14 to 122 (at 8 bar)		
Flow rate at 6.3 bar ΔP 1 bar			Ø 4 (5/32")	Ø 6	Ø 8 (5/16")	Ø 1/4"	Ø 10 **	Ø 3/8" **
	valve 2/2	Nl/min	350	430	500	430	-	-
	valve 3/2	Nl/min	350	600	700	600	1250	1250
	valve 5/2	Nl/min	350	650	800	650	1250 - 1400	1250 - 1400
	valve 5/3	Nl/min	350	460	500	460	1000 - 1250	1000 - 1250
	valve V3V (R)	Nl/min	-	-	-	-	1000	1000
Actuation response time (TRA) / reset response time (TRR) at 6 bar								
	TRA/TRR valves 2/2 and 3/2	ms	14 / 28					
	TRA/TRR valves 5/2 monostable and shut-off valve	ms	12 / 45					
	TRA/TRR valve 5/2 bistable	ms	12 / 14					
	TRA/TRR valve 5/3	ms	15 / 45					
	TRA/TRR valve 3/2 high flow	ms	13 / 36					
Fluid			Unlubricated air					
Air quality required			ISO 8573-1 class 4-7-3					
Supply voltage range	VDC		12 -10% 24 +30%					
Minimum operating voltage	VDC		10.8 *					
Maximum operating voltage	VDC		31.2					
Maximum admissible voltage	VDC		32 ***					
Power for each valve	W		3 for a few milliseconds. Holding 0.3					
Drive			PNP or NPN					
Solenoid rating			100% ED					
Versions			Manual monostable or bistable control. Various compressed air diagrams					
Degree of protection			IP65					

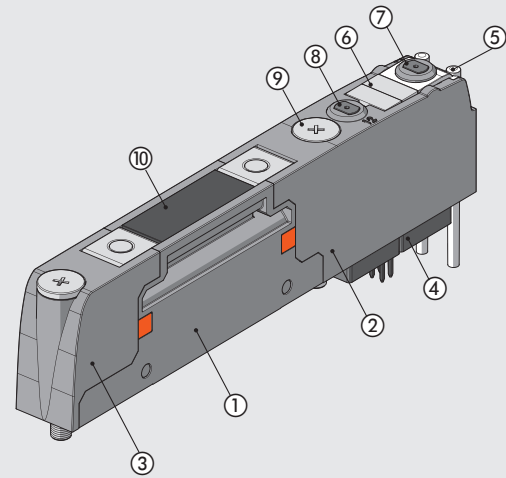
* Minimum voltage 10.8VDC required at solenoid pilots. Check the minimum voltage at the power pack output using the calculations shown on page B2.24

** Using high-flow valves or connected valves - see pages B2.54

*** IMPORTANT! Voltage greater than 32VDC will damage the system irreparably.

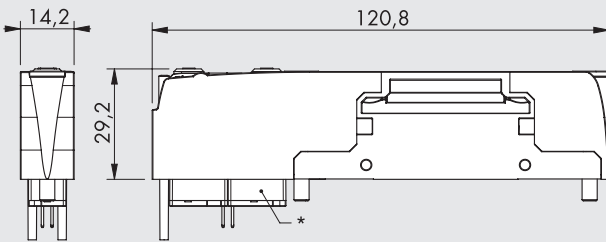
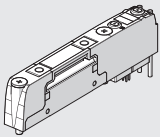
COMPONENTS

- ① BODY: technopolymer
- ② CONTROL: technopolymer
- ③ BASE: technopolymer
- ④ SOLENOID PILOT
- ⑤ DISPLAY: LED light and optical tester in technopolymer
- ⑥ TAG: removable
- ⑦ MANUAL CONTROL 14, for port 4: monostable or bistable, in brass
- ⑧ MANUAL CONTROL 12, for port 2: monostable or bistable, in brass
- ⑨ SCREW FOR FIXING TO THE BASE: M4 with PH 1 cross-head, zinc-plated steel. Tightening torque: 1.2 Nm
- ⑩ TAG: technopolymer with laser-etched wording



DIMENSIONS - ORDERING CODES

EB 80 VALVE

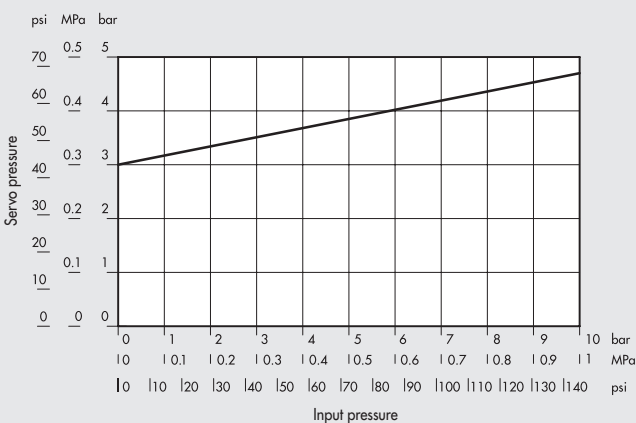


* The second solenoid pilot is not present in the valves V= 5/2 monostable.

N.B.: The valves Z, I, W, L, K, O can be mounted only on bases having 6 or 8 controls.

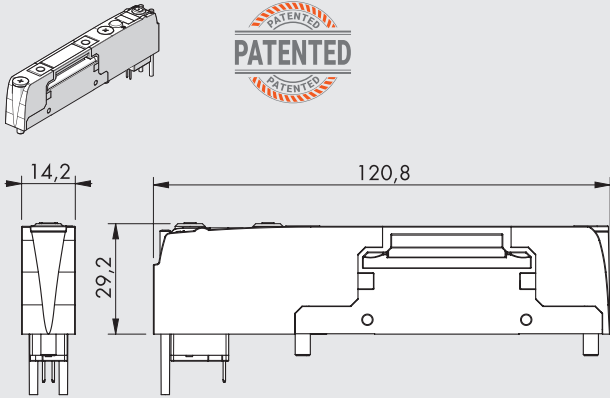
SERVO MINIMUM PRESSURE FOR VALVES 2/2 AND 3/2

If the island is configured without servo, minimum pressure 3.5 bar



Symbol	Type	Code	Manual control	Weight [g]
	2 valves 2/2 NC	708203Z0	monostable	82
		708203Z1	bistable	82
	2 valves 3/2 NC	708203I0	monostable	82
		708203I1	bistable	82
	2 valves 3/2 NO	708203W0	monostable	82
		708203W1	bistable	82
	3/2 NC + 3/2 NO	708203L0	monostable	82
		708203L1	bistable	82
	monostable 5/2	708203V0	monostable	69
		708203V1	bistable	69
	bistable 5/2	708203K0	monostable	81
		708203K1	bistable	81
	5/3 CC	708203O0	monostable	82
		708203O1	bistable	82

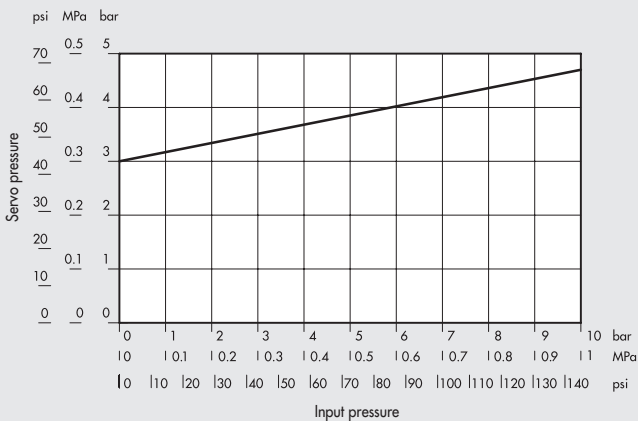
EB 80 HIGH-FLOW VALVE



Symbol	Type	Code	Manual control	Weight [g]
G	3/2 NC high flow	708203G0	monostable	69
		708203G1	bistable	69
J	3/2 NO high flow	708203J0	monostable	69
		708203J1	bistable	69

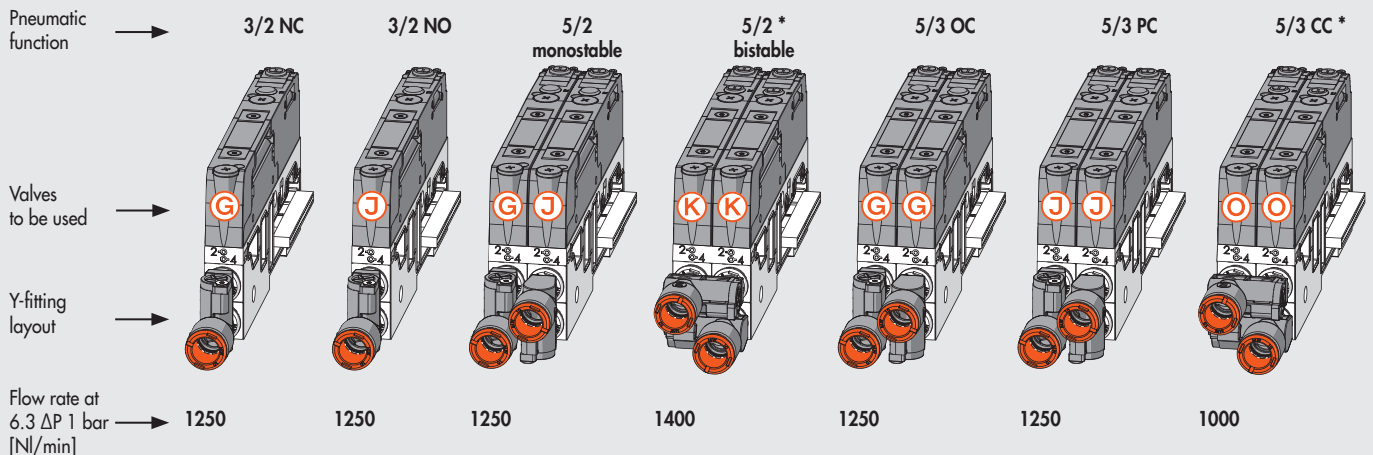
SERVO MINIMUM PRESSURE

If the island is configured without servo, minimum pressure 3.5 bar



HOW TO GET HIGH-FLOW RATE FOR EACH PNEUMATIC FUNCTION

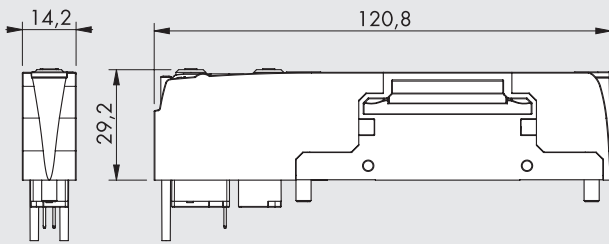
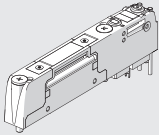
N.B. The two cartridges on the base (2 and 4) must fit the Ø 8 mm pipe. Outputs 2 and 4 must be connected one to the other. To do this, you can use the special Y-fitting. When connecting one or more valves using the Y-fitting, the pneumatic system functions must be configured according to the following diagram.



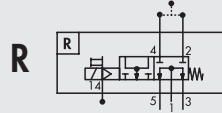
In order to get 5/2 monostable, 5/2 bistable and 5/3 DC high flow, use two parallel valves, by energizing the solenoids simultaneously.

* The Y-fittings of this valve must be installed longitudinally with one Y-fitting connecting the two outputs (2) and the other the two outputs (4). The solenoid pilots must be operated simultaneously.

EB 80 SHUT-OFF VALVE (V3V)

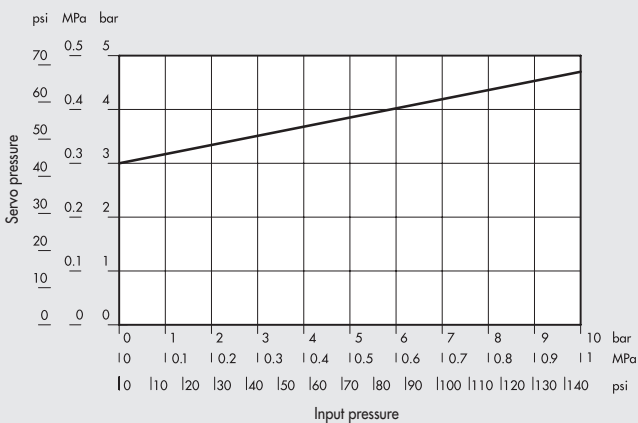


Symbol	Type	Code	Manual control	Weight [g]
R	Shut-off valve	708203R0	monostable	69
		708203R1	bistable	69



SERVO MINIMUM PRESSURE

If the island is configured without servo, minimum pressure 3.5 bar



This valve enables the supply/relief of all station valves. The pneumatic supply is delivered via ports 2 and 4 on the base underneath the valve. It is discharged via ports 3 and 5 with general station discharge. Port 1 on pneumatic supply module P must be plugged for the system to operate and slave the island by supplying continuous pressure to port X.

The shut-off valve is designed for the following uses and benefits:

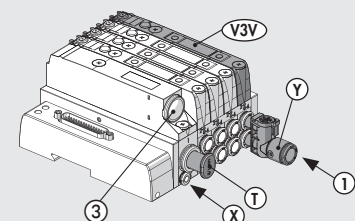
- the valve can be fitted in any position and not necessarily to the left of the others;
- if the station is split into areas with separate channels (1) via intermediate modules M or bases with port 1 selected, the shut-off valve only operates in the area where it is fitted.
- if the capacity of a shut-off valve is not sufficient for its use, two or more can be fitted and operated simultaneously.

TECHNICAL DATA

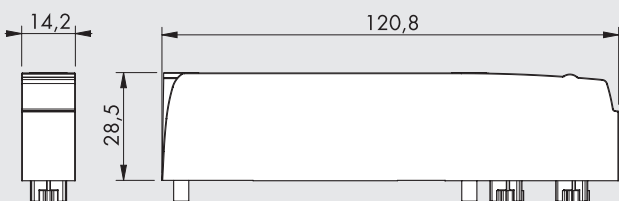
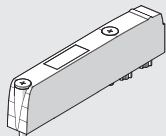
Flow rate at 6.3 bar ΔP 1 bar	Nl/min	1000 (with 2 \varnothing 8 fittings or a Y fitting, pipe \varnothing 10 mm or 3/8")
Exhaust flow rate at 6.3 bar	Nl/min	660
Actuation response time (TRA) / reset response time (TRR) at 6 bar	ms	12/45
Servo pressure		See technical data 3/2 valves (page B2.52)

SHUT-OFF VALVE DIAGRAM

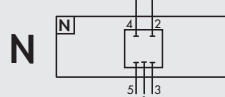
- V3V** Shut-off valve, can be fitted in any position
- 1** Pneumatic supply
- 3** Relief
- Y** Y-fitting with black bush (page B2.57)
- T** Plug port 1 of pneumatic supply P module
- X** Always use the pneumatic supply servo version



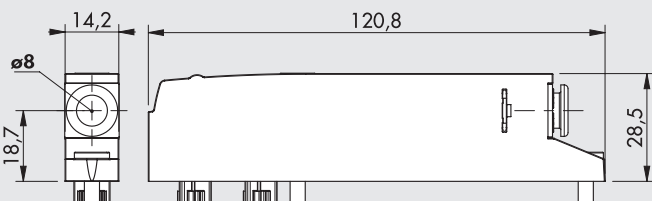
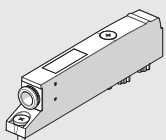
DUMMY VALVE (PLUG)



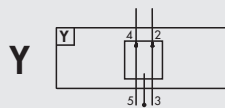
Symbol	Description	Code	Weight [g]
N	Dummy valve	708203N0	47



BYPASS



Symbol	Description	Code	Weight [g]
Y	Bypass Ø8	708203Y8	50



N.B.: Maximum pressure in the ports 2 and 4: 8 bar

Connects port 3 of the base to port 2 and port 5 to port 4.
The fitting present is connected to port 1.

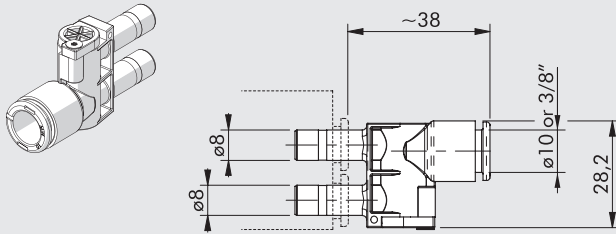
KEY TO CODES

7082	03	V	0
FAMILY	TYPE	SCHEMA	MANUAL CONTROL
7082 EB 80	03 Electric, servo-assisted	<ul style="list-style-type: none"> ▲ Z 2 valves 2/2NC ▲ I 2 valves 3/2 NC ▲ W 2 valves 3/2 NO ▲ L 3/2 NC + 3/2 NO V 5/2 monostable ▲ K 5/2 bistable ▲ O 5/3 CC G 3/2 NC high flow J 3/2 NO high flow + R Shut-off valve Y Bypass N Dummy valve (plug) 	<ul style="list-style-type: none"> 0 Monostable or for dummy valve 1 Bistable 8 For bypass only

▲ Can only be used with 6 or 8 control bases.
+ Requires inlet port X slave synchronisation.

ACCESSORIES

Y-FITTING



Code	Description	Release bushing color
02282R2Y04	Y-fitting for EB 80 Ø 8 (5/16") - Ø 10	Orange
02282R2Y14	Y-fitting for EB 80 Ø 8 (5/16") - Ø 10	Black
02282R2Y07	Y-fitting for EB 80 Ø 8 (5/16") - Ø 3/8"	Orange
02282R2Y17	Y-fitting for EB 80 Ø 8 (5/16") - Ø 3/8"	Black

SPARE PARTS

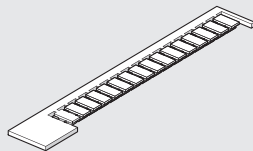
BASE FIXING SCREW



Code	Description
02282R3000	Kit of screws for fixing the EB 80 base

Comes in 10-pc. packs

IDENTIFICATION PLATE KIT



Code	Description
0226107000	Identification plate kit

Comes in 16-pc. packs

NOTES

EB 80 PROPORTIONAL PRESSURE REGULATOR - A

The EB 80 proportional pressure regulator is an extremely precise and reliable component part. It is designed to regulate the pressure of a system with varying values according to the electrical control setting.

It can be inserted in any position and on all EB 80 islands.

Highly flexible, it comes in various types: for the 25/44-pin multi-pole islands, it is possible to use the analogue regulator with external M12 electrical connection, it accepts commands in Volts, mA and via RS232 protocol; in all the versions with a fieldbus, the connections and electrical controls are directly incorporated in the internal hardware/software that can be easily managed by the user in a simple and intuitive way every island and can accommodate up to 16 pressure regulators that are connected to all the protocols available for the EB 80 (also in additional islands).

An island of electronic regulators arranged in a row can be created, without necessarily requiring solenoid valves.

The "closed loop" system has a precision sensor that detects the output pressure value; the control system compares the value read with the value set in real time and two mini-solenoid valves adjust the pressure until the target value is reached.

As for the Regtronic family, in this case too, you can opt for a regulator with a screen that displays the pressure and a whole series of information including diagnostics that facilitates the configuration or a version without display where the configuration is done remotely.

As to the pneumatic system, there are two possibilities: with Local Regulation or Series Regulation. In the former case, the air taken from port 1 of the island is regulated by a quick-fit coupling with the front side in the base; in this way, several regulators can be placed in succession. In the latter case, the pressure is regulated directly at port 1 of the island, so all the valves downstream are supplied with the pressure set by the regulator. The front outlet fitting, which has an RL9 cap in this version, is still present and operational.

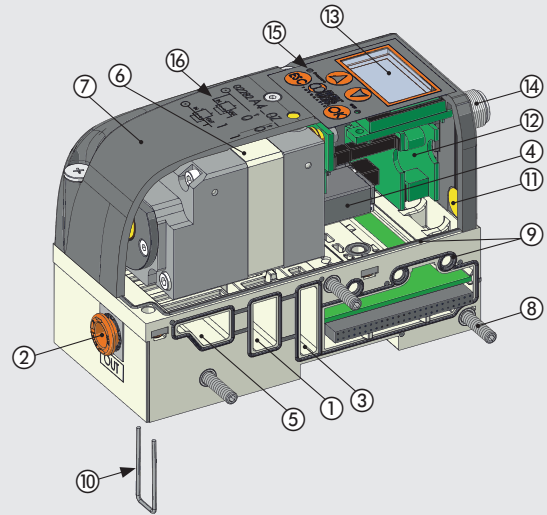


TECHNICAL DATA		LOCAL OUTPUT VERSION		SERIES CONTROL VERSION	
Fluid		Filtered, unlubricated air. The air must be filtered at least 10 µm			
MIN inlet pressure	bar	Regulation pressure + 0.5 to 1			
MAX inlet pressure	bar	10.5			
Temperature range	°C	from 0 to 50			
Pressure regulation range	bar	from 0.05 to 10 (settable full scale and minimum pressure)			
Flow rate at 6.3 bar ΔP 0.5	Nl/min	720		850	
Flow rate at 6.3 bar ΔP 1	Nl/min	1000		1250	
Exhaust flow rate at 6.3 bar with 0.1 bar overpressure	Nl/min	380		450	
Exhaust flow rate at 6.3 bar with 0.5 bar overpressure	Nl/min	800		1100	
Response time	Volume [cc]	100	1000	100	1000
from 6 to 7 bar	s	0.1	0.15	0.1	0.15
from 7 to 6 bar	s	0.1	0.15	0.1	0.15
Weight	kg	0.6			
Class of protection		IP 65			
Hysteresis		≤ ± 0.2% (Full scale)			
Repeatability		≤ ± 0.2% (Full scale)			
Sensitivity/Dead-band		setting range 10 to 300 mbar			
Output pressure (display version)	Accuracy	≤ ± 0.3% (Full scale)			
	Unit of measurement	bar, MPa, psi			
	Minimum resolution	0.01 bar - 0.001 MPa - 0.01 psi			
Temperature characteristics		Max 2 mbar / °C			
Installation position		In any position			
Current input in the fieldbus version		Max 220 mA at 12VDC			
Supply voltage range analog version	VDC	12 -10% to 24 +30%			
Minimum operating voltage	VDC	10.8			
Maximum operating voltage	VDC	31.2			
Maximum admissible voltage	VDC	32 *			
Current absorption		Max 220 mA at 12VDC			
Input signal (input impedance)	Voltage	0 to 5 VDC, 0 to 10 VDC (approx. 6.3 KΩ)			
	Current	4 to 20 mA (approx. 100 Ω)			
	Serial ports	RS 232			
	Manual	Keypad			
Output signals in the analogue version					
	Analog in current	4 to 20 mA			
	Analog voltage	0 to 10 VDC (1 VDC = 1 bar) - 1 mA max			
	Digital	PNP open collector output: max 24VDC 60 mA NPN open collector output: max 24VDC 60 mA			
	Analog output accuracy	≤ ± 0.4% (Full scale)			
Notes		The features shown refer to the static condition only. With air consumption the pressure may vary. On all analog versions you can set the parameters using the software "MWRRegtronic" downloadable from the website www.metalwork.eu ; to connect the PC to Regtronic you can use the cable code W0970513019 For more details, please refer to the User Manual.			

* IMPORTANT! Voltage greater than 32VDC will damage the system irreparably.

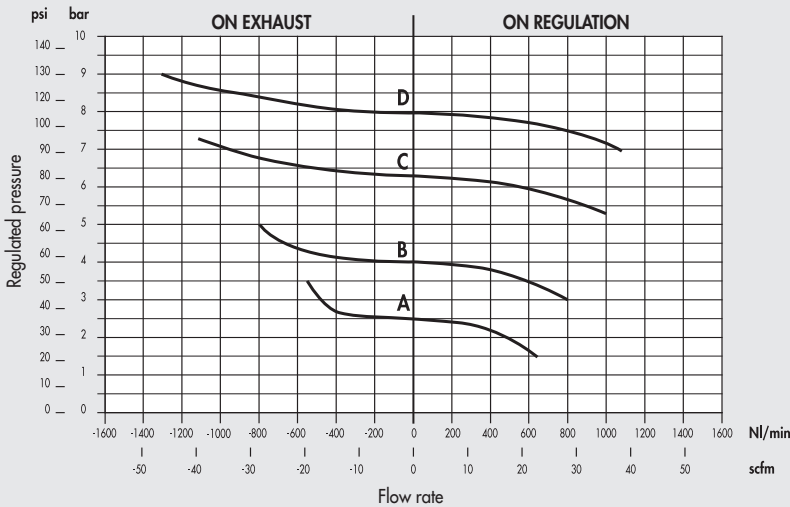
COMPONENTS

- ① PORT 1 DUCT
- ② CARTRIDGE Ø8: push-in fitting
- ③ PORT 3 DUCT
- ④ SOLENOID VALVE: 10 mm series PLT-10
- ⑤ PORT 5 DUCT
- ⑥ BODIES: aluminium
- ⑦ COVER: technopolymer
- ⑧ TIE ROD: nickel-plated brass with stainless steel grub screws
- ⑨ GASKETS: NBR
- ⑩ CLIP for securing the cartridge: stainless steel
- ⑪ Compensation DIAPHRAGM: PTFE
- ⑫ ELECTRONIC BOARDS
- ⑬ DISPLAY and keypad or cover
- ⑭ CONNECTOR M12 (for analog version)
- ⑮ INDICATOR LED
- ⑯ IDENTIFICATION of wording with laser



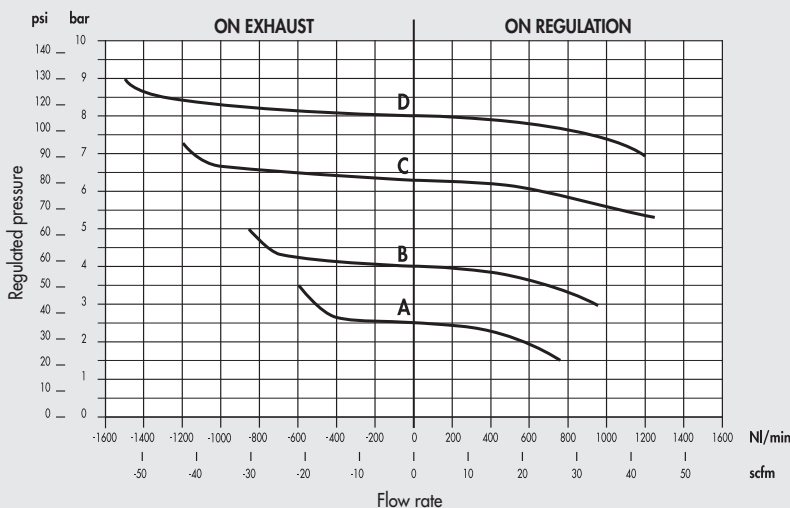
FLOW CHARTS

LOCAL OUTLET (Ø8)



A = 2.5 bar
 B = 4 bar
 C = 6.3 bar
 D = 8 bar
 Pm = 10 bar

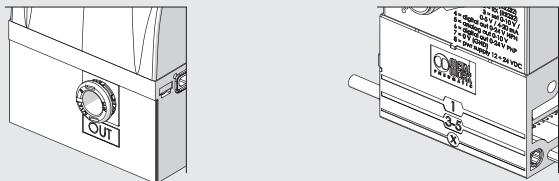
REGULATION IN SERIES



A = 2.5 bar
 B = 4 bar
 C = 6.3 bar
 D = 8 bar
 Pm = 10 bar

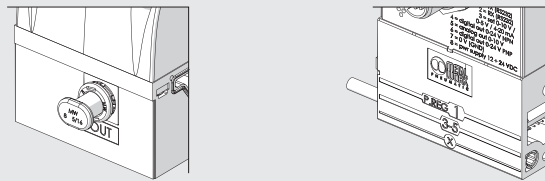
VERSIONS

PASS-THROUGH BASE – LOCAL OUTLET



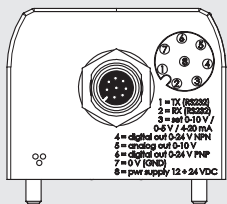
Air outlet regulated only by the front Ø8 fitting.

REGULATION IN SERIES



Air outlet adjusted to the next bases.
Front outlet closed, however usable by removing the cap from the fitting.

M12 EXTERNAL ANALOGUE CONTROL (MULTI-POLE ISLANDS)

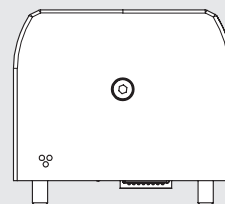


8 PIN M12x1



Pin	Signal	Description	Lead colour
1	TX	RS232	White
2	RX	RS232	Brown
3	Pressure set	0 to 10 VDC / 0 to 5 VDC 4 to 20 mA	Green
4	Digital out	NPN	Yellow
5	Analog out	Voltage version 0 to 10 VDC Current version 4 to 20 mA	Gray
6	Digital out	PNP	Pink
7	0 VDC	Power supply	Blue
8	+ VDC	Power supply	Red

FIELDBUS CONTROL



WITH REMOTE-CONTROL



The remote-control version of the Regtronic has two diagnostic LEDs.

WITH DISPLAY



The display version also has buttons for entering the various parameters.

PROGRAMMABLE AND FLEXIBLE

Setting options:

- LANGUAGE
- UNIT OF MEASUREMENT
- TYPE OF INPUT
- TYPE OF DIGITAL OUTPUT
- DEAD-BAND
- FULL SCALE
- MINIMUM PRESSURE

PRECISION

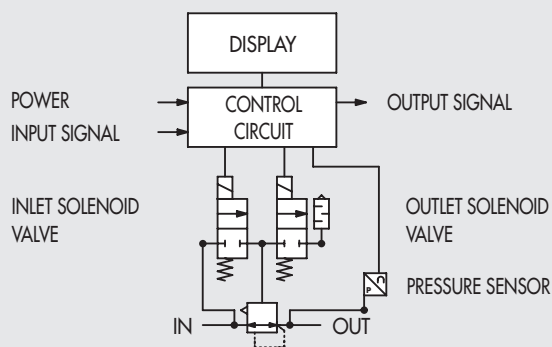
Linearity
± 0.5 % (full scale)

Hysteresis
± 0.2 % (full scale)

Repeatability
± 0.2 % (full scale)

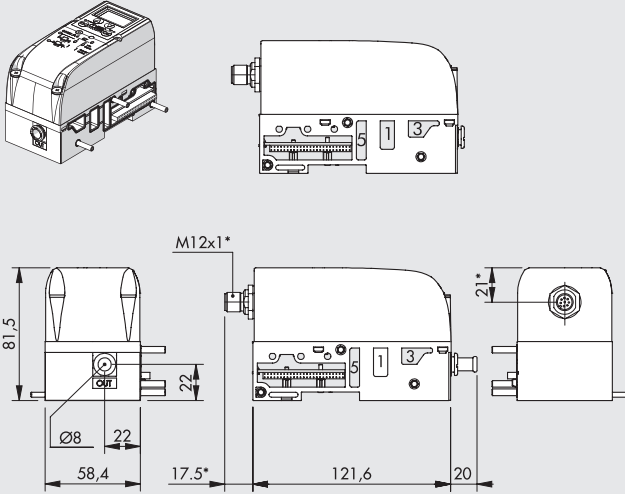
Sensitivity
range 10 to 300 mbar

FUNCTION DIAGRAM



DIMENSIONS - ORDERING CODES

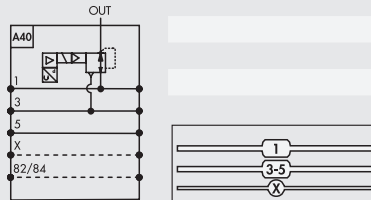
PROPORTIONAL PRESSURE REGULATOR



* For version with electrical analogue control only.

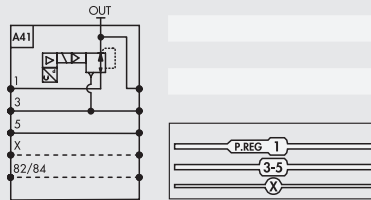
Electrical connection with M12 connector

Symbol	Display	Code		Weight [g]
		0-10V analogue OUT	4-20 mA analogue OUT	
Port 1 pass-through	WITH	02282A400Z00	02282A402Z00	600
	WITHOUT	02282A400Z10	02282A402Z10	600



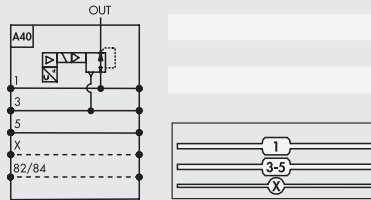
Port 1 sectioned

WITH	02282A410Z00	02282A412Z00	600
WITHOUT	02282A410Z10	02282A412Z10	600



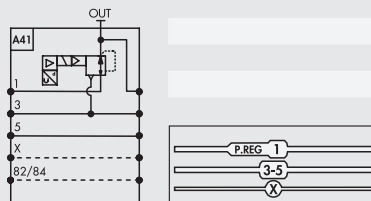
Electrical connection via fieldbus

Symbol	Display	Code	Weight [g]
Port 1 pass-through	WITH	02282A401Z00	600
	WITHOUT	02282A401Z10	600



Port 1 sectioned

WITH	02282A411Z00	600
WITHOUT	02282A411Z10	600

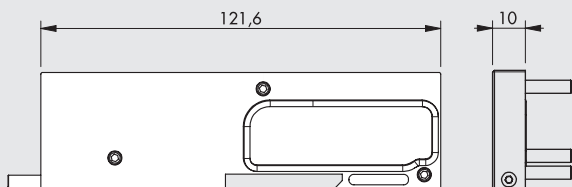
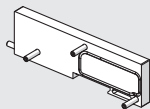


KEY TO CODES

02282	A4	0	1	Z	0	0
FAMILY	SUBSYSTEM	TYPE OF BASE	TYPE OF ELECTRICAL CONNECTION	SPECIALTY	DISPLAY	SPECIALTY
02282 EB 80	A4 Proportional pressure regulator	0 Base port 1 pass-through local outlet 1 Base port 1 sectioned in-series regulation	0 External electrical analogue control connector M12 0-10V analogue OUT 1 Electrical control via fieldbus 2 External electrical analogue control connector M12, 4-20 mA analogue OUT	Z Standard	0 With 1 Without	0 Standard

ACCESSORIES: ANALOG VERSION

CLOSING PLATE FOR EB 80 MANIFOLD PRESSURE REGULATOR

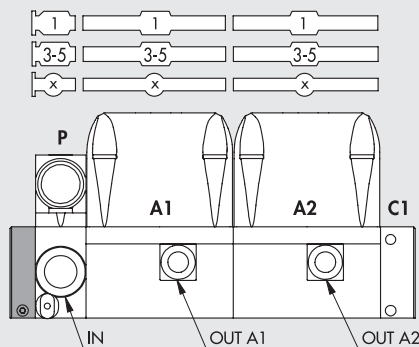


Code	Description	Weight [g]
02282R8000	Closing plate for EB 80 manifold proportional pressure regulator with M12 connector	118

N.B.: Can only be used with regulators code 02282A400Z00 - 02282A400Z10 - 02282A410Z00 - 02282A410Z10 - 02282A402Z00 - 02282A402Z10 - 02282A412Z00 - 02282A412Z10

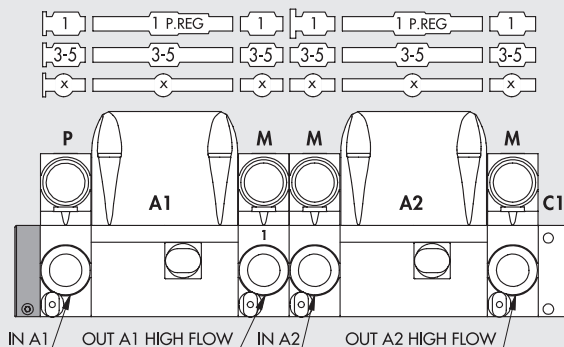
This terminal is used to fit multiple EB 80 pressure proportional regulators controlled by an M12 connector, without using EB 80 power supplies. Each regular can be controlled individually via its own M12 connector. Several configurable solutions can thus be obtained, as illustrated in examples below:

COMMON POWER SUPPLY



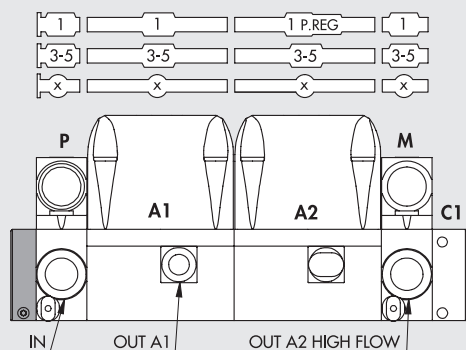
Island consisting of a single pneumatic supply (P) and front outlet from individual regulators.

INDEPENDENT POWER SUPPLY AND HIGH-FLOW RATE



Island consisting of independent regulator power supply, via P supplies and intermediate elements M (with port 1 closed) placed upstream of the regulator. High-flow outputs are obtained via intermediate elements M placed downstream of the individual regulators.

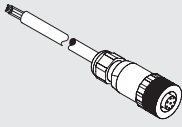
HYBRID



Hybrid island. It consists of regulators with a local output (A1) and in-series high-flow rate regulators via intermediate element M downstream of regulator A2. Power supply P is in common.

- P = compressed-air supply, page B2.46
- M = intermediate support, page B2.64
- C1 = closed end-plate for islands with multi-pole connector, page B2.70
- A = proportional pressure regulator

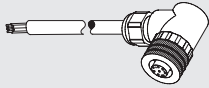
CONNECTOR M12x1, 8-PIN, A-CODED, FEMALE, STRAIGHT



Pin	Cable color
1	White
2	Brown
3	Green
4	Yellow
5	Grey
6	Pink
7	Blue
8	Red

Code	Description
W0970513010	Connector M12x1, 8-pin, A-coded, female, straight, with cable L = 5 m

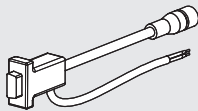
CONNECTOR M12x1, 8-PIN, A-CODED, FEMALE, 90°, WITH CABLE



Pin	Cable color
1	White
2	Brown
3	Green
4	Yellow
5	Grey
6	Pink
7	Blue
8	Red

Code	Description
W0970513011	Connector M12x1, 8-pin, A-coded, female, 90°, with cable L = 5 m

CONFIGURATION CABLE



Code	Description
W0970513019	Configuration cable

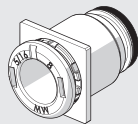
The cable consists of:

- M12 8-PIN female connector to be connected to regulator
- RS232 serial connector to be connected to PC
- 2 wires to supply 24VDC power

The package also includes a RS232-USB adapter

SPARE PARTS

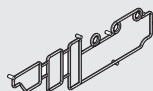
CARTRIDGE



Code	Description	Ø
02282R2001	EB 80 Ø 4 base square cartridge kit	4 (5/32")
02282R2002	EB 80 Ø 6 base square cartridge kit	6
02282R2003	EB 80 Ø 8 base square cartridge kit	8 (5/16")
02282R2006	EB 80 Ø 1/4 base square cartridge kit	1/4"

Comes in 10-pc. packs

BASE INTERFACE GASKET



Code	Description
02282R1000	EB 80 base interface gasket kit

Comes in 10-pc. packs

EB 80 INTERMEDIATE SUPPORT - M

The "Intermediate modules - M" perform a series of functions.

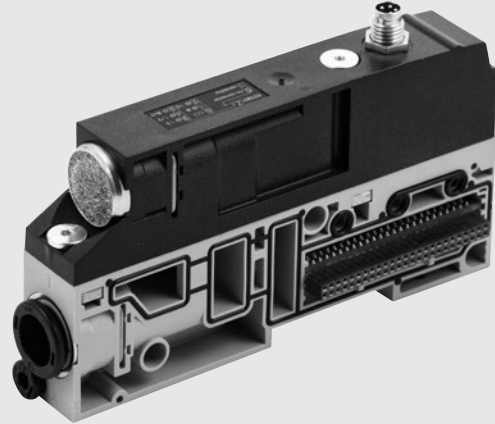
They can help increase the flow rate available in an EB 80 island, when various valves are used at the same time. They can be used to divide an island in areas of different pressures.

They can also be used as additional electrical power supply, when there is a high number of solenoid pilots actuated simultaneously; or to electrically separate and cut out a part of the island, in the event of an emergency, for example.

Intermediate modules can be placed in any position in the EB 80 island. Several versions are available, with fittings for pipes of different diameter. Relief ports 3 and 5 can be either connected using a silencer or conveyed via a fitting.

A version with separate ports 3 and 5 is also available. This feature is useful in versions with pilot servo-assistance to power the valves from ports 3 and 5, at different pressures, from vacuum to 8 bar.

The lower body of the intermediate plate comes with different air flow ducts: with full flow ports or one or more closed ports.



TECHNICAL DATA

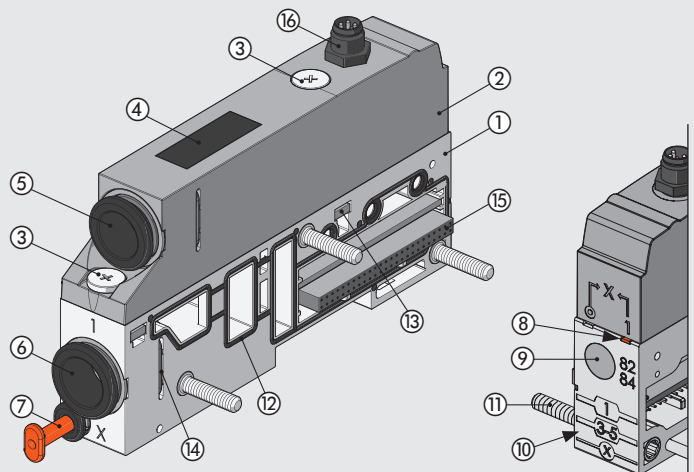
Operating pressure	Vacuum to 10 bar / Vacuum to 1 MPa / Vacuum to 145 psi			
Ambient temperature	-10 to + 50 °C / 14 to 122 °F			
Flow rate at 6.3 bar ΔP 1 bar	\varnothing 8 (5/16")	\varnothing 10	\varnothing 12	\varnothing 1/2"
Feeding (port 1)	Nl/min	1800	2800	3500
Exhaust with fitting (ports 3 and 5)	Nl/min	2000	3200	4400
Separate exhausts \varnothing 8	Nl/min	1800 x 2	-	-
Flow rate at 6.3 bar free exhaust				
Exhaust with fitting (ports 3 and 5)	Nl/min	2700	3900	6100
Silenced exhaust	Nl/min		3600	
Exhaust with fitting \varnothing 12 and silencer W0970530086	Nl/min		6000	
Separate exhausts \varnothing 8 (N.B.: Pmax 8 bar)	Nl/min	2700 x 2	-	-
Fluid	Unlubricated air			
Additional electrical power supply	M8 4-pin connector *			
Voltage range	VDC 12 to 31.2			
Maximum number of solenoid pilots that can be actuated simultaneously from the additional electrical connection:				
at 24VDC	With 100% simultaneity: 48 / With 60% simultaneity: 80			
at 12VDC	With 100% simultaneity: 32 / With 60% simultaneity: 64			
Versions	Pipe fittings \varnothing 8, 10, 12, 1/2"; Silenced relief, conveyed relief, ports 3 and 5 separate Full-flow ports in the base, 1 closed, 1, 3 and 5 closed, 3 and 5 closed, 1, 3, 5 and X closed With or without additional electrical power supply IP65 (with connectors connected or plugged if not used)			
Degree of protection	IP65 (with connectors connected or plugged if not used)			

IMPORTANT! Voltage greater than 32VDC will damage the system irreparably.

* If electric power is not supplied: the red power LED light comes on and the LEDs at the base keep flashing (voltage out of range); in the version with multi-pin electrical connection, the "OUT" fault signal is triggered; in the version with fieldbus, a software message is sent.

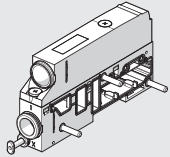
COMPONENTS

- ① LOWER PART BODY: technopolymer
- ② UPPER PART BODY: technopolymer
- ③ SCREWS for fixing between the bodies: zinc-plated steel (Tightening torque: 1.2 Nm)
- ④ TAG with laser-etched wording: technopolymer
- ⑤ AIR RELIEF: silencer or pipe fitting
- ⑥ POWER SUPPLY: pipe fitting
- ⑦ PILOTING (X): pipe fitting \varnothing 4
- ⑧ INDICATOR: indicating whether power supply to pilots is separate or not
- ⑨ PILOT RELIEF: silencer in HDPE
- ⑩ PICTOGRAM: indication of compressed air system layout
- ⑪ TIE RODS: zinc-plated steel
- ⑫ GASKET: NBR
- ⑬ THREADED PLATE: zinc-plated steel
- ⑭ CARTRIDGE FIXING CLIP: stainless steel
- ⑮ ELECTRONIC BOARD
- ⑯ M8 CONNECTOR: only for version with additional electrical power supply

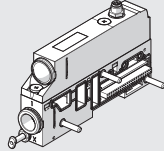


DIMENSIONS - ORDERING CODES

INTERMEDIATE MODULE - SILENCED RELIEF

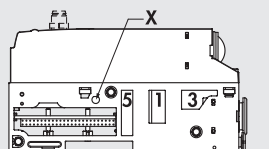
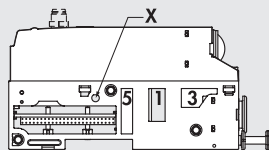
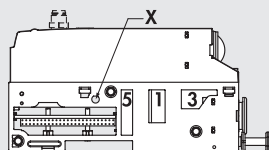
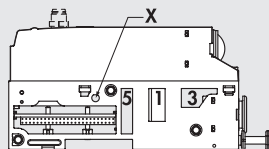
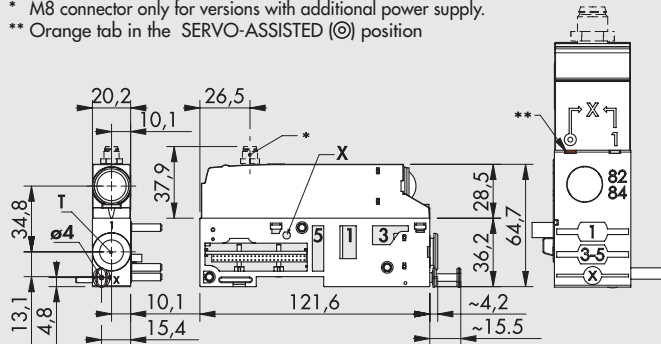


WITHOUT additional electrical power supply



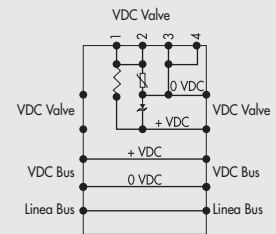
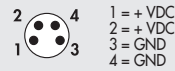
WITH additional electric power supply

* M8 connector only for versions with additional power supply.
 ** Orange tab in the SERVO-ASSISTED (⊙) position



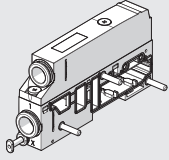
WIRING DIAGRAM INTERMEDIATE MODULE - M, WITH ADDITIONAL POWER SUPPLY

M8 male connector

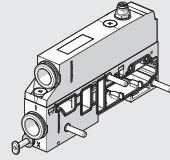


Symbol	T Pipe fitting	Code		Weight [g]
		Additional electric power supply WITHOUT	WITH	
Full-flow ports 	Ø 8 (5/16")	02282M100Z00	02282M101Z01	168
	Ø 10	02282M200Z00	02282M201Z01	164
	Ø 12	02282M300Z00	02282M301Z01	160
	Ø 1/2"	02282M500Z00	02282M501Z01	160
Port 1 closed 	Ø 8 (5/16")	02282M110Z00	02282M111Z01	168
	Ø 10	02282M210Z00	02282M211Z01	164
	Ø 12	02282M310Z00	02282M311Z01	160
	Ø 1/2"	02282M510Z00	02282M511Z01	160
Ports 1, 3 and 5 closed 	Ø 8 (5/16")	02282M120Z00	02282M121Z01	168
	Ø 10	02282M220Z00	02282M221Z01	164
	Ø 12	02282M320Z00	02282M321Z01	160
	Ø 1/2"	02282M520Z00	02282M521Z01	160
Ports 3 and 5 closed 	Ø 8 (5/16")	02282M130Z00	02282M131Z01	168
	Ø 10	02282M230Z00	02282M231Z01	164
	Ø 12	02282M330Z00	02282M331Z01	160
	Ø 1/2"	02282M530Z00	02282M531Z01	160
Ports 1, 3, 5 and X closed 	Ø 8 (5/16")	02282M140Z00	02282M141Z01	168
	Ø 10	02282M240Z00	02282M241Z01	164
	Ø 12	02282M340Z00	02282M341Z01	160
	Ø 1/2"	02282M540Z00	02282M541Z01	160

INTERMEDIATE MODULE - CONVEYED RELIEF

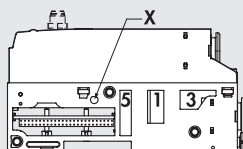
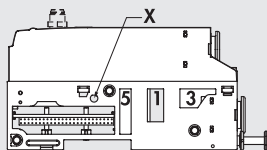
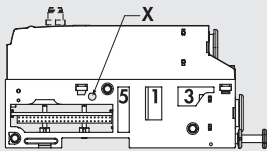
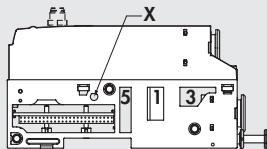
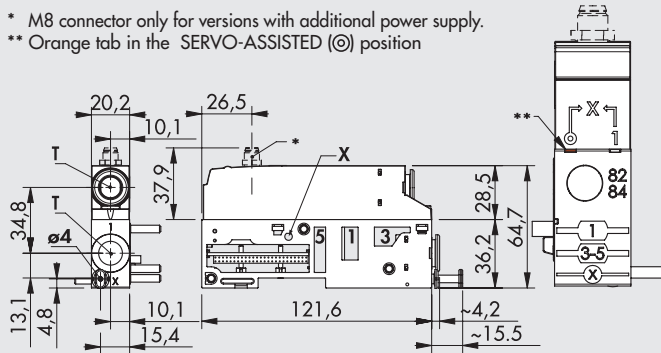


WITHOUT additional electrical power supply



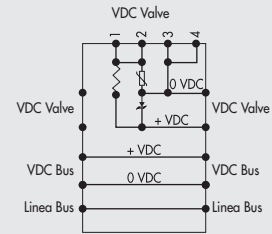
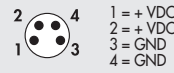
WITH additional electric power supply

* M8 connector only for versions with additional power supply.
** Orange tab in the SERVO-ASSISTED (⊙) position



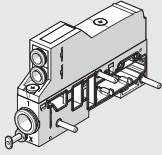
WIRING DIAGRAM INTERMEDIATE MODULE - M, WITH ADDITIONAL POWER SUPPLY

M8 male connector

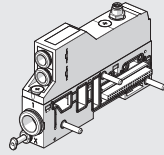


Symbol	T Pipe fitting	Code		Weigh [g]
		Additional electric power supply WITHOUT	WITH	
	Ø 8 (5/16")	02282M100Z10	02282M101Z11	168
	Ø 10	02282M200Z20	02282M201Z21	164
	Ø 12	02282M300Z30	02282M301Z31	160
	Ø 1/2"	02282M500Z50	02282M501Z51	160
	Ø 8 (5/16")	02282M110Z10	02282M111Z11	168
	Ø 10	02282M210Z20	02282M211Z21	164
	Ø 12	02282M310Z30	02282M311Z31	160
	Ø 1/2"	02282M510Z50	02282M511Z51	160
	Ø 8 (5/16")	02282M120Z10	02282M121Z11	168
	Ø 10	02282M220Z20	02282M221Z21	164
	Ø 12	02282M320Z30	02282M321Z31	160
	Ø 1/2"	02282M520Z50	02282M521Z51	160
	Ø 8 (5/16")	02282M130Z10	02282M131Z11	168
	Ø 10	02282M230Z20	02282M231Z21	164
	Ø 12	02282M330Z30	02282M331Z31	160
	Ø 1/2"	02282M530Z50	02282M531Z51	160
	Ø 8 (5/16")	02282M140Z10	02282M141Z11	168
	Ø 10	02282M240Z20	02282M241Z21	164
	Ø 12	02282M340Z30	02282M341Z31	160
	Ø 1/2"	02282M540Z50	02282M541Z51	160

INTERMEDIATE MODULE - SEPARATE RELIEF

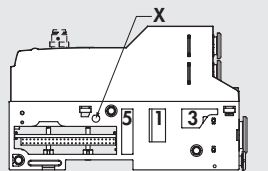
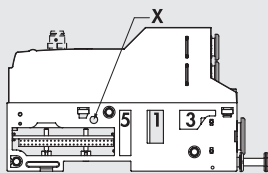
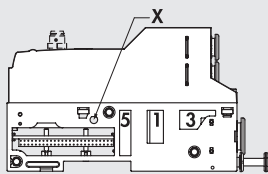
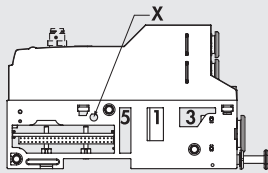
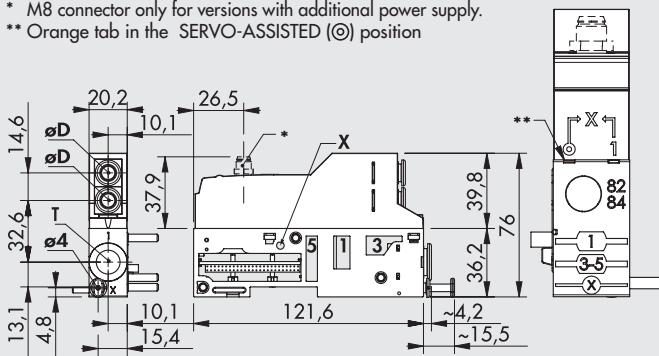


WITHOUT additional electrical power supply



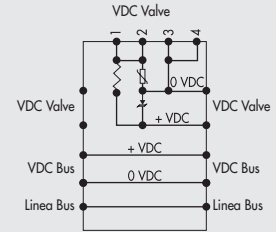
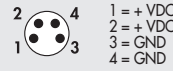
WITH additional electrical power supply

* M8 connector only for versions with additional power supply.
 ** Orange tab in the SERVO-ASSISTED (X) position



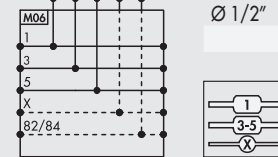
WIRING DIAGRAM INTERMEDIATE MODULE - M, WITH ADDITIONAL POWER SUPPLY

M8 male connector

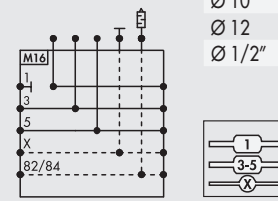


N.B.: Maximum pressure in the ports 3 and 5: 8 bar

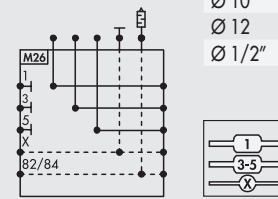
Symbol	T Pipe fitting	Code		Weight [g]
		Additional electric power supply WITHOUT	WITH	
Full-flow ports	Ø 8 (5/16")	02282M100Z_0	02282M101Z_1	179
	Ø 10	02282M200Z_0	02282M201Z_1	175
	Ø 12	02282M300Z_0	02282M301Z_1	171
	Ø 1/2"	02282M500Z_0	02282M501Z_1	171



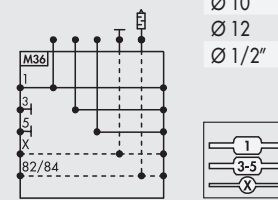
Symbol	T Pipe fitting	Code		Weight [g]
		Additional electric power supply WITHOUT	WITH	
Port 1 closed	Ø 8 (5/16")	02282M110Z_0	02282M111Z_1	179
	Ø 10	02282M210Z_0	02282M211Z_1	175
	Ø 12	02282M310Z_0	02282M311Z_1	171
	Ø 1/2"	02282M510Z_0	02282M511Z_1	171



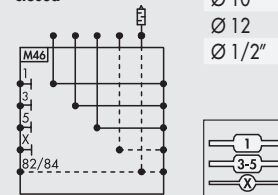
Symbol	T Pipe fitting	Code		Weight [g]
		Additional electric power supply WITHOUT	WITH	
Ports 1, 3 and 5 closed	Ø 8 (5/16")	02282M120Z_0	02282M121Z_1	179
	Ø 10	02282M220Z_0	02282M221Z_1	175
	Ø 12	02282M320Z_0	02282M321Z_1	171
	Ø 1/2"	02282M520Z_0	02282M521Z_1	171



Symbol	T Pipe fitting	Code		Weight [g]
		Additional electric power supply WITHOUT	WITH	
Ports 3 and 5 closed	Ø 8 (5/16")	02282M130Z_0	02282M131Z_1	179
	Ø 10	02282M230Z_0	02282M231Z_1	175
	Ø 12	02282M330Z_0	02282M331Z_1	171
	Ø 1/2"	02282M530Z_0	02282M531Z_1	171



Symbol	T Pipe fitting	Code		Weight [g]
		Additional electric power supply WITHOUT	WITH	
Ports 1, 3, 5 and X closed	Ø 8 (5/16")	02282M140Z_0	02282M141Z_1	179
	Ø 10	02282M240Z_0	02282M241Z_1	175
	Ø 12	02282M340Z_0	02282M341Z_1	171
	Ø 1/2"	02282M540Z_0	02282M541Z_1	171



_ = To complete the code enter: 6: øD = 8 mm; 7: øD = 6 mm; 8: øD = 4 mm

KEY TO CODES

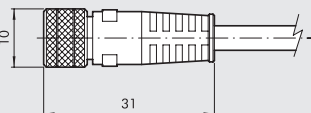
02282	M	3	0	0	Z	3	0
FAMILY	SUBSYSTEM	PORT FITTING 1	PORTS IN THE BASE	ADDITIONAL ELECTRICAL POWER SUPPLY	UPPER PART	PORTS 3 AND 5 FITTING	ELECTRICAL CONNECTOR
02282 EB 80	M Intermediate	1 Pipe fitting Ø 8 (5/16") 2 Pipe fitting Ø 10 3 Pipe fitting Ø 12 5 Pipe fitting Ø 1/2"	0 Full-flow ports 1 Port 1 closed 2 Ports 1, 3 and 5 closed 3 Ports 3 and 5 closed 4 Ports 1, 3, 5 and X closed	■ 0 Without ● 1 With	Z The upper part is present	0 Silencer ▲ 1 Pipe fitting Ø 8 (5/16") ▲ 2 Pipe fitting Ø 10 ▲ 3 Pipe fitting Ø 12 ▲ 5 Pipe fitting Ø 1/2" 6 2 pipes fitting Ø 8 (5/16") (one for port 3, one for port 5) 7 2 pipes fitting Ø 6 (one for port 3, one for port 5) 8 2 pipes fitting Ø 4 (5/32") (one for port 3, one for port 5)	■ 0 Without ● 1 With

▲ For ports 3/5, use the same Ø pipe as port 1. ■ Same number for both positions. ● Same number for both positions.

ACCESSORIES

M8 CONNECTOR FOR POWER SUPPLY

Pin	Cable color
1	Brown
2	White
3	Blue
4	Black

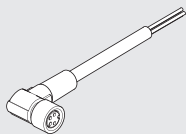


Code	Description
0240009060	M8 4-pin female connector for power supply, cable L = 3 m
0240009037	M8 4-pin female connector for power supply, cable L = 5 m
0240009058	M8 4-pin female connector for power supply, cable L = 10 m
0240009059	M8 4-pin female connector for power supply, cable L = 15 m
0240009P60 *	M8 4-pin female connector for power supply, H-FLEX CL6, cable L = 3 m
0240009P37 *	M8 4-pin female connector for power supply, H-FLEX CL6, cable L = 5 m
0240009P58 *	M8 4-pin female connector for power supply, H-FLEX CL6, cable L = 10 m
0240009P59 *	M8 4-pin female connector for power supply, H-FLEX CL6, cable L = 15 m

* Very flexible cables, class 6 according to IEC 60228

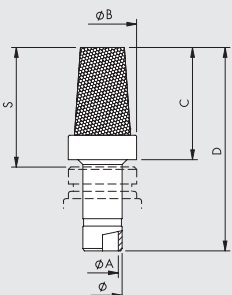
M8 90° CONNECTOR FOR POWER SUPPLY

Pin	Cable color
1	Brown
2	White
3	Blue
4	Black



Code	Description
0240009103	M8 4-pin connector - female, 90° angle L = 5 m

SILENCER FOR FITTING

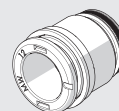


Ø	Ø A	Ø B	C	D	S
8	6.5	14	23	42	24.5
12	10	18.8	29	51.5	31.5

Code	Description	Flow rate at 6.3 bar [Nl/min]	Weight [g]
W0970530084	Silencer for fitting, Ø 8	2400	15
W0970530086	Silencer for fitting, Ø 12	6000	24

SPARE PARTS

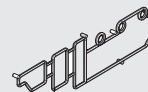
CARTRIDGE



Code	Description	Ø
02282R2110	EB 80 silencer cartridge kit	silencer
02282R2113	EB 80 Ø 8 power supply round cartridge kit	8 (5/16")
02282R2114	EB 80 Ø 10 power supply round cartridge kit	10
02282R2115	EB 80 Ø 12 power supply round cartridge kit	12
02282R2118	EB 80 Ø 1/2 power supply round cartridge kit	1/2"

Comes in 10-pc. packs

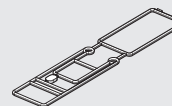
BASE INTERFACE GASKET



Code	Description
02282R1000	EB 80 base interface gasket kit

Comes in 10-pc. packs

LOWER /UPPER BODY GASKET



Code	Description
02282R1001	EB 80 lower/upper body gasket kit

Comes in 10-pc. packs

EB 80 CLOSED END-PLATE - C

The "Closed end-plate - C" is the last element of each EB 80 system.
 A version for islands with multi-pole connector is available.
 One for islands with fieldbus, containing a small electronic board; one for connection to other additional EB 80 islands (only for systems with fieldbus).
 The end plate houses the system for mechanically fixing the island to external supports.

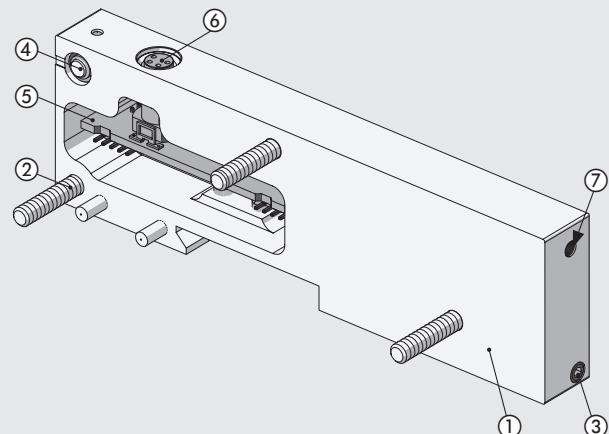


TECHNICAL DATA

Ambient temperature	°C	-10 to +50
	°F	14 to 122
Versions		For islands with multi-pole connection. For island with fieldbus. For connection to additional islands.
Degree of protection		IP65 (with connectors connected or plugged if not used)
Notes		All valve units (including multi-pole versions) require grounding protection. Use M4 thread on the end plate with braided cable code 02282R6000 provided or, when fixing the unit onto a DIN bar, connect the bar to grounding.

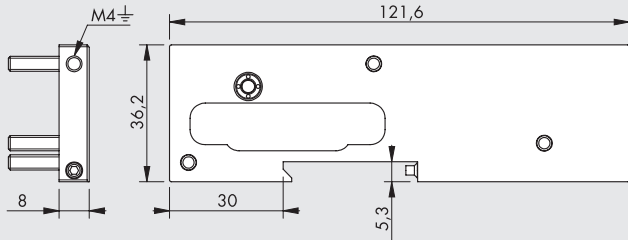
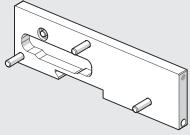
COMPONENTS

- ① BODY: painted metal
- ② FIXING SCREW: TCE M4x20 zinc-plated steel
- ③ GRUB SCREW securing the DIN bar or bracket: zinc-plated steel
- ④ RELIEF VALVE: safety in case of internal pressure increase due to temperature or losses
- ⑤ ELECTRONIC BOARD: none in the Closed end-plate for islands with multi-pole connector
- ⑥ M8 CONNECTOR: only in the Closed end-plate for connection with additional islands
- ⑦ GROUNDING \equiv



DIMENSIONS - ORDERING CODES

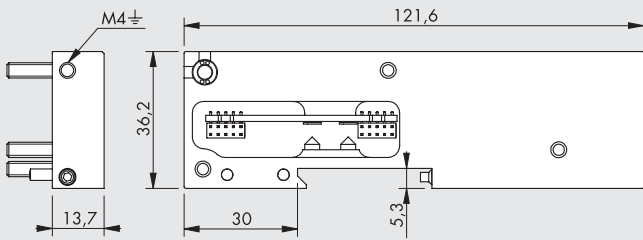
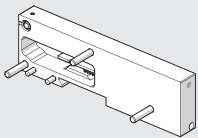
CLOSED END-PLATE FOR ISLANDS WITH MULTI-POLE CONNECTOR



Symbol	Code	Description	Weight [g]
	02282C1	Closed end-plate for islands with multi-pole connector	92



CLOSED END-PLATE FOR ISLANDS WITH FIELDBUS

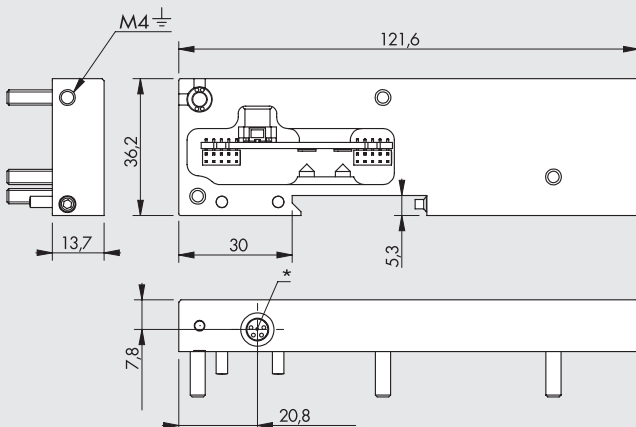
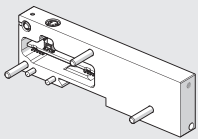


Symbol	Code	Description	Weight [g]
	02282C2	Closed end-plate for islands with fieldbus	148



Note: also usable for islands with multi-pole connector

CLOSED END-PLATE FOR ELECTRICAL CONNECTION OF ISLANDS WITH FIELDBUS TO ADDITIONAL ISLANDS



Symbol	Code	Description	Weight [g]
	02282C3	Closed end-plate for electrical connection to additional islands	148



Note: if you do not connect additional island you must mount the M8 end connector

* M8 connector for connection to additional islands.

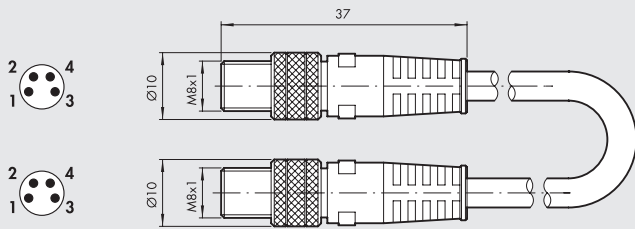
N.B.: The system does not work until the connector is connected to the "Additional electrical connection - E" module.

KEY TO CODES

02282	C	1
FAMILY	SUBSYSTEM	TYPE
02282 EB 80	C Closed end-plate	1 For islands with multi-pole connection 2 For islands with fieldbus 3 For connection to additional islands

ACCESSORIES

M8 CONNECTOR WITH CABLE FOR CONNECTION BETWEEN EB 80 ISLANDS

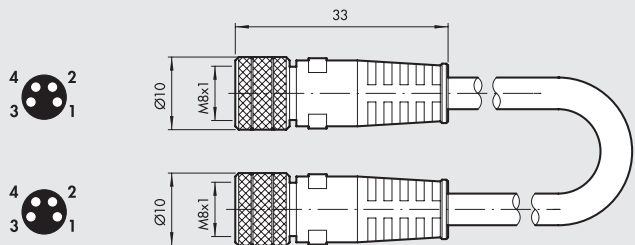


Code	Description	Weight [g]
0240010201	M8-M8 4-pin male straight connector with shielded cable L = 1 m	45
0240010205	M8-M8 4-pin male straight connector with shielded cable L = 5 m	185
0240010210	M8-M8 4-pin male straight connector with shielded cable L = 10 m	330
0240010215	M8-M8 4-pin male straight connector with shielded cable L = 15 m	475
0240010220	M8-M8 4-pin male straight connector with shielded cable L = 20 m	620
0240010405 *	M8-M8 4-pin male straight connector with shielded cable H-FLEX CL6, L = 5 m	185
0240010410 *	M8-M8 4-pin male straight connector with shielded cable H-FLEX CL6, L = 10 m	330
0240010415 *	M8-M8 4-pin male straight connector with shielded cable H-FLEX CL6, L = 15 m	475
0240010420 *	M8-M8 4-pin male straight connector with shielded cable H-FLEX CL6, L = 20 m	620

* Very flexible cables, class 6 according to IEC 60228

N.B.: For correct operation of the entire EB 80 system, use M8-M8 pre-wired, twisted and shielded cables only.

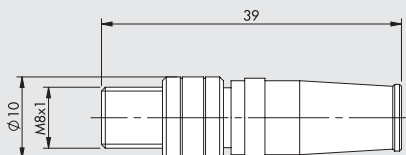
M8 ADAPTER CABLE



Code	Description	Weight [g]
0240010350	M8-M8 4-pin female adapter cable with shielded cable L = 200 mm	16

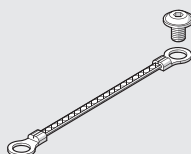
N.B.: Cannot be used with cables for mobile laying (H-FLEX CL6)

M8 END CONNECTOR FOR EB 80 VALVES



Code	Description
02282R5000	M8 end connector for EB 80 valves

BRAIDED GROUNDING CABLE



Code	Description
02282R6000	Braided grounding cable