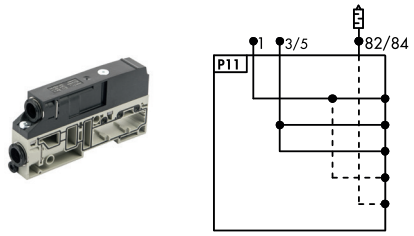
Compressed air supply

Art. No. 151073

Type No. 02282P21Z20



Exemplary illustration

The EB 80 modules “Compressed Air Supply – P” power the valve base and collect exhaust air from the relief ports. They are available in various versions with different pipe fitting diameters.

Pilot air can either be internal or external (recommended). Switching between internal and external pilot air modes is possible by repositioning the orange gasket located between the upper and lower parts of the module. The configuration is indicated by a tab at the rear of the module.

Relief ports 3 and 5 can either be connected with a silencer or push-in fitting.
A version with separate ports 3 and 5 is also available. This is particularly useful in configurations with external pilot air, allowing the valves to be supplied with different pressures (from vacuum up to 8 bar).

A module version without pneumatic connections is also available, specifically designed for configuring a fieldbus island with signal modules only – without any pneumatic section.

Technical data

Module type	P
Module description	compressed air supply
Version	with conveyed relief
Pilot air supply	internal
Port 1	Ø 10 mm
Port 3+5	1x Ø 10 mm
Medium	filtered, unlubricated compressed air
Required purity class in accordance w. ISO 8573-1	4.7.3
Op. pressure min. 5/2-, 5/3-way valves with int. pilot air	3 bar
Op. pressure min. 2/2-, 3/2-way valves with int. pilot air	3,5 bar
Operating pressure max. with int. pilot air	8 bar
Operating pressure min. with external pilot air	-0,99 bar

RIEGLER & Co. KG
Schützenstraße 27
72574 Bad Urach
Tel. +49 7125 9497-642
technik@riegler.de

Technical data

Operating pressure max. with external pilot air	10 bar
Pilot pressure min. 5/2- and 5/3-way valves	3 bar
Pilot pressure min. 2/2- and 3/2-way valves	3-5 bar, dep. on operating pressure (see Metal Work data sheet)
Max. pilot pressure	8 bar
Flow rate measurement 1	Air supply via port 1, at 6.3 bar Δp 1 bar
Flow rate 1	2800 Nl/min
Flow rate measurement 2	Air supply via port 3/5, at 6.3 bar Δp 1 bar
Flow rate 2	3200 Nl/min
Min. ambient temperature	-10 °C
Max. ambient temperature	50 °C
Housing	technopolymer
Sealant	NBR
Protection IP	IP 65
Series	EB 80

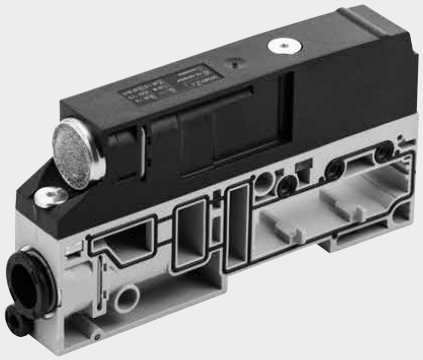
Commercial data

eCl@ss 5.1.4	27291501
eCl@ss 9.0	27291390
UNSPSC_Code_v190501	40141603
UNSPSC_CodeDesc_v190501	Pneumatic valves

RIEGLER & Co. KG
Schützenstraße 27
72574 Bad Urach
Tel. +49 7125 9497-642
technik@riegler.de

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.

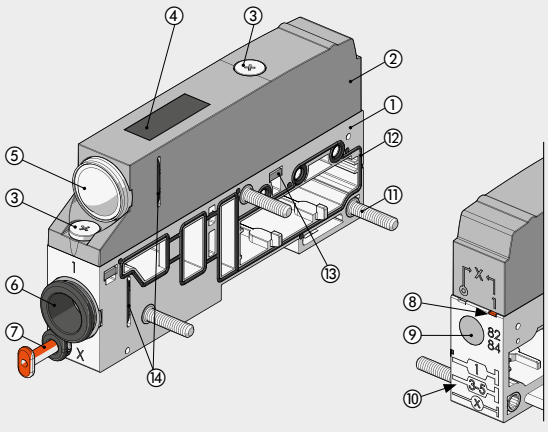


TECHNICAL DATA

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**.57) / max. 8	
	MPa	0.3 to 0.8		min. (see graph on page **B2**.57) / max. 0.8	
	psi	43 to 116		min. (see graph on page **B2**.57) / 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

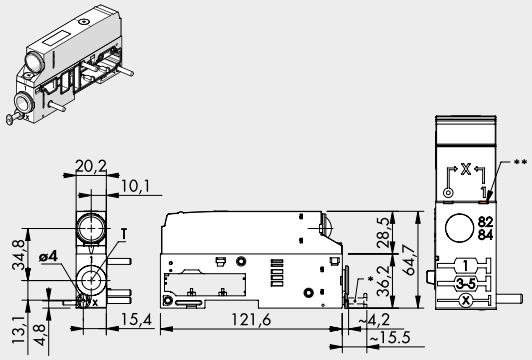
① LOWER PART BODY: technopolymer
② UPPER PART BODY: technopolymer
③ SCREWS securing the island bodies: zinc-plated steel (Tightening torque: 1.2 Nm)
④ TAG: with laser etched wording - technopolymer
⑤ RELIEF: silencer or pipe fitting
⑥ POWER SUPPLY: pipe fitting
⑦ PILOTING (X): Ø 4 pipe fitting
⑧ INDICATOR: indicaes 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



RIEGLER & Co. KG
Schützenstraße 27
72574 Bad Urach
Tel. +49 7125 9497-642
technik@riegler.de

DIMENSIONS - ORDERING CODES

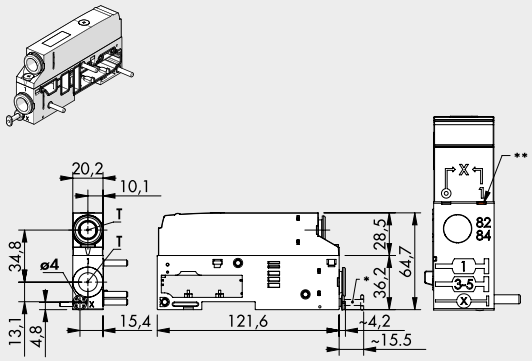
COMPRESSED AIR SUPPLY - SILENCED RELIEF



* 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]
Servo-assisted	Ø 8 (5/16")	02282**P1XZ00**	140
	Ø 10	02282**P2XZ00**	140
	Ø 12	02282**P3XZ00**	130
	Ø 1/2"	02282**P5XZ00**	130
Non-servo-assisted	Ø 8 (5/16")	02282**P11Z00**	140
	Ø 10	02282**P21Z00**	140
	Ø 12	02282**P31Z00**	130
	Ø 1/2"	02282**P51Z00**	130

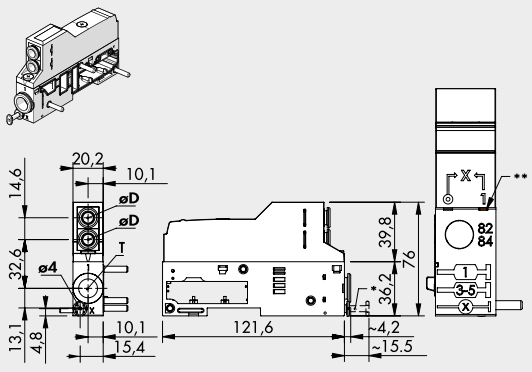
COMPRESSED AIR SUPPLY - CONVEYED RELIEF



* 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]
Servo-assisted	Ø 8 (5/16")	02282**P1XZ10**	140
	Ø 10	02282**P2XZ20**	140
	Ø 12	02282**P3XZ30**	130
	Ø 1/2"	02282**P5XZ50**	130
Non-servo-assisted	Ø 8 (5/16")	02282**P11Z10**	140
	Ø 10	02282**P21Z20**	140
	Ø 12	02282**P31Z30**	130
	Ø 1/2"	02282**P51Z50**	130

COMPRESSED AIR SUPPLY - SEPARATE RELIEFS



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

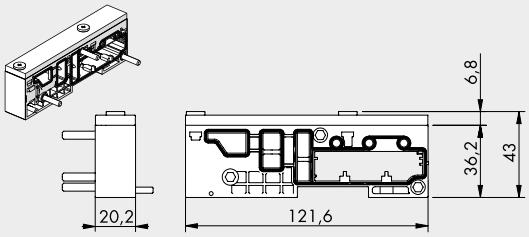
Symbol	T - Pipe fitting	Code	Weight [g]
Servo-assisted	Ø 8 (5/16")	02282**P1XZ_0**	150
	Ø 10	02282**P2XZ_0**	150
	Ø 12	02282**P3XZ_0**	140
	Ø 1/2"	02282**P5XZ_0**	140
Non-servo-assisted	Ø 8 (5/16")	02282**P11Z_0**	150
	Ø 10	02282**P21Z_0**	150
	Ø 12	02282**P31Z_0**	140
	Ø 1/2"	02282**P51Z_0**	140

_ = 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

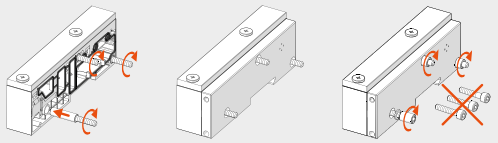
RIEGLER & Co. KG
Schützenstraße 27
72574 Bad Urach
Tel. +49 7125 9497-642
technik@riegler.de

MODULE FOR ELECTRIC VERSION ONLY



Code	Description	Weight [g]
02282**P91Z90**	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.



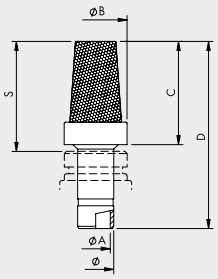
KEY TO CODES

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" **9** Module for electric version only	**1** Non-servo-assisted **X** Servo-assisted **1** Non-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

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

ACCESSORIES

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

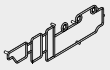
SPARE PARTS

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

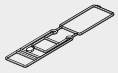
BASE INTERFACE GASKET



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

RIEGLER & Co. KG
Schützenstraße 27
72574 Bad Urach
Tel. +49 7125 9497-642
technik@riegler.de

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**.57) / max. 8		
	MPa	0.3 to 0.8			min. (see graph on page **B2**.57) / max. 0.8		
	psi	43 to 116			min. (see graph on page **B2**.57) / 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	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 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		Ⓔx II 3G Ex ec IIC T5 Gc X -10°C<Ta<50°C Ⓔx II 3D Ex tc IIIC T100°C Dc X					
Certifications		CE - EAC - cULus - Ⓔx					

* **Minimum voltage 10.8VDC required at solenoid pilots. Check the minimum voltage at the power supply output using the calculations shown on page B2**.28
** Using high-flow valves or connected valves - see pages **B2**.58
*** **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.

RIEGLER & Co. KG
Schützenstraße 27
72574 Bad Urach
Tel. +49 7125 9497-642
technik@riegler.de

CERTIFICATIONS

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

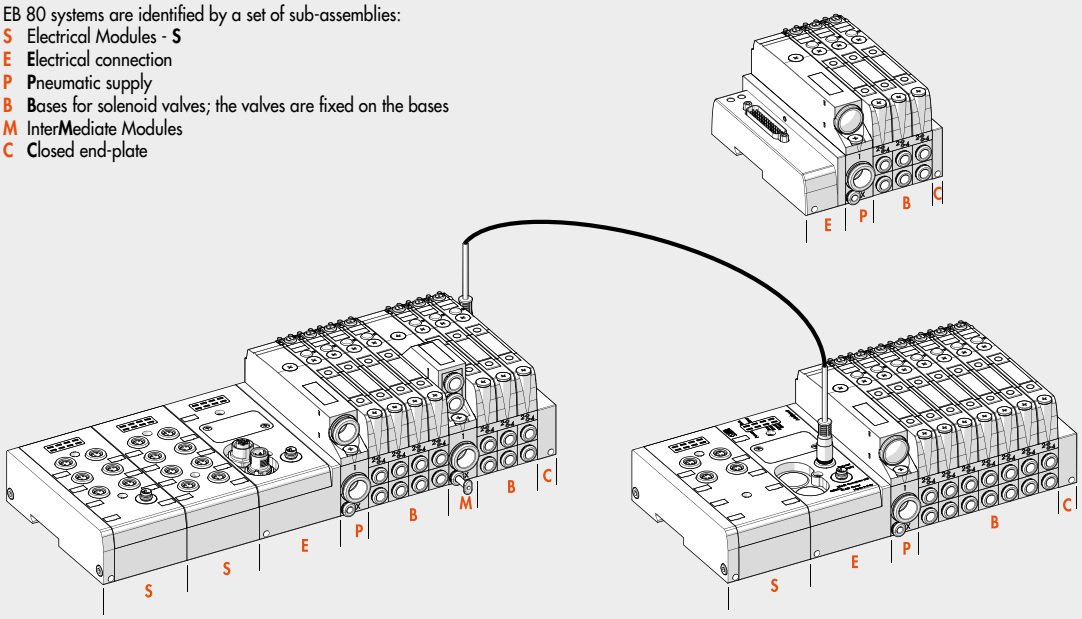
- environment temperature: max 45°C
- ED max 70%

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

COMPONENTS

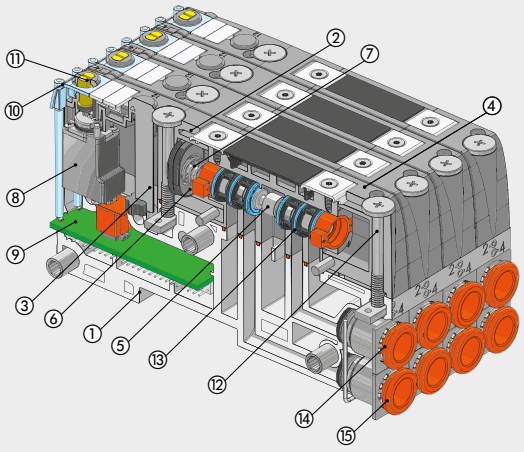
EB 80 systems are identified by a set of sub-assemblies:

S Electrical Modules - **S**
E **E**lectrical connection
P **P**neumatic supply
B **B**ases for solenoid valves; the valves are fixed on the bases
M Inter**M**ediate Modules
C **C**losed 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



RIEGLER & Co. KG
Schützenstraße 27
72574 Bad Urach
Tel. +49 7125 9497-642
technik@riegler.de

THE EB 80 WORLD

ELECTRICAL CONNECTION - E

E025	E044	E0EN	E0EC	E0PN	E0CN	E0PB	E0PL	E0IO	E0LK	E0CC	E0AD
											
25 PIN	44 PIN	EtherNet/IP	EtherCAT	Profinet IO	CANopen	Profibus-DP	Ethernet POWERLINK	IO-Link 32 IN/32 OUT	IO-Link 64 OUT	CC-Link IE Field Basic	Additional
page **B2**.30	page **B2**.30	page **B2**.43	page **B2**.43	page **B2**.43	page **B2**.43	page **B2**.43	page **B2**.43	page **B2**.43	page **B2**.43	page **B2**.43	page **B2**.48

SIGNAL MODULE - S

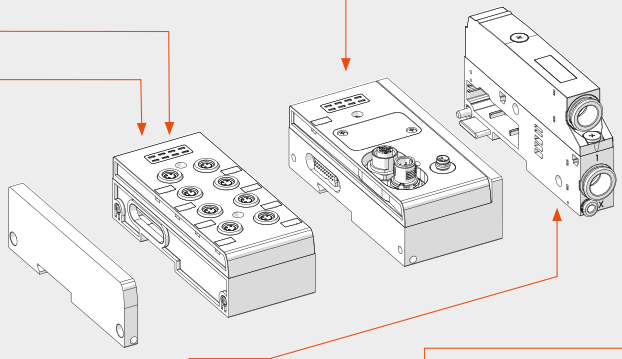
S01	S02	S03	S04	S05	S06	S07	S08	S21
								
8 M8 digital inputs	8 M8 digital outputs	6 M8 digital outputs + electrical supply	4 M8 analogue inputs	4 M8 analogue outputs	16 digital terminal block inputs	16 digital terminal block outputs	4 M8 analogue inputs for temperature measurement	16 M8 configurable digital inputs/ outputs
page **B2**.18	page **B2**.18	page **B2**.19	page **B2**.19	page **B2**.20	page **B2**.20	page **B2**.21	page **B2**.21	page **B2**.22

WIRELESS MODULE - S

S20

Wireless connection module
page **B2**.16

Part included in the **ELECTRICAL CONNECTION - E** with Fieldbus



COMPRESSED-AIR SUPPLY - P

P_ _Z00	P_ _Z_ _	P_ _Z_0	P91Z90
			
Silenced relief	Conveyed relief	Separate reliefs	Module for electric version only
page **B2**.51	page **B2**.51	page **B2**.51	page **B2**.52

PROPORTIONAL PRESSURE REGULATOR - A

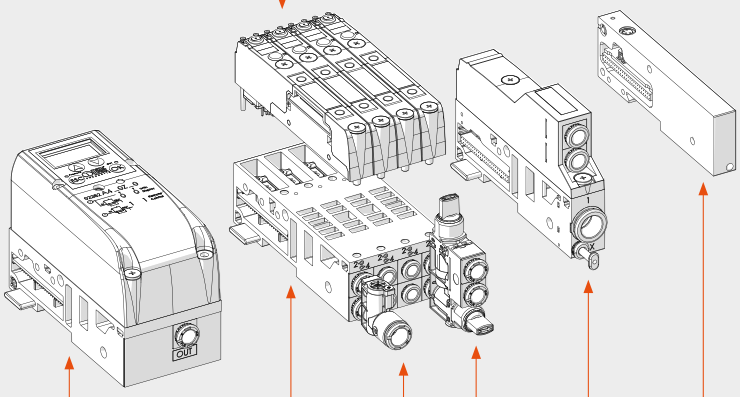
A40_Z_0	A41_Z_0
	
Base port 1 pass-through local outlet	Base port 1 sectioned in-series regulation
page **B2**.65	page **B2**.65

RIEGLER & Co. KG
Schützenstraße 27
72574 Bad Urach
Tel. +49 7125 9497-642
technik@riegler.de

VALVES

Z_ ▲	I_ ▲	W_ ▲	L_ ▲	V_	K_ ▲	O_ ▲	G_	J_	R_ ✚	N0	Y8
											
2 valves 2/2 NC	2 valves 3/2 NC (valid as 5/3 OC)	2 valves 3/2 NO (valid as 5/3 PC)	3/2 NC + 3/2 NO	monostable 5/2	bistable 5/2	5/3 CC	3/2 NC high flow	3/2 NO high flow	Shut-off valve	Dummy valve	Bypass
page **B2**.57	page **B2**.57	page **B2**.57	page **B2**.57	page **B2**.57	page **B2**.57	page **B2**.57	page **B2**.58	page **B2**.58	page **B2**.59	page **B2**.60	page **B2**.60

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



CLOSED END-PLATE - C

C1	C2	C3
		
For islands with multi-pole connector	For islands with fieldbus	For electrical connection of islands with fieldbus to additional islands
page **B2**.74	page **B2**.74	page **B2**.74

BASES FOR VALVES - B

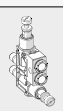
B3_ _ _ _ _0	B4_ _ _ _ _ _
	
3-position base for valves	4-position base for valves
page **B2**.54	page **B2**.54

Y-FITTING

R2

Y-fitting
page **B2**.61

MULTI-FUNCTION MODULE


Fittings with pneumatic functions
page **B2**.92

INTERMEDIATE SUPPORT - M

M_ _ _Z0_	M_ _ _Z_ _	M_ _ _Z_ _
		
Silenced relief	Conveyed relief	Separate relief
page **B2**.69	page **B2**.70	page **B2**.71

RIEGLER & Co. KG
Schützenstraße 27
72574 Bad Urach
Tel. +49 7125 9497-642
technik@riegler.de

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.

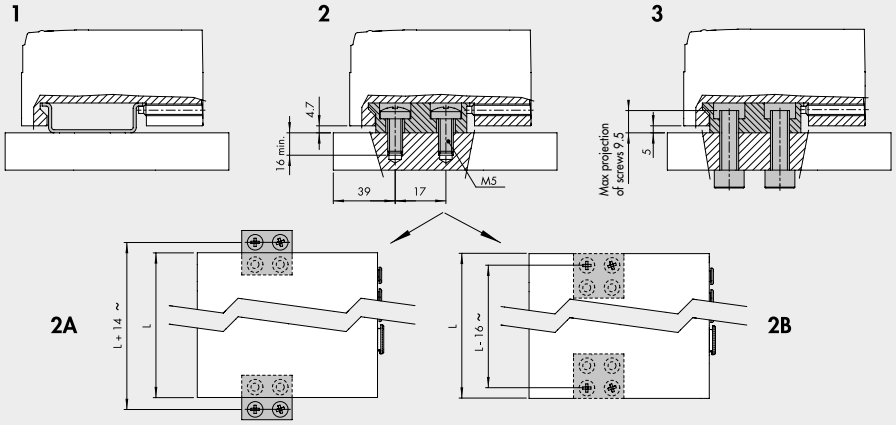
2 - Fixing on a flat surface: use the pair of brackets code 02282R4000 and the M5x20 screws supplied.
You can choose where to position the brackets in relation to the island:

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.

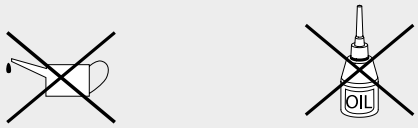
2B - *Concealed brackets*: the overall dimensions of the island are reduced. First secure the brackets to the flat top with M5x20 screws, then place the island onto the brackets and lock the two grub screws provided in the modules E and C.

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 fixed either protruded or concealed.

N.B.: Planar surfaces are required to ensure correct fixing. Avoid twisting or bending the valve units.



LUBRICATION



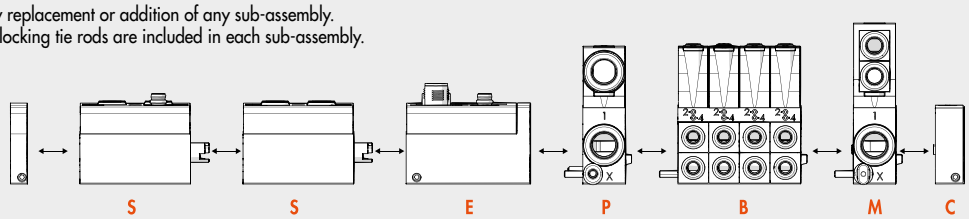
NO LUBE NO OIL

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.

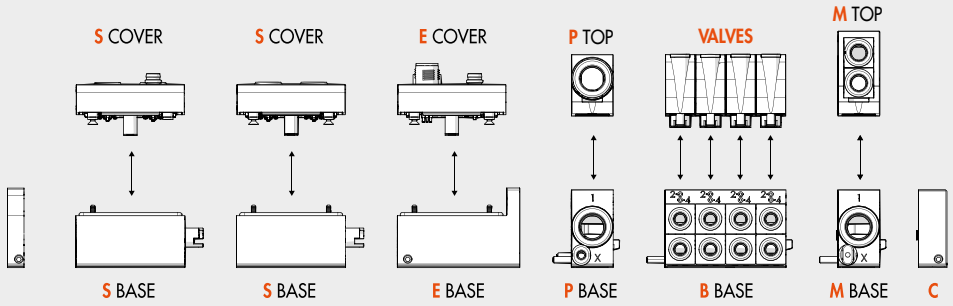


RIEGLER & Co. KG
Schützenstraße 27
72574 Bad Urach
Tel. +49 7125 9497-642
technik@riegler.de

VERTICAL MODULARITY

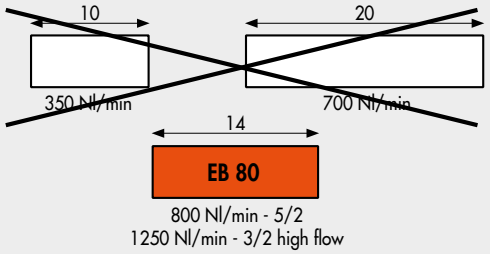
- Easy replacement – no need to disassemble the pack – of the valves on the Bases – B and also of the top part (cover) of subsystems **S**, **E**, **P**, **M** using a single Phillips-head screwdriver.

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

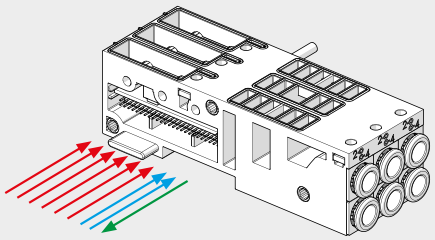
- Reduced dimensions
- High flow rate
- One warehouse and spares



800 Nl/min - 5/2
1250 Nl/min - 3/2 high flow

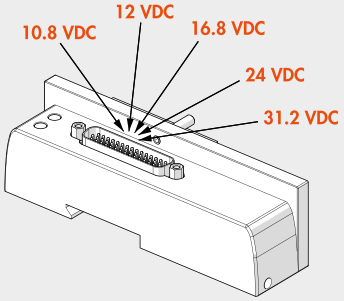
THE SAME BASE FITS BOTH MULTI-POLE CONNECTIONS AND FIELD BUSES

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



PATENTED

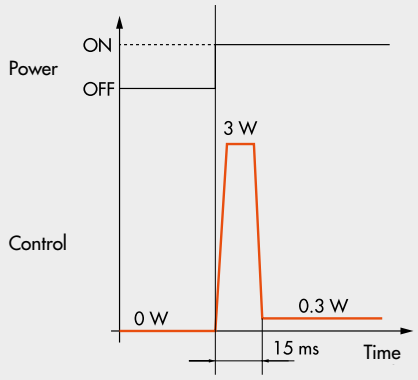
THE SAME ISLAND CAN BE SUPPLIED 10.8 - 31.2 VDC



RIEGLER & Co. KG
Schützenstraße 27
72574 Bad Urach
Tel. +49 7125 9497-642
technik@riegler.de

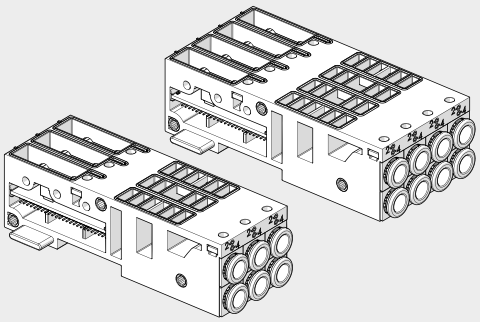
ONLY 0.3 W FOR EACH SOLENOID VALVE

- 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.



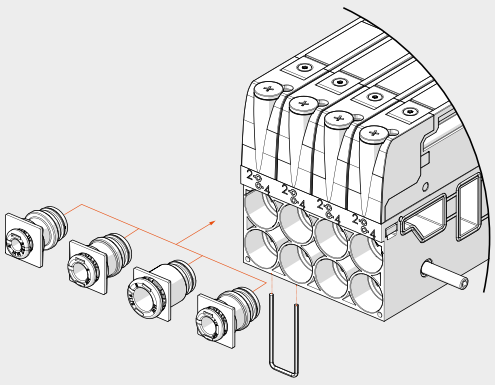
3- OR 4-POSITION BASES FOR VALVES

- 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

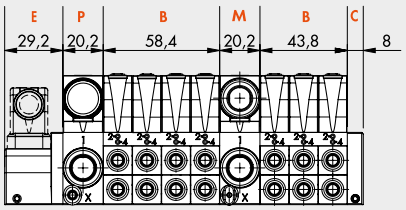
- For pipes Ø 4 (5/32"), 6, 8 (5/16"), 1/4"

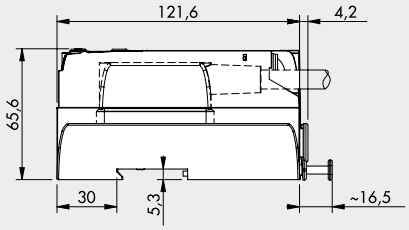


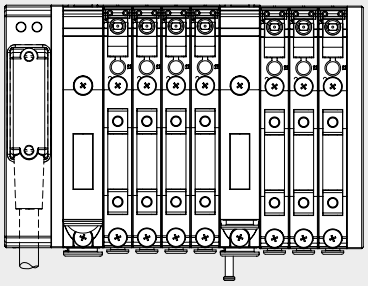
RIEGLER & Co. KG
Schützenstraße 27
72574 Bad Urach
Tel. +49 7125 9497-642
technik@riegler.de

DIMENSIONS

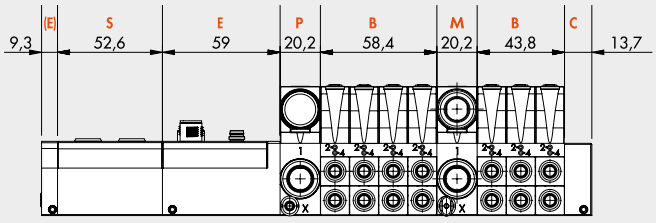
DIMENSION OF VERSIONS WITH MULTI-POLE CONNECTION

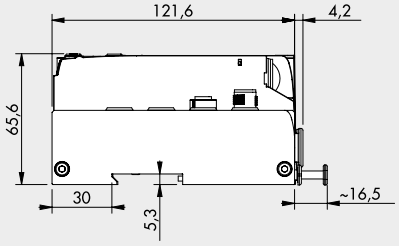


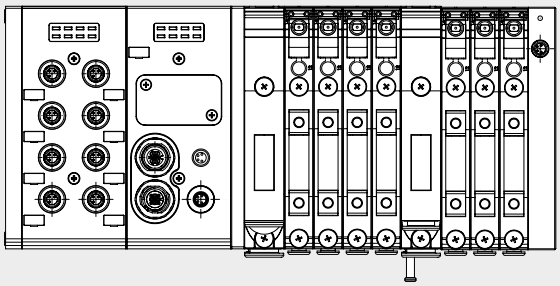




DIMENSION OF VERSIONS WITH FIELD BUS OR ADDITIONAL CONNECTION







RIEGLER & Co. KG
Schützenstraße 27
72574 Bad Urach
Tel. +49 7125 9497-642
technik@riegler.de

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	**Electrical 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**.22	see page **B2**.28	see page **B2**.52	see page **B2**.55 and **B2**.60	see page **B2**.72	see page **B2**.75

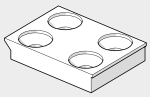
Example:
EB 80-S01-E0EN-P3XZ00-B40866660VWKN-M300Z30-B30388800VVN-C2

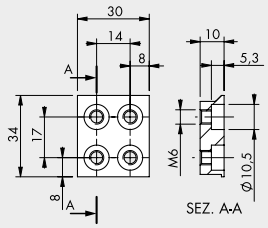
EB 80	**- S01**	**- E0EN**	**- P3XZ00**	**- B40866660VWKN**	**- M300Z30**	**- B30388800VVN**	**- C2**
EB 80 system	**Signal module** complete 8 M8 digital inputs	**Electrical connection** EtherNet/IP	**Compressed air supply** - fitting Ø 12 - pilot servo Ø 4 - silenced relief	**Base for valves** - 4 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.

RIEGLER & Co. KG
Schützenstraße 27
72574 Bad Urach
Tel. +49 7125 9497-642
technik@riegler.de

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.

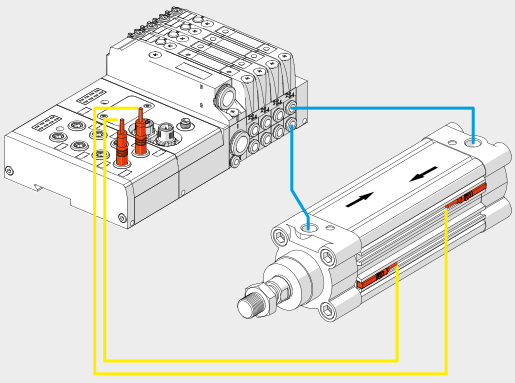
This makes it possible to turn the data collected into concrete actions using standard EB 80 stations without needing additional modules.

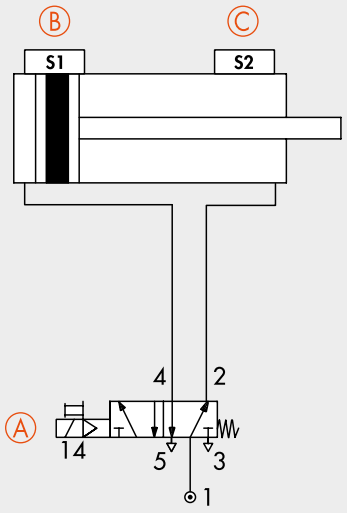
Description of EB 80 I4.0 functions:

• 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.





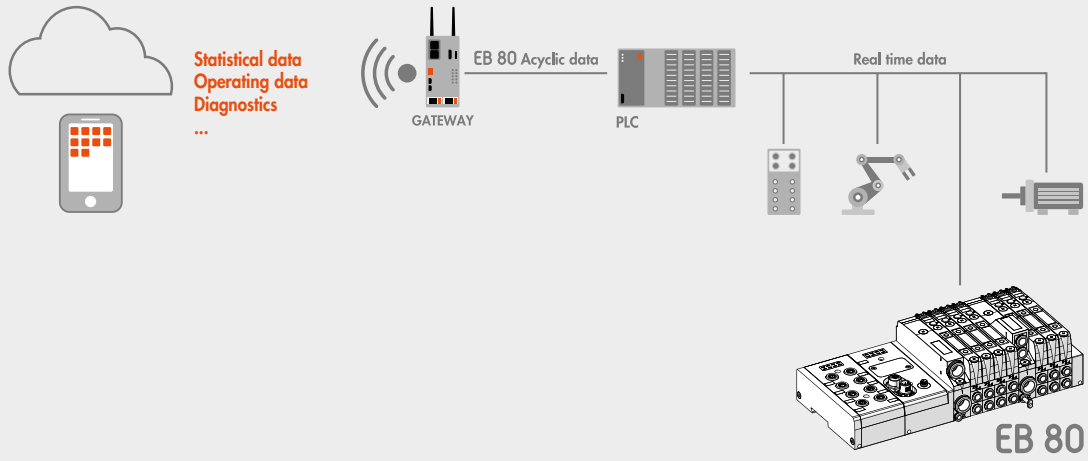
RIEGLER & Co. KG
Schützenstraße 27
72574 Bad Urach
Tel. +49 7125 9497-642
technik@riegler.de

PLC-BASED DATA COLLECTION

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.

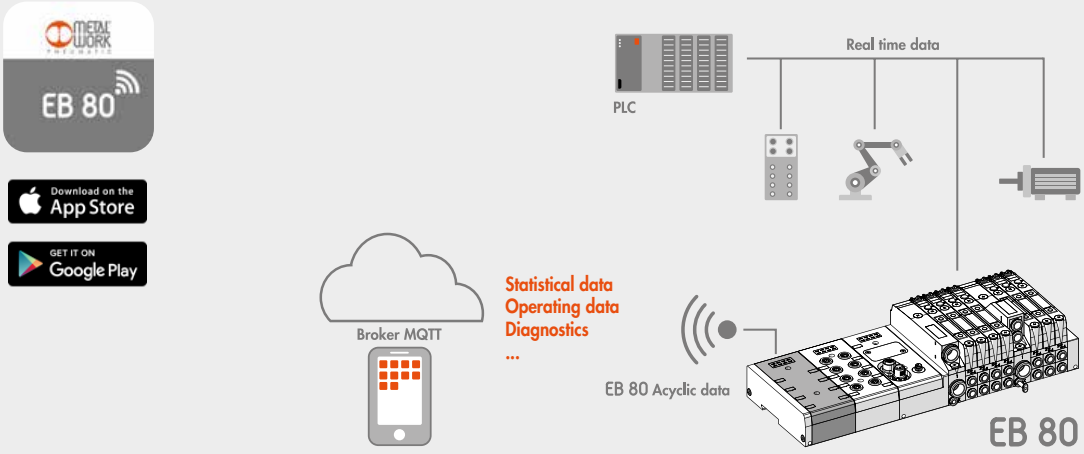
With the introduction of the I4.0 version, the field bus connection modules also send to the network the historical and diagnostic data relating to the behaviour of the island (such as the number of cycles for each solenoid pilot, total activation time and alarms) and the controlled pneumatic circuit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

Integrated into the EB 80, this module provides connection to Wi-Fi networks and Bluetooth® devices to display diagnostic and operating data.
The APP specifically developed by Metal Work, called EB80Up, can connect Android and IOS devices for easy viewing of diagnostic and operating data plus the setting of network parameters.



RIEGLER & Co. KG
Schützenstraße 27
72574 Bad Urach
Tel. +49 7125 9497-642
technik@riegler.de

Spareparts

	Art. No.	Type No.
EB 80 square cartridge with push-in fitting Ø 10 mm for compressed air supply and intermediate support, PU 10 pcs.	153918	02282R2114
EB 80 base interface gasket, PU 10 pcs.	153860	02282R1000
EB 80 gasket for compressed air supply and intermediate support, for sealing between upper and lower part, PU 10 pcs.	153908	02282R1001

RIEGLER & Co. KG
Schützenstraße 27
72574 Bad Urach
Tel. +49 7125 9497-642
technik@riegler.de