Table of contents

7

Series RE-04

Technical details

Temperature range	-10°C ... +70°C
Medium	Filtered, oil-free and dried compressed air according to ISO 8573-1:2010, Class 7:2:4, instrument air, free of aggressive additives. Differing the pressure dew point must be at least 10°C below lowest occurring ambient temperature.
Materials	Body: Al (anodized), seals: NBR
Protection	IP 65 according to EN 60529

Manifold system with integrated electrical connection including LED, manual override and built-in circuit protection.
Double solenoid valves and 5/3-way valves require 2 stations on the manifold.
The above order code covers only the manifold. The valves and the multi-pin plug with cable must be ordered separately.
The valve terminal is delivered pre-assembled and function-tested. If not specified with the order, valve configuration is as follows: Valves are mounted according to their order number, starting with high numbers on the side of the multi-pin, ending with low numbers on the opposite side, followed by blind plates (if ordered).

Order code

RE-04/-***

Series	
04	4 stations
06	6 stations
08	8 stations
10	10 stations
12	12 stations
14	14 stations
16	16 stations

Electrical options	
M	Multi-pin

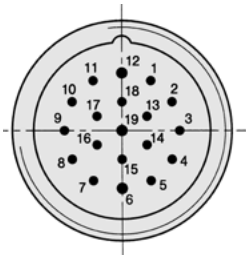
Electrical options

Multi-pin

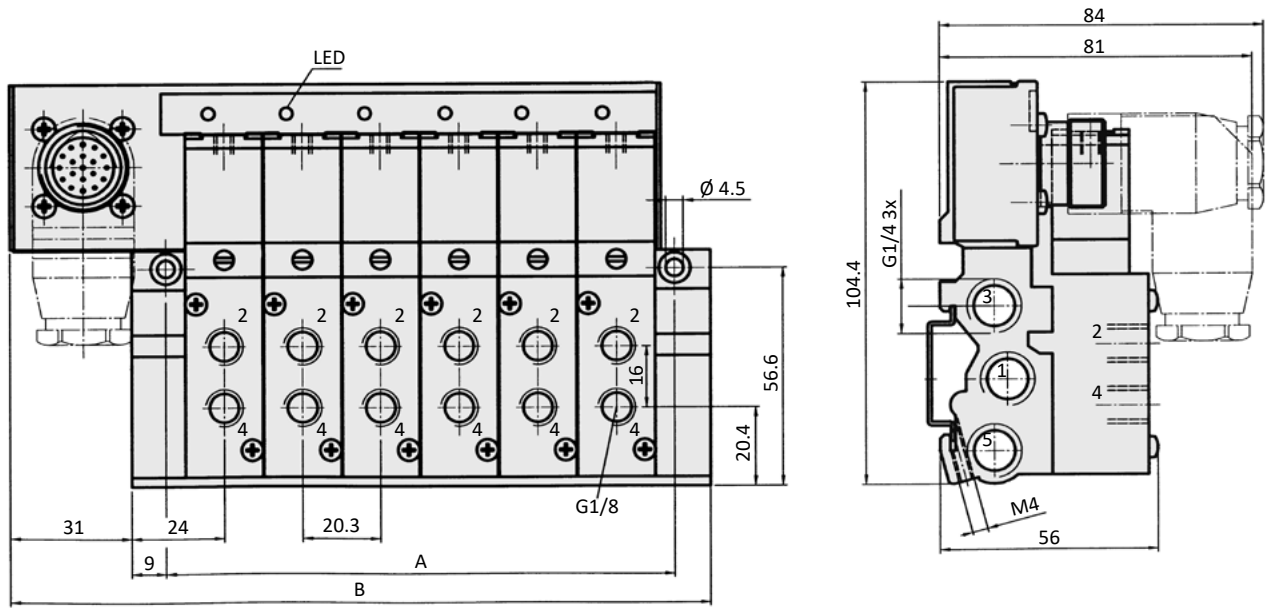
The 19-pin multi plug (see page 7-04) has to be ordered separately.

Pin	Function	Cable, 8-pin	Cable, 16-pin
1	valve 1	black 1	black 1
2	valve 2	black 2	black 2
3	valve 3	black 3	black 3
4	valve 4	black 4	black 4
5	valve 5	black 5	black 5
6	GND	black 9	black 9
7	valve 6	black 6	black 6
8	valve 7	black 7	black 7
9	valve 8	black 8	black 8
10	valve 9	-	black 17

Pin	Function	Cable, 8-pin	Cable, 16-pin
11	valve 10	-	black 10
12	PE	green/ yellow	green/ yellow
13	valve 11	-	black 11
14	valve 12	-	black 12
15	valve 13	-	black 13
16	valve 14	-	black 14
17	valve 15	-	black 15
18	valve 16	-	black 16
19	GND	-	black 18



Dimensions



1 = pressure inlet
2,4 = outlets
3,5 = exhausts

Model-no.:	A	B	Weight without valves (kg)
RE-04/04-M	90.9	140	0.51
RE-04/06-M	131.5	180.6	0.72
RE-04/08-M	172.1	221.2	0.93
RE-04/10-M	212.7	261.8	1.14
RE-04/12-M	253.3	302.4	1.35
RE-04/14-M	293.9	343	1.56
RE-04/16-M	334.5	383.6	1.77

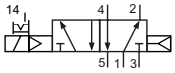
Series RE-04

Technical details

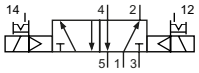
Outlets	G1/8
Nominal size	4 mm
Temperature range	-10°C ... +70°C
Medium	Filtered, oil-free and dried compressed air according to ISO 8573-1:2010, Class 7:2:4, instrument air, free of aggressive additives. Differing the pressure dew point must be at least 10°C below lowest occurring ambient temperature.
Materials	Body: Al (anodized), plastic, seals: NBR and POM, inner parts: Al, stainless steel and brass
Nominal voltage	24 V DC, ± 10%
Power consumption	2 W
Protection	IP 65 according to EN 60529

Electrically operated spool valve. The manual override is detent and is operated by screwdriver.

5/2-way valves

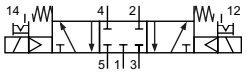


MF-04-510-HN-412
5/2-way, single solenoid, air spring return

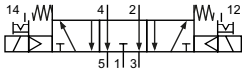


MF-24-520-HN-412
5/2-way, double solenoid

5/3-way valves



MF-24-530-HN-412
5/3-way, center position closed



MF-24-533-HN-412
5/3-way, center position exhausted

Technical data

Model-no.:	MF-04-510-HN-412	MF-24-520-HN-412	MF-24-530-HN-412	MF-24-533-HN-412
Required space	1 station	2 stations	2 stations	2 stations
Operating pressure (bar)	2.5...8	2.5...8	3...8	3...8
Pilot pressure (bar)	2.5...8	2.5...8	3...8	3...8
Flow rate (Nl/min)	360	360	360	360
Response time (ms) at 6 bar	on: 13 off: 16	on: 11 off: 11	on: 15 off: 22	on: 15 off: 22
Weight (kg)	0.112	0.230	0.232	0.232

Accessories

Model-no.:	RE-04-DT
	Pressure dividing plug

Model-no.:	28-ST-RE-10x-yy
	19-pin multi plug, straight x = 3 3 m cable x = 7 7 m cable yy = 8 up to 8 stations yy = 16 up to 16 stations

Model-no.:	RE-04-V-EP
	Blind plate

Model-no.:	28-ST-RE-11x-yy
	19-pin multi plug, elbow x = 3 3 m cable x = 7 7 m cable yy = 8 up to 8 stations yy = 16 up to 16 stations

Series RE-19

Technical details

Temperature range	-10°C ... +50°C
Medium	Filtered, oil-free and dried compressed air according to ISO 8573-1:2010, Class 7:2:4, instrument air, free of aggressive additives. Differing the pressure dew point must be at least 10°C below lowest occurring ambient temperature.
Materials	Body: Al (anodized), seals: NBR
Protection	IP 65 according to EN 60529

Manifold system with integrated electrical connection including LED indicators, manual override and built-in circuit protection.
Valves with connection G1/4 require 2 stations on the manifold.
The above order code covers only the manifold. The multi-pin plug with cable must be ordered separately.
The valve terminal is delivered pre-assembled and function-tested. If not specified with the order, valve configuration is as follows: Valves are mounted according to their order number, starting with high numbers at the side of the multi-pin, ending with low numbers on the opposite side, followed by blind plates (if ordered).

Order code

RE-19/-*****

Series	
Number of stations	
04	4 stations
06	6 stations
08	8 stations
10	10 stations
12	12 stations
14	14 stations
16	16 stations
18	18 stations
20	20 stations
22	22 stations

Electrical options	
M-1	Multi-pin

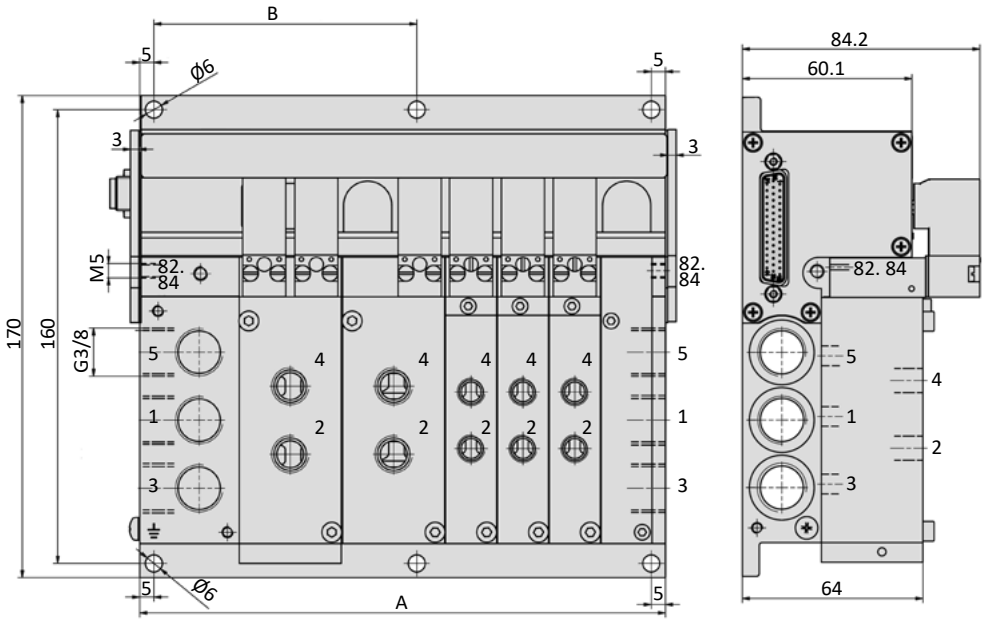
7

More detailed information about the installation you find in the manual at www.airtec.de.

Series RE-19

Dimensions

Multi-pin



Model-no.:		A	B	Weight without valves (kg)
RE-19/04-M-1		113	-	0.93
RE-19/06-M-1	**RE-19/06-B-1**	149	-	1.26
RE-19/08-M-1	**RE-19/08-B-1**	186	-	1.59
RE-19/10-M-1	**RE-19/10-B-1**	222	-	1.92
RE-19/12-M-1	**RE-19/12-B-1**	259	129.5	2.25
RE-19/14-M-1	**RE-19/14-B-1**	295	147.5	2.58
RE-19/16-M-1	**RE-19/16-B-1**	332	166	2.91
RE-19/18-M-1	**RE-19/18-B-1**	369	184.5	3.24
RE-19/20-M-1	**RE-19/20-B-1**	405	202.5	3.57
RE-19/22-M-1	**RE-19/22-B-1**	442	221	3.90

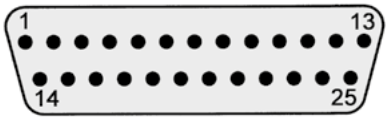
Electrical options

Multi-pin

The 25-pin multi plug (see page 7-07) has to be ordered separately.

Pin	Function	Wire colour
1	valve 1	white
2	valve 2	brown
3	valve 3	green
4	valve 4	yellow
5	valve 5	grey
6	valve 6	pink
7	valve 7	blue
8	valve 8	red
9	valve 9	black
10	valve 10	violet
11	valve 11	grey/ pink
12	valve 12	red/ blue
13	valve 13	white/ green

Pin	Function	Wire colour
14	valve 14	brown/ green
15	valve 15	white/ yellow
16	valve 16	yellow/ brown
17	valve 17	white/ grey
18	valve 18	grey/ brown
19	valve 19	white/ pink
20	valve 20	pink/ brown
21	valve 21	white/ blue
22	valve 22	brown/ blue
23	GND	white/ red
24	GND	brown/ red
25	GND	white/ black



Accessories

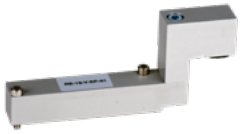
Model-no.: RE-19-DT

Pressure dividing plug

Model-no.: RE-19-V-EP

Blind plate

Model-no.: RE-19-V-EP-01



Blind plate

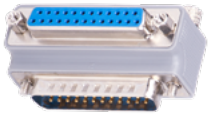
Model-no.: 28-ST-68-M-xxx

25-pin multi plug, straight

xxx = 105 5 m cable
xxx = 110 10 m cablel

Model-no.: 28-ST-M25-12-ADA-01

Elbow 90°, Multi-pin-D-Sub, 25-pins



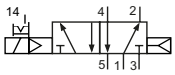
Series RE-19

Technical details

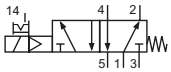
Outlets	G1/8, G1/4
Temperature range	-10°C ... +50°C
Medium	Filtered, oil-free and dried compressed air according to ISO 8573-1:2010, Class 7:2:4, instrument air, free of aggressive additives. Differing the pressure dew point must be at least 10°C below lowest occurring ambient temperature.
Materials	Body: Al (anodized), seals: NBR, inner parts: Al, stainless steel and brass
Nominal voltage	24 V DC, ± 10%
Power consumption	1 W
Protection	IP 65 according to EN 60529

Electrically operated spool valve. The manual override is non-detent or detent and is operated by bolt or screwdriver.

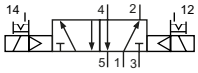
5/2-way valves



KF-09-510-HNx-442
KF-10-510-HNx-442
5/2-way, single solenoid, air spring return

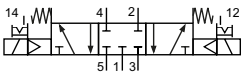


KF-09-511-HNx-442
KF-10-511-HNx-442
5/2-way, single solenoid, mechanical spring return

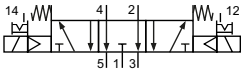


KF-10-520-HNx-442
5/2-way, double solenoid

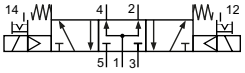
5/3-way valves



KF-10-530-HNx-442
5/3-way, center position closed



KF-10-533-HNx-442
5/3-way, center position exhausted



KF-10-534-HNx-442
5/3-way, center position pressurized

Please complete: x = manual override (R = detent, T = non-detent)

Technical data

Model-no.:	KF-09-510-HNx-442	KF-09-511-HNx-442	KF-10-510-HNx-442	KF-10-511-HNx-442
Required space	1 station	1 station	2 stations	2 stations
Outlets	G1/8	G1/8	G1/4	G1/4
Operating pressure (bar)	3...8	3...8	2.5...8	2.5...8
Pilot pressure (bar)	3...8	3...8	2.5...8	2.5...8
Nominal size (mm)	6	6	9	9
Flow rate (Nl/min)	950	810	2100	1800
Response time (ms) at 6 bar	on: 11 off: 20	on: 10 off: 26	on: 13 off: 26	on: 18 off: 29
Weight (kg)	0.200	0.200	0.370	0.370

Model-no.:	KF-10-520-HNx-442	KF-10-530-HNx-442	KF-10-533-HNx-442	KF-10-534-HNx-442
Required space	2 stations	2 stations	2 stations	2 stations
Outlets	G1/4	G1/4	G1/4	G1/4
Operating pressure (bar)	2.5...8	3...8	3...8	3...8
Pilot pressure (bar)	2.5...8	3...8	3...8	3...8
Nominal size (mm)	9	9	9	9
Flow rate (Nl/min)	2100	1500	1500	1500
Response time (ms) at 6 bar	on: 16 off: 16	on: 16 off: 26	on: 16 off: 26	on: 16 off: 26
Weight (kg)	0.430	0.430	0.430	0.430

Please complete: x = manual override (R = detent, T = non-detent)

Series RE-10
DISCONTINUED

Technical details

Temperature range	+5°C ... +50°C
Medium	Filtered, oil-free and dried compressed air according to ISO 8573-1:2010, Class 7:2:4, instrument air, free of aggressive additives. Differing the pressure dew point must be at least 10°C below lowest occurring ambient temperature.
Materials	Body: Al (anodized), plastic, seals: NBR, FKM
Protection	IP 65 according to EN 60529

Manifold system with integrated electrical connection including LED indicators. Each station can accommodate two 3/2-way valves or one 5/2- or 5/3-way valve. All connections are accessible from the front.
The valves and the multi-pin plug with cable must be ordered separately.
The manifold can be mounted with 4 M5 screws from bottom or from top using the mounting bracket RE-10-B-01 or on a DIN-rail (screws are included).
The valve terminal is delivered pre-assembled and function-tested. If not specified with the order, valve configuration is as follows: Valves are mounted according to their order number, starting with high numbers on the side of the multi-pin, ending with low numbers on the opposite side, followed by blind plates (if ordered).

Order code

RE-10/-***-*****

Series	

Number of stations	
04	4 stations
06*	6 stations
08	8 stations
10*	10 stations
12	12 stations
	* only for Multi-pin

Pneumatical connections	
040	tube connection Ø 4 at 2 and 4 G1/4 at 1
041	tube connection Ø 4 at 2 and 4 tube connection Ø 8 at 1
042	tube connection Ø 4 at 2 and 4 tube connection Ø 10 at 1
060	tube connection Ø 6 at 2 and 4 G1/4 at 1
061	tube connection Ø 6 at 2 and 4 tube connection Ø 8 at 1
062	tube connection Ø 6 at 2 and 4 tube connection Ø 10 at 1

Electrical options	
M-1	Multi-pin
B1	Profibus-DP
B6	CANopen

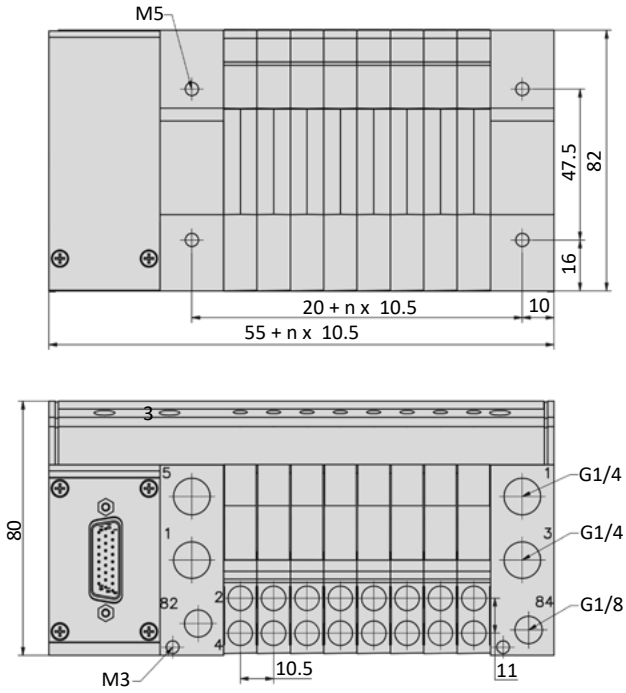
7

More detailed information about the installation you find in the manual at www.airtec.de.

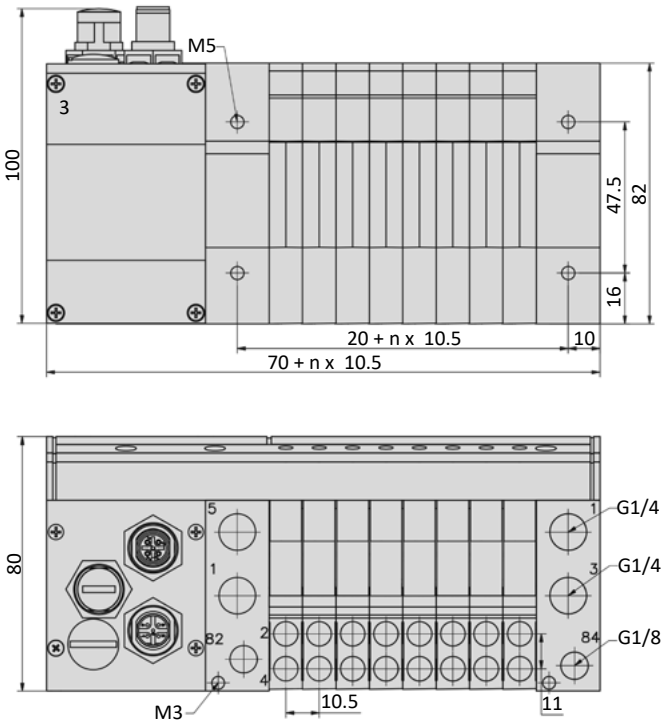
Series RE-10
DISCONTINUED

Dimensions

Multi-pin



Bus connection



1 = pressure inlet
2,4 = outlets
3,5 = exhausts
82,84 = solenoid exhausts
n = number of stations

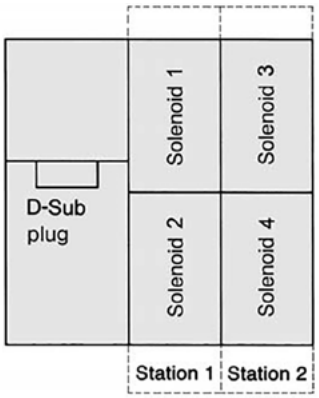
Electrical options

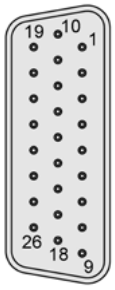
Multi-pin

The 26-pin multi plug (see page 7-13) has to be ordered separately.

Pin	Function	Wire colour
1	solenoid 1	white
2	solenoid 2	brown
3	solenoid 3	green
4	solenoid 4	yellow
5	solenoid 5	grey
6	solenoid 6	pink
7	solenoid 7	blue
8	solenoid 8	red
9	solenoid 9	black
10	solenoid 10	violet
11	solenoid 11	grey/ pink
12	solenoid 12	red/ blue
13	solenoid 13	white/ green

Pin	Function	Wire colour
14	solenoid 14	brown/ green
15	solenoid 15	white/ yellow
16	solenoid 16	yellow/ brown
17	solenoid 17	white/ grey
18	solenoid 18	grey/ brown
19	solenoid 19	white/ pink
20	solenoid 20	pink/ brown
21	solenoid 21	white/ blue
22	solenoid 22	brown/ blue
23	solenoid 23	white/ red
24	solenoid 24	brown/ red
25	GND	white/ black
26	-	-





Profibus-DP

Bus connector	Bus In: plug M12 5-pin B-code Bus Out: socket M12 5-pin B-code
Power connector	plug M12 5-pin A-code
Baud rate	9.6 Kbit/s ... 12 Mbit/s
Voltage	24 V DC ± 10%
Power consumption	4.3 W
Address selection	by 2 decimal coded rotary switches
Bus terminal resistance	external over Bus Out socket

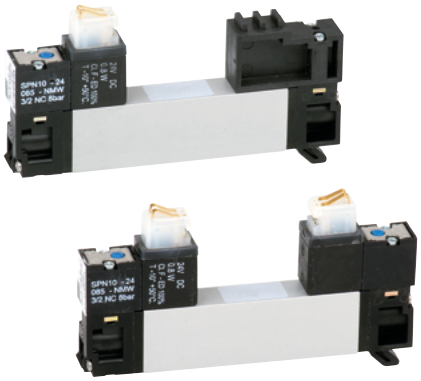
CANopen

Bus connector	Bus In: plug M12 5-pin A-code Bus Out: socket M12 5-pin A-code
Power connector	plug M12 4-pin A-code
Baud rate	10 Kbit/s ... 1 Mbit/s
Voltage	24 V DC ± 10%
Power consumption	4.3 W
Address selection	by 2 decimal coded rotary switches
Bus terminal resistance	external over Bus Out socket

Series RE-10
DISCONTINUED

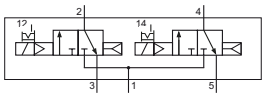
Technical details

Outlets	according to the pneumatical connections of the terminal
Nominal size	4 mm
Temperature range	+5°C ... +50°C
Medium	Filtered, oil-free and dried compressed air according to ISO 8573-1:2010, Class 7:2:4, instrument air, free of aggressive additives. Differing the pressure dew point must be at least 10°C below lowest occurring ambient temperature.
Materials	Body: Al (anodized), plastic, seals: NBR, FKM, PU inner parts: Al, stainless steel and brass
Nominal voltage	24 V DC, ± 10%
Power consumption	0.8 W
Protection	IP 65 according to EN 60529

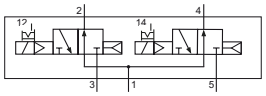


Electrically operated spool valve. The manual override is non-detent. The manual override is located on top of the terminal cover.

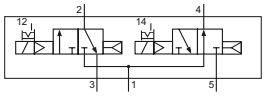
2 x 3/2-way valves



LF-10-310/2-HN-412
2 x 3/2-way, single solenoid, air spring return, NC

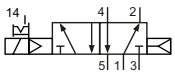


LF-10-312/2-HN-412
2 x 3/2-way, single solenoid, air spring return, NO

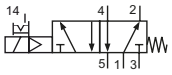


LF-10-314/2-HN-412
2 x 3/2-way, single solenoid, air spring return, 1 x NC, 1 x NO

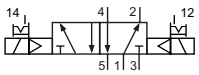
5/2-way valves



LF-10-510-HN-412
5/2-way, single solenoid, air spring return

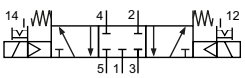


LF-10-511-HN-412
5/2-way, single solenoid, mechanical spring return

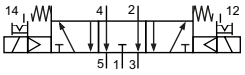


LF-10-520-HN-412
5/2-way, double solenoid

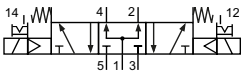
5/3-way valves



LF-10-530-HN-412
5/3-way, center position closed



LF-10-533-HN-412
5/3-way, center position exhausted



LF-10-534-HN-412
5/3-way, center position pressurized

Technical data

Model-no.:	LF-10-310/2-HN-412	LF-10-312/2-HN-412	LF-10-314/2-HN-412
Operating pressure (bar)	1.5...8	1.5...8	1.5...8
Pilot pressure (bar)	1.5...8	1.5...8	1.5...8
Flow rate (Nl/min)	300	220	300 / 220 (NC / NO)
Response time (ms) at 6 bar	on: 14 off: 22	on: 14 off: 22	on: 14 off: 22
Weight (kg)	0.050	0.050	0.050

Technical data

Model-no.:	LF-10-510-HN-412	LF-10-511-HN-412	LF-10-520-HN-412
Operating pressure (bar)	1.5...8	3...8	1.5...8
Pilot pressure (bar)	1.5...8	3...8	1.5...8
Flow rate (Nl/min)	300	300	300
Response time (ms) at 6 bar	on: 18 off: 28	on: 14 off: 30	on: 15 off: 15
Weight (kg)	0.044	0.042	0.052

Model-no.:	LF-10-530-HN-412	LF-10-533-HN-412	LF-10-534-HN-412
Operating pressure (bar)	3.5...8	3.5...8	3.5...8
Pilot pressure (bar)	3.5...8	3.5...8	3.5...8
Flow rate (Nl/min)	280	280	300
Response time (ms) at 6 bar	on: 20 off: 30	on: 16 off: 30	on: 16 off: 30
Weight (kg)	0.050	0.050	0.050

Accessories

Model-no.: RE-10-DT-01

Pressure dividing plug P-canal

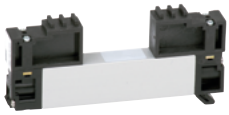
Model-no.: RE-10-MS-01

Kit for DIN-rail mounting

Model-no.: RE-10-B-01

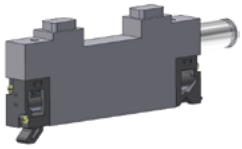
Mounting bracket (pair)

Model-no.: RE-10-V-EP



Blind plate

Model-no.: RE-10-P-01



Device for additional air supply

Model-no.: 28-ST-10-M1-26-xxx

26-pin multi plug, straight

xxx = 105 5 m cable
xxx = 110 10 m cable

Model-no.: 28-ST-RE-46-xx-yy

Connector kit

xx = 01 in- and output
xx = 02 with termination resistance

yy = B1 Profibus
yy = B6 CANopen

7

Series RE-46

Technical details

Temperature range	-10°C ... +50°C
Medium	Filtered, oil-free and dried compressed air according to ISO 8573-1:2010, Class 7:2:4, instrument air, free of aggressive additives. Differing the pressure dew point must be at least 10°C below lowest occurring ambient temperature.
Materials	Body: Al (anodized), plastic, seals: NBR
Protection	IP 65 according to EN 60529

Manifold system with integrated electrical connection including LED indicators. Each station can accommodate two 3/2-way valves or one 5/2- or 5/3-way valve. All connections are accessible from the front.
The valves and the multi-pin plug with cable must be ordered separately.
The valve terminal is delivered pre-assembled and function-tested. If not specified with the order, valve configuration is as follows: Valves are mounted according to their order number, starting with high numbers at the side of the multi-pin, ending with low numbers on the opposite side, followed by blind plates (if ordered).

Order code

RE-46/-*-***-*****

Series

Number of stations	
04	4 stations
06	6 stations
08	8 stations
10	10 stations
12	12 stations
14	14 stations
16	16 stations
18	18 stations
20	20 stations
22*	22 stations
24*	24 stations
	* only for terminals with Bus connection

Position of the pneumatic connection	
blank	at the side
G*	at the bottom
	* only for 8, 12, 16 and 24 stations

Pneumatical connections	
00	G1/8 at 2 and 4 G3/8 at 1
60	tube connection Ø 6 at 2 and 4 tube connection Ø 10 at 1
61	tube connection Ø 6 at 2 and 4 tube connection Ø 8 at 1
62	tube connection Ø 6 at 2 and 4 tube connection Ø 12 at 1
80	tube connection Ø 8 at 2 and 4 tube connection Ø 10 at 1
81	tube connection Ø 8 at 2 and 4 tube connection Ø 8 at 1
82	tube connection Ø 8 at 2 and 4 tube connection Ø 12 at 1

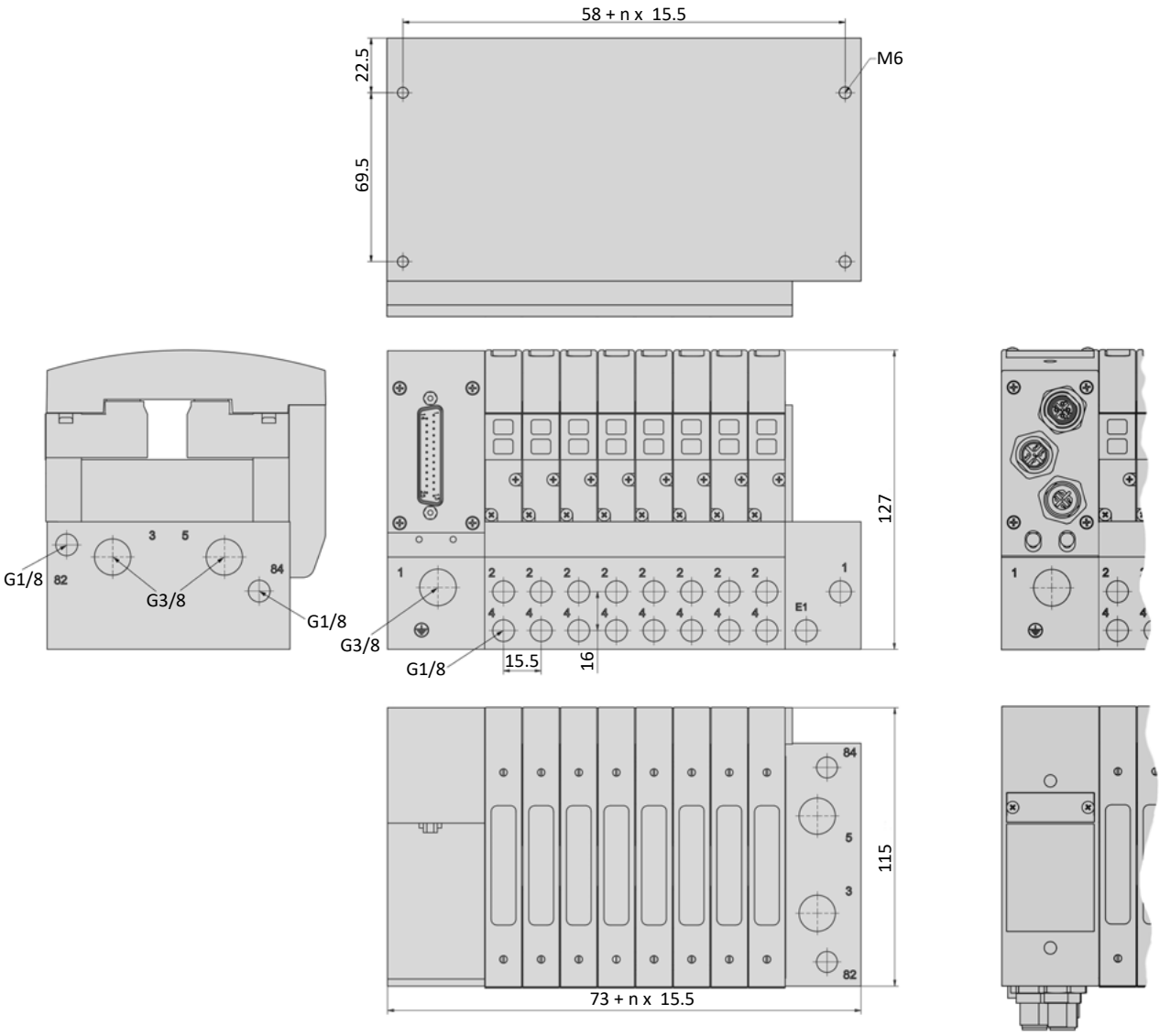
Pilot air	
0	internal (standard)
E	external

Electrical options	
M-1	Multi-pin
B1-1	Profibus-DP
B6-1	CANopen
B7-1	Profinet-RT
B8-1*	EtherCAT
	* on request

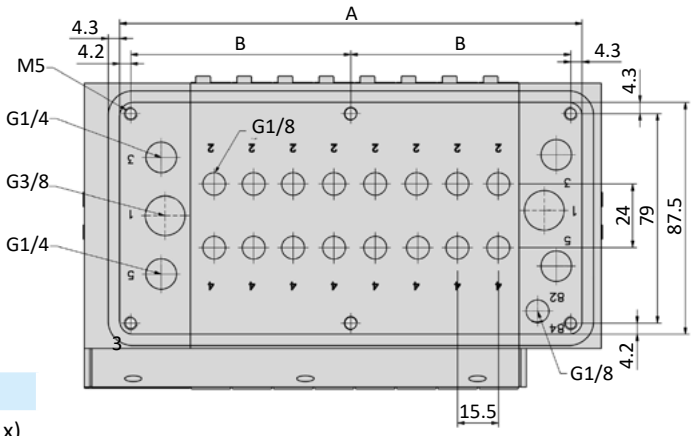
More detailed information about the installation you find in the manual at www.airtec.de.

Dimensions

Multi-pin, Bus connection



Version RE-46-G



Model-No.:	A	B
RE-46/08-G	174,5	83 (1x)
RE-46/12-G	236,5	76 (2x)
RE-46/16-G	298,5	72,5 (3x)
RE-46/24-G	422,5	82,8 (4x)

1 = pressure inlet
2,4 = outlets
3,5 = exhausts
82,84 = solenoid exhausts
n = number of stations

7

Series RE-46

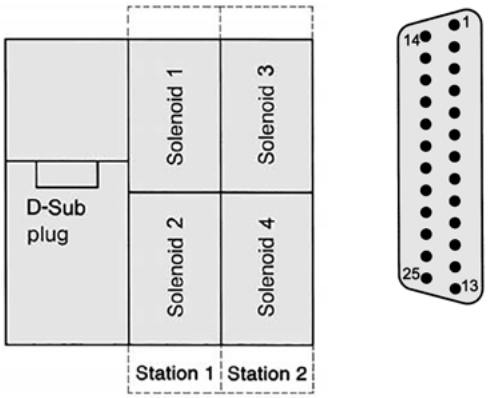
Electrical options

Multi-pin, 2 up to 12 stations

The 25-pin multi plug (see page 7-19) has to be ordered separately.

Pin	Function	Wire colour
1	GND	white
2	solenoid 1	brown
3	solenoid 3	green
4	solenoid 5	yellow
5	solenoid 7	grey
6	solenoid 9	pink
7	solenoid 11	blue
8	solenoid 13	red
9	solenoid 15	black
10	solenoid 17	violet
11	solenoid 19	grey/ pink
12	solenoid 21	red/ blue
13	solenoid 23	white/ green

Pin	Function	Wire colour
14	solenoid 2	brown/ green
15	solenoid 4	white/ yellow
16	solenoid 6	yellow/ brown
17	solenoid 8	white/ grey
18	solenoid 10	grey/ brown
19	solenoid 12	white/ pink
20	solenoid 14	pink/ brown
21	solenoid 16	white/ blue
22	solenoid 18	brown/ blue
23	solenoid 20	white/ red
24	solenoid 22	brown/ red
25	solenoid 24	white/ black

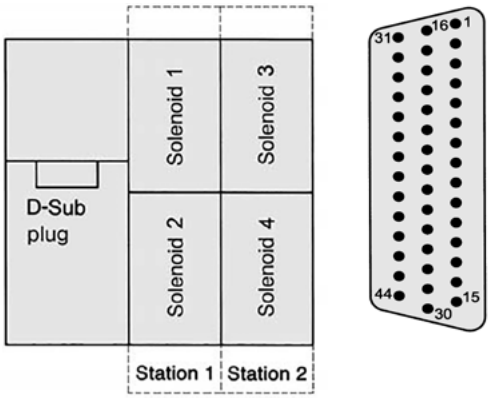


Multi-pin, 14 up to 20 stations

The 44-pin multi plug (see page 7-19) has to be ordered separately.

Pin	Function	Wire colour
1	GND	white
2	solenoid 3	brown
3	solenoid 6	green
4	solenoid 9	yellow
5	solenoid 12	grey
6	solenoid 15	pink
7	solenoid 18	blue
8	solenoid 21	red
9	solenoid 24	black
10	solenoid 27	violet
11	solenoid 30	grey/ pink
12	solenoid 33	red/ blue
13	solenoid 36	white/ green
14	solenoid 39	brown/ green
15	-	white/ yellow
16	GND	yellow/ brown
17	solenoid 2	white/ grey
18	solenoid 5	grey/ brown
19	solenoid 8	white/ pink
20	solenoid 11	pink/ brown
21	solenoid 14	white/ blue
22	solenoid 17	brown/ blue

Pin	Function	Wire colour
23	solenoid 20	white/ red
24	solenoid 23	brown/ red
25	solenoid 26	white/ black
26	solenoid 29	brown/ black
27	solenoid 32	grey/ green
28	solenoid 35	yellow/ grey
29	solenoid 38	pink/ green
30	-	yellow/ pink
31	solenoid 1	green/ blue
32	solenoid 4	yellow/ blue
33	solenoid 7	green/ red
34	solenoid 10	yellow/ red
35	solenoid 13	green/ black
36	solenoid 16	yellow/ black
37	solenoid 19	grey/ blue
38	solenoid 22	pink/ blue
39	solenoid 25	grey/ red
40	solenoid 28	pink/ red
41	solenoid 31	grey/ black
42	solenoid 34	pink/ black
43	solenoid 37	blue/ black
44	solenoid 40	red/ black



Electrical options

Profibus-DP

Bus connector	Bus In: plug M12, 5-pin, B-code Bus Out: socket M12, 5-pin, B-code
Power connector	plug M12, 5-pin, A-code
Baud rate	9.6 Kbit/s ... 12 Mbit/s, automatic adjustment
Voltage	24 V DC ± 10%
Power consumption	2.9 W
Address selection	by 2 decimal coded rotary switches
Bus terminal resistance	external over Bus Out socket

CANopen

Bus connector	Bus In: plug M12, 5-pin, A-code Bus Out: socket M12, 5-pin, A-code
Power connector	plug M12, 5-pin, A-code
Baud rate	10 Kbit/s ... 1 Mbit/s
Voltage	24 V DC ± 10%
Power consumption	2.9 W
Address selection	by 2 decimal coded rotary switches
Bus terminal resistance	external over Bus Out socket

Profinet-RT

Bus connector	Bus In: socket M12, 4-pin, D-code Bus Out: socket M12, 4-pin, D-code
Power connector	plug M12, 5-pin, A-code
Baud rate	100 Mbit/s, full duplex
Voltage	24 V DC ± 10%
Power consumption	3.6 W
Address selection	by controler remote

EtherCAT

Bus connector	Bus In: socket M12, 4-pin, D-code Bus Out: socket M12, 4-pin, D-code
Power connector	plug M12, 5-pin, A-code
Baud rate	100 Mbit/s, full duplex
Voltage	24 V DC ± 10%
Power consumption	3.5 W

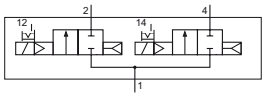
Series RE-46

Technical details

Outlets	according to the pneumatical connections of the terminal
Temperature range	-10°C ... +50°C
Medium	Filtered, oil-free and dried compressed air according to ISO 8573-1:2010, Class 7:2:4, instrument air, free of aggressive additives. Differing the pressure dew point must be at least 10°C below lowest occurring ambient temperature.
Materials	Body: Al (anodized), plastic, seals: NBR, inner parts: Al, stainless steel and brass
Nominal voltage	24 V DC, ± 10%
Power consumption	1.3 W
Protection	IP 65 according to EN 60529

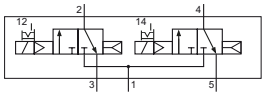
Electrically operated spool valve. The manual override is non-detent. The manual override is located on top of the valve cover.

2/2-way valve

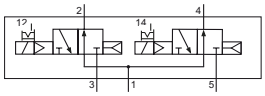


KF-46-210/2-HN-S12
2 x 2/2-way, single solenoid, air spring return, NC

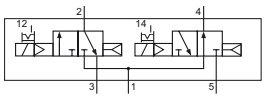
2 x 3/2-way valves



KF-46-310/2-HN-S12
2 x 3/2-way, single solenoid, air spring return, NC

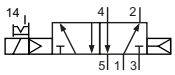


KF-46-312/2-HN-S12
2 x 3/2-way, single solenoid, air spring return, NO

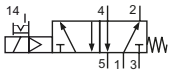


KF-46-314/2-HN-S12
2 x 3/2-way, single solenoid, air spring return, 1 x NC, 1 x NO

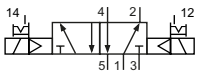
5/2-way valves



KF-46-510-HN-S12
5/2-way, single solenoid, air spring return

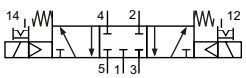


KF-46-511-HN-S12
5/2-way, single solenoid, mechanical spring return

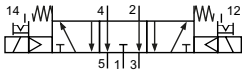


KF-46-520-HN-S12
5/2-way, double solenoid

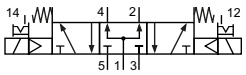
5/3-way valves



KF-46-530-HN-S12
5/3-way, center position closed



KF-46-533-HN-S12
5/3-way, center position exhausted



KF-46-534-HN-S12
5/3-way, center position pressurized

Technical data

Model-no.:	KF-46-210/2-HN-S12	KF-46-310/2-HN-S12	KF-46-312/2-HN-S12	KF-46-314/2-HN-S12
Operating pressure (bar)	2.5...8	2.5...8	2.5...8	2.5...8
Pilot pressure (bar) *	2.5...8	2.5...8	2.5...8	2.5...8
Nominal size (mm)	4.5	4.5	4.5	4.5
Flow rate (Nl/min)	430	430	630	430 / 630 (NC / NO)
Response time (ms) at 6 bar	on: 15 off: 28	on: 15 off: 28	on: 15 off: 28	on: 15 off: 28
Weight (kg)	0.188	0.188	0.188	0.188

* Valves are not suitable for external pilot supply.

Technical data

Model-no.:	KF-46-510-HN-S12	KF-46-511-HN-S12	KF-46-520-HN-S12
Internal pilot pressure			
Operating pressure (bar)	2.5...8	2.5...8	2.5...8
Pilot pressure (bar)	2.5...8	2.5...8	2.5...8
External pilot pressure			
Operating pressure (bar)	- *	0...10	0...10
Pilot pressure (bar)	- *	3...8	3...8
Nominal size (mm)	6	6	6
Flow rate (Nl/min)	950	810	950
Response time (ms) at 6 bar	on: 15 off: 31	on: 14 off: 33	on: 20 off: 20
Weight (kg)	0.158	0.158	0.188

* Valves are not suitable for external pilot supply.

Model-no.:	KF-46-530-HN-S12	KF-46-533-HN-S12	KF-46-534-HN-S12
Internal pilot pressure			
Operating pressure (bar)	3...8	3...8	3...8
Pilot pressure (bar)	3...8	3...8	3...8
External pilot pressure			
Operating pressure (bar)	0...10	0...10	0...10
Pilot pressure (bar)	3...8	3...8	3...8
Nominal size (mm)	6	6	6
Flow rate (Nl/min)	680	680	680
Response time (ms) at 6 bar	on: 20 off: 30	on: 20 off: 30	on: 20 off: 30
Weight (kg)	0.188	0.188	0.188

Accessories

Model-no.: RE-19-DT

Pressure dividing plug

Model-no.: RE-46-RSV

Check valve

Model-no.: RE-46-B-01

Mounting bracket (pair)

Model-no.: RE-x6-V-EP

x = 1
Blind plate, set

x = 4
Blind plate for valve and coil station

Model-no.: 28-ST-46-M1-yy-xxx

25- or 44-pin multi plug, straight

yy = 25 25-pin
yy = 44 44-pin
xxx = 105 5 m cable
xxx = 110 10 m cable

Model-no.: 28-ST-146-M1-yy-xxx

25- or 44-pin multi plug, 90°

yy = 25 25-pin
yy = 44 44-pin
xxx = 105 5 m cable
xxx = 110 10 m cable

Model-no.: 28-ST-RE-46-xx-yy

Connector kit

xx = 01 in- and output
xx = 02 with termination resistance

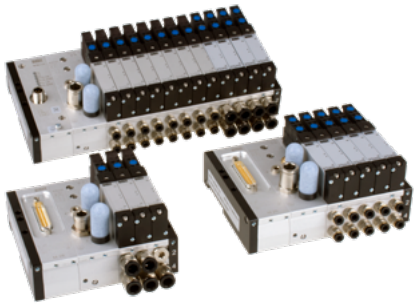
yy = B1 Profibus
yy = B6 CANopen

7

Series REF-14

Technical details

Temperature range	-10°C ... +50°C
Medium	Filtered, oil-free and dried compressed air according to ISO 8573-1:2010, Class 7:2:4, instrument air, in each case free of aggressive additives. Alternative the pressure dew point has to be at least 10°C below deepest occurring ambient temperature.
Materials	Body: Al (anodized), brass, stainless steel, zinc coated steel, plastic, Seals: NBR
Protection	IP 65 according to EN 60529



Description

- modular valve-terminal for pneumatic control systems
- flexible and extendable
- terminal up to 24 stations
- valve sizes 14 mm width
- outlet ports of the valve Lateral
- mounting with mounting screws or on DIN Rail
- Multi-pin and IO Link available
- optionally:
  - internal or external pilot port
  - adapter plate for additional operating port
  - pressure dividing plate in air channel 1, 3 and 5 or only in channel 1
  - seperate suitable pressure zones

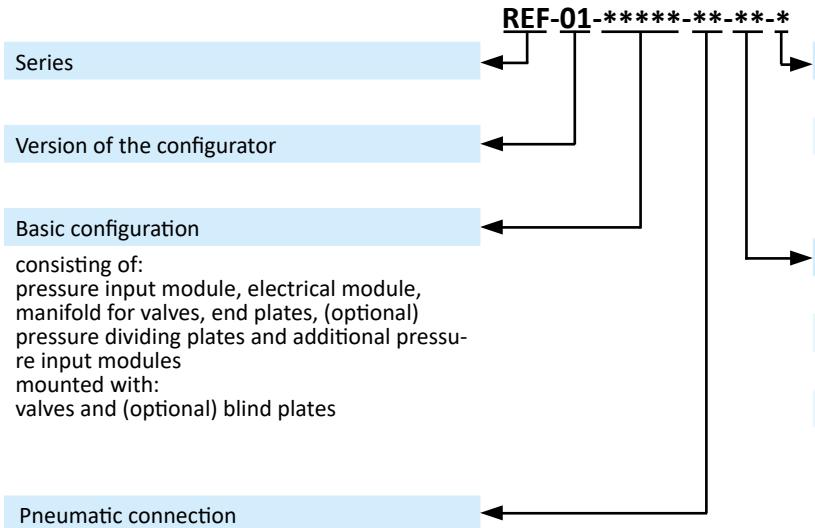
Technical data

Number of stations	3 to 24
electrical Connection	Multi-pin (Sub-D25/44), IO-Link
Voltage	24 V DC ± 10%,
Power consumption	max. 1,3 W solenoid, electronic according version
Flow rate	up to 600 Nl/min (depending on valve type*)
Pneumatical ports	1, 3 and 5 G1/4, E1 (external pilot port) and 82/87 (solenoid exhausts) M7
Operating ports	G1/8
Operating pressure	depending on valve type*
Pilot pressure	depending on valve type*

* see page 10

Detailed information on connecting and operating the valve terminal can be found in the operating instructions at www.airtec.de.

Order code



Series

Version of the configurator

Basic configuration

consisting of:
pressure input module, electrical module, manifold for valves, end plates, (optional) pressure dividing plates and additional pressure input modules
mounted with:
valves and (optional) blind plates

Pneumatic connection

00	G1/8 (M7) at 2 and 4 G1/4 at 1
40	tube connection Ø 4 at 2 and 4 G1/4 at 1
41	tube connection Ø 4 at 2 and 4 tube connection Ø 8 at 1
42	tube connection Ø 4 at 2 and 4 tube connection Ø 10 at 1
60	tube connection Ø 6 at 2 and 4 G1/4 at 1
61	tube connection Ø 6 at 2 and 4 tube connection Ø 8 at 1
62	tube connection Ø 6 at 2 and 4 tube connection Ø 10 at 1
V0	fitting according to specification at 2 and 4 G1/4 at 1
VV	fitting according to specification at 2 and 4 fitting according to specification at 1

Additional options

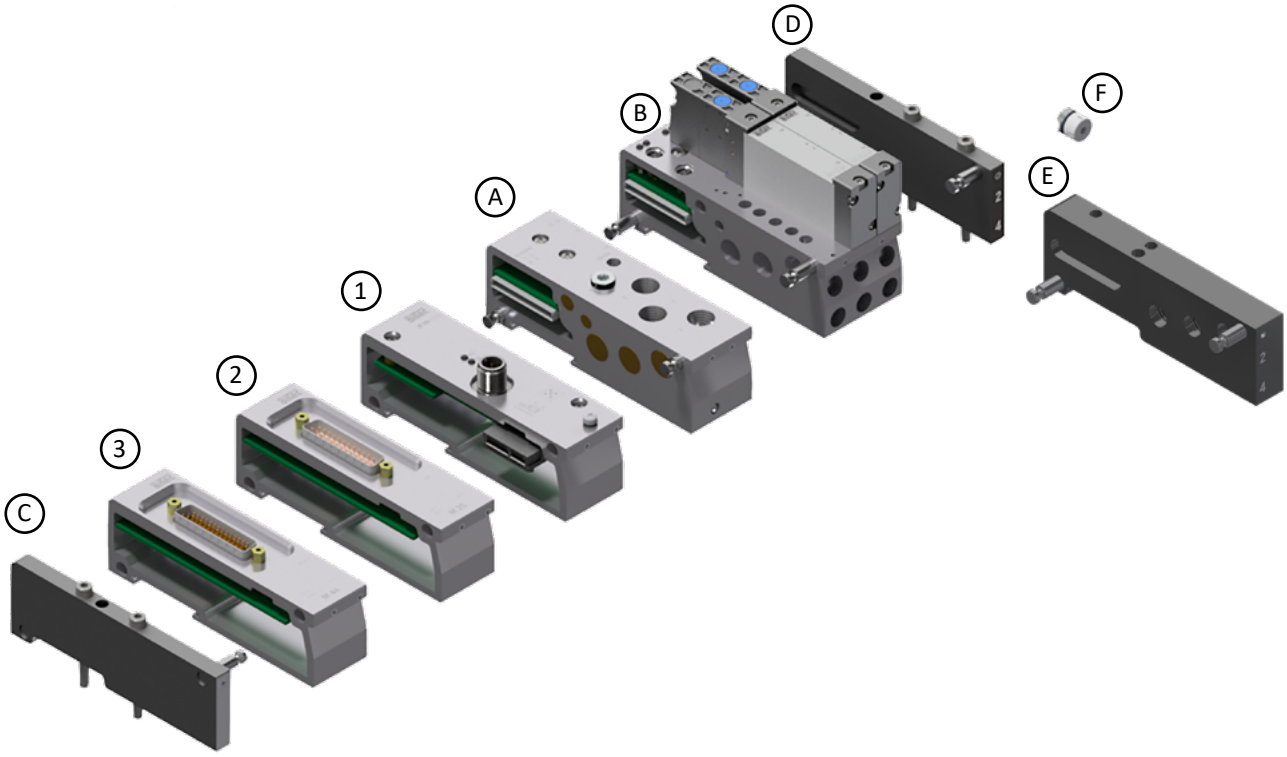
-	no options
K	electrical connection cable enclosed
O	other options

Silencers

-	no silencers
SB	sintered bronze silencers
SP	plastic silencers
SV	silencers made of LDPE, sintered

Series REF-14

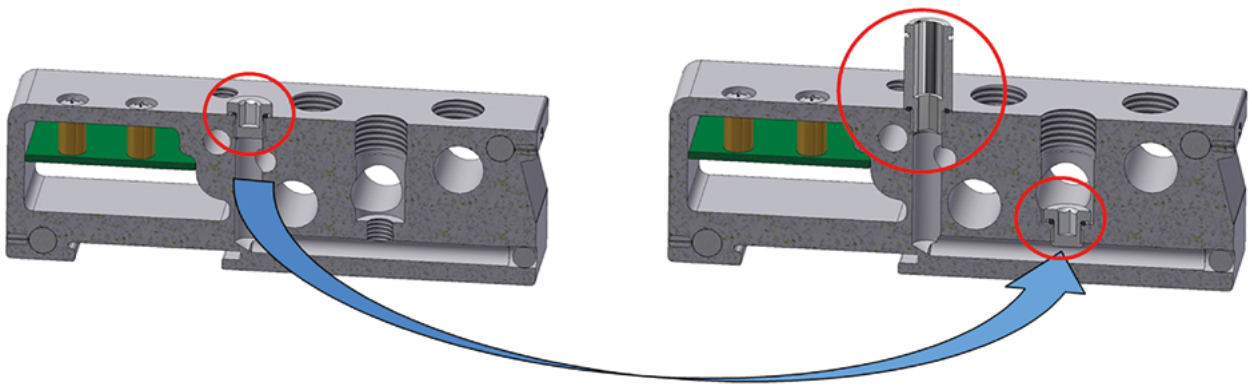
Modular platform



Electrical modules	
1	IO-Link
2	Multi-pin, 25-pin
3	Multi-pin, 44-pin

Pneumatical modules	
A	Pressure input module, upside
B	Manifold for 14 mm valves, outlet ports lateral
C	End plate, left
D	End plate, right
E	End plate, right, with additional pressure input
F	Pressure dividing plate

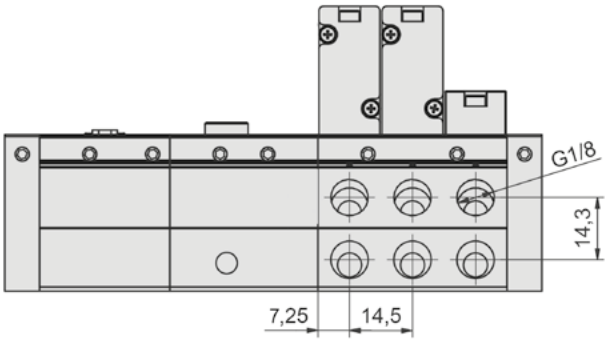
Changing from internal to external pilot pressure

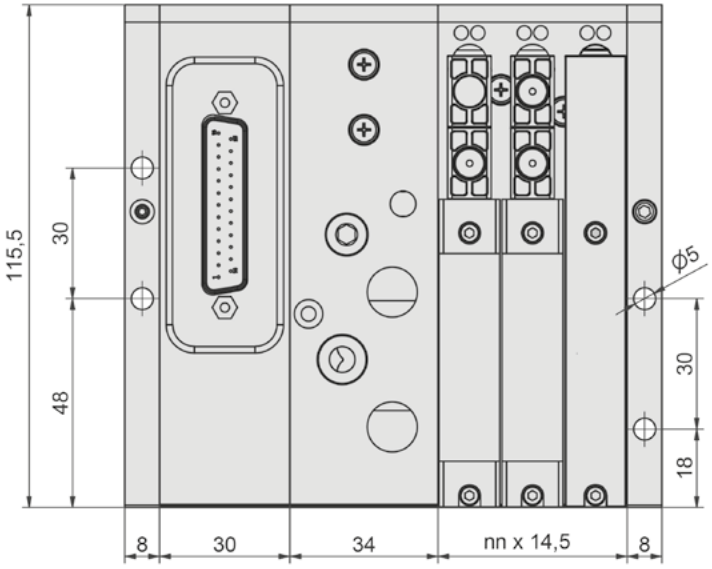


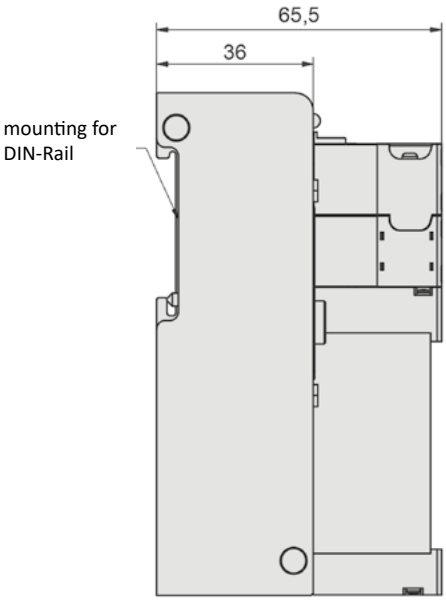
Internal pilot pressure:
- plug on pilot pressure port

External pilot pressure:
- plug displaced to port 1
- pilot port with M7 push in fitting

Dimensions







nn = 03 ... 24 stations

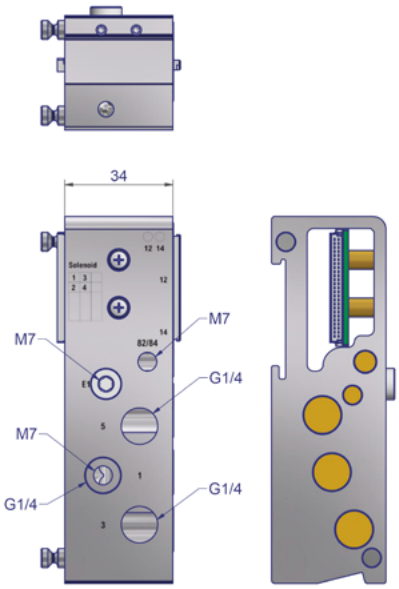
7

Series REF-14

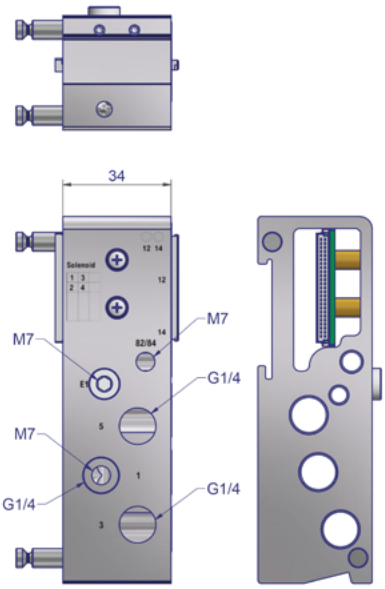
Dimensions of modules

Pressure input modules, upside

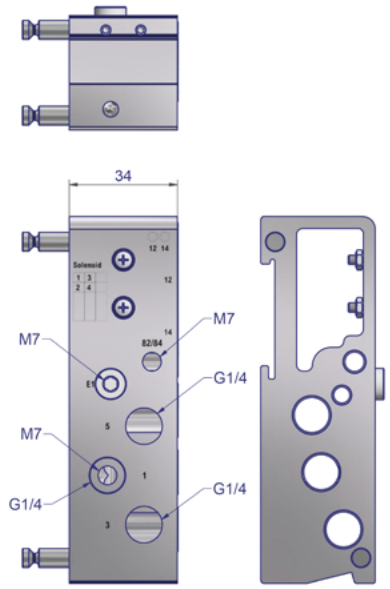
REFI-01-01
Standard module
Module for pressure separation



REFI-02-01
Module for additional air supply



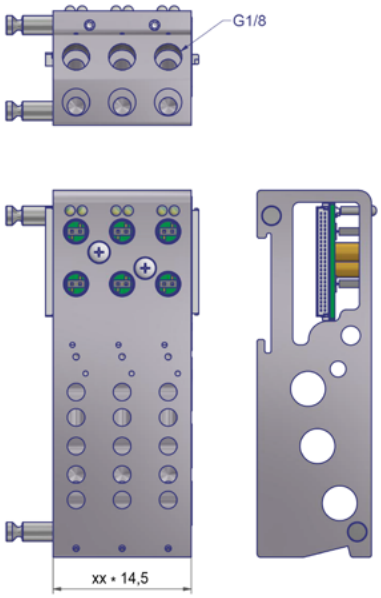
REFI-03-01
End module for additional air supply



For external pilot pressure version please remove the plug from port E1 to port 1. (see page 2)
The module model number changes from REFI to REFE.

Manifolds for valves, outlet ports lateral

REF-14S-xx-01

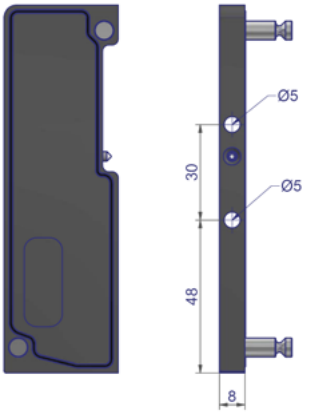


xx = n= 03, 04, 05, 06, 08, 10, 12
(By combining single subbases 3 - 24 stations possible.)

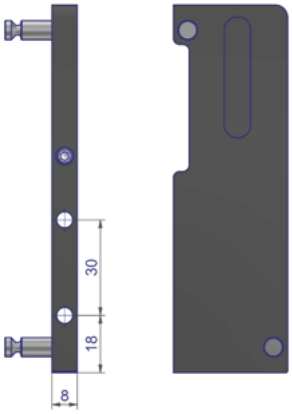
Dimensions of modules

End plates

REF-EPL-01

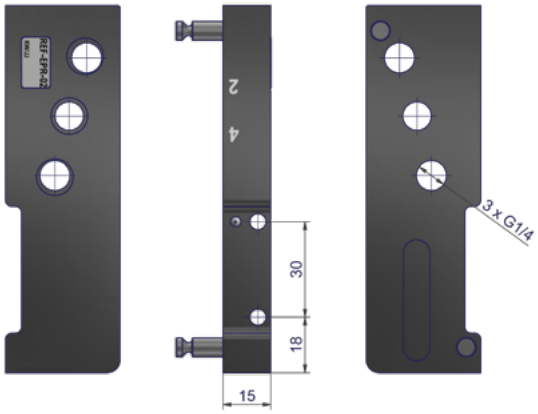


REF-EPR-01



End plate, right, with additional pressure input

REF-EPR-02



Electrical modules

REF-M25-01
Multi-pin, Sub-D 25-pin

REF-M44-01
Multi-pin, Sub-D 44-pin

REF-B11-24-02
IO-Link

7

Series REF-14

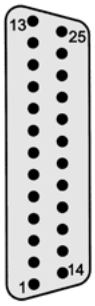
Electrical options

Multi-pin, Sub-D 25-pin, up to 12 stations

The 25-pin multi plug has to be ordered separately.

Pin	Function	Wire colour
1	valve 1 / solenoid 1 (top)	white
2	valve 1 / solenoid 2 (bottom)	brown
3	valve 2 / solenoid 3 (top)	green
4	valve 2 / solenoid 4 (bottom)	yellow
5	valve 3 / solenoid 5 (top)	grey
6	valve 3 / solenoid 6 (bottom)	pink
7	valve 4 / solenoid 7 (top)	blue
8	valve 4 / solenoid 8 (bottom)	red
9	valve 5 / solenoid 9 (top)	black
10	valve 5 / solenoid 10 (bottom)	violet
11	valve 6 / solenoid 11 (top)	grey/ pink
12	valve 6 / solenoid 12 (bottom)	red/ blue
13	valve 7 / solenoid 13 (top)	white/ green

Pin	Function	Wire colour
14	valve 7 / solenoid 14 (bottom)	brown/ green
15	valve 8 / solenoid 15 (top)	white/ yellow
16	valve 8 / solenoid 16 (bottom)	yellow/ brown
17	valve 9 / solenoid 17 (top)	white/ grey
18	valve 9 / solenoid 18 (bottom)	grey/ brown
19	valve 10 / solenoid 19 (top)	white/ pink
20	valve 10 / solenoid 20 (bottom)	pink/ brown
21	valve 11 / solenoid 21 (top)	white/ blue
22	valve 11 / solenoid 22 (bottom)	brown/ blue
23	valve 12 / solenoid 23 (top)	white/ red
24	valve 12 / solenoid 24 (bottom)	brown/ red
25	GND (common ground)	white/ black

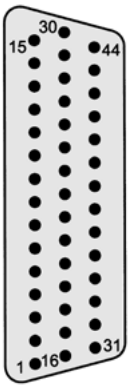


Multi-pin, Sub-D 44-pin, up to 20 stations

The 44-pin multi plug has to be ordered separately.

Pin	Function	Wire colour
1	valve 1 / solenoid 1 (top)	white
2	valve 1 / solenoid 2 (bottom)	brown
3	valve 2 / solenoid 3 (top)	green
4	valve 2 / solenoid 4 (bottom)	yellow
5	valve 3 / solenoid 5 (top)	grey
6	valve 3 / solenoid 6 (bottom)	pink
7	valve 4 / solenoid 7 (top)	blue
8	valve 4 / solenoid 8 (bottom)	red
9	valve 5 / solenoid 9 (top)	black
10	valve 5 / solenoid 10 (bottom)	violet
11	valve 6 / solenoid 11 (top)	grey/ pink
12	valve 6 / solenoid 12 (bottom)	red/ blue
13	valve 7 / solenoid 13 (top)	white/ green
14	valve 7 / solenoid 14 (bottom)	brown/ green
15	valve 8 / solenoid 15 (top)	white/ yellow
16	valve 8 / solenoid 16 (bottom)	yellow/ brown
17	valve 9 / solenoid 17 (top)	white/ grey
18	valve 9 / solenoid 18 (bottom)	grey/ brown
19	valve 10 / solenoid 19 (top)	white/ pink
20	valve 10 / solenoid 20 (bottom)	pink/ brown
21	valve 11 / solenoid 21 (top)	white/ blue
22	valve 11 / solenoid 22 (bottom)	brown/ blue

Pin	Function	Wire colour
23	valve 12 / solenoid 23 (top)	white/ red
24	valve 12 / solenoid 24 (bottom)	brown/ red
25	valve 13 / solenoid 25 (top)	white/ black
26	valve 13 / solenoid 26 (bottom)	brown/ black
27	valve 14 / solenoid 27 (top)	grey/ green
28	valve 14 / solenoid 28 (bottom)	yellow/ grey
29	valve 15 / solenoid 29 (top)	pink/ green
30	valve 15 / solenoid 30(bottom)	yellow/ pink
31	valve 16 / solenoid 31 (top)	green/ blue
32	valve 16 / solenoid 32 (bottom)	yellow/ blue
33	valve 17 / solenoid 33 (top)	green/ red
34	valve 17 / solenoid 34 (bottom)	yellow/ red
35	valve 18 / solenoid 35 (top)	green/ black
36	valve 18 / solenoid 36 (bottom)	yellow/ black
37	valve 19 / solenoid 37 (top)	grey/ blue
38	valve 19 / solenoid 38 (bottom)	pink/ blue
39	valve 20 / solenoid 39 (top)	grey/ red
40	valve 20 / solenoid 40 (bottom)	pink/ red
41	unused	grey/ black
42	unused	pink/ black
43	GND (common ground)*	blue/ black
44	GND (common ground)*	red/ black



* To increase the cable cross section both GNG pins should be used. The max current could reach 2,4 A.

Electrical options

IO-Link

IO-Link connector	socket M12, 5-pin, A-code
IO-Link version	V1.1
Baud rate	COM2 (38400 Baud)
Voltage	24 V DC ± 10%, 2 galvanically isolated power circuits for IO-Link electronic (US) bzw solenoids (UA)
Power consumption	open-circuit: ca. 170 mA full load: max. 2,4 A, depending on number of active valves
Min. cycle time (device)	4ms

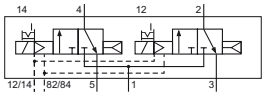
Series REF-14

Technical data

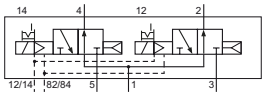
Outlets	according to the pneumatical connections of the terminal
Temperature range	-10°C ... +50°C
Medium	Filtered, oil-free and dried compressed air according to ISO 8573-1:2010, Class 7:2:4, instrument air, free of aggressive additives. Differing the pressure dew point must be at least 10°C below lowest occurring ambient temperature.
Materials	Body: Al (anodized), plastic, seals: NBR, inner parts: Al, steel, brass and plastic
Nominal voltage	24 V DC, ± 10%
Power consumption	1.3 W
Protection	IP 65 according to EN 60529

Electrically operated spool valve. The manual override is detent. The manual override is located on top of the solenoid.

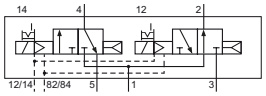
2 x 3/2-way valves



MC-14-310/2-HNR-442
2 x 3/2-way, single solenoid, air spring return, NC

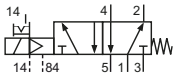


MC-14-312/2-HNR-442
2 x 3/2-way, single solenoid, air spring return, NO

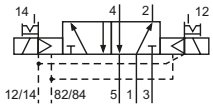


MC-14-314/2-HNR-442
2 x 3/2-way, single solenoid, air spring return, 1 x NC, 1 x NO

5/2-way valves

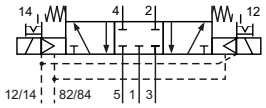


MC-14-511-HNR-442
5/2-way, single solenoid, mechanical spring return

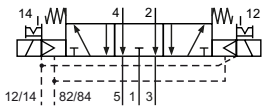


MC-14-520-HNR-442
5/2-way, double solenoid

5/3-way valves



MC-14-530-HNR-442
5/3-way, center position closed



MC-14-533-HNR-442
5/3-way, center position exhausted

Technical data

Model-no.:	MC-14-310/2-HNx-xxx	MC-14-312/2-HNx-xxx	MC-14-314/2-HNx-xxx
Internal pilot pressure			
Operating pressure (bar)	2,5 ... 8	2,5 ... 8	2,5 ... 8
External pilot pressure			
Operating pressure (bar)	2 ... 8	2 ... 8	2 ... 8
Pilot pressure (bar)	2,5 ... 8	2,5 ... 8	2,5 ... 8
Nominal size (mm)	5	5	5
Flow rate (Nl/min)	560	480	480
Response time (ms) at 6 bar	on: 30 off: 30	on: 30 off: 30	on: 30 off: 30

Model-no.:	MC-14-511-HNx-xxx	MC-14-520-HNx-xxx	MC-14-530-HNx-xxx	MC-14-533-HNx-xxx
Internal pilot pressure				
Operating pressure (bar)	3 ... 8	2 ... 8	3 ... 8	3 ... 8
External pilot pressure				
Operating pressure (bar)	0 ... 8	0 ... 8	0 ... 8	0 ... 8
Pilot pressure (bar)	3 ... 8	2 ... 8	3 ... 8	3 ... 8
Nominal size (mm)	5	5	5	5
Flow rate (Nl/min)	530	580		
Response time (ms) at 6 bar	on: 15 off: 30	on: 15 off: 15	on: 15 off: 40	on: 15 off: 40

Accessories

Model-no.: REF-10-VP-01

Blind plate for valve and coil station

Model-no.: REF-14-AP-01

Blind plate for valve and coil station
with 3 ports G1/8 for additional air supply (inlet and exhaust)

Model-no.: 28-ST-46-M1-yy-xxx

25- or 44-pin multi plug, straight

yy = 25 25-pin
yy = 44 44-pin
xxx = 105 5 m cable
xxx = 110 10 m cable

Model-no.: -yy-xxx

25- or 44-pin multi plug, 90°

yy = 25 25-pin
yy = 44 44-pin
xxx = 105 5 m cable
xxx = 110 10 m cable

Model-no.: REF-DT-01

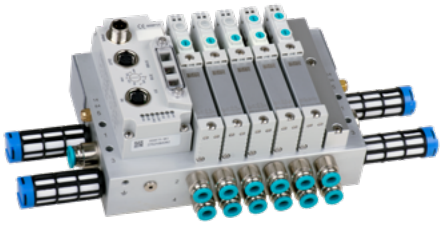
Pressure dividing plug
suitable in channel 1,3 and 5

7

Series 86-REG / 86-REV

Technical details

Temperature range	0°C ... +50°C
Medium	Filtered, oil-free and dried compressed air according to ISO 8573-1:2010, Class 7:2:4, instrument air, in each case free of aggressive additives. Alternative the pressure dew point has to be at least 10°C below deepest occurring ambient temperature.
Materials	Body: Al (anodized), brass, stainless steel, zinc coated steel, plastic, Seals: NBR
Protection	IP 65 according to EN 60529



Description

- valve-terminal for pneumatic control systems
- terminal up to 24 stations
- valve sizes 10 mm or14 mm width
- outlet ports on the side of the terminal or on top of the valve
- mounting via through-holes
- internal or external changeable pilot port
- holding current reduction of up to 70%

Technical data

Number of stations	4, 5, 6, 7, 8, 9, 10, 12, 16, 20, 24
electrical Connection	Multi-pin (Sub-D25), CC-Link, Ethernet, Profinet, EtherCAT, IO-Link, CANopen, Modbus-TCP
Voltage	24 V DC ± 10%
Power consumption	max. 1,2 W solenoid, electronic according version
Flow rate	up to 600 Nl/min (depending on valve type*)
Pneumatical ports	1, 3 and 5 G1/4, E1 (external pilot port) and 82/87 (solenoid exhausts) M7
Operating ports	G1/8 (14 mm width), M7 (10 mm width)
Operating pressure	depending on valve type*
Pilot pressure	depending on valve type*

*see page 7-42

Order code

86-RE*--**-**-**-**-****

Series	
REG	outlet ports on manifold
REV	outlet ports on valve

Pilot pressure, width	
10	internal pilot pressure, 10 mm
14	internal pilot pressure, 14 mm
E0	external pilot pressure, 10 mm
E4	external pilot pressure, 14 mm

Stations	
4-24	4, 5, 6, 7, 8, 9, 10, 12, 16, 20, 24

Electrical modules	
M1	Multi-pin, 25-pin
B0	Bus module, universal (CC-Link, Ethernet, Profinet, EtherCAT adjustable)
B11	IO-Link
B12	Modbus-TCP

Pneumatic connection	
00	G1/8 (M7) at 2 and 4 G1/4 at 1
40	Tube connection Ø 4 at 2 and 4 G1/4 at 1
41	Tube connection Ø 4 at 2 and 4 Tube connection Ø 8 at 1
42	Tube connection Ø 4 at 2 and 4 Tube connection Ø 10 at 1
60	Tube connection Ø 6 at 2 and 4 G1/4 at 1
61	Tube connection Ø 6 at 2 and 4 Tube connection Ø 8 at 1
62	Tube connection Ø 6 at 2 and 4 Tube connection Ø 10 at 1

Valves*	
M	5/2-way, single solenoid
J	5/2-way, double solenoid
K	2 x 3/2-way, NC
N	2 x 3/2-way, NO
H	2 x 3/2-way, NC/NO
G	5/3-way, center position closed
E	5/3-way, center position exhausted
B	5/3-way, center position pressurized
L	blind plate
F	blind plate with 3 ports G1/8 for additional air supply
D	pressure dividing plug **

* The valves are fitted in the order specified in the order code.
**Pressure separation is mounted downstream of the valve.

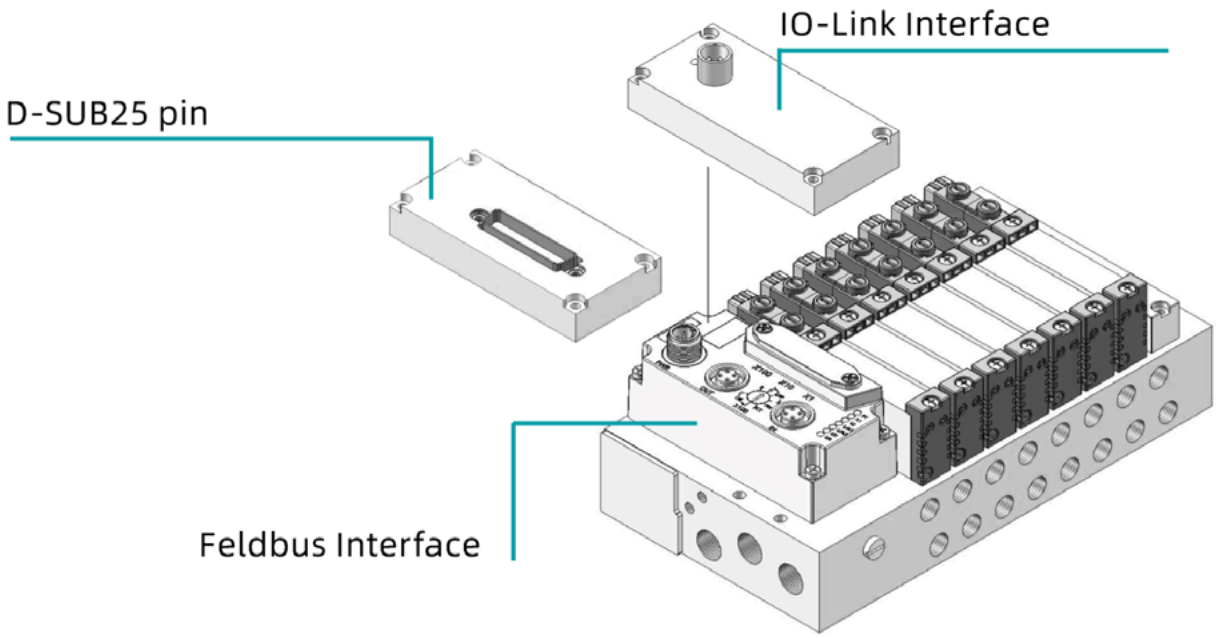
Silencers*	
-	no silencers
BL	sintered bronze silencers, left
PL	plastic silencers, left
VL	silencers made of LDPE, sintered, left
BR	sintered bronze silencers, right
PR	plastic silencers, right
VR	silencers made of LDPE, sintered, right
BB	sintered bronze silencers, left and right
PB	plastic silencers, left and right
VB	silencers made of LDPE, sintered, left and right

* If more than 6 valves are switched simultaneously, venting is required on both sides.

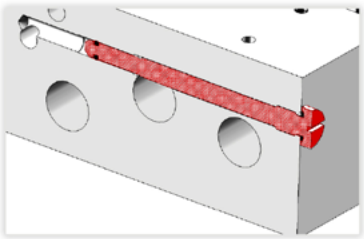
7

Series 86-REG / 86-REV

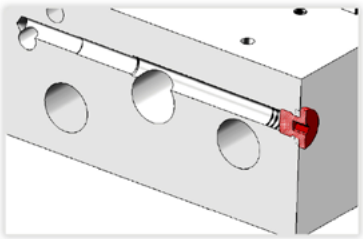
Modular platform



Changing from internal to external pilot pressure



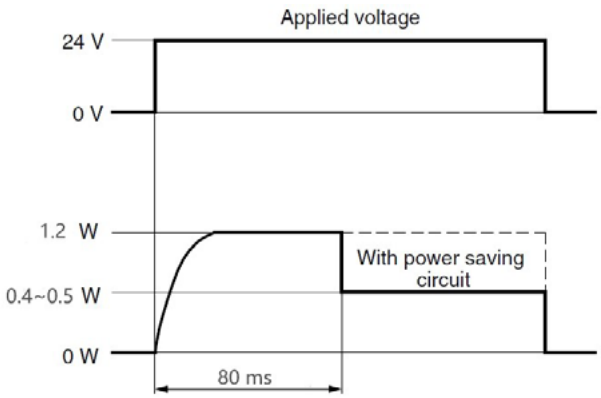
External pilot pressure



Internal pilot pressure

The terminal is set for operation with internal control air when the screw plug 86-VSS-I is fitted.
If this is replaced by the screw plug 86-VSS-E, the terminal is set for operation with external control air.
It is still possible to switch between the two operating modes at a later date.

Holding current reduction

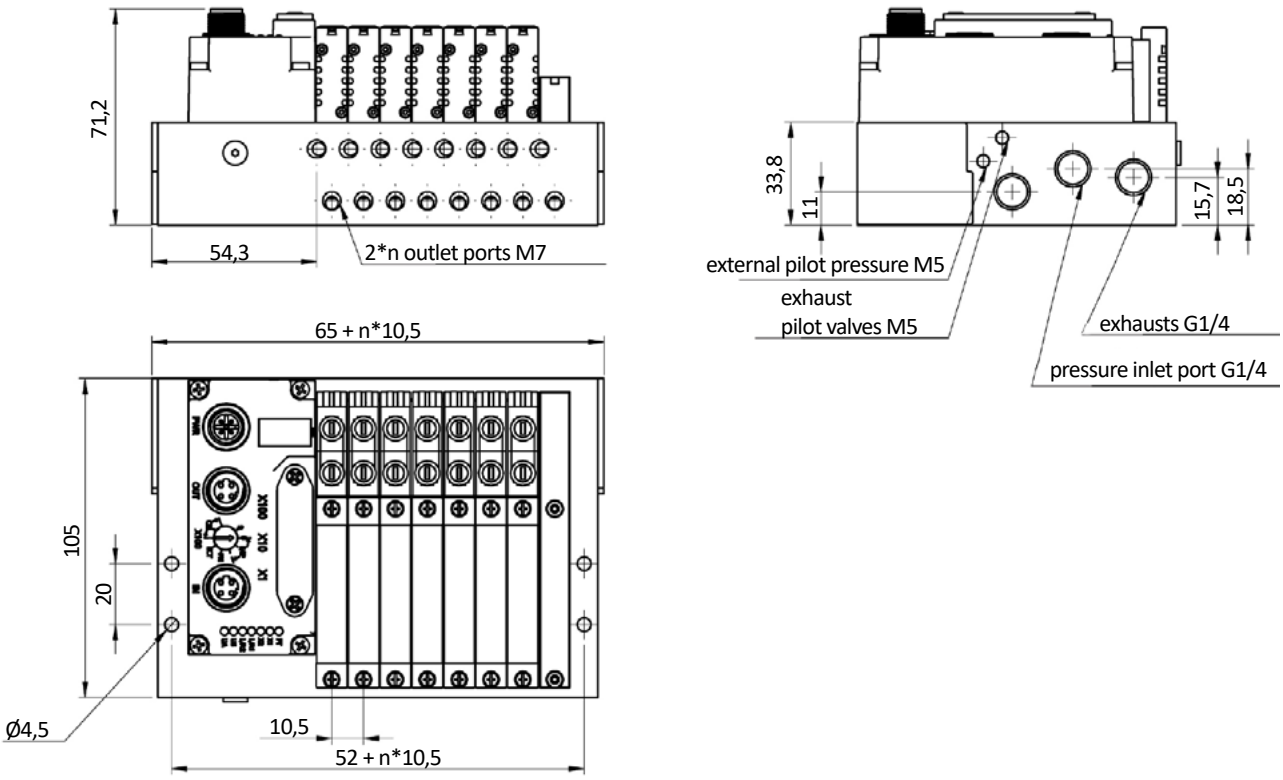


After actuating a solenoid coil, the required holding current is reduced after approx. 80 ms so that it only consumes 0.4 to 0.5 W of power. This saves up to 70% energy.

Manifold 86-RE-10S, width 10 mm, outlet ports lateral

Model-no.:	Stations (n)
86-RE-10S-04	4
86-RE-10S-05	5
86-RE-10S-06	6
86-RE-10S-07	7
86-RE-10S-08	8
86-RE-10S-09	9
86-RE-10S-10	10
86-RE-10S-12	12
86-RE-10S-16	16
86-RE-10S-20	20
86-RE-10S-24	24

Dimensions

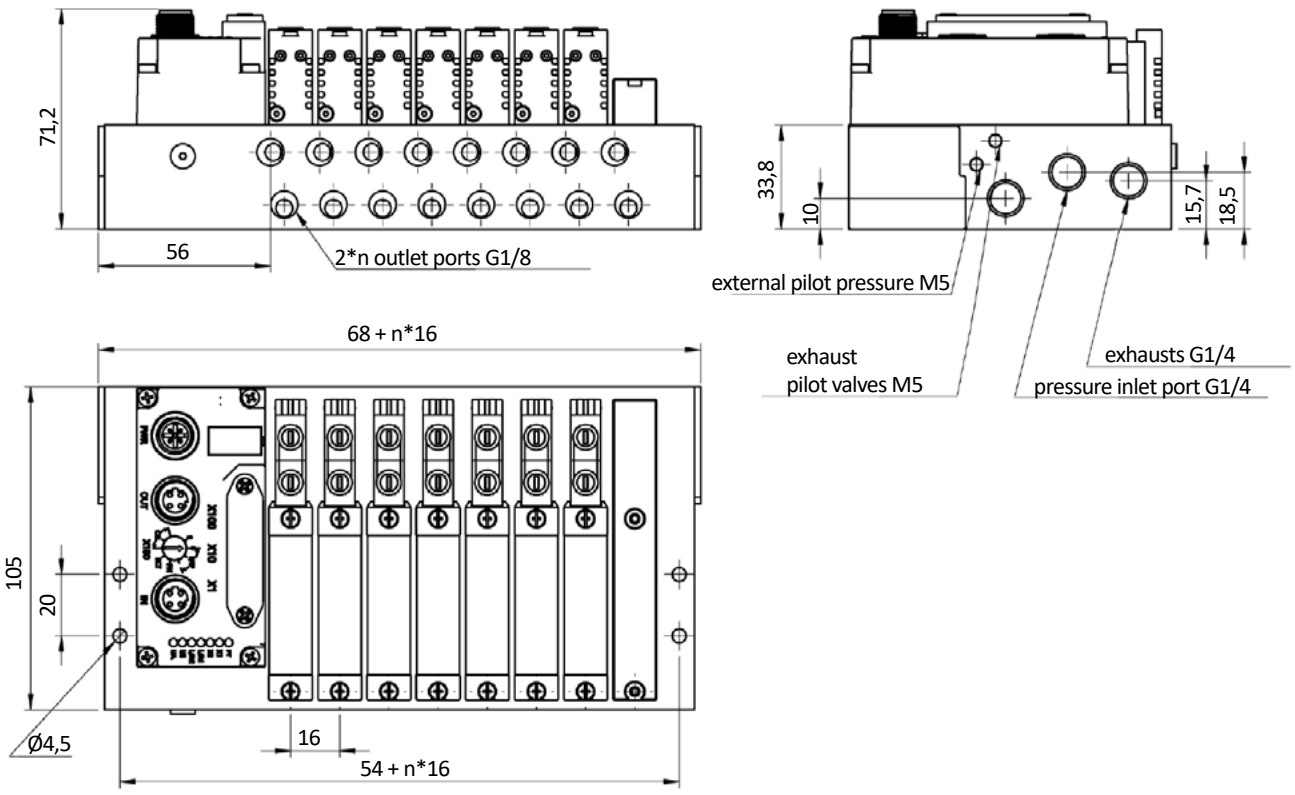


Series 86-REG / 86-REV

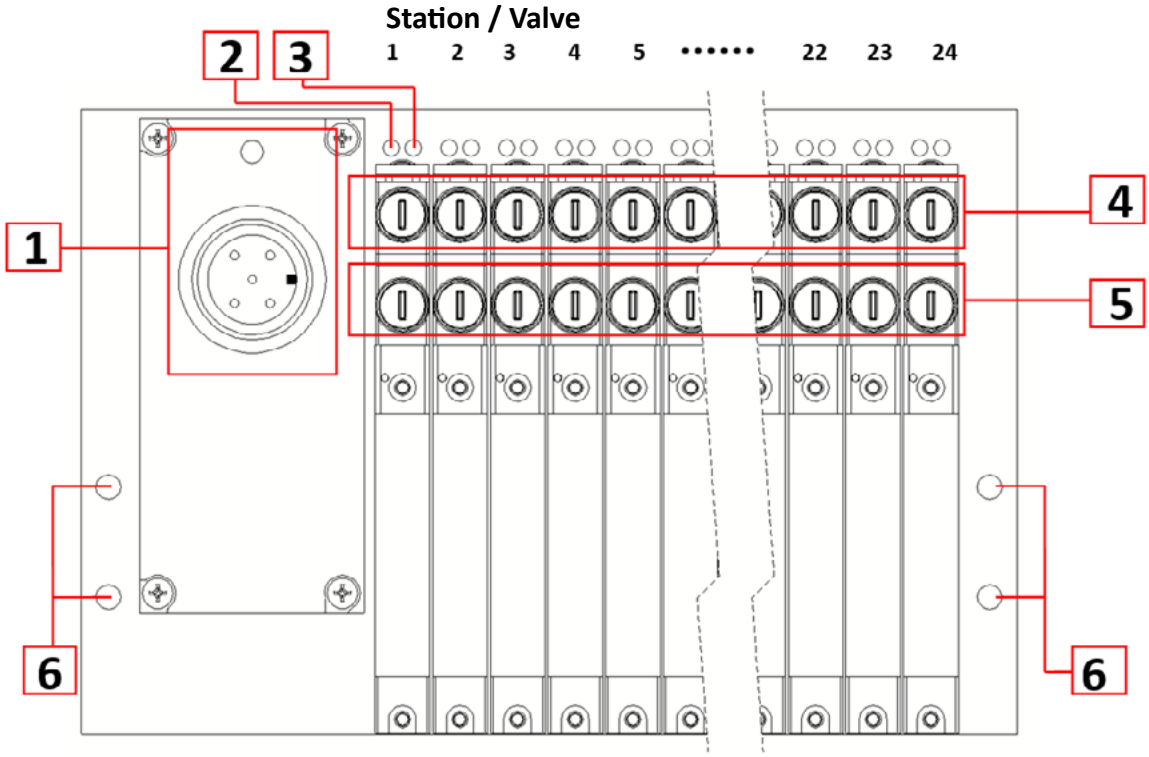
Manifold 86-RE-14S, width 14 mm, outlet ports lateral

Model-no.:	Stations (n)
86-RE-14S-04	4
86-RE-14S-05	5
86-RE-14S-06	6
86-RE-14S-07	7
86-RE-14S-08	8
86-RE-14S-09	9
86-RE-14S-10	10
86-RE-14S-12	12
86-RE-14S-16	16
86-RE-14S-20	20
86-RE-14S-24	24

Dimensions



Structure

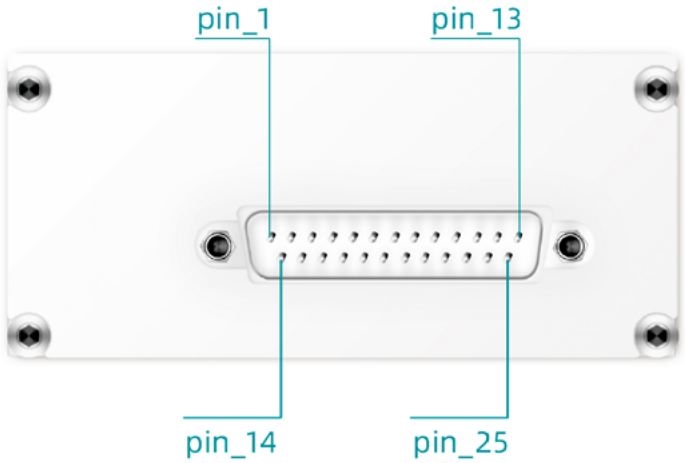


Pos.	Description	Pos.	Description
1	electrical connection (IO-Link in this case)	4	manual override 12
2	LED indicator 14	5	manual override 14
3	LED indicator 12	6	mounting holes

Series 86-REG / 86-REV

Multi-pin module 86-RE-M25, Sub-D 25-pin

The 25-pin multi plug has to be ordered separately.



Pin assignment on the multi-pin connection module

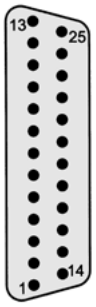
	Stations			
Pin	4-12	16	20	24
1	valve 1 / solenoid 14	valve 1 / solenoid 14	valve 1 / solenoid 14	valve 1 / solenoid 14
2	valve 1 / solenoid 12	valve 1 / solenoid 12	valve 1 / solenoid 12	valve 24 / solenoid 14
3	valve 2 / solenoid 14	valve 2 / solenoid 14	valve 2 / solenoid 14	valve 2 / solenoid 14
4	valve 2 / solenoid 12	valve 2 / solenoid 12	valve 2 / solenoid 12	valve 23 / solenoid 14
5	valve 3 / solenoid 14	valve 3 / solenoid 14	valve 3 / solenoid 14	valve 3 / solenoid 14
6	valve 3 / solenoid 12	valve 3 / solenoid 12	valve 3 / solenoid 12	valve 22 / solenoid 14
7	valve 4 / solenoid 14	valve 4 / solenoid 14	valve 4 / solenoid 14	valve 4 / solenoid 14
8	valve 4 / solenoid 12	valve 4 / solenoid 12	valve 4 / solenoid 12	valve 21 / solenoid 14
9	valve 5 / solenoid 14	valve 5 / solenoid 14	valve 5 / solenoid 14	valve 5 / solenoid 14
10	valve 5 / solenoid 12	valve 5 / solenoid 12	valve 20 / solenoid 14	valve 20 / solenoid 14
11	valve 6 / solenoid 14	valve 6 / solenoid 14	valve 6 / solenoid 14	valve 6 / solenoid 14
12	valve 6 / solenoid 12	valve 6 / solenoid 12	valve 19 / solenoid 14	valve 19 / solenoid 14
13	valve 7 / solenoid 14	valve 7 / solenoid 14	valve 7 / solenoid 14	valve 7 / solenoid 14
14	valve 7 / solenoid 12	valve 7 / solenoid 12	valve 18 / solenoid 14	valve 18 / solenoid 14
15	valve 8 / solenoid 12	valve 8 / solenoid 14	valve 8 / solenoid 14	valve 8 / solenoid 14
16	valve 8 / solenoid 14	valve 8 / solenoid 12	valve 17 / solenoid 14	valve 17 / solenoid 14
17	valve 9 / solenoid 12	valve 9 / solenoid 14	valve 9 / solenoid 14	valve 9 / solenoid 14
18	valve 9 / solenoid 14	valve 16 / solenoid 14	valve 16 / solenoid 14	valve 16 / solenoid 14
19	valve 10 / solenoid 12	valve 10 / solenoid 14	valve 10 / solenoid 14	valve 10 / solenoid 14
20	valve 10 / solenoid 14	valve 15 / solenoid 14	valve 15 / solenoid 14	valve 15 / solenoid 14
21	valve 11 / solenoid 12	valve 11 / solenoid 14	valve 11 / solenoid 14	valve 11 / solenoid 14
22	valve 11 / solenoid 14	valve 14 / solenoid 14	valve 14 / solenoid 14	valve 14 / solenoid 14
23	valve 12 / solenoid 12	valve 12 / solenoid 14	valve 12 / solenoid 14	valve 12 / solenoid 14
24	valve 12 / solenoid 14	valve 13 / solenoid 14	valve 13 / solenoid 14	valve 13 / solenoid 14
25	GND (common ground)	GND (common ground)	GND (common ground)	GND (common ground)

* The valve positions marked in red can only be fitted with single solenoid 5/2-way valves.

Pin assignment on the multi-pin connection cable

Pin	Function	Colour code
1	valve 1 / solenoid 1 (top)	white
2	valve 1 / solenoid 2 (bottom)	brown
3	valve 2 / solenoid 3 (top)	green
4	valve 2 / solenoid 4 (bottom)	yellow
5	valve 3 / solenoid 5 (top)	grey
6	valve 3 / solenoid 6 (bottom)	pink
7	valve 4 / solenoid 7 (top)	blue
8	valve 4 / solenoid 8 (bottom)	red
9	valve 5 / solenoid 9 (top)	schwarz
10	valve 5 / solenoid 10 (bottom)	violet
11	valve 6 / solenoid 11 (top)	grey/ pink
12	valve 6 / solenoid 12 (bottom)	red/ blue
13	valve 7 / solenoid 13 (top)	white/ green

Pin	Function	Colour code
14	valve 7 / solenoid 14 (bottom)	brown/ green
15	valve 8 / solenoid 15 (top)	white/ yellow
16	valve 8 / solenoid 16 (bottom)	yellow/ brown
17	valve 9 / solenoid 17 (top)	white/ grey
18	valve 9 / solenoid 18 (bottom)	grey/ brown
19	valve 10 / solenoid 19 (top)	white/ pink
20	valve 10 / solenoid 20 (bottom)	pink/ brown
21	valve 11 / solenoid 21 (top)	white/ blue
22	valve 11 / solenoid 22 (bottom)	brown/ blue
23	valve 12 / solenoid 23 (top)	white/ red
24	valve 12 / solenoid 24 (bottom)	brown/ red
25	GND (gemeinsame Masse)	white/ schwarz

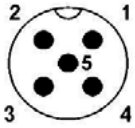


IO-Link-Modul 86-RE-B11-24

IO-Link connector	socket M12, 5-pin, A-code
IO-Link version	V1.1 (V1.0 compatible)
Baud rate	COM2 (38,4 kBit)
Voltage	COM3 (230,4 kBit) at 2 and 4 byte
Power consumption	24 V DC ± 10%, 2 galvanically isolated power circuits for IO-Link electronic (US) or solenoids (UA)
Min. cycle time (device)	open-circuit: ca. 170 mA full load: max. 2,4 A, depending on number of active valves
Min. cycle time (device)	4ms

IO-Link

Pin assignment

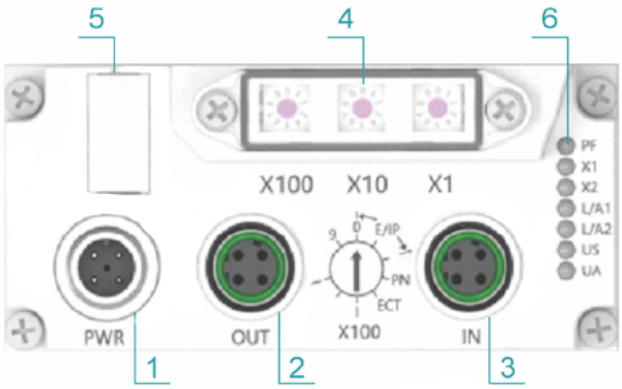


IO-Link connection		
Pin	**Designation**	**Description**
Pin	**Designation**	**Description**
2	UA	supply valve stations 1-24 (solenoids 1-48) [1]
3	GND_S	ground to U_S
4	C/Q	IO-Link data communication(seriell)
5	GND_A	ground to U_A

[1] This pin must be connected to 24 V for the solenoids to function, but can be deactivated if necessary to suppress unwanted switching. Reference ground is GND_A.

Series 86-REG / 86-REV

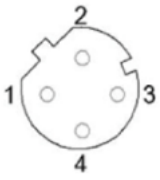
Bus module 86-RE-B0 (CC-Link, Ethernet, Profinet, EtherCAT adjustable)



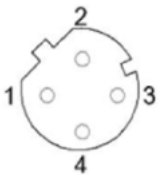
No	Designation	Description
1	Power connection	M12 plug, 4-pin, A-coded
2	Bus connection (OUT)	M12 socket, 4-pin, D-coded
3	Bus connection (IN)	M12 socket, 4-pin, D-coded
4	Selector switch	protocol selection, IP address, coil selection
5	Type plate	device description
6	LED indicators	status indicators

Pin assignment

Power connection		
Pin	**Designation**	**Description**
1	UA	supply valve stations 1-24 (solenoids 1-48)
2	GND_A	ground to U_A
3	US	Bus electronics supply
4	GND_S	ground to U_S



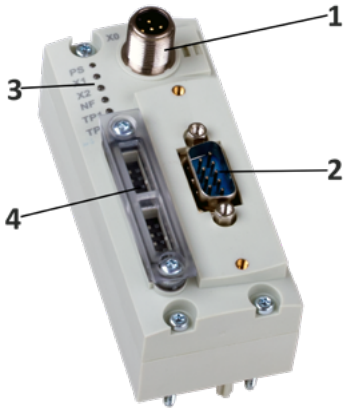
Bus connection (OUT)		
Pin	**Designation**	**Description**
1	Tx+	Transmit Data +
2	Rx+	Receive Data +
3	Tx-	Transmit Data -
4	Rx-	Receive Data -



Bus connection (IN)		
Pin	**Designation**	**Description**
1	Tx+	Transmit Data +
2	Rx+	Receive Data +
3	Tx-	Transmit Data -
4	Rx-	Receive Data -

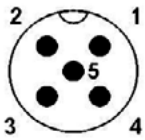
Bus module 86-RE-B6 (CANopen)

The bus module is connected to the terminal via an I-Port interface.
For this purpose, an IO-Link module 86-RE-B11-24 must be placed between the bus module and the electrical connection of the terminal.

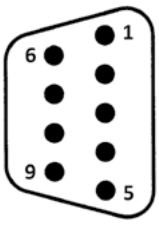


No	Designation	Description
1	Power connection	M12-plug, 5-pin, B-coded
2	CANopen connection	Sub-D-plug, 9-pin
3	LED indicators	status indicators (operating status/diagnosis)
4	Selector switch	DIL switches

Pin assignment



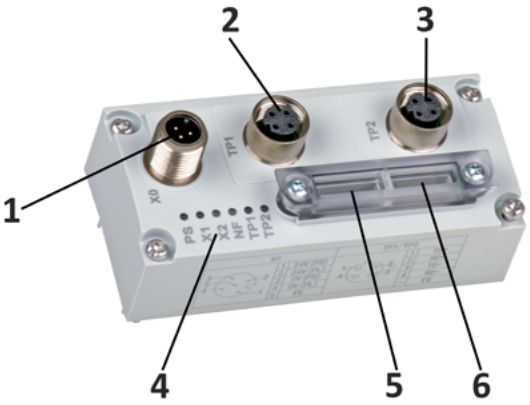
Power connection		
Pin	**Designation**	**Description**
1	24V (EL/SEN)	power supply electronics, sensors/inputs
2	24V (VAL/OUT)	power supply valves/outputs
3	0V (EL/SEN)	ground Electronics, sensors/inputs
4	0V (VAL/OUT)	ground valves/outputs
5	FE	functional ground



TP1-connection		
Pin	**Designation**	**Description**
1	n.c.	not connected
2	CAN_L	receive/transmit data Low
3	CAN_GND	0V CAN interface (connected to pin 6)
4	n.c.	not connected
5	CAN_Shld	optional shield connection
6	GND	0V CAN interface, optional (connected to pin 3)
7	CAN_H	receive/transmit data High
8	n.c.	not connected
9	CAN_V+	24 V DC supply CAN interface
housing		cable shielding, connection to FE

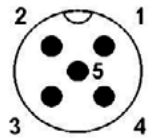
Series 86-REG / 86-REV

Modbus-TCP module 86-RE-B12



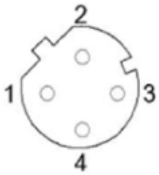
No	Designation	Description
1	Power connection	M12 plug, 5-pin, A-coded
2	TP1 connection	M12 socket, 4-pin, D-coded
3	TP2 connection	M12 socket, 4-pin, D-coded
4	LED indicators	status indicators
5	Selector switch	
6	LED indicator	System status display

Pin assignment



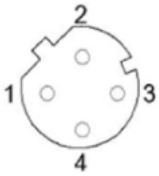
Power connection

Pin	Designation	Description
1	24V (PS)	supply PS
2	24V (PL)	supplyPL
3	0V (PS)	ground PS
4	0V (PL)	ground PL
5	FE	functional ground



TP1 connection

Pin	Designation	Description
1	Tx+	Transmit Data +
2	Rx+	Receive Data +
3	Tx-	Transmit Data -
4	Rx-	Receive Data -



TP2 connection

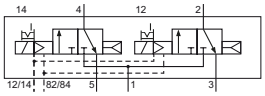
Pin	Designation	Description
1	Tx+	Transmit Data +
2	Rx+	Receive Data +
3	Tx-	Transmit Data -
4	Rx-	Receive Data -

Technical details

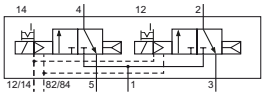
Outlets	according to the pneumatical connections of the terminal
Temperature range	0°C ... +50°C
Medium	Filtered, oil-free and dried compressed air according to ISO 8573-1:2010, Class 7:2:4, instrument air, free of aggressive additives. Alternatively the pressure dew point must be at least 10°C below lowest occurring ambient temperature.
Materials	Body: Al (anodized), plastic, seals: NBR, inner parts: Al, steel, brass and plastic
Nominal voltage	24 V DC, ± 10%
Power consumption	1.2 W
Protection	IP 65 according to EN 60529

Electrically operated spool valve. The manual override is detent. The manual override is located on top of the solenoid.

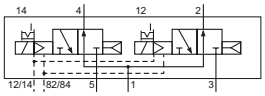
2 x 3/2-way valves



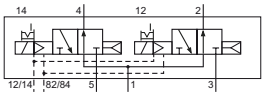
MRG-10-310/2-HNR-442
MRV-10-310/2-HNR-442
2 x 3/2-way, single solenoid, air spring return, NC



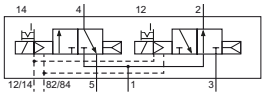
MRG-14-310/2-HNR-442
MRV-14-310/2-HNR-442
2 x 3/2-way, single solenoid, air spring return, NC



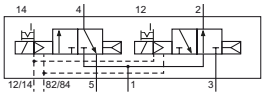
MRG-10-312/2-HNR-442
MRV-10-312/2-HNR-442
2 x 3/2-way, single solenoid, air spring return, NO



MRG-14-312/2-HNR-442
MRV-14-312/2-HNR-442
2 x 3/2-way, single solenoid, air spring return, NO

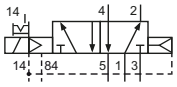


MRG-10-314/2-HNR-442
MRV-10-314/2-HNR-442
2 x 3/2-way, single solenoid, air spring return, 1 x NC, 1 x NO

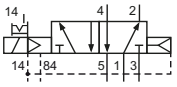


MRG-14-314/2-HNR-442
MRV-14-314/2-HNR-442
2 x 3/2-way, single solenoid, air spring return, 1 x NC, 1 x NO

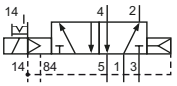
5/2-way valves



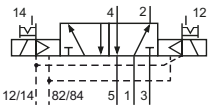
MRG-10-510-HNR-442
MRV-10-510-HNR-442
5/2-way, single solenoid, air spring return



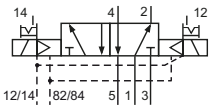
MRG-14-510-HNR-442
MRV-14-510-HNR-442
5/2-way, single solenoid, air spring return



MRG-14-510-HNR-T32
MRV-14-510-HNR-T32
5/2-way, single solenoid, air spring return

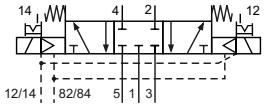


MRG-10-520-HNR-442
MRV-10-520-HNR-442
5/2-way, double solenoid

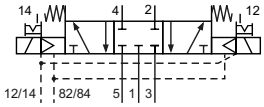


MRG-14-520-HNR-442
MRV-14-520-HNR-442
5/2-way, double solenoid

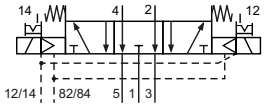
5/3-way valves



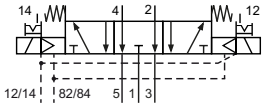
MRG-10-530-HNR-442
MRV-10-530-HNR-442
5/3-way, center position closed



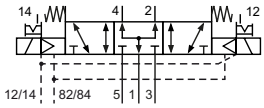
MRG-14-530-HNR-442
MRV-14-530-HNR-442
5/3-way, center position closed



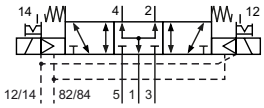
MRG-10-533-HNR-442
MRV-10-533-HNR-442
5/3-way, center position exhausted



MRG-14-533-HNR-442
MRV-14-533-HNR-442
5/3-way, center position exhausted



MRG-10-534-HNR-442
MRV-10-534-HNR-442
5/3-way, center position pressurized



MRG-14-534-HNR-442
MRV-14-534-HNR-442
5/3-way, center position pressurized

7

Series 86-REG / 86-REV

Technical data

Model-no.:	MR*-14-310/2-HNx-xxx	MR*-14-312/2-HNx-xxx	MR*-14-314/2-HNx-xxx
Internal pilot pressure			
Operating pressure (bar)	2,5 ... 8	2,5 ... 8	2,5 ... 8
External pilot pressure			
Operating pressure (bar)	2 ... 8	2 ... 8	2 ... 8
Pilot pressure (bar)	2,5 ... 8	2,5 ... 8	2,5 ... 8
Flow rate (Nl/min)	600	580	580

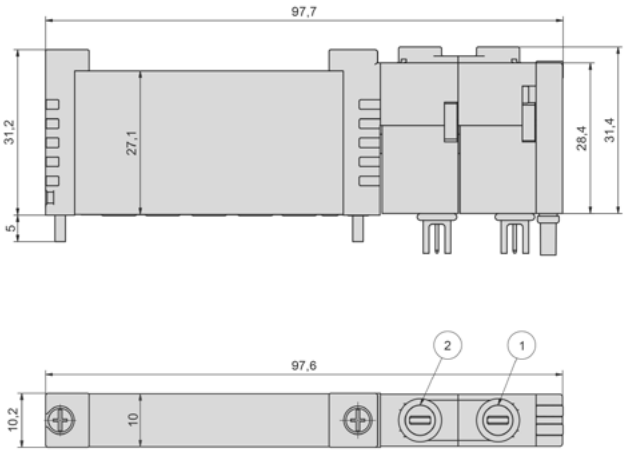
Model-no.:	MR*-14-510-HNx-xxx	MR*-14-520-HNx-xxx	MR*-14-530-HNx-xxx	MR*-14-533-HNx-xxx
Internal pilot pressure				
Operating pressure (bar)	2 ... 8	2 ... 8	3 ... 8	3 ... 8
External pilot pressure				
Operating pressure (bar)	0 ... 8	0 ... 8	0 ... 8	0 ... 8
Pilot pressure (bar)	2 ... 8	2 ... 8	3 ... 8	3 ... 8
Flow rate (Nl/min)	600	600	580	580

Model-no.:	MR*-10-310/2-HNx-xxx	MR*-10-312/2-HNx-xxx	MR*-10-314/2-HNx-xxx
Internal pilot pressure			
Operating pressure (bar)	2,5 ... 8	2,5 ... 8	2,5 ... 8
External pilot pressure			
Operating pressure (bar)	2 ... 8	2 ... 8	2 ... 8
Pilot pressure (bar)	2,5 ... 8	2,5 ... 8	2,5 ... 8
Flow rate (Nl/min)	400	400	400

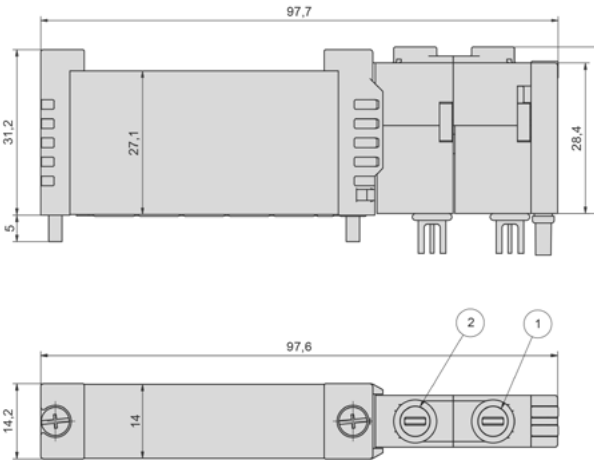
Model-no.:	MR*-10-510-HNx-xxx	MR*-10-520-HNx-xxx	MR*-10-530-HNx-xxx	MR*-10-533-HNx-xxx
Internal pilot pressure				
Operating pressure (bar)	2 ... 8	2 ... 8	3 ... 8	3 ... 8
External pilot pressure				
Operating pressure (bar)	0 ... 8	0 ... 8	0 ... 8	0 ... 8
Pilot pressure (bar)	2 ... 8	2 ... 8	3 ... 8	3 ... 8
Flow rate (Nl/min)	400	400	400	400

Dimensions

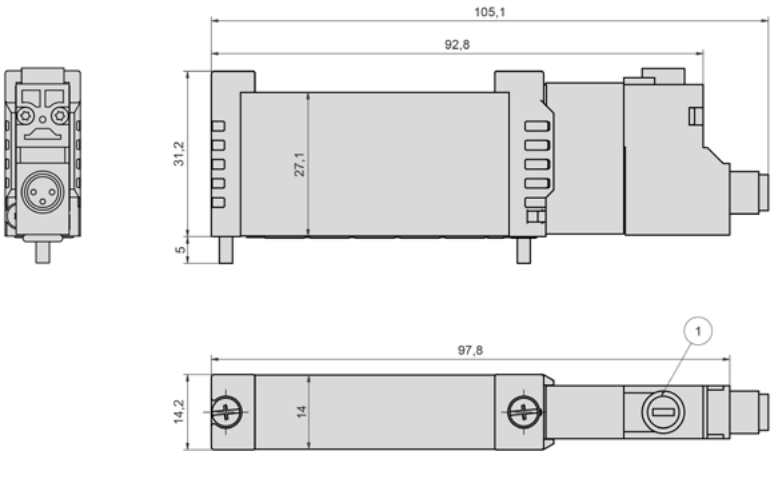
MR-10-xxx-HNx



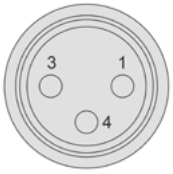
MR-14-xxx-HNx



MRG-14-510-HNR-T32 (with M8 connection for individual wiring)



Pin assignment



1 = not used
3 = + or -
4 = + or -

7

Series 86-REG / 86-REV

Accessories

Model-no.:	86-RE-10-VP

Blind plate for valve and coil station
86-RE-10

Model-no.:	86-RE-14-VP

Blind plate for valve and coil station
86-RE-14

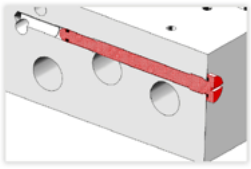
Model-no.:	86-RE-10-AP-01

Blind plate for valve and coil station
with 3 ports G1/8 for additional air supply (inlet and exhaust)

Model-no.:	86-RE-14-AP-01

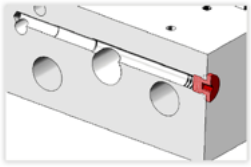
Blind plate for valve and coil station
with 3 ports G1/8 for additional air supply (inlet and exhaust)

Model-no.:	86-VSS-E



Screw plug for setting external control air

Model-no.:	86-VSS-I



Screw plug for setting internal control air

Model-no.:	86-ST-246-M1-yy-xxx

25-pin multi plug, 45°

yy = 25 25-pin
xxx = 105 5 m cable

Model-no.:	28-ST-46-M1-yy-xxx

25-pin multi plug, straight

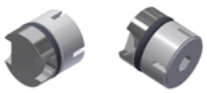
yy = 25 25-pin
xxx = 105 5 m cable
xxx = 110 10 m cable

Model-no.:	28-ST-146-M1-yy-xxx

25-pin multi plug, 90°

yy = 25 25-pin
xxx = 105 5 m cable
xxx = 110 10 m cable

Model-no.:	86-RE-DT-01



Pressure dividing plug
suitable in channel 1,3 and 5

Model-no.:	86-RE-B-01

Mounting set for DIN rail mounting