

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
 - separate 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 NI/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*

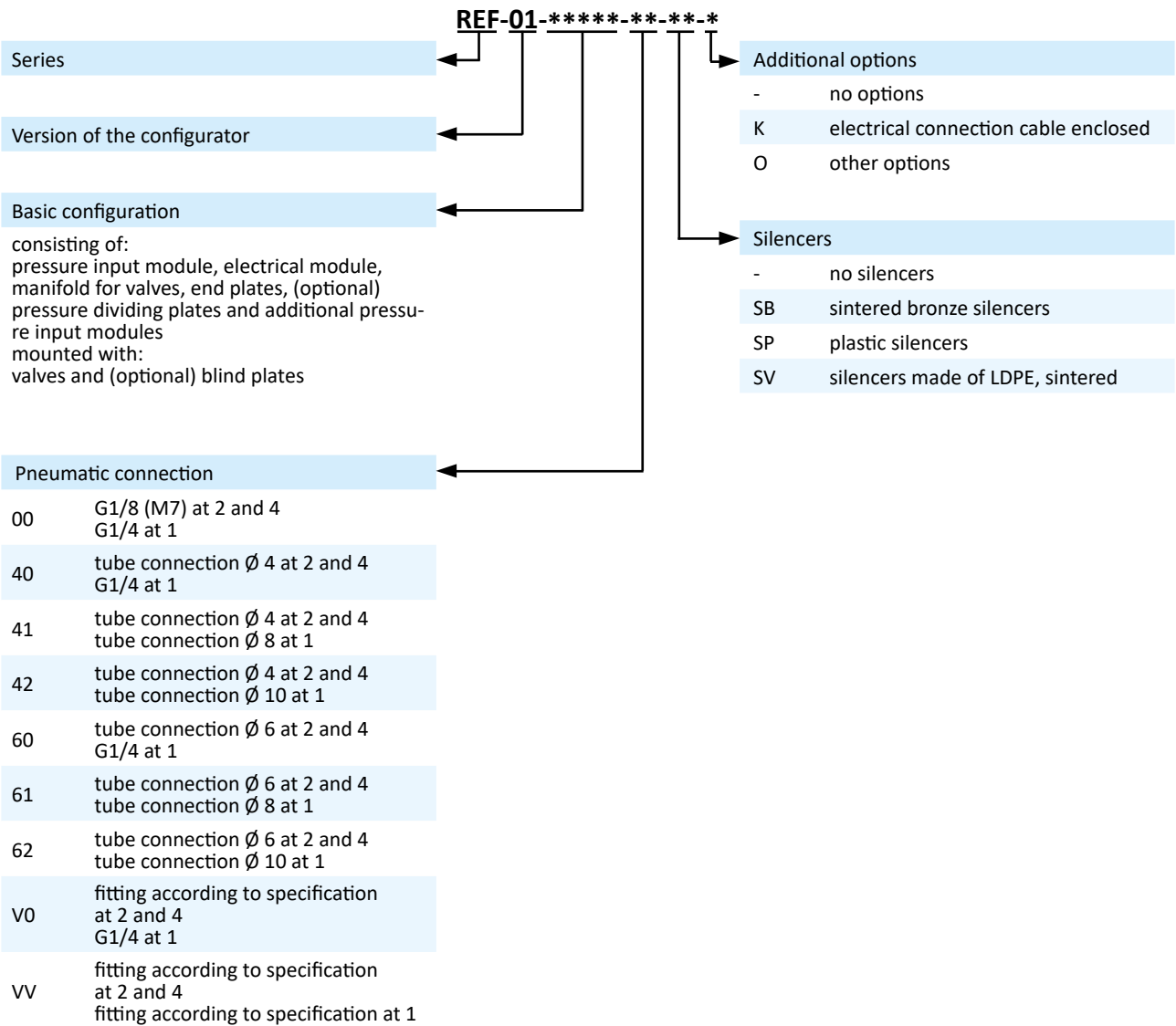
* see page 10



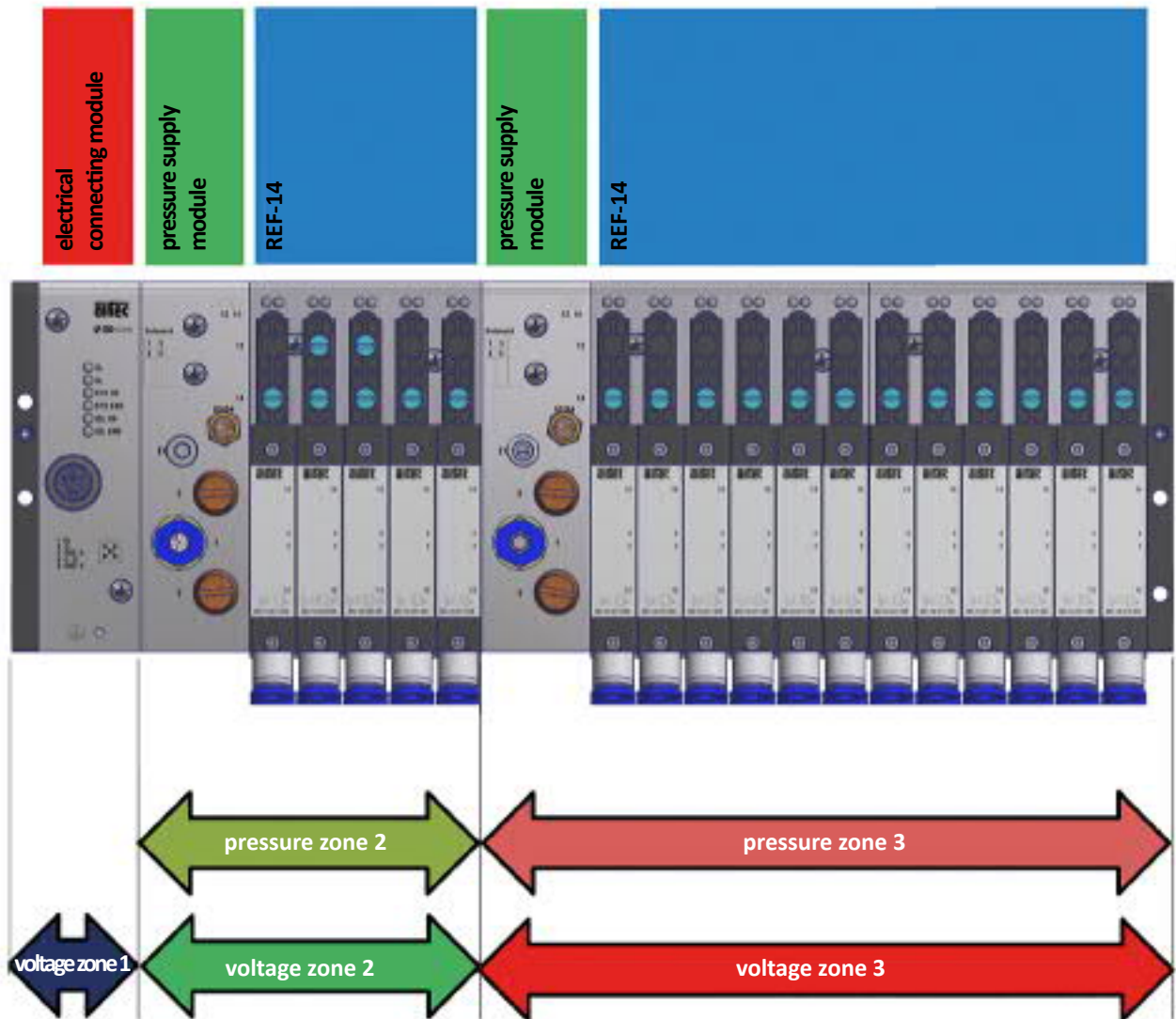
More detailed installation information see manuals at www.airtec.de.

Series REF-14

Order code

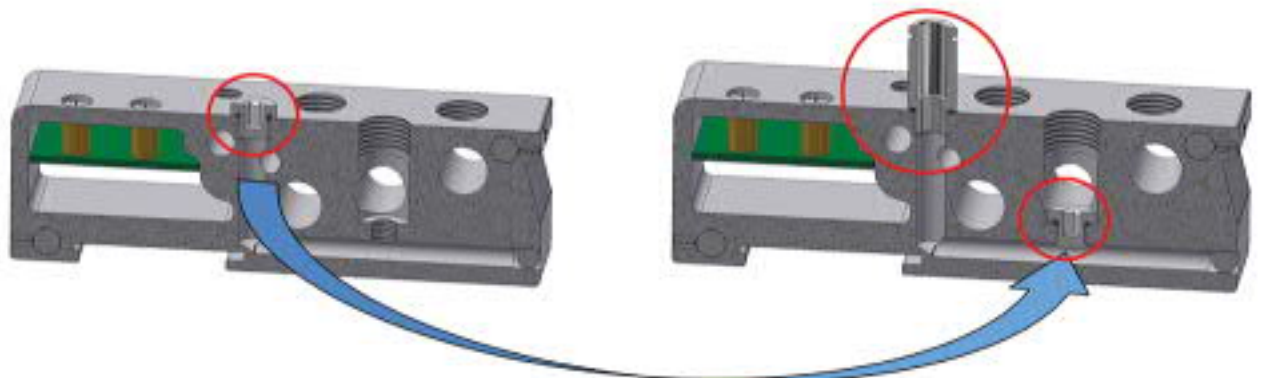


Voltage- and pressure zones



Up to 3 separate suitable voltage zones for emergency stops, voltage switch off's operated by separation- or power-module.

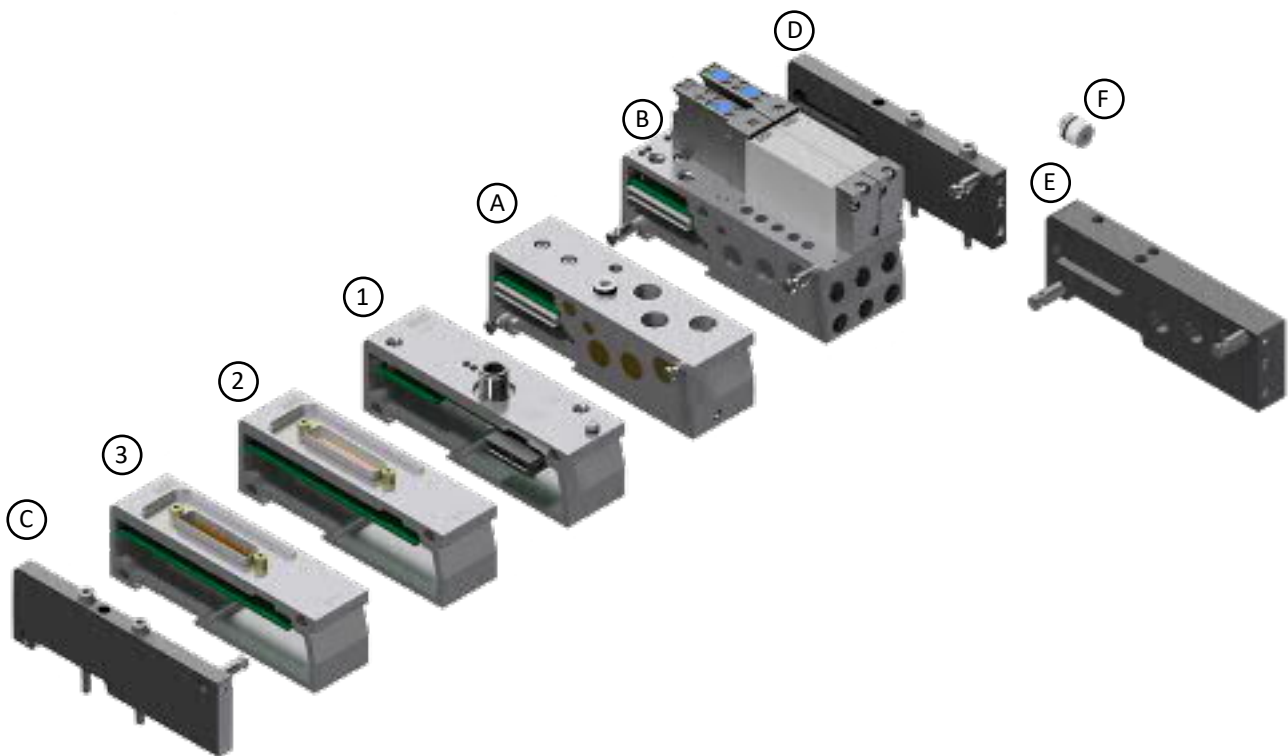
Changing from internal to external pilot pressure



Internal pilot pressure:
- plug on pilot pressure port

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

Modular platform

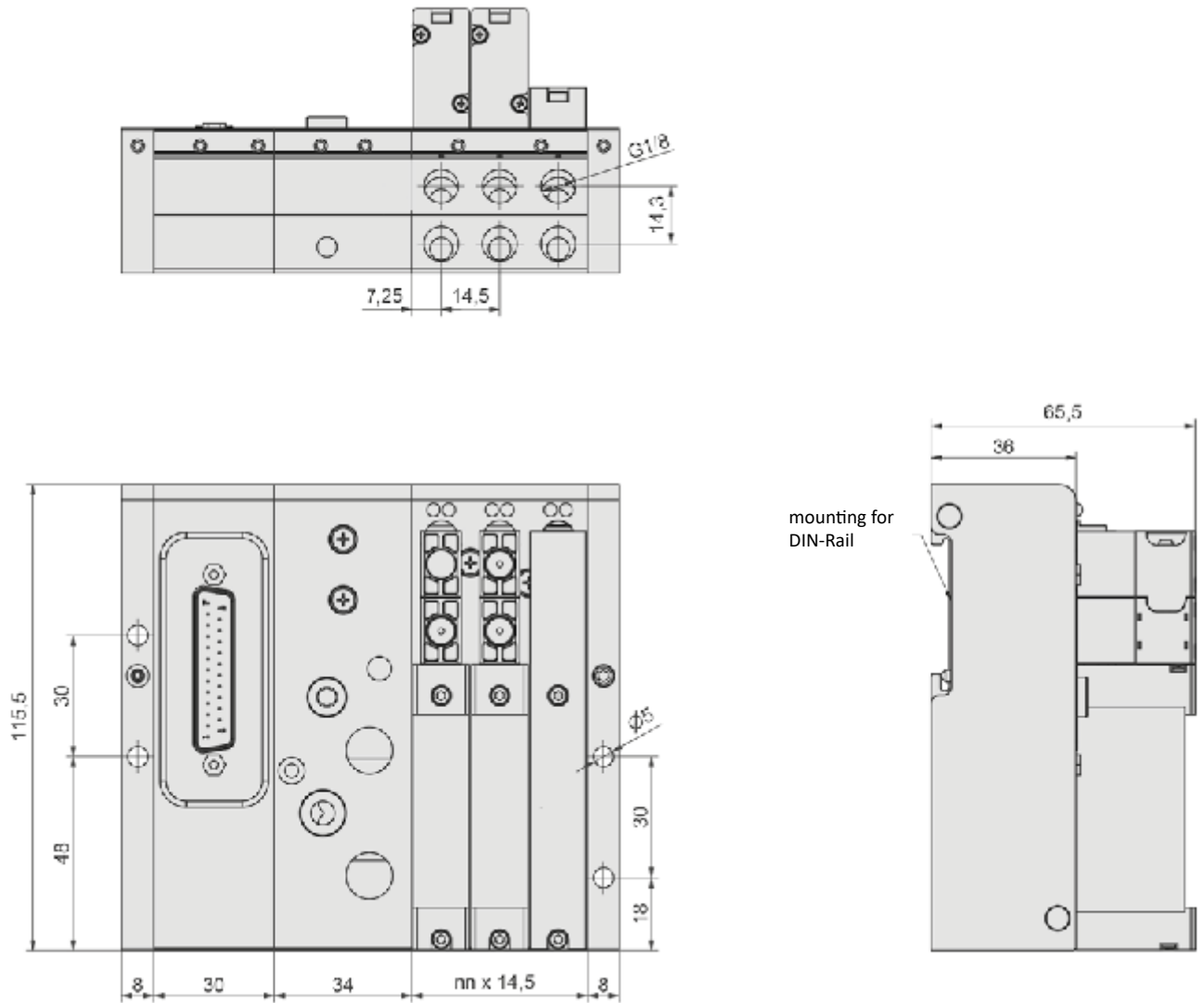


Electrical modules

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

Pneumactical 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

Dimensions


nn = 03 ... 24 stations

Series REF-14

Dimensions of modules

Pressure input modules, upside

REFI-01-01

Standard module

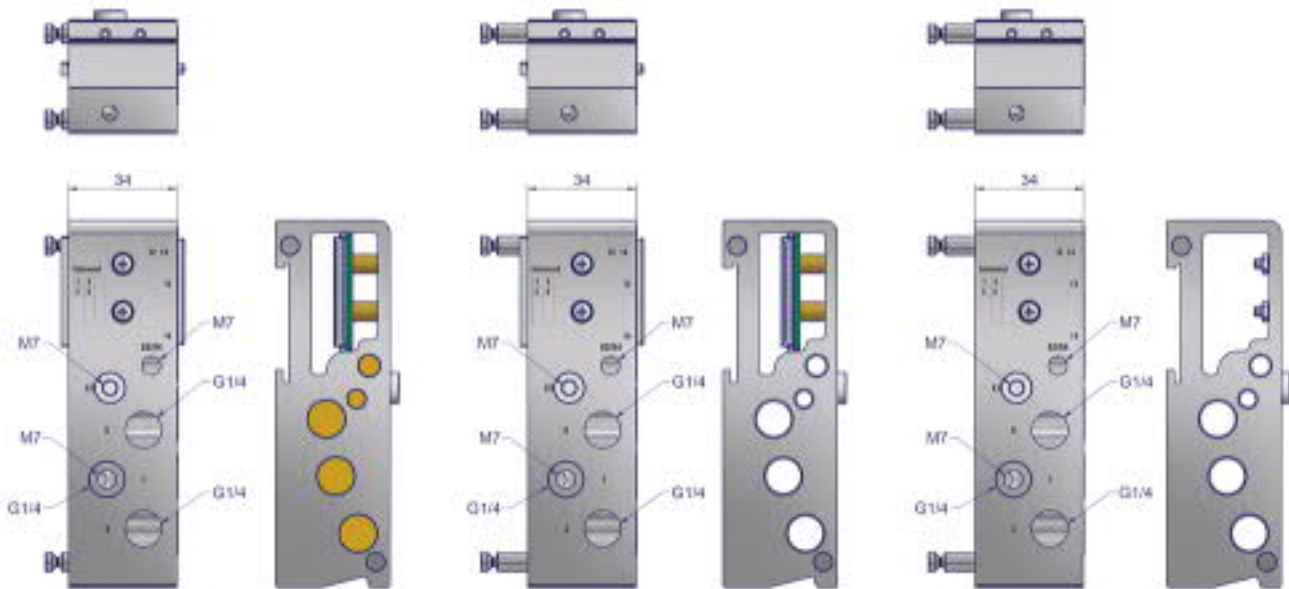
Module for pressure separation

REFI-02-01

Module for additional air supply

REFI-03-01

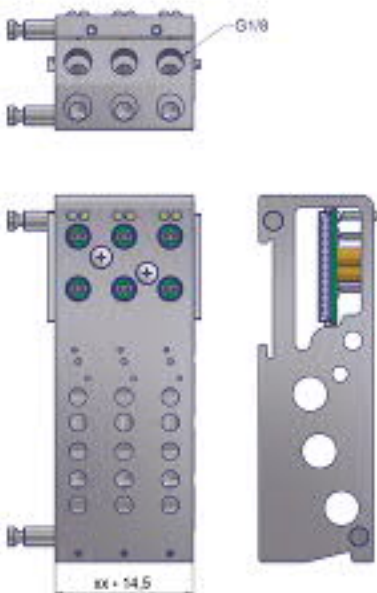
End module for additional air supply



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

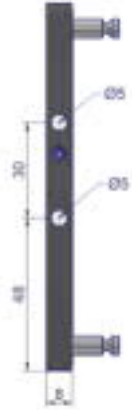
REF-14S-xx-01



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

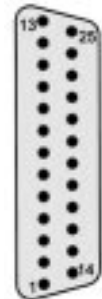
 REF-B11-24-02
 IO-Link


Electrical options

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

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

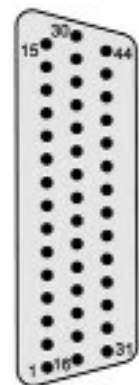
Pin	Function	Wire colour	Pin	Function	Wire colour
1	valve 1 / solenoid 1 (top)	white	14	valve 7 / solenoid 14 (bottom)	brown/ green
2	valve 1 / solenoid 2 (bottom)	brown	15	valve 8 / solenoid 15 (top)	white/ yellow
3	valve 2 / solenoid 3 (top)	green	16	valve 8 / solenoid 16 (bottom)	yellow/ brown
4	valve 2 / solenoid 4 (bottom)	yellow	17	valve 9 / solenoid 17 (top)	white/ grey
5	valve 3 / solenoid 5 (top)	grey	18	valve 9 / solenoid 18 (bottom)	grey/ brown
6	valve 3 / solenoid 6 (bottom)	pink	19	valve 10 / solenoid 19 (top)	white/ pink
7	valve 4 / solenoid 7 (top)	blue	20	valve 10 / solenoid 20 (bottom)	pink/ brown
8	valve 4 / solenoid 8 (bottom)	red	21	valve 11 / solenoid 21 (top)	white/ blue
9	valve 5 / solenoid 9 (top)	black	22	valve 11 / solenoid 22 (bottom)	brown/ blue
10	valve 5 / solenoid 10 (bottom)	violet	23	valve 12 / solenoid 23 (top)	white/ red
11	valve 6 / solenoid 11 (top)	grey/ pink	24	valve 12 / solenoid 24 (bottom)	brown/ red
12	valve 6 / solenoid 12 (bottom)	red/ blue	25	GND (common ground)	white/ black
13	valve 7 / solenoid 13 (top)	white/ green			



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

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

Pin	Function	Wire colour	Pin	Function	Wire colour
1	valve 1 / solenoid 1 (top)	white	23	valve 12 / solenoid 23 (top)	white/ red
2	valve 1 / solenoid 2 (bottom)	brown	24	valve 12 / solenoid 24 (bottom)	brown/ red
3	valve 2 / solenoid 3 (top)	green	25	valve 13 / solenoid 25 (top)	white/ black
4	valve 2 / solenoid 4 (bottom)	yellow	26	valve 13 / solenoid 26 (bottom)	brown/ black
5	valve 3 / solenoid 5 (top)	grey	27	valve 14 / solenoid 27 (top)	grey/ green
6	valve 3 / solenoid 6 (bottom)	pink	28	valve 14 / solenoid 28 (bottom)	yellow/ grey
7	valve 4 / solenoid 7 (top)	blue	29	valve 15 / solenoid 29 (top)	pink/ green
8	valve 4 / solenoid 8 (bottom)	red	30	valve 15 / solenoid 30 (bottom)	yellow/ pink
9	valve 5 / solenoid 9 (top)	black	31	valve 16 / solenoid 31 (top)	green/ blue
10	valve 5 / solenoid 10 (bottom)	violet	32	valve 16 / solenoid 32 (bottom)	yellow/ blue
11	valve 6 / solenoid 11 (top)	grey/ pink	33	valve 17 / solenoid 33 (top)	green/ red
12	valve 6 / solenoid 12 (bottom)	red/ blue	34	valve 17 / solenoid 34 (bottom)	yellow/ red
13	valve 7 / solenoid 13 (top)	white/ green	35	valve 18 / solenoid 35 (top)	green/ black
14	valve 7 / solenoid 14 (bottom)	brown/ green	36	valve 18 / solenoid 36 (bottom)	yellow/ black
15	valve 8 / solenoid 15 (top)	white/ yellow	37	valve 19 / solenoid 37 (top)	grey/ blue
16	valve 8 / solenoid 16 (bottom)	yellow/ brown	38	valve 19 / solenoid 38 (bottom)	pink/ blue
17	valve 9 / solenoid 17 (top)	white/ grey	39	valve 20 / solenoid 39 (top)	grey/ red
18	valve 9 / solenoid 18 (bottom)	grey/ brown	40	valve 20 / solenoid 40 (bottom)	pink/ red
19	valve 10 / solenoid 19 (top)	white/ pink	41	unused	grey/ black
20	valve 10 / solenoid 20 (bottom)	pink/ brown	42	unused	pink/ black
21	valve 11 / solenoid 21 (top)	white/ blue	43	GND (common ground)*	blue/ black
22	valve 11 / solenoid 22 (bottom)	brown/ blue	44	GND (common ground)*	red/ black

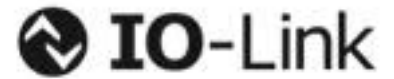


* To increase the cable cross section both GNG pins should be used. The max current could reach 2,4 A.

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 \pm 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

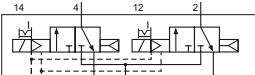
Technical data

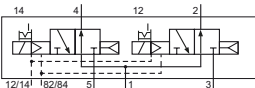
Outlets	according to the pneumatical connections of the terminal
Temperature range	-10°C ... +50°C
Medium	Filtered, oil-free and dried compressed air according to ISO 8573-1:2010, Class 7:2:4, instrument air, free of aggressive additives. Alternatively the pressure dew point must be at least 10°C below 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	1.3 W
Protection	IP 65 according to EN 60529

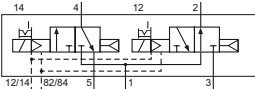


Electrically operated spool valve. The manual override is detent. The manual override is located on top of the solenoid.

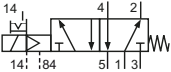
2 x 3/2-way valves

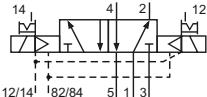
 MC-14-310/2-HNR-442
2 x 3/2-way, single solenoid, air spring return, NC

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

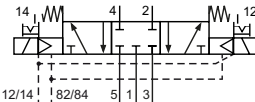
 MC-14-314/2-HNR-442
2 x 3/2-way, single solenoid, air spring return, 1 x NC, 1 x NO

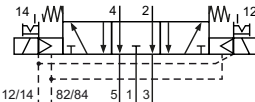
5/2-way valves

 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.:			Not available yet
	MC-14-310/2-HNx-44x	MC-14-312/2-HNx-44x	MC-14-314/2-HNx-44x
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 (NI/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-44x	MC-14-520-HNx-44x	MC-14-530-HNx-44x	MC-14-533-HNx-44x
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 (NI/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

Series REF-14

Accessories

Model-no.: 	REF-10-VP-01 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.: 	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-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.: 		REF-DT-01 Pressure dividing plug suitable in channel 1,3 and 5	