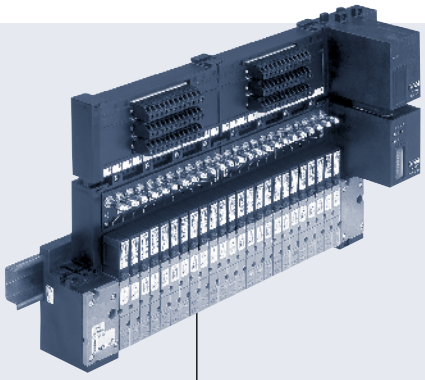
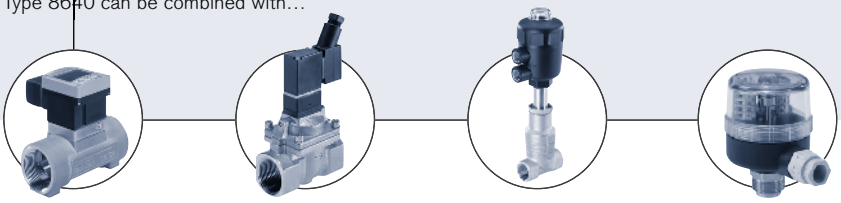
Modular pneumatic valve island



- Compact design
- Modular configuration
- High flexibility
- Simple exchange of valves (with P shut–off, also possible during operation – an option)

Type 8640 can be combined with…



Type 8032
Switch

Type 6212
Solenoid valve

Type 2012
Pneumatic valve

Type 1062
Position feedback

The 8640 valve island system is designed to solve diverse and complex control problems due to its systematic modular construction and combination of pneumatic and electrical interfaces. By putting together a row of pneumatic modules with different numbers of valve stations, 2 to 24 valve stations may be realized on one valve island.

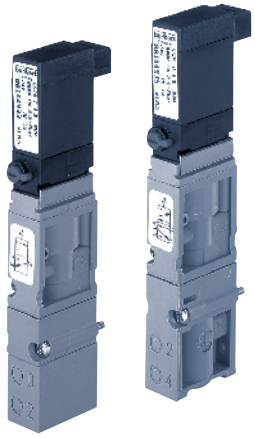
Electrical connectivity is achieved by either fieldbus interfaces, common connection (parallel connection technique) or multipole interfaces. The valves allow different applications to be covered. Bodies and connection modules are made of high-quality plastic (polyamide) and are easy to assemble by means of the built-in snap connectors.

Specification	Solenoid valve Type 6524/6525	Solenoid valve Type 6526/6527
Mounting dimensions	11 mm	16.5 mm
Ambient temperature	14°F to 131°F (-10°C to 55°C)	14°F to 131°F (-10°C to 55°C)
Storage temperature	-4°F to 140°F (-20°C to 60°C)	-4°F to 140°F (-20°C to 60°C)
Pressure range	Vac. – 145 PSI (see ordering chart)	Vac. – 145 PSI (see ordering chart)
Operating voltage	24 V/DC	24 V/DC
Voltage tolerance	±10%	±10%
Residual ripple	1 Vss (with fieldbus)	1 Vss (with fieldbus)
Degree of protection	3 according to VDE 0580	3 according to VDE 0580
Duty cycle	100% continuous rating	100% continuous rating
Circuit functions	C and D (3/2–way), H (5/2–way)	C and D (3/2–way), H (5/2–way)
Flow rate	300 l/min	700 l/min
Rated power	1 W	2 W, 1 W
Rated current per valve	42 mA	86 mA
No. of valve stations per island	2–24	2–24
Pneumatic module	Type MP11, 2– and 8–valves	Type MP12, 2– and 4–valves
Electric module	6–, 9– and 12–valves	4–, 8– and 16–valves
Feedback	32 (1 per valve station)	Max. 32
Degree of protection	IP 20 with terminals	IP 20 with terminals IP 65 with circular connector
Electric Connection	▪ Common connection (parallel connection) ▪ Multipole (D–Sub, 25 pole) ▪ PROFIBUS-DP ▪ INTERBUS ▪ DEVICE NET ▪ SELECAN ▪ ASI ▪ CANopen ▪ Internal bus extension by Profibus DP (RIO) ▪ more on request	
Total current with common connection with multipole connection with fieldbus connection	as a function of the electrical connection technique max. 3A (sum of current through individual valves) max. 3A (sum of current through individual valves) + max. 3A (repeater) $I_{TOTAL} = I_{BASE} + (n \times I_{VALVE}) + (m \times I_{REPEATER})$ n=quantity of valves, m=quantity of repeaters, I_{VALVE}= rated current of each valve $I_{REPEATER}$= rated current of each repeater, m x $I_{REPEATER}$=max. 650 mA	I_{BASE}= 200 mA spec. base current PROFIBUS DP 300 mA spec. base current INTERBUS 200 mA spec. base current DEVICE NET 200 mA spec. base current SELECAN

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bürkert
Fluid Control Systems

11mm width per station: Multi–way solenoid valve Types 6524 and 6525

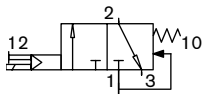
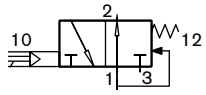
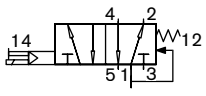


The solenoid valve Types 6524 and 6525 consist of a pneumatic valve body fitted with Type 6104 rocker pilot valve. The rocker principle allows switching of high pressures together with low power consumption and fast response times. The pilot valves are equipped with manual override as a standard.

Specification	
Body material	PA (polyamide)
Seal material	FKM, NBR and PUR
Media	Lubricated and non–lubricated dry air, neutral gases (5 µm–Filter)
Port connection	Flange for MP11
Pneumatic module	Type MP11 with M5, M7, push–in connection 1/4" OD, Ø 4 mm, Ø 6 mm
Manual override	As a standard feature
Voltage	24 V DC
Nominal power	1 W
Duty cycle	Continuous operation (100% ED)
Elec. connection on valve	Rectangular plug with raster 5.08 mm
Mounting	With 2 screws M2x20
Installation	As required, preferably with actuator upright

Flow rate: QNn value air [l/min]	Measured at 68°F (20°C), 87 PSI (6 bar) pressure at valve inlet and 14.5 PSI (1 bar) pressure difference
Pressure ranges [PSI]	Measured as overpressure to the atmospheric pressure
Response times [ms]	Measured according to ISO 12238

Ordering chart for valves

Circuit function	Orifice [mm]	C_v [GPM]	QNn value air [l/min]	Pressure range [PSI]	Response times Opening [ms]	Response times Closing [ms]	Voltage/ Frequency [V/Hz]	Item no.
Circuit function C  3/2–way valve, servo–assisted in de–energized position port 2 to atmosphere	4	.32	300	Vac.– 100	15	20	24 V DC	153 958 B
				14.5 – 100[1)]	15	20	24 V DC	150 333 H
				36 – 100	12	20	24 V DC	144 933 R
				36 – 145	15	28	24 V DC	148 227 H
Circuit function D  3/2–way valve, servo–assisted in de–energized position port 2 pressurized	4	.32	300	14.5 – 100[1)]	12	20	24 V DC	150 334 A
				36 – 100	12	20	24 V DC	144 934 J
				36 – 145	15	28	24 V DC	152 139 V
Circuit function H  5/2–way valve, servo–assisted in de–energised position port 1 connected to port 2, port 4 exhausted	4	.32	300	14.5 – 100[1)]	15	20	24 V DC	150 335 B
				36 – 100	15	20	24 V DC	144 935 K
				36 – 145	20	28	24 V DC	150 610 K

[1)] version with auxiliary air.

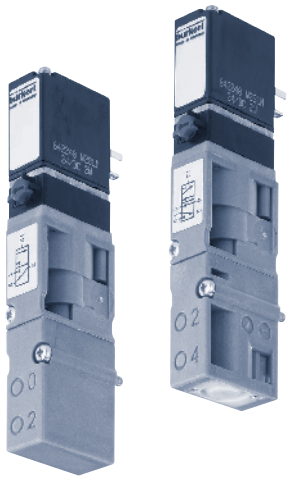
More valve options

When all the valve connections in a basic valve island module are not used, then these connections should be covered by the appropriate covering plate for full efficiency.

	Item no.
Covering plate for solenoid valve Type 6524/6525	650 373 W
Covering plate for solenoid valve Type 6526/6527	653 765 N

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11mm width per station: Multi–way for solenoid valve Types 6526 and 6527

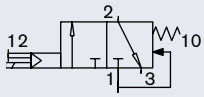
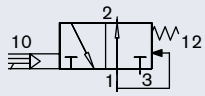
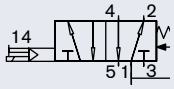


The solenoid valve Types 6526 and 6527 consist of a pneumatic valve body fitted with Type 6106 rocker pilot valve. The rocker principle allows switching of high pressures together with low power consumption and fast response times. The pilot valves are equipped with manual override as a standard.

Specification	
Body material	PA (polyamide)
Seal material	NBR
Media	Lubricated and non–lubricated dry air, neutral gases (10 µm filter)
Port connection	Flange for MP12
Pneumatic module	Type MP12 with NPT 1/8, G 1/8, push–in connection Ø 8 mm plug
Manual override	Standard
Voltage	24 V DC
Nominal power	2 W, 1W
Duty cycle	Continuous operation (100% ED)
Elec. Connection on valve	Tag connector acc. to DIN EN 175301–803 (previously DIN 43650) Form C
Mounting	With 2 screws M3 x 30
Installation	As required, preferably with actuator upright

Flow rate: QNn value air [l/min]	Measured at 68°F (20°C), 87 PSI (6 bar) pressure at valve inlet and 14.5 PSI (1 bar) pressure difference
Pressure ranges [PSI]	Measured as overpressure to the atmospheric pressure
Response times [ms]	Measured acc. to ISO 12238

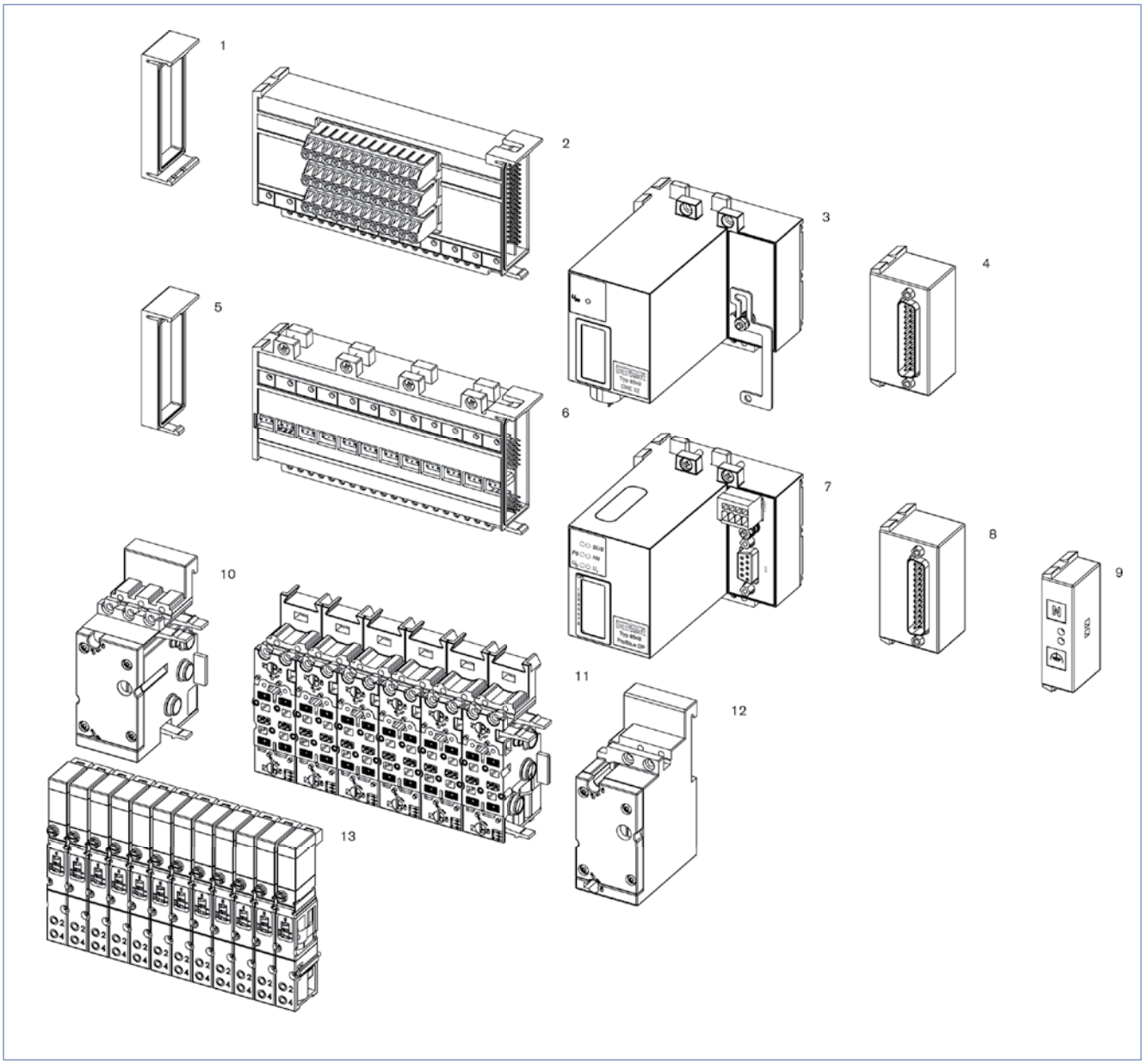
Ordering chart for valves

Circuit functions	Orifice [mm]	C_v [GPM]	QNn value air [l/min]	Pressure range [PSI]	Nominal power [W]	Response times Opening [ms]	Response times Closing [ms][3]	Voltage/ Frequency [V/Hz]	Item no.
C  3/2-way valve, servo-assisted in de-energized position port 2 to atmosphere	6	.73	700	14.5 – 145[1]	2	20	12	24 V DC	156 842 S
				14.5 – 145[1]	2	20	12	24 V DC	163 028 U[2]
				29 – 145	2	20	12	24 V DC	156 318 C
				29 – 145	2	20	12	24 V DC	158 944 A[2]
				29 – 116	1	20	17	24 V DC	156 840 C
				29 – 116	1	20	12	24 V DC	158 947 D[2]
D  3/2-way valve, servo-assisted in de-energized position port 2 pressurized	6	.73	700	14.5 – 145[1]	2	12	20	24 V DC	157 672 G
				14.5 – 145[1]	2	20	12	24 V DC	163 029 V[2]
				29 – 145	2	12	20	24 V DC	156 320 A
				29 – 145	2	20	12	24 V DC	158 946 C[2]
				29 – 116	1	17	20	24 V DC	156 841 Z
				29 – 116	1	20	12	24 V DC	158 948 N[2]
H  5/2-way valve, servo-assisted in de-energized position port 1 connected to port 2, port 4 exhausted	6	.73	700	14.5 – 145[1]	2	20	12	24 V DC	156 828 U
				14.5 – 145[1]	2	20	12	24 V DC	163 030 S[2]
				29 – 145	2	20	12	24 V DC	156 337 X
				29 – 145	2	20	12	24 V DC	158 942 G[2]
				29 – 116	1	20	17	24 V DC	156 827 K
				29 – 116	1	20	12	24 V DC	158 943 H[2]

[1] version with auxiliary air
[2] electric connection with manual override.
[3] closing time approx. 5 ms higher when used together with valve islands

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Valve island configuration



Basic module choice, for further modules see the following pages

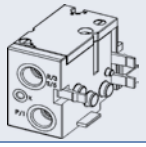
1. Electrical end module left
2. Terminal module for repeaters
3. Extension module for electrical inputs
4. Multipole repeater inputs (initiators)
5. Electrical end module left
6. Basic electrical module standard
7. Fieldbus module
8. Multipole valve outputs
9. Common connection module
10. Pneumatic connection module left, Type MP11
11. Basic pneumatic module, Type MP11 for 12 valves
12. Pneumatic connection module right, Type MP11
13. Valves of Type 6525 (5/2–way)

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Module description

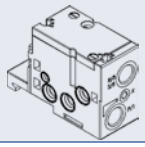
Pneumatic module Type MP11 and MP12, mounting dimensions 11 mm and 16.5 mm

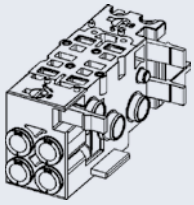
6524/6525 Mounting dimensions 11mm	6526/6527 Mounting dimensions 16.5mm



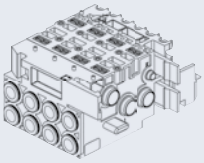
Left connector module	
G 1/4	G 3/8
NPT 1/4	NPT 3/8
Push–in Ø10 mm	–

	Right connector module
G 1/4	G 3/8
NPT 1/4	NPT 3/8
Push–in Ø10 mm	–



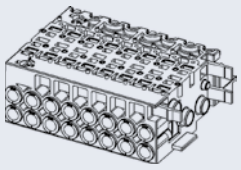


Basic module, 2 valves wide	
M5 and M7	G 1/8
Push–in Ø 6 mm	NPT 1/8
Ø 1/4”	Push-in Ø8 mm
–	Ø 5/16“
Ø 4	–
P shut-off optional	–
Check valve in R&S optional	Check valve in R&S optional



Basic module, 4 valves wide	
–	G 1/8
–	NPT 1/8
–	Push–in Ø 8 mm
–	Ø 5/16”
–	Check valve in R&S optional

	Basic module, 8 valves wide
M5 and M7	–
Push-in Ø 6 mm	–
Ø 1/4”	–
–	–
Ø 4	–
P shut-off option	–
Check valve in R&S optional	–



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Additional pneumatic accessories

MP11



Intermediate supply plate



Separate exhaust air plate

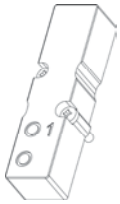


Bulkhead

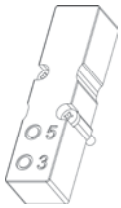


Covering plate

MP12



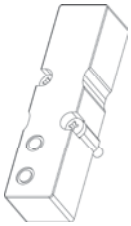
Intermediate supply plate



Separate exhaust air plate

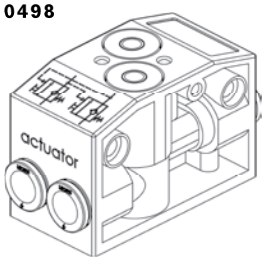


Bulkhead



Covering plate

Type 0498



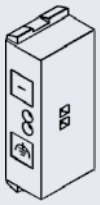
Pilot controlled check valve

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Modules description

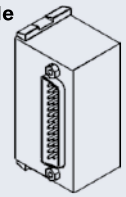
Common connection and multipole modules
for individual connection of valves and repeaters

6524/6525 Mounting dimension 11mm	6526/6527 Mounting dimension 16.5mm

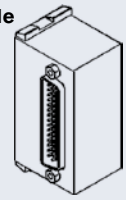


Connection via individual stranded wires
Looped-through ground potential
Max. 24 valves
IP20 degree of protection
Screw terminal

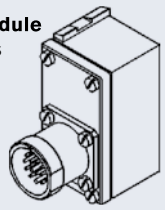
Multipole module
Valve outputs



Multipole module
Repeater inputs
(initiators)

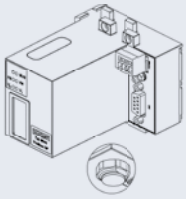


Multipole module
Valve outputs



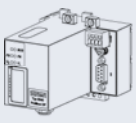
Fieldbus modules

6524/6525 Mounting dimension 11mm	6526/6527 Mounting dimension 16.5mm

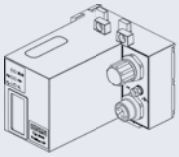


Fieldbus PROFIBUS-DP, IP20 degree of protection
Max. 24 valves
Max. 32 repeaters (in connection with EME module)
Transmission rates 9.6; 19.2; 93.75; 187.5; 500 kBaud; 1.5; 3; 6; 12 MBaud
Electrical connection with rectangular plug (4-pole)
Bus connection D-SUB (9-pole)
Option with RIO-connection M8 (4-pole)

Internal bus extension RIO-VA module, IP20 degree of protection
Max. 24 valves
Max. 32 repeaters (in connection with EME module)
Plug







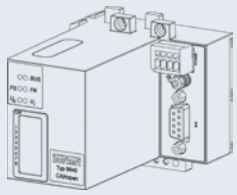
Fieldbus PROFIBUS-DP IP65 degree of protection
Max. 24 valves
Max. 32 repeaters (in connection with EME module)
Transmission rates 9.6; 19.2; 93.75; 187.5; 500 kBaud; 1.5; 3; 6; 12 MBaud
Electrical connection with M12 circular plug (4-pole)
Bus connection M12 (5-pole)

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Module description

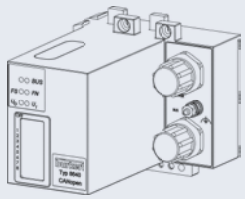
Fieldbus modules

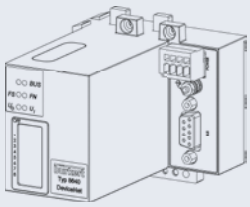
6524/6525 Mounting dimension 11mm	6526/6527 Mounting dimension 16.5mm



Fieldbus CANopen, IP20 degree of protection
Max. 24 valves,
Max. 32 repeaters (in connection with EME module)
Transmission rates 20, 125, 250 or 500 kBaud
Electrical connection with rectangular plug (4-pole)
Bus connection D-SUB (9-pole)

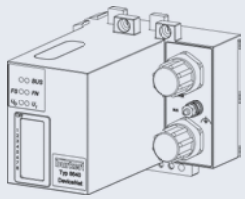
Fieldbus CANopen, IP65 degree of protection
Max. 24 valves
Max. 32 repeaters (in connection with EME module)
Transmission rates 20, 125, 250 or 500 kBaud
Electrical connection with M12 circular plug (4-pole)
Bus connection M12 (5-pole)

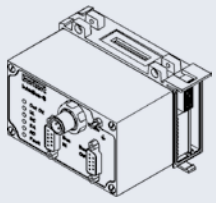




Fieldbus Device Net, IP20 degree of protection
Max. 24 valves
Max. 32 repeaters (in connection with EME module)
Transmission rates 125, 250 or 500 kBaud
Electrical connection with rectangular plug (4-pole)
Bus connection D-Sub (9-pole)

Fieldbus Device Net, IP65 degree of protection
Max. 24 valve
Max. 32 repeaters (in connection with EME module)
Transmission rates 125, 250 or 500 kBaud
Electrical connection with M12 circular plug (4-pole)
Bus connection M12 (5-pole)





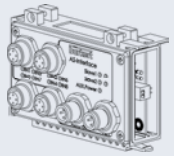
Fieldbus InterBus S, IP65 degree of protection
Max. 24 valves
Max. 32 repeaters (in connection with EME module)
Transmission rates 500 kBaud
Electrical connection with M12 circular plug (4-pole)
Bus connection 2 x D-SUB (9-pole plug & sleeve)

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Module description

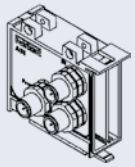
Fieldbus modules

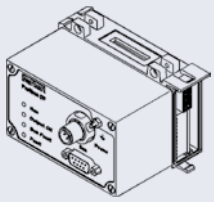
6524/6525 Mounting dimension 11mm	6526/6527 Mounting dimension 16.5mm



Fieldbus AS Interface 8IN/8OUT, IP65 degree of protection
Max. 4 (see drawing) or 8 valves and 8 repeaters
5 ms cycle time (determined by control)
Electrical connection with M12 circular plug (4-pole)
Bus connection with M12 circular plug (4-pole)

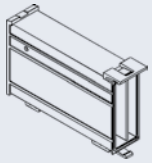
Fieldbus AS Interface 4IN/4OUT, IP65 degree of protection
Max. 4 (see drawing) or 8 valves and 8 repeaters
5 ms cycle time (determined by control)
Electrical connection with M12 circular plug (4-pole)
Bus connection with M12 circular plug (4-pole)

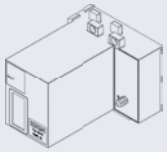




Fieldbus SELECAN, IP65 degree of protection
Max. 24 valves
Max. 32 repeaters (in connection with EME module)
Transmission rates 20, 100, 500 or 1000 kBaud
Electrical connection with M12 circular plug (4-pole)
Bus connection D-SUB (9-pole plug & sleeve)

EME module (extension module inputs, old version), IP65 degree of protection
Module for connection of repeater inputs in connection with fieldbus modules

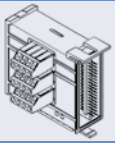




EME module (extension module inputs, new version), IP65 degree of protection
Module for connection of repeater inputs in connection with fieldbus modules

Modules with connection points for repeaters

6524/6525 Mounting dimension 11mm	6526/6527 Mounting dimension 16.5mm



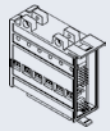
Module with plugged connection for repeaters/initiators	
6, 12 or 24 input	8 or 16 input
IP20 degree of protection	IP20 degree of protection
Pluggable screw terminals	Pluggable screw terminals

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Module description

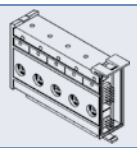
Modules with integrated cable plug for the electrical connection of the valves

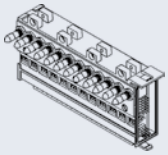
6524/6525 Mounting dimension 11mm	6526/6527 Mounting dimension 16.5mm



Basic electric module, standard version	
6, 9 or 12 valve stations	4, 6 or 8 valve stations
IP20 degree of protection	IP20 degree of protection

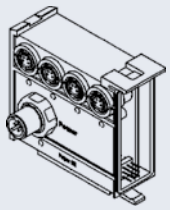
Basic electrical module, Common connection	
6 or 12 valve stations	4 or 8 valve stations
IP20 degree of protection	IP20 degree of protection
Wire connection via screw terminals	Wire connection via screw terminals





Basic electrical module with manual-automatic switchover	
6 or 12 valve stations	–
IP20 degree of protection	–
Version with 3-stage safety ratchet switch	–

Module with 4 free outputs
Operating voltage 24 V DC
Max. electrical performance 12 W per output
Electrical connection ▪ M12 circular plug for power supply ▪ M8 circular plug for power supply
IP65 degree of protection

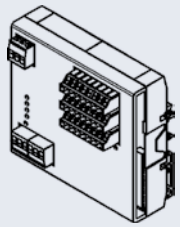


Digital I/O-Module

for extension of a valve island by freely assignable inputs and/or outputs

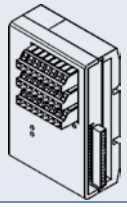
Maximum of 48 digital connections; precondition is that a REMOTE I/O interface is present in the valve island; supply voltage 24 VDC, power consumption max. 5 W, current consumption 10 mA per input, current sum of all outputs max. 10 A, power per output max. 12 W, signal level LOW = 0 to 4.5 V; HIGH = 13 to 28 V.

6524/6525 Mounting dimension 11mm	6526/6527 Mounting dimension 16.5mm



I/O basic digital module
With fieldbus connection (internal bus)
8 digital connections
DIP switch for setting up the 8 digital connections of the basic module as inputs or outputs
Terminal connection
IP20 degree of protection

I/O expanding digital module
Basic module possible
DIP switch for setting up the 8 digital connections of the basic module as inputs or outputs
Terminal connection
IP20 degree of protection



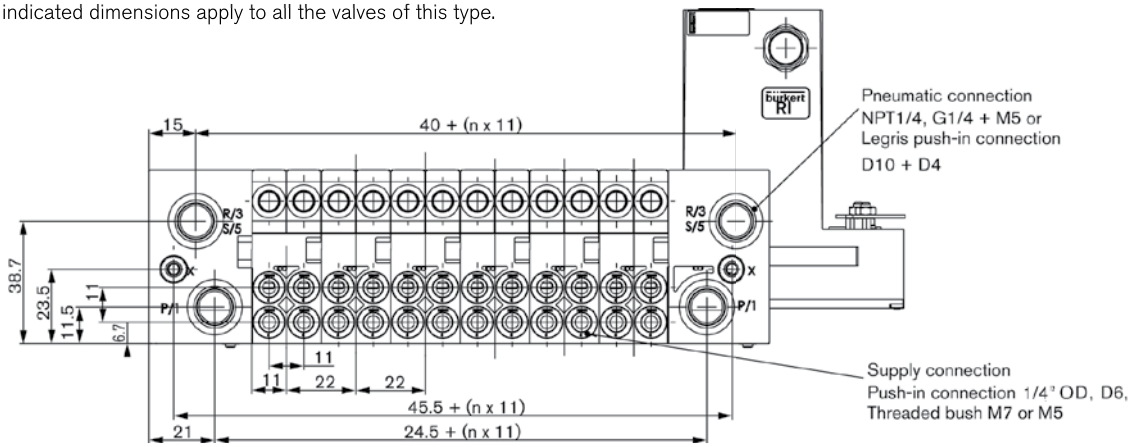
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Dimensions [mm]

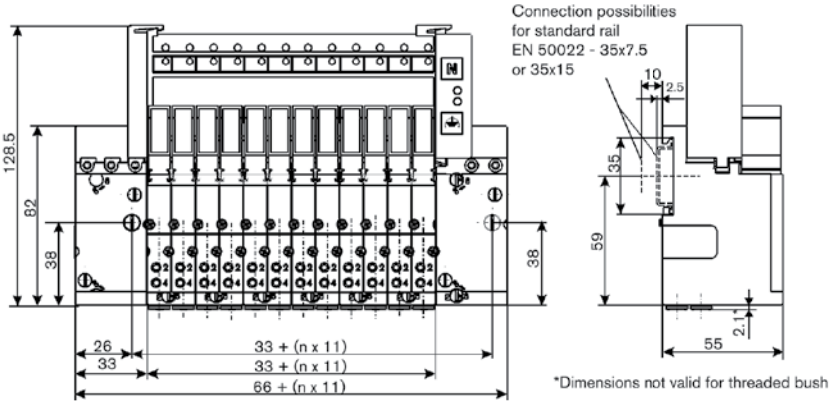
11 mm mounting dimensions for Type 6524/6525

Underside view of valve island with Profibus and RIO-Interface

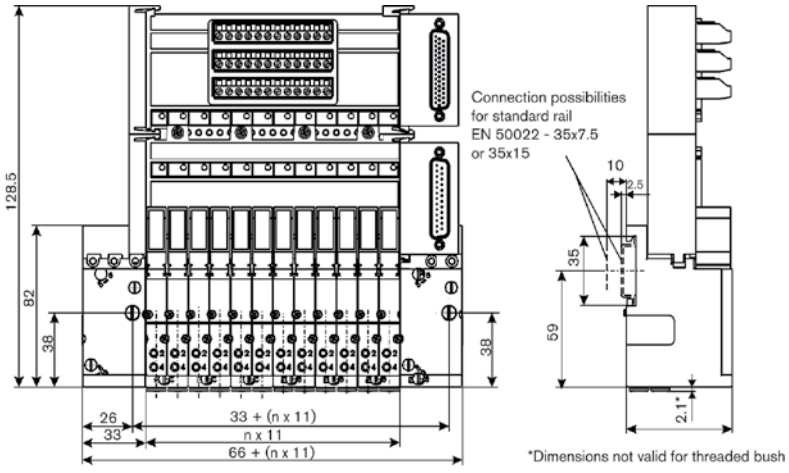
Supply and service ports are found on the bottom of the valve island in all versions;
the indicated dimensions apply to all the valves of this type.



Example of a valve island with common connection



Example of a valve island with repeaters and multipole connection

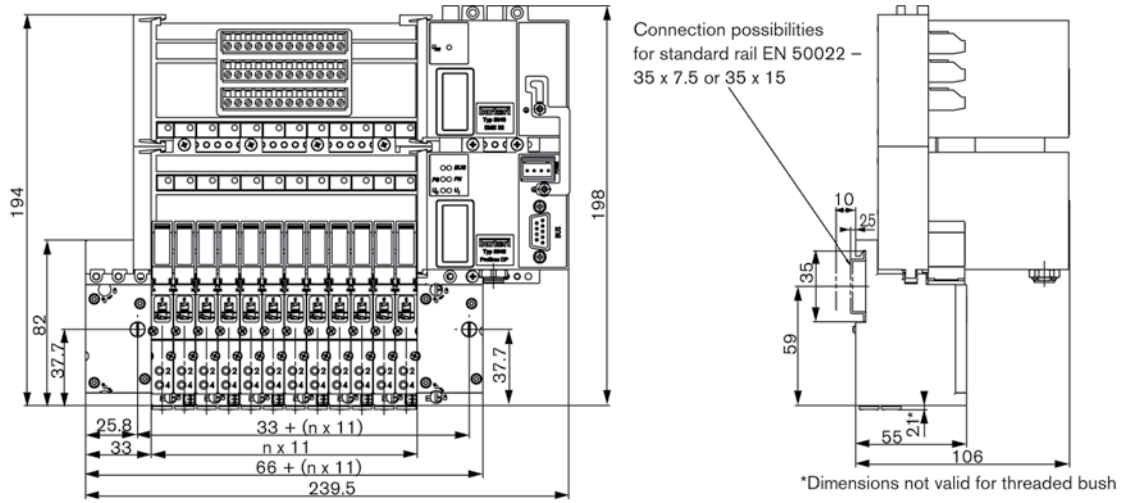


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Dimensions [mm]

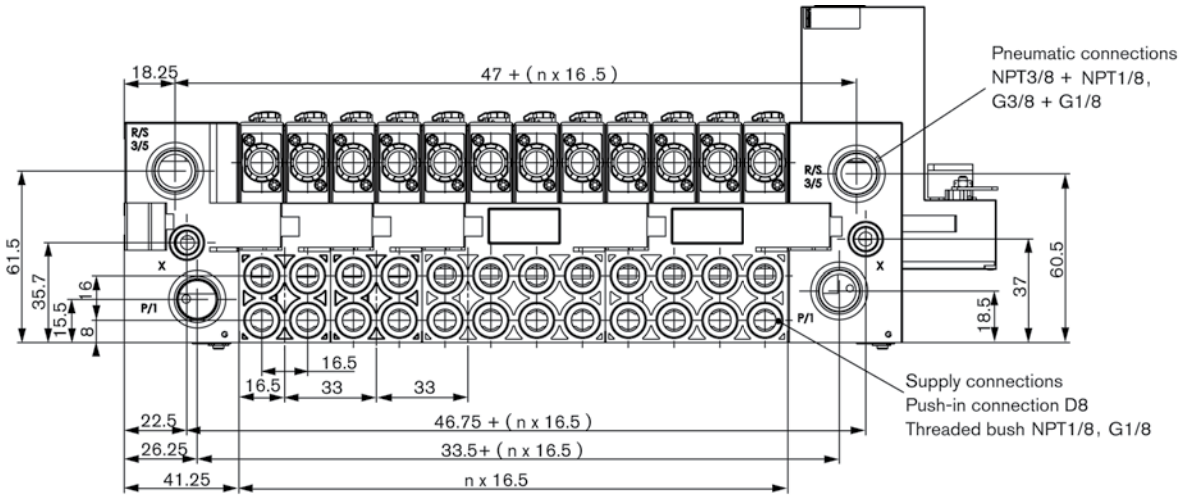
11mm mounting dimensions for Type 6524/6525, *cont.*

Example of valve island with feedback and Profibus DP



16.5mm mounting dimensions for Type 6526/6527

Example of valve island with Profibus and RIO-Interface

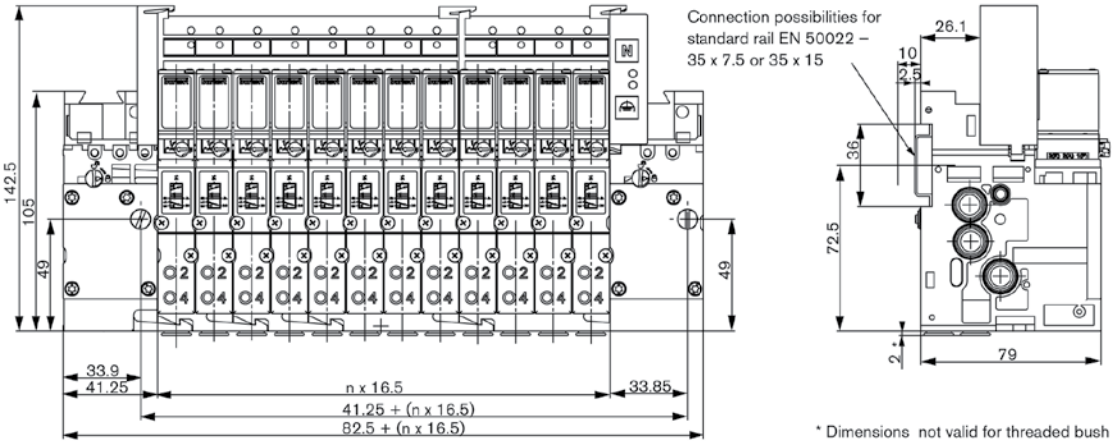


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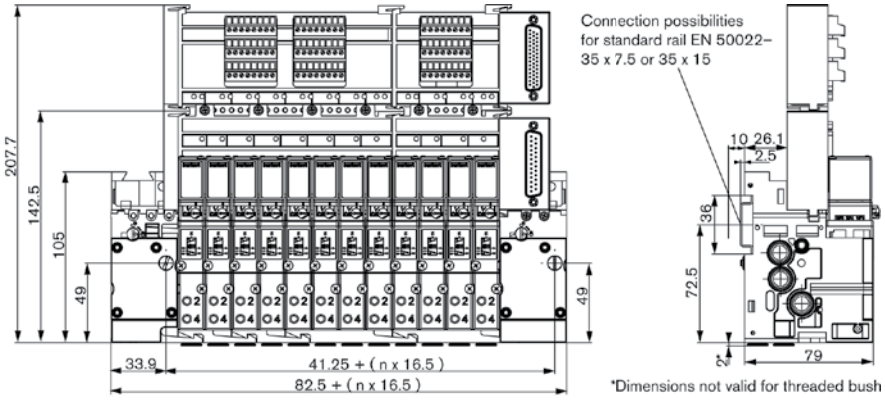
Dimensions [mm]

16.5mm mounting dimensions for Type 6526/6527, *cont.*

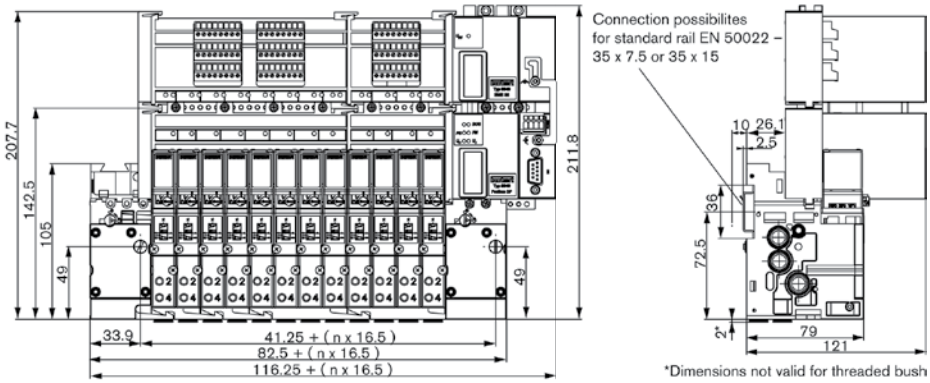
Example of a valve island with common connection



Example of a valve island with repeaters and multipole connection



Example of valve island with feedback and Profibus

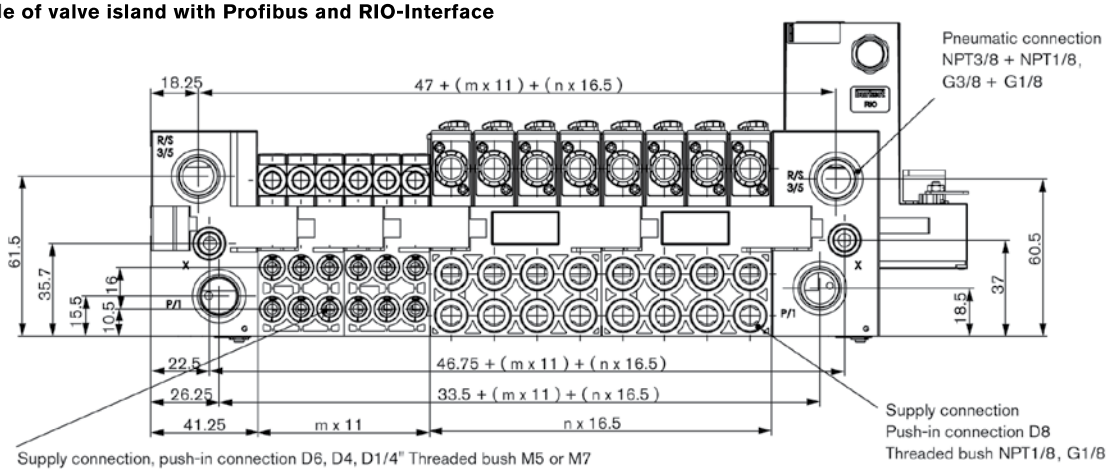


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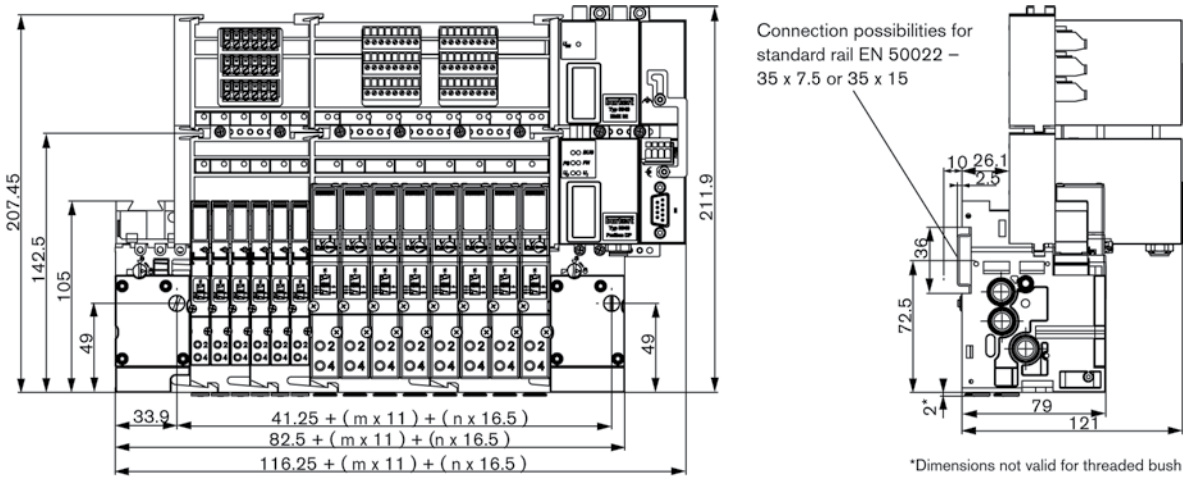
Dimensions [mm]

11mm mounting dimensions combination for Type 6524/6525 and 16.5mm for Type 6526/6527

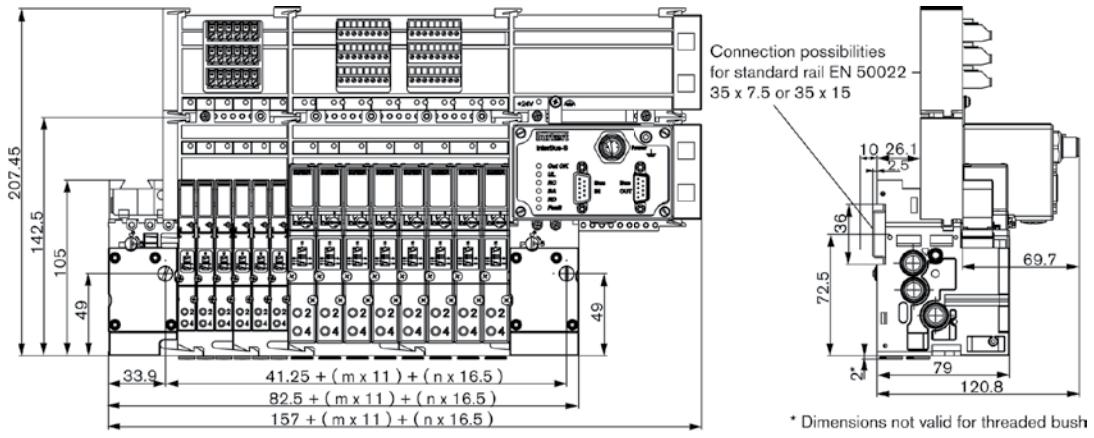
Example of valve island with Profibus and RIO-Interface



Example of valve island with feedback and Profibus DP

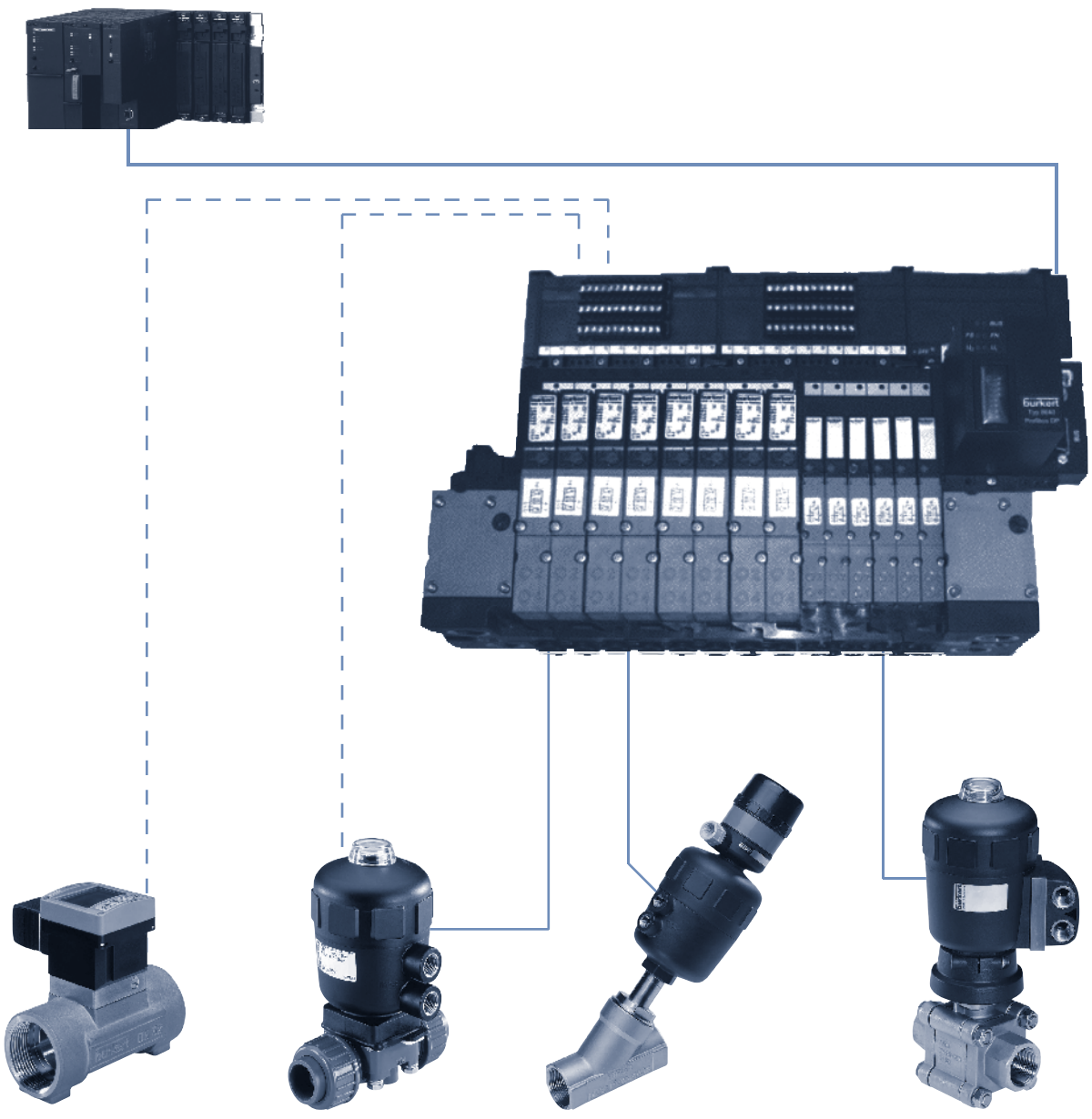


Example of valve island with feedback and Interbus



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Application example



Function

- Pneumatically controlled process valve
- Electric feedback signal
- Fieldbus communication or parallel wiring

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