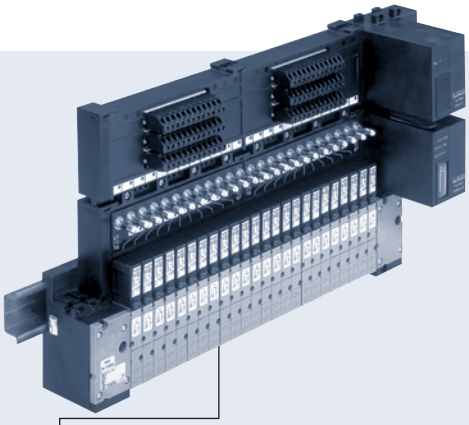
Modular pneumatic valve unit

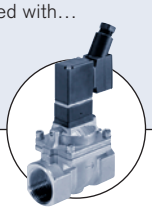


- Compact design
- Modular configuration
- High flexibility
- Simple exchange of valves (with option “P-shut-off”- also possible during operation)

Type 8640 can be combined with…



Type 8032
Switch



Type 6212
Solenoid valve



Type 2012
Process valve



Type 1062
Position feedback



Type 0498
Double pilot controlled check valve

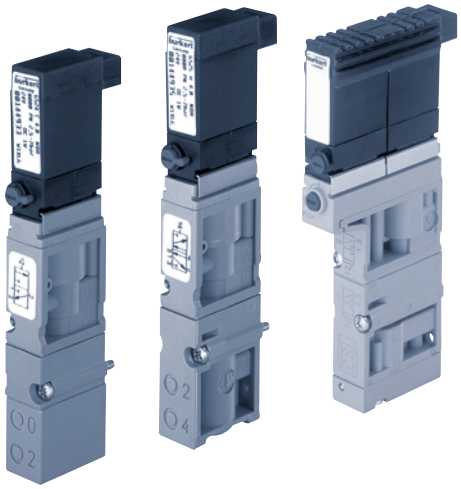
The 8640 valve unit system is designed to solve diverse and complex control problems due to its systematic modular construction and combination of pneumatic and electrical interfaces. By putting together a row of pneumatic modules with different numbers of valves, 2 to 24 valve functionalities may be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

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	-10 to +55°C	-10 to +55°C
Storage temperature	-20 to +60°C	-20 to +60°C
Pressure range	Vac. - 10 bar	Vac. - 10 bar
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	Continuous operation (100% ED)	Continuous operation (100% ED)
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 functionalities per unit	2–24	2–24
Pneumatic module	Type MP11, 2- and 8-valves	Type MP12, 2-, 3- and 4-valves
Electric module	6-, 9- and 12-valves	4-, 8- and 16-valves
Feedback	Max. 32	Max. 32
Degree of protection	IP 20 with terminals	IP 20 with terminals IP 54 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	

bürkert
Fluid Control Systems

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

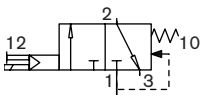
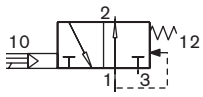
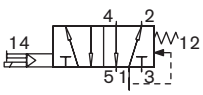
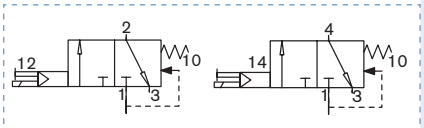


Specification	3/2-way valve	2 x 3/2-way valve
Body material	PA (polyamide)	
Seal material	FPM, NBR	
Media	Lubricated and non-lubricated dry air, neutral gases (5 µm-Filter)	
Port connection	Flange for MP11	
Manual override	As a standard feature	
Voltage	24 V DC	
Nominal power	1 W	2 x 1 W with reduction of power consumption
Duty cycle	Continuous operation (100% ED)	
Elec. connection on valve	Rectangular plug 2-pole with raster 5.08 mm	Rectangular plug 3-pole with raster 2.54 mm
Mounting	With 2 screws M2 x 20	With 2 screws M2 x 28
Installation position	As required, preferably with pilot valve upright	

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

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 pressure at low power consumption and fast response times. The pilot valves are equipped with manual override as a standard.
The 2 x 3/2-way valve version is the combination of two pilot rocker solenoid valves type 6104 and a pneumatic seat valve.

Order chart for valves

Circuit function	Orifice [mm]	QNn value air [l/min]	Pressure range [bar]	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	300	Vac.-7	15	20	24 V DC	153 958
			1-7 [1]	15	20	24 V DC	150 333
			2.5-7	12	20	24 V DC	144 933
			2.5-10	15	28	24 V DC	148 227
Circuit function D  3/2-way valve, servo-assisted in de-energized position port 2 pressurized	4	300	1.0-7 [1]	12	20	24 V DC	150 334
			2.5-7	12	20	24 V DC	144 934
			2.5-10	15	28	24 V DC	152 139
Circuit function H  5/2-way valve, servo-assisted in de-energised position port 1 connected to port 2, port 4 exhausted	4	300	1.0-7 [1]	15	20	24 V DC	150 335
			2.5-7	15	20	24 V DC	144 935
			2.5-10	20	28	24 V DC	150 610
Circuit function C  2 x 3/2-way valve, servo-assisted in de-energized position port 2/4 to atmosphere	4	300	1.0-7 [1]	12	20	24 V DC	170 269 [2]
			2.5-7	12	20	24 V DC	170 268 [2]

[1] Version with auxiliary air.
[2] Version with integrated reduction of power consumption

16.5mm width per station: Multi-way for solenoid valve Types 6526 and 6527

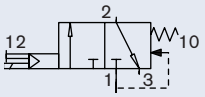
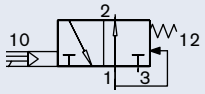
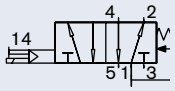


The solenoid valve Types 6526 and 6527 consist of a pneumatic valve body fitted with Type 6106 rocker pilot valve. The rocker principle allows switching of high pressure at low power consumption and fast response times. The pilot valves are equipped with manual override as a standard.

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
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 M3x30
Installation position	As required, preferably with pilot valve upright

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

Order chart for valves

Circuit functions	Orifice [mm]	QNn value air [l/min]	Pressure range [bar]	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	700	1.0 - 10[1]	2	20	12	24 V DC	156 842
			1.0 - 10[1]	2	20	12	24 V DC	163 028[2]
			2.0 - 10	2	20	12	24 V DC	156 318
			2.0 - 10	2	20	12	24 V DC	158 944[2]
			2.0 - 8.0	1	20	17	24 V DC	156 840
			2.0 - 8.0	1	20	12	24 V DC	158 947[2]
D  3/2-way valve, servo-assisted in de-energized position port 2 pressurized	6	700	1.0 - 10[1]	2	12	20	24 V DC	157 672
			1.0 - 10[1]	2	20	12	24 V DC	163 029[2]
			2.0 - 10	2	12	20	24 V DC	156 320
			2.0 - 10	2	20	12	24 V DC	158 946[2]
			2.0 - 8.0	1	17	20	24 V DC	156 841
			2.0 - 8.0	1	20	12	24 V DC	158 948[2]
H  5/2-way valve, servo-assisted in de-energized position port 1 connected to port 2, port 4 exhausted	6	700	1.0 - 10[1]	2	20	12	24 V DC	156 828
			1.0 - 10[1]	2	20	12	24 V DC	163 030[2]
			2.0 - 10	2	20	12	24 V DC	156 337
			2.0 - 10	2	20	12	24 V DC	158 942[2]
			2.0 - 8.0	1	20	17	24 V DC	156 827
			2.0 - 8.0	1	20	12	24 V DC	158 943[2]

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

More valve options

Covering plates

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

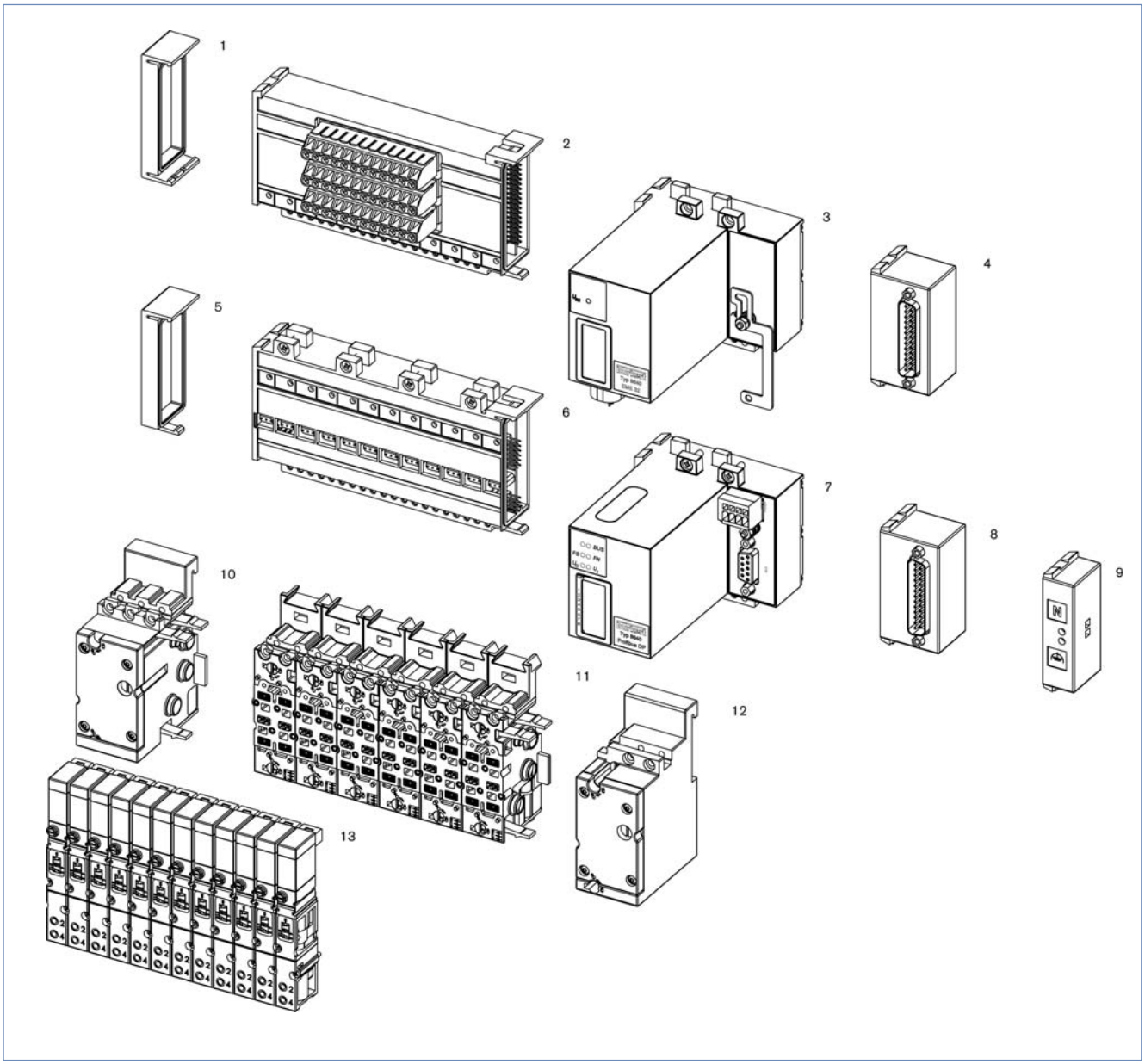
Covering plates	Item no.
Covering plate for solenoid valve Type 6524/6525	650 373
Covering plate for solenoid valve Type 6524 2 x 3/2-way valve	661 092
Covering plate for solenoid valve Type 6526/6527	653 765

Exhaust plates

An exhaust plate is mounted on the pneumatic module of the valve unit and offers an additional possibility to remove compressed air from the system.

Exhaust plates	Item no.
Exhaust air plate complete Type 6524/6525	655 166
Exhaust air plate complete Type 6526/6527	653 697

Valve unit configuration

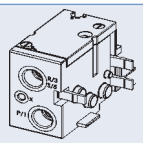
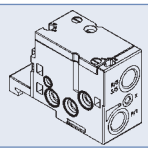
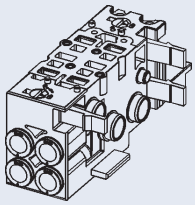
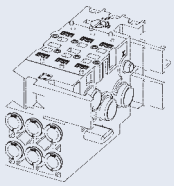
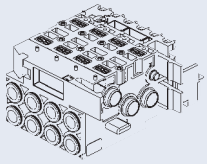
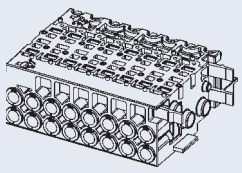


Basic module choice, for further modules see the following pages

1. Electrical end module left
2. Terminal module for electronic inputs
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 modules, Type MP11 for 12 valves
12. Pneumatic connection module right, Type MP11
13. Valves of Type 6525 (5/2-way)

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
Push-in Ø 1/4"	Push-in Ø8 mm
Push-in Ø 5/32" / Ø 4 mm	Push-in Ø 5/16"
P shut-off option	–
Check valve in R&S optional	Check valve in R&S optional
Basic module, 2 valves wide with 2 x 3/2-way valve	
M5 and M7	–
Push-in Ø 6 mm	–
Push-in Ø 1/4"	–
Push-in Ø 5/32" / Ø 4 mm	–
Check valve in R&S optional	–
Basic module, 3 valves wide	
for mounting 11 mm valve (used when 11 mm valves are combined with 16,5 mm valves on one valve island)	
–	M5 and M7
–	Push-in Ø 6 mm
–	Push-in Ø 1/4"
–	Push-in Ø 5/32" / Ø 4 mm
	
Basic module, 4 valves wide	
–	G 1/8
–	NPT 1/8
–	Push-in Ø 8 mm
–	Push-in Ø 5/16"
–	Check valve in R&S optional
Basic module, 8 valves wide	
M5 and M7	–
Push-in Ø 6 mm	–
Push-in Ø 1/4"	–
Push-in Ø 5/32" / Ø 4	–
P shut-off option	–
Check valve in R&S optional	–
Basic module, 8 valves wide with 2 x 3/2-way valve	
M5 and M7	–
Push-in Ø 6 mm	–
Push-in Ø 1/4"	–
Push-in Ø 5/32" / Ø 4	–
Check valve in R&S optional	–

Additional pneumatic accessories

MP11



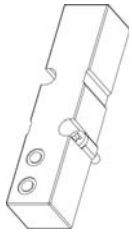
Intermediate supply plate



Separate exhaust plate

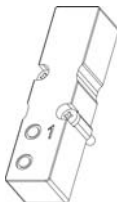


Bulkhead

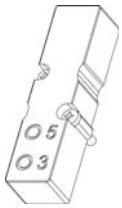


Covering plate

MP12



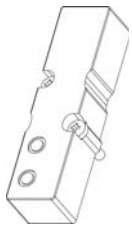
Intermediate supply plate



Separate exhaust plate



Bulkhead



Covering plate

Type 0498

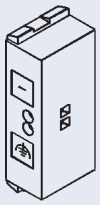


Double pilot controlled check valve

Modules description

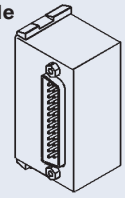
Common connection and multipole modules
for individual connection of valves and repeaters

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

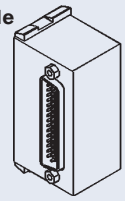


Connection via individual stranded wires
Looped-through ground potential
Max. 24 valves
IP20 degree of protection
Screw terminal

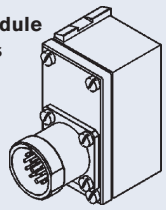
Multipole module
Valve outputs



Multipole module
Repeater inputs
(initiators)

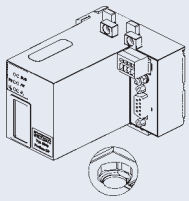


Multipole module
Valve outputs



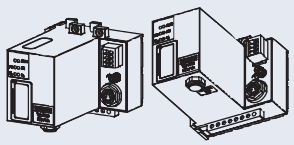
Fieldbus modules

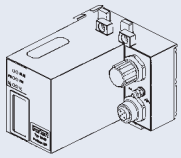
6524/6525 Mounting dimension 11mm	6526/6527 Mounting dimension 16.5mm



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
Power supply with rectangular plug (4-pole male)
Bus connection D-SUB (9-pole female)
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



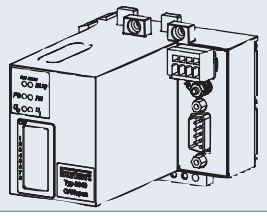


Fieldbus PROFIBUS-DP IP65 degree of protection
on connection with the basic electrical module the complete system meets the degree of protection IP54
Max. 24 valves
Max. 32 repeaters (in connection with EME module)
Transmission rates 9.6; 19.2; 93.75; 187.5; 500 kBaud; 1.5; 3; 6; 12 MBaud
Power supply with M12 circular plug (4-pole male)
Bus connection M12 (5-pole female)
For a trouble-free assembly use the following Y-piece (Item No 902098)

Module description

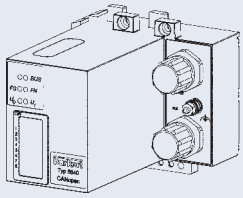
Fieldbus modules

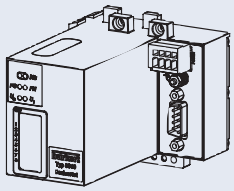
6524/6525 Mounting dimension 11mm	6526/6527 Mounting dimension 16.5mm



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
Power supply with rectangular plug (4-pole)
Bus connection D-SUB (9-pole male)

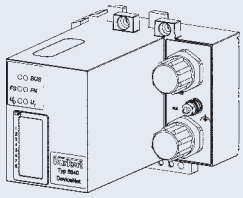
Fieldbus CANopen, IP65 degree of protection
on connection with the basic electrical module the complete system meets the degree of protection IP54
Max. 24 valves
Max. 32 repeaters (in connection with EME module)
Transmission rates 20, 125, 250 or 500 kBaud
Power supply with M12 circular plug (4-pole male)
Bus connection M12 (5-pole male)
For a trouble-free assembly use the following Y-piece (Item No 788643)

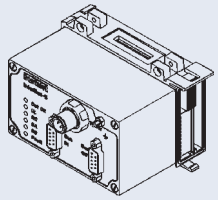




Fieldbus Device Net, IP20 degree of protection
Max. 24 valves
Max. 32 repeaters (in connection with EME module)
Transmission rates 125, 250 or 500 kBaud
Power supply with rectangular plug (4-pole)
Bus connection D-Sub (9-pole male)

Fieldbus Device Net, IP65 degree of protection
on connection with the basic electrical module the complete system meets the degree of protection IP54
Max. 24 valve
Max. 32 repeaters (in connection with EME module)
Transmission rates 125, 250 or 500 kBaud
Power supply with M12 circular plug (4-pole male)
Bus connection M12 (5-pole male)
For a trouble-free assembly use the following Y-piece (Item No 788643)



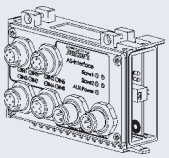


Fieldbus InterBus S, IP65 degree of protection
on connection with the basic electrical module the complete system meets the degree of protection IP54
Max. 24 valves
Max. 32 repeaters (in connection with EME module)
Transmission rates 500 kBaud
Power supply with M12 circular plug (4-pole)
Bus connection 2 x D-SUB (9-pole plug & sleeve)

Module description

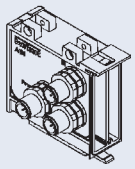
Fieldbus modules

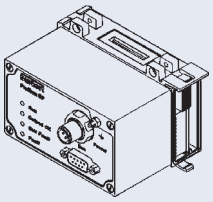
6524/6525 Mounting dimension 11mm	6526/6527 Mounting dimension 16.5mm



Fieldbus AS Interface 8IN/8OUT, IP65 degree of protection	
on connection with the basic electrical module the complete system meets the degree of protection IP54	
Max. 4 (see drawing) or 8 valves and 8 repeaters	
5 ms cycle time (determined by control)	
Power supply with M12 circular plug (4-pole)	
Bus connection with M12 circular plug (4-pole)	

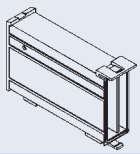
Fieldbus AS Interface 4IN/4OUT, IP65 degree of protection	
on connection with the basic electrical module the complete system meets the degree of protection IP54	
Max. 4 (see drawing) or 8 valves and 8 repeaters	
5 ms cycle time (determined by control)	
Power supply with M12 circular plug (4-pole)	
Bus connection with M12 circular plug (4-pole)	

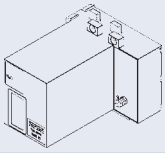




Fieldbus SELECAN, IP65 degree of protection	
on connection with the basic electrical module the complete system meets the degree of protection IP54	
Max. 24 valves	
Max. 32 repeaters (in connection with EME module)	
Transmission rates 20, 100, 500 or 1000 kBaud	
Power supply with M12 circular plug (4-pole)	
Bus connection D-SUB (9-pole plug & sleeve)	

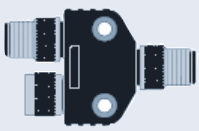
EME module (extension module inputs, old version), IP65 degree of protection
Module for connection of repeater inputs in connection with fieldbus modules





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

Further electrical accessories



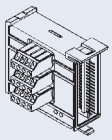
Bus Y-piece for PROFIBUS
you must use at least one preconverted

Bus Y-piece for CANopen and DeviceNet



Modules with connection points for repeaters

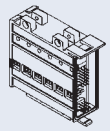
6524/6525 Mounting dimension 11mm	6526/6527 Mounting dimension 16.5mm

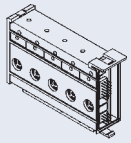


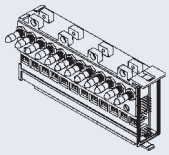
Module with plugged connection for repeaters/initiators	
6, 12 or 24 input	8 or 16 input
IP20 degree of protection	IP20 degree of protection
Pluggable screw terminals	Pluggable screw terminals

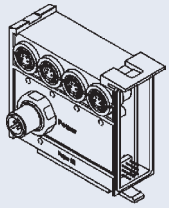
Module description

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 electric module with 2 x 3/2-way valve, standard version	
6 or 12 valve stations	–
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
Electrical module with 2 x 3/2-way valve, common connection	
6 or 12 valve stations	–
IP20 degree of protection	–

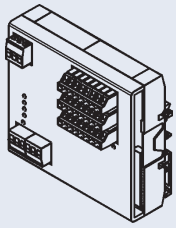
	
Basic electrical module with manual-automatic switchover	
6 or 12 valve stations	–
IP20 degree of protection	–
Version with 3-stage safety ratchet switch	–

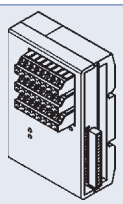
Module with 4 free outputs	
Operating voltage 24 V DC	
Max. electrical performance 12 W per output	
Electrical connection ▪ M12 circular plug for power supply ▪ M8 circular plug for power supply	
IP54 degree of protection	

Digital I/O-Module

for extension of a valve unit with freely assignable inputs and/or outputs

Maximum of 48 digital connections; precondition is that a REMOTE I/O interface is present in the valve unit; 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	

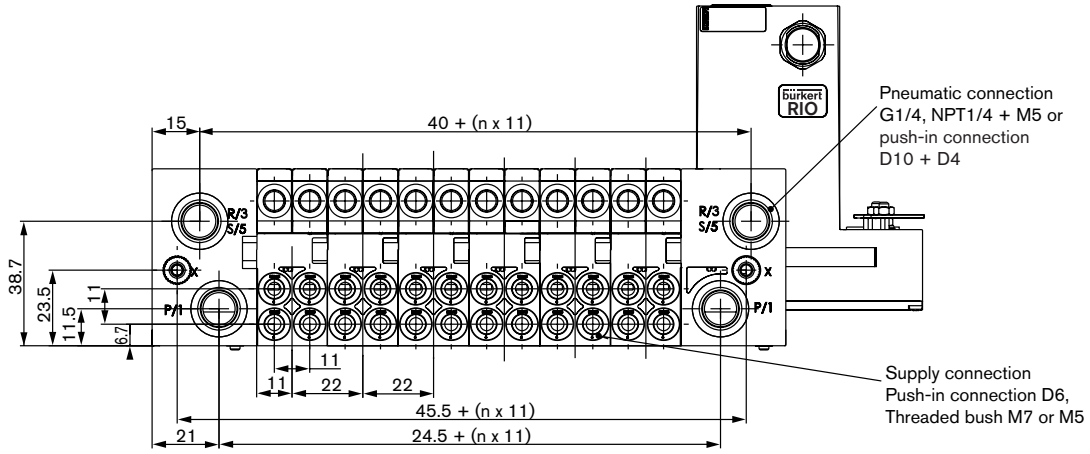
I/O expanding digital module	
Basic module required	
DIP switch for setting up the 8 digital connections of the basic module as inputs or outputs	
Terminal connection	
IP20 degree of protection	

Dimensions [mm]

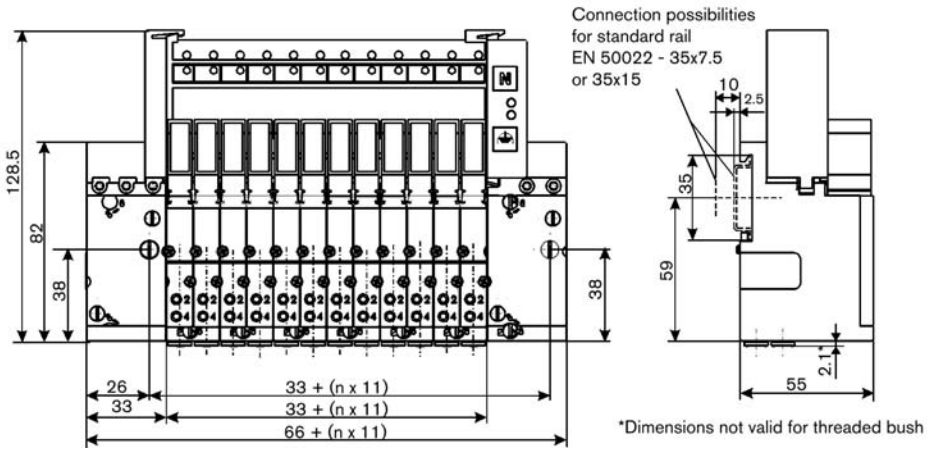
11 mm mounting dimensions for Type 6524/6525

Underside view of valve unit with Profibus and RIO-Interface

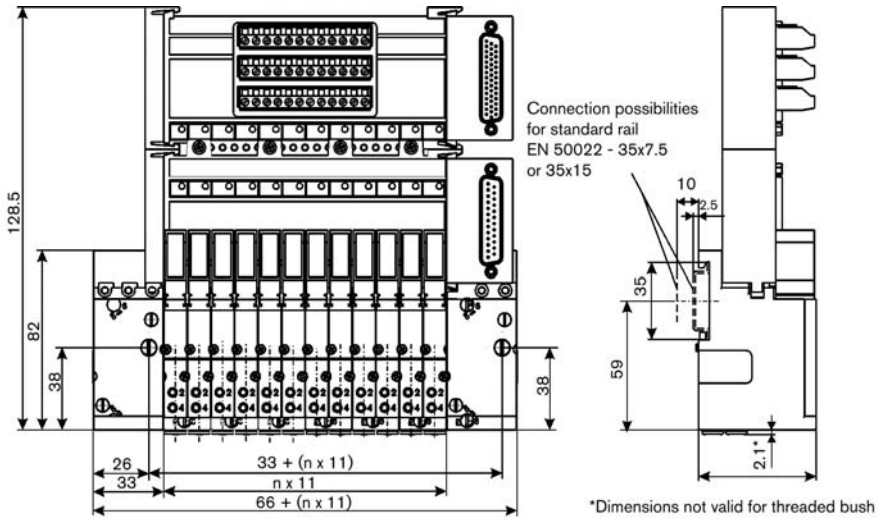
Supply and service ports are found on the bottom of the valve unit in all versions;
the indicated dimensions apply to all the valves of this type.



Example of a valve unit with common connection



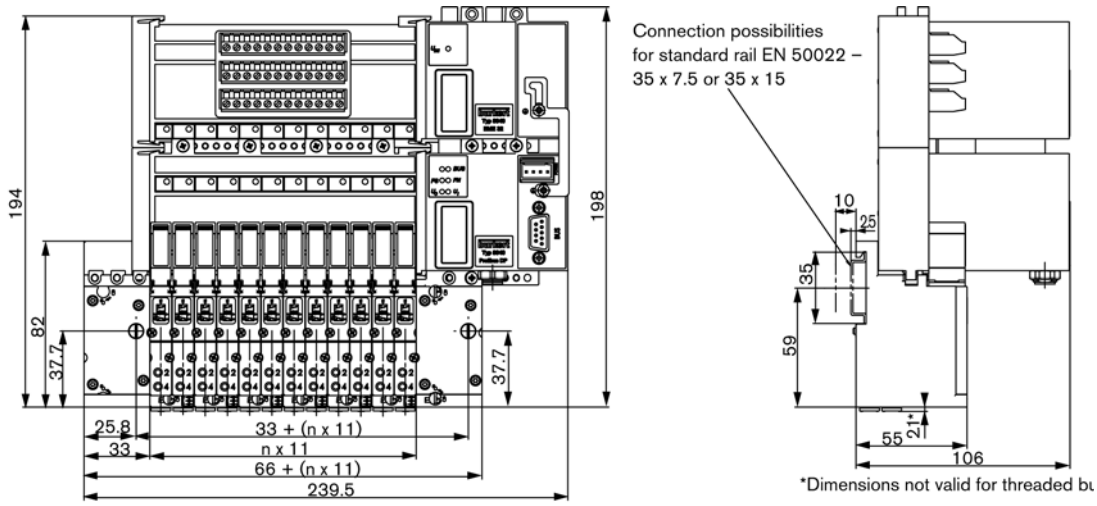
Example of a valve unit with repeaters and multipole connection



Dimensions [mm]

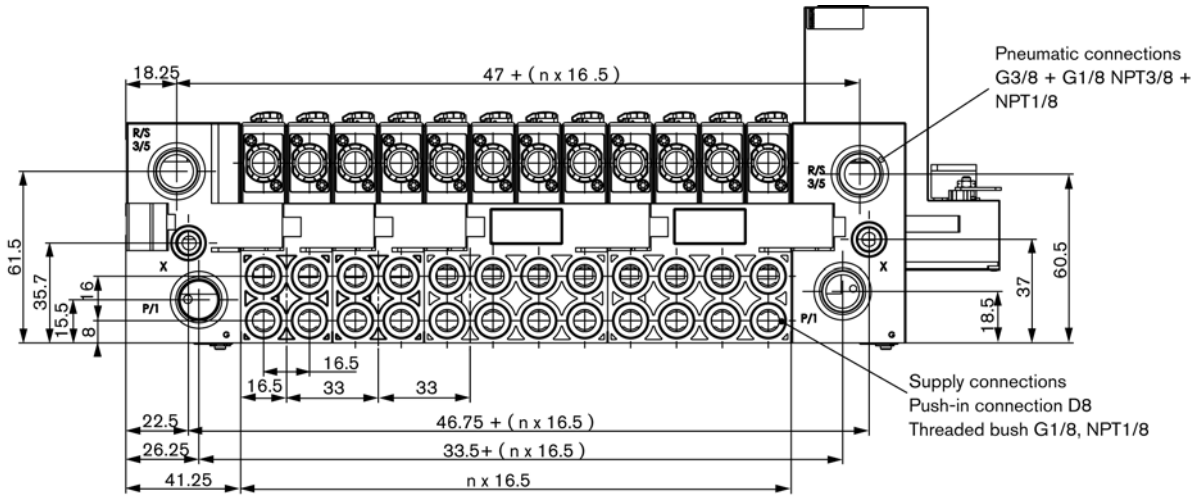
11mm mounting dimensions for Type 6524/6525, *cont.*

Example of valve unit with feedback, Profibus DP and RIO-Interface



16.5mm mounting dimensions for Type 6526/6527

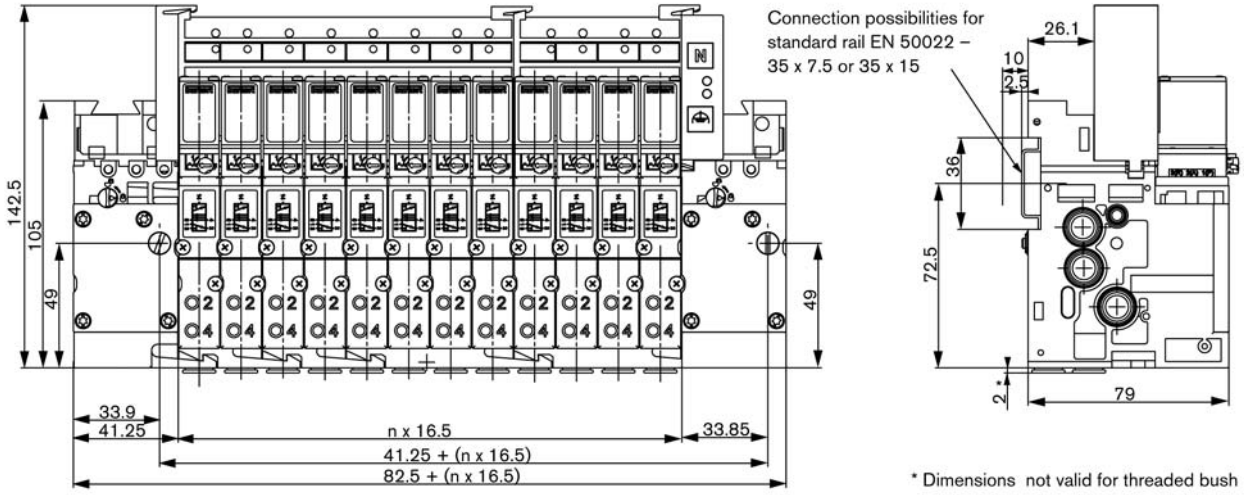
Underside view of valve unit with Profibus



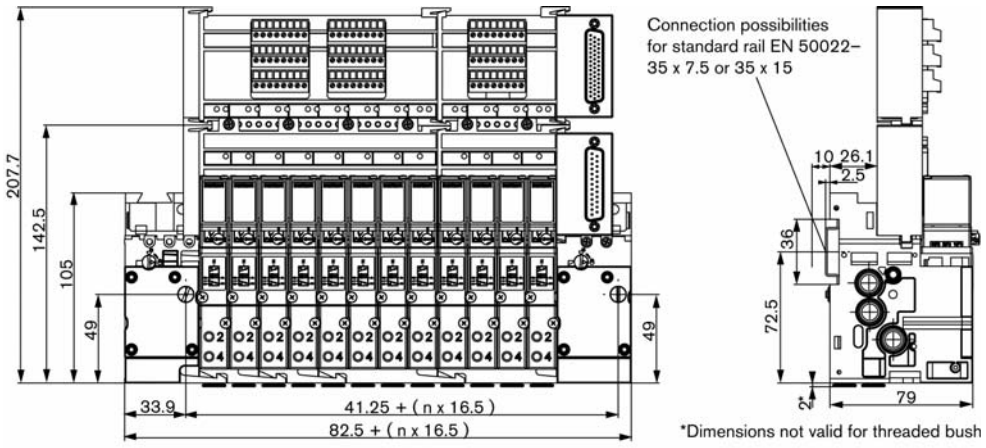
Dimensions [mm]

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

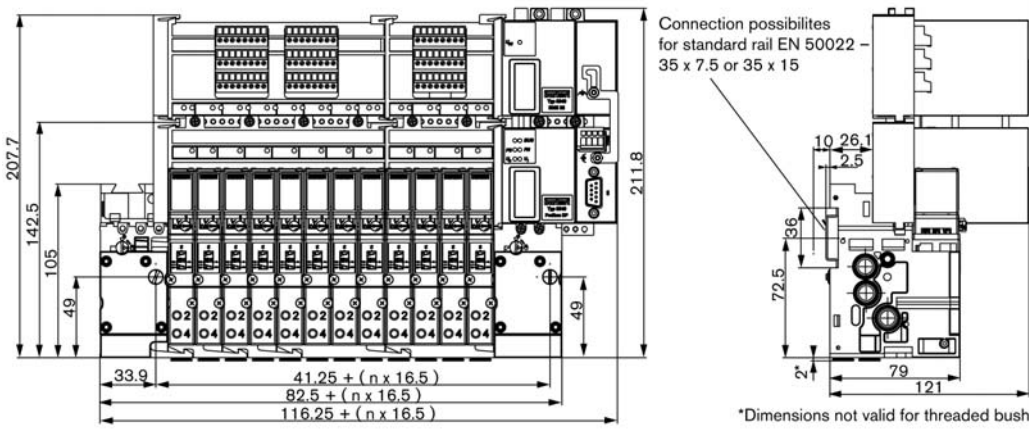
Example of a valve unit with common connection



Example of a valve unit with repeaters and multipole connection



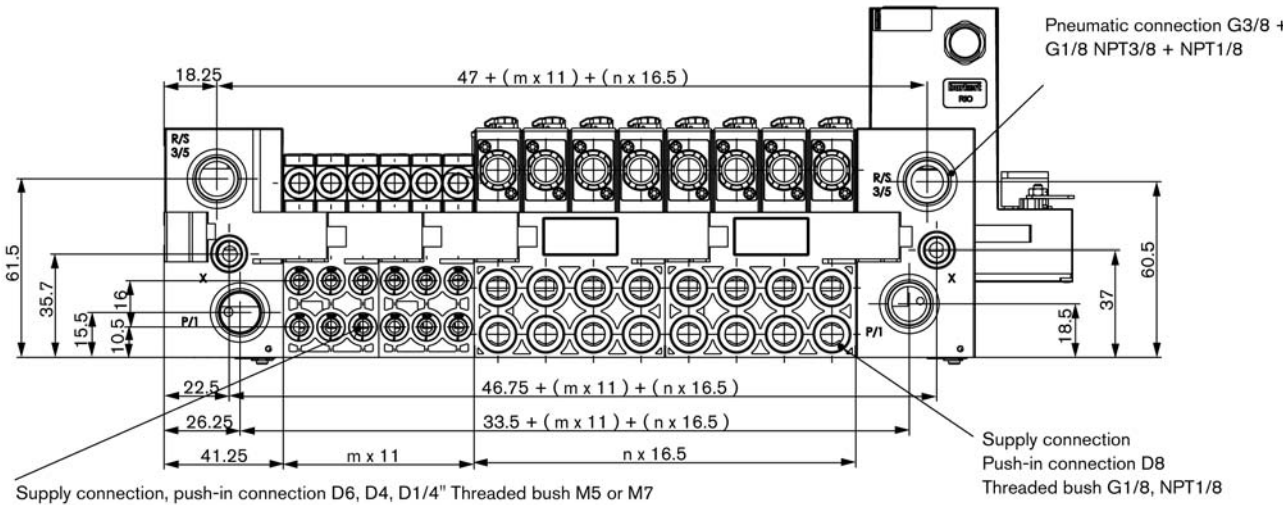
Example of valve unit with feedback and Profibus



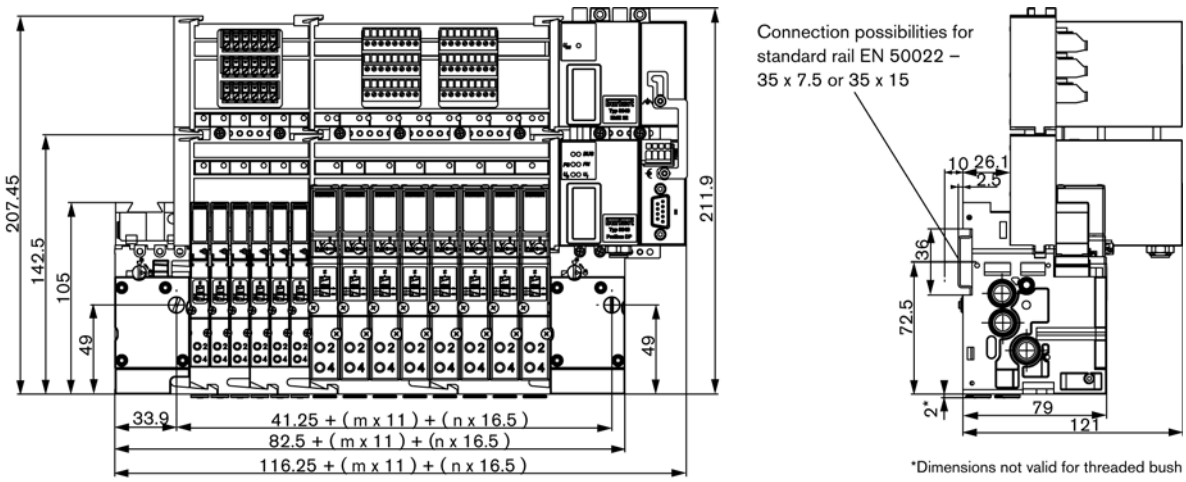
Dimensions [mm]

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

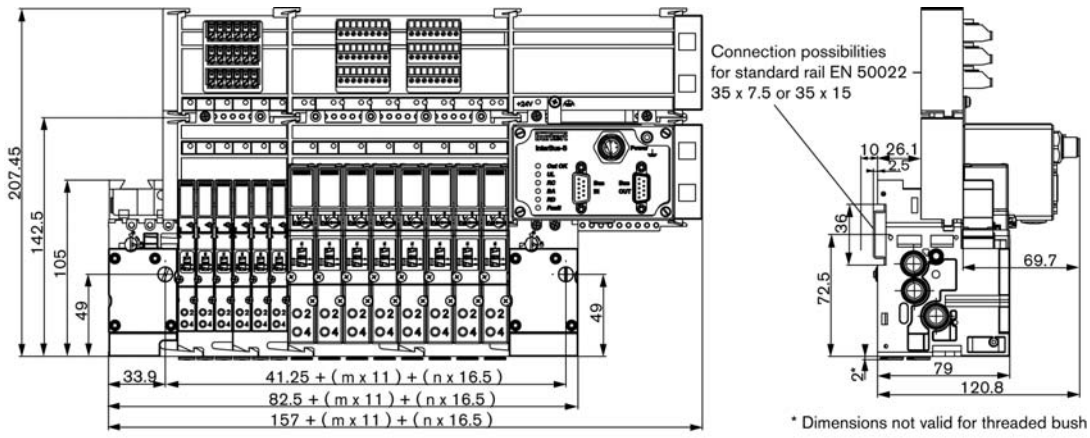
Underside view of valve unit with Profibus and RIO-Interface



Example of valve unit with feedback, Profibus DP and RIO-Interface



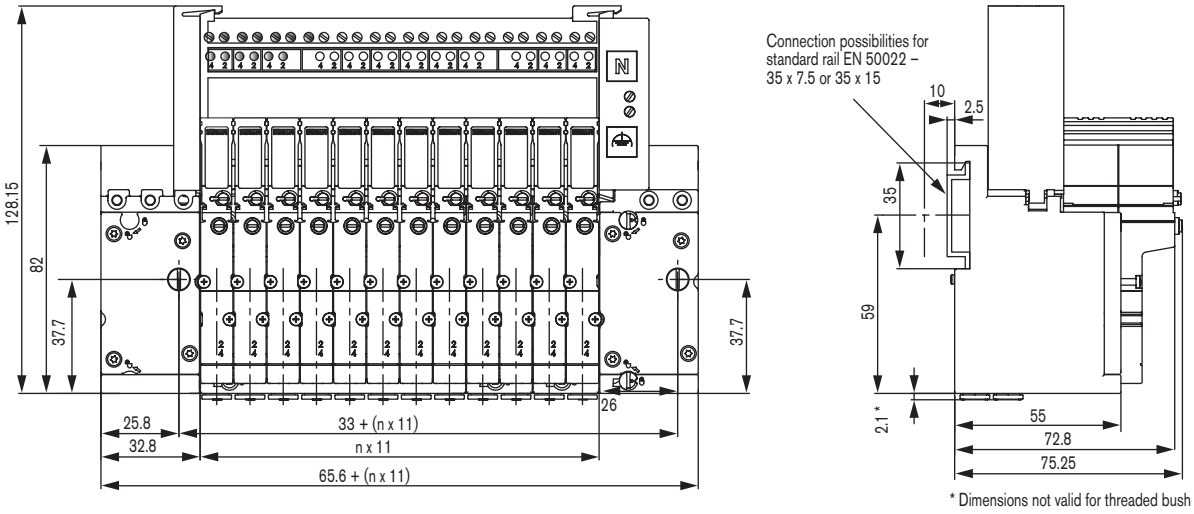
Example of valve unit with feedback and Interbus



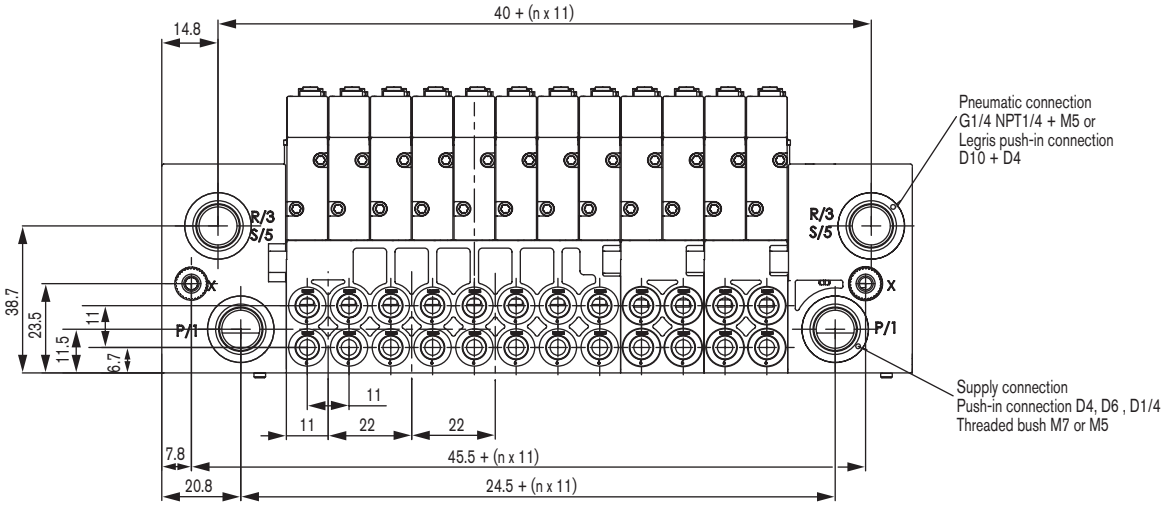
Dimensions [mm]

11 mm mounting dimensions for Type 6524 2 x 3/2-way valve

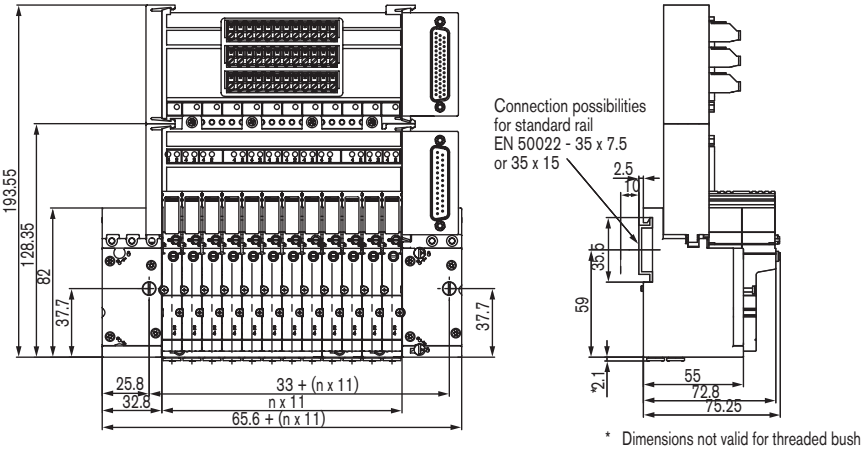
Example of valve unit with common connection



Underside view of valve unit with common connection

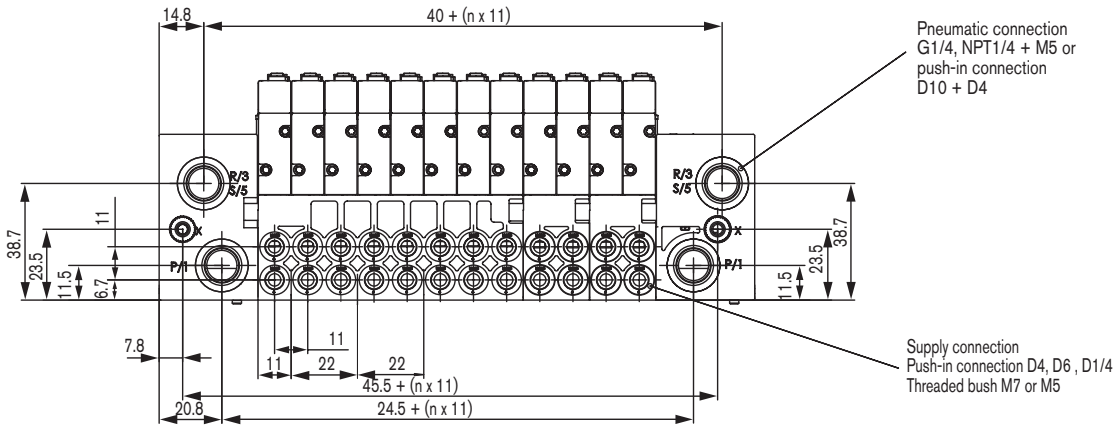


Example of valve unit with multipole connection

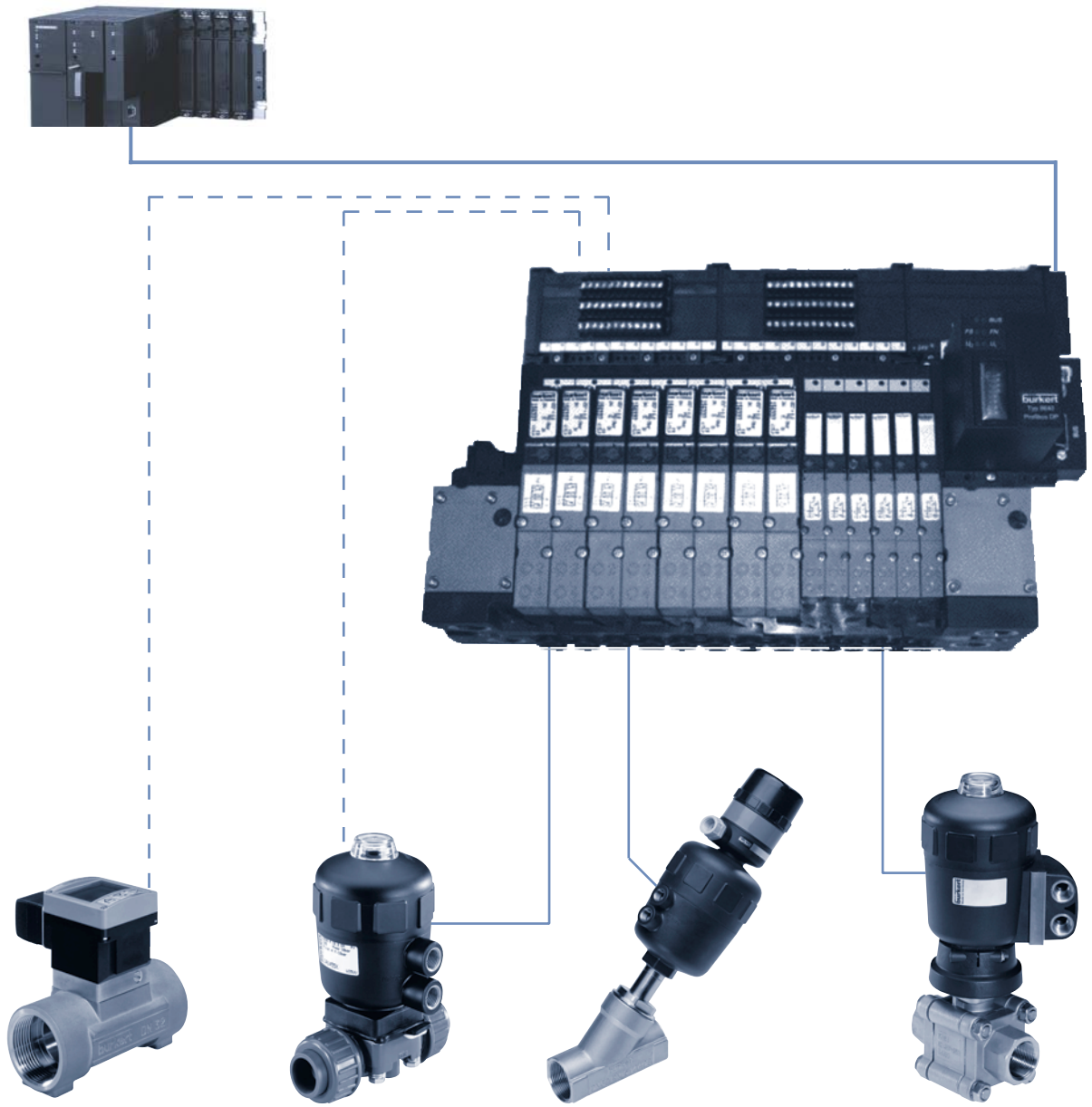


Dimensions [mm]

Underside view of valve unit with multipole connection



Application example



Function

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

For the configuration please use the valve island configurator downloadable at **www.burkert.com**

To find your nearest Burkert facility, click on the orange box → **www.burkert.com**