



AirLINE – the valve island optimised for process automation

- Safety-related shut-off of valves possible
- Easy diagnostics via LC display
- Process reliability through pneumatic functions
- Optimised for installation at the bottom of the control cabinet
- EX-Versions: ATEX / IECEx Zone 2, cURus Haz. Loc. CL I, II, III Div 2

Product variants described in the data sheet may differ from the product presentation and description.

Can be combined with

	Type ME43 Fieldbus gateway ▶
	Type 2012 Pneumatically operated 2/2-way globe valve CLASSIC ▶
	Type 8695 Control head for de-centralised automation of ELEMENT process valves ▶
	Type 8920 Bürkert Communicator ▶
	Type 8653 AirLINE Field – the valve island optimised for process automation ▶
	Type 8614 Pneumatic control cabinet solutions for hygienic process environments ▶
	Type SV04 Spare part sets for Type 8652 ▶

Type description

The valve island Type 8652 AirLINE has been especially developed for process automation requirements. New diagnostic functions can be visualised on the LC display, both in clear text as well as symbols. This makes it easy to relate to the shown messages and helps to save time during start-up and maintenance. Furthermore, the diagnostic message is also available at the controller. This, therefore, enables a fast overview of the plant status. The hardware is optimised for installation at the bottom of the control cabinet.

Installation on a standard rail is, of course, also possible. Moreover, key pneumatic functions ensure increased process reliability. For instance, check valves in the exhaust air ducts make sure there is no unplanned actuation due to pressure peaks.

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1. General technical data

1.1. General data

Product properties	
Dimensions	Further information can be found in chapter "3. Dimensions" on page 6.
Material	
Body	PA (polyamide)
Seal	NBR and PUR
Maximum installation width of a valve island	Further information can be found in chapter "3. Dimensions" on page 6.
Width per station	11 mm
Manual override	Latching, spring return (optional: lockable)
Number of valve positions	Max. 24
Maximum Number of valve functions	Max. 48
Switching function/Operating principle ^{1.)}	Further information can be found in chapter "2. Circuit functions" on page 5.
Pneumatic intermediate supply	For the versions with 16, 20 and 24 valve positions part of the scope of delivery
Performance data	
Pressure data	Overpressure to atmospheric pressure
Pressure range	Vac....10 bar
External supply air (auxiliary pilot air)	3...10 bar
Flow rate Q_{Nn} value air	310 l/min ^{1.)} measured at +20 °C, pressure 6 bar at valve inlet and 1 bar differential pressure
Flow rate Q_{Nn} value air with integrated P shut-off	Flow reduced by approx. 10 %
Nominal operating mode	Continuous operation (100 % ED)
Switching time	Measured according to ISO 12238
Electrical data	
Operating voltage	24 V DC
Voltage tolerance	± 10 %
Residual ripple (at DC)	1 Vss
Nominal power of each valve	0.7 W (0.175 W after power reduction)
Nominal current of each valve	29 mA (10 mA after power reduction)
Position feedback	Max. 48
Protection class	III (EN 61140, VDE 0140)
Total current	
With fieldbus connection	See operating instructions Type 8652 ▶
Medium data	
Operating medium	Lubricated and non-lubricated compressed dry air, neutral gases (5 µm filter recommended)
Compressed air quality	ISO 8573 - 1:2010, Class 7.4.4
Approvals and certificates	
Degree of protection	IP20, IP65 in closed field housing
Approvals	ATEX, Zone 2 (BVS 20 ATEX E 031 U) IECEX, Zone 2 (IECEX BVS 20.0024 U) UL approval Ord. locations (E238179) UL cURus Haz. Loc Cl I, II, III, Div 2 (E520702)
Process/Port connection & communication	
Air supply connection	D10, D% ₆
Working port	D6, D¼
Communication module	ME43
Communication interface	PROFIBUS DP Industrial Ethernet (PROFINET I/O, EtherNet IP, Modbus TCP, EtherCAT, CC-Link IE Field Basic) CANopen bÜS (for networking with Bürkert devices)
Environment and installation	
Installation position	Any
Storage temperature	-20...+60 °C
Ambient temperature	-10...+55 °C

Accessories

Bürkert Software ^{2.)}	Bürkert Communicator Software Further information can be found in chapter “7.1. Bürkert Communicator Software” on page 15.
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1.) The maximum flow rate depends on the valve function.
 2.) The Bürkert Communicator software Type 8920 ▶ and the corresponding USB bus Interface Set 1 with Article no. 772426 ☞ are required for commissioning.

1.2. AirLINE Quick

AirLINE Quick considerably reduces the use of components in the control cabinet. With the AirLINE Quick Adapter, the valve terminal is adapted directly to the control cabinet floor or wall.

Your advantages:

- Reduced space requirement in the control cabinet
- Possibility to use more compact control cabinets
- Reduced installation effort due to hose connections directly at the bottom of the control cabinet

Product properties

Material	
AirLINE Quick Adapter	Stainless steel 1.4301 Anodised Aluminium
Pneumatic connection	Stainless steel 1.4301 Nickel-plated Brass
Valve functions per station	8, 16, 24, 32, 40 and 48

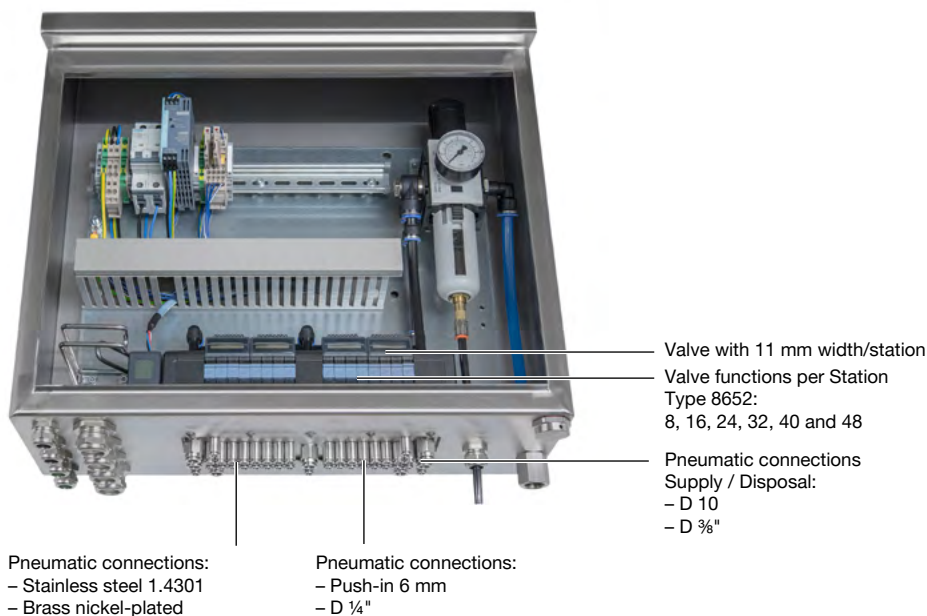
Process/Port connection & communication

Connection	
Pneumatic feeding	D10, D 3/8"
Pneumatic service ports	Push-in D6 mm, D 1/4"

Environment and installation

Installation position	Wall control cabinet Floor control cabinet
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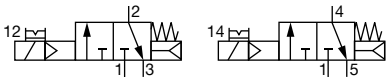
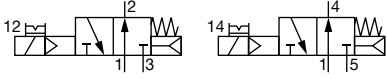
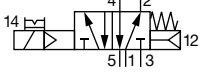
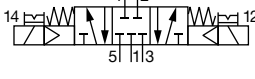

AirLINE Quick Adapter in stainless steel 1.4301 or anodised aluminium




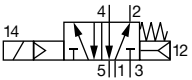
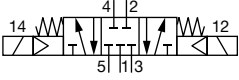
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2. Circuit functions

2.1. Standard functions

Symbol	Description
	Circuit function C (CF C) 2 x 3/2-way solenoid valve Servo-controlled, with manual override Normally closed
	Circuit function D (CF D) 2 x 3/2-way solenoid valve Servo-controlled, with manual override Normally open
	Circuit function H (CF H) 5/2-way solenoid valve Servo-controlled, with manual override Pressure applied via port (1), therefore one of the two ports (2) or (4) is under pressure.
	Circuit function L (CF L) 5/3-way solenoid valve With manual override In middle position all ports locked
	Circuit function Z (CF Z) 5/2-way solenoid valve Impulse version with 2 coils and manual override Pressure applied via port (1), therefore one of the two ports (2) or (4) is under pressure.

2.2. SIA variant

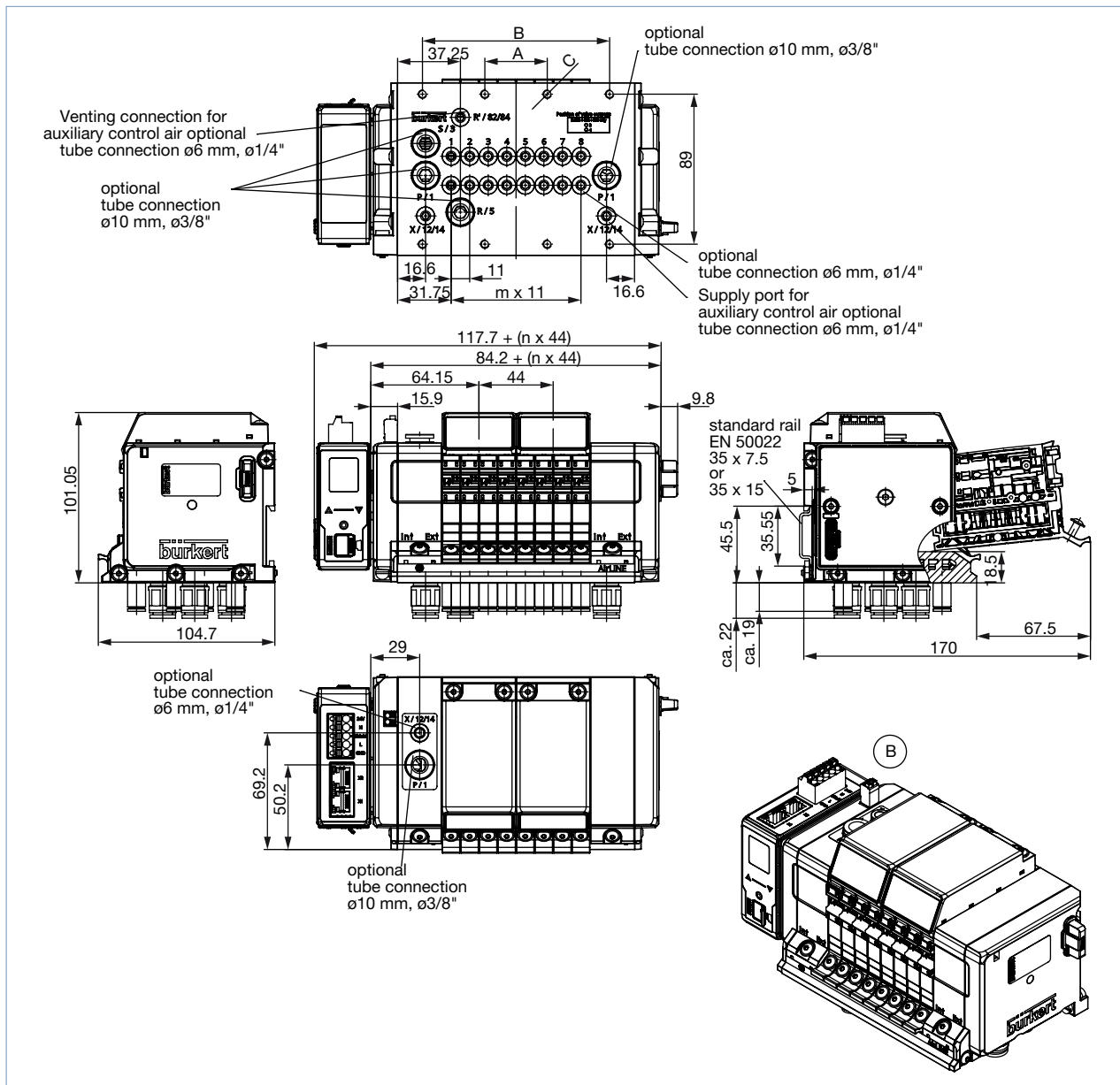
Symbol	Description
	Circuit function C (CF C) 2 x 3/2-way solenoid valve Servo-controlled Normally closed
	Circuit function H (CF H) 5/2-way solenoid valve Servo-controlled Pressure applied via port (1), therefore one of the two ports (2) or (4) is under pressure.
	Circuit function L (CF L) 5/3-way solenoid valve In middle position all ports locked

3. Dimensions

3.1. Version 4-, 8- and 12-fold

Note:

Dimensions in mm

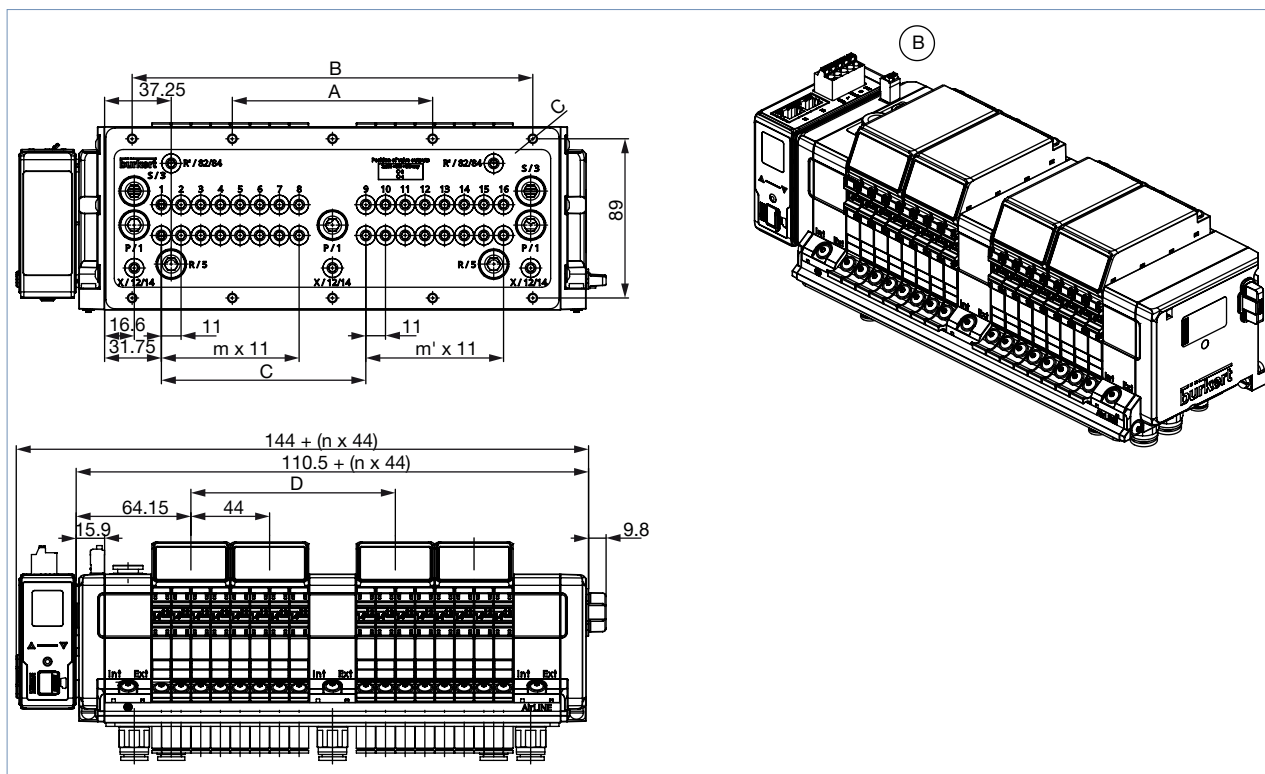


Version	A	B	C	m	n
4-fold	66	-	4 x M5	3	1
8-fold	37	111	8 x M5	7	2
12-fold	77	154	10 x M5	11	3

3.2. Version 16-, 20- and 24-fold

Note:

Dimensions in mm



Version	A	B	C	D	m	m'	n
16-fold	112	224	10 x M5	114.3	7	7	4
20-fold	134	268	10 x M5	158.3	11	7	5
24-fold	156	312	10 x M5	158.3	11	11	6

4. Device/Process connections

4.1. Power supply for communication and display

Note:

- Connect the 5-pin spring-loaded terminal according to the assignment.
- Possible cable cross-section: $\leq 1.5 \text{ mm}^2$

Spring-loaded terminal 5-pin	Color	Assignment
	Red	24 V DC
	White	CAN H (bùS connection)
	Green	SHIELD
	Blue	CAN L (bùS connection)
	Black	GND

4.2. Power supply for pneumatic valves

Note:

The interface plate has a 2-pin spring-loaded terminal to which the pneumatic valves' power supply is connected.

Spring-loaded terminal 2-pin	Clip	Color	Assignment
	1	Red	AUX 24 V
	2	Black	GND

4.3. Fieldbus interface

Note:

CANopen requires two termination resistors: one at the beginning and one at the end of the network. An indicator of the correct bus termination is the resistance between CAN_H and CAN_L after power supply is disconnected. This should be about 60 KΩ.

CANopen / bÜS - Spring terminal 5-pin	Colour	Assignment
	Red	24 V DC
	White	CAN H (bÜS connection)
	Green	SHIELD
	Blue	CAN L (bÜS connection)
	Black	GND

Industrial Ethernet RJ45 - Interface X1 and X2	Pin	Assignment
	1	TX+
	2	TX-
	3	RX+
	4	N.C.
	5	N.C.
	6	RX-
	7	N.C.
	8	N.C.

PROFIBUS-DPV1 D-Sub 9 - D-Sub 9-pin female	Pin	Assignment
	1	SHIELD
	2	M24 (optional)
	3	RxD/TxD-P (B-Line)
	4	CNTR-P (optional)
	5	DGND
	6	+5 V (Supply for termination resistor)
	7	+24 V (optional)
	8	RxD/TxD-N (A-Line)
	9	CNTR-N (optional)

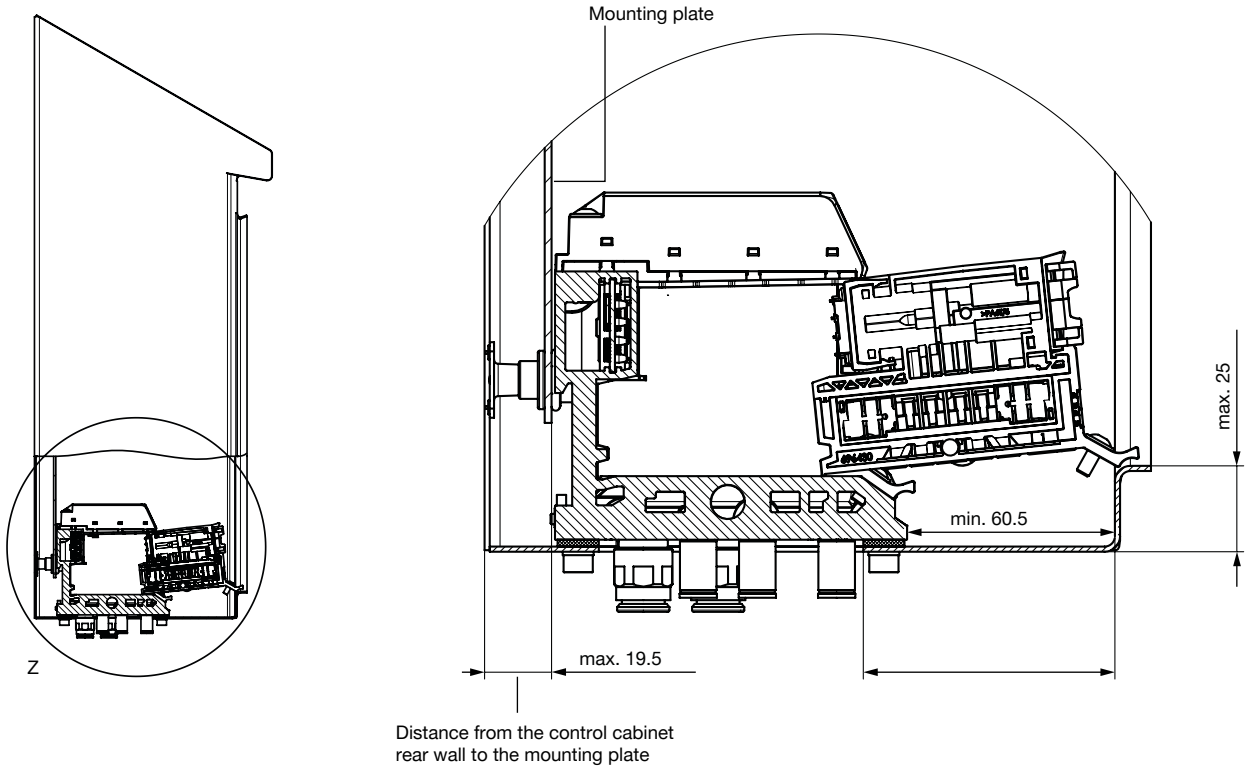
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5. Product installation

5.1. Installation notes

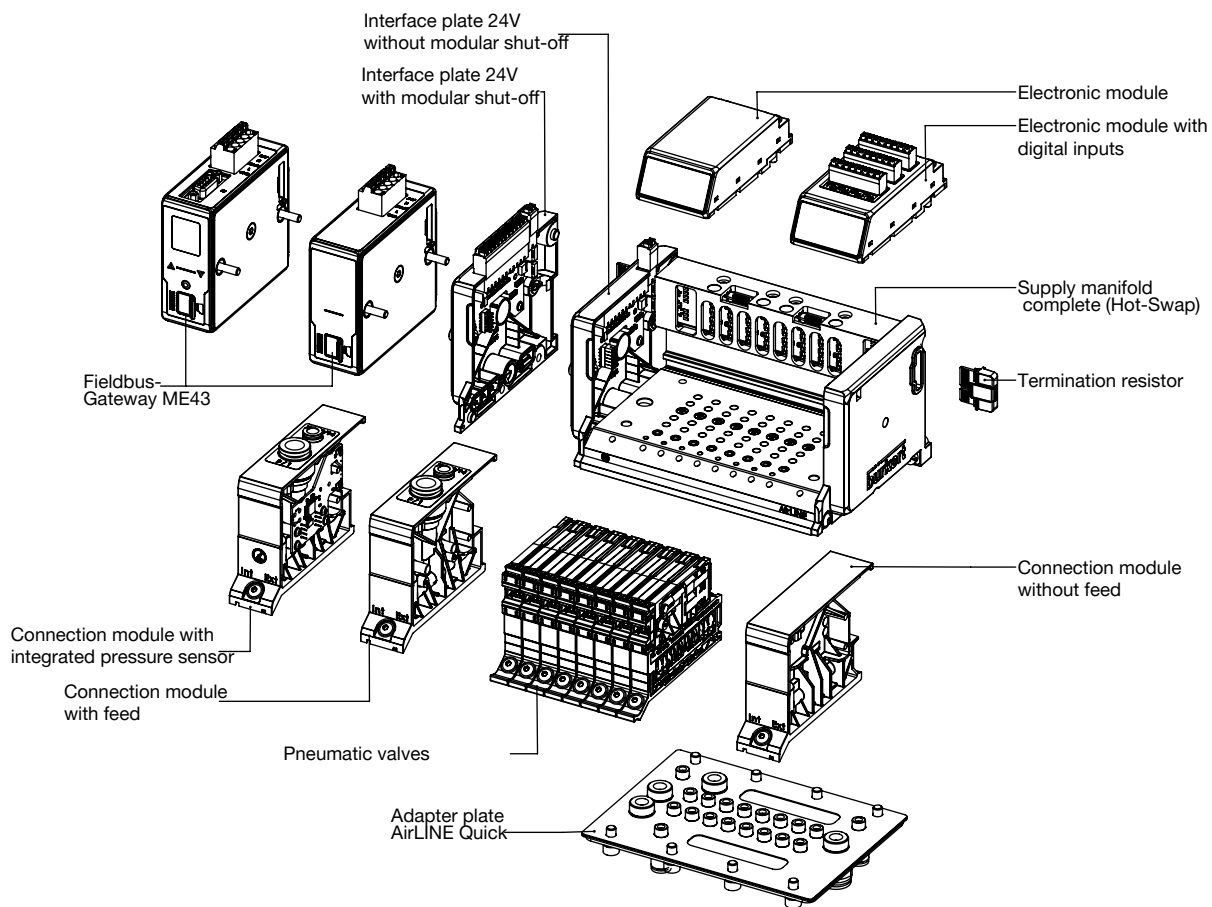
Installation situation of the valve terminal inside the control cabinet

To use utilize the Hot Swap function, always observe a minimum distance to the front edge of the control cabinet when installing the valve island inside the control cabinet. Please also refer to the detailed description in the **operating instructions Type 8652** ▶.



6. Product design and assembly

6.1. Product assembly



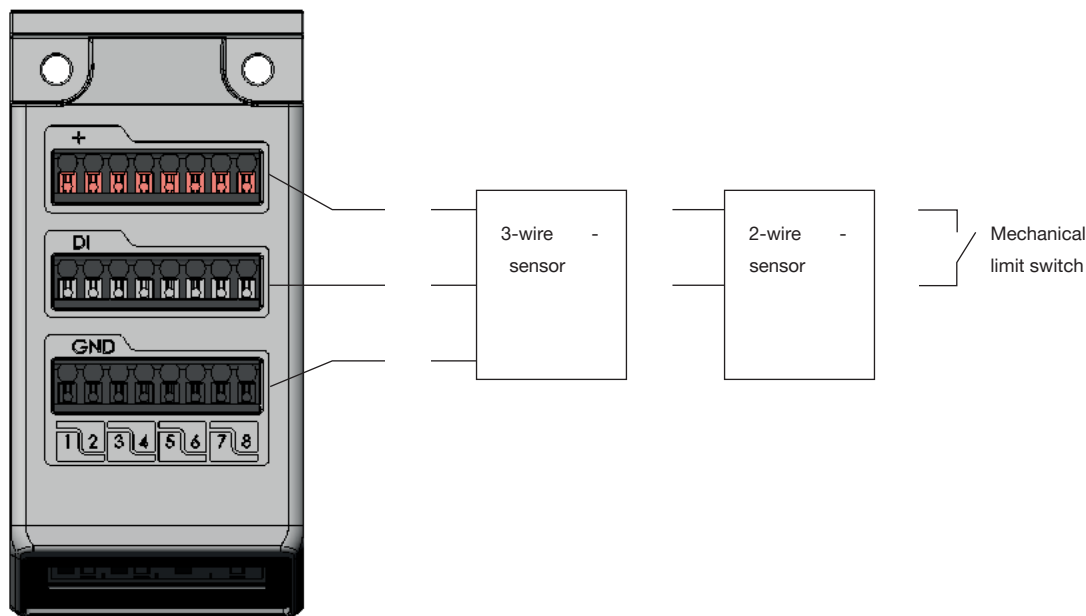
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6.2. Electronic module with digital inputs (optional)

The position feedbacks are supplied (24 V) by the electronic module. The Current is limited to maximum of 30 mA per position feedback. Standard 3-wire sensors and 2-wire sensors with voltages between 10...30 V as well as mechanical limit switches can be used.

Note:

- Connect position feedbacks according to the assignment on the electronic module.
- Possible cable cross-section: $\leq 1.5 \text{ mm}^2$
- Maximum cable length: $< 30 \text{ m}$



The following data may be displayed depending on the sensor used:

Possible data	3-wire sensors	2-wire sensors	Mechanical limit switches
Sensor actuated	X	X	X
Sensor not actuated	X	X	X
Short circuit	X	-	-
Broken wire	-	X	-

8DI-Module (Digital input module)

Product properties	
Diagnosis	Open-circuit detection with 2-wire sensors, short-circuit detection with 3-wire sensors
Electrical data	
Electrical version	2-wire sensor, 3-wire sensor, mechanical limit switches
Switching threshold	$V_{OFF} = 0 \dots 5 \text{ V}$ $V_{ON} = 10 \dots 30 \text{ V}$
Input current of V_{ON} , typ. 24 V DC	Max. 5.7 mA per channel
Input impedance	$> 4 \text{ K}\Omega$
Electrical isolation	No, all channels have a common reference potential

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6.3. Valve Type 6534 for safety-related shut-off, SIA variant (optional)

Note:

- **Type 6534** valves are equipped with additional connection terminals. The circuit of a valve can therefore be interrupted by an external switch. Manual override is not required for these valve variants. Technical data of Type 6534 valves, SIA variant correspond to standard device data. To use the shut-off function, connect the terminal to a potential-free contact (mechanical switch or relay). The switching contact must be located in the same control cabinet as the valve block. Line length must be limited to a maximum of 2 m.
- The valves **Type 6534** can only be ordered as spare parts. For more information on the cable plug, see data sheet **Type SV04**.

Feature	Description
	<p>The yellow connection terminals are pluggable and can be removed to facilitate connection of a cable. Except for CF H, there are always 2 connection terminals. To avoid mixing up the connections, the connection terminals are coded.</p> <p>On delivery, the connection terminals are provided with a bridge to ensure the valve can be put into operation immediately. Remove the bridge before connecting a cable.</p>
Connection terminals	Pluggable screw-type terminal, 2-pin, coded wire cross-section (rigid or flexible) 0.14 mm ² ...1.5 mm ² (AWG 28...16)
Required switching capacity of the contact	0.5 A / 24 V DC

Connection designation	Circuit diagram

Connection designation	Circuit diagram

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6.4. Module-based safety shutdown (optional)

Connection designation

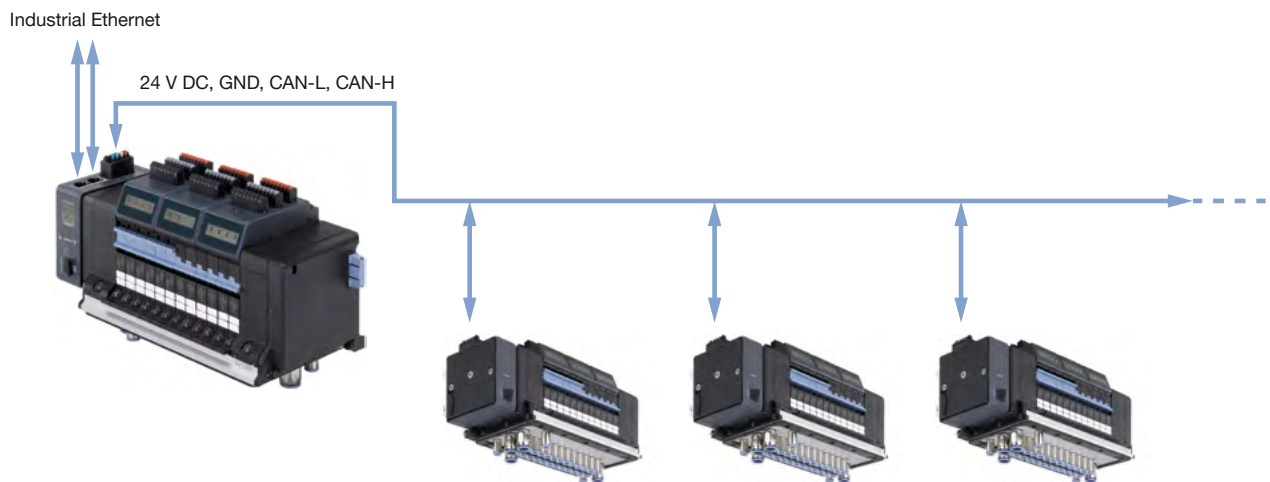
Optional: Connections for module-based safety shutdown
Terminal 1 = valve unit 1, Terminal 2 = valve unit 2, ...

To use the switch-off function, connect the connection to a potential-free contact (mechanical switch or relay). The contact must be located in the same control cabinet as the valve terminal, but limit cable length to a maximum of 2 m.

Feature	Description
Connection	Pluggable spring-loaded terminal*, 12-pin Conductor cross-section (rigid or flexible) 0.14 mm ² ...1.5 mm ² (AWG 26...16)
Required switching capacity of the contact	1.5 A / 24 V DC

6.5. Example configuration

The following illustration shows a network with the example of AirLINE Type 8652 with Industrial Ethernet version (PROFINET I/O, EtherNet IP, Modbus TCP, EtherCAT, CC-Link IE Field Basic) as master valve terminal and various AirLINE Type 8652 with büS version as slave valve terminals.



7. Product accessories

7.1. Bürkert Communicator Software

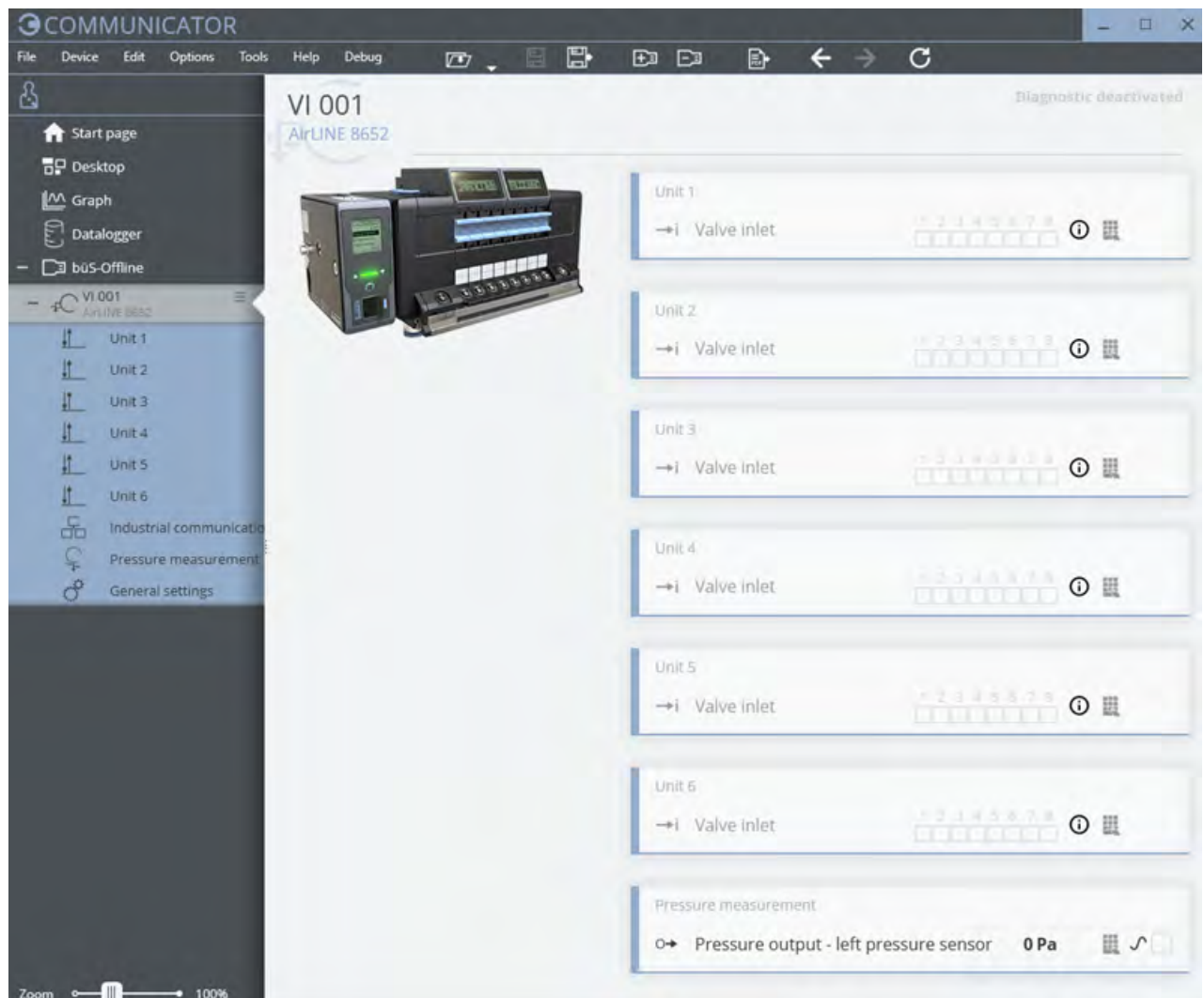
Note:

To install the software, click [here](#) ▶.

The Bürkert Communicator is the most important software component of the EDIP (Efficient Device Integration Platform). Various features of this universal tool simplify the configuration and parametrization of devices equipped with a digital CANopen based interface. With this tool, the user has a complete overview of cyclic process values as well as acyclic diagnosis data. The integrated graphical programming environment enables the creation of decentralized sub-system control functions. The connection to the PC is established with a USB-CAN adapter. The adapter is available as an accessory (see "8.6. Ordering chart accessories" on page 19).

The Communicator enables:

- Configuration, parametrisation and diagnosis of EDIP devices / networks
- Easy and comfortable mapping of cyclic values
- Graphical display of process values
- Firmware update for the connected EDIP devices
- Backup and restoring of device configurations



8. Ordering information

8.1. Bürkert eShop



Bürkert eShop – Easy ordering and quick delivery

You want to find your desired Bürkert product or spare part quickly and order directly? Our online shop is available for you 24/7. Sign up and enjoy all the benefits.

[Order online now](#)

8.2. Bürkert product filter



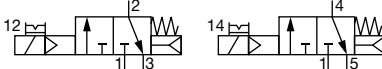
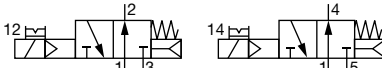
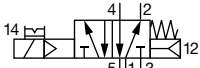

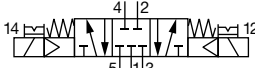
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8.3. Ordering chart spare valves

Solenoid valve Type 6534


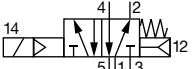
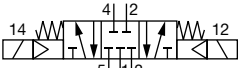
Circuit function	Nominal diameter/ Orifice	Q _{Nn} value ^{1.)} Air	Pressure range	Switching times		Voltage/ Frequency	Article no. ^{2.)} incl. screw
	[mm]	[l/min]	[bar]	Opening [ms]	Closing [ms]	[V/Hz]	
Circuit function C (CF C) 2 x 3/2-way solenoid valve Servo-controlled, with manual override Normally closed 	4	270 l/min	Vac. 10 ^{3.)} 3...10	15	15	24 V DC	301374 ☒
Circuit function D (CF D) 2 x 3/2-way solenoid valve Servo-controlled, with manual override Normally open 	4	310 l/min	Vac. 10 ^{3.)} 3...10	15	15	24 V DC	301375 ☒
Circuit function H (CF H) 5/2-way solenoid valve Servo-controlled, with manual override Pressure applied via port (1), therefore one of the two ports (2) or (4) is under pressure. 	4	290 l/min	Vac. 10 ^{3.)} 3...10	20	25	24 V DC	301376 ☒
Circuit function Z (CF Z) 5/2-way solenoid valve Impulse version with 2 coils and manual override Pressure applied via port (1), therefore one of the two ports (2) or (4) is under pressure. 	4	290 l/min	Vac. 10 ^{3.)} 3...10	20	25	24 V DC	301377 ☒
Circuit function L (CF L) 5/3-way solenoid valve With manual override In middle position all ports locked 	4	275 l/min	Vac. 10 ^{3.)} 3...10	15	15	24 V DC	301380 ☒
Dummy valve	–	–	–	–	–	–	335779 ☒

1.) With HotSwap function approx. 3 % flow reduction

2.) The valves are components or spare parts of the Type 8652 Valve Terminal and can only be used on the Type 8652 Valve Terminal.

3.) Separate auxiliary control air min. 3 bar, please consider control pressure table in **operating instructions Type 8652** ▶.

Solenoid valve Type 6534 SIA variant (second port for shutdown)

Circuit function	Nominal diameter/ Orifice	Q _{Nn} value ^{1.)} Air	Pressure range	Switching times		Voltage/ Frequency	Article no. ^{2.)} incl. screw
	[mm]	[l/min]	[bar]	Opening [ms]	Closing [ms]	[V/Hz]	
Circuit function C (CF C) 2 x 3/2-way solenoid valve Servo-controlled Normally closed 	4	270 l/min	Vac. 10 ^{3.)} 3...10	15	15	24 V DC	338802
Circuit function H (CF H) 5/2-way solenoid valve Servo-controlled Pressure applied via port (1), therefore one of the two ports (2) or (4) is under pressure. 	4	290 l/min	Vac. 10 ^{3.)} 3...10	20	25	24 V DC	338805
Circuit function L (CF L) 5/3-way solenoid valve In middle position all ports locked 	4	275 l/min	Vac. 10 ^{3.)} 3...10	15	15	24 V DC	346830

1.) With HotSwap function approx. 3 % flow reduction

2.) The valves are components or spare parts of the Type 8652 Valve Terminal and can only be used on the Type 8652 Valve Terminal.

3.) Separate auxiliary control air min. 3 bar, please consider control pressure table in [operating instructions Type 8652](#) ▶

8.4. Electronic module

Beschreibung	Article no.
Electronics module with digital inputs	384872
Electronics module without digital inputs	384873

8.5. Connector module




Beschreibung	Article no.
Connection module without pressure sensor with additional connection for compressed air supply (Connection size: plug-in coupling Ø 6 mm and Ø 10 mm)	384863
Connection module without pressure sensor with additional connection for compressed air supply (Connection size: plug-in coupling Ø ¼ mm and Ø ⅜ mm)	384864
Connection module without pressure sensor without additional connection for compressed air supply	384866
Connection module with pressure sensor Connection for compressed air supply: plug-in coupling Ø 6 mm and Ø 10 mm	384867
Connection module with pressure sensor Connection for compressed air supply: plug-in coupling Ø ¼ mm and Ø ⅜ mm	384868

8.6. Ordering chart accessories

























Fieldbus gateway Type ME43 for 8652-AirLINE

Note:

- Please note that the ME43 gateway modules are not configured ex works. However, it is mandatory that these be configured to enable use on the valve terminal **Type 8652** ▶.
- For further information, please refer to the **operating instructions for Type 8652** ▶.

Beschreibung	Article no.
Feldbus-Gateway Typ ME43 – Industrial Ethernet (PROFINET, EtherNet/IP, Modbus TCP, EtherCAT)	301799 
Feldbus-Gateway Typ ME43 – Profibus DP	301803 
Feldbus-Gateway Typ ME43 – CANopen/büS	301802 

Accessory for Software Bürkert Communicator

Description	Article no.
büS cable extension M12, 0.1 m	772492 
büS cable extension M12, 0.2 m	772402 
büS cable extension M12, 0.5 m	772403 
büS cable extension M12, 1 m	772404 
büS cable extension M12, 3 m	772405 
Connector M12, female, straight ^{1.)}	772416 
Connector M12, male, straight ^{1.)}	772417 
Connector M12, female, angled ^{1.)}	772418 
Connector M12, male, angled ^{1.)}	772419 
Y connector	772420 
Y connector for connecting two separately powered segments of a büS network	772421 
Termination resistor (directly pluggable)	303833 
Termination resistor 120 kOhm M12 male	772424 
Termination resistor 120 kOhm M12 female	772425 
Power supply Type 1573 for rail mounting, 100...240 V AC/24 V DC, 1.25 A, NEC Class 2 (UL 1310)	772438 
Power supply Type 1573 for rail mounting, 100...240 V AC/24 V DC, 1 A, NEC Class 2 (UL 1310)	772361 
Power supply Type 1573 for rail mounting, 100...240 V AC/24 V DC, 2 A, NEC Class 2 (UL 1310)	772362 
Power supply Type 1573 for rail mounting, 100...240 V AC/24 V DC, 3.8 A, NEC Class 2 (UL 1310)	772898 
Power supply Type 1573 for rail mounting, 100...240 V AC/24 V DC, 10 A	772698 
Micro SD Card	774087 
büS-Stick Set 1 (incl. cable (M12), stick with integrated termination resistor, power supply and software)	772426 
büS-Stick Set 2 (incl. cable (M12), stick with integrated termination resistor)	772551 
License for graphical programming (only required for a running time >60 minutes)	567713 
Software Bürkert Communicator	Type 8920 ▶ 

1.) Due to lack of space, the M12 single connectors may not be suitable for their simultaneous use on the same side of the Y connector. Please use the available ready-made assembled cable in this case.

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For up-to-date addresses
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www.burkert.com

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