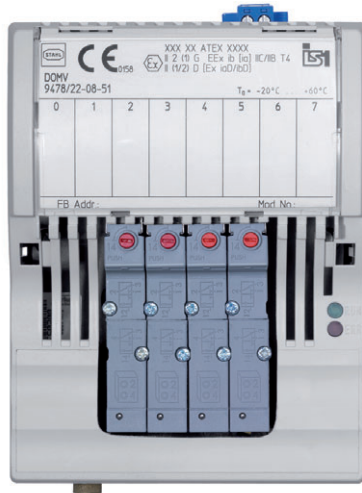


# Digital Output Module Valve for Zone 1 Series 9478



- > 8 integrated 3/2-port directional control valves for pneumatic valves
- > Additional Ex i control input for "Plant STOP" (acc. IEC 61508 up to SIL2)
- > Monitoring of the electronic control of the 3/2-port directional control valves in regard to short circuit and wire breakage
- > Functions adjustable
- > Live module can be replaced (hot swap)

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14200E00



A4

The Digital Output Modules with valves are used to control up to 8 pneumatic valves. On all channels, the electronic control of the 3/2-port directional control valves is monitored in regard to short circuit and wire breakage, independent of the status of the electronic control.

The interface of the Digital Output Module with the internal data bus of the BusRail is designed with redundancy.



	ATEX / IECEx						NEC 505						NEC 506						NEC 500								
	0	1	2	20	21	22	Zone	0	1	2	20	21	22	Class I	0	1	2	20	21	22	Division	1	2	1	2	1	2
Installation in		x	x		x	x	Installation in		x	x		x	x	Installation in	x	x	x	x	x	x	Installation in	x	x	x	x	x	x

WebCode 9478A

# Digital Output Module Valve for Zone 1

## Series 9478



### Selection Table

Version	Channels	Pressure range	Order number	Weight kg
Digital Output Module Valve for Zone 1	8	2.5 ... 7 bar	<b>9478/22-08-51</b>	0.950

### Explosion Protection

#### Global (IECEx)

Gas	PTB 06.0001X Ex ib IIC T4
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#### Europe (ATEX)

Gas	PTB 10 ATEX 2030 II 2 G Ex ib IIC T4
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#### Certifications and certificates

Certificates	IECEx, ATEX, Brazil (INMETRO), Kazakhstan (TR), Russia (TR), Serbia (SRPS), USA (FM), Belarus (TR)
Ship approval	ABS, CCS, DNV-GL, RINA, RS

#### Safety data for digital input (ATEX)

Ex ia	for disconnecting all outputs ("System OFF")						
	U <sub>0</sub> [V]	I <sub>0</sub> [mA]	P <sub>0</sub> [mW]	L <sub>0</sub> [mH]		C <sub>0</sub> [nF]	
				IIC	IIB	IIC	IIB
	6.6	67	110	8.24	31.4	22	500

The effective internal capacitances and inductances are negligible.

#### Further parameters

Installation in	Zones 1, 2, 21 & 22
Further information	see respective certificate and operating instructions

### Technical Data

#### Pneumatic Data

Media	Compressed air oiled, oil-free, dry neutral gases, (5 µm filter recommended)
Sealing material	FPM, NBR
Manual actuation	yes
Switching times	ca. 1000 c.p.m.
Qn value	at 20 °C air temperature, 6 bar at the valve inlet and 1 bar of differential pressure: 300 l/min

#### Electrical data

Ex i control input X3	
Function	System OFF, outputs are depressurized
Suitability	Switch-off up to SIL 2 (IEC61508)
Versorgungsspannung	5 V
Innenwiderstand	1.6 k Ω
Max. voltage for outputs in normal operation	1 V
Min. voltage for depressurizing all outputs ("System OFF")	3.5 V
Settings	
Open-circuit and short-circuit monitoring	ON
Safety position (output during communication faults)	OFF, ON, hold last status

### Technical Data

#### Electrical data

##### Diagnostics

Retrievable parameters  
Module faults

Manufacturer, type, version, serial number

- Internal primary bus faults
- Internal redundant bus faults
- No response
- Module does not correspond to configuration
- Hardware fault
- Hardware disconnection of outputs (by "System OFF")

##### Auxiliary power

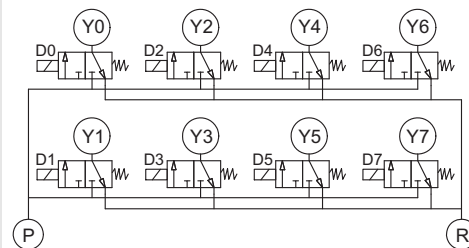
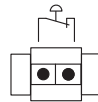
Behaviour during undervoltage  
Typical power input

All outputs are depressurized

5.75 W with activated pilot valves

##### Electrical connection

Connection diagram



14286E00

#### Mechanical data

Module enclosure  
Material  
Valve block  
Fire resistance (UL 94)  
Degree of protection (IEC 60529)

Polyamide 6GF

PPS, PA

V2

IP20

##### Pneumatic connections

P, R: plug connector  $\varnothing$  8 mm

Y0 ... Y7: plug connector  $\varnothing$  6 mm

X: standard silencer (included in the delivery and already fitted)

##### Dimensions

L = 126 mm, W = 96.5 mm, H = 163 mm

#### Operator interface

##### Operation

LED green "RUN"

##### Fault

LED red "ERR"

#### Installation conditions

##### Mounting type

on 35 mm DIN rail NS 35/15

##### Mounting orientation

horizontal and vertical

#### Ambient conditions

##### Ambient temperature

0 ... + 60 °C

##### Storage temperature

- 20 ... 60 °C

##### Media temperature

0 ... + 50 °C

##### Maximum relative humidity

95 % (no condensation)

##### Sinusoidal vibration (IEC EN 60068-2-6)

5 ... 13.2 Hz amplit.  $\pm$  1 mm

13.2 ... 100 Hz 0.7 g

##### Electromagnetic compatibility

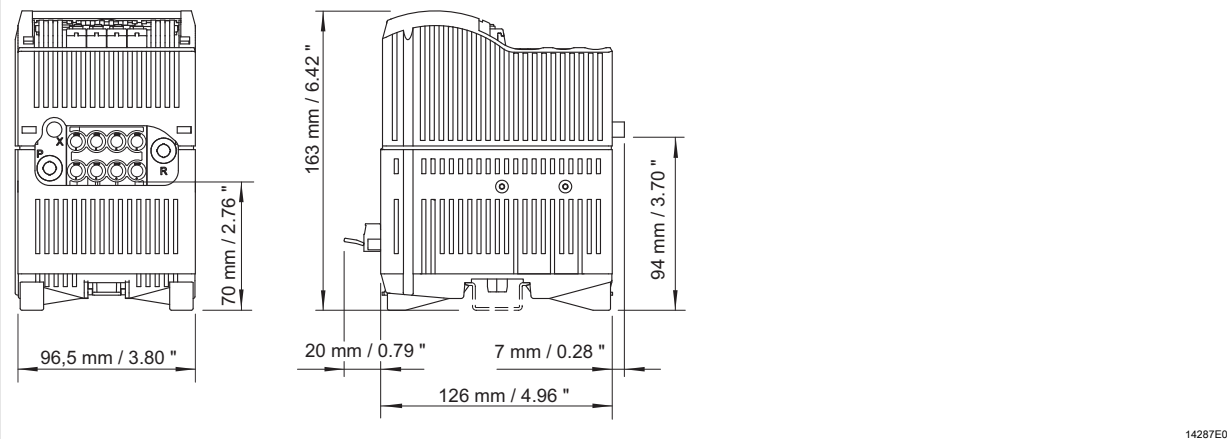
Tested according to the following standards and regulations: DIN 61326-1 (2006)

# Digital Output Module Valve for Zone 1

## Series 9478



### Dimensional Drawings (All Dimensions in mm / inches) - Subject to Alterations



We reserve the right to make alterations to the technical data, dimensions, weights, designs and products available without notice. The illustrations cannot be considered binding.