

Chapter 4 Digital output modules

Overview

This chapter contains a description of the construction and the operation of the VIPA digital output modules.

Below follows a description of:

- A system overview of the digital output modules
- Properties
- Construction
- Interfacing and schematic diagrams
- Technical data

Content

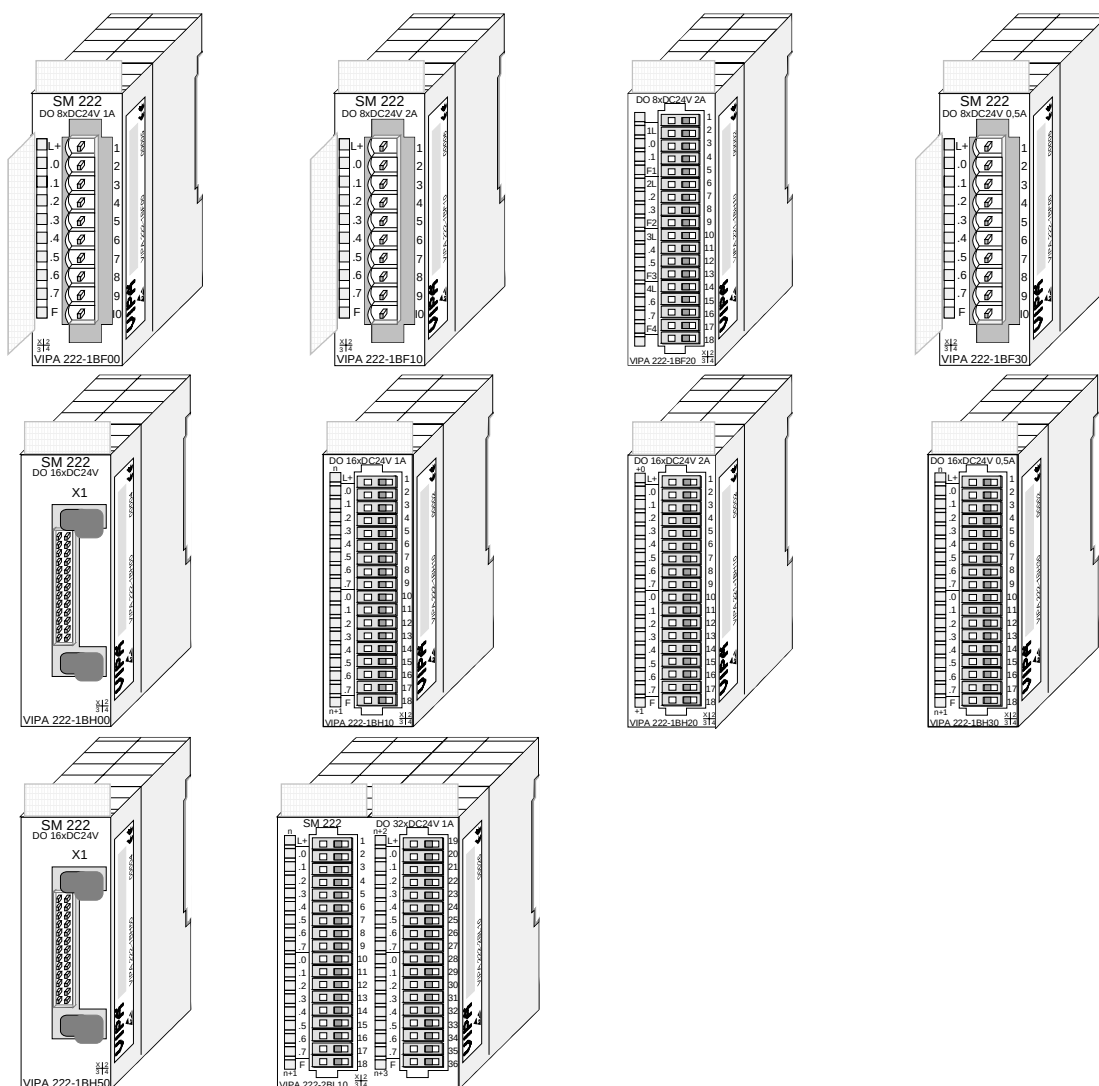
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System overview

Output modules SM 222

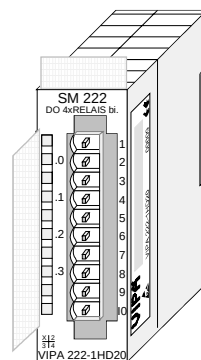
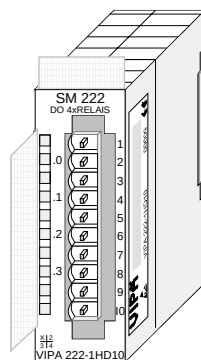
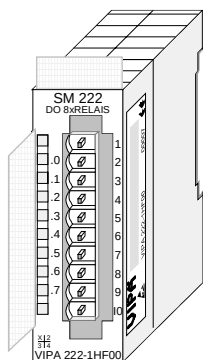
Here follows a summary of the digital output modules that are currently available from VIPA:

DC 24V output modules

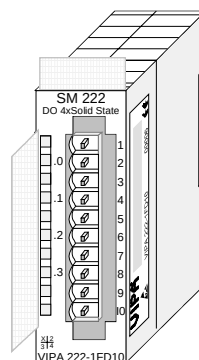
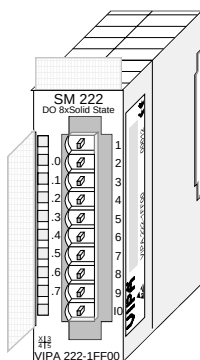


Order data DC 24V output modules

Type	Order number	Page
DO 8xDC 24V 1A	VIPA 222-1BF00	4-4
DO 8xDC 24V 2A	VIPA 222-1BF10	4-6
DO 8xDC 24V 2A floating 4 á 2	VIPA 222-1BF20	4-8
DO 8xDC 24V 0.5A - ECO	VIPA 222-1BF30	4-10
DO 16xDC 24V 0.5A with UB4x	VIPA 222-1BH00	4-12
DO 16xDC 24V 1A	VIPA 222-1BH10	4-14
DO 16xDC 24V 2A	VIPA 222-1BH20	4-16
DO 16xDC 24V 0.5A - ECO	VIPA 222-1BH30	4-18
DO 16xDC 24V 0.5A NPN	VIPA 222-1BH50	4-20
DO 32xDC 24V 1A	VIPA 222-2BL10	4-22

Relay output modules**Order data relay output modules**

Type	Order number	Page
DO 8xRelay COM	VIPA 222-1HF00	4-24
DO 4xRelay	VIPA 222-1HD10	4-26
DO 4xRelay bistable	VIPA 222-1HD20	4-28

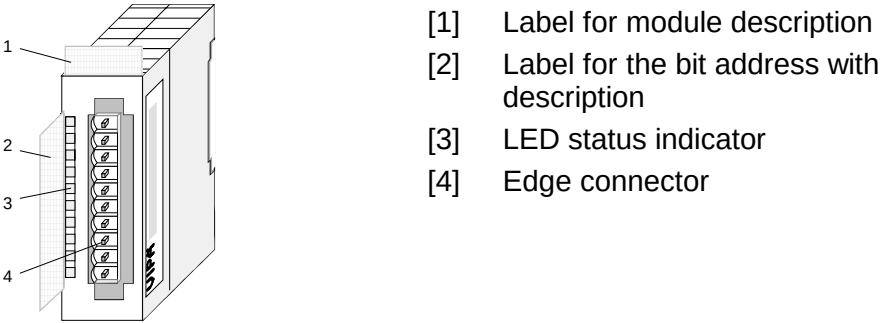
Solid-state output modules**Order data solid-state output modules**

Type	Order number	Page
DO 8xSolid State COM	VIPA 222-1FF00	4-30
DO 4xSolid State	VIPA 222-1FD10	4-32

222-1BF00 - DO 8xDC 24V 1A

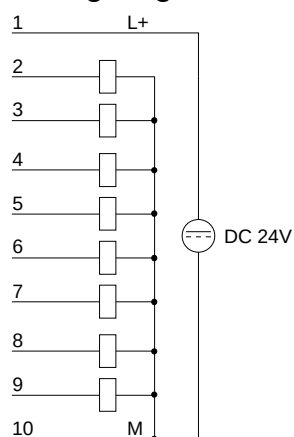
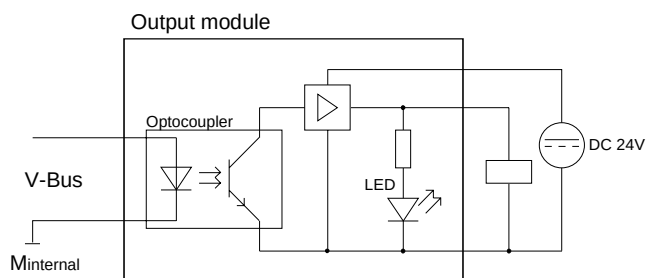
Order data	DO 8xDC 24V 1A	VIPA 222-1BF00
Description	The digital output module accepts binary control signals from the central bus system and transfers them to the process level via outputs. The module requires a supply of DC 24V via the front-facing connector. It provides 8 channels and the status of each channel is displayed by means of an LED.	
Properties	• 8 outputs, isolated from the backplane bus • DC 24V supply voltage • 1A output current • Suitable for magnetic valves and DC contactors • LEDs for supply voltage and error message • Active channel indication by means of an LED	

Construction



Status indicator pin assignment

LED	Description		Pin	Assignment	
L+	LED (yellow) Supply voltage available	SM 222 DO 8xDC24V 1A X12 314 VIPA 222-1BF00	1	DC 24V supply voltage	
.0... .7	LEDs (green) Q+0.0 to Q+0.7 when an output is active the respective LED is turned on		2	Output Q+0.0	
			3	Output Q+0.1	
			4	Output Q+0.2	
			5	Output Q+0.3	
			6	Output Q+0.4	
			7	Output Q+0.5	
			8	Output Q+0.6	
			9	Output Q+0.7	
F	LED (red) Overload, overheat or short circuit error		10	Supply ground	

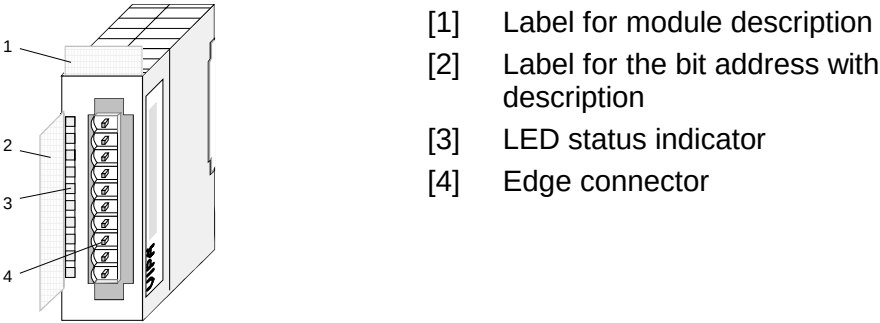
Wiring and schematic diagram**Wiring diagram****Schematic diagram****Technical data**

Electrical data	VIPA 222-1BF00
Number of outputs	8
Nominal load voltage	DC 24V (20.4 ... 28.8V)
No-load current consumption at L+ (all A.x=off)	10mA
Current consumption via backplane bus	70mA
Output current per channel	1A protected against sustained short circuits
Total current	8A
Voltage supply	DC 5V via backplane bus DC 24V (20.4 ... 28.8V)
Isolation	500Vrms (field voltage to the bus)
Status indicator	via LEDs located on the front
Programming specifications	
Input data	-
Output data	1 Byte
Parameter data	-
Diagnostic data	-
Dimensions and weight	
Dimensions (WxHxD) in mm	25.4x76x88
Weight	50g

222-1BF10 - DO 8xDC 24V 2A

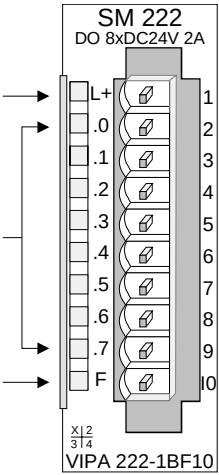
Order data	DO 8xDC 24V 2A	VIPA 222-1BF10
Description	The digital output module accepts binary control signals from the central bus system and transfers them to the process level via outputs. The module requires a DC 24V supply via the connector located on the front. It provides 8 channels and the status of each channel is displayed by means of an LED. The maximum load current per output is 2A.	
Properties	• 8 outputs, isolated from the backplane bus • DC 24V supply voltage • Output current 2A • Suitable for magnetic valves and DC contactors • LEDs for supply voltage and error message • Active channel indication by means of an LED	

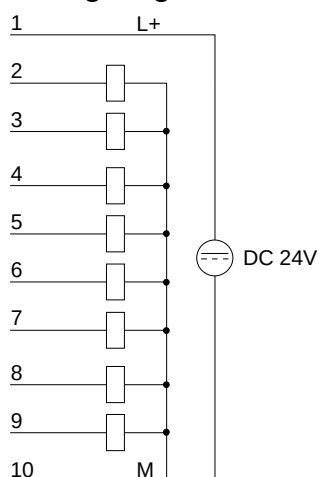
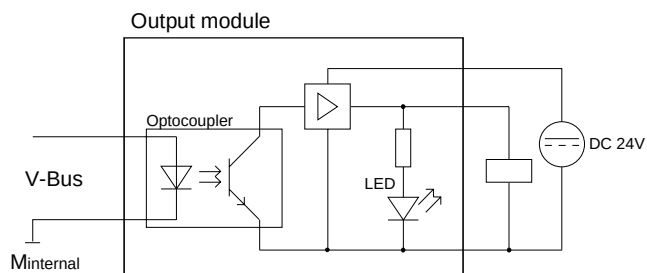
Construction



Status indicator
pin assignment

LED	Description	Pin	Assignment
L+	LED (yellow) Supply voltage available	1	DC 24V supply voltage
.0... .7	LEDs (green) Q+0.0 to Q+0.7 when an output becomes active the respective LED is turned on	2	Output Q+0.0
		3	Output Q+0.1
		4	Output Q+0.2
		5	Output Q+0.3
		6	Output Q+0.4
		7	Output Q+0.5
		8	Output Q+0.6
		9	Output Q+0.7
F	LED (red) Overload, overheat, short circuit error	10	Supply ground



Wiring and schematic diagram**Wiring diagram****Schematic diagram****Technical data**

Electrical data	VIPA 222-1BF10
Number of outputs	8
Nominal load voltage	DC 24V (20.4 ... 28.8V)
No-load current consumption at L+ (all A.x=off)	10mA
Current consumption via backplane bus	70mA
Output current per channel	2A protected against sustained short circuits
Total current	10A
Voltage supply	DC 5V via backplane bus DC 24V (20.4 ... 28.8V)
Isolation	500Vrms (field voltage to the bus)
Status indicator	via LEDs located on the front
Programming specifications	
Input data	-
Output data	1Byte
Parameter data	-
Diagnostic data	-
Dimensions and weight	
Dimensions (WxHxD) in mm	25.4x76x88
Weight	50g

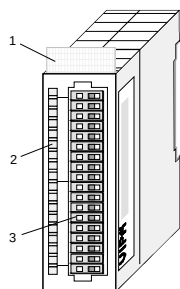
222-1BF20 - DO 8xDC 24V 2A separated 4 á 2

Order data DO 8xDC 24V 2A VIPA 222-1BF20

Description The digital output module accepts binary control signals from the central bus system and transfers them to the process level via outputs. The module requires a DC 24V supply via the connector located on the front. It provides 8 channels and the status of each channel is displayed by means of an LED. The maximum load current per output is 2A.

- Properties**
- 8 outputs, isolated from the backplane bus
 - Potential separation in 4 groups á 2 outputs
 - DC 24V supply voltage
 - Output current 2A
 - Suitable for magnetic valves and DC contactors
 - LEDs for supply voltage and error message
 - Active channel indication by means of an LED

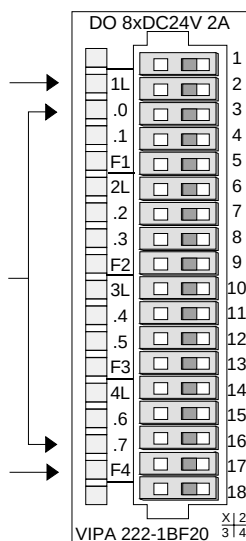
Construction



- [1] Label for module description
[2] LED status indicator
[3] Edge connector

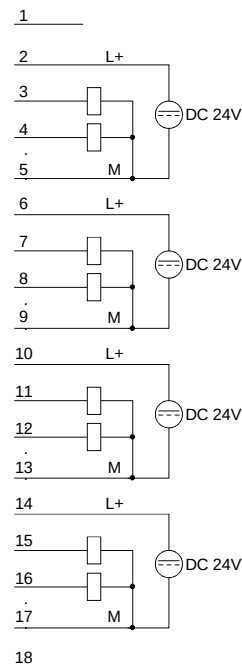
Status indicator pin assignment

LED	Description	Pin	Assignment
1L...4L	LED (yellow) Supply voltage available	1	not used
	LEDs (green)	2	Supply voltage 1L+
.0... .7	Q+0.0 to Q+0.7 (green) when an output becomes active the respective LED is turned on	3	Output Q+0.0
		4	Output Q+0.1
		5	Ground 1M
		6	Supply voltage 2L+
		7	Output Q+0.2
		8	Output Q+0.3
		9	Ground 2M
F1...F4	LED (red) Overload, overheat, short circuit error	...	...
		14	Supply voltage 4L+
		15	Output Q+0.6
		16	Output Q+0.7
		17	Ground 4M
		18	not used

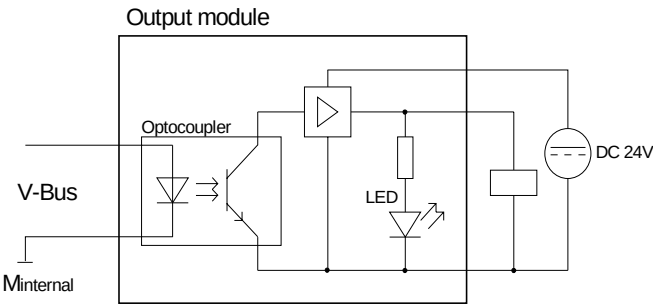


Wiring and schematic diagram

Wiring diagram



Schematic diagram



Technical data

Electrical data	VIPA 222-1BF20
Number of outputs	8
Nominal load voltage	DC 24V (20.4 ... 28.8V)
No-load current consumption at L+ (all A.x=off)	10mA
Current consumption via backplane bus	70mA
Output current per channel	2A protected against sustained short circuits
Voltage supply	DC 5V via backplane bus DC 24V (20.4 ... 28.8V)
Isolation	500Vrms (field voltage to the bus)
Status indicator	via LEDs located on the front
Programming specifications	
Input data	-
Output data	1Byte
Parameter data	-
Diagnostic data	-
Dimensions and weight	
Dimensions (WxHxD) in mm	25.4x76x88
Weight	50g

222-1BF30 - DO 8xDC 24V 0.5A - ECO

Order data

DO 8xDC 24V 0.5A

VIPA 222-1BF30

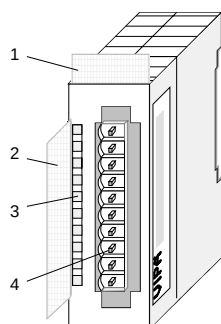
Description

The digital output module accepts binary control signals from the central bus system and transfers them to the process level via outputs. The module requires a supply of DC 24V via the front-facing connector. It provides 8 channels and the status of each channel is displayed by means of an LED.

Properties

- 8 outputs, isolated from the backplane bus
- DC 24V supply voltage
- 0.5A output current
- Suitable for magnetic valves and DC contactors
- LEDs for supply voltage and error message
- Active channel indication by means of an LED

Construction

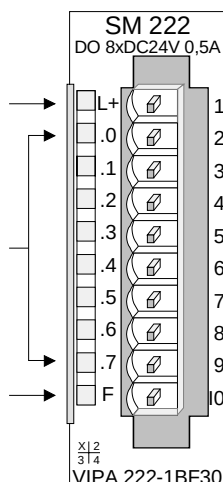


- [1] Label for module description
- [2] Label for the bit address with description
- [3] LED status indicator
- [4] Edge connector

Status indicator pin assignment

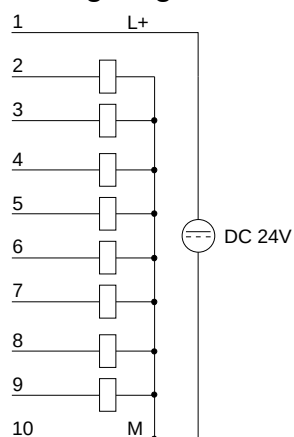
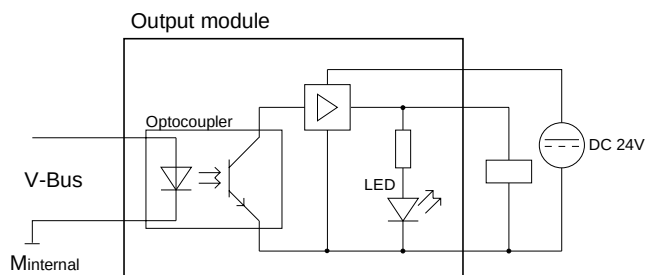
LED Description

- | | |
|----------|--|
| L+ | LED (yellow)
Supply voltage available |
| .0... .7 | LEDs (green)
Q+0.0 to Q+0.7
when an output is active
the respective LED is
turned on |
| F | LED (red)
Overload, overheat or short
circuit error |



Pin Assignment

- | | |
|----|-----------------------|
| 1 | DC 24V supply voltage |
| 2 | Output Q+0.0 |
| 3 | Output Q+0.1 |
| 4 | Output Q+0.2 |
| 5 | Output Q+0.3 |
| 6 | Output Q+0.4 |
| 7 | Output Q+0.5 |
| 8 | Output Q+0.6 |
| 9 | Output Q+0.7 |
| 10 | Supply ground |

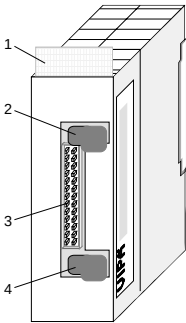
Wiring and schematic diagram**Wiring diagram****Schematic diagram****Technical data**

Electrical data	VIPA 222-1BF30
Number of outputs	8
Nominal load voltage	DC 24V (20.4 ... 28.8V)
No-load current consumption at L+ (all A.x=off)	10mA
Current consumption via backplane bus	70mA
Output current per channel	0.5A protected against sustained short circuits
Total current	4A
Voltage supply	DC 5V via backplane bus DC 24V (20.4 ... 28.8V)
Isolation	500Vrms (field voltage to the bus)
Status indicator	via LEDs located on the front
Programming specifications	
Input data	-
Output data	1 Byte
Parameter data	-
Diagnostic data	-
Dimensions and weight	
Dimensions (WxHxD) in mm	25.4x76x88
Weight	50g

222-1BH00 - DO 16xDC 24V 0.5A with UB4x

Order data	DO 16xDC 24V 0.5A	VIPA 222-1BH00
Description	The digital output module accepts binary control signals from the central bus system and transfers them to the process level via outputs. The module requires 24V via the connector on the front. It has 16 channels and the status of each channel is displayed by means of an LED. This module requires a converter (DEA-UB4x). The module must be connected to the converter module by means of a flattened round cable (DEA-KB91C).	
Properties	• 16 outputs, isolated from the backplane bus • DC 24V supply voltage • Output current 0.5A • Suitable for magnetic valves and DC contactors • LEDs for supply voltage and error message • Active channel indication by means of a LED located on converter module UB4x	

Construction



- [1] Label for module description
- [2] Clip
- [3] Recessed connector for the interface to a conversion module UB4x via the flattened round cable
- [4] Clip

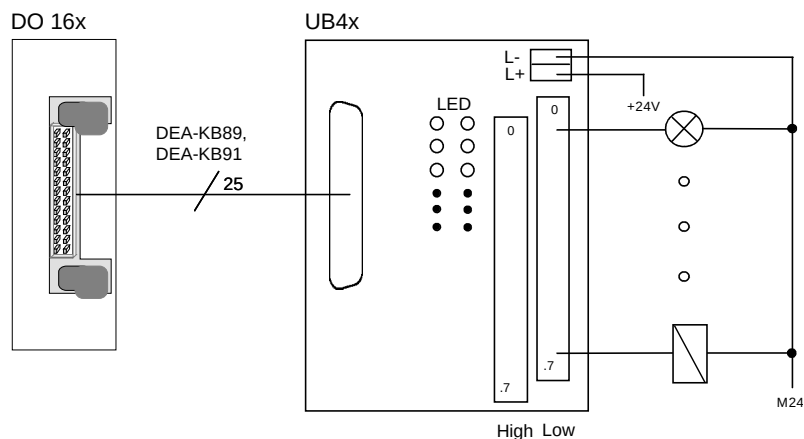
Status indicator on UB4x

LED	Description
0... .15	LEDs (yellow) Q+0.0 to Q+0.7 High Q+1.0 to Q+1.7 Low when an output is active the respective LED is turned on
L+ L-	LED (green) Supply voltage available

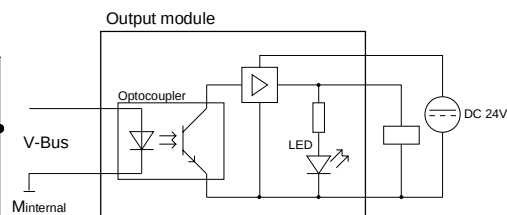
Pin assignment module

Connector	Pin	Assignment
A diagram of a 26-pin connector. The pins are arranged in two rows of 13. The top row is numbered 1 to 13 from bottom to top. The bottom row is numbered 14 to 26 from bottom to top. The connector is shown in a light gray color.	23...26	DC 24V supply voltage
	22	Output Q+0.0
	.	.
	.	.
	.	.
	15	Output Q+0.7
	14	Output Q+1.0
	.	.
	.	.
	.	.
	7	Output Q+1.7
	1...6	Supply ground
	.	.
	.	.
	.	.
	.	.

Interfacing of UB4x



Schematic diagram



Technical data

Electrical data	VIPA 222-1BH00
Number of outputs	16
Nominal load voltage	DC 24V (20.4 ... 28.8V)
No-load current consumption at L+ (all A.x=off)	10mA
Current consumption via backplane bus	120mA
Output current per channel	0.5A protected against sustained short circuits
Voltage supply	DC 5V via backplane bus DC 24V (20.4 ... 28.8V)
Isolation	500Vrms (field voltage to the bus)
Status indicator	via LEDs located on the UB4x
Programming specifications	
Input data	-
Output data	2Byte
Parameter data	-
Diagnostic data	-
Dimensions and weight	
Dimensions (WxHxD) in mm	25.4x76x88
Weight	50g

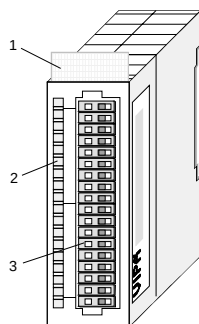
222-1BH10 - DO 16xDC 24V 1A

Order data DO 16xDC 24V 1A VIPA 222-1BH10

Description The digital output module accepts binary control signals from the central bus system and transfers them to the process level via outputs. The module requires 24V via the connector on the front. It has 16 channels and the status of each channel is displayed by means of an LED.

- Properties**
- 16 outputs, isolated from the backplane bus
 - DC 24V supply voltage
 - 1A output current rating
 - Suitable for magnetic valves and DC contactors
 - LEDs for supply voltage and error message
 - Active channel indication by means of an LED

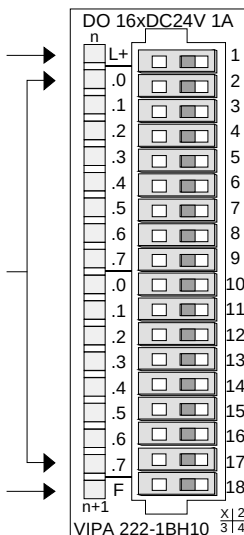
Construction

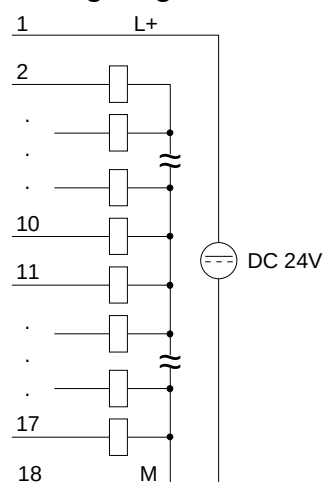
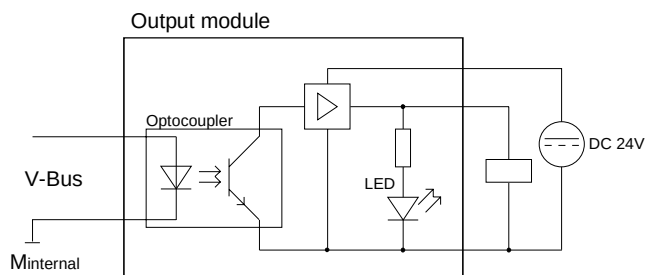


- [1] Label for module description
[2] LED status indicator
[3] Edge connector

**Status indicator
pin assignment**

LED	Description	Pin	Assignment
L+	LED (yellow) Supply voltage available	1	DC 24V supply voltage
.07	LEDs (green) Q+0.0 to Q+1.7 when an output is active the respective LED is turned on	2	Output Q+0.0
		3	Output Q+0.1
		.	.
		.	.
		.	.
		9	Output Q+0.7
		10	Output Q+1.0
		.	.
		.	.
		.	.
		16	Output Q+1.6
		17	Output Q+1.7
F	LED (red) Overload, overheat or short circuit error	18	Supply ground



Wiring and schematic diagram**Wiring diagram****Schematic diagram****Technical data**

Electrical data	VIPA 222-1BH10
Number of outputs	16
Nominal load voltage	DC 24V (20.4 ... 28.8V)
No-load current consumption at L+ (all A.x=off)	10mA
Current consumption via backplane bus	120mA
Output current per channel	1A protected against sustained short circuits
Total current	10A
Voltage supply	DC 5V via backplane bus DC 24V (20.4 ... 28.8V)
Isolation	500Vrms (field voltage to the bus)
Status indicator	via LEDs located on the front
Programming specifications	
Input data	-
Output data	2Byte
Parameter data	-
Diagnostic data	-
Dimensions and weight	
Dimensions (WxHxD) in mm	25.4x76x88
Weight	50g

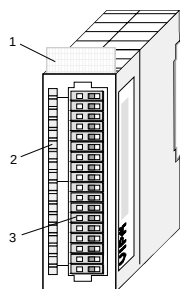
222-1BH20 - DO 16xDC 24V 2A

Order data DO 16xDC 24V 2A VIPA 222-1BH20

Description The digital output module accepts binary control signals from the central bus system and transfers them to the process level via outputs. The module requires 24V via the connector on the front. It has 16 channels and the status of each channel is displayed by means of an LED.

- Properties**
- 16 outputs, isolated from the backplane bus
 - DC 24V supply voltage
 - 2A output current rating
 - Suitable for magnetic valves and DC contactors
 - LEDs for supply voltage and error message
 - Active channel indication by means of an LED

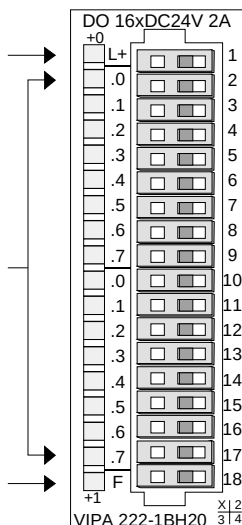
Construction

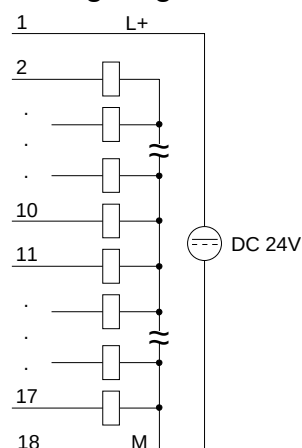
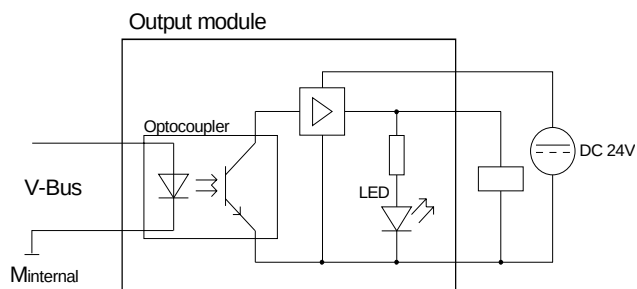


- [1] Label for module description
[2] LED status indicator
[3] Edge connector

**Status indicator
pin assignment**

LED	Description	Pin	Assignment
L+	LED (yellow) Supply voltage available	1	DC 24V supply voltage
.07	LEDs (green) Q+0.0 to Q+1.7 when an output is active the respective LED is turned on	2	Output Q+0.0
		.	.
		.	.
		.	.
		.	.
		.	.
		9	Output Q+0.7
		10	Output Q+1.0
		.	.
		.	.
		.	.
		17	Output Q+1.7
F	LED (red) Overload, overheat or short circuit error	18	Supply ground



Wiring and schematic diagram**Wiring diagram****Schematic diagram****Technical data**

Electrical data	VIPA 222-1BH20
Number of outputs	16
Nominal load voltage	DC 24V (20.4 ... 28.8V)
No-load current consumption at L+ (all A.x=off)	10mA
Current consumption via backplane bus	120mA
Output current per channel	2A protected against sustained short circuits
max. total current	10A
Voltage supply	DC 5V via backplane bus DC 24V (20.4 ... 28.8V)
Isolation	500Vrms (field voltage to the bus)
Status indicator	via LEDs located on the front
Programming specifications	
Input data	-
Output data	2Byte
Parameter data	-
Diagnostic data	-
Dimensions and weight	
Dimensions (WxHxD) in mm	25.4x76x88
Weight	50g

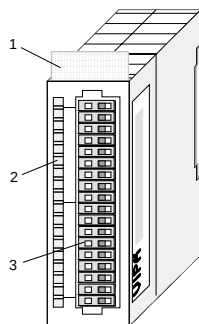
222-1BH30 - DO 16xDC 24V 0.5A - ECO

Order data DO 16xDC 24V 0.5A VIPA 222-1BH30

Description The digital output module accepts binary control signals from the central bus system and transfers them to the process level via outputs. The module requires 24V via the connector on the front. It has 16 channels and the status of each channel is displayed by means of an LED.

- Properties**
- 16 outputs, isolated from the backplane bus
 - DC 24V supply voltage
 - 0.5A output current rating
 - Suitable for magnetic valves and DC contactors
 - LEDs for supply voltage and error message
 - Active channel indication by means of an LED

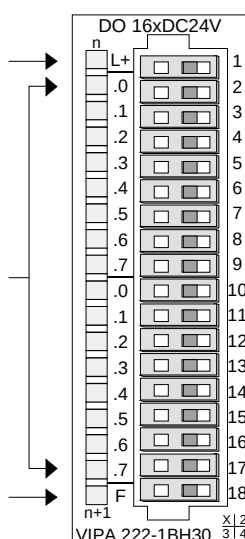
Construction



- [1] Label for module description
[2] LED status indicator
[3] Edge connector

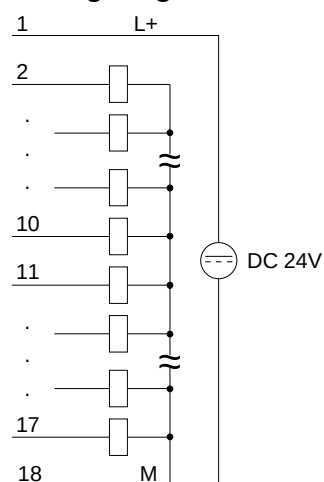
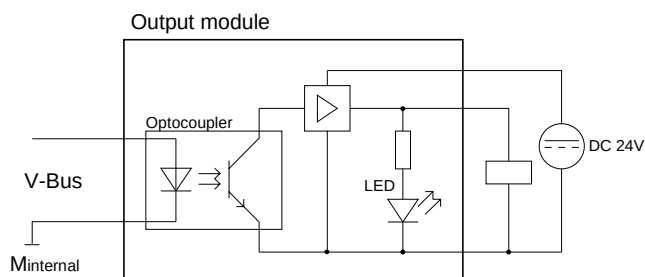
Status indicator pin assignment

LED	Description
L+	LED (yellow) Supply voltage available
.07	LEDs (green) Q+0.0 to Q+1.7 when an output is active the respective LED is turned on
F	LED (red) Overload, overheat or short circuit error



Note

The module can only be used together with a bus coupler! The operation at a CPU is not possible.

Wiring and schematic diagram**Wiring diagram****Schematic diagram****Technical data**

Electrical data	VIPA 222-1BH30
Number of outputs	16
Nominal load voltage	DC 24V (20.4 ... 28.8V)
No-load current consumption at L+ (all A.x=off)	10mA
Current consumption via backplane bus	120mA
Output current per channel	0.5A protected against sustained short circuits
Total current	8A
Voltage supply	DC 5V via backplane bus DC 24V (20.4 ... 28.8V)
Isolation	500Vrms (field voltage to the bus)
Status indicator	via LEDs located on the front
Programming specifications	
Input data	-
Output data	2Byte
Parameter data	-
Diagnostic data	-
Dimensions and weight	
Dimensions (WxHxD) in mm	25.4x76x88
Weight	50g

222-1BH50 - DO 16xDC 24V 0.5A NPN

Order data

DO 16xDC 24V 0.5A NPN

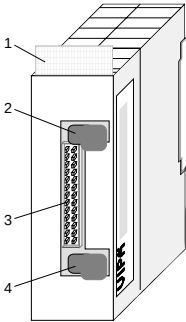
VIPA 222-1BH50

Description

The digital output module accepts binary control signals from the central bus system and controls the connected loads at the process level via Misfit outputs. It provides 16 channels that operate as Low-Side switches and that are interconnected via the load voltage. Low-Side switches are suitable for the control of grounds. When a short circuit occurs between the switched line and ground the result is that the load is activated until the short circuit has been removed. Short circuits do not place an additional load on the supply voltage.

- Properties
- 16 Low-Side outputs
 - Output current per channel 0.5A
 - Suitable for small motors, lamps, magnetic valves and contactors

Construction

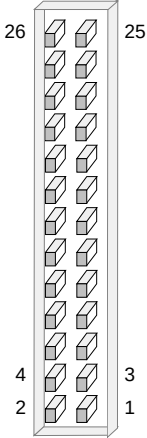


[1] Label for module description

[2] Clip

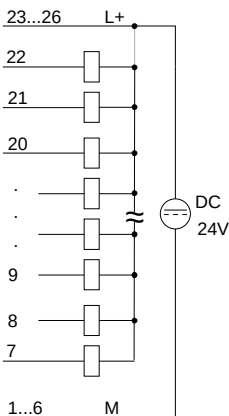
[3] Recessed connector for the interface to a outputconnection

[4] Clip

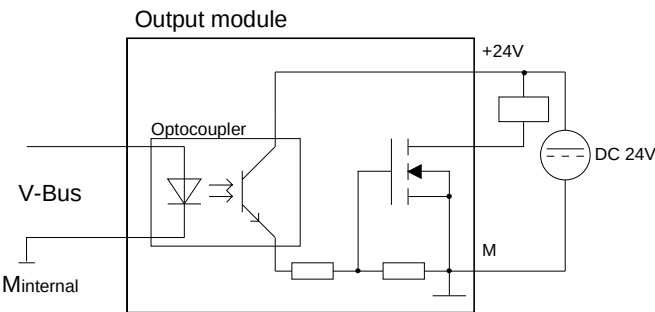
Pin assignment	Connector	Pin	Assignment
		23...26	DC 24V supply voltage
		22	Output Q+0.0
		21	Output Q+0.1
		.	.
		.	.
		.	.
		8	Output Q+1.6
		7	Output Q+1.7
		1...6	Supply ground

Wiring and schematic diagram

Wiring diagram



Schematic diagram



Attention!

This module is not deployable with UB4x from VIPA without technical intervention. For deploying the module with a converter module from VIPA, please call the VIPA Hotline.

Technical data

Electrical data	VIPA 222-1BH50
Number of outputs	16 via Low-Side
Nominal load voltage	DC 24V (20.4 ... 28.8V)
max. Output current per channel	0.5A
Current consumption via backplane bus	120mA
Voltage supply	DC 5V via backplane bus DC 24V (20.4 ... 28.8V)
Isolation	500Vrms (field voltage to the bus)
Switching rate	20kHz max.
Status indicator	-
Programming specifications	
Input data	-
Output data	2Byte
Parameter data	-
Diagnostic data	-
Dimensions and weight	
Dimensions (WxHxD) in mm	25.4x76x88
Weight	80g

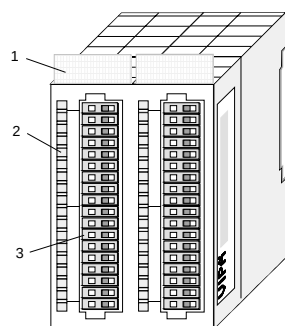
222-2BL10 - DO 32xDC 24V 1A

Order data DO 32xDC 24V 1A VIPA 222-2BL10

Description The digital output module accepts binary control signals from the central bus system and transfers them to the process level via outputs. The module requires 24V via the connector on the front. It provides 32 channels and the status of each channel is displayed by means of LEDs.

- Properties**
- 32 outputs, isolated from the backplane bus
 - DC 24V supply voltage
 - Output current per channel 1A
 - Suitable for magnetic valves and DC contactors
 - LEDs for supply voltage and error message
 - Active channel indication by means of an LED

Construction



- [1] Label for module description
[2] LED status indicator
[3] Edge connector

**Status indicator
pin assignment**

LED Description

- L+** LED (yellow)
Supply voltage available
- .07** LEDs (green)
Q+0.1 to Q+3.7
when an output is active the respective LED is turned on
- F** LED (red)
Overload, overheat or short circuit error

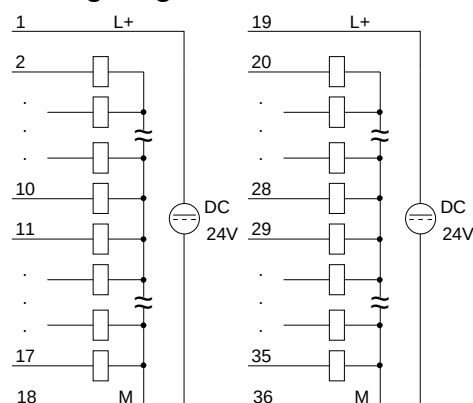


Pin Assignment

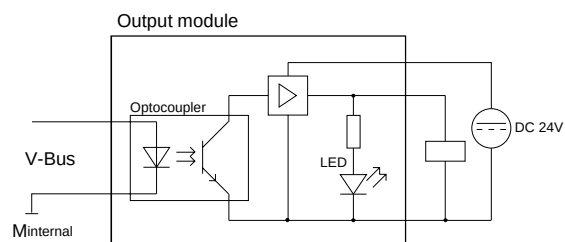
- | | |
|-----|-----------------------|
| 1 | DC 24V supply voltage |
| 2 | Output Q+0.0 |
| 3 | Output Q+0.1 |
| ... | ... |
| 17 | Output Q+1.7 |
| 18 | Supply ground |
| 19 | DC 24V supply voltage |
| 20 | Output Q+2.0 |
| ... | ... |
| 34 | Output Q+3.6 |
| 35 | Output Q+3.7 |
| 36 | Supply ground |

Wiring and schematic diagram

Wiring diagram



Schematic diagram



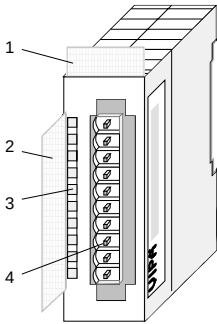
Technical data

Electrical data	VIPA 222-2BL10
Number of outputs	32 (at groups to 16)
Nominal load voltage	DC 24V (20.4 ... 28.8V)
No-load current consumption at L+ (all A.x=off)	15mA
Current consumption via backplane bus	180mA
max. Output current per channel	1A protected against sustained short circuits
max. Contact load	10A
Voltage supply	DC 5V via backplane bus DC 24V (20.4 ... 28.8V)
Isolation	per group 500Vrms (field voltage to the bus)
Status indicator	via LEDs located on the front
Programming specifications	
Input data	-
Output data	4Byte
Parameter data	-
Diagnostic data	-
Dimensions and weight	
Dimensions (WxHxD) in mm	50.8x76x88
Weight	50g

222-1HF00 - DO 8xRelay COM

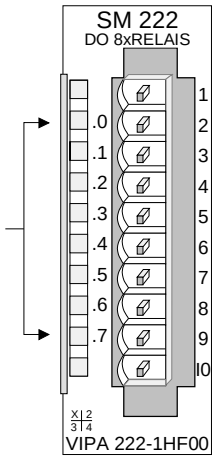
Order data	DO 8xRelay COM	VIPA 222-1HF00
Description	The digital output module accepts binary control signals from the central bus system and controls the connected loads at the process level via relay outputs. The module derives power from the backplane bus. The load voltage must be connected to terminal 1. When the total current exceeds 8A you have to balance the load current between terminals 1 and 10. The module has 8 channels and the status of each channel is displayed by means of an LED.	

Properties	• 8 relay outputs • Power supply via backplane bus • External load voltage AC 230V / DC 30V • Output current per channel 5A (AC 230V / DC 30V) • Suitable for motors, lamps, magnetic valves and DC contactors • Active channel indication by means of LED	
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Construction		[1] Label for module description [2] Label for the bit address with description [3] LED status indicator [4] Edge connector
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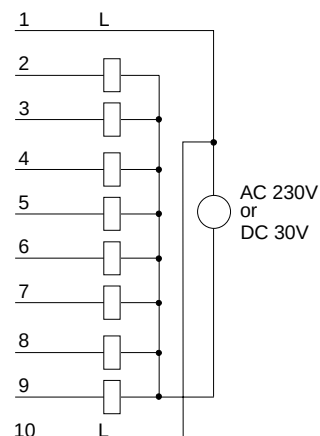
Status indicator pin assignment

LED	Description	Pin	Assignment
.0... .7	LEDs (green) Q+0.0 to Q+0.7 when an output is active the respective LED is turned on	1	Supply voltage L
		2	Relay output Q+0.0
		3	Relay output Q+0.1
		4	Relay output Q+0.2
		5	Relay output Q+0.3
		6	Relay output Q+0.4
		7	Relay output Q+0.5
		8	Relay output Q+0.6
		9	Relay output Q+0.7
		10	Supply voltage L

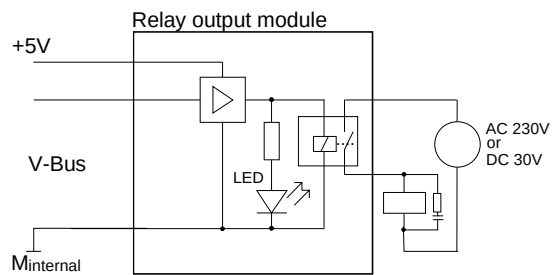


Wiring and schematic diagram

Wiring diagram

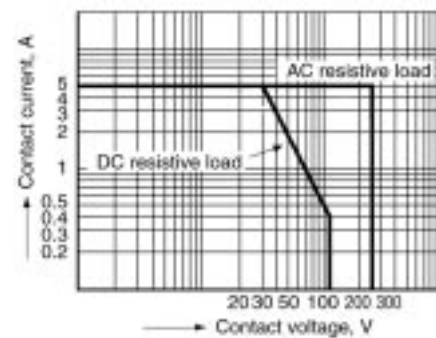


Schematic diagram

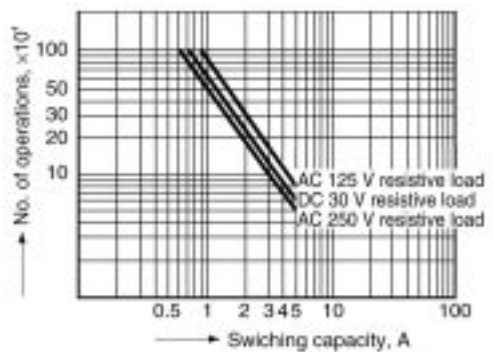


Note: When using inductive load please take an suitable protector (see installation guidelines).

Maximum load



Service life



Technical data

Electrical data	VIPA 222-1HF00
Number of outputs	8 via relay
Nominal load voltage	max. AC 230V or DC 30V
No-load current consumption at L+ (all A.x=off)	-
Current consumption via backp. bus	300mA
Total current	with 1 L: max. 8A with 2 L: max. 16A
max. output current per channel	AC 230V: 5A / DC 30V: 5A
Voltage supply	DC 5V via backplane bus
Isolation	500Vrms (field voltage to the bus)
Switching rate	max. 100Hz
Status indicator	via LEDs located on the front
Programming specifications	
Input data	-
Output data	1Byte
Parameter data	-
Diagnostic data	-
Dimensions and weight	
Dimensions (WxHxD) in mm	25.4x76x88
Weight	80g

222-1HD10 - DO 4xRelay

Order data

DO 4xRelay

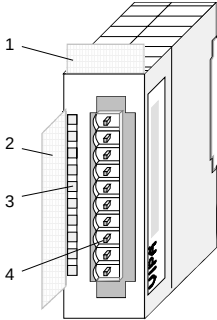
VIPA 222-1HD10

Description

The digital output module accepts binary control signals from the central bus system and controls the connected loads at the process level via relay outputs. The module derives power from the backplane bus. The module has 4 isolated channels that operate as switches and the status of each channel is displayed by means of a LED. Power required by active loads must be supplied externally.

- Properties
- 4 galvanically isolated relay outputs
 - Power supply via backplane bus
 - External load voltage AC 230V / DC 30V (may be mixed)
 - Max. output current per channel 5A (AC 230V / DC 30V)
 - Suitable for motors, lamps, magnetic valves and DC contactors
 - Active channel indication by means of an LED

Construction



[1] Label for module description

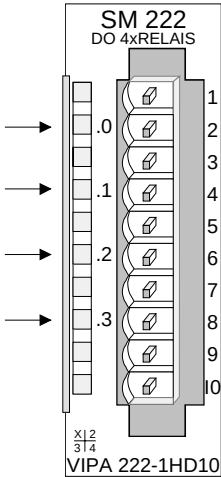
[2] Label for the bit address with description

[3] LED status indicator

[4] Edge connector

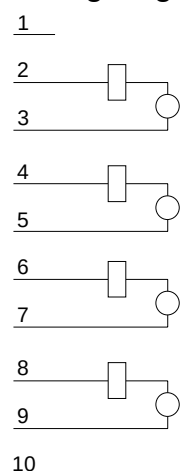
Status indicator pin assignment

LED	Description	Pin	Assignment
.0... .3	LEDs (green) Q+0.0 to Q+0.3 when an output is active the respective LED is turned on	1	not connected
		2+3	Relay output Q+0.0
		4+5	Relay output Q+0.1
		6+7	Relay output Q+0.2
		8+9	Relay output Q+0.3
		10	not connected

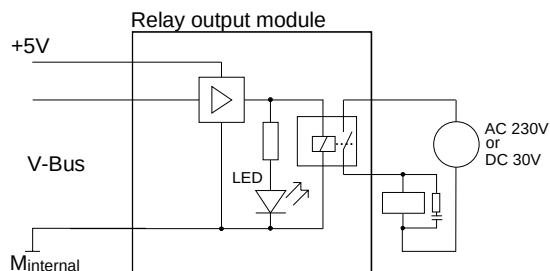


Wiring and schematic diagram

Wiring diagram

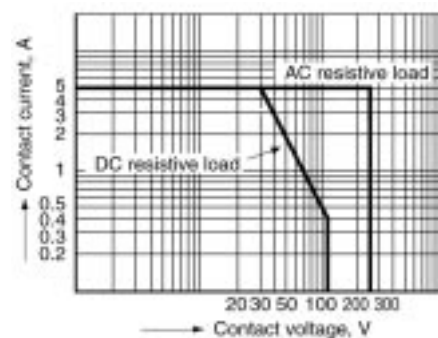


Schematic diagram

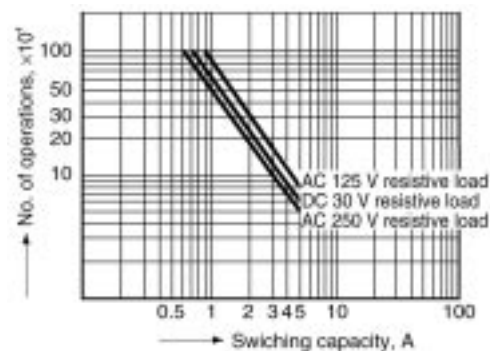


Note: When using inductive load please take an suitable protector (see installation guidelines).

Maximum load



Service life



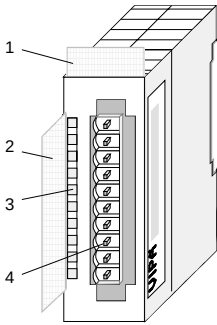
Technical data

Electrical data	VIPA 222-1HD10
Number of outputs	4 via relay
Nominal load voltage	AC 230V or max. DC 30V
max. Output current	AC 230V: 5A / DC 30V: 5A
Current consumption via backplane bus	160mA
Voltage supply	DC 5V via backplane bus
Isolation	500Vrms (field voltage to the bus)
Switching rate	max. 100Hz
Status indicator	via LEDs located on the front
Programming specifications	
Input data	-
Output data	1Byte (Bit 0 ... Bit 3)
Parameter data	-
Diagnostic data	-
Dimensions and weight	
Dimensions (WxHxD) in mm	25.4x76x88
Weight	80g

222-1HD20 - DO 4xRelay bistable

Order data	DO 4xRelay bistable	VIPA 222-1HD20
Description	The digital output module accepts binary control signals from the central bus system and controls the connected loads at the process level via bistable relay outputs. The module derives power from the backplane bus. The module has 4 channels that operate as switches. The status of the respective switch is retained if the power from the controlling system fails.	

Properties	• 4 galvanically isolated relay outputs • Power supply via backplane bus • External load voltage AC 230V / DC 30V (may be mixed) • Max. Output current per channel 16A (AC 230V / DC 30V) • Suitable for motors, lamps, magnetic valves and DC contactors
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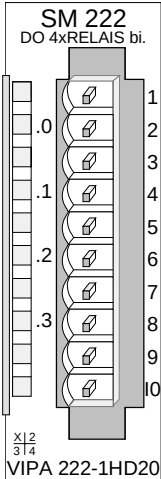
Construction		[1] Label for module description [2] Label for the bit address with description [3] LEDs (not used) [4] Edge connector
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Output byte /
Pin assignment

Bit	Description	Pin	Assignment
Bit 0	set Q+0.0	1	not connected
Bit 1	set Q+0.1	2+3	Relay output Q+0.0
Bit 2	set Q+0.2	4+5	Relay output Q+0.1
Bit 3	set Q+0.3	6+7	Relay output Q+0.2
Bit 4	reset Q+0.0	8+9	Relay output Q+0.3
Bit 5	reset Q+0.1	10	not connected
Bit 6	reset Q+0.2		
Bit 7	reset Q+0.3		

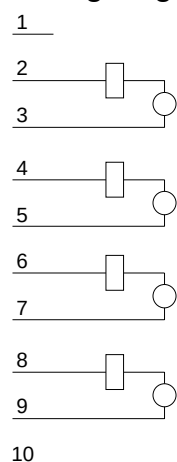
Setting the Bits 0...3 activates the concerning channel.

Setting Bits 4..7 causes a reset of the concerning channel after min. 50ms.

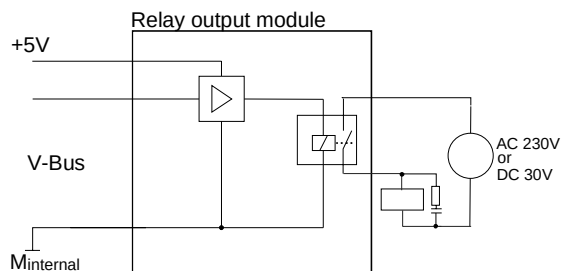


Wiring and schematic diagram

Wiring diagram

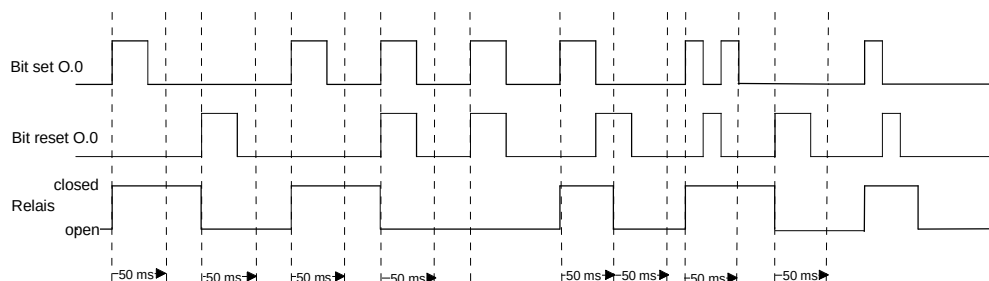


Schematic diagram



Note: When using inductive load please take an suitable protector (see installation guidelines).

Signaling diagram



Note!

Please remember that a relay output that has been set may only be reset after at least 50ms when the set-signal has been removed.

Technical data

Electrical data	VIPA 222-1HD20
Number of outputs	4 via relay
Nominal load voltage	AC 230V or DC 30V
max. Output current per channel	AC 230V: 16A / DC 30V: 16A
Current consumption via backplane bus	200mA
Voltage supply	DC 5V via backplane bus
Isolation	500Vrms (field voltage to the bus)
Switching rate	max. 100Hz
Status indicator	-
Programming specifications	
Input data	-
Output data	1Byte
Parameter data	-
Diagnostic data	-
Dimensions and weight	
Dimensions (WxHxD) in mm	25.4x76x88
Weight	80g

222-1FF00 - DO 8xSolid State COM

Order data

DO 8xSolid State COM

VIPA 222-1FF00

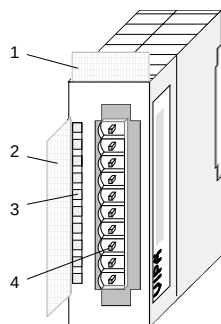
Description

The solid-state output module accepts binary control signals from the central bus system and controls the connected loads at the process level via solid-state relay outputs. The module derives power from the backplane bus. The module has 8 channels that are interconnected via the load voltage that act as switches and display the status by means of LEDs. Solid-state relays change state when the load voltage passes through zero (AC).

Properties

- 8 solid-state outputs with active channel indication by means of a LED
- Extended service life due to the fact that the load voltage (provided this is AC) is switched when it passes through zero
- External load voltage AC 230V or DC 400V
- Max. output current per channel 0.5A (AC 230V / DC 400V)
- Suitable for small motors, lamps, magnetic valves and contactors

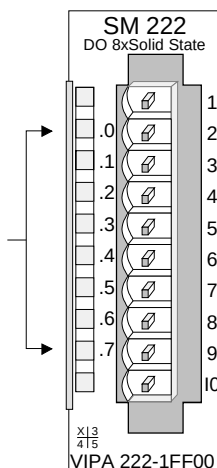
Construction

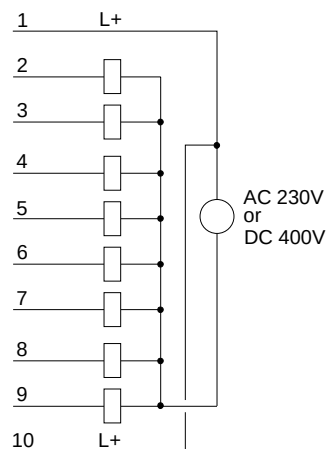
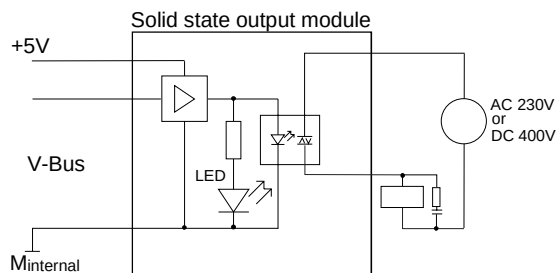


- [1] Label for module description
- [2] Label for the bit address with description
- [3] LED status indicator
- [4] Edge connector

Status indicator pin assignment

LED	Description	Pin	Assignment
.07	LEDs (green) Q+0.0 to Q+0.7 when an output is active the respective LED is turned on	1	Supply voltage
		2	Output Q+0.0
		3	Output Q+0.1
		4	Output Q+0.2
		5	Output Q+0.3
		6	Output Q+0.4
		7	Output Q+0.5
		8	Output Q+0.6
		9	Output Q+0.7
		10	Supply voltage



Wiring and schematic diagram**Wiring diagram****Schematic diagram**

Note: When using inductive load please take an suitable protector (see installation guidelines).

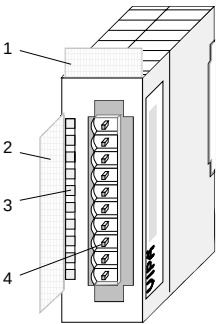
Technical data

Electrical data	VIPA 222-1FF00
Number of outputs	8 via solid-state
Nominal load voltage	AC 230V or DC 400V
max. Output current per channel	AC 230V: 0.5A / DC 400V: 0.5A
Contact resistance	typ. 2.1Ω , max. 3.2Ω
Current consumption via backplane bus	140mA
Voltage supply	DC 5V via backplane bus
Isolation	500Vrms (field voltage to the bus)
Switching rate	max. 100Hz
Status indicator	via LEDs located on the front
Programming specifications	
Input data	-
Output data	1Byte (Bit 0 ... Bit 7)
Parameter data	-
Diagnostic data	-
Dimensions and weight	
Dimensions (WxHxD) in mm	25.4x76x88
Weight	80g

222-1FD10 - DO 4xSolid State

Order data	DO 4xSolid State	VIPA 222-1FD10
Description	The solid-state output module accepts binary control signals from the central bus system and controls the connected loads at the process level via solid-state relay outputs. The module derives power from the backplane bus. The module has 4 separate channels that operate as switches and display the status by means of LEDs. Active loads must be supplied with external power.	
Properties	• 4 galvanically isolated solid-state outputs • Power supply via backplane bus • External load voltage AC 230V or DC 400V • Max. output current per channel 0.5A (AC 230V / DC 400V) • Suitable for motors, lamps, magnetic valves and contactors • Active channel indication by means of an LED	

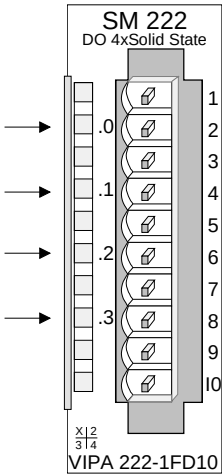
Construction

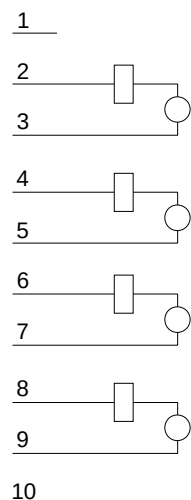
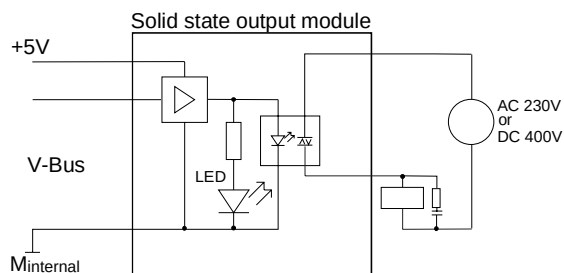


- [1] Label for module description
- [2] Label for the bit address with description
- [3] LED status indicator
- [4] Edge connector

Status indicator
pin assignment

LED	Description	Pin	Assignment
.0... .3	LEDs (green) Q+0.0 to Q+0.3 when an output is active the respective LED is turned on	1	not connected
		2+3	Output Q+0.0
		4+5	Output Q+0.1
		6+7	Output Q+0.2
		8+9	Output Q+0.3
		10	not connected



Wiring and schematic diagram**Wiring diagram****Schematic diagram**

Note: When using inductive load please take an suitable protector (see installation guidelines).

Technical data

Electrical data	VIPA 222-1FD10
Number of outputs	4 via solid state
Nominal load voltage	AC 230V or DC 400V
max. output current per channel	AC 230V: 0.5A / DC 400V: 0.5A
Current consumption via backplane bus	100mA
Voltage supply	DC 5V via backplane bus
Isolation	500Vrms (field voltage to the bus)
Switching rate	max. 100Hz
Status indicator	via LEDs located on the front
Programming specifications	
Input data	-
Output data	1Byte (Bit 0 ... Bit 3)
Parameter data	-
Diagnostic data	-
Dimensions and weight	
Dimensions (WxHxD) in mm	25.4x76x88
Weight	80g

