Subminiature Relays
Type ZFH
Monostable

ZFH

- **Subminiature relay**
- **Dual-in-line-terminals**
- **Switching capacity 2 A**
- **DC coils 3 to 48 VDC**
- **2 change over contacts**
- **General purpose, industrial electronics**
- **Sealed as standard**
- **Ultra high sensitivity**
- **Low profile and light weight**
- **High reliability**
- **UL / cUL and TUV approved**

Product Description

Telecommunications.
Office machine.
Instruments.
Computer.
Industrial process control.
Remote control.

Ordering Key

ZFH A 002 12

Type
Version (A = High Sensitive)
(B = Sensitive)
(C = Standard)
Contact code
Coil rated voltage

Type Selection

Contact configuration		Contact rating	Contact code
2 change over contacts	(DPDT {2-form C})	2 A	**002**

Coil Characteristics, DC (20°C) Type A High Sensitive (0,15 W) and Type B Sensitive (0,2 W)

Rated voltage VDC	Winding Resistance Ω ±10%		Operating range Min. VDC		Operating range Max. VDC		Must release VDC	
	A	B	A	B	A	B	A	B
3.0	60	45	2.25	2.25	3.90	3.90	0.30	0.30
5.0	167	125	3.75	3.75	6.50	6.50	0.30	0.30
6.0	240	180	4.50	4.50	7.80	7.80	0.30	0.30
9.0	540	405	6.75	6.75	11.70	11.70	0.90	0.90
12.0	960	720	9.00	9.00	15.60	15.60	1.20	1.20
24.0	–	2800	–	18.00	–	31.20	2.40	–

Coil Characteristics, DC (20°C) Type C Standard (0,36 W)

Rated voltage VDC	Winding Resistance Ω ±10%	Operating range Min. VDC	Operating range Max. VDC	Must release VDC
3.0	25	2.25	3.90	0.30
5.0	70	3.75	6.50	0.50
6.0	100	4.50	7.80	0.60
9.0	220	6,75	11.70	0.90
12.0	400	9.00	15.60	1.20
24.0	1600	18.00	31.20	2.40
48.0	6400 ±15%	36.00	62.40	4.80

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Contact Characteristics

Rating	**2 A**
Material (standard version)	**AgNi+ Au**
Initial contact resistance	**50 m Ω at 1mA/20 mV**
Current	
Rated current	**1 A 120 VAC/2 A 24 VAC**
Max Switching current	**2 A**
Min. switching current	**10 µA**
Voltage	
Rated voltage	**24 VDC / 120 VAC**
Max. switching power with resistive load	**120 VA / 60 W**
Max switching voltage	**30 VDC / 120 VAC**
Min. switching voltage	**10 mV**
Min. switching power	**0.1 µW**
Life	
Electrical life	
at 2A/24VDC resistive	**1 x 10^5 cycles**
at 1A/120VDC resistive	**1 x 10^5 cycles**
Mechanical life	**1 x 10^7 cycles**
Max. switching frequency	**40 Hz**

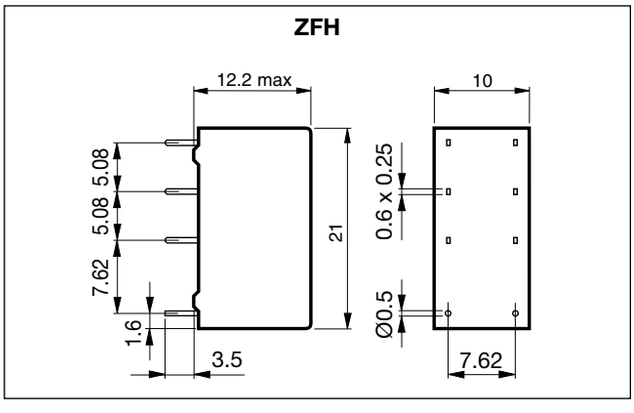
Insulation

Test voltage (1 min.)	
Open contact	**500 VAC**
Contacts/coil	**1000 VAC**
Contacts of different polarity	**1000 VAC**
Insulation resistance at 500 VDC	**> 100 MΩ**

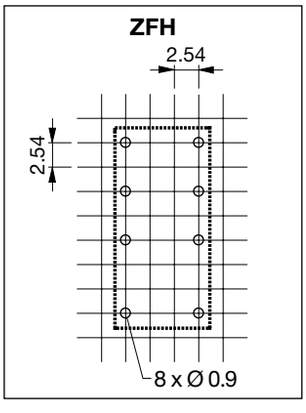
General Data

Max. Operating time at rated voltage (excl. bounces)	**≤ 6 mS**
Max. Release time (excl. bounces)	**≤ 4 mS**
Vibration resistance	**1.5 mm p.p. 10 to 55 Hz**
Ambient temperature	**-40 °C to 70 °C**
Shock resistance	**10 G, 11 ms**
Weight	**~ 4.5 g**
Working class / type of serv.	**C / continuous**

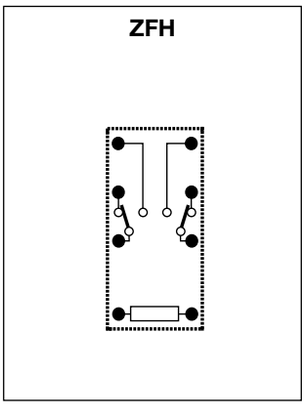
Dimensions



Pin View



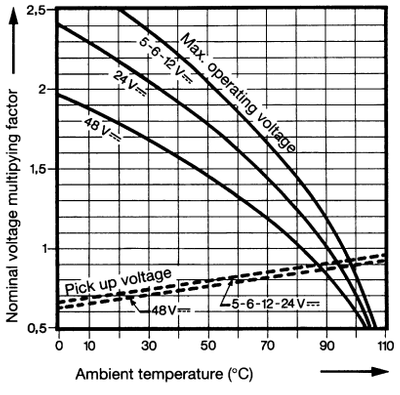
Wiring Diagram



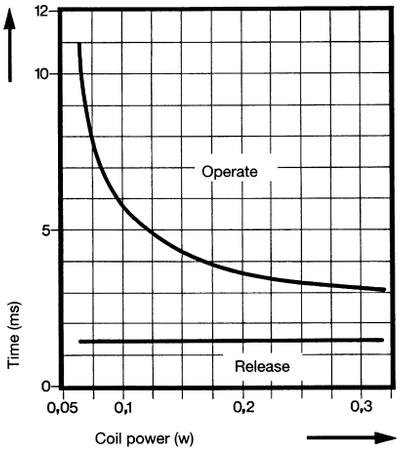
All parameters, unless otherwise specified, are measured at ambient temperature 20°C.

Diagrams

1 Operating voltage depending on ambient temperature



2 Operating time values depending on coil power



Approvals

U.S.A. CANADA TÜV

The approvals stated are not generally applicable to all relay versions of a particular type.

For further information please apply for relevant data sheets ref. **3.84.00.10.X**