



# VAJH, VAJS & VAJHM

## High Speed Tripping Relays

Protective relays are precise measuring devices, the contacts of which should not be expected to switch large electrical loads. In some cases, the protective relay may trip a circuit breaker directly, or according to the coil rating and the number of circuits to be energized, may do so using a VAJ tripping relay. The VAJ relay interfaces the protection to provide the higher contact capacity, additional contacts for tripping multiple circuit breakers, control functions, signalling and interlocking.

The VAJ range comprises very reliable hinged armature relays designed to directly operate circuit breaker trip coils. Built to very high specifications, the VAJ range provides a highly flexible and reliable link between the protective relays and the circuit breakers

### Application

High speed tripping duties where a number of simultaneous switching operations are required.

### General Description

A fast operating multi contact attracted armature relay with a high degree of mechanical stability.

Type VAJH 13 relay has hand reset contacts and is available in two versions: high burden and low burden.

Type VAJS 13 has self reset contacts and is a low burden relay.

Type VAJHM 13 high burden relay with hand reset contact is recommended where supervision of trip relay coil is desired.

The operating current for all versions is in excess of 0.025 amp. and the relays are suitable for operation on D.C supplies fitted with a negative potential biasing device.

High burden relays are recommended in high security circuit breaker tripping circuits. The high burden provides immunity against operation due to capacitance discharge currents. Low burden relays are generally used when a number of simultaneous operations are to be initiated by a single protective relay having insufficient contacts of its own and where series connected operation indicators are not used.

## Features

- High speed operation
- High degree of mechanical stability
- Positive action without chatter
- Compact

## Customer Benefits

- Directly operates circuit breaker trip coils
- High reliability
- High speed operation
- Immunity to wiring capacitance discharge



## Technical Data

### Coil Rating

24, 30, 48, and 110 or 220 V DC as standard. 110 or 200 V AC for VAJH13, VAIJH23 and VAJS 13. External resistor supplied with type VAJS13 relay for 110V and above.

### Voltage Band for Satisfactory Operation

50% to 120% of rated voltage.

### Operating Time

10 milliseconds nominal, at rated voltage.(12.5 mSec for 24 & 30 V models).

### Thermal Rating

#### Type VAJH/VAJHM:

Relay coil short time rated. Hand reset coil cut off contact provided in series with operating coil.

#### Type VAJS:

120% of rated voltage, continuous.

### Operation Indicators

**VAJH/VAJHM:** Hand reset operation indicator provided.

**VAJS:** Hand reset operation indicator provided when required

### Insulation

The relay meets the requirements of IS.3231: 196/IEC 255-5 Series C-2kV for 1 minute.



### Burden

S.No	Relay coil voltage D.C	Burden in watts at rated voltage		
		VAJH 13/VAJHM 13 High Burden	VAJH 13 Low Burden	VAJS 13
1	24	150	4	3
2	30	150	5	4
3	48	150	8	6
4	110	150	18	14
5	220	150	37	28

### Contacts

Relay Type	Contact Description	Contact Pair
VAJH 13 / VAJHM 13	4 pairs of hand reset output	4 N/O, 3N/O+ 1 N/C, 2 N/O + 2 N/C
VAJH 23 / VAJHM 23	8 pairs of hand reset output	8 N/O, 7 N/O + 1 N/C, 6 N/O + 2 N/C, 5 N/O + 3 N/C, 4 N/O + 4 N/C
VAJHM 33	12 pairs of hand reset output	12 N/O, 10 N/O + 2 N/C, 8 N/O + 4 N/C, 6 N/O + 6 N/C
VAJHM 53	20 pairs of hand reset output	20 N/O, 18 N/O + 2 N/C, 16 N/O + 4 N/C, 14 N/O + 6 N/C, 12 N/O + 8 N/C, 10 N/O + 10 N/C
VAJS 13	4 pairs of self reset output	4 N/O , 3 N/O +1 N/C , 2 N/O + 2 N/C
VAJS 23	8 pairs of self reset output	8 N/O, 7 N/O+1 N/C, 6 N/O + 2 N/C, 5 N/O + 3 N/C + 4 N/O + 4 N/C

### Contacts Ratings

Make and carry continously		Make and carry for 3 seconds	Break
AC	1250 VA with maxima of 5 A & 660 V	7500 VA with maxima of 30 A & 660 V	1250 VA with maxima of 5 A & 660 V
DC	1250 W with maxima of 5 A & 660 V	7500 watts with maxima of 30 A & 660 V	100 W(resistive), 50 W(inductive) with maximum of 5 A & 660 V

## Cases

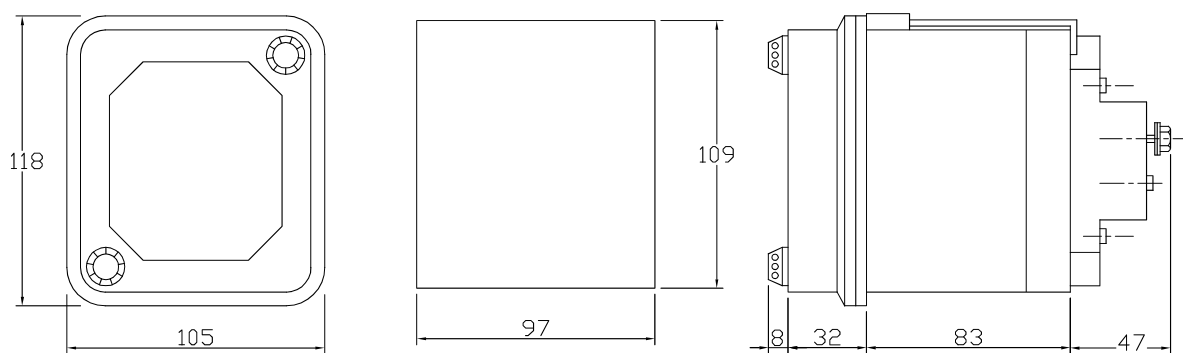


Figure 1 : Case and Panel cut-out dimensions for case 1/4N (all dimensions in mm)

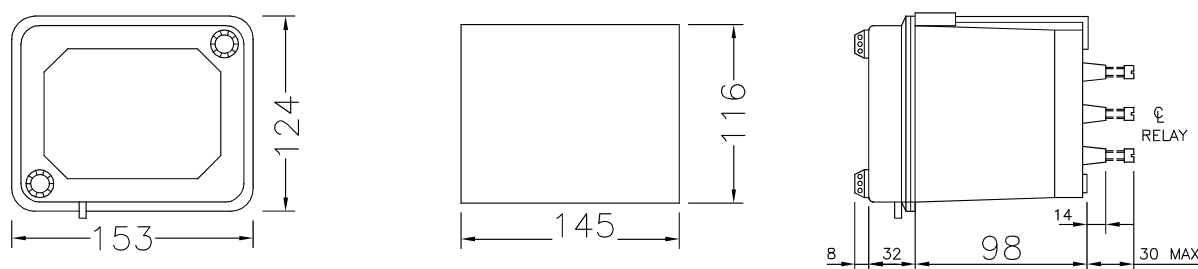


Figure 2 : Case and Panel cut-out dimensions for case 1/2N (all dimensions in mm)

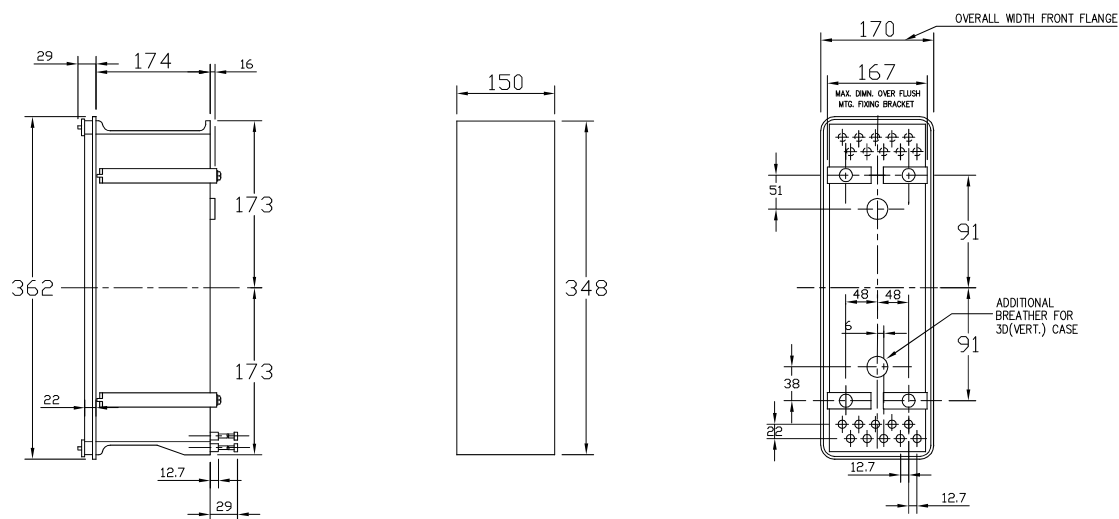


Figure 3 : Case and Panel cut-out dimensions for case 1 1/2D (all dimensions in mm)

## Dimensions and Weights

Relay	Case Size	Maximum number of terminals	Maximum overall dimensions(mm)			Approximate gross weight Kg
VAJH 13/VAJS 13	1/4N	10	118	105	120	1.5
VAJH 23/VAJS 23	1/2 N Hor.	20	124	153	130	2.5
VAJHM 13	1/4 N Vert.	15	118	105	120	1.5
VAJHM 23	1/2 N Hor.	20	124	153	130	2.5
VAJHM 33/VAJHM 53	1-1/2D Vert.	48	362	170	210	6.5-7.0

## Information Required with Order

1. Type of relay(VAJH 13, VAJH 23 high or low burden, VAJS 13 or VAJS 23, VAJHM 13, VAJHM 23, VAJHM 33 or VAJHM 53)
2. Coil voltage rating.
3. Number of N/O and N/C contacts.
4. Whether operation indicator required(for VAJS relay only)
5. Case size

Note : Please also refer VAJ Cortec for selection details

For more information please contact  
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### Worldwide Contact Center

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Imagination at work



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