

STATIC MONITORING RELAY

Fuse failure relay

UVT92m

Product Guide



UVT92m is a high speed static relay intended for continuous monitoring of fuses against blowing out or inadvertent removals. This relay can be used for one, two or all three phase fuse failure detection. The plug-in socket type design for terminals, supports ease of installation and maintenance.

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Fuse failure relay

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Features

- Fast operation
- 1, 2 or 3 phase fuse fail detection
- No continuous drain on D.C. auxiliary supply
- Hand reset LED operation indication
- Sensitivity down to 2.5VA load on secondary

Application

The fuse failure relay is intended for continuous monitoring of fuses against blowing out or inadvertent removals. In application where failure or inadvertent removal of fuse may cause incorrect tripping.

The relay can also be used for supervision of potential transformer fuses so as to give blocking signals to voltage operated protection schemes such as distance protection, under impedance and under voltage relays. It can be used for alarming purpose in synchronizing circuits.

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Table 1. Application and supported functions

Functionality	ANSI	IEC
Fuse fail supervision	97	FUSEF

Design and principle of operation

The fuse failure relay is a high speed static relay with built-in electro mechanical output relays providing two change over signaling duty contacts. The relay can operate for single, two or three phase fuse failure in secondary circuit.

During the normal operation, the potential across the fuses is nearly zero. When fuse fail will occur in any of the phase, the potential across the particular fuse goes up. This potential drives the circuit path for external LED indication and relay output.

The fuse fail in any phase is indicated by 'Trip' LED and will remain latched until reset push button is pressed and fuse is healthy. After replacing the faulty fuses, the output contacts can be reset.

The plug in socket design for terminals facilitates ease of installation and maintenance. The relay is suitable for flush mounting on panel and is sufficiently protected against any ingress. A unique Plug-in PCBA assembly and sheet metal case makes the relay robust and light weight.

The relay supports functions as indicated in Table 1.

Technical data

Table 2. Dimensions

Description		Value
Width	Frame	108.0 mm
	Case	088.0 mm
Height	Frame	164.0 mm
	Case	112.0 mm
Depth	Case	145.0 mm (120 mm + 25 mm)
Weight	Relay	1.20 kg

Table 3. Auxiliary power supply

Description	Value
U _{aux} nominal	24, 30, 48, 110, 220, 250 VDC
U _{aux} variation	80...110% of Uaux
Burden of auxiliary voltage supply under Quiescent (Pq)/operating condition	<3.0W (nominal) / < 4.0 W
Ripple in the DC auxiliary voltage	Max 15% of the DC value (at frequency of 100 Hz)

Table 4. Energizing inputs from PT supply and operation time

Description	Value
Rated voltage	110V AC
Rated frequency	50 Hz
Burden on energizing input	0.5 VA / Phase
Maximum phase neutral load impedance allowable in series with relay input	2000 ohms
Relay operation time	≤ 15 msec

Table 5. Output contact details

Description	Value
Rated voltage	250 V AC/DC
Continuous contact carry	5 A
Make and carry for 0.5 sec	10 A
Make and carry for 3.0 sec	8 A
Breaking capacity when the control-circuit time constant L/R<40 ms, at 48 / 110 / 220 V DC	1.0 A / 0.25 A / 0.15 A

Table 6. Degree of protection of relay

Description	Value
Front side	IP 54
Rear side, connection terminals	IP 20

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Table 7. Environmental conditions

Description	Value
Operating temperature range	-10...+55°C
Relative humidity	< 93%, non-condensing
Atmospheric pressure	86...106kPa
Altitude	up to 2000 m

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Table 8. Environmental tests

Description	Type test value	Reference
Dry heat test (humidity < 50%)	16h at +55°C 4h at +70°C	IEC 60068-2-2
Dry cold test	16h at -10°C 4h at -25°C	IEC 60068-2-1
Damp heat test, cyclic	6 cycles (12 h + 12 h) at +25°C...+55°C, Rh > 93%	IEC 60068-2-30
Transport and storage test	72h at -40°C 72h at +70°C	IEC 60068-2-14

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Table 9. Insulation tests

Description	Type test value	Reference
Dielectric test • Test voltage	2 kV, 50 Hz, 1 min	IEC 60255-27
Impulse voltage test • Test voltage	5 kV, 1.2/50 µs, 0.5 J	IEC 60255-27
Insulation resistance test • Insulation resistance	> 100 M.Ω at 500 V DC	IEC 60255-27

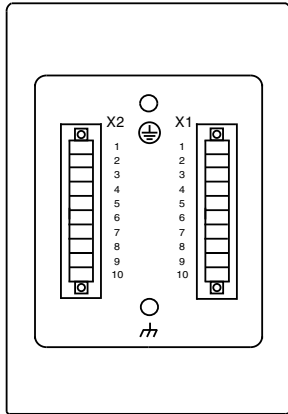
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Table 10. Mechanical tests

Description	Type test value	Reference
Vibration tests • Response • Endurance / Withstand	10...150 Hz / 0.5 g 10...150 Hz, 1.0 g	IEC 60255-21-1, class I
Shock tests • Response • Endurance / Withstand	5 g, 11 ms 15 g, 11 ms	IEC 60255-21-2, class I
Bump tests	10 g, 16 ms 1000 bumps in each direction	IEC 60255-21-2, class I

Dimensions and mounting

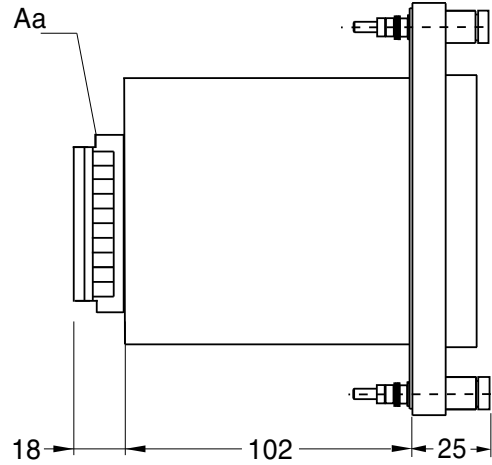
UVT92m relay is equipped with flush mounting arrangement. The panel cut out dimensions are as below:

- Height: 112.0 ± 1.0 mm (140.0 ± 0.3 mm between center of mounting holes)
- Width: 88.0 ± 1.0 mm

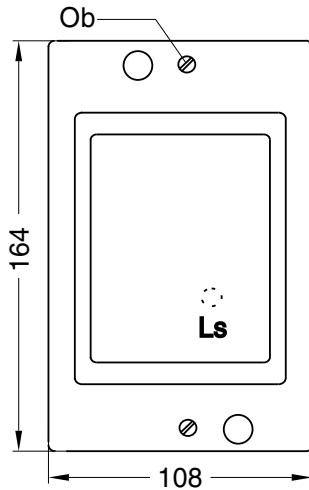


Rear view

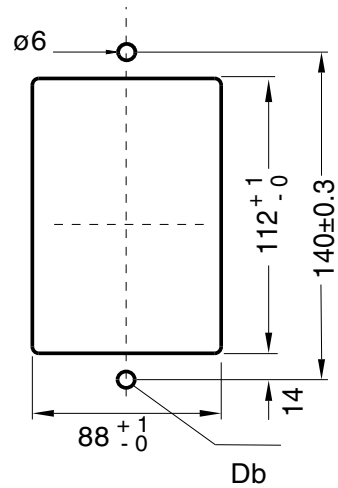
1/2'S' case mounting.



Side view



Front view



Cutout

- Legend
- Aa : Socket block
 - Db : Mounting hole
 - Ls : Reset button
 - Ob : Mounting screw

Selection and ordering data

The relay type and serial number label identifies the relay. An order number label is placed on the side of the relay. The order number consists of a string of codes generated based on a selection of auxiliary supply voltage of the relay.

Use the ordering key information in Table 11 to generate the order number when ordering complete protection relay.

Table 11: Order code information

#	Description	
1-7	Product type	
	Static	1MYN742
8-10	Relay type	
	UVT92m	844
11	Vacant digit	
	Vacant	-
12	Auxiliary supply	
	24 V DC	A
	30 V DC	B
	48 V DC	C
	110 V DC	D
	220 V DC	E
	250 V DC	F

Example order code: 1MYN742844-D

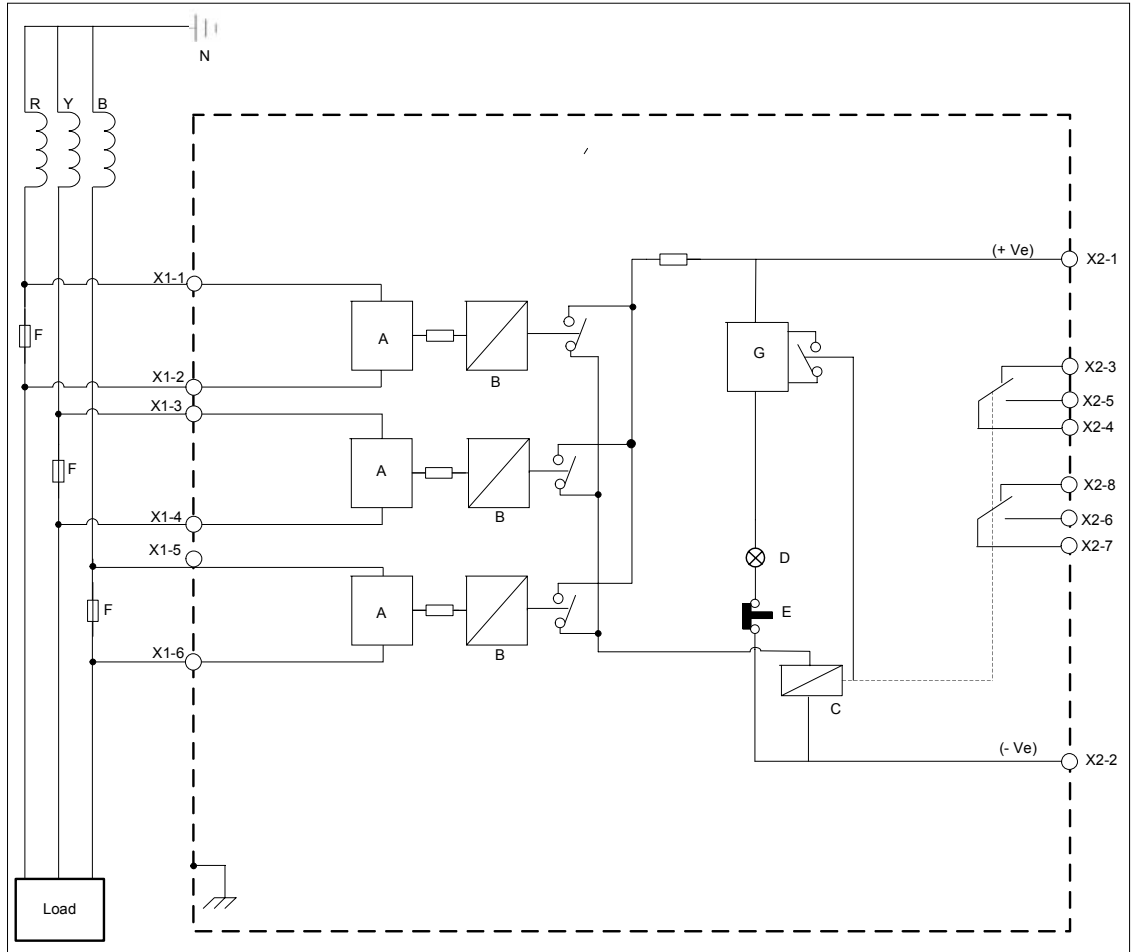
Your ordering code:

Digit (#)	1-7	8-10	11	12
Code				

Ordering key for complete relay

Connection and terminal diagram

UVT92m - Block Diagram



References

The <http://new.abb.com/medium-voltage/distribution-automation-portal> offers you information about the medium voltage distribution automation products and solutions.

You will find the latest relevant information on the fuse failure relay on product page.

The download area contains the latest documentation such as product guide and so on. The selection tool on the web page find the document category and language.

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