

# Microswitches for Protistor® fuse-links

Microswitches for fuses sizes 30 to 33 and 70 to 73

## ACCESSORIES FOR FUSES & FUSE SYSTEMS

### MICROSWITCHES



Microswitches systems are adapted to the following Mersen fuses only:

- PSC sizes 30, 31, 32, 33
- PSC sizes 2x32, 2x33
- PSC sizes 70, 71, 72, 73
- PSC sizes 2x72, 2x73 (except plain blades)
- PSC LR sizes 33, 2x33, 73, 2x73

Warning: microswitch systems exclusively designed for Protistor® fuses, fitted with a patented trip-indicator, saving use of EDV.

### TECHNICAL DATA OVERVIEW

Ampere Range (A)	3 ... 10 A
Size per Standard	PSC sizes 30, 31, 32, 33, 2x32, 2x33, 70, 71, 72, 73, 2x72, 2x73
Rated impulse withstand voltage $U_{imp}$	14 kV 20 kV

### FEATURES & BENEFITS

- Permanent indication of fuse state: conductive / blown
- Manual resetting
- Standard and low electrical level with different insulation levels
- BS type (low level microcontact) for use in corrosive atmosphere
- ET type "Etanche" for water tight (IP50)
- Each microswitch weights less than 100g: no fume and smoke grade required by EN45545 standard
- Fire class accordly to UL 94: H.B.

### STANDARDS

- Series MS 3V 1-5UR and MS 7V 1-5 UR are UL Recognized

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# Microswitches for Protistor® fuse-links

Microswitches for fuses sizes 30 to 33 and 70 to 73

## PRODUCT RANGE



MS3V1-5

### Microswitches for fuse sizes 30-31-32-33, with striker

Catalog number	Item number	Rated voltage AC (IEC) <sup>1</sup>	Rated current I <sub>n</sub>	AC voltage withstand test <sup>2</sup>	Impulse withstand voltage U <sub>imp</sub> 1.2/50μs <sup>3</sup>	Indication System	Minimum positive operating voltage / current	Breaking capacity, Non inductive circuit, 30V / 110V / 250V	Breaking capacity, Inductive circuit: L/R=25ms, 30V / 110V / 250V	Weight
MS3V1-5	X310014	1000 V	10 A	8.5 kV	14 kV	Standard NO-NC	20V, 100mA	10A / 10A / 10A	10A / 10A / 10A	34 g
MS3V1-5UR	Y310038	1000 V	10 A	8.5 kV	14 kV	Standard NO-NC	20V, 100mA	10A / 10A / 10A	10A / 10A / 10A	34 g
MS3V1-5BS	W310013	1000 V	3 A	8.5 kV	14 kV	Low level NO-NC	10V, 10mA	3A / 3A / 3A	2A / 1A / 1A	34 g
MS3V1-9BS	T310011	1000 V	3 A	8.5 kV	14 kV	Double pole Low level	10V, 10mA	3A / 3A / 3A	2A / 1A / 1A	34 g
MS3V1-5ETANCHE	R310009	1000 V	3 A	8.5 kV	14 kV	Low level NO-NC IP 50	10V, 10mA	3A / 3A / 3A	2A / 1A / 1A	34 g

<sup>1</sup> Between power circuit and microswitch terminals

<sup>2</sup> Between power circuit and microswitch terminals as per IEC 60 and 694 and NFC 64010 (50/60 Hz 1 min duration in dry air)

<sup>3</sup> Between power circuit and microswitch terminals U<sub>imp</sub>: impulse voltage as per IEC 60947-1



MS7V1-5

### Microswitches for fuses sizes 70-71-72-73, with striker

Catalog number	Item number	Rated voltage AC (IEC) <sup>1</sup>	Rated current I <sub>n</sub>	AC voltage withstand test <sup>2</sup>	Impulse withstand voltage U <sub>imp</sub> 1.2/50μs <sup>3</sup>	Indication System	Minimum positive operating voltage / current	Breaking capacity, Non inductive circuit, 30V / 110V / 250V	Breaking capacity, Inductive circuit: L/R=25ms, 30V / 110V / 250V	Weight
MS7V1-5	J310002	1500 V	10 A	12 kV	20 kV	Standard NO-NC	20V, 100mA	8A / 0.4A / 0.2A	4A / 0.2A / 0.1A	45 g
MS7V1-5UR	Z310039	1500 V	10 A	12 kV	20 kV	Standard NO-NC	20V, 100mA	8A / 0.4A / 0.2A	4A / 0.2A / 0.1A	45 g
MS7V1-5BSUR	K310003	1500 V	3 A	12 kV	20 kV	Low level NO-NC	10V, 10mA	3A / 0.5A / 0.25A	3A / 0.2A / 0.1A	45 g
MS7V1-9BS	P310007	1500 V	3 A	12 kV	20 kV	Double pole Low level	10V, 10mA	3A / 0.5A / 0.25A	3A / 0.2A / 0.1A	45 g
MS7V1-5ETANCHE	S310010	1500 V	3 A	12 kV	20 kV	Low level NO-NC IP 50	10V, 10mA	2A / 0.2A / -	3A / 0.5A / -	45 g

<sup>1</sup> Between power circuit and microswitch terminals

<sup>2</sup> Between power circuit and microswitch terminals as per IEC 60 and 694 and NFC 64010 (50/60 Hz 1 min duration in dry air)

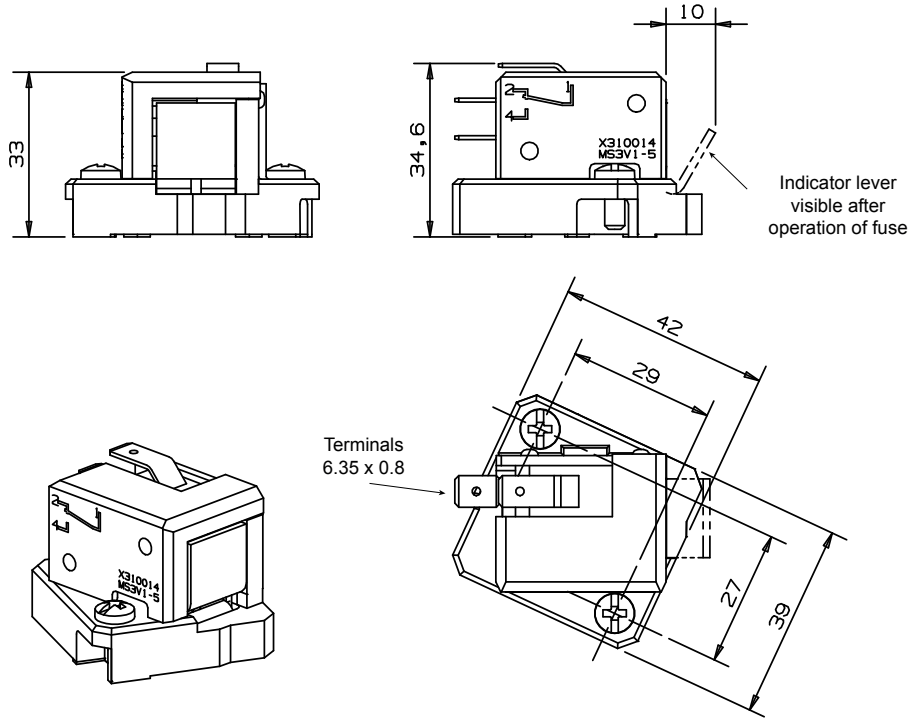
<sup>3</sup> Between power circuit and microswitch terminals U<sub>imp</sub>: impulse voltage as per IEC 60947-1

# Microswitches for Protistor® fuse-links

Microswitches for fuses sizes 30 to 33 and 70 to 73

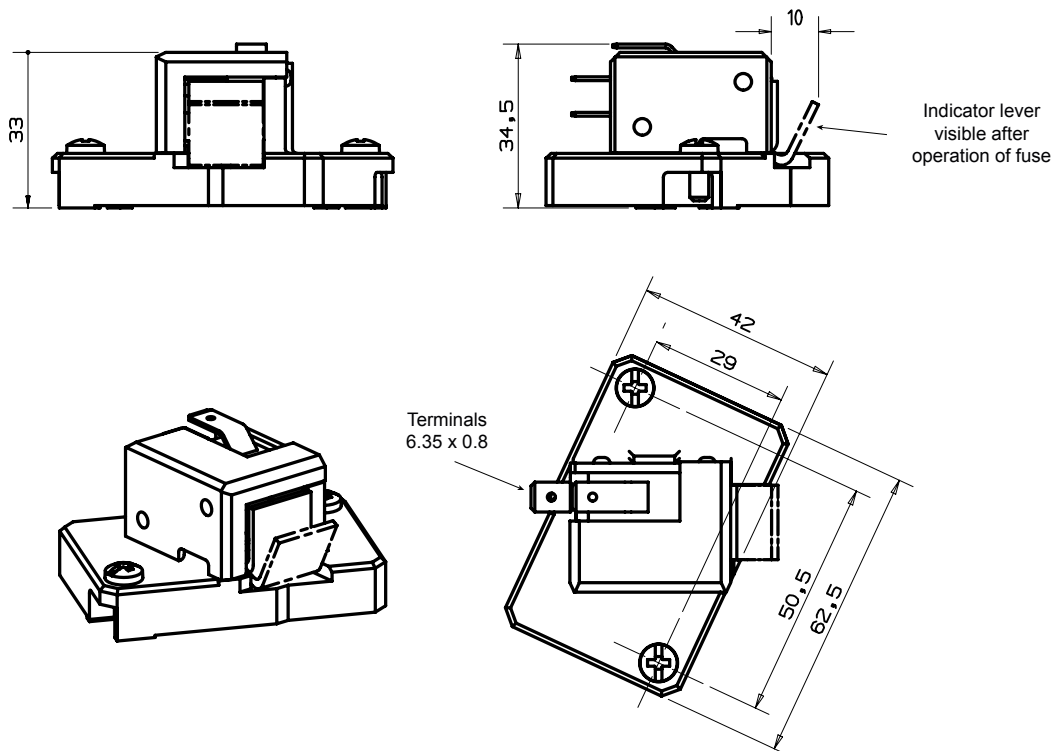
## DIMENSIONS

### Microswitch for PSC fuses sizes 30 to 33



Dimensions in mm

### Microswitch for PSC fuses sizes 70 to 73



Dimensions in mm

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# Microswitches for Protistor® fuse-links

Microswitches for fuses sizes 30 to 33 and 70 to 73

## ACCESSORIES FOR FUSES & FUSE SYSTEMS

### MICROSWITCHES



Microswitches systems are adapted to the following Mersen fuses only:

- PSC sizes 30, 31, 32, 33
- PSC sizes 2x32, 2x33
- PSC sizes 70, 71, 72, 73
- PSC sizes 2x72, 2x73 (except plain blades)
- PSC LR sizes 33, 2x33, 73, 2x73

Warning: microswitch systems exclusively designed for Protistor® fuses, fitted with a patented trip-indicator, saving use of EDV.

### TECHNICAL DATA OVERVIEW

Ampere Range (A)	3 ... 10 A
Size per Standard	PSC sizes 30, 31, 32, 33, 2x32, 2x33, 70, 71, 72, 73, 2x72, 2x73
Rated impulse withstand voltage $U_{imp}$	14 kV 20 kV

### FEATURES & BENEFITS

- Permanent indication of fuse state: conductive / blown
- Manual resetting
- Standard and low electrical level with different insulation levels
- BS type (low level microcontact) for use in corrosive atmosphere
- ET type "Etanche" for water tight (IP50)
- Each microswitch weights less than 100g: no fume and smoke grade required by EN45545 standard
- Fire class accordly to UL 94: H.B.

### STANDARDS

- Series MS 3V 1-5UR and MS 7V 1-5 UR are UL Recognized

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# Microswitches for Protistor® fuse-links

Microswitches for fuses sizes 30 to 33 and 70 to 73

## PRODUCT RANGE



MS3V1-5

### Microswitches for fuse sizes 30-31-32-33, with striker

Catalog number	Item number	Rated voltage AC (IEC) <sup>1</sup>	Rated current I <sub>n</sub>	AC voltage withstand test <sup>2</sup>	Impulse withstand voltage U <sub>imp</sub> 1.2/50μs <sup>3</sup>	Indication System	Minimum positive operating voltage / current	Breaking capacity, Non inductive circuit, 30V / 110V / 250V	Breaking capacity, Inductive circuit: L/R=25ms, 30V / 110V / 250V	Weight
MS3V1-5	X310014	1000 V	10 A	8.5 kV	14 kV	Standard NO-NC	20V, 100mA	10A / 10A / 10A	10A / 10A / 10A	34 g
MS3V1-5UR	Y310038	1000 V	10 A	8.5 kV	14 kV	Standard NO-NC	20V, 100mA	10A / 10A / 10A	10A / 10A / 10A	34 g
MS3V1-5BS	W310013	1000 V	3 A	8.5 kV	14 kV	Low level NO-NC	10V, 10mA	3A / 3A / 3A	2A / 1A / 1A	34 g
MS3V1-9BS	T310011	1000 V	3 A	8.5 kV	14 kV	Double pole Low level	10V, 10mA	3A / 3A / 3A	2A / 1A / 1A	34 g
MS3V1-5ETANCHE	R310009	1000 V	3 A	8.5 kV	14 kV	Low level NO-NC IP 50	10V, 10mA	3A / 3A / 3A	2A / 1A / 1A	34 g

<sup>1</sup> Between power circuit and microswitch terminals

<sup>2</sup> Between power circuit and microswitch terminals as per IEC 60 and 694 and NFC 64010 (50/60 Hz 1 min duration in dry air)

<sup>3</sup> Between power circuit and microswitch terminals U<sub>imp</sub>: impulse voltage as per IEC 60947-1



MS7V1-5

### Microswitches for fuses sizes 70-71-72-73, with striker

Catalog number	Item number	Rated voltage AC (IEC) <sup>1</sup>	Rated current I <sub>n</sub>	AC voltage withstand test <sup>2</sup>	Impulse withstand voltage U <sub>imp</sub> 1.2/50μs <sup>3</sup>	Indication System	Minimum positive operating voltage / current	Breaking capacity, Non inductive circuit, 30V / 110V / 250V	Breaking capacity, Inductive circuit: L/R=25ms, 30V / 110V / 250V	Weight
MS7V1-5	J310002	1500 V	10 A	12 kV	20 kV	Standard NO-NC	20V, 100mA	8A / 0.4A / 0.2A	4A / 0.2A / 0.1A	45 g
MS7V1-5UR	Z310039	1500 V	10 A	12 kV	20 kV	Standard NO-NC	20V, 100mA	8A / 0.4A / 0.2A	4A / 0.2A / 0.1A	45 g
MS7V1-5BSUR	K310003	1500 V	3 A	12 kV	20 kV	Low level NO-NC	10V, 10mA	3A / 0.5A / 0.25A	3A / 0.2A / 0.1A	45 g
MS7V1-9BS	P310007	1500 V	3 A	12 kV	20 kV	Double pole Low level	10V, 10mA	3A / 0.5A / 0.25A	3A / 0.2A / 0.1A	45 g
MS7V1-5ETANCHE	S310010	1500 V	3 A	12 kV	20 kV	Low level NO-NC IP 50	10V, 10mA	2A / 0.2A / -	3A / 0.5A / -	45 g

<sup>1</sup> Between power circuit and microswitch terminals

<sup>2</sup> Between power circuit and microswitch terminals as per IEC 60 and 694 and NFC 64010 (50/60 Hz 1 min duration in dry air)

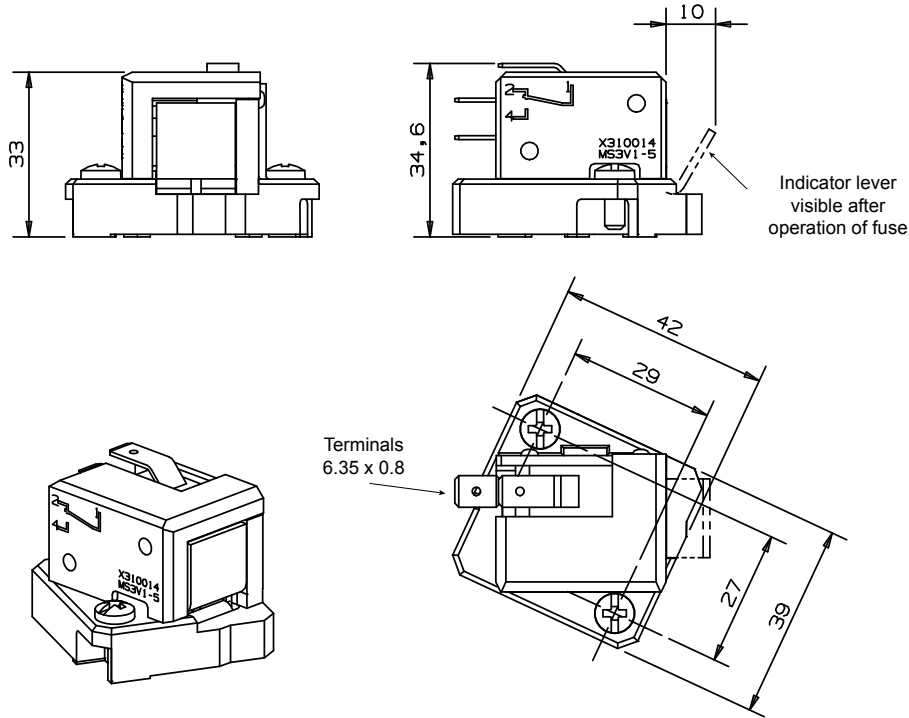
<sup>3</sup> Between power circuit and microswitch terminals U<sub>imp</sub>: impulse voltage as per IEC 60947-1

# Microswitches for Protistor® fuse-links

Microswitches for fuses sizes 30 to 33 and 70 to 73

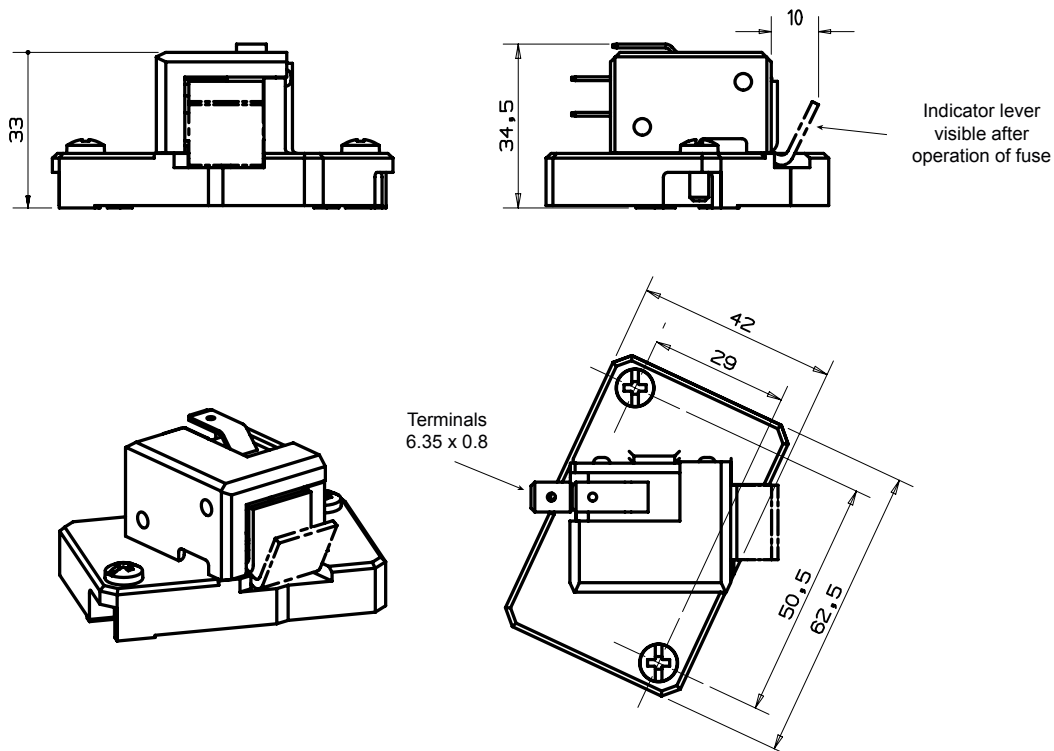
## DIMENSIONS

### Microswitch for PSC fuses sizes 30 to 33



Dimensions in mm

### Microswitch for PSC fuses sizes 70 to 73



Dimensions in mm

# Microswitches for Protistor® fuse-links

Microswitches for square body AC and DC fuses

## ACCESSORIES FOR FUSES & FUSE SYSTEMS

### MICROSWITCHES



Microswitches systems are adapted to Mersen fuses only.  
They are for all sizes and AC or DC fuses

All signalling systems are hand resettable and fitted with silverplated 3-terminal microswitch C, NO and NC.

Tests with sine vibrations carried out at ambient with scanning of the three main holder axes.

Spectrum: 1st segment (2 to 16 Hz) constant trip  $x = 5$  mm peak. 2nd segment (16 to 250 Hz) constant acceleration  $g = 5$  g peak.

Exponential scanning speed: 1 octave per minute. Duration: 2 hours per axis.

Warning: microswitch systems exclusively designed for Protistor® fuses, fitted with a patented trip-indicator, saving use of EDV.

Catalog Numbering system:

- o MC3E1-5 single pole microswitch
- o MC3E1-9 double pole microswitch
- o MCR, MC2R reinforced insulation microswitch

### TECHNICAL DATA OVERVIEW

Ampere Range (A)	3 ... 5 A
Size per Standard	PSC sizes 44, 8x, 9x, 12x, 17x, 30x, 60x

### FEATURES & BENEFITS

- Permanent indication of fuse state: conductive / blown
- Manual resetting
- Standard and low electrical level with different insulation levels
- Vapor and watertight model for use in corrosive atmosphere
- ET type "Etanche" for water tight (IP50)
- Each microswitch weights less than 100g: no fume and smoke grade required by EN45545 standard
- Fire class accordly to UL 94: H.B.
- Packaging: 1 or 3 pieces

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# Microswitches for Protistor® fuse-links

Microswitches for square body AC and DC fuses

## PRODUCT RANGE



MC3E1-5N

### Remote signaling with 1250V AC/DC insulation voltage

Catalog number	Item number	Rated voltage AC (IEC)	Rated current I <sub>n</sub>	AC voltage withstand test <sup>1</sup>	Impulse withstand voltage U <sub>imp</sub> 1.2/50μs <sup>2</sup>	Indication System	Minimum positive operating voltage / current	Breaking capacity, Non inductive circuit, 30V / 110V / 250V	Breaking capacity, Inductive circuit: L/R=25ms, 30V / 110V / 250V	Package	Weight
MC3E1-5N	D310020	1250 V	5 A	15 kV	20 kV	standard	-	10A / 10A / 7A	- / - / 6A	3	32 g
MC3E1-5NBS	E310021	1250 V	3 A	15 kV	20 kV	Low level	10V, 10mA	3A / 3A / 3A	2A / 1A / 1A	3	39.5 g
MC3E1-9NBS	F310022	1250 V	3 A	15 kV	20 kV	Low level	10V, 10mA	3A / 3A / 3A	2A / 1A / 1A	3	31.6 g
MC3E1-5NETANCHE	L310027	1250 V	3 A	11 kV	16 kV	Watertight IP50	-	- / 3A / 3A	- / 1A / 1A	3	32 g

<sup>1</sup> Between power circuit and microswitch terminals as per IEC 60 and 694 and NFC 64010 (50/60 Hz 1 min duration in dry air)

<sup>2</sup> Between power circuit and microswitch terminals U<sub>imp</sub>: impulse voltage as per IEC 60947-1

### Remote signaling with insulation voltage up to 2000V AC/DC

Catalog number	Item number	Rated voltage AC (IEC)	Rated current I <sub>n</sub>	AC voltage withstand test <sup>1</sup>	Impulse withstand voltage U <sub>imp</sub> 1.2/50μs <sup>2</sup>	Indication System	Breaking capacity, Non inductive circuit, 30V / 110V / 250V	Breaking capacity, Inductive circuit: L/R=25ms, 30V / 110V / 250V	Package	Weight
MCR3E1-5N	G310023	2200 V	3 A	20 kV	30 kV	standard	5A / 0,5A / -	- / 1,6A / 0,3A	1	60 g
MCR3E1-5NBS	P310030	2200 V	3 A	20 kV	30 kV	Low level	3A / 3A / 3A	2A / 1A / 1A	1	58 g
MCR3E1-5NETANCHE	Q310031	2200 V	3 A	20 kV	30 kV	Watertight IP50	- / 3A / 3A	- / 1A / 1A	1	59 g
MCR3E1-9NBS	H310024	2200 V	3 A	23 kV	30 kV	Low level	3A / 0,5A / 0,25A	3A / 0,2A / 0,1A	1	67 g

<sup>1</sup> Between power circuit and microswitch terminals as per IEC 60 and 694 and NFC 64010 (50/60 Hz 1 min duration in dry air)

<sup>2</sup> Between power circuit and microswitch terminals U<sub>imp</sub>: impulse voltage as per IEC 60947-1

### Remote signaling with insulation voltage up to 6000V AC/DC

Catalog number	Item number	Rated voltage AC (IEC)	Rated current I <sub>n</sub>	AC voltage withstand test <sup>1</sup>	Impulse withstand voltage U <sub>imp</sub> 1.2/50μs <sup>2</sup>	Indication System	Breaking capacity, Non inductive circuit, 30V / 110V / 250V	Breaking capacity, Inductive circuit: L/R=25ms, 30V / 110V / 250V	Package	Weight
MC2R3E1-5NBS	J310025	6000 V	3 A	24 kV	40 kV	Low level	3A / 0,5A / 0,25A	3A / 0,2A / 0,1A	1	76 g
MC2R3E1-5NETANCHE	N310029	6000 V	3 A	24 kV	40 kV	Watertight IP50	- / 0,5 / -	- / 0,2A / -	1	64.8 g
MC2R3E1-9NBS	K310026	6000 V	3 A	26 kV	40 kV	Low level	3A / 0,5A / 0,25A	3A / 0,2A / 0,1A	1	80 g

<sup>1</sup> Between power circuit and microswitch terminals as per IEC 60 and 694 and NFC 64010 (50/60 Hz 1 min duration in dry air)

<sup>2</sup> Between power circuit and microswitch terminals U<sub>imp</sub>: impulse voltage as per IEC 60947-1

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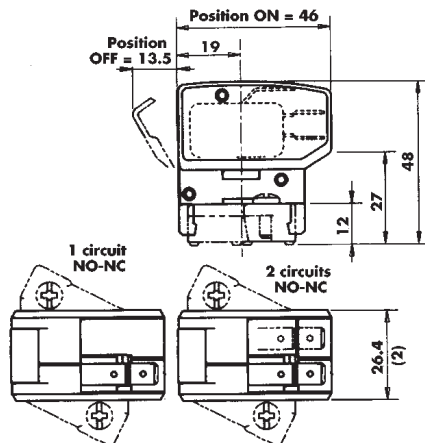


# Microswitches for Protistor® fuse-links

Microswitches for square body AC and DC fuses

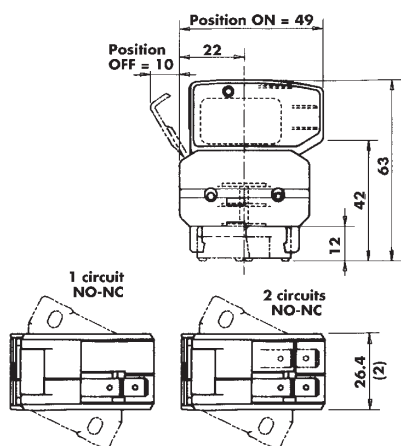
## DIMENSIONS

### Remote signaling with 1250 VAC/VDC insulation voltage



Dimensions in mm

### Remote signaling with insulation voltage up to 2200 VAC/VDC



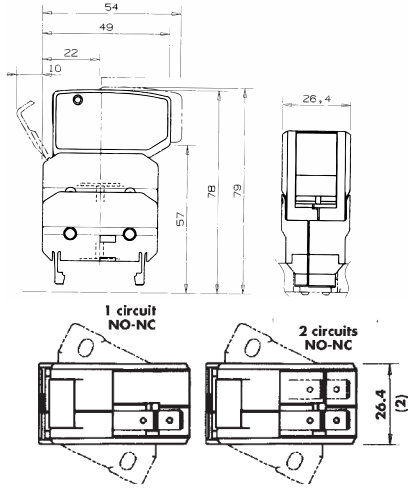
Dimensions in mm

# Microswitches for Protistor® fuse-links

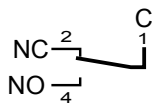
Microswitches for square body AC and DC fuses

## DIMENSIONS

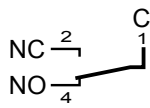
Remote signaling with insulation voltage up to 6000 VAC/VDC



## Electrical diagram of each microswitch circuit



Non-blown fuse  
Microswitch ON



Blown fuse  
Microswitch OFF

The C terminal is on the top and connection is made via 6.35 mm clips except for watertight models whose clips are 4.8 mm wide.