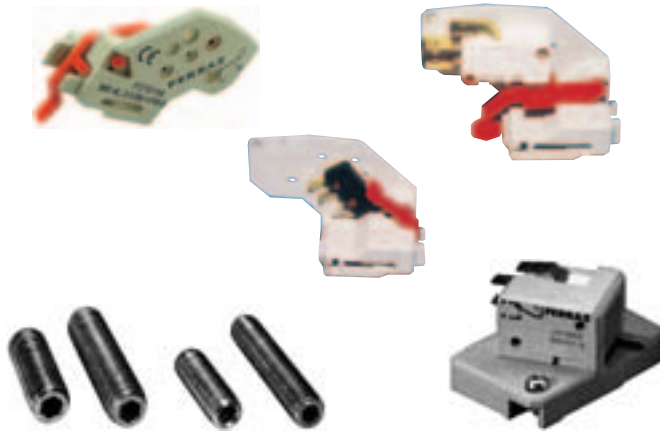


# MICROSWITCHES & STUDS

## ACCESSORIES



### Features/Benefits

- Microswitch systems adapted to the following fuses:
  - PSC sizes 30, 31, 32, 33 / 70, 71, 72, 73
  - Blade-type PSC (PA) sizes 0-1, 2-3 / 70, 71, 72, 73
  - PSC sizes 000 / 00
- Highly resistant studs offering optimized connection, excellent electrical contact and high mechanical withstand for stud-style fuses.

### Applications Data

CODE	AC VOLT ***	POSITIVE OPERATING VOLT/CURRENT	RATED CURRENT	NATURE OF CURRENT	INTERRUPTING RATING						AC VOLTAGE WITHSTAND TEST	IMPULSE VOLTAGE TEST UIMP 1.2/50	FIRE CLASS UL 94
					NON -INDUCTIVE CIRCUIT			INDUCTIVE CIRCUIT					
					30V	110V	250V	30V	110V	250V			
MS3V1-5	1000 V	20 V	10 A	50/60 Hz	10A	10A	10A	10A	10A	10A	8,5 kV*	14 kV**	
MS7V1-5	1500 V	50 mA		DC	8A	0,4A	.2A	4A	.2A	.1A	12 kV*	20 kV**	
MS3V1-5BS	1000 V	10 V	3 A	50/60 Hz	3A	3A	3A	2A	1A	1A	8,5 kV*	4 kV **	H.B
MS3V1-9BS													
MS7V1-5BS	1500V	10 mA		DC	3A	0,5A	0,25A	3A	0,2A	0,1A	12 kV*	20 kV**	
MS7V1-9BS													
MS3V1-5ET	1000V	10 V	3 A	50/60 Hz	3A	3A	3A	2A	1A	1A	8,5 kV*	14 kV**	H.B.
MS7V1-5ET	1500V	10 mA		DC	3A	0,5A	-	2A	0,2A	-	12 kV*	20 kV**	
MSPA2-5	1500 V	20 V	10 A	50/60 Hz	10A	50/60 Hz	10A	10A	10A	10A	9 kV*	13 kV**	VO
MSPA2-9		50 mA		DC	8A	0,4A	0,2A	4A	0,2A	0,1A			
MSPA2-5B2	1500 V	20 V	5 A	50 Hz	4A	4A	5A	-	5A	5A	12 kV*	16 kV**	VO
MS4L2-5B2	1000 V	100 mA		DC	-	-	-	-	2A	0,4A	8 kV*	13 kV**	
MS4L2-5B6	1000 V	20 V	10 A	50/60 Hz	10A	10A	10A	10A	10A	10A	8 kV*	10 kV**	VO
		50 mA		DC	8A	0,4A	0,2A	4A	0,2A	0,1A			
MC6,3GR2-5N	1000 V	20 V	5A	50/60 Hz	-	5A	3A	-	3A	2A	3,5 kV*	-	H.B.
		100 mA		DC	4A	0,4A	-	3A	0,4A	-			
MC36GR2-5	1000 V	20 V	5A	50/60 Hz	-	5A	5A	-	5A	5A	7,5 kV*	-	
		100 mA		DC	4A	0,4A	-	2A	0,4A	-			

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

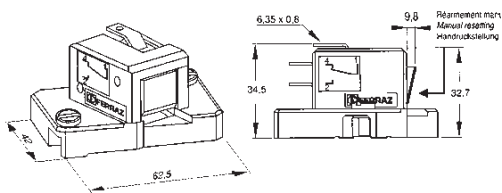
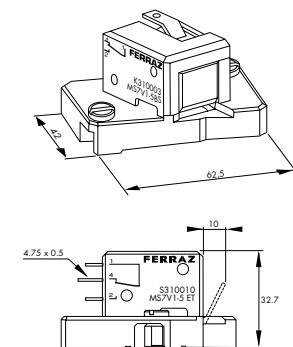
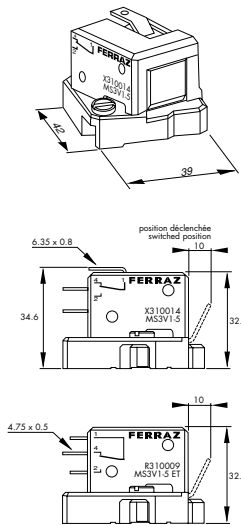
\*\* Between power circuit and microswitch terminals Uimp: impulse voltage as per IEC 947-1

\*\*\*Between power circuit and microswitch terminals

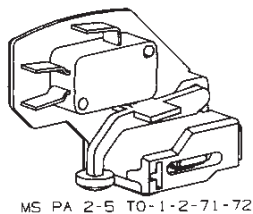
EACH MICROSWITCH WEIGHS LESS THAN 100 g, THEREFORE NO FUME AND SMOKE GRADE IS REQUIRED BY NF F 16-102 STANDARD

# PSC MICROSWITCHES

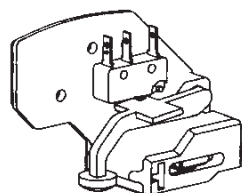
# ACCESSORIES



**NEW**



MS PA 2-5 TO-1-2-71-72



MS PA 2-5 B2 TO-1-2-71-72

## MS 3V Fuse Sizes: 30 - 33

Fuse Size	Code	Ref. Number	Indication Style	Weight (g)	Packaging
Sizes 30, 31, 32, 33	MS3V1-5 (fig.1)	X310014	Standard NO-NC	34	3 pieces
	MS3V1-5BS (3)	W310013	Low level NO-NC	34	3 pieces
	MS3V1-9BS (4)	T310011	Low level NO-NC	44	3 pieces
	MS3V1-5ET (fig. 2)	R310009	Low level NO-NC	34	3 pieces

(3) Same as fig. 1

(4) Same dimensions as fig. 1 but with 2 microswitches side by side

(9) Watertightness class

## MS 7V1 Fuse Sizes: 70 - 73

Fuse Size	Code	Ref. Number	Indication Style	Weight (g)	Packaging
Sizes 70, 71, 72, 73	MS7V1-5 (fig.5)	J310002	Standard NO-NC	45	3 pieces
	MS7V1-5BS (7)	K310003	Low level NO-NC	45	3 pieces
	MS7V1-9BS (8)	P310007	Double pole NO-NC low level	55	3 pieces
	MS7V1-5ET (fig. 6)	S310010	Low level NO-NC IP 50 (9)	55	3 pieces

(7) Same as fig. 5

(8) Same dimensions as fig. 5 but with 2 microswitches side by side

(9) Watertightness class

**Attention:** Microswitch systems exclusively designed for FERRAZ SHAWMUT PSC fuses fitted with a patented trip-indicator, saving use of EDV.

## MS PA Fuse Sizes: 0 - 70

Fuse Size	Code	Ref. Number	Indication Style	Weight (g)	Packaging
Sizes 0, 1, 2, 3, 71, 72, 73	MSPA2-5	H210158	OF Standard (fig. 7)	32,5	1
	MSPA2-9V	J210159	Double (fig. 7) OF side by side	39,5	1
	MSPA2-5B2	C210360	OF Terminals 2,8	27	1
70	MSPA2-5	T210398	OF Standard (fig. 7)	31	1
	MSPA2-9	V210399	Double (fig. 7) OF side by side	37	1
	MSPA2-5B2	W210400	OF Terminals 2,8 (fig. 8)	27	1

Exclusive "MS PA" indication systems are automatically resettable



# PSC MICROSWITCHES

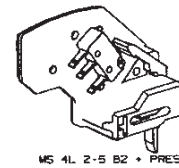
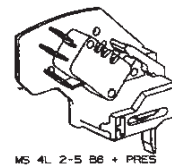
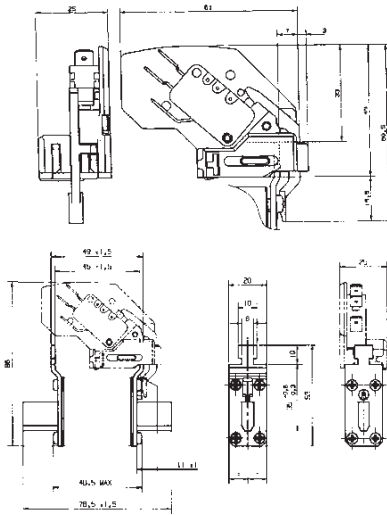
## ACCESSORIES

### MS Indication System for 000 & 00 Fuses as per DIN 43653 and DIN 43620 Terminals

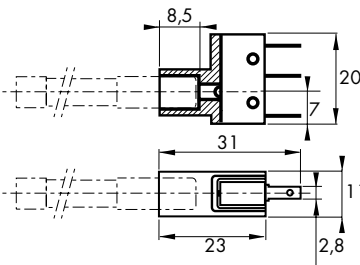
**NEW**

Automatically resettable, these microswitch systems indicate fuse presence (PRES) and proper mounting. In case of improper mounting or fuse melting, this is indicated (terminal 1-4 closed).

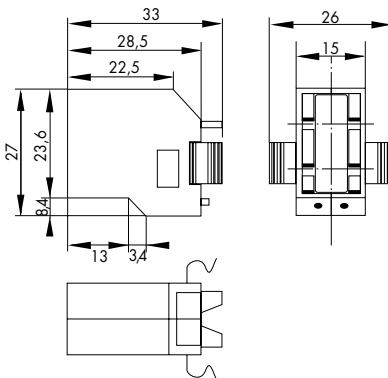
Catalog Number	Reference Number	Weight (g)	Packaging
MS4L2-5B6 + PRES (fig. 1) <sup>(1)</sup>	F210156C	30	3
MS4L2-5B2 + PRES (fig. 2) <sup>(2)</sup>	G210157C	26	3



### MC Indication System for BS 88-4 Separate Blown Fuse Trip-Indicator



Catalog Number	Reference Number	Weight (g)	Packaging
MC6,3GR2-5N with separate trip-indicator	Y310015	10	3 pieces



Catalog Number	Reference Number	Weight (g)	Packaging
MC36GR2-5 for British standard with built-in trip-indicator 27 and 36	P092496	10	3 pieces

# PSC MICROSWITCHES

## ACCESSORIES



### PROTISTOR® FUSES

MICROSWITCH SYSTEMS FOR ROUND AND SQUARE-BODY FUSES (except PSC line)

#### Features/Benefits

- Remote signaling systems for fitting on Ferraz Shawmut fuses equipped with microswitch support (all square-body and round fuses except PSC)
- Permanent indication of fuse state
  - Conductive
  - Blown
- Hand resetting for checking and after blow
- Standard model and low electrical level with different insulation levels
- Vapor and watertight model for use in corrosive

### APPLICATIONS DATA

TYPE	CATALOG NUMBER	AC or DC Insulation voltage rating $U_i$ (V)	AC voltage withstand test (*)	Impulse voltage test $U_{imp}$ 1,2/50 hs (**)	Positive operating min.voltage /min.current	Current rating	Interrupting rating						
							Current	Non-inductive circuit			inductive circuit L/R = 25ms		
								30 V	110 V	250 V	30 V	110 V	250 V
Standard	MC3E1-5N	1250V	15 kV	20 kV	20 V	5 A	50/60 Hz	10 A	10 A	7 A		7 A	6 A
	MCR3E1-5N	2200	20 kV	30 kV	50 mA		DC	5 A	0.5 A		1.6 A	0.3 A	
Low level	MC3E1-5NBS MC3E1-9NBS	1250V	15 kV	20 kV	10 V 10 mA	3 A	50/60 Hz	3 A	3 A	3 A	2 A	1 A	1 A
	MCR3E1-5NBS MCR3E1-9NBS	2200V	20 kV (1) 23 kV (2)	30 kV				DC	3 A	0.5 A	0.25 A	3 A	0.2 A
	MC2R3E1-5BS MC2R3E1-9NBS	6000V	24 kV (1) 26 kV (2) 32 kV (3)	40 kV			50 Hz		3 A	3 A		1 A	1 A
							DC		0.5A			0.2 A	
Watertight IP 50	MC3E1-5NET	1250V	11 kV	16 kV	10 V 10 mA	3 A	50 Hz		3 A	3 A		1 A	1 A
	MCR3E1-5NET	2200V	20 kV (1)	30 kV				DC		0.5A			0.2 A
	MC2R3E1-5NET	6000V	24 kV (2)	40 kV									

Catalog Numbering system: MC3E 1-5 single pole microswitch - MC3E 1-9 double pole microswitch - MCR, MC2R reinforced insulation microswitch

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

\*\* Between power circuit and microswitch terminals  $U_{imp}$ : impulse voltage according to IEC 947-1

\*\*\*Between power circuit and microswitch terminals

EACH MICROSWITCH WEIGHS LESS THAN 100g, THEREFORE NO FUME AND SMOKE GRADE IS REQUIRED BY NF F16-102 STANDARD

(1) fitting short body fuses (sizes 30 - 31 - 32 - 33 - 70 - 71 - 72 - 73 - 83 - 84)

(2) fitting sizes 100 - 91 - 92 - 93 - 94 fuses and longer

(3) fitting sizes 171 - 172 - 173 - 174 fuses and longer

