

Mains power protection

MMP 1B Series - 1 phase

Super compact Type 1 (Class I / Class B) protector
 $I_{max} = 60 \text{ kA} / 40 \text{ kA } 8/20 \mu\text{s}$ (MOV / GDT)
 $I_{imp} = 10 \text{ kA} / 12.5 \text{ kA } 10/350 \mu\text{s}$ (MOV / GDT)



Features & benefits

- Slimline design compared to spark gap based protectors
- The varistor based design eliminates the high follow current (If) associated with spark gap based surge protection
- Two red indicators show when each protection module requires replacement (see technical data for replacement module part no.)
- If only one indicator is displayed then there is still limited protection offered by the protection module
- This indication can also trigger a remote signal contact to interface with a building management system. Please use '/S' after the part no. to order the remote indication (change-over) contact version

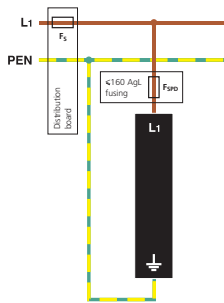
Application

Use on single phase mains supplies and power distribution systems for protection against partial direct or indirect lightning strikes.

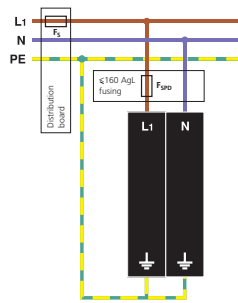
Installation

Should be installed in a main distribution panel. The protector's base is suitable for attachment to a 35 mm top hat DIN rail. Protection modules easily slot into the base and are replaceable.

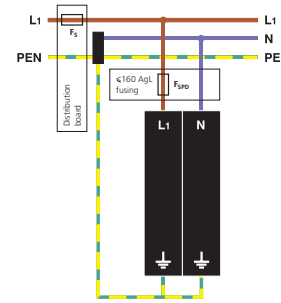
The diagrams below illustrate how to wire the appropriate MMP protector according to your chosen electrical system.



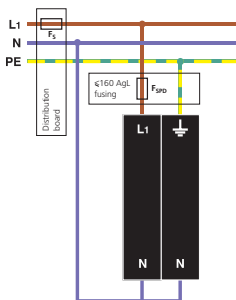
TN-C



TN-S



TN-C-S



TT

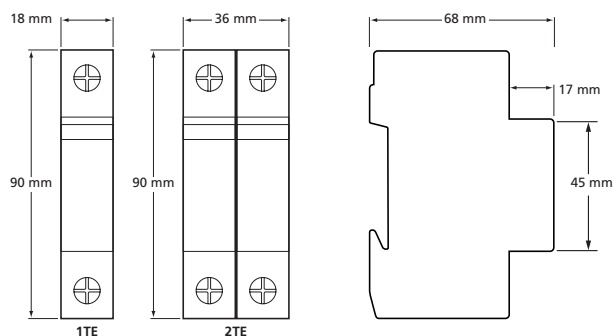
MMP 1B Series - Technical Specification

Electrical specification	MMP 1B150/1	MMP 1B150/2	MMP 1B150/1+1T
Installation	TN-C	TN-S / TN-C-S	TT
SPD protective element	MOV / MOV	MOV / MOV	MOV / GDT
Nominal voltage (U_n)	110-130 V _{RMS}	110-130 V _{RMS}	110-130 V _{RMS}
Nominal frequency range	47-63 Hz	47-63 Hz	47-63 Hz
Maximum continuous operating voltage (U_c)	150 Vac / 200 Vdc	150 Vac / 200 Vdc	150 Vac / 200 Vdc (255 Vac N-PE)
Maximum back up fuse	160 AgL	160 AgL	160 AgL
Short circuit capability	25 kA / 50 Hz	25 kA / 50 Hz	25 kA / 50 Hz
Signal contact ratings	250 V _{RMS} / 0.5 A	250 V _{RMS} / 0.5 A	250 V _{RMS} / 0.5 A
Part numbers			
SPD part no.	MMP 1B150B/1	MMP 1B150B/2	MMP 1B150B/1+1T
SPD part no. with signal contact	MMP 1B150B/1/S	MMP 1B150B/2/S	MMP 1B150B/1+1T/S
Replacement module part no.	MMP 1B150	MMP 1B150	MMP 1B150 (L-N) MMP CT255 (N-PE)
Transient specification	MMP 1B150/1	MMP 1B150/2	MMP 1B150/1+1T
Arrester classification¹			
EN	1 (I + 2)	1 (I + 2)	1 (I + 2)
IEC	I (I + II)	I (I + II)	I (I + II)
E DIN VDE 0675	B (B + C)	B (B + C)	B (B + C)
Let-through voltage (U_p)²			
at I_n (8/20 μ s)	< 750 V	< 750 V	< 750 V (L-N)
at I_{imp} (10/350 μ s)	< 550 V	< 550 V	< 550 V (L-N)
at 1.2/50 μ s	-	-	< 2.0 kV (N-PE)
Nominal discharge current I_n (8/20 μ s)	30 kA	30 kA	30 kA / 20 kA (L-N / N-PE)
Maximum discharge current			
I_{max} (8/20 μ s)	60 kA	60 kA	60 kA / 40 kA (L-N / N-PE)
I_{imp} (10/350 μ s)	10 kA	10 kA	10 kA / 12.5 kA (L-N / N-PE)
Mechanical specification	MMP 1B150/1	MMP 1B150/2	MMP 1B150/1+1T
Temperature range	-40 to +80 °C		
Connection type			
for power	35 mm ² solid conductor, 25 mm ² stranded conductor - maximum torque 3.0 Nm		
for signal (remote contact)	1.5 mm ² conductor (/S option) - maximum torque 0.25 Nm		
Mounting	Indoor, 35 mm top hat DIN rail		
Degree of protection	IP20		
Case material	Thermoplastic, UL 94 V-0		
Weight ³	150 g	300 g	290 g
Dimensions to DIN 43880	90 mm x 68 mm x 18 mm (1TE) 90 mm x 68 mm x 36 mm (2TE) Units with the remote signal contact terminals (removable) are 100 mm high		
Enclosure dimensions for up to /4 versions (4TE)	170 mm x 98 mm x 105 mm (MMP ENC4)		

¹ Tested to BS EN/IEC-61643

² Values stated are per pole

³ Remote signal contact adds 5 g to weight



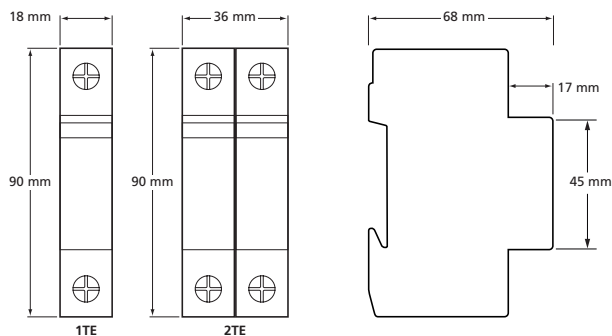
MMP 1B Series - Technical Specification

Electrical specification	MMP 1B275/1	MMP 1B275/2	MMP 1B275/1+1T
Installation	TN-C	TN-S / TN-C-S	TT
SPD protective element	MOV / MOV	MOV / MOV	MOV / GDT
Nominal voltage (U_n)	220-240 V _{RMS}	220-240 V _{RMS}	220-240 V _{RMS}
Nominal frequency range	47-63 Hz	47-63 Hz	47-63 Hz
Maximum continuous operating voltage (U_c)	275 Vac / 350 Vdc	275 Vac / 350 Vdc	275 Vac / 350 Vdc (255 Vac N-PE)
Maximum back up fuse	160 AgL	160 AgL	160 AgL
Short circuit capability	25 kA / 50 Hz	25 kA / 50 Hz	25 kA / 50 Hz
Signal contact ratings	250 V _{RMS} / 0.5 A	250 V _{RMS} / 0.5 A	250 V _{RMS} / 0.5 A
Part numbers			
SPD part no.	MMP 1B275B/1	MMP 1B275B/2	MMP 1B275B/1+1T
SPD part no. with signal contact	MMP 1B275B/1/S	MMP 1B275B/2/S	MMP 1B275B/1+1T/S
Replacement module part no.	MMP 1B275	MMP 1B275	MMP 1B275 (L-N) MMP CT255 (N-PE)
Transient specification	MMP 1B275/1	MMP 1B275/2	MMP 1B275/1+1T
Arrester classification¹			
EN	1 (I + 2)	1 (I + 2)	1 (I + 2)
IEC	I (I + II)	I (I + II)	I (I + II)
E DIN VDE 0675	B (B + C)	B (B + C)	B (B + C)
Let-through voltage (U_p)²			
at I_n (8/20 μ s)	< 1.5 kV	< 1.5 kV	< 1.5 kV (L-N)
at I_{imp} (10/350 μ s)	< 1.0 kV	< 1.0 kV	< 1.0 kV (L-N)
at 1.2/50 μ s	-	-	< 2.0 kV (N-PE)
Nominal discharge current I_n (8/20 μ s)	30 kA	30 kA	30 kA / 20 kA (L-N / N-PE)
Maximum discharge current			
I_{max} (8/20 μ s)	60 kA	60 kA	60 kA / 40 kA (L-N / N-PE)
I_{imp} (10/350 μ s)	10 kA	10 kA	10 kA / 12.5 kA (L-N / N-PE)
Mechanical specification	MMP 1B275/1	MMP 1B275/2	MMP 1B275/1+1T
Temperature range	-40 to +80 °C		
Connection type			
for power	35 mm ² solid conductor, 25 mm ² stranded conductor - maximum torque 3.0 Nm		
for signal (remote contact)	1.5 mm ² conductor (/S option) - maximum torque 0.25 Nm		
Mounting	Indoor, 35 mm top hat DIN rail		
Degree of protection	IP20		
Case material	Thermoplastic, UL 94 V-0		
Weight ³	180 g	360 g	350 g
Dimensions to DIN 43880	90 mm x 68 mm x 36 mm (1TE) 90 mm x 68 mm x 36 mm (2TE) Units with the remote signal contact terminals (removable) are 100 mm high		
Enclosure dimensions for up to /4 versions (4TE)	170 mm x 98 mm x 105 mm (MMP ENC4)		

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² Values stated are per pole

³ Remote signal contact adds 5 g to weight



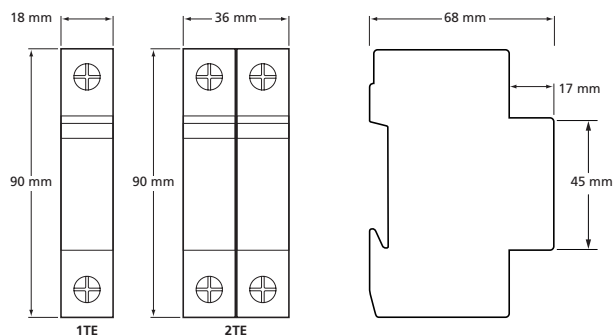
MMP 1B Series - Technical Specification

Electrical specification	MMP 1B385/1	MMP 1B385/2	MMP 1B385/1+1T
Installation	TN-C	TN-S / TN-C-S	TT
SPD protective element	MOV / MOV	MOV / MOV	MOV / GDT
Nominal voltage (U_n)	220-240 V _{RMS}	220-240 V _{RMS}	220-240 V _{RMS}
Nominal frequency range	47-63 Hz	47-63 Hz	47-63 Hz
Maximum continuous operating voltage (U_c)	385 Vac / 505 Vdc	385 Vac / 505 Vdc	385 Vac / 505 Vdc (255 Vac N-PE)
Maximum back up fuse	160 AgL	160 AgL	160 AgL
Short circuit capability	25 kA / 50 Hz	25 kA / 50 Hz	25 kA / 50 Hz
Signal contact ratings	250 V _{RMS} / 0.5 A	250 V _{RMS} / 0.5 A	250 V _{RMS} / 0.5 A
Part numbers			
SPD part no.	MMP 1B385B/1	MMP 1B385B/2	MMP 1B385B/1+1T
SPD part no. with signal contact	MMP 1B385B/1/S	MMP 1B385B/2/S	MMP 1B385B/1+1T/S
Replacement module part no.	MMP 1B385	MMP 1B385	MMP 1B385 (L-N) MMP CT255 (N-PE)
Transient specification	MMP 1B385/1	MMP 1B385/2	MMP 1B385/1+1T
Arrester classification¹			
EN	1 (I + 2)	1 (I + 2)	1 (I + 2)
IEC	I (I + II)	I (I + II)	I (I + II)
E DIN VDE 0675	B (B + C)	B (B + C)	B (B + C)
Let-through voltage (U_p)²			
at I_n (8/20 μ s)	< 1.8 kV	< 1.8 kV	< 1.8 kV (L-N)
at I_{imp} (10/350 μ s)	< 1.4 kV	< 1.4 kV	< 1.4 kV (L-N)
at 1.2/50 μ s	-	-	< 2.0 kV (N-PE)
Nominal discharge current I_n (8/20 μ s)	30 kA	30 kA	30 kA / 20 kA (L-N / N-PE)
Maximum discharge current			
I_{max} (8/20 μ s)	60 kA	60 kA	60 kA / 40 kA (L-N / N-PE)
I_{imp} (10/350 μ s)	10 kA	10 kA	10 kA / 12.5 kA (L-N / N-PE)
Mechanical specification	MMP 1B385/1	MMP 1B385/2	MMP 1B385/1+1T
Temperature range	-40 to +80 °C		
Connection type			
for power	35 mm ² solid conductor, 25 mm ² stranded conductor - maximum torque 3.0 Nm		
for signal (remote contact)	1.5 mm ² conductor (/S option) - maximum torque 0.25 Nm		
Mounting	Indoor, 35 mm top hat DIN rail		
Degree of protection	IP20		
Case material	Thermoplastic, UL 94 V-0		
Weight ³	195 g	380 g	370 g
Dimensions to DIN 43880	90 mm x 68 mm x 36 mm (1TE) 90 mm x 68 mm x 36 mm (2TE) Units with the remote signal contact terminals (removable) are 100 mm high		
Enclosure dimensions for up to /4 versions (4TE)	170 mm x 98 mm x 105 mm (MMP ENC4)		

¹ Tested to BS EN/IEC-61643

² Values stated are per pole

³ Remote signal contact adds 5 g to weight



DATASHEET

Mains power protection

MMP 1B Series - 3 phase

Super compact Type 1 (Class I / Class B) protector
I_{max} = 60 kA / 40 kA 8/20 μs (MOV / GDT)
I_{imp} = 10 kA / 12.5 kA 10/350 μs (MOV / GDT)



Features & benefits

- Slimline design compared to spark gap based protectors
- The varistor based design eliminates the high follow current (If) associated with spark gap based surge protection
- Two red indicators show when each protection module requires replacement (see technical data for replacement module part no.)
- If only one indicator is displayed then there is still limited protection offered by the protection module
- This indication can also trigger a remote signal contact to interface with a building management system. Please use '/S' after the part no. to order the remote indication (change-over) contact version

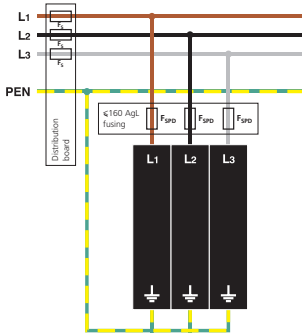
Application

Use on three phase mains supplies and power distribution systems for protection against partial direct or indirect lightning strikes.

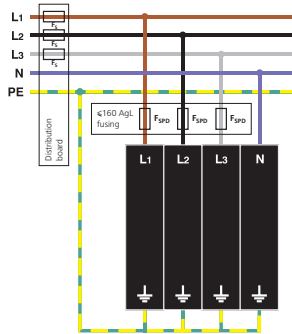
Installation

Should be installed in a main distribution panel. The protector's base is suitable for attachment to a 35 mm top hat DIN rail. Protection modules easily slot into the base and are replaceable.

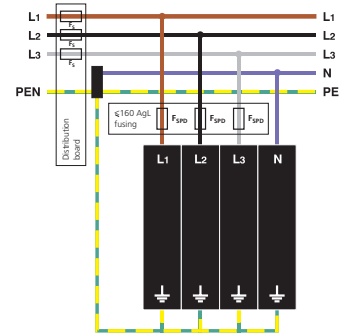
The diagrams below illustrate how to wire the appropriate MMP protector according to your chosen electrical system.



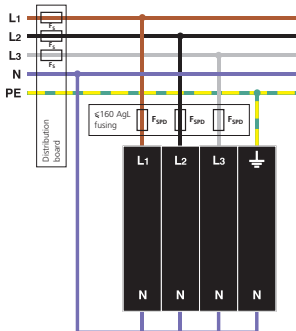
TN-C



TN-S



TN-C-S



TT

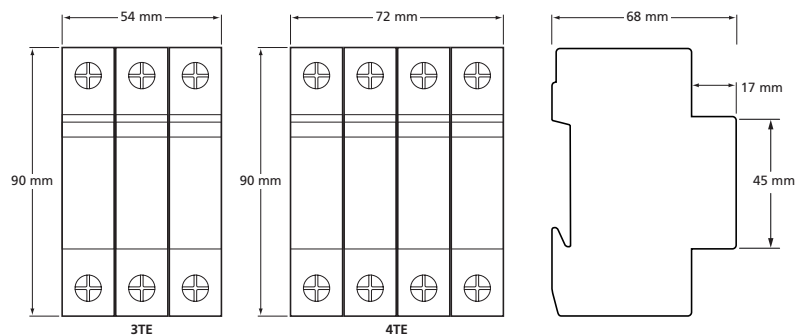
MMP 1B Series - Technical Specification

Electrical specification	MMP 1B150/3	MMP 1B150/4	MMP 1B150/3+1T
Installation	TN-C	TN-S / TN-C-S	TT
SPD protective element	MOV / MOV	MOV / MOV	MOV / GDT
Nominal voltage (U_n)	110-130 V _{RMS}	110-130 V _{RMS}	110-130 V _{RMS}
Nominal frequency range	47-63 Hz	47-63 Hz	47-63 Hz
Maximum continuous operating voltage (U_c)	150 Vac / 200 Vdc	150 Vac / 200 Vdc	150 Vac / 200 Vdc (255 Vac N-PE)
Maximum back up fuse	160 AgL	160 AgL	160 AgL
Short circuit capability	25 kA / 50 Hz	25 kA / 50 Hz	25 kA / 50 Hz
Signal contact ratings	250 V _{RMS} / 0.5 A	250 V _{RMS} / 0.5 A	250 V _{RMS} / 0.5 A
Part numbers			
SPD part no.	MMP 1B150B/3	MMP 1B150B/4	MMP 1B150B/3+1T
SPD part no. with signal contact	MMP 1B150B/3/S	MMP 1B150B/4/S	MMP 1B150B/3+1T/S
Replacement module part no.	MMP 1B150	MMP 1B150	MMP 1B150 (L-N) MMP CT255 (N-PE)
Transient specification	MMP 1B150/3	MMP 1B150/4	MMP 1B150/3+1T
Arrester classification¹			
EN	1 (I + 2)	1 (I + 2)	1 (I + 2)
IEC	I (I + II)	I (I + II)	I (I + II)
E DIN VDE 0675	B (B + C)	B (B + C)	B (B + C)
Let-through voltage (U_p)²			
at I_n (8/20 μ s)	< 750 V	< 750 V	< 750 V (L-N)
at I_{imp} (10/350 μ s)	< 550 V	< 550 V	< 550 V (L-N)
at 1.2/50 μ s	-	-	< 2.0 kV (N-PE)
Nominal discharge current I_n (8/20 μ s)	30 kA	30 kA	30 kA / 20 kA (L-N / N-PE)
Maximum discharge current			
I_{max} (8/20 μ s)	60 kA	60 kA	60 kA / 40 kA (L-N / N-PE)
I_{imp} (10/350 μ s)	10 kA	10 kA	10 kA / 12.5 kA (L-N / N-PE)
Mechanical specification	MMP 1B150/3	MMP 1B150/4	MMP 1B150/3+1T
Temperature range	-40 to +80 °C		
Connection type			
for power	35 mm ² solid conductor, 25 mm ² stranded conductor - maximum torque 3.0 Nm		
for signal (remote contact)	1.5 mm ² conductor (/S option) - maximum torque 0.25 Nm		
Mounting	Indoor, 35 mm top hat DIN rail		
Degree of protection	IP20		
Case material	Thermoplastic, UL 94 V-0		
Weight ³	450 g	600 g	590 g
Dimensions to DIN 43880	90 mm x 68 mm x 72 mm (3TE) 90 mm x 68 mm x 72 mm (4TE) Units with the remote signal contact terminals (removable) are 100 mm high		
Enclosure dimensions for up to /4 versions (4TE)	170 mm x 98 mm x 105 mm (MMP ENC4)		

¹ Tested to BS EN/IEC-61643

² Values stated are per pole

³ Remote signal contact adds 5 g to weight



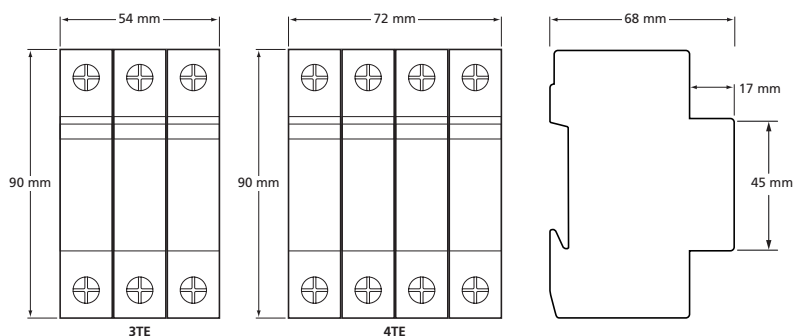
MMP 1B Series - Technical Specification

Electrical specification	MMP 1B275/3	MMP 1B275/4	MMP 1B275/3+1T
Installation	TN-C	TN-S / TN-C-S	TT
SPD protective element	MOV / MOV	MOV / MOV	MOV / GDT
Nominal voltage (U_n)	220-240 V _{RMS}	220-240 V _{RMS}	220-240 V _{RMS}
Nominal frequency range	47-63 Hz	47-63 Hz	47-63 Hz
Maximum continuous operating voltage (U_c)	275 Vac / 350 Vdc	275 Vac / 350 Vdc	275 Vac / 350 Vdc (255 Vac N-PE)
Maximum back up fuse	160 AgL	160 AgL	160 AgL
Short circuit capability	25 kA / 50 Hz	25 kA / 50 Hz	25 kA / 50 Hz
Signal contact ratings	250 V _{RMS} / 0.5 A	250 V _{RMS} / 0.5 A	250 V _{RMS} / 0.5 A
Part numbers			
SPD part no.	MMP 1B275B/3	MMP 1B275B/4	MMP 1B275B/3+1T
SPD part no. with signal contact	MMP 1B275B/3/S	MMP 1B275B/4/S	MMP 1B275B/3+1T/S
Replacement module part no.	MMP 1B275	MMP 1B275	MMP 1B275 (L-N) MMP CT255 (N-PE)
Transient specification	MMP 1B275/3	MMP 1B275/4	MMP 1B275/3+1T
Arrester classification¹			
EN	1 (I + 2)	1 (I + 2)	1 (I + 2)
IEC	I (I + II)	I (I + II)	I (I + II)
E DIN VDE 0675	B (B + C)	B (B + C)	B (B + C)
Let-through voltage (U_p)²			
at I_n (8/20 μ s)	< 1.5 kV	< 1.5 kV	< 1.5 kV (L-N)
at I_{imp} (10/350 μ s)	< 1.0 kV	< 1.0 kV	< 1.0 kV (L-N)
at 1.2/50 μ s	-	-	< 2.0 kV (N-PE)
Nominal discharge current I_n (8/20 μ s)	30 kA	30 kA	30 kA / 20 kA (L-N / N-PE)
Maximum discharge current			
I_{max} (8/20 μ s)	60 kA	60 kA	60 kA / 40 kA (L-N / N-PE)
I_{imp} (10/350 μ s)	10 kA	10 kA	10 kA / 12.5 kA (L-N / N-PE)
Mechanical specification	MMP 1B275/3	MMP 1B275/4	MMP 1B275/3+1T
Temperature range	-40 to +80 °C		
Connection type			
for power	35 mm ² solid conductor, 25 mm ² stranded conductor - maximum torque 3.0 Nm		
for signal (remote contact)	1.5 mm ² conductor (/S option) - maximum torque 0.25 Nm		
Mounting	Indoor, 35 mm top hat DIN rail		
Degree of protection	IP20		
Case material	Thermoplastic, UL 94 V-0		
Weight ³	540 g	720 g	710 g
Dimensions to DIN 43880	90 mm x 68 mm x 54 mm (3TE) 90 mm x 68 mm x 72 mm (4TE) Units with the remote signal contact terminals (removable) are 100 mm high		
Enclosure dimensions for up to /4 versions (4TE)	170 mm x 98 mm x 105 mm (MMP ENC4)		

¹ Tested to BS EN/IEC-61643

² Values stated are per pole

³ Remote signal contact adds 5 g to weight



MMP 1B Series - Technical Specification

Electrical specification	MMP 1B385/3	MMP 1B385/4	MMP 1B385/3+1T
Installation	TN-C	TN-S / TN-C-S	TT
SPD protective element	MOV / MOV	MOV / MOV	MOV / GDT
Nominal voltage (U_n)	220-240 V _{RMS}	220-240 V _{RMS}	220-240 V _{RMS}
Nominal frequency range	47-63 Hz	47-63 Hz	47-63 Hz
Maximum continuous operating voltage (U_c)	385 Vac / 505 Vdc	385 Vac / 505 Vdc	385 Vac / 505 Vdc (255 Vac N-PE)
Maximum back up fuse	160 AgL	160 AgL	160 AgL
Short circuit capability	25 kA / 50 Hz	25 kA / 50 Hz	25 kA / 50 Hz
Signal contact ratings	250 V _{RMS} / 0.5 A	250 V _{RMS} / 0.5 A	250 V _{RMS} / 0.5 A
Part numbers			
SPD part no.	MMP 1B385B/3	MMP 1B385B/4	MMP 1B385/3+1T
SPD part no. with signal contact	MMP 1B385B/3/S	MMP 1B385B/4/S	MMP 1B385/3+1T/S
Replacement module part no.	MMP 1B85B	MMP 1B385B	MMP 1B385 (L-N) MMP CT255 (N-PE)
Transient specification	MMP 1B385/3	MMP 1B385/4	MMP 1B385/3+1T
Arrester classification¹			
EN	1 (I + 2)	1 (I + 2)	1 (I + 2)
IEC	I (I + II)	I (I + II)	I (I + II)
E DIN VDE 0675	B (B + C)	B (B + C)	B (B + C)
Let-through voltage (U_p)²			
at I_n (8/20 μ s)	< 1.8 kV	< 1.8 kV	< 1.8 kV (L-N)
at I_{imp} (10/350 μ s)	< 1.4 kV	< 1.4 kV	< 1.4 kV (L-N)
at 1.2/50 μ s	-	-	< 2.0 kV (N-PE)
Nominal discharge current I_n (8/20 μ s)	30 kA	30 kA	30 kA / 20 kA (L-N / N-PE)
Maximum discharge current			
I_{max} (8/20 μ s)	60 kA	60 kA	60 kA / 40 kA (L-N / N-PE)
I_{imp} (10/350 μ s)	10 kA	10 kA	10 kA / 12.5 kA (L-N / N-PE)
Mechanical specification	MMP 1B385/3	MMP 1B385/4	MMP 1B385/3+1T
Temperature range	-40 to +80 °C		
Connection type			
for power	35 mm ² solid conductor, 25 mm ² stranded conductor - maximum torque 3.0 Nm		
for signal (remote contact)	1.5 mm ² conductor (/S option) - maximum torque 0.25 Nm		
Mounting	Indoor, 35 mm top hat DIN rail		
Degree of protection	IP20		
Case material	Thermoplastic, UL 94 V-0		
Weight ³	575 g	770 g	760 g
Dimensions to DIN 43880	90 mm x 68 mm x 72 mm (3TE) 90 mm x 68 mm x 72 mm (4TE) Units with the remote signal contact terminals (removable) are 100 mm high		
Enclosure dimensions for up to /4 versions (4TE)	170 mm x 98 mm x 105 mm (MMP ENC4)		

¹ Tested to BS EN/IEC-61643

² Values stated are per pole

³ Remote signal contact adds 5 g to weight

