

Selecting Surge Protective Devices (SPDs) and their associated protection

SPDs are mandatory¹ for buildings:

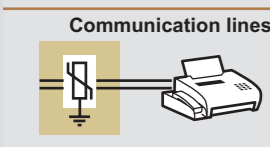
- With risks for the persons: buildings with safety services or medical care facilities, hospitals, ...
- Dedicated to public services, cultural heritage, religious buildings, ...
- With professional activities: commercial buildings, hotels, banks, industries, farms, ...
- Equipped with a LPS (Lightning Protection System: protection of buildings against direct lightning strikes) and/or designed according to IEC/EN 62035 standard
- With large number of persons: large residential, offices, schools, (Mandatory in Europe according to HD 60364)
- Small buildings: small commercial buildings, houses, small multi-family buildings, according to a risk analysis¹

Risk levels:



- **Very high risk:** EN/IEC 62305 standards, installations with a LPS or metal structure (acting as a lightning conductor), installations that are isolated, or on a high mountain, or have a history of lightning strikes, etc.
- **High risk:** installations outside of urban areas, in mountainous areas, isolated, at the end of a line, near a body of water, trees or near installations equipped with lightning conductors, etc.
- **Low risk:** installations in urban areas (or grouped buildings), flat areas, or low and medium height mountains

		Group or individual houses, small commercial buildings <i>In</i> ≤ 125 A			Commercial buildings <i>In</i> ≤ 400 A			Large commercial/Industrial buildings (IT earthing system: see below) <i>In</i> > 400 A				
Low voltage installation	MB	Main distribution board	Power network	Isc	SPD type	SPD (N left/right) + recommended overcurrent protection ⁽²⁾	Isc	SPD type	SPD (N left/right) + recommended overcurrent protection ⁽²⁾	Isc	SPD type	SPD (N left/right) + recommended overcurrent protection ⁽²⁾
	MB	Very high risk 	1P+N	≤ 10 kA		4 122 74/76 + 4 078 06	≤ 25 kA		-	≤ 50 kA		-
			3P			4 122 72 + 4 078 65			4 122 82 + 4 200 44			4 122 82 + 4 201 24
			3P+N			4 122 75/77 + 4 079 34			4 122 83 + 4 200 54			4 122 83 + 4 201 34
		High risk 	1P+N			4 122 54/56 + 4 078 04			-			-
			3P			4 122 52 + 4 078 63			4 122 72 + 4 097 87			4 122 82 + 4 201 24
			3P+N			4 122 55/57 + 4 079 32			4 122 75/77 + 4 098 00			4 122 83 + 4 201 34
		Low risk 	1P+N			4 122 44/46 + 4 078 02			-			-
			3P			4 122 42 + 4 078 61			4 122 72 + 4 097 87			4 122 72 + 4 101 67
			3P+N			4 122 45/47 + 4 079 30			4 122 75/77 + 4 098 00			4 122 75/77 + 4 101 80
	DB	Distribution board	1P+N	≤ 6 kA		0 039 51 (integrated protection)		0 039 71 (integrated protection)		-		
			3P			-		-		-		
			3P+N			0 039 53 (integrated protection)		0 039 73 (integrated protection)		-		
All risks		1P+N			4 122 24/26 + 4 078 01		4 122 60/62 + 4 092 03		4 122 64/66 + 4 097 70			
		3P			-		4 122 42 ⁽³⁾ + 4 092 55		4 122 42 ⁽³⁾ + 4 097 83			
		3P+N			4 122 25/27 + 4 079 29		4 122 61/63 + 4 093 37		4 122 65/67 + 4 097 96			
Proximity protection of sensitive equipment	Multi-outlet extensions		6 946 14/48/51/56/64/66/70/71			Mosaic		0 775 40				
	Mosaic		0 775 40			Mosaic		0 775 40				



(See p. 70)

When low voltage SPDs are present, protection of all lines entering the building is recommended

1: According to installation standards IEC/HD 60364 parts 443 and 534
 2: Recommended protective device to be used according to the type of SPD and requirements of the installation (see opposite table and technical pages)
 3: Standard modular SPD

SPDs Cat.Nos	T1+T2 / 25 kA and 35 kA 4 122 80/81/82/83		T1+T2 / 12.5 kA 4 122 70/71/72/73/74/75/76/77				T1+T2 / 8 kA 4 122 50/51/52/53/54/55/56/57				T2 / 40 kA 4 122 30/32/33/40/41/42/43/44/45/46/47/64/65/66/67				T2 / 20 kA 4 122 20/21/23/24/25/26/27/60/61/62/63			
Network	3P	3P+N	1P+N	3P	3P+N	1P+N	3P	3P+N	1P+N	3P	3P+N	1P+N	3P	3P+N	1P+N	3P	3P+N	
Circuit breaker	DPX ³ 160 - 80 A		DX ³ 63 A C curve				DX ³ 40 A C curve				DX ³ 25 A C curve				DX ³ 20 A C curve			
	3P	4P	2P	3P	4P	2P	3P	4P	2P	3P	4P	2P	3P	4P	2P	3P	4P	
Isc ≤ 10 kA	-	-	4 078 06	4 078 65	4 079 34	4 078 04	4 078 63	4 079 32	4 078 02	4 078 61	4 079 30	4 078 01	4 078 60	4 079 29	-	-	-	
Isc ≤ 16 kA	4 200 04	4 200 14	4 092 08	4 092 60	4 093 42	4 092 06	4 092 58	4 093 40	4 092 04	4 092 56	4 093 38	4 092 03	4 092 55	4 093 37	-	-	-	
Isc ≤ 25 kA	4 200 44	4 200 54	4 097 74	4 097 87	4 098 00	4 097 72	4 097 85	4 097 98	4 097 70	4 097 83	4 097 96	4 097 69	4 097 82	4 097 95	-	-	-	
Isc ≤ 50 kA	4 201 24	4 201 34	4 101 54	4 101 67	4 101 80	4 101 52	4 101 65	4 101 78	4 101 50	4 101 63	4 101 76	-	-	-	-	-	-	

IT earthing system (all risks)

	SPD type	Network	Icc	SPD + protective device ⁽²⁾
MB	T1+T2 35 kA/440 V	3P	50 kA	4 122 80 (x 3) + 4 201 24
		3P+N		4 122 80 (x 4) + 4 201 34
DB	T2 40 kA/440 V	1P+N	25 kA	4 122 30 (x 2) + 4 097 70
		3P		4 122 32 + 4 097 83
		3P+N		4 122 33 + 4 097 96