

**SIEMENS**

Catalog  
Extract  
LV 10

Edition  
10/2023

SENTRON • SIVACON • ALPHA

# Low-Voltage Power Distribution and Electrical Installation Technology

Overvoltage Protection Devices

[siemens.com/lowvoltage](https://www.siemens.com/lowvoltage)



# Innovative solutions for industrial controls and power distribution

Reliable components and systems are essential in ensuring smooth power distribution in buildings and industrial plants.

With SIRIUS, SENTRON, SIVACON and ALPHA, we offer an innovative portfolio for standard-compliant and demand-oriented applications.

Efficient engineering tools and innovative cloud-based solutions can be flexibly tailored to individual requirements.

## We are there when you need us

Your personal contact can be found at  
[www.siemens.com/lowvoltage/contact](http://www.siemens.com/lowvoltage/contact)

## Catalog LV 10 · 10/2023

You will find the latest edition and all future editions in SiePortal at [www.siemens.com/lowvoltage/catalogs](http://www.siemens.com/lowvoltage/catalogs)

You can find the current prices in SiePortal at  
[www.siemens.com/lowvoltage/product-catalog](http://www.siemens.com/lowvoltage/product-catalog)



The products and systems described in this catalog are manufactured/distributed under application of a certified quality management system in accordance with EN ISO 9001 (for the Certified Registration Nos., see [www.siemens.com/system-certificates/ep](http://www.siemens.com/system-certificates/ep)). The certificate is recognized by all IQNet countries.

### Technical specifications

The technical specifications are for general information purposes only. Always heed the operating instructions and notices on individual products during assembly, operation and maintenance.

All illustrations are not binding.

© Siemens 2023

# Low-Voltage Power Distribution and Electrical Installation Technology

## Protecting

Introduction ..... I/2

Air Circuit Breakers ..... 1/1

Molded Case Circuit Breakers ..... 2/1

Miniature Circuit Breakers ..... 3/1

Residual Current Protective Devices/Arc Fault Detection Devices (AFDDs) ..... 4/1

Switching Devices ..... 5/1

**Overvoltage Protection Devices ..... 6/1**

Fuse Systems ..... 7/1

## Protecting, Switching and Isolating

Switch Disconnectors ..... 8/1

## Switching and Isolating

Transfer Switching Equipment and Load Transfer Switches ..... 9/1

## Measuring and Monitoring

Measuring Devices, Power Monitoring and Digitalization Solutions ..... 10/1

Monitoring Devices ..... 11/1

## Distribution

Transformers, Power Supply Units and Socket Outlets ..... 12/1

Busbar Systems ..... 13/1

Terminal Blocks ..... 14/1

Switchboards, Distribution Boards and Small Distribution Boards ..... 15/1

Busbar Trunking Systems ..... 16/1

System Cubicles, System Lighting and System Air-Conditioning ..... 17/1

Appendix ..... A/1

I

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

A



## Overvoltage protection devices

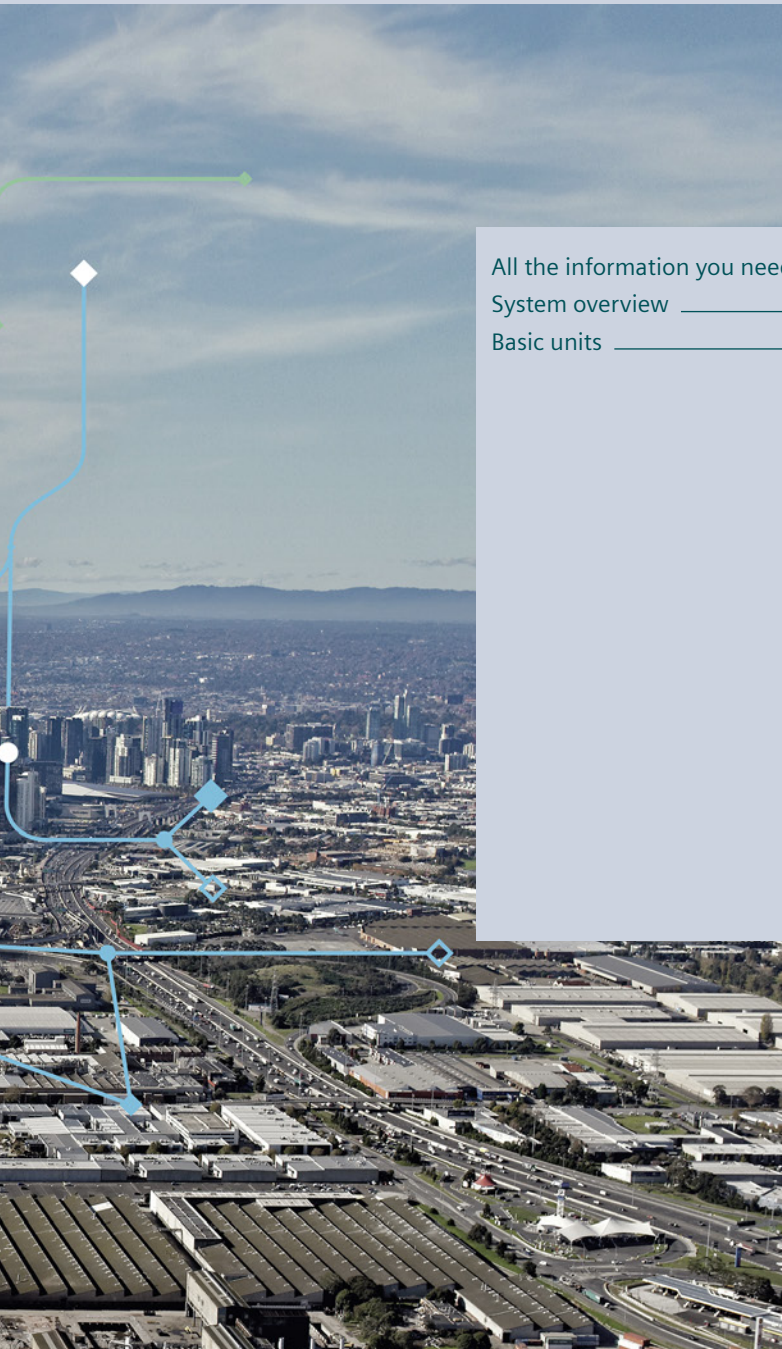
The more than one million lightning strikes in Germany every year pose a considerable risk for buildings and systems that can be damaged due to the unhindered effect of lightning currents, overvoltage and power surges. In many cases however, it is not apparent that such damage has been caused by lightning currents, overvoltage and power surges.

Overvoltage results in considerable damage to electrical and electronic equipment. Even brief transients in power supply lines or between electrical lines and other conductive parts (e.g. grounded metallic parts, ground) are sufficient to cause such damage. The damage patterns of destroyed lines, printed circuit boards or switchgear demonstrate this. Such damage can be prevented employing suitable overvoltage protection means.

Reliably protected by Siemens lightning and surge arresters !



# Overvoltage Protection Devices



All the information you need	6/2
System overview	6/4
Basic units	6/6
5SD74 lightning arresters, type 1	6/6
5SD74 combination surge arresters, type 1 + type 2	6/8
5SD74 combination surge arresters with integrated back-up fuse	6/10
5SD74 surge arresters, type 1 + type 2 + type 3 for 40 mm busbar system	6/12
5SD74 combination surge arresters, type 1/type 2	6/14
5SD74 surge arresters, type 2	6/16
5SD74 surge arresters, type 3	6/20

# A multitude of additional information ...

## Information + ordering



### All the important things at a glance

For information about overvoltage protection devices, please visit our website

[www.siemens.com/overvoltage-protection](http://www.siemens.com/overvoltage-protection)



### Your product in detail

The SiePortal platform (knowledge base) provides comprehensive information

[www.siemens.com/lowvoltage/product-support](http://www.siemens.com/lowvoltage/product-support)

- Technology Primer
  - Overvoltage protection devices (**109756965**)

The relevant tender specifications can be found at

[www.siemens.com/tenderspecifications](http://www.siemens.com/tenderspecifications)

Use our conversion tool for quick and easy conversion to Siemens products [www.siemens.com/conversion-tool](http://www.siemens.com/conversion-tool)



### Everything you need for your order

Refer to SiePortal to find an overview of your products (product catalog)

- Overvoltage protection devices [sie.ag/3ZMwRuW](http://sie.ag/3ZMwRuW)

Direct forwarding to the individual products in SiePortal by clicking on the article number in the catalog or entering this web address incl. article number

[www.siemens.com/product\\_catalog\\_SIEP?Article No.](http://www.siemens.com/product_catalog_SIEP?Article No.)



## The fast track to the experts

### Contact persons in your region

We offer a comprehensive portfolio of services.

You can find your local contacts at

[www.siemens.com/lowvoltage/components/contact](http://www.siemens.com/lowvoltage/components/contact)

You will find further information on services at

[www.siemens.com/service-offers](http://www.siemens.com/service-offers)

Competent expert advice on technical questions with a wide range of demand-optimized services for all our products and systems.

Assistance with technical queries is provided at

[www.siemens.com/support-request](http://www.siemens.com/support-request)

# ... can be found in our online services

## Commissioning + operation



### Your product in detail

The SiePortal platform (knowledge base) provides detailed technical information

[www.siemens.com/lowvoltage/product-support](http://www.siemens.com/lowvoltage/product-support)

- Operating instructions
- Certificates

Online Support app available for download from the [App Store](#) and [Play Store](#)

You will find further information at

[www.siemens.com/support-app](http://www.siemens.com/support-app)

Provision of 3D data (step and u3d data formats)

- SiePortal (product catalog)  
[www.siemens.com/lowvoltage/product-catalog](http://www.siemens.com/lowvoltage/product-catalog)
- Image database  
[www.siemens.com/lowvoltage/picturedb](http://www.siemens.com/lowvoltage/picturedb)

Engineering data for CAD or CAE systems are available in the CAX Download Manager at

[www.siemens.com/cax](http://www.siemens.com/cax)



### Manuals

Manuals can be found in SiePortal at

[www.siemens.com/lowvoltage/manuals](http://www.siemens.com/lowvoltage/manuals)

- Configuration Manual
  - Overvoltage protection devices ([45315289](#))



### Face-to-face or online training

Our training courses can be found at

[www.siemens.com/sitrain-lowvoltage](http://www.siemens.com/sitrain-lowvoltage)

- Basic principles of electrical engineering (WT-LVBGET)
- Protection concept (WT-LVBPC)



### Technical overview – Overvoltage protection devices



### The fast way to get you to our online services

This page provides you with comprehensive information and links on overvoltage protection devices

[www.siemens.com/lowvoltage/product-support](http://www.siemens.com/lowvoltage/product-support) ([109769084](#))



# System overview

## Basic units



5SD74 lightning arresters,  
type 1



5SD74 combination surge  
arresters, type 1 + type 2



5SD74 combination surge  
arresters with integrated  
back-up fuse



5SD74 surge arresters,  
type 1 + type 2 + type 3  
for 40 mm busbar system



5SD74 combination  
surge arresters,  
type 1/type 2



5SD74 surge arresters,  
type 2 (standard design)



5SD74 surge arresters,  
type 3

## Spare part plugs



N-PE



L-N, L-PEN (type 1)



L-PEN

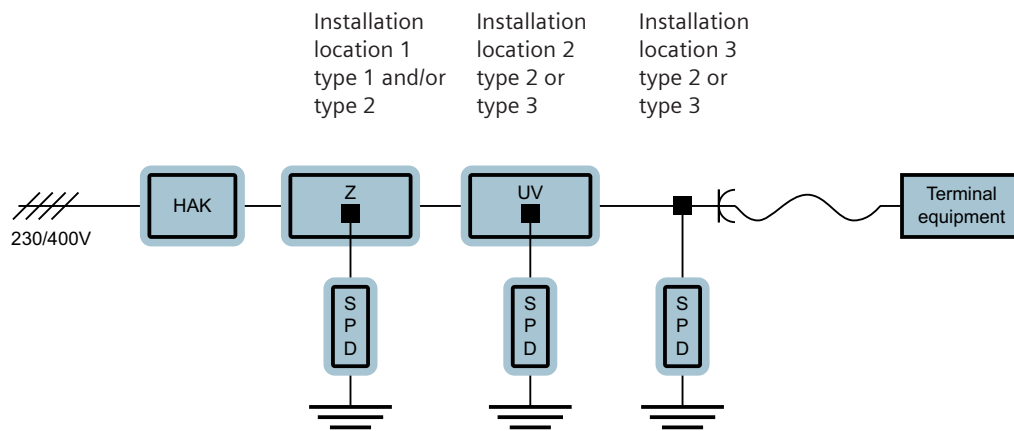
### Note:

You will find a detailed range of accessories with the basic units.





## Installation locations for surge protection devices (SPDs)







HAK: Main terminal box

Z/HV: In or close to the central meter system/main distribution board

UV: Subdistribution board

Installation location 1 must be as close as possible to the supply point for the electrical system, so that the downstream installations are protected. The SPDs at installation locations 2 and 3 shall not be used without SPDs at installation location 1, and they must be coordinated with these SPDs (i.e. SPDs all from the same manufacturer).

# 5SD74 lightning arresters, type 1

	For TN-C systems and IT networks	For TN-C systems	For TN-S and TT systems	
Protection paths	L-PE	L-PEN	L-N, L-PE and N-PE	L-N, L-PE and N-PE
Rated voltage $U_n$	690 V AC	240/415 V AC	240 V AC	240/415 V AC
Maximum continuous voltage $U_c$	800 V AC	350 V AC	350 V AC	350 V AC
				

Circuit	Mounting width				
With remote signaling					
1 + 0	— <sup>1)</sup>	5SD7411-2	—	—	—
1 + 1	4 MW	—	—	5SD7412-1	—
3 + 0	6 MW	—	5SD7413-1	—	—
3 + 1	8 MW	—	—	—	5SD7414-1

<sup>1)</sup> No modular installation device.

## Further technical specifications

Further technical specifications		5SD7411-2	5SD7412-1	5SD7413-1	5SD7414-1
Standards					
Standards		IEC 61643-11; EN 61643-11			
Approvals		—	KEMA, UL/cUL		
Voltage					
Protection level $U_p$	L-N and L-PEN	≤ 4.50 kV	≤ 1.50 kV		
	L-PE	—	≤ 2.50 kV	—	≤ 2.50 kV
	N-PE	—	≤ 1.50 kV	—	≤ 1.50 kV
Current					
Lightning impulse current $I_{imp}$ (10/350 μs)	L-N and L-PEN, 1P/3P	35 kA	25 kA	25/75 kA	
	N-PE	—	100 kA	—	100 kA
Rated discharge surge current $I_n$ (8/20 μs)	L-N and L-PEN, 1P/3P	35 kA	25 kA	25/75 kA	
	N-PE	—	100 kA	—	100 kA
Follow current discharge capacity $I_{fi}$ (AC)	L-N and L-PEN for 264/350 V	—	50/25 kA		
	N-PE	—	100 A	—	100 A
Function					
Response time $t_A$	L-N and L-PEN	≤ 100 ns			
	L-N and N-PE	—	≤ 100 ns	—	≤ 100 ns
Connections					
Conductor cross-section	Finely stranded	16 ... 50 mm <sup>2</sup>	2.5 ... 25 mm <sup>2</sup>		
	Solid	16 ... 50 mm <sup>2</sup>	2.5 ... 35 mm <sup>2</sup>		
Protection devices					
Max. back-up fuse acc. to IEC 61643-1	For stub wiring (gL/gG)	400 A	315 A		
	For V wiring (gL/gG)	125 A	125 A		
Short-circuit strength	With max. back-up fuse	50 kA	50 kA		
Ambient conditions					
Degree of protection		IP20, with connected conductors			
Temperature range		−40 ... +80 °C			

## Accessories




### Spare part plugs



Protection paths	Basic units	Article No.
N-PE	5SD7412-1 and 5SD7414-1	5SD7418-0
L-N and L-PEN	For 5SD7412-1, 5SD7413-1 and 5SD7414-1	5SD7418-1



# 5SD74 combination surge arresters, type 1 + type 2

		For TN-C systems		For TN-S and TT systems	
Protection paths		L-PEN	L-N, L-PE and N-PE	L-N, L-PE and N-PE	
	Rated voltage $U_n$	240/415 V AC	240 V AC	240 V AC	
	Maximum continuous voltage $U_c$	350 V AC	350 V AC	350 V AC	
					
Circuit	Mounting width				
With remote signaling					
1 + 1	4 MW	—	5SD7442-1	—	
3 + 0	6 MW	5SD7443-1	—	—	
3 + 1	8 MW	—	—	5SD7444-1	

## Further technical specifications

Further technical specifications		5SD7442-1	5SD7443-1	5SD7444-1
Standards				
Standards		IEC 61643-11; EN 61643-11		
Approvals		KEMA, UL/cUL		
Voltage				
Protection level $U_p$	L-N and L-PEN	≤ 1.50 kV		
	L-PE	≤ 2.20 kV	–	≤ 2.20 kV
	N-PE	≤ 1.50 kV	–	≤ 1.50 kV
Current				
Lightning impulse current $I_{imp}$ (10/350 μs)	L-N and L-PEN	25 kA		
	N-PE	100 kA	–	100 kA
Rated discharge surge current $I_n$ (8/20 μs)	L-N and L-PEN	25 kA		
	N-PE	100 kA	–	100 kA
Follow current discharge capacity $I_{fi}$ (AC)	L-N and L-PEN	25 kA		
	N-PE	100 A	–	100 A
Function				
Response time $t_A$	L-N and L-PEN	≤ 25 ns		
	L-N and N-PE	≤ 100 ns	–	≤ 100 ns
Connections				
Conductor cross-section	Finely stranded	2.5 ... 25 mm²		
	Solid	2.5 ... 35 mm²		
Protection devices				
Max. back-up fuse acc. to IEC 61643-1	For stub wiring (gL/gG)	315 A		
	For V wiring (gL/gG)	125 A		
Short-circuit strength	With max. back-up fuse	25 kA		
Ambient conditions				
Degree of protection	IP20, with connected conductors			
Temperature range	–40 ... +80 °C			
Display				
Visual function/fault indication	Yes			

## Accessories

### Spare part plugs



Protection paths	Type	Basic units	Article No.
N-PE	—	5SD7442-1 and 5SD7444-1	5SD7418-0
L-N and L-PEN	1	5SD7442-1, 5SD7443-1 and 5SD7444-1	5SD7448-1
	2	5SD7442-1, 5SD7443-1 and 5SD7444-1	5SD7428-1

# 5SD74 combination surge arresters with integrated back-up fuse

	For TN-S and TT systems
Protection paths	L-N
Rated voltage $U_n$	230 V AC
Maximum continuous voltage $U_c$	255 V AC



Circuit	Mounting width	
1+0	2 MW	5SD7441-1KF00

6

## Further technical specifications

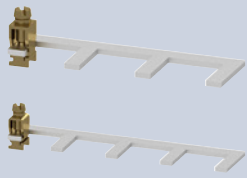
5SD7441-1KF00

<b>Standards</b>		
Standards		EN 61643-11/... IEC 61643-11
Approvals		KEMA
<b>Voltage</b>		
Protection level $U_p$	L-N and L-N/PE	$\leq 1.50$ kV
<b>Current</b>		
Lightning impulse current $I_{imp}$ (10/350 $\mu$ s)	L-N and L-N/PE	25 kA
Rated discharge surge current $I_n$ (8/20 $\mu$ s)	L-N and L-N/PE	25 kA
Follow current discharge capacity $I_{ff}$ (AC)	L-N and L-N/PE	50 kA
<b>Function</b>		
Response time $t_A$	L-N and L-N/PE	$\leq 100$ ns
<b>Connections</b>		
Conductor cross-section	Finely stranded	25 mm <sup>2</sup>
	Solid/stranded	35 mm <sup>2</sup>
<b>Protection devices</b>		
Max. back-up fuse		None necessary because integrated coordinated back-up fuse contained in the device
<b>Ambient conditions</b>		
Degree of protection		IP20, with connected conductors
Temperature range		-40 ... +80 °C







## Accessories

### Connection bars



Version	Number of poles	Article No.
1-phase	3-pole	5SD7490-6
	4-pole	5SD7490-7

# 5SD74 surge arresters, type 1 + type 2 + type 3 for 40 mm busbar system

Protection paths Lightning impulse current $I_{imp}$ (10/350 $\mu$ s) Rated voltage $U_n$ Maximum continuous voltage $U_c$	For TN-C systems			
	L-PEN			
	12.5 kA		7.5 kA	
	240/415 V AC	240/415 V AC	240/415 V AC	240/415 V AC
	300 V AC	300 V AC	300 V AC	300 V AC
				

Circuit	Mounting width				
With remote signaling					
3 + 0	47 mm	5SD7443-8KK21	–	5SD7443-8KK11	–
3 + 1	47 mm	–	–	–	–
With remote signaling and phase tap					
3 + 0	47 mm	–	5SD7443-8KK22	–	5SD7443-8KK12
3 + 1	47 mm	–	–	–	–

## Further technical specifications

Further technical specifications		5SD7443-8KK21	5SD7443-8KK22	5SD7443-8KK11	5SD7443-8KK12
Standards					
Standards		IEC 61643-11			
Approvals		VDE			
Voltage					
Protection level $U_p$	L-N and L-PEN	≤ 1.50 kV			
	L-N/N-PE	–			≤ 1.5/1.5 kV
Current					
Lightning impulse current $I_{imp}$ (10/350 μs)	L-N/N-PEN and N-PE	12.5 kA		7.5 kA	
Rated discharge surge current $I_n$ (8/20 μs)	L-N/L-PEN and N-PE	20 kA			
Follow current discharge capacity $I_{fi}$ (AC)	N-PE	–			
Connections					
Conductor cross-section	Feindrähtig	25 mm²			
	Eindrähtig	35 mm²			
Type of mounting					
40 mm busbar system		5 and 10 mm			
Protection devices					
Max. back-up fuse acc. to IEC 61643-1	For stub wiring (gL/gG)	315 A			
Short-circuit strength	With max. back-up fuse	25 kA			
Ambient conditions					
Degree of protection		IP20			
Temperature range		–40 ... +80 °C			
Display					
Visual function/fault indication		Yes			

### For TN-S and TT systems

L-N, L-PE and N-PE

12.5 kA

7.5 kA

240/415 V AC

240/415 V AC

240/415 V AC

240/415 V AC

300 V AC

300 V AC

300 V AC

300 V AC








–	–	–	–
5SD7444-8KK21	–	5SD7444-8KK11	–
–	–	–	–
–	5SD7444-8KK22	–	5SD7444-8KK12

6

[illegible]



# 5SD74 combination surge arresters, type 1/type 2

	For TN-C systems and IT networks	For TN-C systems	For TN-S and TT systems		For photovoltaic systems
Protection paths	L-PE	L-PEN	L-N, L-PE and N-PE	L-N, L-PE and N-PE	(L+) – (L–)
Rated voltage $U_n$	690 V AC	240/415 V AC	240 V AC	240/415 V AC	–
Maximum continuous voltage $U_c$	800 V AC	335 V AC	335 V AC	335 V AC	1000 V DC
					

Circuit	Mounting width					Plug-in
With remote signaling						
1 + 0	— <sup>1)</sup>	5SD7411-2	—	—	—	—
3 + 0	3 MW	—	5SD7413-3	—	—	
3 + 1	4 MW	—	—	—	5SD7414-3	—
Without remote signaling						
1 + 1	2 MW	—	—	5SD7412-2	—	—
3 + 0	3 MW	—	5SD7413-2	—	—	5SD7483-6
3 + 1	4 MW	—	—	—	5SD7414-2	—

<sup>1)</sup> No modular installation device.

Further technical specifications		5SD7411-2	5SD7412-2	5SD7413-2 5SD7413-3	5SD7414-2 5SD7414-3	5SD7483-6
Standards						
Standards		IEC 61643-11				EN 61643-31
Approvals		–	KEMA			
Voltage						
Protection level $U_p$	L-N and L-PEN	≤ 4.50 kV	≤ 1.20 kV			≤ 3.50 kV
	L-PE	–	–			≤ 2.0 kV
	N-PE	–	≤ 1.70 kV	–	≤ 1.70 kV	–
Current						
Lightning impulse current $I_{imp}$ (10/350 μs)	L-N and L-PEN	35 kA	12.5 kA			≤ 5 kA
	N-PE	–	50 kA	–	50 kA	–
Rated discharge surge current $I_n$ (8/20 μs)	L-N and L-PEN	35 kA	12.5 kA			15 kA
	N-PE	–	50 kA	–		
Max. discharge surge current $I_{max.}$ (8/20 μs)	L-N	100 kA	12.5 kA	50 kA		40 kA
	N-PE	–	50 kA	–	50 kA	–
Function						
Response time $t_A$	L-N and L-PEN	< 100 ns	≤ 25 ns			–
	L-N and N-PE	–	≤ 100 ns	–	≤ 100 ns	≤ 25 ns
Connections						
Conductor cross-section	Finely stranded	16 ... 50 mm <sup>2</sup>	1.5 ... 25 mm <sup>2</sup>			
	Solid	16 ... 50 mm <sup>2</sup>	1.5 ... 35 mm <sup>2</sup>			
Protection devices						
Max. back-up fuse acc. to IEC 61643-1	For stub wiring (gL/gG)	400 A	160 A			–
	For V wiring (gL/gG)	125 A	80 A			–
Short-circuit strength	With max. back-up fuse	50 kA	25 kA			–
Ambient conditions						
Degree of protection		IP20, with connected conductors				
Temperature range		–40 ... +80 °C				

## Accessories







### Spare part plugs



Protection paths	Type	Basic units	Article No.
N-PE	—	5SD7412-2, 5SD7412-3, 5SD7414-2 and 5SD7414-3	5SD7418-2
L-N and L-PEN	1	5SD7412-2, 5SD7412-3, 5SD7413-2, 5SD7413-3, 5SD7414-2 and 5SD7414-3	5SD7418-3
L-PE (PV)	2	5SD7483-6	5SD7498-3


# 5SD74 surge arresters, type 2

## Standard design

	For TN and TT systems		For TN-C systems and IT networks	For TN-C systems	For IT networks	
Protection paths	N-PE	L-PEN and L-N	L-PEN and L-N	L-PEN	L-PEN and L-PE	L-PEN and L-PE
Rated voltage $U_n$	240/415 V AC	240/415 V AC	400/690 V AC	240/415 V AC	400/690 V AC	554/960 V AC
Maximum continuous voltage $U_c$	260 V AC	350 V AC	800 V AC	350 V AC	580 V AC	760 V AC
						

Circuit	Mounting width						
With remote signaling							
1 + 0	1 MW	–	5SD7461-1	–	–	–	–
	2 MW	–	–	5SD7481-1	–	–	–
3 + 0	3 MW	–	–	–	5SD7463-1	5SD7473-1	5SD7483-5
3 + 1	4 MW	–	–	–	–	–	–
Without remote signaling							
1 + 0	1 MW	5SD7481-0	5SD7461-0	–	–	–	–
3 + 0	3 MW	–	–	–	5SD7463-0	–	–
3 + 1	4 MW	–	–	–	–	–	–

Further technical specifications		5SD7481-0	5SD7461-0 5SD7461-1	5SD7481-1	5SD7463-0 5SD7463-1	5SD7464-0 5SD7464-1	5SD7473-1	5SD7483-5
Standards								
Standards		IEC 61643-11; DIN EN 61643-11						
Approvals		KEMA					–	KEMA, UL/cUL
Voltage								
Protection level $U_p$	L-N and L-PEN	–	≤ 1.50 kV	≤ 5 kV	≤ 1.50 kV	≤ 1.60 kV	≤ 2.50 kV	≤ 2.90 kV
	L-PE	–				≤ 1.90 kV	–	
	N-PE	≤ 1.50 kV	–				≤ 1.50 kV	–
Current								
Rated discharge surge current $I_n$ (8/20 μs)	L-N and L-PEN	–	20 kA	15 kA	20 kA	15 kA		
	N-PE	20 kA				20 kA	–	
Max. discharge surge current $I_{max}$ (8/20 μs)	L-N	–	40 kA	30 kA	40 kA	30 kA		
	N-PE	40 kA				40 kA	–	
Function								
Response time $t_A$	L-N and L-PEN	–	≤ 25 ns	≤ 100 ns	≤ 25 ns			
	L-N and N-PE	≤ 100 ns	–				≤ 100 ns	–
Connections								
Conductor cross-section	Finely stranded	1.5 ... 25 mm <sup>2</sup>						
	Solid	1.5 ... 35 mm <sup>2</sup>						
Protection devices								
Max. back-up fuse acc. to IEC 61643-1	For stub wiring (gL/gG)	–	125 A	100 A	125 A	100 A		
	For V wiring (gL/gG)	–	80 A					
Short-circuit strength	With max. back-up fuse	25 kA						
Ambient conditions								
Degree of protection		IP20, with connected conductors						
Temperature range		–40 ... +80 °C						

For TN-S and TT systems	Fuse bases for photovoltaic fuses	
L-N, L-PE and N-PE 240/415 V AC	(L+) – (L–); (L+) – PE; (L–) – PE	(L+) – (L–); (L+) – PE; (L–) – PE
350 V AC (L-N, L-PE) 260 V AC (N-PE)	1000 V DC	600 V DC
		
–	–	–
–	–	–
–	–	–
5SD7464-1	–	–
–	–	–
–	5SD7483-0KK02	5SD7483-0KK01
5SD7464-0	–	–

#### 5SD7483-0KK01 5SD7483-0KK02

EN 61643-31
KEMA
≤ 3.70 kV
–
–
15 kA
–
40 kA
–
≤ 25 ns
≤ 25 ns
1.5 ... 25 mm <sup>2</sup>
1.5 ... 35 mm <sup>2</sup>
–
–
–
IP20, with connected conductors
–40 ... +80 °C

### Accessories



#### Spare part plugs



Protection paths	Basic units	Article No.
N-PE	5SD7481-0, 5SD7464-0 und 5SD7464-1	5SD7488-0
L-N and L-PEN	5SD7461-0, 5SD7461-1, 5SD7463-0, 5SD7463-1, 5SD7464-0 und 5SD7464-1	5SD7468-1
L-PEN	5SD7481-1 und 5SD7483-5	5SD7488-2
	5SD7481-1	5SD7488-4
L-PE (PV)	5SD7483-0KK02 5SD7483-0KK01	5SD7498-4 5SD7498-5

# 5SD74 surge arresters, type 2

## Narrow design

	For TN-S and TT systems	
Protection paths	L-N and N-PE	L-N and N-PE
Rated voltage $U_n$	240 V AC	240/415 V AC
Rated arrester voltage $U_C$ ; L-N, N-PE, L-(PE)N	350 V AC	350 V AC
Rated arrester voltage $U_C$ ; N-PE	264 V AC	264 V AC
		

Circuit	Mounting width	Rated discharge surge current $I_n$ (8/20 $\mu$ s)			
		L-N or L-(PE)N	N-PE		
With remote signaling					
1 + 1	24 mm (1 1/3 MW)	20 kA	20 kA	5SD7422-1	–
3 + 1	48 mm (2 2/3 MW)	20 kA	20 kA	–	5SD7424-1
		20 kA	40 kA	–	–
Without remote signaling					
1 + 1	24 mm (1 1/3 MW)	20 kA	20 kA	5SD7422-0	–
3 + 1	48 mm (2 2/3 MW)	20 kA	20 kA	–	5SD7424-0
		20 kA	40 kA	–	–

### Further technical specifications

Further technical specifications		5SD7422-0 5SD7422-1	5SD7424-0 5SD7424-1
Standards			
Standards		IEC 61643-11; EN 61643-11	
Approvals		KEMA/UL/cUL	
Voltage			
Protection level $U_p$	L-N and L-PEN	$\leq 1.50$ kV	
	L-PE	$\leq 1.90$ kV	
	N-PE	$\leq 1.50$ kV	
Current			
Rated discharge surge current $I_n$ (8/20 $\mu$ s)	L-N and L-PEN	20 kA	
	N-PE	20 kA	
Max. discharge surge current $I_{max}$ (8/20 $\mu$ s)	L-N	40 kA	
	N-PE	40 kA	
Function			
Response time $t_A$	L-N and L-PEN	$\leq 25$ ns	
	L-N and N-PE	$\leq 100$ ns	
Connections			
Conductor cross-section	Finely stranded	2.5 ... 16 mm <sup>2</sup>	
	Solid	2.5 ... 25 mm <sup>2</sup>	
Protection devices			
Max. back-up fuse acc. to IEC 61643-1	For stub wiring (gL/gG)	315 A	
	For V wiring (gL/gG)	63 A	
Short-circuit strength	With max. back-up fuse	25 kA	
Ambient conditions			
Degree of protection		IP20, with connected conductors	
Temperature range		−40 ... +80 °C	

## Accessories


### Spare part plugs



Protection paths	Basic units	Article No.
N-PE	5SD7422-0, 5SD7422-1, 5SD7424-0 and 5SD7424-1	5SD7428-0
L-N and L-PEN	5SD7422-0, 5SD7422-1, 5SD7424-0 and 5SD7424-1	5SD7428-1



# 5SD74 surge arresters, type 3

For TN-S and TT systems			
Protection paths	L-N, L-PE, N-PE, (L+) – (L-) and (L+/L-) – PE	L-N, L-PE, N-PE, (L+) – (L-) and (L+/L-) – PE	L-N, L-PE, N-PE, (L+) – (L-) and (L+/L-) – PE
Rated voltage $U_n$	24 V AC	120 V AC	230 V AC
Rated arrester voltage $U_c$	34 V AC	150 V AC	264 V AC
			

Circuit	Mounting width			
With remote signaling				
1 + 0	1 MW	5SD7432-5	5SD7432-6	5SD7432-7

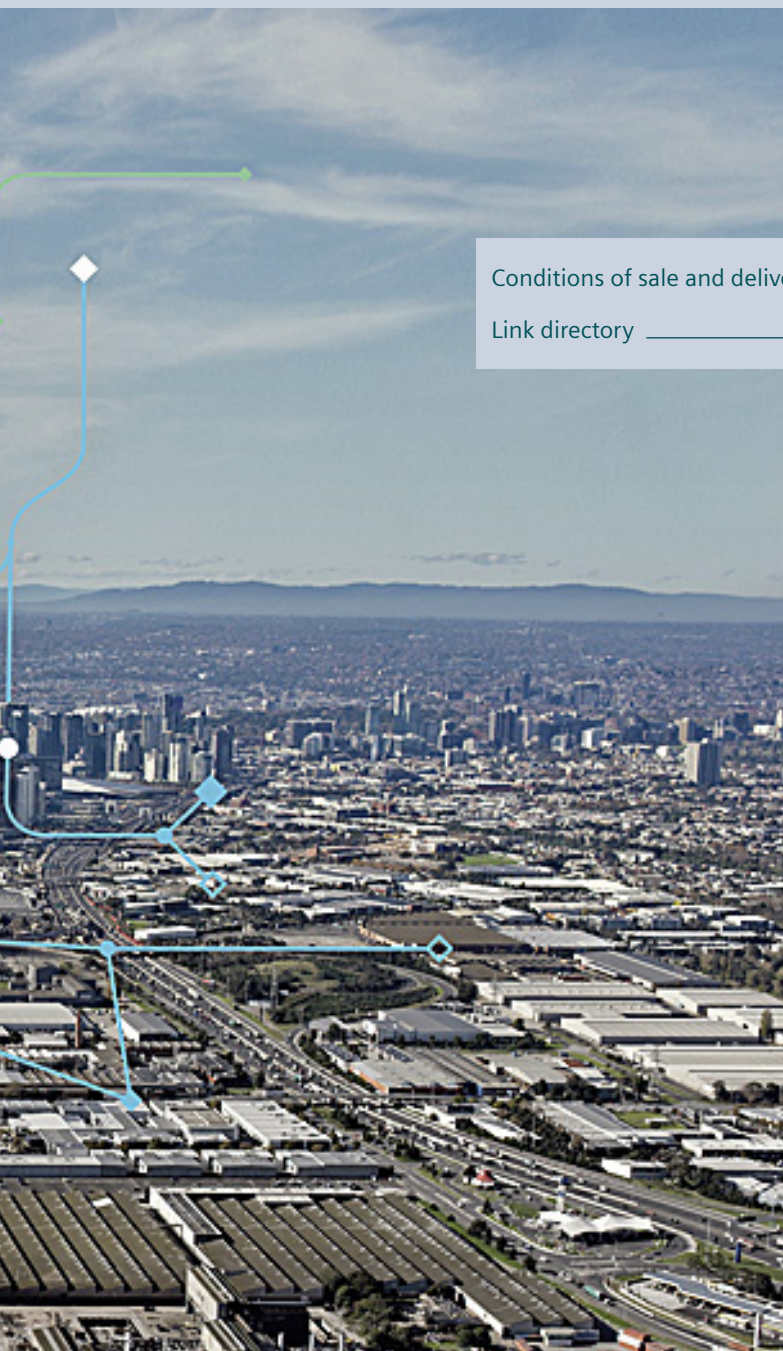
## Further technical specifications

Further technical specifications		5SD7432-5	5SD7432-6	5SD7432-7
Standards				
Standards		IEC 61643-11; DIN EN 61643-11		
Approvals		KEMA/UR	KEMA/UL	KEMA/UR
Voltage				
Protection level $U_p$	L-N, L-PE and N-PE	≤ 200/≤ 600 V	≤ 750/≤ 850 V	≤ 1250/≤ 1400 V
Current				
Rated load current $I_L$ (at 30 °C)		26 A		
Rated discharge surge current $I_n$ (8/20 μs)		1 kA	5 kA	
Combined surge $U_{oc}$		2 kV	6 kV	
Function				
Response time $t_A$		≤ 100 ns		
Connections				
Conductor cross-section	Finely stranded	0.2 ... 2.5 mm²		
	Solid	0.2 ... 4 mm²		
Protection devices				
Required back-up fuse, max.	(gG/B/C)	25 A		
Ambient conditions				
Degree of protection		IP20, with connected conductors		
Temperature range		−40 ... +80 °C		
Display				
Visual function/fault indication		Yes		





# Appendix



Conditions of sale and delivery \_\_\_\_\_ A/2

Link directory \_\_\_\_\_ A/4



# Conditions of sale and delivery

## 1. General Provisions

By using this catalog you can purchase hard- and software products as well as services (together hereinafter referred to as "products") described therein from Siemens Aktiengesellschaft subject to the following Terms and Conditions of Sale and Delivery (hereinafter referred to as "T&C"). Note, for products purchased from any Siemens entity having a registered office outside of Germany, the respective terms and conditions of sale and delivery of the respective Siemens entity apply exclusively. The following T&C apply exclusively for orders placed with Siemens Aktiengesellschaft, Germany.

### 1.1 For customers with a seat or registered office in European Union

For customers with a seat or registered office in European Union, the following terms and conditions apply subordinate to T&C:

- for products, which include specific terms and conditions in the text of the product description, these specific terms and conditions shall apply and subordinate thereto,
- for stand-alone software products and software products forming a part of a product or project, the "General Conditions for Software Products for Infrastructure & Industry Business (German law)"<sup>1)</sup> and/or
- for consulting services the "Allgemeine Geschäftsbedingungen für Beratungsleistungen für Infrastructure & Industry Geschäft (Deutsches Recht)"<sup>1)</sup> (available only in German) and/or
- for other services, the "Supplementary Terms and Conditions for Services for Infrastructure & Industry Business (German Law) ("BL")"<sup>1)</sup> and/or
- for other products the "General Conditions for the Supply of Products and Services of the Electrical and Electronics Industry"<sup>1)</sup>.

In case such products should contain Open Source Software, the conditions of which shall prevail over the "General Conditions for the Supply of Products and Services of the Electrical and Electronics Industry"<sup>1)</sup>, the Product will be given a note as to which special conditions apply to this open source software. This shall apply mutatis mutandis for notices referring to other third-party software components.

### 1.2 For customers with a seat or registered office outside European Union

For customers with a seat or registered office outside European Union, the following terms and conditions apply subordinate to T&C:

- for products, which include specific terms and conditions in the description text, these specific terms and conditions shall apply and subordinate thereto,
- for consulting services the "Standard Terms and Conditions for Consulting Services for Infrastructure & Industry Business (Swiss Law)"<sup>1)</sup> and/or
- for other services the "International Terms & Conditions for Services"<sup>1)</sup> supplemented by "Software Licensing Conditions"<sup>1)</sup> and/or
- for other products the "International Terms & Conditions for Products"<sup>1)</sup> supplemented by "Software Licensing Conditions"<sup>1)</sup>

### 1.3 For customers with master or framework agreement

To the extent products offered are covered by an existing master or framework agreement, the terms and conditions of that agreement shall apply instead of T&C.

## 2. Additional Terms and Conditions

The dimensions are in mm. In Germany, according to the German law on units in measuring technology, data in inches apply only to devices for export.

Illustrations are not binding.

Insofar as there are no remarks on the individual pages of this catalog – especially with regard to data, dimensions and weights given – these are subject to change without prior notice.

<sup>1)</sup> The text of the Terms and Conditions of Siemens AG can be downloaded at [https://mall.industry.siemens.com/legal/ww/en/terms\\_of\\_trade\\_en.pdf](https://mall.industry.siemens.com/legal/ww/en/terms_of_trade_en.pdf)

### 3. Export Control and Sanctions Compliance

#### 3.1 General

Customer shall comply with all applicable sanctions, embargoes and (re-)export control laws and regulations, and, in any event, with those of the European Union, the United States of America and any locally applicable jurisdiction (collectively "Export Regulations").

#### 3.2 Checks for Products

Prior to any transaction by customer concerning products (including hardware, documentation and technology) delivered by Siemens, or products (including maintenance and technical support) performed by Siemens with a third party, customer shall check and certify by appropriate measures that

- (i) the customer's use, transfer, or distribution of such products, the brokering of contracts or the provision of other economic resources in connection with products will not be in violation of any Export Regulations, also taking into account any prohibitions to circumvent these (e.g., by undue diversion)
- (ii) the products are not intended or provided for prohibited or unauthorized non-civilian purposes (e.g. armaments, nuclear technology, weapons, or any other usage in the field of defense and military);
- (iii) customer has screened all direct and indirect parties involved in the receipt, use, transfer, or distribution of the products against all applicable restricted party lists of the Export Regulations concerning trading with entities, persons and organizations listed therein and
- (iv) products within the scope of items-related restrictions, as specified in the respective annexes to the Export Regulations, will not, unless permitted by the Export Regulations, be (a) exported, directly or indirectly (e.g., via Eurasian Economic Union (EAEU) countries), to Russia or Belarus, or (b) resold to any third party business partner that does not take a prior commitment not to export such products to Russia or Belarus.

#### 3.3 Non-Acceptable Use of Software and Cloud Services

Customer shall not, unless permitted by the Export Regulations or respective governmental licenses or approvals,

- (i) download, install, access or use the products from or in any location prohibited by or subject to comprehensive sanctions or subject or to license requirements according to the Export Regulations;
  - (ii) grant access to, transfer, (re-)export (including any "deemed (re-)exports"), or otherwise make available the products to any entity, person, or organization identified on a restricted party list of the Export Regulations;
  - (iii) use the products for any purpose prohibited by the Export Regulations (e.g. use in connection with armaments, nuclear technology or weapons);
  - (iv) upload to a products platform any customer content unless it is non-controlled (e.g. in the EU: AL = N; in the U.S.: ECCN = N or EAR99);
  - (v) facilitate any of the afore mentioned activities by any user.
- Customer shall provide all users with all information necessary to ensure compliance with the Export Regulations.

#### 3.4 Semiconductor Development

Customer will not, without advance written authorization from Siemens, use offerings for the development or production of integrated circuits at any semiconductor fabrication facility located in China meeting the criteria specified in the U.S. Export Administration Regulations, 15 C.F.R. 744.23.

#### 3.5 Information

Upon request by Siemens, customer shall promptly provide Siemens with all information pertaining to users, the intended use and the location of use or the final destination (in the case of hardware, documentation and technology) of the products. Customer will notify Siemens prior to customer disclosing any information to Siemens that is defense-related or requires controlled or special data handling pursuant to applicable government regulations, and will use the disclosure tools and methods specified by Siemens.

#### 3.6 Reservation

Siemens shall not be obligated to fulfill this agreement if such fulfillment is prevented by any impediments arising out of national or international foreign trade or customs requirements or any embargoes or other sanctions. Customer acknowledges that Siemens may be obliged under the Export Regulations to limit or suspend access by customer and/or users to products.

### 4. Miscellaneous

Errors excepted and subject to change without prior notice.



# Link directory

## Catalog LV 10

### General information

Information on low-voltage power distribution and electrical installation technology	<a href="http://www.siemens.com/lowvoltage">www.siemens.com/lowvoltage</a>
Tender specifications	<a href="http://www.siemens.com/tenderspecifications">www.siemens.com/tenderspecifications</a>
Conversion tool	<a href="http://www.siemens.com/conversion-tool">www.siemens.com/conversion-tool</a>
Image database	<a href="http://www.siemens.com/lowvoltage/picturedb">www.siemens.com/lowvoltage/picturedb</a>
CAX download manager	<a href="http://www.siemens.com/cax">www.siemens.com/cax</a>
Newsletter system	<a href="http://www.siemens.com/lowvoltage/newsletter">www.siemens.com/lowvoltage/newsletter</a>
Siemens YouTube channel	<a href="http://www.youtube.com/Siemens">www.youtube.com/Siemens</a>
Catalog LV 10	<a href="http://www.siemens.com/lv10">www.siemens.com/lv10</a>
Catalog LV 13	<a href="http://www.siemens.com/lv13">www.siemens.com/lv13</a>
Catalog LV 18	<a href="http://www.siemens.com/lv18">www.siemens.com/lv18</a>
Brochures/catalogs	<a href="http://www.siemens.com/lowvoltage/catalogs">www.siemens.com/lowvoltage/catalogs</a>
Operating instructions/manuals	<a href="http://www.siemens.com/lowvoltage/manuals">www.siemens.com/lowvoltage/manuals</a>
SiePortal (knowledge base)	<a href="http://www.siemens.com/lowvoltage/product-support">www.siemens.com/lowvoltage/product-support</a>
SiePortal (product catalog)	<a href="http://www.siemens.com/lowvoltage/product-catalog">www.siemens.com/lowvoltage/product-catalog</a>
My Documentation Manager (MDM)	<a href="http://www.siemens.com/lowvoltage/mdm">www.siemens.com/lowvoltage/mdm</a>
Configurators	<a href="http://www.siemens.com/lowvoltage/configurators">www.siemens.com/lowvoltage/configurators</a>
Direct forwarding to SiePortal	<a href="http://www.siemens.com/product_catalog_SIEP?Article No.">www.siemens.com/product_catalog_SIEP?Article No.</a>
Training	<a href="http://www.siemens.com/sitrain-lowvoltage">www.siemens.com/sitrain-lowvoltage</a>
Local contacts	<a href="http://www.siemens.com/lowvoltage/contact">www.siemens.com/lowvoltage/contact</a> <a href="http://www.siemens.com/lowvoltage/components/contact">www.siemens.com/lowvoltage/components/contact</a> <a href="http://www.siemens.com/lowvoltage/systems/contact">www.siemens.com/lowvoltage/systems/contact</a> <a href="http://www.siemens.com/lowvoltage/software/contact">www.siemens.com/lowvoltage/software/contact</a>
Technical Support	<a href="http://www.siemens.com/support-request">www.siemens.com/support-request</a>
Information on services	<a href="http://www.siemens.com/service-offers">www.siemens.com/service-offers</a>
Control panels for the North American market	<a href="http://www.siemens.com/northamerican-standards">www.siemens.com/northamerican-standards</a>
Integrated Control Panels	<a href="http://www.siemens.com/controlpanel">www.siemens.com/controlpanel</a>
Energy savings and amortization	<a href="http://www.automation.siemens.com/sinasave">www.automation.siemens.com/sinasave</a>
SIMATIC Energy Suite	<a href="http://www.siemens.com/energysuite">www.siemens.com/energysuite</a>
SITOP power supplies	<a href="http://www.siemens.com/sitop">www.siemens.com/sitop</a>
Power distribution with Totally Integrated Power	<a href="http://www.siemens.com/tip">www.siemens.com/tip</a>
TIA Selection Tool	<a href="http://www.siemens.com/tst">www.siemens.com/tst</a>
Electrical Product Finder	<a href="http://www.siemens.com/electrical-product-finder">www.siemens.com/electrical-product-finder</a>
Sustainability	<a href="http://www.siemens.com/sustainability">www.siemens.com/sustainability</a>

# Catalogs and further information



**LV 10**  
**Low-Voltage Power Distribution and  
Electrical Installation Technology**  
SENTRON • SIVACON • ALPHA  
PDF (E86060-K8280-A101-B8-7600)



**ET D1**  
**Switches and Socket Outlets**  
DELTA  
PDF (SIEP-C10409-00-7600)



**LV 13**  
**3WA Air Circuit Breakers**  
SENTRON  
PDF (E86060-K8280-B101-A2-7600)



**SiePortal**  
Information and Ordering Platform  
on the Internet:  
[sieportal.siemens.com](https://sieportal.siemens.com)



**LV 18**  
**Air Circuit Breakers and Molded Case  
Circuit Breakers with UL Certification**  
SENTRON  
PDF (E86060-K8280-E347-B1-7600)



**SITRAIN**  
Digital Industry Academy  
[www.siemens.com/sitrain](https://www.siemens.com/sitrain)



**IC 10**  
**Industrial Controls**  
SIRIUS  
PDF (E86060-K1010-A101-B6-7600)



**Siemens TIA Selection Tool**  
for the selection, configuration and  
ordering of TIA products and devices  
[www.siemens.com/tst](https://www.siemens.com/tst)

The catalogs listed above and additional catalogs are  
available in PDF format at  
[www.siemens.com/lowvoltage/catalogs](https://www.siemens.com/lowvoltage/catalogs)

Further information on low-voltage power distribution  
and electrical installation technology is available on the  
Internet at [www.siemens.com/lowvoltage](https://www.siemens.com/lowvoltage)

## Get more information

[www.siemens.com/lowvoltage](http://www.siemens.com/lowvoltage)

Published by  
Siemens AG

Smart Infrastructure  
Electrical Products  
Siemensstraße 10  
93055 Regensburg, Germany

For the U.S. published by  
Siemens Industry Inc.

100 Technology Drive  
Alpharetta, GA 30005  
United States

PDF (Catalog Extract  
E86060-K8280-A101-B8-7600)  
KG 1223 28 En  
Produced in Germany  
© Siemens 2023

## Cybersecurity information

Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks.

In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept.

Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e. g. firewalls and/or network segmentation) are in place.

For additional information on industrial cybersecurity measures that may be implemented, please visit [www.siemens.com/cybersecurity-industry](http://www.siemens.com/cybersecurity-industry).

Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats.

To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under [www.siemens.com/cert](http://www.siemens.com/cert).

Subject to changes and errors. The information given in this document only contains general descriptions and/or performance features which may not always specifically reflect those described, or which may undergo modification in the course of further development of the products. The requested performance features are binding only when they are expressly agreed upon in the concluded contract.

All product designations may be trademarks or other rights of Siemens AG, its affiliated companies or other companies whose use by third parties for their own purposes could violate the rights of the respective owner.