

Surge Protect Device for Power Distribution System

1. Application:

Expensive electronic equipment is being increasingly used in all kinds of business, industry, government and enterprise and domestic households. Electronic discharge, over voltage cause by switching or by lightning often cause these highly sensitive units to fail.

Electronic equipment is especially prone up to 1.5km way from lightning strikes due to the electromagnetic fields and cable-borne over voltages. However, effective protection is now available.

Over voltage protective devices for TN-S, TN-C, TN-C-S, TT and IT power systems and plants are subdivided into Classes A, B, C and D depending on their application area, accordingly to DIN VDE 0675-6 (11.89). Compex offers over voltage protective devices for Classes B to D, which cover the complete installation on the low voltage side.

2. Feature:

- Metal-oxide varistor Arresters still work after frequent operation
- An arrester module can be changed with the mains voltage on
- 1-4 pole Pre-wired arrester blocks Simple installation via the marked terminals
- Thermal isolating device with optical indication, permanent check of arrester serviceability
- An extremely short response time, a low protection level and a high current diversion capacity combined with long life.
- No follow-up current can be registered after the surge has decayed.
- If the surge arrester is damaged by overloading, the integral isolating device breaks the connection to the mains. This is signalled by a red fault indicator.

3. Mounting:

The surge arrester can easily be installed in any distribution box or switchgear cabinet by snap-fitting to any commercial 35 mm tophat rail. The multi-pole arresters are connected together by an earthing bridge at the factory, so that there is only one earth (PE) connection to make on site.



BY1-B/1P



BY1-B/2P

4. BY1-B/4-385-30 & BY1-B/4-385-40

Type	BY1-B/4-385-30	BY -40
Class	B	B
Rated voltage Un(V)	220/380	220/380
Maximum continuous operating voltage Us (V)	385	385
Protection level Up(KV)	≤ 2.0	≤ 2.0
Nominal discharge current (8/20uS) In (KA)	30	40
Max discharge current (8/20uS) Imax (KA)	60	80
Response time T (ns)	<25	<25
Temperature range	-40℃ ~ +80℃	-40℃ ~ +80℃
Color (module/base)	Orange red/gray	Orange red/gray
Material	PBT	PBT
Back up fuse	63A gl	63A gl
With alarm model	BY1-B/4-385-30B	BY1-B/4-385-40B
With remote control contact model	BY1-B/4-385-30X	BY1-B/4-385-40X



BY2-30



BY4-80/1P



BY4-80/2P



BY4-80/3P

5. BY2-30 & BY2-60

Type	BY2-30	BY2-60
Test class	I	I
class	B	B
Rated voltage Un (V)	220/380	220/380
Max continuous operating voltage Uc (V)	420	420
Insulated resistance Riso (Ω)	> 10 ¹⁰	> 10 ¹⁰
Protection level Up (KV)	≤ 4.0	≤ 4.0
Nominal DC spark voltage Un (KA)	2.95KV (+25%/ -40%)	2.95KV (+25%/ -40%)
Nominal discharge current (8/20uS) In (KA)	30	60
Charge Q (As)	15	30
Power W/R (KJ/Ω)	225	900
Response time T (ns)	<100	<100
Air humidity	≤ 95%	≤ 95%
Temperature range	-40℃ ~ +80℃	-40℃ ~ +80℃
Protection grade	IP20	IP20
Max back up fuse	205A gl	205A gl

6. BY4-60 & BY4-80,BY4-100

Model	BY4-60	BY4-80	BY4-100
Test to	IEC61643-1	IEC61643-1	IEC61643-1
class	B	B	B
Rated voltage Un (V)	220/380	220/380	220/380
Max continuous operating voltage Uc (V)	385	385	385
Shock current Iimp (10/35uS) (KA)	7.5	12	15
Charge Q (As)	2.5	3.75	5
Protection level Up (KV)	≤ 2.0	≤ 2.5	≤ 3.0
Maximum discharge current Imax (8/20uS) (KA)	60	80	100
Nominal discharge current (8/20uS) In (KA)	30	40	60
Response time T (ns)	<25	<25	<25
Color (module/base)	Orange red/gray	Orange red/gray	Orange red/gray
Temperature range	-40℃ ~ +80℃	-40℃ ~ +80℃	-40℃ ~ +80℃
Protection grade	IP20	IP20	IP20
Max back up fuse	63~100A gl	63~100A gl	63~100A gl



BY1-C/1P



BY1-C/2P



BY1-C/3P



BY1-C/4P

7. BY1-C

Type	BY1-C					
Class	C					
Rated voltage Un (V)	110	220/380				
Max continuous operating voltage Uc (V)	140	275	320	385	420	550
Protection level Up (KV)	< 0.8	< 1	< 1.5	< 2.0		< 2.5
Max discharge current I _{max} (8/20uS) (KA)	40					
Nominal discharge current (8/20uS) I _n (KA)	20					
Response time T (ns)	<25					
Temperature range	-40℃ ~ +80℃					
Material	PBT					
Color (module/ base)	Grey/gray					
Max back up fuse	32A gl					
Normal model	BY1-C/4-420-20,BY1-C/4-385-20					
With alarm model	BY1-C/4-420-20B					
With remote control contact model	BY1-C/4-420-20X					
Single phase 2P combined to single phase system	BY1-C/2-320-20					

8. BY1-C/3+1-320-20 & BY1-C/2+1-320-20

Type	BY1-C/3+1-320-20				BY1-C/2+1-320-20
Test to	IEC61643-1				IEC61643-1
class	C				C
Rated voltage Un (V)	380				220
Max continuous operating voltage Uc (V)	320	385	420	550	320
Protection level Up (KV)	≤ 1.5	≤ 2.0	≤ 2.0	≤ 2.5	≤ 1.5
Max continuous operating current (A)	300				20
Nominal discharge current (8/20uS) In (KA)	N-PE20		N-PE40		20
Response time T (ns)	<100				<100
Color (module/N-PE)	Gray/blue				Gray/blue
Protection grade	IP20				IP20
Max back up fuse	32A gl				32A gl



BY1-D/1P



BY1-D/3P



BY3-4.0/1P



BY3-4.0/2P

9. BY1-D/2 & BY1-D/4

Type	BY1-D/2	BY1-D/4
Class	D	D
Rated voltage Un (V)	220	380
Max continuous operating voltage Uc (V)	320	220
Protection level Up (KV)	≤ 1.0	≤ 1.0
Max discharge current I _{max} (8/20uS) (KA)	10	10
Nominal discharge current (8/20uS) I _n (KA)	5	5
Response time T (ns)	<25	<25
Temperature range	-40℃ ~ +80℃	-40℃ ~ +80℃
Max back up fuse	16A gl	16A gl
Material	PBT	PBT
Color (module/base)	Yellow/gray	Yellow/gray
Normal model	BY1-D/2-320	BY1-D/4-320
With alarm model	BY1-D/2-320B	BY1-D/4-320B
With remote control contact model	BY1-D/2-320X	BY1-D/4-320X

10. BY3-2.5/150,BY3-4.0/320,BY3-6.0/420

Type	BY3-2.5/150	BY3-4.0/320	BY3-6.0/420
Class	D	D	D
Rated voltage Un (V)	110	220	220
Max continuous operating voltage Uc (V)	150	320	420
Insulated resistance risol (M Ω)	>100	>100	>100
Protection level Up (KV)	≤ 0.8	≤ 1.0	≤ 1.5
Max discharge current I _{max} (8/20uS) (KA)	10	10	0
Nominal discharge current (8/20uS) I _n (KA)	5	5	5
Response time T (ns)	<100	<100	<100
Open voltage (1.2/50uS) Uoc (kV)	2.5	4.0	6.0
Temperature range	-40℃ ~ +80℃	-40℃ ~ +80℃	-40℃ ~ +80℃
Protection grade	IP20	IP20	IP20
Color	Yellow	Yellow	Yellow
Material	PBT	PBT	PBT