

# DRIESCHER

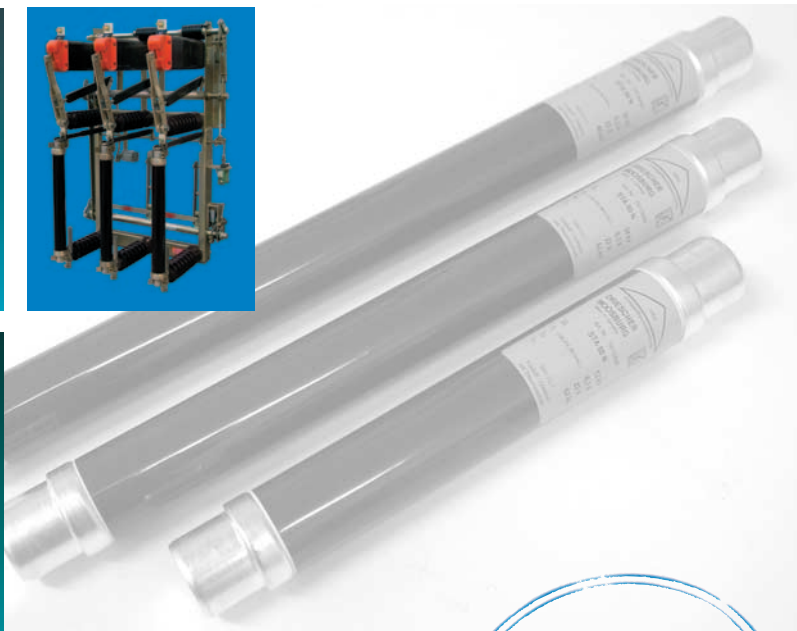
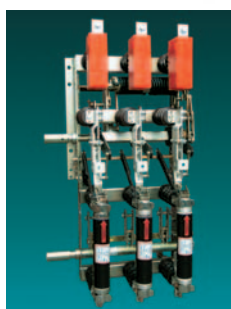
Moosburg • Eisleben



## Application guide of switch-fuse combination

in accordance with EN 62271-105

Type H22 • Type H27 • Type H29



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## Application of switch-fuse combination

**in accordance with EN 62271-105 on distribution transformers**

Switch-fuse combinations are used for operational medium voltage-side on and off switching of distribution transformers in secondary substations. They additionally have the task of protecting these transformers against the impact of internal and external faults.

These combinations comprise a functional unit of switch disconnectors and back-up fuses. By means of the fuses the breaking capacity of the combination is extended beyond that of a simple switch disconnector up to the rated short-circuit breaking current.

The high-voltage high breaking capacity fuse, according to statistics of the VDN (German Association of Electricity Network Operators) is rated as reliable transformer protection. The h.v.h.b.c. fuse in combination with a switch disconnector provides a simple solution which is very economical to procure and run.

This provides a clear-cut advantage over a circuit breaker with the associated current transformers and over-current time protection.

Besides this, the h.v.h.b.c. fuse has a current limiting effect when short-circuits occur and reliably interrupts the fault current of the first half cycle.

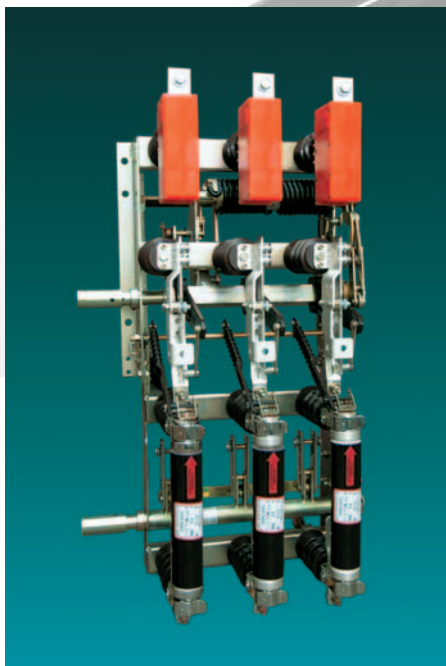
These properties are advantageous for the dimensional design of the network.

The following tables give fuse recommendations which take the following points into account.

- inrush current when switching on off-load transformers
- permissible overload 150%
- primary short-circuit interruption upon secondary terminal short circuit

The manufacturer of the combination will provide a recommended list of suitable fuse makes.

Type	Manufacturer
STA / EMPA / SSK	DRIESCHER Moosburg
STA / SSK	SIBA Lünen



*Switch-fuse combination with mechanical tripping delay of Type H 27 SEA  
Typ H 27 SEA, Ur 12 kV, Ir 630 / 125 A*



*Switch-fuse combination with mechanical tripping delay of Type H 22 SEA Typ  
H 22 SEA, Ur 24 kV, Ir 630 / 125 A*

**Recommended protection for DRIESCHER -  
Switch-fuse combination in accordance with EN 62271-105**  
Fuse-Type **EMPA / STA** and Type **SSK**

**High-voltage high breaking fuse link for  $U_r = 12$  kV**

Fitting dimensions of fuses  $e = 292^{-1}$  mm

Rated-transformer-power [kVA]	Possible application of the switch-fuse combination Rated voltage $U_r = 12$ kV		Rated current of the h.v.h.b.c. fuse	
	H27	H22	mind. (A)**	max. (A)
50	yes		6,3	6,3
80	yes		10	10
100	yes		10	16
125	yes		16	20
160	yes		20	25
200	yes		25	31,5
250	yes		31,5	40
315	yes		31,5	50
400	yes		40	50
500	yes		50	63
630	yes		63	
800	yes		80 Type SSK	
1000	yes	delayed*	100 Type SSK	
1250	delayed*	no	125 Type SSK	
1600	no		Circuit-Breaker	

\* Tripping delay of the switch: 250 ms +0/-50 ms

\*\* only recommended when no l.v.h.b.c. fuse is installed on the low voltage side.

**High-voltage high breaking fuse link  $U_r = 24$  kV**

Fitting dimensions of fuses  $e = 442^{-1}$  mm

Rated-transformer-power [kVA]	Possible application of the switch-fuse combination Rated voltage $U_r = 24$ kV		Rated current of the h.v.h.b.c. fuse	
	H27 / H29	H22	mind. (A)**	max. (A)
50	yes		6,3	6,3
80	yes		6,3	6,3
100	yes		6,3	10
125	yes		10	16
160	yes		10	20
200	yes		16	20
250	yes		16	25
315	yes		20	25
400	yes		25	31,5
500	yes		25	40
630	yes		31,5	50
800	yes		40	50
1000	yes		50	63
1250	yes		63	
1600	yes		80	
2000	delayed*		100 Type SSK	
2500	delayed*		125 Type SSK	
3150	no		Circuit-Breaker	

\* Tripping delay of the switch: 500 ms +0/-50 ms

\*\* only recommended when no l.v.h.b.c. fuse is installed on the low voltage side.

## High-voltage high breaking capacity fuse link $U_r = 36 \text{ kV}$

Fitting dimensions of fuses  $e = 537^{-1} \text{ mm}$

Rated-transformer-power [kVA]	Possible application of the switch-fuse combination Rated voltage $U_r = 36 \text{ kV}$		Rated current of the h.v.h.b.c. fuse	
	H22 SEA	H29 SEA	mind. [A]**	max. [A]
50	yes		6,3	6,3
80	yes		6,3	6,3
100	yes		6,3	10
125	yes		6,3	16
160	yes		6,3	20
200	yes		10	20
250	yes		10	25
315	yes		16	25
400	yes		20	25
500	yes		25	31,5
630	yes		31,5	31,5
800	yes		31,5	40
1000	yes		40	40
1250	yes		40	50
1600	yes		50	63
2000	yes		63	
2500	delayed*		80	
3150	delayed*		100	
4000	no		Circuit-Breaker	

\* Tripping delay of the switch: 500 ms  $\pm 0/-50$  ms

\*\* only recommended when no l.v.h.b.c. fuse is installed on the low voltage side.

Dimensions, weights, diagrams and descriptions in this brochure are non-binding. Subject to change without notice.

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