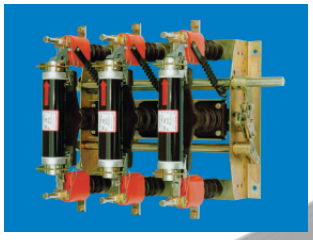
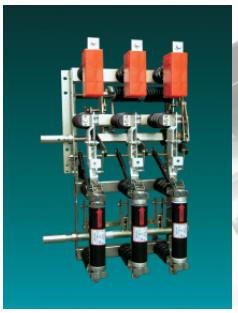
DRIESCHER
Moosburg

Application guide of switch-fuse combination

in accordance with EN 62271-105

• Type H22 • Type H27 • Type H29 • Type M3007

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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.

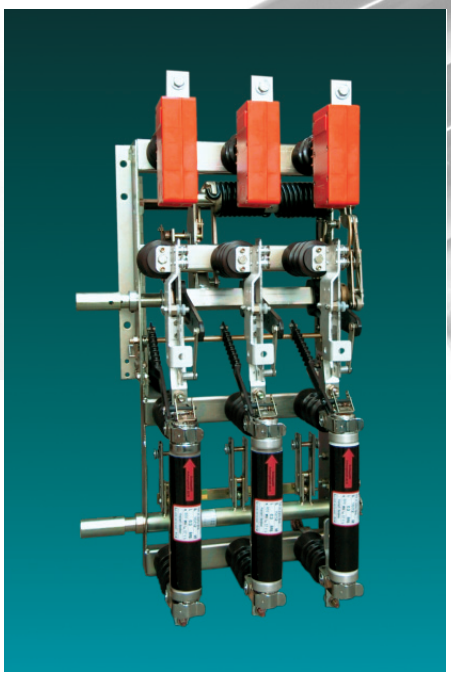
The high-voltage high breaking capacity fuse, according to statistics of the VDN (German Association of Electricity Network Operators) is rated as reliable transformer protection. The h.v.h.b.c. fuse in combination with a switch disconnector provides a simple solution which is very economical to procure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

High-voltage high breaking capacity fuse link for Ur = 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**	**M3007**	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		no	80, Type SSK	
1000	yes	delayed*	no	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 capacity fuse link for Ur = 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**	**M3007**	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		no	80	
2000	delayed*		no	100, Type SSK	
2500	delayed*		no	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 for Ur = 36 kV

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

Rated-transformer-power [kVA]	Possible application of the switch-fuse combination Rated voltage U_r = 36 kV			Rated current of the h.v.h.b.c. fuse	
	H29	**H22**	**M3007**	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*		no	80	
3150	delayed*		no	100	
4000		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.

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

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