Tri-MEC

LS Medium Voltage Vacuum Contactors

Tri-MEC VC

Vacuum Contactors

Customer satisfaction through quality and service-LS medium voltage vacuum contactors

LS medium voltage vacuum contactors using LS vacuum interrupters manufactured with worldclass technology are type tested in LS PT & T that is accredited high power test lab by worldclass KOLAS.

Contents :

LS Vacuum Contactors

We have the major technology that others can not catch up.
LS vacuum contactors provide high withstand-current strength and switching capacity as well as versatile auxiliary functions.

Fixed type

Drawout type (Standard type)

General description

LS Tri-MEC vacuum contactors are mainly used for the switching of motors, transformers, capacitors in AC power lines. They can be installed in multi-stack cubicles.

A vacuum contactor comprises several assemblies such as switching mechanism including vacuum interrupters, magnetic actuator, high strength molded front cover and auxiliary devices. Stable and high operating cycle is executed by the vacuum interrupters made of high alumina ceramic tube which makes it possible to degas in a high temperature with excellent mechanical strength.

Actuating is available either at instantaneous or continuous excitation. Functions for safety in connecting and disconnecting are also provided.

E–Class Cradle

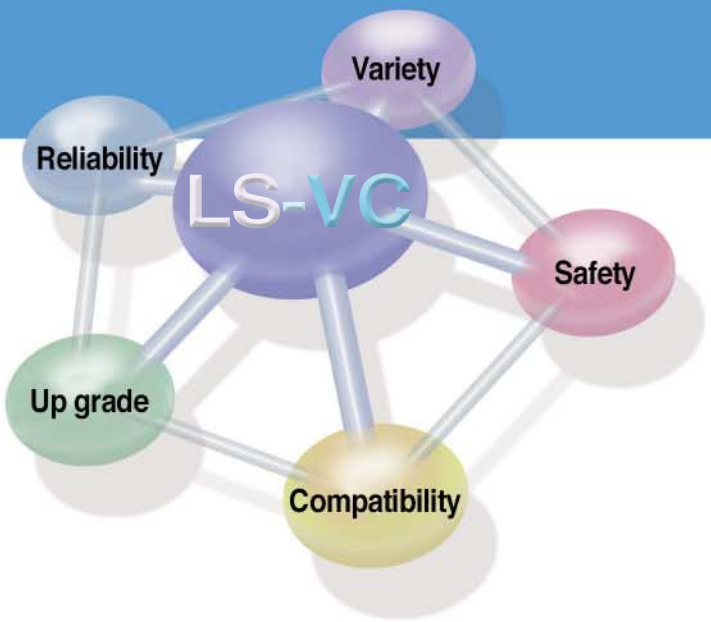
F_2–Class Cradle

G–Class Cradle

Direct-drawout type - for MCSG

Fuse connectable type (Standard type)

Fuse connectable type (Direct-drawout type)



Operation conditions

Ambient temperature : -5 to 40˚C
Maximum temperature of 24-hour mean : 35 ˚C
Altitude : 1000m
Humidity : 24-hour measured average - max. 95% RH
1 month measured average - max. 90% RH

Applied standards

IEC Pub. 60470, IEC 60282-1, JEM 1167, KEMC 1126

Vacuum Contactors

Up-graded performance

Rated short-time current 6.3kA

[6.3kA]

Performance is up-graded to rated short-time current 6.3kA/1sec. and switching capacity 4kA according to IEC60470.


R32-0768

한국시험성적서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한국전기연구원장

Short-circuit protection

[40kA]

Power fused type vacuum contactors, in-house tested according to IEC 60282-1, can provide short-circuit protection up to 40kA.

High performance, high reliability and long service life

LS vacuum interrupters that comply with IEC, ANSI and NEMA standards are manufactured by the process of brazing and degasing together in a high vacuum furnace to assure high reliability.

Superior mechanical strength and degasing

Providing long service life and suited for frequently operating purpose due to using high alumina ceramic tube and degasing in a high temperature.

High speed interruption and short arcing time

It has fast recovering characteristic of vacuum insulation. When opening it breaks the current at the first current-zero point to minimize the wearing of contacts.

Reliable interruption of fault current

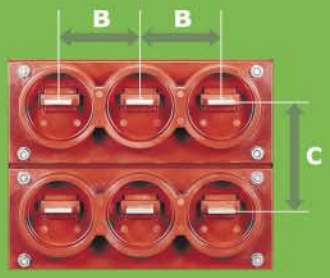
LS current limiting power fuse can protect the devices and systems from fault current by interrupting within half cycle.
High current such as short-circuit current cause a fuse blown out due to the reaction on the material inside of a fuse within such a short time.

Applied standards

IEC 282-1, DIN 43625, BS 2692, KSC 4612

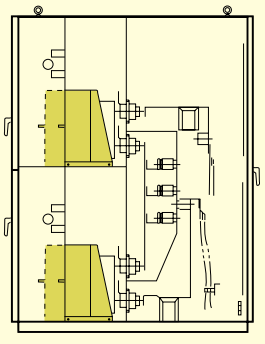
[Safety]

LS Tri-MEC vacuum contactors provide several auxiliary functions for safe and comfortable use.



- Interlock button
- Drawout cradle for MCSG
- One-molded fuse holder
- Fuse checher and micro switch
- Unification bushing
- Mechanical interlock type

Additional equipment



Contactor over contactor arrangement

Suitable for Metal Clad Switchgear

The structure of G type cradle unification bushings and single-molded fuse-holder barrier enables vacuum contactors to build Metal Clad Switchgears.

Directly withdrawable equipment

This enables the withdrawing of a vacuum contactor from a panel without opening a door to prevent any possibility of electric shock.

Interlock

For the safety of a operator interlock is equipped as standard.

Auxiliary contacts

Available up to 5NO+5NC.

Vacuum Contactors

Technical data



Type			Fixed (Z) type				Drawout (D) type				Direct-drawout (DB) type - for MCSG			
			LVC-3Z -42□D	LVC-6Z -42□D	LVC-3Z -44□D	LVC-6Z -44□D	LVC-3D -42□D	LVC-6D -42□D	LVC-3D -44□D	LVC-6D -44□D	LVC-3DB -42□D	LVC-6DB -42□D	LVC-3DB -44□D	LVC-6DB -44□D
Rated operation voltage		[kV]	3.3	6.6	3.3	6.6	3.3	6.6	3.3	6.6	3.3	6.6	3.3	6.6
Rated voltage		Ur[kV]	3.6	7.2	3.6	7.2	3.6	7.2	3.6	7.2	3.6	7.2	3.6	7.2
Rated operational current		Ie[A]	200		400		200		400		200		400	
Rated frequency		fr[Hz]	50/60											
Rated breaking current		(kA, O-3min-CO-2min-CO)	4											
Rated short-time current		(kA-sec)	2.4kA-30s, 4kA-10s, 6kA-2s, 6.3kA-1s, 8kA-0.5s, 10kA-0.1s											
Rated short-time peak current		(kApeak- 0.5Cycle)	60											
Switching frequency(AC3)		[op./hr]	E : Continuous 1200, L : Instantaneous 300											
Lifetime	Mechanical	[×10,000operations]	E : Continuous 300, L : Instantaneous 50											
	Electrical	[×10,000operations]	30											
Impulse withstand		Up[kVp]	60											
Dielectric strength		Ud[kV/1min]	20											
Excitation method			E : Continuous, L : Instantaneous											
Control voltage		[V]	AC 110V, AC 220V, DC 110V											
Auxiliary contact	Arrangement		Continuous 3a3b, Instantaneous 2a2b				2a2b				2a2b			
	Current	[A]	10 (AC)											
	Voltage	[V]	600max ~ 48min											
Max. Applicable	Motors	[kW]	750	1,500	1,500	3,000	750	1,500	1,500	3,000	750	1,500	1,500	3,000
	Transformers	[kVA]	1,000	2,000	2,000	4,000	1,000	2,000	2,000	4,000	1,000	2,000	2,000	4,000
	Capacitors	[kVA]	750	1,500	1,200	2,000	750	1,500	1,200	2,000	750	1,500	1,200	2,000
Weight		[kg]	24				41				56			

Note) 6a6b is available for Fixed/Ordinary operating type

Power fuse

Power fuses can be installed into combination(G, GB) type contactors for the protection of equipments and systems from short-circuit.
Fuse ratings are selected properly after system analysis and some accessories such as fuse link clips should be selected by the fuse rating.

Type			Combination drawout (G) type				Combination direct-drawout (GB) type - for MCSG			
			LVC-3G -42□D	LVC-6G -42□D	LVC-3G -44□D	LVC-6G -44□D	LVC-3GB -42□D	LVC-6GB -42□D	LVC-3GB -44□D	LVC-6GB -44□D
Rated operation voltage		[kV]	3.3	6.6	3.3	6.6	3.3	6.6	3.3	6.6
Rated voltage		Ur[kV]	3.6	7.2	3.6	7.2	3.6	7.2	3.6	7.2
Rated operational current		Ie[A]	200		400		200		400	
Rated frequency		fr[Hz]	50/60							
Rated breaking current		(kA, O-3min-CO-2min-CO)	4 kA (40kA with fuse)							
PF Combination Rated breaking current		Making	40kA							
		Breaking	40kA							
		take over(O-3min-O-3min-O)	4kA							
Rated short-time current		(kA-sec)	2.4kA-30s, 4kA-10s, 6kA-2s, 6.3kA-1s, 8kA-0.5s, 10kA-0.1s							
Rated short-time peak current		(kApeak- 0.5Cycle)	60							
Switching frequency(AC3)		[op./hr]	E : Continuous 1200, L : Instantaneous 300							
Lifetime	Mechanical	[×10,000operations]	E : Continuous 300, L : Instantaneous 50							
	Electrical	[×10,000operations]	30							
Impulse withstand		Up[kVp]	60							
Dielectric strength		Ud[kV/1min]	20							
Excitation method			E : Continuous, L : Instantaneous							
Control voltage		[V]	AC 110V, AC 220V, DC 110V							
Auxiliary contact	Arrangement		2a2b							
	Current	[A]	10 (AC)							
	Voltage	[V]	600max ~ 48min							
Weight		[kg]	46				62			

Note) Load capacity is different from ratings of Power Fuse

Power fuse ratings combination type

Standard		Type	Rated voltage(kV)	Rated current(A)	Diameter (mm)	Length (mm)
DIN type		LFL-3/6G-□B	3.6/7.2	5, 10, 20, 30, 40, 50, 63, 75, 100	45	192
		LFL-3/6G-□B	3.6/7.2	125 Note1)		292
		LFL-3G-□B	3.6	160, 200		292
		LFL-6G-□B	7.2	160, 200		292
KS type	General use	LFL-3/6G-□	3.6/7.2	5(T1.5), 10(T3), 20(T7.5), 30(T15), 40(T20), 50(T30), 60(T30)	50	261
				75(T50), 100(T75)	60	311
		LFL-3G-□	3.6	150(T100), 200(T150)	60	311
				300(T250), 400(T300)	77	311
		LFL-6G-□	7.2	150(T100), 200(T150)	77	311
	For motors	LFL-3M-□	3.6	M20, M50, M100	60	200
				M150, M200	77	200
				M300(M400) Note2)	87	250
		LFL-6M-□	7.2	M20, M50	60	311
				M100, M150 ,M200	77	350
				M300(M400) Note2)	87	450

Note1) VC linkage is prohibited by using fuse checker when the fuse rated current is over 100A.
Note2) It have to be discussed with manufacturer when you applied M440.
* LFL-6G-300, 400 is not possible to combine with VC