



OUR VALUE IS YOUR TRUST

IEC MEDIUM VOLTAGE SWITCHGEAR FOR SECONDARY DISTRIBUTION SYSTEMS

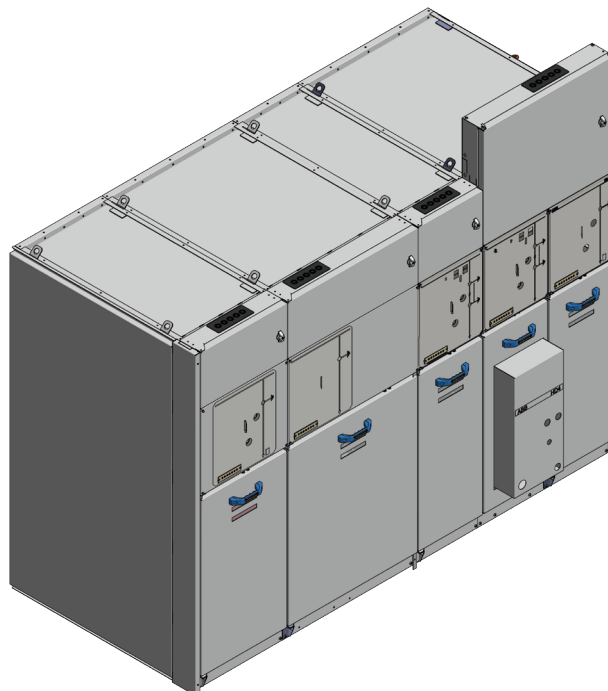


Catalogue 2020

DX24 MV SERIES

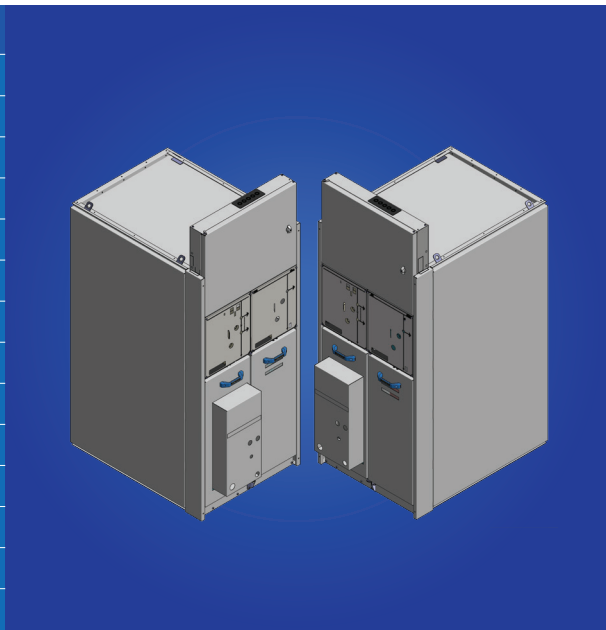
TECHNICAL DATA

SYSTEM		7.2kV	12kV	17.5kV	24kV
Rated voltage	kV	7.2	12	17.5	24
Lightning impulse withstand voltage	kV	60	75	95	125
Power frequency withstand voltage	kV	20	28	38	50
Rated frequency	Hz	50/60			
Internal Arc		"Standard: 12.5/1 s, IAC: A-FL Enhanced: 16/1s, IAC: A-FLR & A-FL"			
Loss of service continuity category		LSC2A			
Partition class		PM			
No load transformer breaking current		16			
Cable charging breaking current		31.5			
ACCESSIBILITY OF COMPARTMENTS					
Circuit breaker compartment		Interlock-controlled			
Busbar compartment		Tool-based/non-accessible			
Cable compartment		Tool-based or Interlock-controlled			
External degree of protection	IP	3X			
Internal degree of protection	IP	2X			
Cubicle protection	IK	8			
Installation		Indoor			
Altitude	m	1000			
Temperature classification	°C	-5 to +40			
Relative humidity (max)	%	95			
BUSBAR SYSTEM					
Circuit breaker compartment	kV	400, 630, 1250			
Busbar compartment	kV	16, 20, 25			
Cable compartment	kV	2.5 x Ik			

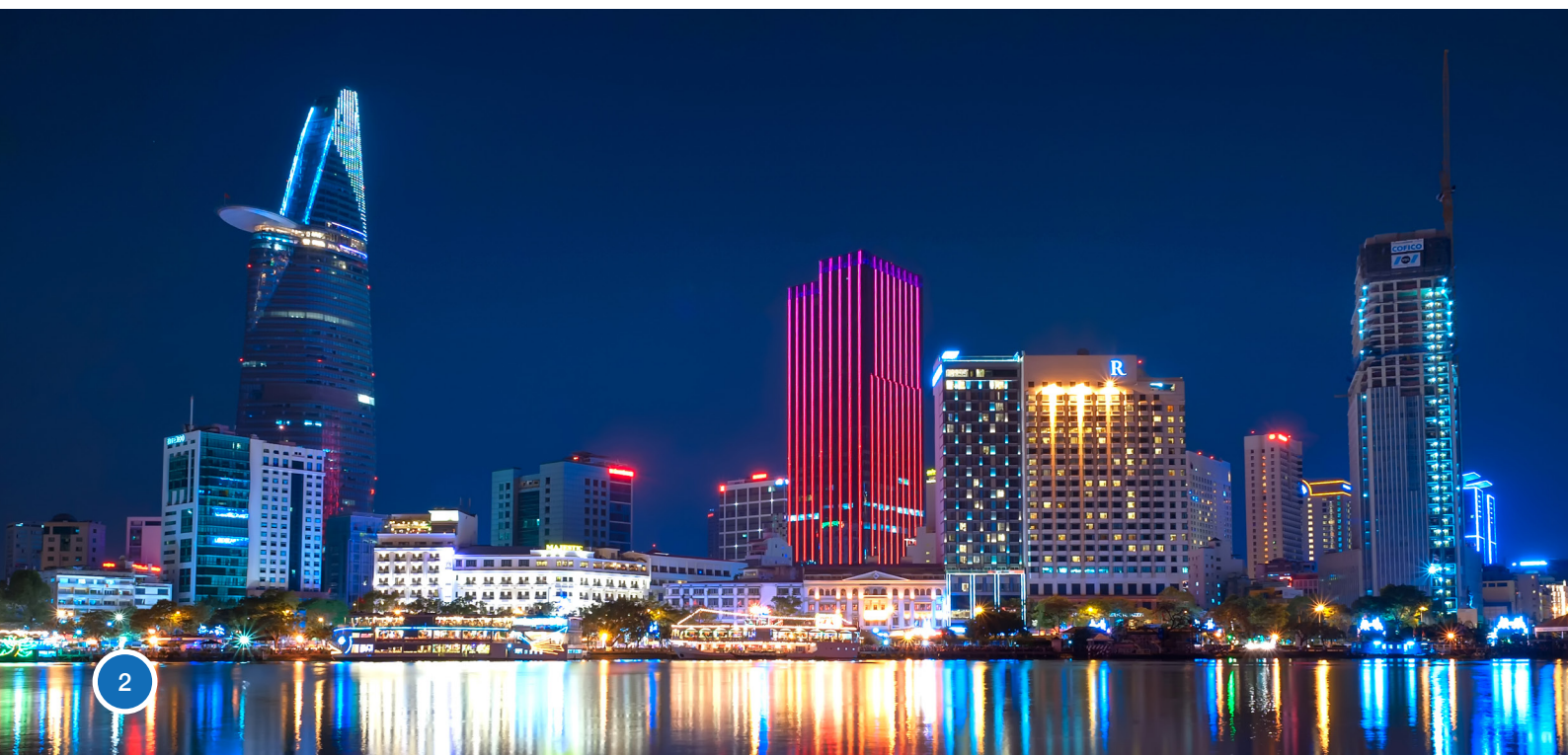


IEC STANDARDS

ENCLOSURE AND COMPONENTS	IEC STANDARDS
Switchgear	IEC 62271-200
Circuit breaker	IEC 62271-100
Vacuum contactor	IEC 60470
Earthing switch	IEC 62271-102
HV,HRC fuses	IEC 60282
Voltage detecting systems	IEC 61243-5
Disconnecter	IEC 60265-1
Measuring relays and protection equipment	IEC 60255
Degree of protection	IEC 60529
Insulation	IEC 60071
Current transformer	IEC 60044-1 (IEC 61869-2)
Voltage transformer	IEC 60044-2 (IEC 61869-3)
Installation	IEC 61936-1
Voltage Indication	IEC 61958



International Electrotechnical Commission



PRODUCT RANGE



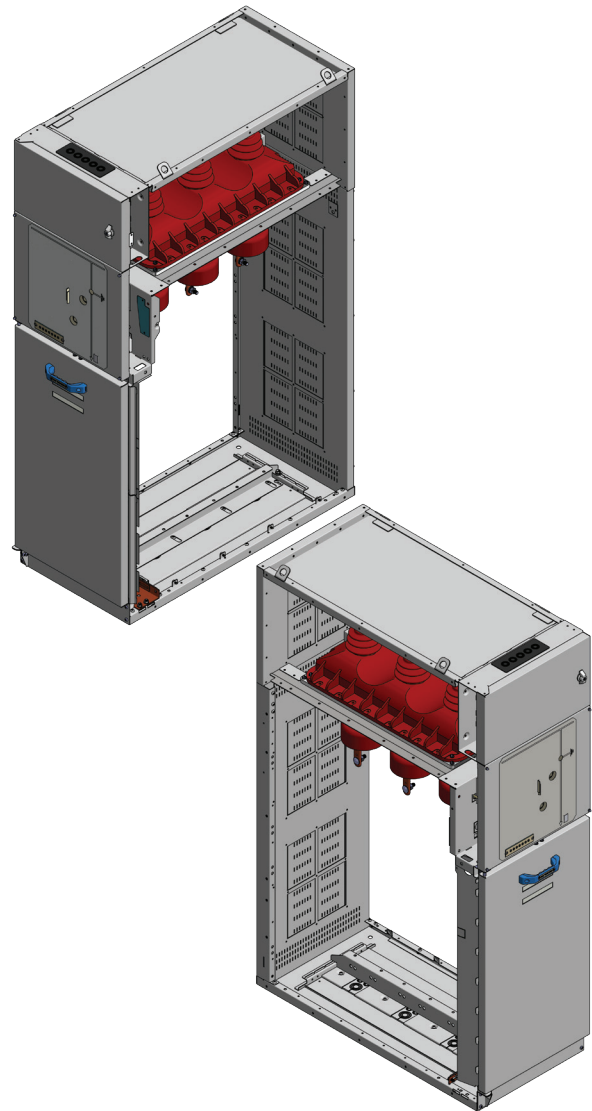
INCOMING LBS

STANDARDS

- Switch and earthing switch
- Three-phase busbars
- CI1 operating mechanism
- Voltage presence indicator
- Connection pads for dry-type cables
- Heater
- Operation counter
- Three-phase bottom busbars for outgoing line (right or left)

OPTION

- Motor for operating mechanism
- Auxiliary contacts
- Key-type interlocks
- Release units (coil)
- 1250 A three-phase upper busbars
- Pressure indicator device for 24kV
- Enlarged low-voltage control cabinet for 24kV
- Cable connection by the top for 24kV (no internal arc withstand if selected)
- Fault indicators
- Digital ammeter
- Surge arresters (in 500mm wide cubicle)



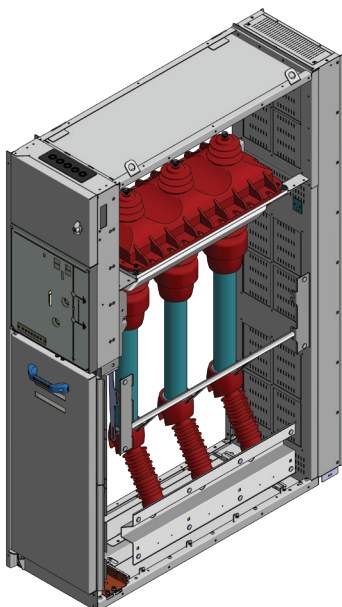
FUSE LBS

STANDARDS

- Switch and earthing switch
- Three-phase busbars
- CI1 operating mechanism
- Voltage presence indicator
- Connection pads for dry-type cables
- Heater
- Operation counter
- Equipment for three DIN striker fuses
- Mechanical indication system for blown fuses
- Downstream earthing switch 2kA rms making capacity
- Three-phase bottom busbars for outgoing line (right or left)

OPTION

- Motor for operating mechanism
- Auxiliary contacts
- Key-type interlocks
- Release units (coil)
- 1250 A three-phase upper busbars
- Pressure indicator device for 24kV
- Enlarged low-voltage control cabinet for 24kV
- Cable connection by the top for 24kV (no internal arc withstand if selected)
- Fault indicators
- Connection pads for two dry-type single-core cables for 24kV
- Digital ammeter



PRODUCT RANGE

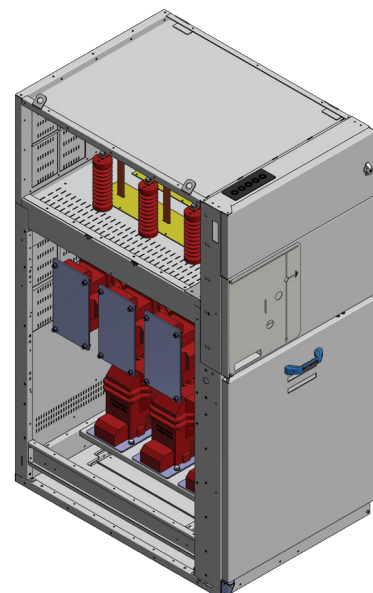
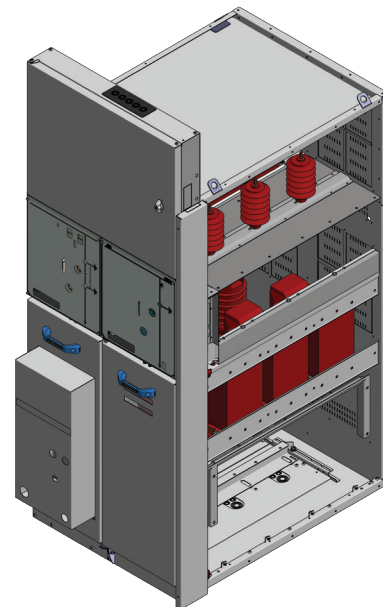
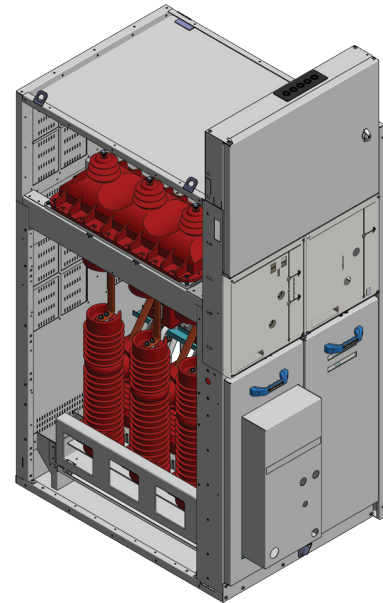
INCOMING/OUTGOING-VCB

STANDARDS

- SF6 disconnectable circuit breaker
- Disconnecter and earthing switch
- Three-phase busbars
- Circuit breaker operating mechanic RI
- Disconnecter operating mechanic CS
- Voltage presence indicator
- 3 Current Transformers
- Auxiliary contacts on circuit breaker
- Mechanical interlocking between circuit breaker and disconnecter
- Connection pads for dry-type cables
- Heater
- Operation counter
- Downstream earthing switch 2 kA rms making capacity at 630 A and 25 kA rms making capacity at 1250
- Three-phase bottom busbars for outgoing line (right or left)

OPTION

- Motor for operating mechanism
- Release units (coil)
- Auxiliary contacts on the disconnecter
- Protection using relay
- Key-type interlocks
- 3 Voltage Transformers
- 1250 A three-phase upper busbars at Ir 630A
- Enlarged low-voltage control cabinet for 24kV
- Cable connection by the top for 24kV(no internal arc withstand if selected)
- Connection pads for 2 dry-type single-core cables for 24kV
- Surge arresters (only for 630 A and 24kV)
- Current sensor



METERING

STANDARDS

- Three-phase busbars
- 3 Current Transformers
- 3 Voltage Transformers
- Heater
- Three-phase busbars (right or left)

OPTION

- Enlarged low-voltage control cabinet for 24kV
- Surge arresters (only for 630A and 24kV)

MAIN COMPONENTS

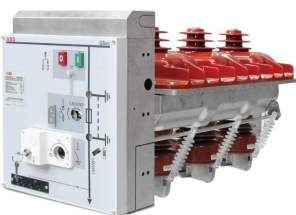
We are the partner of major brands of medium and low voltage equipment such as ABB, SCHNEIDER, SIEMENS, MITSUBISHI...

SF6 VACUUM CIRCUIT BREAKER



GENERAL CHARACTERISTICS				
Rated voltage (Ur)	kV	12	17.5	24
INSULATION VOLTAGE				
Power frequency withstand, 50 Hz in 1 min - rms (Ud)	kV	28	38	50
Lightning impulse withstand, 1.2/50 ms - peak (Up)	kV	75	95	125
Rated current (Ir)	A	630	630-1250	400-630-1250
SHORT-TIME WITHSTAND CURRENT				
Short circuit current (Isc)	kA	25	12.5-20-25	12.5-16-20-25
Short time withstand current (Ik/tk)	kA/3s	25	12.5-20-25	12.5-16-20-25
Short-circuit making current (Ip)	kA	62.5	31.3-50-62.5	31.3-40-50-62.5
RATED SWITCHING SEQUENCE				
O-3 min-CO-3 min-CO		X	X	X
O-0.3 s-CO-3 min-CO		X	X	X
O-0.3 s-CO-15 s-CO		X	X	X
Operating times Opening	ms	< 50		
Breaking	ms	< 60		
Closing	ms	< 65		
Number of switching operations		10000		
Standards		IEC 62271-100		

LOAD BREAK SWITCH/DISCONNECT SWITCH



GENERAL CHARACTERISTICS					
Rated voltage (Ur)	kV	7.2	12	17.5	24
INSULATION LEVEL					
Insulation (50 Hz in 1 min - rms)	kV	20	28	38	50
Isolation (50 Hz in 1 min - rms)	kV	23	32	45	60
Insulation (1.2/50 ms - peak)	kV	60	75	95	125
Isolation (1.2/50 ms - peak)	kV	70	85	110	145
SHORT-TIME WITHSTAND CURRENT					
Rate current of LBS and disconnector		630-1250			
Rated short time withstand current Ik		12.5-16-20-25			
MAXIMUM BREAKING CAPACITY					
Transformer off load	A	16	16	16	16
Cables off load	A	31.5	31.5	31.5	31.5
Fuse switch rate current	A	630	630	630	630
Fuse switch breaking capacity	kA	25	25	20	20
STANDARDS					
Standard of disconnector		IEC 62271-102			
Standard of switch and fuse switch		IEC 62271-103			
Standards of voltage presence indicating systems		IEC 62271-206			

STANDARDS

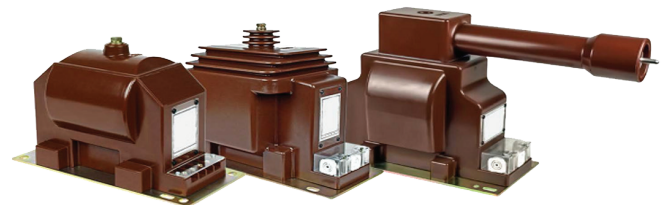
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SUB COMPONENTS

FUSE

Can be suitable for different brands such as ABB, Schneider, Siba, Ferraz...

GENERAL CHARACTERISTICS							
Rated voltage	kV	3.6	7.2	12	17.5	24	36
Operating voltage	kV	3/3.6	3/7.2	6/12	10/17.5	10/24	20/36
Rated current	A	6 ... 315A					
Max. breaking current I1 (kA)	kA	up to 50kA					
Rated frequency	Hz	50/60					
Application		Indoor/Outdoor					
Altitude	m	1000					
Standard		IEC 60282-1					



VOLTAGE TRANSFORMER

Can be suitable for different brands such as Emic, Esitas, Shihlin...

TECHNICAL DATAS							
Operating voltage (Um)	kV	3.6	7.2	12	17.5	24	
Rate power frequency withstand in 1 min (Ud)	kV	10	20	28	38	50	
Rate impulse test (1.2/50 ms) pulse wave (Up)	kV	40	60	75	95	125	
Rate frequency	Hz	50-60	50-60	50-60	50-60	50-60	
Rated primary voltage (Umax)	kV	12/S3	12/S3	12/S3	24/S3	24/S3	
Secondary voltage	V	100/S3; 110/S3; 120/S3; 100/3; 110/3; 120/3					
Rate burden max, in class 0.2	VA	30	30	30	50	50	
Rate burden max, in class 0.5	VA	100	100	100	120	120	
Rate burden max, in class 1.0	VA	200	200	200	250	250	
Rate burden for protection purpose in class 3P	VA	100	100	100	100	100	
Insulation class		E	E	E	E	E	
Ambient temperature	°C	-25...+40	-25...+40	-25...+40	-25...+40	-25...+40	
Altitude	m	1000					
Standard		IEC 60044-2 (IEC 61869-3)					

SUB COMPONENTS

CURRENT TRANSFORMER

Can be suitable for different brands such as Emic, Esitas, Shihlin...



TECHNICAL DATAS						
Operating voltage (Um)	kV	3.6	7.2	12	17.5	24
Rate power frequency withstand in 1 min (Ud)	kV	10	20	28	38	50
Rate impulse test (1.2/50 ms) pulse wave (Up)	kV	40	60	75	95	125
Rate frequency (Hz)	Hz	50-60	50-60	50-60	50-60	50-60
Rated primary current	A	up to 1250A				
Secondary current	A	1 or 5				
Mettering classes		0.2 - 0.2S - 0.5 - 0.5S - 1 - 3 - 5				
Protection classes		5P; 10P; Cl:PX				
Rate short-time thermal current	kA/s	max Ith = 200 x In				
Rate dynamic current (Idyn)	A	Idyn = 2.5 x Ith				
Insulation class		E				
Ambient temperature	°C	-25...+40				
Altitude	m	1000				
Standard		IEC 60044-1 (IEC 61869-2)				

PROTECTION RELAY

Can be suitable for different brands such as ABB, Schneider, Siemens, Toshiba...



PROTECTION FUNCTIONS	
Functions	ANSI code
Phase under/over voltage	27/59
Negative phase sequence overcurrent	46
Negative sequence overvoltage	47
Thermal overload	49
Earth overcurrent / Sensitive earth fault	50N/51N
3 Phase overcurrent	50/51
Circuit breaker failure	50BF
Restricted earthfault	64
Earth fault directional overcurrent	67N
3 phase directional overcurrent	67P
Autoreclose	79
Under/over frequency	81U/O
Rate of change of Frequency	81R
Lockout relay And more as required	86



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