

MV Air Insulated Switchgear

TAP17

Technical Data

TGOOD
2018-12-9

TGOOD





Operating environmental conditions

Place of installation	Indoor
Ambient temperature	-5°C ~ +40°C (higher or lower temperature optional)
Altitude	1000m (no limitation for specially ordered products)
Air humidity	Daily average $\geq 95\%$ Monthly average $\geq 90\%$ (25°C)
Wind speed	$\geq 35\text{m/s}$ (wind pressure $\leq 700\text{Pa}$)
Irradiance	$\leq 0.1\text{W/cm}^2$ (wind speed: 0.5m/s)
Ice thickness	$\leq 10\text{mm}$
Creepage distance	25mm/kV (pollution level III), 31mm/kV (pollution level IV)

This product shall be placed in a site without risk of fire hazard, explosion, chemical corrosion and sharp vibration.

TAP17

TAP range	630A/1250A/2000A/2500A/3150A	
Standard compliance	IEC62271-200	
Loss of service continuity category	LSC2B	
Material for partition and shutters	PM / PI	
Type of Accessibility	Tools / Interlock	
IAC accessibility type	A, F, L, R	
IAC arc test current	kA	31.5
IAC current duration	s	1
Insulation medium	Air	
Degree of protection - Compartment	IP	2X
Degree of protection - Enclosure	IP	4X
Busbar material and cross section	60*10/ 80*10/ 80*10*2/ 100*10*2/ 120*10*2	
Support insulator material	Epoxy	
Support insulator creepage distance	mm	≥ 240

Earth bar material and cross section	mm	40*6
Switchgear overall surface finish and color		Spray-paint, RAL7035
Typical panel dimensions (W x D x H)	mm	800x1560x2300 1000x1560x2300
Typical panel weight	kg	700/775/900/950/1000

General electrical characteristics

No. of phases		3
Rated voltage	kV	17.5
Rated frequency	Hz	50/60
Type of neutral earthing		Indirect
Rated lightning impulse withstand voltage- to earth	kV	95
Rated lightning impulse withstand voltage- across isolation	kV	95
Rated power frequency withstand voltage- to earth	kV	38
Rated power frequency withstand voltage- across isolation	kV	48
Rated busbar normal current	A	630~3150
Rated short-time withstand current	kA	31.5
Rated peak withstand current	kA	80
Rated duration of short circuit	s	3
Rated auxiliary voltage for operation	V	110/220
Rated auxiliary voltage frequency for operation		AC / DC
Rated auxiliary voltage for heating circuit	V	AC220
Partial Discharge Guarantee @ 1.1 Ur	pC	<10

Circuit-breaker

Type		TCB-17.5-31-12 TCB-17.5-31-31
Standard compliance		IEC 62271-100
Interrupting medium		Vacuum
Type of circuit-breaker		Withdrawable

Operation mode		Manual, motor
Rated current maximum	A	3150
Rated short circuit breaking current	kA	31.5
Rated duration of short circuit	s	3
DC component of rated short circuit breaking current	%	53
Rated out of phase breaking current	kA	8
Rated out of phase recovery voltage	kV	44.7
Rated line charging breaking current	A	10
Rated cable charging breaking current	A	31.5
Rated operating sequence		0-0.3s-CO-3 min-CO 0-0.3s-CO-1 min-CO
Maximum opening time	ms	43
Maximum break time	ms	60
Maximum closing time	ms	70
Maximum make time	ms	50
Electrical endurance class		E2
Capacitive restrike probability class		C2
Mechanical endurance class		M2
Switching class		S1
First pole-to-clear factor - terminal fault	p.u.	1.5
First pole-to-clear factor - out of phase	p.u.	2.5
TRV peak value, kpp - terminal fault	kV	30
TRV peak value, kpp - out of phase	kV	44.7
Time, t3 - terminal fault	us	71
Time, t3 - out of phase	us	142
Time delay, td - terminal fault	us	11
Time delay, td - out of phase	us	21
Voltage, u' - terminal fault	kV	10
Voltage, u' - out of phase	kV	14.9
Time, t' - terminal fault	us	34
Time, t' - out of phase	us	69

RRRV, uc/t3 - terminal fault	kV/us	0.42
RRRV, uc/t3 - out of phase	kV/us	0.31
Circuit-breaker operating mechanism		Spring
Drive motor operating voltage	V	110
Drive motor power consumption	W	120
Spring motor charging time	s	≤15
Method of tripping		Shunt trip
Number of trip coil		1 / 2
Trip coil operating voltage	V	100-140
Trip coil current at rated voltage	A	2.42
Trip coil power consumption	W	303
No. of NO/NC auxiliary contact		10NC 10NO

Earthing switch

Type		JN15-12
Standard compliance		IEC 62271-102
Rated short-time withstand current	kA	31.5
Rated duration of short circuit	s	3
Short circuit making capability	Time	2
Mechanical endurance	Time	3000
Minimum isolating distance (Live parts to earth)	s	≥125
Motor operation availability		Available
No. of NO/NC auxiliary contact		4NC4NO

Disconnecter

Standard compliance		IEC 62271-102
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Rated current	A	1250 / 2500 / 3150
Rated short-time withstand current	kA	31.5
Rated duration of short circuit	s	3
Mechanical endurance class		M1
Motor operation availability		Available
No. of NO/NC auxiliary contact		4NC4NO

Current transformer

Standard compliance		IEC 61869-2
Type	kV	Block / Ring
Primary and secondary ratios	A	40-3000/5
Secondary winding classes		0.2S, 5P10, or on request

Voltage transformer

Standard compliance		IEC 61869-3
Primary and secondary ratios		20/ $\sqrt{3}$ /0.1/ $\sqrt{3}$ /0.1/3, or on request
Secondary winding classes		0.2/0.5/3P, or on request
VT of incoming cable		In cable compartment
VT of busbar		In CB compartment

MV cable compartment

Cable accessibility		Rear / front
Cable box insulation		Air
Cable termination type		Cooper with silver coated
Maximum cable size per phase		Single core- 500 / 3 core- 630
Maximum cable quantity per phase		2/2/4/4/5

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