

Hybrid Gas Insulated Switchgear

THP/TCB

Technical Data

TGOOD
2018-12-9

TGOOD





Operating environmental conditions

Place of installation	Indoor or outdoor
Ambient temperature	-5°C ~ +40°C (higher or lower temperature optional)
Altitude	1000m (no limitation for specially ordered products)
Air humidity	Daily average ≥95% Monthly average ≥90% (25°C)
Wind speed	≥35m/s (wind pressure ≤700Pa)
Irradiance	≤0.1W/cm ² (wind speed: 0.5m/s)
Earthquake intensity	Horizontal acceleration ≤0.5g, Vertical acceleration ≤0.5g
Ice thickness	≤10mm
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.

THP

Standard compliance	IEC 62271-205 (2008)	
Rated voltage	kV	40.5/72.5/145
Rated frequency	Hz	50/60
Rated current	A	2000/2500/2500
Rated short time withstand current / time	kA/s	40/3s
Rated peak withstand current	kA	80/104/104
Insulation level	Rated short time power frequency withstand voltage (1 min.)	kV 95/140/275 (to earth / interphase) 118/160/315 (across isolating distance)
	Rated lightning impulse withstand voltage (peak value)	kV 180/325/650 (to earth / interphase) 215/375/750 (across isolating distance)
Rated SF ₆ gas pressure / Min. functional pressure (20°C)	MPa	Circuit breaker gas tank 0.5/0.4, 0.62/0.60, 0.65/0.6
Water content of SF ₆	μL/L	≤150 (during handover)
Partial discharge 1 compartment	pC	≤5

SF6 annual leakage rate	%/y	≤0.1
Level of radio interference	μV	≤500
Seismic test		0.5g acceleration at vertical direction 0.5g acceleration at horizontal direction

Circuit-breaker

Type	TCB 145-40-31			
Standard compliance	IEC 62271-100 (2012)			
Rated voltage	kV	40.5/72.5/145		
Rated frequency	Hz	50/60		
Rated current	A	3150A		
Rated short circuit breaking current	kA	31.5/40		
Rated short circuit making current	kA	80/104		
Full capacity breaking times	times	20		
Rated circuit charging breaking current	A	50		
Rated cable charging breaking current	A	160		
Rated out-of-phase breaking current	kA	10		
Close-in fault braking current	kA	36/30		
First-pole-to-clear factor	1.5			
Rated operation sequence	0-0.3s-CO-180s-CO 0-0.3s-CO-60s-CO			
Closing time (rated voltage)	ms	70±10/80±10		
Opening time (rated voltage)	ms	50±5/30±5		
Total breaking time	ms	≤60		
Min.SF6 functional pressure (20°C)	MPa	0.6		
Actuation mechanism	Spring-actuated mechanism			
Mechanical endurance	Times	10,000 (M2)		
Electrical endurance	E2			
Closing / opening coil	Voltage [DC]	V	220	110
	Closing coil resistance / current	Ω/A	94/2.3	33/3.3

	Opening coil resistance / current	Ω/A	78/2.8	19/5.8
Energy storage motor	Power	W	600	
	Voltage (DC/AC) / Current	V/A	220/2.3A	
Dynamic load		N	20,000 (Vertically upwards)	20,000 (Vertically downwards)

Three-position switch

Rated operation time	s	Opening \nrightarrow 3 Closing \nleftarrow 3
Rated control voltage / power	V/W	(DC/AC)220/240
Rated operation torque	N·m	20

Fast earthing switch

Type		TFES-145
Standard compliance		IEC 62271-102
Rated frequency	Hz	50, 60
Making performance	kA	104, E2
Electrostatic coupling rated induced current/voltage	A/kV	2/6
Electromagnetic coupling rated induced current/voltage	A/kV	80/2
Mechanical endurance	times	5000

Bushing

Rated short-time power frequency withstand voltage 1min	kV	275
Rated lightning impulse withstand voltage (peak value)	kV	650
Nominal creepage distance	mm	25/kV (Level III) 31/kV (Level IV)

Contact us

Global Head Office

TGOOD Global Ltd.
Unit B,9/F,
Shun Ho Tower,
24-30 Ice House Street,
Central, Hong Kong
T +852 2393 8005
F +852 2393 8808
info@tgood.com

Regional Offices

North America (Canada, USA)

TGOOD North America Inc.
#3-1101 Main Street
Penticton V2A 5E6 BC
Canada
T +1 778 476 5833
northamerica@tgood.com

Africa

TGOOD Africa (Pty) Ltd.
21 Roan Crescent, Unit 2, Sultana Park
Corporate Park North, Midrand, 1683
South Africa
T +27 010 010 5706
africa@tgood.com

Australia & Asia Pacific

TGOOD Australia Pty Ltd
Unit 1, 4 Henry Street
Loganholme QLD 4129 Australia
T +61 437 536 727
T 1300 061299 (within Australia)
australia@tgood.com

Europe

TGOOD Germany GmbH
Daimler street, 2, D-41836 Hueckelhoven
T +49 2433 525662
europe@tgood.com

Latin America

TGOOD Latin America SAS
Calle 116 15b-26 of 407, Bogotá, Colombia
T +5717444663
latin.america@tgood.com

Middle East and North Africa

TGOOD Middle East General Trading LLC
Emirates Concorde – Office Tower, Suite #1205
Al Maktoum Street,
Rigat Al Buteen, Deira
UAE Dubai
P.O. BOX: 413884
T +971 43454596
F +971 43454504
mena@tgood.com

Central Asia

TGOOD Central Asia LLP
7th floor, BC "Pioneer-2"
Dostyk Avenue, No 134, Almaty, Kazakhstan
P.O. BOX: 050051
T +7 727 313 0168
centralasia@tgood.com

Southeast Asia

TGOOD Southeast Asia Sdn Bhd (1167407-T)
32A Jalan 15/22,
Taman Perindustrian Tiong Nam
Sekayen 15, 40200 Shah Alam, Selangor, Malaysia
T +603 5870 1050-1053
seasia@tgood.com

Mexico

TGOOD Mexico S. de. R.L. de C.V.
Presidente Masaryk 111 Piso 1
Col. Polanco V Sección
11560 México, D.F.
T +525541705597
mexico@tgood.com

Russia

TGOOD Russia LLC
Technique Museum, Building B, Office 411,
p.o. Arkhangelskoe, 143420 Moskovskaya oblast,
Krasnogorsk district, Russian Federation
T +7 499 110 43 28
+7 919 182 91 03
russia@tgood.com

Note: We reserve the right to make technical changes or modify the contents of this document without prior notice. With regard to purchase orders, the agreed particulars shall prevail. TGOOD does not accept any responsibility whatsoever for potential errors or possible lack of information in this document. We reserve all rights in this document and in the subject matter and illustrations contained therein. Any reproduction, disclosure to third parties or utilization of its contents – in whole or in parts – is forbidden without prior written consent of TGOOD.
Copyright © 2017 TGOOD. All rights reserved