

TGDY55 Series Surge Protective Device



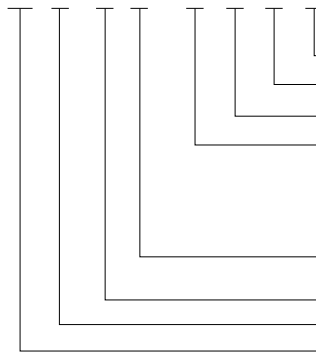
1 Overview

Used in the AC 50/60Hz, 380V and below TT, IT, TN-S, and TN-C-S power supply systems (or communication systems) for surge protection of indirect lightning and direct lightning or other transient overvoltage and overcurrent providing safe and effective electricity safety.

Surge protective device (hereinafter referred to as SPD) has many protection modes such as phase-to-phase, phase-to-earth, phase-to-neutral line, and neutral-to-earth combined protection allowing that the back-end equipment of the low-voltage power distribution system and other equipment can be safely, extensively and effectively protected.

2 Type Designation

TG DY □ □ - □ □ □ □



F: with communication; No mark: without communication

Code for the number of poles (1P, 2P, 3P, 4P, 1P+NPE, 3P+NPE)

Max. continuous operating voltage

Current / Open-circuit voltage

A. When the front test classification is I, here indicates impulse current;

B. When the front test classification is II, here indicates maximum discharge current;

C. When the front test classification is III, here indicates open-circuit current;

Test classification (I indicates Grade I test; II indicates Grade II test; II indicates Grade III test)

Design code.

Surge protective code

Enterprise code

3 Technical Parameters

No.	Product model	Max. continuous operating voltage U_c (V)	Voltage protection level U_p (kV)	Number of poles
1	TGDY55I-15	385	2.0	1P/2P/3P/4P
2	TGDY55I-25	385	2.3	1P/2P/3P/4P
3	TGDY55II-20	275	1.2	1P/2P/3P/4P
		320	1.5	1P/2P/3P/4P
		385	1.5	1P+N/3P+N
		460	1.8	1P/2P/3P/4P
4	TGDY55II-40	275	1.5	1P/2P/3P/4P
		320	1.6	1P/2P/3P/4P
		385	1.8	1P+N/3P+N
		460	2.0	1P/2P/3P/4P
5	TGDY55II-65	385	2.0	1P/2P/3P/4P/1P+N/3P+N
		460	2.2	1P/2P/3P/4P
6	TGDY55II-80	385	2.5	1P/2P/3P/4P/1P+N/3P+N
		460	2.2	1P/2P/3P/4P
7	TGDY55II-100	385	2.5	1P/2P/3P/4P/1P+N/3P+N
		460	2.2	1P/2P/3P/4P
8	TGDY55II-120	385	2.5	1P/2P/3P/4P/1P+N/3P+N
9	TGDY55II-160	385	3.0	1P/2P/3P/4P

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Product model	TGDY55II-160	TGDY55II-120	TGDY55II-100	TGDY55II-80	TGDY55II-65
Standard	IEC 61643.1				
Electrical characteristics					
Rated frequency (Hz)	50-60				
Grid operating voltage Un (V)	220/380				
Max. discharge current I _{max} (kA)	160	120	100	80	65
Nominal discharge current I _n (kA)	80	60	50	40	30
Response time T _a (ns)	25				
L/N recommended connecting wire diameter (mm ²)	25, 35	16, 25	16, 25	16, 25	16, 25
PE recommended connecting wire diameter (mm ²)	35	25, 35	25, 35	25, 35	25, 35
Maximum allowable fuse for backup protection (A)	200	200	160	160	160
Backup protection (recommended circuit breaker, A)	63/100/125	63/100/125	63/100/125	63/100	63/100
Protection grade (product use protection type)	B/I level protection				
Test level (product performance test waveform)	Class C/T2/II test (8/20us)				
Normal working conditions and installation features					
Ambient temperature	Normal range: -5°C ~ +40°C ; limit range: -40°C ~ +70°C				
Failure indicator window	Yes (green: normal; red: fault)				
Remote signaling contact	Optional (no remote signaling contact function for conventional products)				
Installation altitude	≤2,000 meters				
Terminals	Screw tightening torque N.m:2.5(max)				
Maximum wiring capacity	Flexible wire 2.5 ~ 16mm ² / Hard wire 2.5 ~ 25mm ²				
Installation method	TH35-7.5 steel mounting rail				
Protection grade	IP20				

Product Model	TGDY55II-40	TGDY55II-20	TGDY55I-25	TGDY55I-15
Standard	IEC 61643.1			
Electrical characteristics				
Rated frequency (Hz)	50-60			
Grid operating voltage Un (V)	220/380			
Max. discharge current I _{max} (kA)	40	20	1imp25	1imp15
Nominal discharge current I _n (kA)	20	10	30	20
Response time T _a (ns)	25			
L/N recommended connecting wire diameter (mm ²)	10, 16	10, 16	25	16
PE recommended connecting wire diameter (mm ²)	25	25	35	25
Max. allowable fuse for backup protection (A)	100	50	160	100
Backup protection (recommended circuit breaker, A)	32/63	16/32	63/125	32/63
Protection grade (product use protection type)	C/II level protection	D/III level protection	B/I level protection	
Test level (product performance test waveform)	Class C/T2/II test (8/20us)		Class B/T1/I test (10/350us)	
Normal working conditions and installation characteristics				
Ambient temperature	Normal range: -5°C ~ +40°C ; limit range: -40°C ~ +70°C			
Failure indicator window	Yes (green: normal; red: fault)			
Remote signaling contact	Optional (no remote signaling contact function for conventional products)			
Installation altitude	≤2,000 meters			
Terminals	Screw tightening torque N.m:2.5(max)			
Max. wiring capacity	Flexible wire 2.5 ~ 16mm ² / Hard wire 2.5 ~ 25mm ²			
Installation method	TH35-7.5 steel mounting rail			
Protection grade	IP20			

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4 Outline and Installation Dimensions

4.1 TGDY55II-20/40 outline installation dimension drawing:

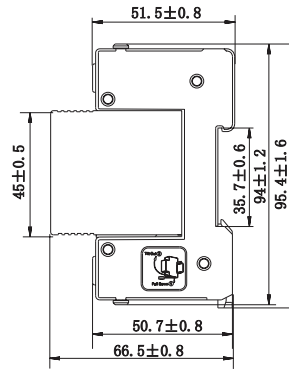


Fig. 1

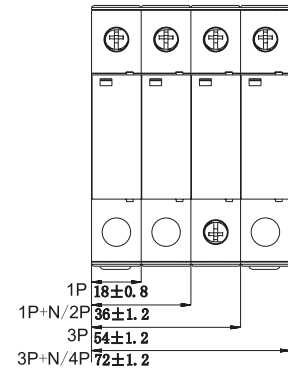


Fig. 2

4.2 TGDY55I(II)-15(65/80) outline installation dimension drawing:

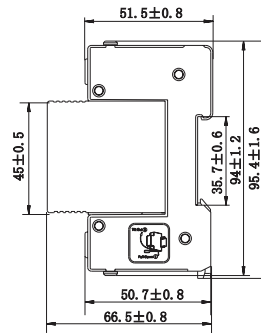


Fig. 3

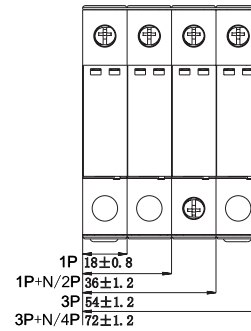


Fig. 4

4.3 TGDY55II-100 outline installation dimension drawing:

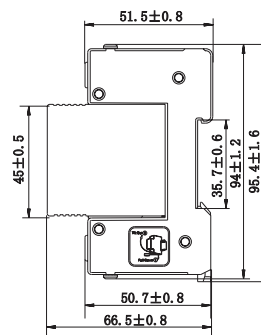


Fig. 5

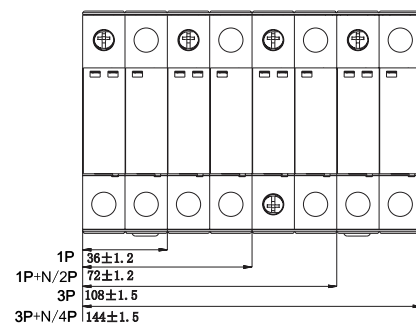


Fig. 6

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4.4 TGDY55I(II)-25(120/160) outline installation dimension drawing:

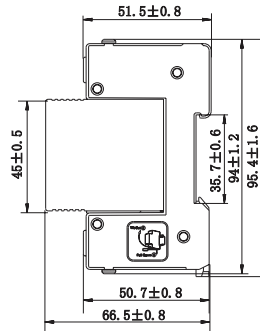


Fig. 7

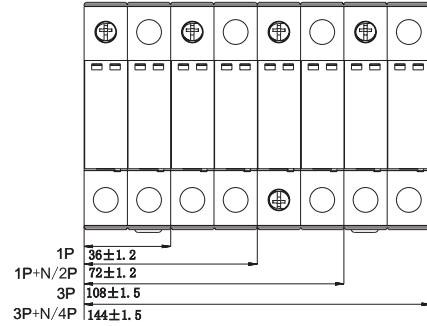


Fig. 8

5 Ordering Notice

- 5.1 When ordering, please specify SPD model, nominal discharge current, max. continuous working voltage, voltage protection grade, the number of poles, and quantity listed in the product parameters table.
- 5.2 The SPD module can be replaced or ordered. When ordering, please specify the model, nominal discharge current (I_n), maximum continuous working voltage (U_c), and voltage protection grade (U_p) of the protective model.
- 5.3 Order example: TGDY55II-20 385V 4P, 200 pcs.