AN/CN Series Current Transformers for Cubicle Type High-Voltage Power Receiving Units

CD-25ANA Withstand current 12.5kA/0.125sec
CD-25CNA Withstand current 12.5kA/0.25sec

Epoxy resin mold

Use

- General-use meters/Relays
- These current transformers are used for cubicle type high-voltage power receiving equipment compliant with JIS standards.

AN/CN Series molded current transformers used for cubicle-type high-voltage power receiving equipment (JIS C 4620) have undergone verification testing in combination with various devices, such as overcurrent relays and high-voltage circuit breakers, and their performance has been confirmed, thus confirming they can be used to configure reliable and economical cubicles.

Specifications

Applicable standard: JIS C 4620 (Appendix)

Type	Rated primary current (A)	Secondary current (A)	Rated burden (VA)	Accuracy (class)	Rated withstand current (kA/s)	Overcurrent constant	Highest voltage (V)	Withstand voltage (kV)	Frequency (Hz)	External dimensions	Mass (kg)
CD-25ANA	20, 30, 40	5	25	1PS	12.5/0.125 [8/0.125 8/0.16 8/0.25 shared use]	n>10	6900	22/60	Both 50/60	Fig. 1	16
CD-25CNA	20, 30, 40, 50	5	25	1PS	12.5/0.25 [12.5/0.16 shared use]	n>10	6900	22/60	Both 50/60	Fig. 1	16

Note

*1 Withstand voltage value indicates commercial power frequency withstand voltage/lightning impulse withstand voltage.

■Models to be Combined and Applicable Conditions

(1) Overcurrent trip system (current transformer secondary current trip system)

Table 1 shows the models of circuit breakers, overcurrent relays and current transformers that can be combined by the overcurrent trip system and the applicable load (sum of loads from relays, instruments and cables) of the current transformers.

If the relay trip system of a circuit breaker is an overcurrent trip system (secondary current trip system of the current transformer), when a fault current is detected by the instantaneous element of the relay and is cut off, the large current in the secondary circuit of the current transformer will be cut off at contact point b of the relay and contact point b may be damaged.

The risk of damage will be high; especially if the primary current of the current transformer is low or the current transformer is being used at a load much lower than the rated load.

Therefore, if the cubicle is both a circuit breaker system and overcurrent trip system, be certain to use these current transformers according to the combination conditions shown in Table 1.

Table 1 Device combinations and applicable load of current transformers (overcurrent trip system)

Device combinations (Mitsubishi Electric products)					Current transformer applicable burden (VA) *2
Circuit breaker	Overcurrent trip Relay	Current transformer			
		Rated burden	Type	Rated primary current *1	
VF-8□H-D/DG VF-13□H-D/DG (equipped with overcurrent trip equipment)	Static type Model MOC-A1T-R	25VA	CD-25ANA CD-25CNA	20A	22 to 25
			CD-25ANA CD-25CNA	30, 40A	18 to 25

Notes

*1 When the primary current of current transformer is 40A or less, the voltage trip system (capacitor trip system) is recommended.

*2 If the load used is less than the rated load, please use the T-100L load regulator (the load used can be adjusted to 2, 4, 6, or 8VA).

(2) Voltage trip system (capacitor trip system)

The reliability of the overcurrent relay can be improved by using the voltage trip system (capacitor trip system) for the circuit breaker.

The applicable load of the current transformers in combination with our products is 5 to 10VA for current transformers with rating of 10VA and 10 to 25VA for those with rating of 25VA.

Table 2 shows the models of circuit breakers, overcurrent relays and current transformers that can be combined by the voltage trip system and the applicable load (sum of loads from relays, instruments and cables) of the current transformers.

Table 2 Device combinations and applicable load of current transformers (voltage trip system)

Device combinations (Mitsubishi Electric products)		Current transformer specifications			Current transformer applicable burden (VA) *4
Circuit breaker *3	Relay	Rated burden	Type	Rated primary current	
VF-8□H-D/DG VF-8□M-D/DG VF-13□H-D/DG VF-13□M-D/DG (equipped with voltage trip equipment)	Static type Model MOC-A1V-R	25VA	CD-25ANA	20 to 40A	10 to 25
			CD-25CNA	20 to 50A	

Notes

*3 The part of the name shown by □ depends on the mounting method.

*4 If the load used is less than the rated load, please use the T-100L load regulator (the load used can be adjusted to 2, 4, 6, or 8VA).

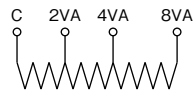
■T-100L Load Regulator

This load regulator should be used if the load for connected to the secondary circuit of the current transformer is below the range of applicable load required for the transformer (refer to Tables 1 and 2). Be certain to use the load regulator for each phase (phase the current transformer is set for) and adjust the usage load to a value that is as close as possible to the rated load.

● Specifications

Rated current	5A
Load value adjustment	2, 4, 6 or 8VA (power factor 0.8)
Short-time current	800A/0.125sec
Withstand voltage	AC2000V 1min
External dimensions	Fig. 2

● Load and Connection Terminals

Adjusted load value	Connection terminal	Internal connection
2VA	C terminal - 2VA terminal	
4VA	C terminal - 4VA terminal	
6VA	2VA terminal - 8VA terminal	
8VA	C terminal - 8VA terminal	

External Dimensions

Fig. 1

Type	Rated current	Withstand current
CD-25ANA	20/5 to 40/5A	12.5kA/0.125sec
CD-25CNA	20/5 to 50/5A	12.5kA/0.25sec

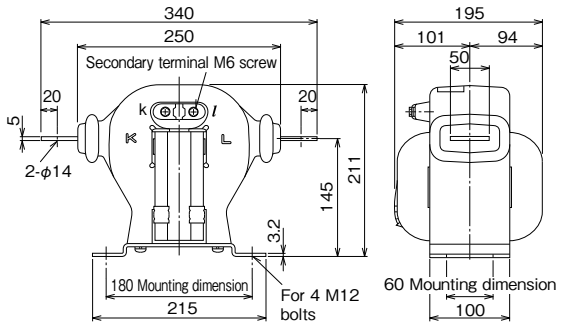
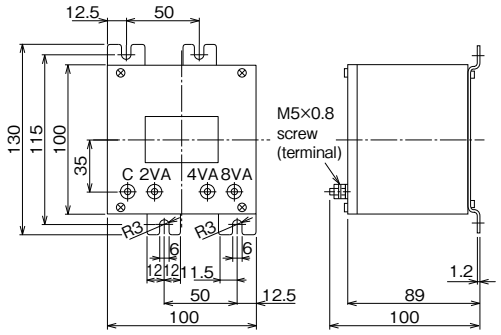


Fig. 2 T-100L load regulator



Various characteristics of AN/CN Series current transformers for cubicle-type high-voltage power receiving equipment

Type	Rated primary current (A)	Rated withstand current (kA/s)	Mechanical withstand current (peak value) (kA)	Secondary leakage impedance (VA)
CD-25ANA	20	12.5/0.125	31.25	2.0
	30			2.1
	40			2.2

Type	Rated primary current (A)	Rated withstand current (kA/s)	Mechanical withstand current (peak value) (kA)	Secondary leakage impedance (VA)
CD-25CNA	20	12.5/0.25	31.25	2.0
	30			2.3
	40			2.4
	50			2.6