TOSHIBA

TYPE TE MOTOR CONTROL CENTER

A series (ACB PANEL)

A new series of air circuit breaker (ACB) incoming panels with an air circuit breaker mounted for power distribution.

Features

- Contribute to operation and maintenance of advanced electrical equipment.
- Address the customer's various needs as the incoming and feeder panels of a TE-type control center.
- ACB panels supporting low-voltage and high-capacity and a control center are combined to make an installation area smaller.
- Equipped with compact and high-performance air circuit breakers (ACBs).
- IEC-compliant (IEC60439-1) items have received third-party certification.

Ratings and applicable standards

Applicable standards	: IEC60439-1
Rated insulation voltage (Ui)	: AC660V
Rated operating voltage (Ue)	: AC480V
Rated frequency	: 50,60Hz
Rated busbar current	: 800 to 4200A
Rated short time withstand current (Icw)	: 50,70kA/0.5sec (Option 1sec)
Dielectric voltage at commercial frequency	
Main circuits	: 2500V/1min
Auxiliary circuits	: 2000V/1min

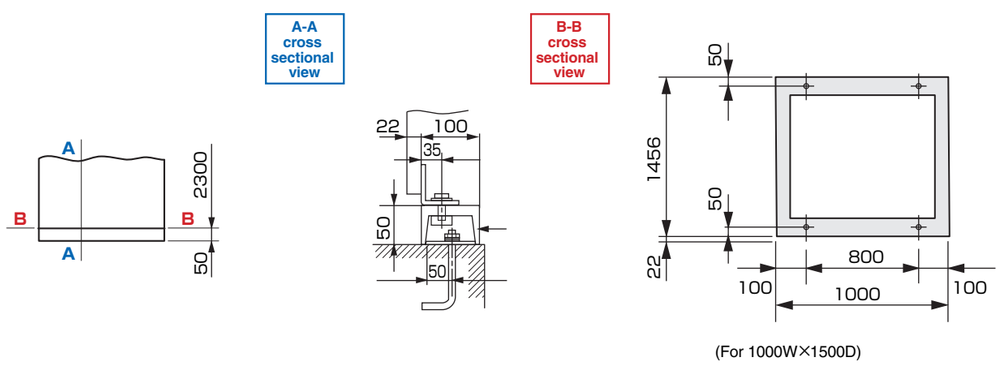
Panel construction

■ Front ACB unit room (~ 3150A)

■ Front ACB unit room (4200A)

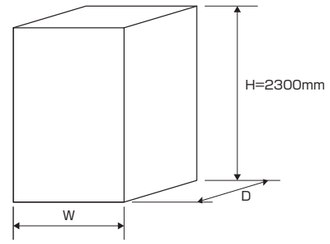
- ACBs are in multi-stack configuration.
- The ACB unit room has enclosed structure.
- ACBs are easy to handle, which can be carried in and out with a lifter.
- The bus compartment can be easily serviced and inspected from the back of the panel.
- Various needs can be satisfied, such as power incoming with bus duct/cable from the top/bottom of the panel.
- The ACB panels can be easily connected to the motor control center.

Installation



(For 1000W×1500D)

External dimension/Mass

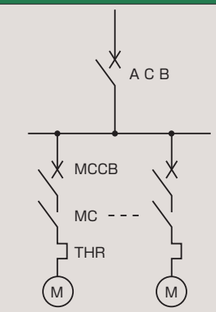
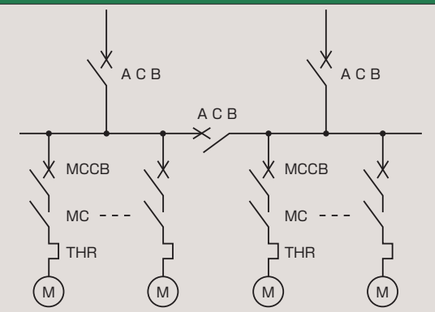
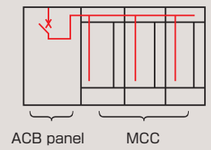
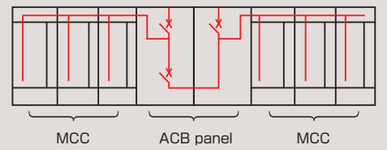


Note 1) The outside dimensions of the panel may vary depending on the options.
Note 2) If the rated current exceeds 4200A, consult with us.
Note 3) The incoming panel for 2 incoming lines has 2-panel configuration.

Mounted breaker	Incoming method	Number of phase	Rated current (A)	External dimension/Mass		
				W (mm)	D (mm)	Mass (kg)
ACB	Single incoming	3φ3W	800	700	1400	550
			1250			600
			2000			650
			2500	800		700
			3150	1000	1500	1000
			4200	1200		1500
		3φ4W	800	800	1400	650
			1250			700
			2000			800
			2500	900		850
			3150	1400	1500	1150
			4200			1700
	2 incoming	3φ3W	800	1600	1400	1400
			1250			1500
			2000			1600
			2500			1750
			3150	2000	1500	2400
			4200	3600		4500
		3φ4W	800	1600	1400	1500
			1250			1600
			2000			1700
			2500	1800		1900
			3150	2000	1500	2400
			4200	4200		5100

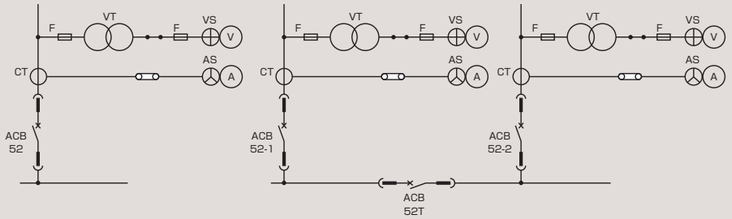
Incoming method and installation

There are the following methods for incoming. Select an appropriate one according to the system, capacity, and installation space. For details, consult with us.

Incoming method	Single incoming	2 incoming
Single-line diagram		
Layout drawing		

Incoming instrumentation

The following are application examples of incoming instrumentation.



Type description

TE-50A

- **Type**
- **Rated breaking capacity** 50 : 50kA / 70 : 70kA
- **Series symbol A** : ACB mounted

Guidance of the plan

Item			Standard specification	Optional specification
General	Unit		SI unit	Yard-pond system
	Screw bolt		ISO standard	———
	Language	Drawing	Japanese, English	As specified by the customer
		Nameplate & label	Japanese, English	As specified by the customer
	Electric symbol		JIS, IEC	Former JIS, NEMA
	Site condition	Location	Indoor	Outdoor
		Ambient Temp.	–5°C up to +40°C	–5°C and under
				+40°C or more
		Altitude	Not to exceed 2000m above sea level	Not to exceed 3000m above sea level
	Limit of transportation		None	As specified by the customer
Color	External and internal surface		5Y7/1	As specified by the customer
	Components on the door		N1.5	———
Painting	Material		Melamine enamel	Polyurethane enamel
	Gloss		Semi-gloss (40)	High- gloss (70)
				Low- gloss (10)
	Thickness		External (40μm) Internal (30μm)	125μm at the maximum
Ratings	Phase		3φ3W	3φ4W
	Rated insulation voltage	Main circuit	660V	———
		Auxiliary circuit	250V	300V
	Rated voltage		AC480V and below	———
	Rated frequency		50, 60Hz	———
	Rated bus current	Horizontal bus	800 up to 4200A	———
	Rated short-time withstand current		50,70kA / 0.5sec	50kA / 1sec
				70kA / 1sec

Item			Standard specification	Optional specification
Ratings	Rated breaking capacity		50,70kA Sym . rms (at 480V)	———
	Dielectric test voltage	Main circuit	2500V / 1min	———
		Auxiliary circuit	2000V /1min	———
	Rated voltage (Auxiliary circuit)	Operation circuit	AC·DC 100V/110V	Without the specification shown in the left column Not exceeding 250V
		Alarm circuit		
Applicable standard		ACB panel	IEC60439-1	JEM1265
Construction	Lead-in position and method	Incoming	Top (cable pit)	Bottom
		Load cable	Bottom (cable pit)	Top
		Auxiliary cable	Bottom (cable pit)	Top
	Protective structure		IP20	IP4X
				IPX2
				IP5X
				IP33W
	Thickness of door		2.3mm	———
	Rear door		2-split door hinge type	2-split door hook type
	Foundation base	Type	100W×50H	50W×100H
		Installation	Floor mount with anchor	Flush
				Semi-flush
				As specified by the customer
	Material of busbar	Horizontal busbar	Copper (Tin coating)	———
		Grounding busbar	Copper (Tin coating)	———
	Bottom plate		None	Steel
				Polyvinyl chloride
				Fireproof plate
Incoming	Incoming instrumentation		None	Voltmeter, ammeter, wattmeter, watthour meter
ACB specifications	Applicable standards		IEC60947-2	JISC8201-2
	Frame size		800 up to 5000AF	———
	Number of poles		3-poles	4-poles
	Overcurrent release		Long time-delay trip function, short time-delay trip function, instantaneous trip function	Ground fault trip function Pre-alarm N-phase protection function
	Optional specification		Safety shutter	Key lock Mechanical interlock Lifter
Acceptance test			Structure, electric operation, withstand voltage	As specified by the customer
Accessories			Yes	As specified by the customer
Spare parts			None	As specified by the customer

⚠ Caution

- Before using the Type TE Motor control center, read the operating manual with a great care to ensure completely familiar with it.
- For safety of operation, never modify the Type TE Motor control center or add extra functions which are not described in the manual. When modification or addition is to be done, contact Toshiba.
- Observe the following operating conditions to fully utilize the performance capability of the Type TE Motor control center. In the case that different operating conditions are inevitable, specify them at the time of placing your order.
  1) Ambient temperature: –5 to 40°C (daily average of 35°C or below)
  2) Relative humidity: 45 to 85% with no condensation
  3) Free of excessive water vapor, oil mist, smoke, dust, salt, and corrosive and inflammable hazardous gases.
  4) Free from abnormal vibration and shock.

Notes on safety

- Before installation, connection, operation, or maintenance, the catalog, manual, documents attached to the products must be read with great care.
- The customer must be acquainted with the performance and principle of equipment and lows relevant to electrical equipment and work.

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