

DC Air Circuit Breakers Moulded Case Circuit Breakers

TemPower & TemBreak



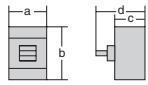
TERASAKI ELECTRIC CO., LTD.

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CAT REF.

'15-I73E

Moulded Case Circuit Breakers for DC750V-1000V

Frame size (A)	160	160	160	250	250	
Type	PVE160-SDL	PVS160-SDL	PVS160-SDH	PVS250-SDL	PVS250-SDH	
Number of poles	3	3	4	3	4	
■ Ratings						
Rated current, A	25 (16-25) 32 (20-32) 40 (25-40) 63 (40-63) 80 (50-80) 100 (63-100) 125 (80-125) 160 (100-160)	50 (32-50) 63 (40-63) 100 (63-100) 125 (80-125) 160 (100-160)	50 (32-50) 63 (40-63) 100 (63-100) 125 (80-125) 160 (100-160)	50 (32-50) 63 (40-63) 100 (63-100) 125 (80-125) 160 (100-160) 200 (125-200) 250 (160-250)	100 (63-100) 125 (80-125) 160 (100-160) 200 (125-200) 250 (160-250)	100 (63-100) 125 (80-125) 160 (100-160) 200 (125-200) 250 (160-250)
Calibrated at 45°C						
*2 poles breaker is same outline dimensions as 3 poles breaker.						
Rated insulation voltage [U _i] V AC	800	800	800	1000	1000	
Rated impulse withstand voltage [U _{imp}] kV	8	8	8	8	8	
■ Rated breaking capacity, kA						
JIS C 8201-2-1 Ann.1 Ann.2 DC 1000V	—	—	—	5/5	—	
IEC 60947-2 I _{cu} /I _{cs} ①② 750V	3/3	5/5	10/5	—	5/5	
■ External dimensions, mm						
	a 75 b 130+50×2 ⑰ c 68 d 95	a 105 b 165+55×2 ⑰ c 68 d 95	a 140 b 165+55×2 ⑰ c 68 d 95	a 140 b 165+55×2 ⑰ c 68 d 95	a 140 b 165+55×2 ⑰ c 68 d 95	
Weight (● marked standard type) kg	0.8	1.5	1.9	1.9	1.9	
■ Connections and Mountings						
Front-connected (FC) Terminal screws	●	●	●	●	●	
With extension bars	○ (BAR)	○ (BAR)	○ (BAR)	○ (BAR)	○ (BAR)	
Rear-connected (RC) Flat bar studs	○	○	○	○	○	
Plug-in (PM) For switchboards	—	—	—	—	—	
For distribution boards	—	—	—	—	—	
Draw-out type (DR)	—	—	—	—	—	
TemPlug70 (PG)	—	—	—	—	—	
TemPlug45B (PG4)	—	—	—	—	—	
DIN rail mount	—	—	—	—	—	
Clip-in chassis mount	—	—	—	—	—	
■ Accessories (optional) Symbol						
Interior						
Auxiliary switch A X	●	●	●	●	●	
Alarm switch A L	●	●	●	●	●	
Shunt trips S H	●	●	●	●	●	
Undervoltage trips U V	●	●	●	●	●	
Motor operator M C	—	—	—	—	—	
External operating Breaker-mounted handle H B	●	●	●	●	●	
Door-mounted (variable depth) H P	●	●	●	●	●	
Toggle extension H A	—	—	—	—	—	
Mechanical interlock						
Slide type M S	—	—	—	—	—	
Rear-connected type M B	—	—	—	—	—	
Link type M L	—	—	—	—	—	
Wire type M W	—	—	—	—	—	
Exterior						
Toggle holder H H	●	●	●	●	●	
Toggle lock H L	●	●	●	●	●	
Terminal cover For front-connected C F	● ⑧	● ⑧	● ⑧	● ⑧	● ⑧	
For rear-connected and plug-in C R	● ⑧	● ⑧	● ⑧	● ⑧	● ⑧	
Interpole barrier B A	—	—	—	—	—	
Terminal block for lead T F	●	●	●	●	●	
Door flange D F	●	●	●	●	●	
■ Standard specifications						
Overcurrent trip mechanism	Adj. thermal, fixed magnetic	Adj. thermal, fixed magnetic	Adj. thermal, fixed magnetic	Adj. thermal, fixed magnetic	Adj. thermal, fixed magnetic	
Colour of cover	Grey	Grey	Grey	Grey	Grey	
Trip button (Colour)	Yes (Red)	Yes (Red)	Yes (Red)	Yes (Red)	Yes (Red)	
Handle position indication (ON: Red, OFF: Green)	Yes	Yes	Yes	Yes	Yes	
Suitability for isolation	Yes	Yes	Yes	Yes	Yes	
Reverse connection	Yes	Yes	Yes	Yes	Yes	

Notes:

● : Standard. This configuration used unless otherwise specified. ○ : Optional standard. Specify when ordering. ● : "yes" or "available". — : "no" or "not available".

① : Connect 3poles or 4poles in series.

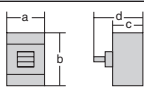
② : The time constant (L/R) of the circuit should be,

- less than 2.0ms nearby rated current
- less than 5ms for short circuit ≤ 10KA
- less than 10ms for short circuit ≤ 20KA
- less than 15ms for short circuit > 20KA

⑧ : Two terminal covers are supplied as standard. Be sure to install the terminal covers on Line side (ON side) and Load side (OFF side).

⑰ : + means the dimension of the terminal cover. See outline dimensions for details.

Moulded Case Circuit Breakers for DC750V-1000V

Frame size (A)	400		400	800		800	
Type	PVS400-NDL		PVS400-NDH	PVS800-NDL		PVS800-NDH	
Number of poles	3	4	4	3	4	4	
■ Ratings							
Rated current, A	250 (160-250)	250 (160-250)	250 (160-250)	630 (400-630)	630 (400-630)	630 (400-630)	
Calibrated at 45°C	400 (250-400)	400 (250-400)	400 (250-400)	800 (500-800)	800 (500-800)	800 (500-800)	
* 2 poles breaker is same outline dimensions as 3 poles breaker.							
Rated insulation voltage [U _i] V	800	1150	1150	800	1150	1150	
Rated impulse withstand voltage [U _{imp}] kV	8	8	8	8	8	8	
■ Rated breaking capacity, kA							
JIS C 8201-2-1 Ann.1 Ann.2 DC 1000V	—	—	5/5	—	—	5/5	
IEC 60947-2 I _{cu} /I _{cs} ①② 750V	10/5	10/10	—	10/10	10/10	—	
■ External dimensions, mm							
	a	140	185	185	210	280	280
	b	260	260	260	273	273	273
	c	103	103	103	103	103	103
	d	145	145	145	145	145	145
Weight (● marked standard type) kg	4.2	5.6	5.6	8.5	11.5	11.5	
■ Connections and Mountings							
Front-connected (FC) Terminal screws	●	●	●	—	—	—	
With extension bars	○ (BAR)	○ (BAR)	○ (BAR)	●	●	●	
Rear-connected (RC) Flat bar studs	○	○	○	○	○	○	
Plug-in (PM) For switchboards	—	—	—	—	—	—	
For distribution boards	—	—	—	—	—	—	
Draw-out type (DR)	—	—	—	—	—	—	
TemPlug70 (PG)	—	—	—	—	—	—	
TemPlug45B (PG4)	—	—	—	—	—	—	
DIN rail mount	—	—	—	—	—	—	
Clip-in chassis mount	—	—	—	—	—	—	
■ Accessories (optional)	Symbol						
Interior							
Auxiliary switch	A X	●	●	●	●	●	
Alarm switch	A L	●	●	●	●	●	
Shunt trips	S H	●	●	●	●	●	
Undervoltage trips	U V	●	●	●	●	●	
Motor operator	M C	●	●	●	●	●	
External operating handle	Breaker-mounted H B	●	●	●	●	●	
Door-mounted (variable depth)	H P	●	●	●	●	●	
Toggle extension	H A	—	—	—	●	●	
Mechanical interlock	Slide type M S	—	—	—	—	—	
Rear-connected type	M B	—	—	—	—	—	
Link type	M L	—	—	—	—	—	
Wire type	M W	—	—	—	—	—	
Exterior							
Toggle holder	H H	●	●	●	●	●	
Toggle lock	H L	●	●	●	●	●	
Terminal cover	For front-connected C F	●	●	●	●	●	
For rear-connected and plug-in C R		●	●	●	●	●	
Interpole barrier	B A	● 16	● 9	● 9	● 16	● 10	
Terminal block for lead	T F	●	●	●	●	●	
Door flange	D F	—	—	—	—	—	
■ Standard specifications							
Overcurrent trip mechanism		Adj. thermal, fixed magnetic	Adj. thermal, fixed magnetic	Adj. thermal, fixed magnetic	Adj. thermal, fixed magnetic	Adj. thermal, fixed magnetic	Adj. thermal, fixed magnetic
Colour of cover		Grey	Grey	Grey	Grey	Grey	Grey
Trip button (Colour)		Yes (Red)	Yes (Red)	Yes (Red)	Yes (Red)	Yes (Red)	Yes (Red)
Handle position indication (ON: Red, OFF: Green)		Yes	Yes	Yes	Yes	Yes	Yes
Suitability for isolation		Yes	Yes	Yes	Yes	Yes	Yes
Reverse connection		Yes	Yes	Yes	Yes	Yes	Yes

Notes:

● : Standard. This configuration used unless otherwise specified. ○ : Optional standard. Specify when ordering. ● : "yes" or "available". — : "no" or "not available".

① : Connect 3poles or 4poles in series.

② : The time constant (L/R) of the circuit should be,

- less than 2.0ms nearby rated current
- less than 5ms for short circuit ≤ 10KA
- less than 10ms for short circuit ≤ 20KA
- less than 15ms for short circuit > 20KA

⑨ : For front connection, both line and load side interpole barriers are supplied as standard.

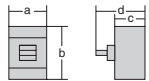
For rear connection, line side interpole barriers are supplied as standard.

⑩ : For front connection, 5pcs line side interpole barriers and 3pcs load side interpole barriers are supplied as standard.

For rear connection, 5pcs line side interpole barriers are supplied as standard.

16 : For front connection and rear connection, 2pcs line side interpole barriers are supplied as standard.

Switch-disconnectors for DC600V-1000V

Frame size (A)	160	160	160	250	250	250		
Type	S160-SDN	PVS160-SNL	PVS160-SNH	S250-SDN	PVS250-SNL	PVS250-SNH		
Number of poles	3	4	4	3	4	4		
■ Ratings								
Rated current, A	160	160	160	250	250	250		
Rated insulation voltage [U_i] V	690	800	1000	800	800	1000		
Rated operational voltage V	600	800	1000	600	800	1000		
Rated short time withstand current, kA	2 (0.3sec.)	3 (0.3sec.)	3 (0.3sec.)	3 (0.3sec.)	3 (0.3sec.)	3 (0.3sec.)		
Rated impulse withstand voltage [U_{imp}] kV	8	8	8	8	8	8		
■ Performance								
Utilization category ①⑱	DC	DC-22A	DC-22A	DC-22A	DC-22A	DC-22A		
JIS C 8201-3 IEC 60947-3								
■ External dimensions, mm								
								
a	75	140	140	105	140	140		
b	130+50 ⑰	165+55×2 ⑰	165+55×2 ⑰	165+55 ⑰	165+55×2 ⑰	165+55×2 ⑰		
c	68	68	68	68	68	68		
d	95	95	95	95	95	95		
Weight (● marked standard type) kg	0.8	1.9	1.9	1.5	1.9	1.9		
■ Connections and Mountings								
Front-connected (FC)	Terminal screws With extension bars	● ○ (BAR)	● ○ (BAR)	● ○ (BAR)	● ○ (BAR)	● ○ (BAR)		
Rear-connected (RC)	Flat bar studs	○	○	○	○	○		
Plug-in (PM)	For switchboards For distribution boards	—	—	—	—	—		
Draw-out type (DR)		—	—	—	—	—		
TemPlug70 (PG)		—	—	—	—	—		
TemPlug45B (PG4)		—	—	—	—	—		
DIN rail mount	○ ⑪	—	—	—	—	—		
Clip-in chassis mount		—	—	—	—	—		
■ Accessories (optional)	Symbol							
Interior	Auxiliary switch	A X	●	●	●	●		
	Alarm switch	A L	●	●	●	●		
	Shunt trips	S H	●	●	●	●		
	Undervoltage trips	U V	●	●	●	●		
	Motor operator	M C	—	●	●	●		
	External operating handle	Breaker-mounted	H B	●	●	●	●	
		Door-mounted (variable depth)	H P	●	●	●	●	
	Toggle extension	H A	—	—	—	—		
	Mechanical interlock	Slide type	M S	—	—	—	—	
		Rear-connected type	M B	—	—	—	—	
Link type		M L	—	—	—	—		
Wire type		M W	—	—	—	—		
Exterior	Toggle holder	H H	●	●	●	●		
	Toggle lock	H L	●	●	●	●		
	Terminal cover	For front-connected	C F	● ⑫	●	● ⑧	● ⑧	
		For rear-connected and plug-in	C R	● ⑫	●	● ⑧	● ⑧	
	Interpole barrier	B A	● ⑬	●	—	● ⑬		
	Terminal block for lead	T F	●	●	●	●		
	Door flange	D F	●	●	●	●		
■ Standard specifications								
Colour of cover	Grey	Grey	Grey	Grey	Grey	Grey		
Trip button (Colour)	Yes (Red)	Yes (Red)	Yes (Red)	Yes (Red)	Yes (Red)	Yes (Red)		
Handle position indication (ON: Red, OFF: Green)	Yes	Yes	Yes	Yes	Yes	Yes		
Suitability for isolation	Yes	Yes	Yes	Yes	Yes	Yes		
Reverse connection	Yes	Yes	Yes	Yes	Yes	Yes		

Notes:

- : Standard. This configuration used unless otherwise specified. ○ : Optional standard. Specify when ordering. ● : "yes" or "available". — : "no" or "not available".
- ① : Connect 3poles or 4poles in series.
- ⑧ : Two terminal covers are supplied as standard. Be sure to install the terminal covers on Line side (ON side) and Load side (OFF side).
- ⑪ : Provided with DIN rail adaptor.
- ⑫ : Be sure to install the terminal covers on Line side (ON side) that is supplied as standard.
- ⑬ : Possible to fit on load side (option).
- ⑰ : + means the dimension of the terminal cover. See outline dimensions for details.
- ⑱ : The time constant (L/R) of the circuit should be less than 2.0ms nearby rated current.