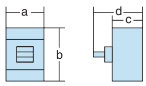
2 Ratings and Specifications

Earth Leakage Circuit Breakers

15 Standard series (Harmonics/surge with countermeasure)

Frame size (A)			30	50	50	60	100	125	225	250
Type			PZS30-NF	PZS50-NF	ZS50-SF	PZS60-NF	ZS125-SF		ZS250-SF	
Number of poles			3	3	3	3	3	3	3	3
Phase and wires	1ø2W ⑭		●	●	●	●	●	●	●	●
	3ø3W, 1ø3W ⑮		●	●	●	●	●	●	●	●
	3ø4W		—	—	—	—	—	—	—	—
■Ratings										
Rated impulse withstand voltage 〔U_{imp}〕 kV			6	6	8	6	8	8	8	8
Rated current, A Calibrated at 40°C			5 20 10 30 15	15 40 20 50 30	15 40 20 50 30	60	15 40 75 20 50 100 30 60	125	125 200 150 225 175	250
Rated operational voltage AC V	Instantaneous tripping type		100-440 common	100-440 common	100-440 common	100-440 common	100-440 common	100-440 common	100-440 common	100-440 common
		Operable voltage fluctuation range V	80-484	80-484	80～484	80-484	80～484	80～484	80～484	80～484
	Time delay tripping type		—	—	100-440 common	—	100-440 common	100-440 common	100-440 common	100-440 common
		Operable voltage fluctuation range V	—	—	80～484	—	80～484	80～484	80～484	80～484
Rated sensitivity current mA	Instantaneous tripping type		15	15 ㉝	30	30	30	30	30	30
			30	30	100/200/500 selectable	100/200/500 selectable	100/200/500 selectable	100/200/500 selectable	100/200/500 selectable	100/200/500 selectable
			100/200/500 selectable ㊶	100/200/500 selectable ㊶	—	—	—	—	—	—
		Max. operating time sec	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
	Time delay tripping type		—	—	100/200/500 selectable	—	100/200/500 selectable	100/200/500 selectable	100/200/500 selectable	100/200/500 selectable
		Max. operating time sec	—	—	0.45/1.0/2.0 selectable	—	0.45/1.0/2.0 selectable	0.45/1.0/2.0 selectable	0.45/1.0/2.0 selectable	0.45/1.0/2.0 selectable
		Non-operating time sec	—	—	0.1/0.5/1.2 or more	—	0.1/0.5/1.2 or more	0.1/0.5/1.2 or more	0.1/0.5/1.2 or more	0.1/0.5/1.2 or more
■Rated breaking capacity, kA										
JIS C 8201-2-2 Ann.2 I_{cu}(sym)	AC	440V	2.5	7.5	25	10	25	25	30	30
		415V	2.5	7.5	30	10	30	30	40	40
		240V	7.5	15	50	30	50	50	85	85
		100V	7.5	15	50	30	50	50	85	85
■External dimensions, mm										
		a	75	75	75	75	75	75	105	105
		b	130	130	130	130	130	130	165	165
		c	68	68	68	68	68	68	68	68
		d	90	90	95	90	95	95	95	95
Weight (◉ marked standard type) kg			0.8	0.8	0.95	0.9	0.95	0.95	1.7	1.7
■Connections and Mountings										
Front-connected (FC)	Terminal screws		◉ ㊺	◉ ㊺	◉ ㊺	◉	◉ ④	◉	◉	◉
	With extension bars		○ ㊸	○ ㊸	○ ㊸	○ ㊸	○ ㊸	○ ㊸	○ ㊸	○ ㊸
Rear-connected (RC)	Flat bar studs		○	○	○	○	○	○	○	○
Plug-in (PM)	For switchboards	High-performance (PMB)	—	—	—	—	—	—	—	—
		Standard (PMC)	—	—	—	—	—	—	—	—
	For distribution boards	(PMC)	—	—	—	—	—	—	—	—
		(PMD)	—	—	—	—	—	—	—	—
Flush-mounted (FP)	With flat bar studs		○	○	○	○	○	○	○	○
Draw-out type (DR)			—	—	—	—	—	—	—	—
TemPlug70 (PG)			—	—	○	—	○	○	○	○
DIN rail mount			○ ⑪	○ ⑪	○ ⑪	○ ⑪	○ ⑪	○ ⑪	—	—
■Accessories (optional)		Symbol								
Internally mounted	Auxiliary switch	AX	●	●	●	●	●	●	●	●
	Alarm switch	AL	●	●	●	●	●	●	●	●
	Shunt trips	SH	—	—	—	—	—	—	—	—
	Undervoltage trips	UV	—	—	—	—	—	—	—	—
	Test lead	TL	—	—	●	—	●	●	●	●
	Leakage alarm switch	LA	—	—	—	—	—	—	—	—
	Megger test switch	MG	—	—	●	—	●	●	●	●
Externally mounted	Motor operator	MC	—	—	—	—	—	—	●	●
	External operating handle: Breaker-mounted	HB	●	●	●	●	●	●	●	●
	External operating handle: Door-mounted (variable depth)	HP	●	●	●	●	●	●	●	●
	Toggle extension	HA	—	—	—	—	—	—	—	—
	Mechanical interlock: Slide type	MS	●	●	●	●	●	●	●	●
	Mechanical interlock: Link type	ML	—	—	—	—	—	—	—	—
	Mechanical interlock: Wire type	MW	—	—	—	—	—	—	—	—
	Toggle holder	HH	●	●	●	●	●	●	●	●
	Toggle lock	HL	●	●	●	●	●	●	●	●
	Terminal cover: For front-connected	CF	●	●	●	●	●	●	●	●
	Terminal cover: For rear-connected and plug-in	CR	●	●	●	●	●	●	●	●
	Terminal block for lead	TF	●	●	●	●	●	●	●	●
	Door flange	DF	—	—	—	—	—	—	—	—
CE marking			Non	Non	Non	Non	Non	Non	Non	Non
Earth leakage trip mechanism (Current operation type)			Electronic	Electronic	Electronic	Electronic	Electronic	Electronic	Electronic	Electronic
Overcurrent trip mechanism			Thermal-magnetic ⑦	Thermal-magnetic	Thermal-magnetic	Thermal-magnetic	Thermal-magnetic	Thermal-magnetic	Thermal-magnetic	Thermal-magnetic
Earth leakage indication			Mechanical button	Mechanical button	Mechanical button	Mechanical button	Mechanical button	Mechanical button	Mechanical button	Mechanical button
Colour of cover			Grey Blue	Grey Blue	Grey Blue	Grey Blue	Grey Blue	Grey Blue	Grey Blue	Grey Blue
Trip button (Colour)			Yes (Red)	Yes (Red)	Yes (Red)	Yes (Red)	Yes (Red)	Yes (Red)	Yes (Red)	Yes (Red)
Suitability for isolation			Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Reverse connection			Non	Non	Yes ㊷	Non	Yes ㊷	Yes ㊷	Yes	Yes
Page of characteristics and outline dimensions			7-180	7-180	7-182	7-184	7-186	7-186	7-192	7-192

Notes:

◉ : Standard. This configuration used unless otherwise specified. ○ : Optional standard. Specify when ordering.

● : "yes" or "available". — : "no" or "not available". ④ : 50A or less is the M5 wire clamping terminal.

⑦ : Hydraulic-magnetic type for below 10A rating. ⑪ : Please order the DIN rail adapter separately. See page 6-156.

⑭ : When applying 3-pole type to a 1ø2W circuit, use both ends and do not use the central pole.

⑮ : When applying 3-pole type to a 1ø3W circuit, apply voltage to both ends and connect the neutral wire to the central pole.

㉝ : Applicable to 15A to 30A. ㊶ : Not applicable to 20 A or less.

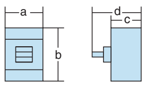
㊺ : A wire clamping terminal is provided. ㊸ : For the extension bars, please place the order separately in parts. ㊷ : There are some limitations. See page 5-23 for details.

Remarks: The rated sensitivity current is set to 100mA and the time delay tripping type's operating time is set to 0.45 seconds before delivery.

Ratings and Specifications

Earth Leakage Circuit Breakers

15 Standard series (Harmonics/surge with countermeasure)

Item			ZS400-NF		ZS630-CF		ZS630-NF		ZS800-CF	ZS800-NF
Frame size (A)			400		600	630	600	630	800	800
Type			ZS400-NF		ZS630-CF		ZS630-NF		ZS800-CF	ZS800-NF
Number of poles			3	4	3	3	3	3	3	3
Phase and wires	1ø2W	⑭	●	—	●	●	●	●	●	●
	3ø3W, 1ø3W	⑮	●	—	●	●	●	●	●	●
	3ø4W		—	●	—	—	—	—	—	—
■Ratings										
Rated impulse withstand voltage (U_{imp}) kV			8		8	8	8	8	8	8
Rated current, A			250	400	500	630	500	630	700	700
Calibrated at 40°C			300		600		600		800	800
			350							
Rated operational voltage AC V	Instantaneous tripping type		100-440 common		100-440 common	100-440 common	100-440 common	100-440 common	100-440 common	100-440 common
		Operable voltage fluctuation range V	80～484		80～484	80～484	80～484	80～484	80～484	80～484
	Time delay tripping type		100-440 common		100-440 common	100-440 common	100-440 common	100-440 common	100-440 common	100-440 common
		Operable voltage fluctuation range V	80～484		80～484	80～484	80～484	80～484	80～484	80～484
Rated sensitivity current mA	Instantaneous tripping type		30		30	30	30	30	30	30
			100/200/500 selectable		100/200/500 selectable	100/200/500 selectable	100/200/500 selectable	100/200/500 selectable	100/200/500 selectable	100/200/500 selectable
			—		—	—	—	—	—	—
		Max. operating time sec	0.1		0.1	0.1	0.1	0.1	0.1	0.1
	Time delay tripping type		100/200/500 selectable		100/200/500 selectable	100/200/500 selectable	100/200/500 selectable	100/200/500 selectable	100/200/500 selectable	100/200/500 selectable
		Max. operating time sec	0.45/1.0/2.0 selectable		0.45/1.0/2.0 selectable	0.45/1.0/2.0 selectable	0.45/1.0/2.0 selectable	0.45/1.0/2.0 selectable	0.45/1.0/2.0 selectable	0.45/1.0/2.0 selectable
		Non-operating time sec	0.1/0.5/1.2 or more		0.1/0.5/1.2 or more	0.1/0.5/1.2 or more	0.1/0.5/1.2 or more	0.1/0.5/1.2 or more	0.1/0.5/1.2 or more	0.1/0.5/1.2 or more
■Rated breaking capacity, kA										
JIS C 8201-2-2 Ann.2	AC	440V	45		30	30	45	45	30	45
I_{cu}(sym)		415V	50		36	36	50	50	36	50
		240V	85		50	50	85	85	50	85
		100V	85		50	50	85	85	50	85
■External dimensions, mm										
		a	140	185	210	210	210	210	210	210
		b	260		273	273	273	273	273	273
		c	103		103	103	103	103	103	103
		d	145		145	145	145	145	145	145
Weight (◉ marked standard type) kg			5.2	6.6	10.0	10.0	10.0	10.0	11.0	11.0
■Connections and Mountings										
Front-connected (FC)	Terminal screws		◉		—	—	—	—	—	—
	With extension bars		○		◉	◉	◉	◉	◉	◉
Rear-connected (RC)	Flat bar studs		○		○	○	○	○	○	○
Plug-in (PM)	For switchboards	High-performance (PMB)	—		—	—	—	—	—	—
		Standard (PMC)	—		—	—	—	—	—	—
	For distribution boards	(PMC)	—		—	—	—	—	—	—
		(PMD)	—		—	—	—	—	—	—
Flush-mounted (FP)	With flat bar studs		○		○	○	○	○	○	○
Draw-out type (DR)			—		—	—	—	—	—	—
TemPlug70 (PG)			○	—	○	○	○	○	—	—
DIN rail mount			—		—	—	—	—	—	—
■Accessories (optional)		Symbol								
Internally mounted	Auxiliary switch	A X	●		●	●	●	●	●	●
	Alarm switch	A L	●		●	●	●	●	●	●
	Shunt trips	S H	—		—	—	—	—	—	—
	Undervoltage trips	U V	—		—	—	—	—	—	—
	Test lead	T L	●		●	●	●	●	●	●
	Leakage alarm switch	L A	—		—	—	—	—	—	—
	Megger test switch	M G	●		●	●	●	●	●	●
Externally mounted	Motor operator	M C	●		●	●	●	●	●	●
	External operating handle: Breaker-mounted	H B	●		●	●	●	●	●	●
	External operating handle: Door-mounted (variable depth)	H P	●		●	●	●	●	●	●
	Toggle extension	H A	●		●	●	●	●	●	●
	Mechanical interlock: Slide type	M S	●		●	●	●	●	●	●
	Mechanical interlock: Link type	M L	—		—	—	—	—	—	—
	Mechanical interlock: Wire type	M W	—		—	—	—	—	—	—
	Toggle holder	H H	●		●	●	●	●	●	●
	Toggle lock	H L	—		—	—	—	—	—	—
	Terminal cover: For front-connected	C F	●		●	●	●	●	●	●
	Terminal cover: For rear-connected and plug-in	C R	●		●	●	●	●	●	●
	Terminal block for lead	T F	●		●	●	●	●	●	●
	Door flange	D F	—		—	—	—	—	—	—
CE marking			Non		Non	Non	Non	Non	Non	Non
Earth leakage trip mechanism (Current operation type)			Electronic		Electronic	Electronic	Electronic	Electronic	Electronic	Electronic
Overcurrent trip mechanism			Thermal-magnetic (adjustable)		Thermal-magnetic (adjustable)	Thermal-magnetic (adjustable)	Thermal-magnetic (adjustable)	Thermal-magnetic (adjustable)	Thermal-magnetic (adjustable)	Thermal-magnetic (adjustable)
Earth leakage indication			Mechanical button		Mechanical button	Mechanical button	Mechanical button	Mechanical button	Mechanical button	Mechanical button
Colour of cover			Grey Blue		Grey Blue	Grey Blue	Grey Blue	Grey Blue	Grey Blue	Grey Blue
Trip button (Colour)			Yes (Red)		Yes (Red)	Yes (Red)	Yes (Red)	Yes (Red)	Yes (Red)	Yes (Red)
Suitability for isolation			Yes		Yes	Yes	Yes	Yes	Yes	Yes
Reverse connection			Yes (72)		Yes (72)	Yes (72)	Yes (72)	Yes (72)	Yes (72)	Yes (72)
Page of characteristics and outline dimensions			7-198		7-200	7-200	7-200	7-200	7-202	7-202

Notes:

◉ : Standard. This configuration used unless otherwise specified. ○ : Optional standard. Specify when ordering.

● : "yes" or "available". — : "no" or "not available".

⑭ : When applying 3-pole type to a 1ø2W circuit, use both ends and do not use the central pole.

⑮ : When applying 3-pole type to a 1ø3W circuit, apply voltage to both ends and connect the neutral wire to the central pole. (72) : There are some limitations. See page 5-23 for details.

Remarks: The rated sensitivity current is set to 100mA and the time delay tripping type's operating time is set to 0.45 seconds before delivery.