Digital Electric& Electronics System

DEESYS

Low Voltage Zero-Phase Sequence Current Transformer

Zero Phase Sequence Current Transformer [DZR, ZR, ZS, SZR-Series]
Cable & Bus Bar Through [DZR, ZR, ZS, SZR-Series]
How to Installation and Inspection

ZCT(DZR, ZR, ZS, SZR)

S A V MECHANICAL SERVICES & SUPPLIES LTD., PART. Tel. 02-7028801

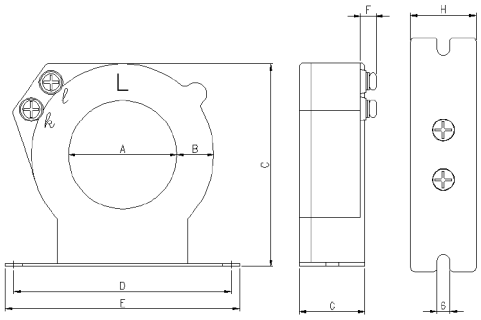
DIGITAL ELD & ZCT

Zero phase sequence Current Transformer [Round Series]

Specification

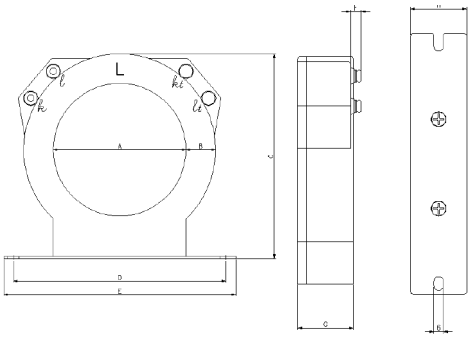
Model	Rated Current	Inside Dia.	Zero Phase Current Ratio	Max. Weight
DZR-030	100A	30 ø	200mA / 100mV (75 ~ 125mV at 2kΩ)	0.2Kg
DZR-050	250A	50 ø		0.3Kg
DZR-065	400A	65 ø		0.4Kg
DZR-080	600A	80 ø		0.8Kg
DZR-100	800A	100 ø		1.0Kg
DZR-120	1000A	120 ø		1.2Kg

Dimension



Unit : m/m

Model	A	B	C	D	E	F	G	H
DZR-030	30	17	74	75	85	7	23	25
DZR-050	50	17	94	100	108	7	30	30
DZR-065	65	17	109	100	108	7	30	30



Unit : m/m

Model	A	B	C	D	E	F	G	H
DZR-080	80	23	133	114	132	7	38	38
DZR-100	100	23	155	160	175	7	38	38
DZR-125	120	23	175	160	175	7	38	38

ZERO-PHASE SEQUENCE CURRENT TRANSFORMER [ZR, ZS, SZR-SERIES]

- As it is used high magnetivity core, it has high linear characteristics and safety characteristics.
- As SZR type ZCT (Sensitivity type) is used Nickel core, it is possible to detect small current(30mA) correctly
- As various model, it is very easy to select the ZCT

Ordering Procedure

DZR – 030

- DZR–for ELD, GFR
- HZR–for High Voltage Ralay
- SZR–for High sensitivity & Static type Directional Ground Relay
- DZS–square type

030

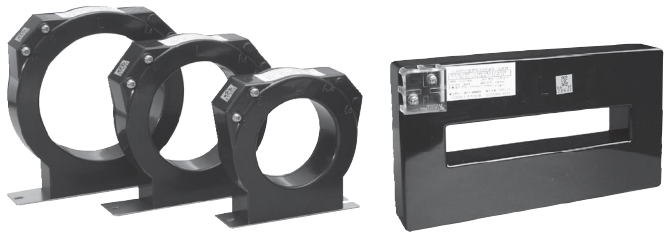
- 030–30ø
- 050–50ø
- 065–65ø
- 080–80ø
- 100–100ø
- 120–120ø
- 150–150ø
- 200–200ø
- 160–160mm
- 210–210mm
- 260–260mm

DZR, HZR, SZR: 030–30ø, 050–50ø, 065–65ø, 080–80ø, 100–100ø, 120–120ø, 150–150ø, 200–200ø

DZS, SZS: 160–160mm, 210–210mm, 260–260mm

※ Note : Because the above ZCT is voltage type on 2ry output and has characteristics applicable with ELD and static type relay, it is impossible to apply for induction type relay.

ZERO-PHASE SEQUENCE CURRENT TRANSFORMER [ZR,ZS,SZR-SERIES]



(Type approval by inspection agency for fire)

- For earth leakage detector
- For indoor
- Cable & Busbar through type
- Casing ABS (Non-flamable)
- Color : Black (N1.5)

Specification

	Model	Rated Current(A)	Inside dia. (mm)	Through wire (EV)㎟			Zero phasecurrent ratio Pri./Sec	Weight(kg)
				1ø2W	1ø3W, 3ø3W	3ø4W		
Cable Through Type	DZR-030/SZR-030	100	30	60	14	8	ZR,ZS type 200㎃/100㎷ (75~125㎷ at 2㏀)	0.5
	DZR-050/SZR-050	250	50	150	80	38		0.7
	DZR-065/SZR-065	400	65	325	150	100		0.9
	DZR-080/SZR-080	600	80	400	250	2000		1/5
	DZR-100/ SZR-100	800	100	500	325	250		2.2
	DZR-120/ SZR-120	1000	120	–	850	725		3.4
	ZR-150/ SZR-150	1400	150	–	1000	850		4.0
	ZR-200/ SZR-200	2000	200	–			SZR Type 30㎃/50㎷	7.5
Busbar through type	DZS-160	400	30x160			※6Tx25		2.8
	DZS-210	500	30x210	–		※6Tx25		3.5
	DZS-260	600	30x260	–		※6Tx25		3.8

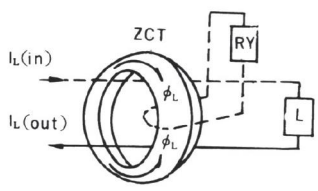
※Note : "※" Mark is busbar size

- Use to Temperature : -10℃~+60℃
- Wrthstand voltage : AC 2000V/Min.(between secondary coil and base)
- Insulation resistance : More Then 1000㏁ DC 500V(bettween coil and base)

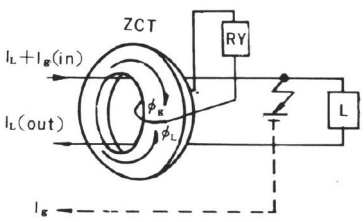
Through wire (EV)㎟	
DGR	200mA/100mV
DER-Po3	30mA/50mV

Z.C.T

(1) Normal Condition



(2) Ground Fault Condition



ZERO-PHASE CURRENT TRANSFORMER (CURRENT OUTPUT TYPE)

Features

- Terminal cover for safety
- Easy to install this types to panel by structural improvement
- Various structures by types of load and capacity
- ABS Non Flamable resin for self-extinguish stability

Specification

PART	RATING
Output condition	AC 200㎃ / 1.5㎃
Operating scale	90 ~ 110%
Rated Frequency	50 / 60 Hz
Max. Voltage	AC 600V
Operating temperature	-10℃ ~ 60℃
Insulation resistance	1st-Panel DC500V Megger 100MΩ above
	1st-2st DC500V Megger 100MΩ above
Insulation Patience	1st-Panel AC1,500V/1sec above
	1st-2st AC1,500V/1sec above
	2st - Panel AC500V/1sec above
Impulse voltage	1st - Panel 6kV (1.2/50㎲) +, - 1sec

Model / Standard

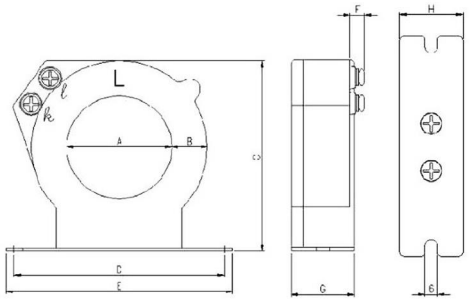
Round Type	Rated Current(A)	Inside Dia.(ø)
DZR-A030	100	30
DZR-A050	250	50
DZR-A065	400	65
DZR-A080	600	80
DZR-A100	800	100
DZR-A120	1000	120

Square Type	Rated Current(A)	Inside Dia.(mm)
DZS-A160	400	30X166
DZS-A210	500	30X210
DZS-A260	600	30X266

ZERO-PHASE CURRENT TRANSFORMER (CURRENT OUTPUT TYPE)

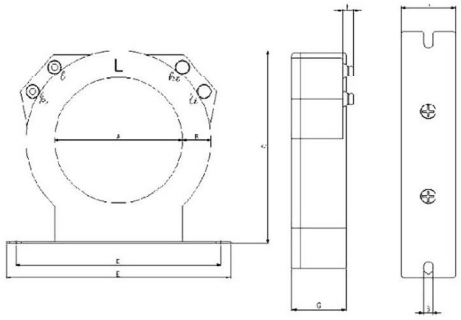
Dimension

• Round Type



Unit : m/m

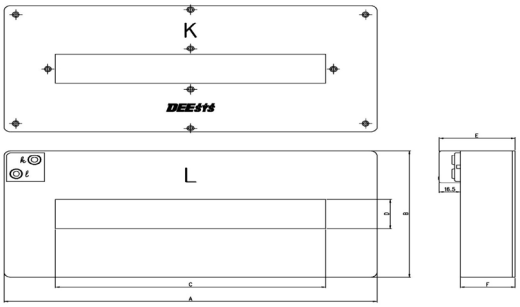
Model	A	B	C	D	E	F	G	H
DZR-A030	30	17	74	75	85	7	23	25
DZR-A050	50	17	94	100	108	7	30	30
DZR-A065	65	17	109	100	108	7	30	30



Unit : m/m

Model	A	B	C	D	E	F	G	H
DZR-A080	80	23	133	114	132	7	38	38
DZR-A100	100	23	155	160	175	7	38	38
DZR-A120	120	23	175	160	175	7	38	38

• Square Type



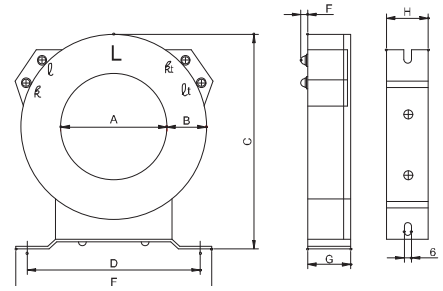
Specification & Dimension

Model	Rating Current	Inside Dia.	A	B	C	D	E	weight(kg)
DZS-A160	400A	30 X 166	240	130	166	30	52	1.6
DZS-A210	500A	30 X 210	290		210		62	2.1
DZS-A260	600A	30 X 266	350		266			2.6

UNIT(m/m)

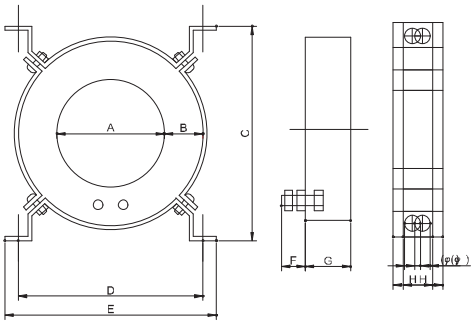
CABLE BUSBAR THROUGH(ZR,SZR,ZS-SERIES)

• Round type



UNIT(m/m)

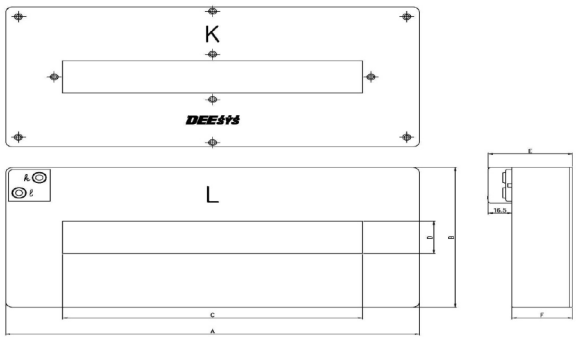
Model-No	A	B	C	D	E	F	G	H
ZR/SZR-025	25	25	87	95	110	9	30	20
ZR/SZR/HZR-030	30	25	108	100	114	7	32	32
ZR/SZR/HZR-050	50	25	131	110	133	7	39	36
ZR/SZR/HZR-065	65	26	143	110	133	7	39	36
ZR/SZR/HZR-080	80	34	174	160	180	7	40	40
ZR/SZR/HZR-100	100	38	203	160	180	7	40	40



UNIT(m/m)

Model-No	A	B	C	D	E	F	G	H	Hole(ø)
ZR/HZR-120	120	45	225	180	210	20	55	35	10
ZR/HZR-150	150	45	260	180	210	20	55	35	10
ZR/HZR-200	200	53	310	260	286	10	70	35	10

• Square type



Model-No	Rating Current	Inside Dia.	A	B	C	D	E	weight(kg)
DZS-150	400A	30 X 166	240	130	166	30	52	1.6
DZS-200	500A	30 X 210	290		210		62	2.1
DZS-250	600A	30 X 266	350		266			2.6

UNIT(m/m)

HIGH VOLTAGE ZERO-PHASE CURRENT TRANSFORMER (ZCT) HZR-SERIES

HZR . HZS TYPE

CASE : BLACK COLOR

Sophisticated ZCT for supporting Ground fault relay

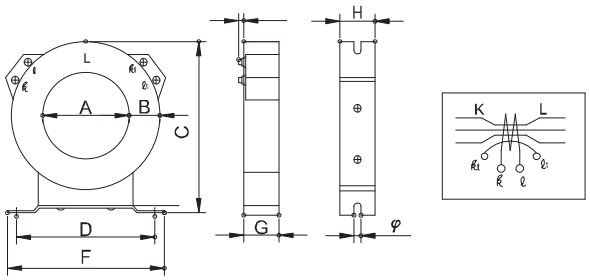
- It aims to provide excellent usability and safety, and designs more economical than conventional ZCT.
- With wide range of operation currents, it is conveniently structured for cabling nwork.
- Light and easy for panel setting and also various kind of ZCT according to selection cable.

Specification

Item	Rated Voltage(V)	Rated curr.(A)	Dia(ø)	Freq.(Hz)	Weight(kg)
HZR-050	6,600/3,300	HZR-050	HZR-050	HZR-050	HZR-050
HZR-065	6,600/3,300	HZR-065	HZR-065	HZR-065	HZR-065
HZR-080	6,600/3,300	HZR-080	HZR-080	HZR-080	HZR-080
HZR-100	6,600/3,300	HZR-100	HZR-100	HZR-100	HZR-100
HZR-120	6,600/3,300	HZR-120	HZR-120	HZR-120	HZR-120
HZR-150	6,600/3,300	HZR-150	HZR-150	HZR-150	HZR-150
HZR-200	6,600/3,300	HZR-200	HZR-200	HZR-200	HZR-200
Rated zero-phase pri. curr	200㎃/100㎷(Load 2㏀)				
	Confroming to JEC 1201 Dielectric Strength characteristics : 6A				
Dielectric strength Insulation resistance	22,000VAC, 50/60㎐ for 1min (between primary conductor and coil, and between primary conductor and mounting flange) 2,200VAC,50/60Hz for 1min(between secondary coil and test coil) 〉1,000MMΩ at 500VDC (between each coils, and between each coil and munting flans				

Dimension

Item	A	B	C	D	E	F	G	H	Hole(ø)
HZR-050	50	25	50	131	122	7	32	36	6
HZR-065	65	26	65	143	133	7	39	37	6
HZR-080	80	34	80	174	180	7	40	40	6
HZR-100	100	38	100	203	180	7	40	40	6
HZR-120	120	45	120	225	210	16	55	35	10
HZR-150	150	45	150	260	210	16	55	35	10
HZR-200	200	53	200	310	286	10	70	35	10

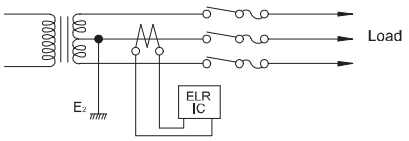
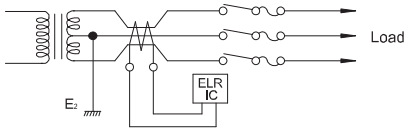
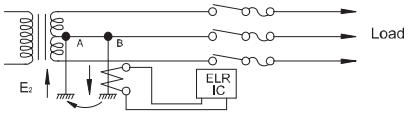
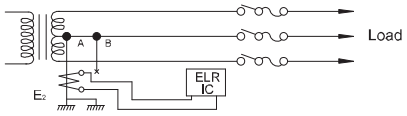
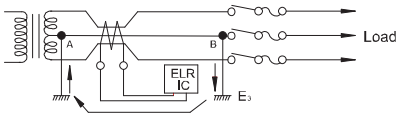
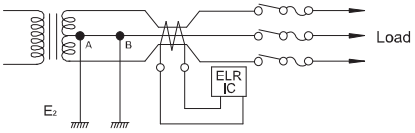
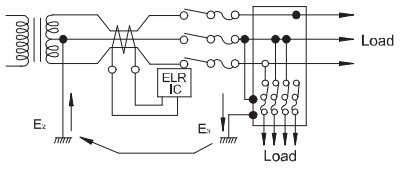
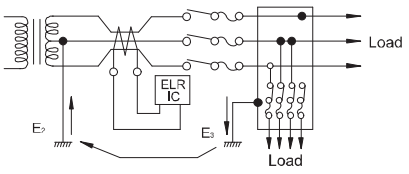
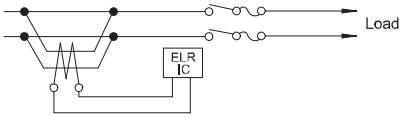
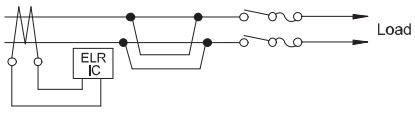
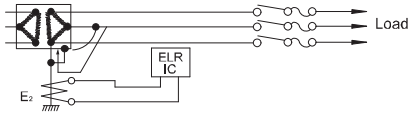
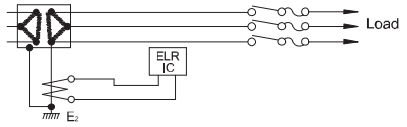


Special Specification

Mold	Item	Use of Relay
Epoxy Mold	65ø, 120ø 150ø, 200ø	HGR, DGR

HOW TO INSTALLATION AND INSPECTION

Note : Incorrect installation of ZCT may result in malfunctioning of relay. Please refer to follwing wiring diagrams

WRONG CONNECTION	RIGHT CONNECTION
1) Load on neutral line will cause malfunctioning 	1) All of two lines of 1ø 2W. three lines of 1ø 3W. three lines of 3ø 3W. and four lines of 3ø 4W should go through ZCT. 
2) Because of load current on neutral line, the current between A–B cause erro operation. The relay may not activate relay operation in cases of leakage. 	2) Cut off line B and provide class 2 grounding as required for ZCT. 
3) As load current is divided between A and B grounding, it will cause missing operation in case of leakage. 	3) Earth the wires before ZCT to (the side of power source). 
4) When neutral line and distribution board line are jointly connected to ZCT. malfunction will be introduced as the example of 3) above. 	4) Provide class 3 grounding seperately for neutral line and distribution board each 
5) Leakage indication lacks accuracy. 	5) Install ZCT correctly 
6) Occurrence of leakage will not activate relay operation.  Even if grounding is intentionally made to frame to frame, the leakage flows directly into to casing grounding without going through ZCT.	6) Grounding of frame should be installed after(in the down stream) the ZCT connection point.  Note : The frames are transformer casing, cubicle enclosure, and structural steel frames.