Global Leader

Smart Grid

Current Transformers

TAEHWATRANS

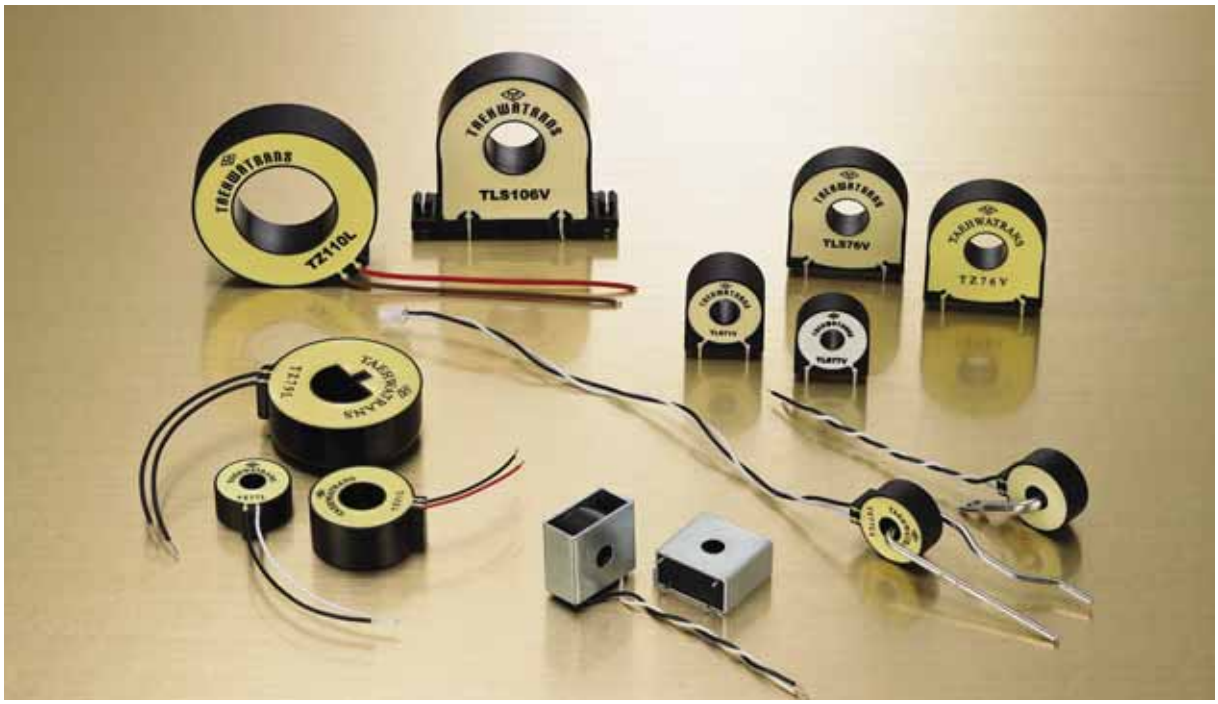
Global Leader & Strong Partnership

Company Footstep

2009	Selected as a Frontier Company by Provincial Government
2008	ISO14001 Certified
2007	Established Taehwatrans America Inc. in Chicago
2006	RoHS compliance for all the products
2003	TUV Certified
2002	ISO9001 Certified
	CE Certified
2001	Introduction of ERP System
2000	UL Certified
	Designated as a IBK family company by industrial bank of korea
1999	Opening website www.taehwatrans.com and www.taehwatrans.co.kr
	Selected as Korean best product by Samsung Global Mall
	Designated as supreme performance company by industrial bank of Korea
1998	Selected as export promising company by government institution
	& small business corporation
1993	Acquiring an award & export achievement merit from Korea trade association
1990	Started overseas sales promotion
1986	Initiating overseas sales
1985	Incorporated Taehwatrans Co., Ltd
1980	Founded by the name of Taehwa Industry

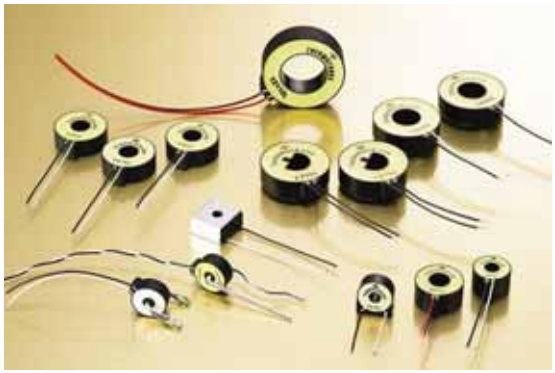
CONTENTS

Supreme Accuracy Current Transformer



Super Accuracy for 0.2 & 0.5/1.0 Class Meter Grade

High Accuracy with Supreme Linearity through Whole Operating Range



Accuracy Class 0.1 / 0.2

Application

- 0.2 class meters in HVCT & MVCT for Power Plant, Sub-Station, and Industrial Complex
- 0.2 Class Power Meters
- Smart Grid Application
- Load Sensor for the Load Center
- In-Factory Balance Current & Measurement
- In-Home Display (Home Energy Management)
- Inverters for Solar & Wind Turbine Systems
- Supreme Accuracy Power Sensors & Instruments

Features

- Meeting international standard conforming to IEC62053-22 & ANSI C12.20
- Showing the paramount linearity within 0.1% through the whole range
- Excellent Linearity Properties upon changing frequency
- To enhance the lower current sensitivity & stability to the best in matching with the primary winding turns
- Supreme immunity to external AC magnetic influence
- Lowest tolerance on the temperature change
- High potential voltage up to 4KV per min.
- RoHs compliant
- Option : Supreme immunity to external DC magnets

Standard CT Accuracy : Class 0.1

Model & Specification

Ratio Error Variation : Within ±0.05%

(f=50Hz, PF=1.0 Unit : minute / percent)

Model No	Current Ratio	Rated Current	Phase Shift(min) at 0.25A	Phase Shift(min) at 5A	Phase Shift @0.35V
	DCR ±6%	Max Current	Ratio Error(%)	Ratio Error(%)	Short Circuit /sec
TZ76V/L	2500/1 51Ω	300A 360A	5 ± 4' −0.03±0.07%	4 ± 4' −0.03±0.07%	3.71' 12.8KA
TZ105V/L	2000/1 26Ω	255A 480A	4 ± 3' −0.04±0.06%	3 ± 3' −0.04±0.06%	3.9' 20.4KA
TZ106V/L TZ79L	2500/1 33Ω	460A 580A	3 ± 2' −0.03±0.07%	2.5 ± 2' −0.03±0.07%	2.5' 25.5KA

Standard CT Accuracy : Class 0.2

Model & Specification

Ratio Error Variation : Within ±0.1%

(f=50Hz, PF=1.0 Unit : minute / percent)

Model No	Current Ratio	Rated Current	Phase Shift(min) at 0.25A	Phase Shift(min) at 5A	Phase Shift @0.35V
	DCR ±6%	Max Current	Ratio Error(%)	Ratio Error(%)	Short Circuit/sec
TZ77V/L	2500/1 128Ω	80A 80A	7 ± 5' −0.03±0.07%	5 ± 5' −0.03±0.07%	8.89' 6.25KA
TZ71V/L	2500/1 188Ω	90A 100A	5 ± 5' −0.03±0.07%	4 ± 3' −0.03±0.07%	8.98' 6.25KA
TZ31L	5000/1 400Ω	100A 210A	8 ± 4' −0.03±0.07%	6 ± 4' −0.03±0.07%	5.21' 12.5KA
TZ84V/L	1000/1 19Ω	120A 150A	9 ± 2' −0.03±0.07%	6 ± 2' −0.03±0.07%	6.90' 5.12KA
TZ85V/L	2000/1 39Ω	240A 300A	5 ± 4' −0.03±0.07%	5 ± 3' −0.03±0.07%	4.53' 10.24KA
TZ87L	4000/1 162Ω	240A 330A	6 ± 6' −0.03±0.07%	5 ± 5' −0.03±0.07%	4.79' 14.48KA
TZ96L	5000/1 251Ω	240A 310A	6 ± 4' −0.03±0.07%	5 ± 4' −0.03±0.07%	6.03' 12.5KA
TZ110L	4000/1 262Ω	200A 440A	5 ± 3' −0.03±0.07%	3 ± 3' −0.03±0.07%	5.11' 10.0KA

Standard CT Accuracy : Class 0.5

Model & Specification

(f=50Hz, PF=1.0 Unit : minute / percent)

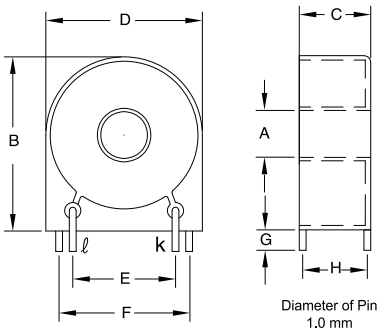
Model No	Current Ratio	Rated Current	Phase Shift(min) at 0.25A	Phase Shift(min) at 5A	Phase Shift @0.35V
	DCR ±6%	Max Current	Ratio Error(%)	Ratio Error(%)	Short Circuit/sec
TZ67V	1600/1 97Ω	23A 24A	26 ± 10' −0.3±0.7%	10 ± 6' −0.3±0.7%	39.87' 2.80KA
TZ68V1	1600/1 97Ω	23A 24A	26 ± 10' −0.3±0.7%	10 ± 6' −0.3±0.7%	39.87' 2.80KA
TZ69V/L	2500/1 71Ω	50A 50A	13 ± 5' −0.3±0.2%	10 ± 4' −0.3±0.2%	26.12' 9.05KA
TZ73V/L	2500/1 104Ω	50A 50A	13 ± 5' −0.25±0.25%	10 ± 5' −0.25±0.25%	21.71' 6.25KA
TZ92V/L	2500/1 71Ω	52A 60A	13 ± 5' −0.3±0.2%	10 ± 4' −0.3±0.2%	20.60' 9.05KA
TZ75V/L	2500/1 129Ω	65A 65A	12 ± 7' −0.1±0.15%	8 ± 5' −0.1±0.15%	16.82' 6.25KA

Definition of Terms

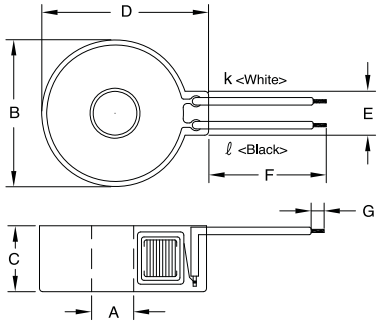
DCR : DC Resistance of secondary winding

Remark : The data of maximum current, ratio and phase error on 60Hz testing would be around 20% better than those of above 50Hz

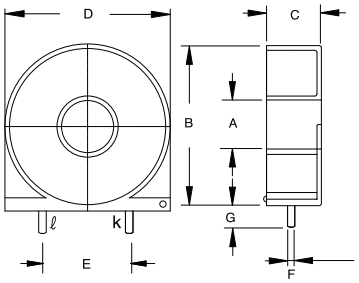
Drawing



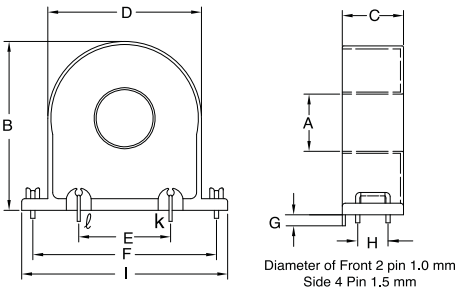
PCB Mountable Type



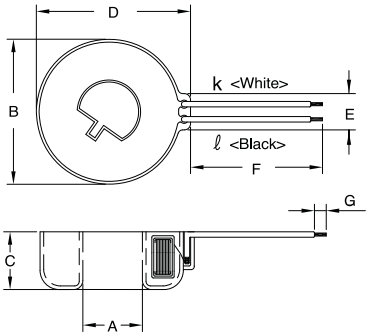
Wire Lead Type



TZ68V1



TZ105V / TZ106V



TZ79L / TZ96L

Dimension

PCB Mountable type (unit : mm/inch)

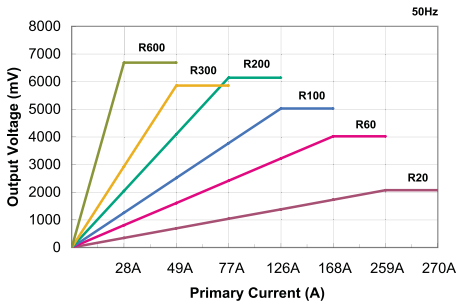
Model No	A(min)	B(max)	C(max)	D(max)	E(±0.3)	F(±0.3)	G(±0.5)	H(±0.3)	I(max)
TZ67V	5.7 0.224"	19.5 0.768"	8.6 0.339"	19.2 0.756"	12.7 0.500"	16.0 0.630"	3.0 0.118"	7.5 0.295"	
TZ68V1 Washer Cover	5.7 0.224"	19.2 0.756"	8.2 0.323"	19.2 0.756"	12.7 0.500"	0.95±0.1 0.037"	4.9±0.1 0.193"		
TZ71V	8.9 0.350"	27.5 1.083"	17.0 0.669"	25.3 0.996"	15.1 0.594"	19.1 0.752"	3.0 0.118"	15.1 0.594"	
TZ69V TZ73V TZ75V TZ77V TZ92V	6.8 0.268"	25.0 0.984"	11.0 0.433"	23.5 0.925"	15.1 0.594"	19.1 0.752"	3.0 0.118"	9.1 0.358"	
TZ76V TZ84V TZ85V	12.9 0.508"	39.3 1.547"	14.0 0.551"	38.0 1.496"	25.2 0.992"	32.8 1.291"	3.0 0.118"	12.1 0.476"	
TZ105V TZ106V	18.4 0.724"	55.5 2.185"	20.3 0.799"	50.5 1.988"	30.0 1.181"	60.0 2.362"	4.0 0.157"	10.0 0.394"	67.6 2.661"

Dimension

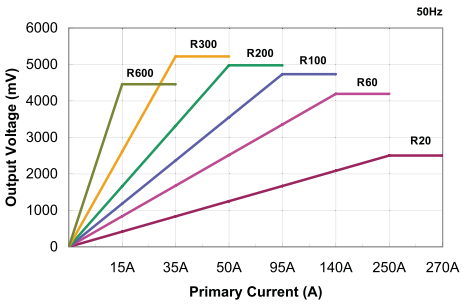
Wire lead type (unit : mm/inch)

Model No	A(min)	B(max)	C(max)	D(max)	E(max)	F(±3.0)	G(±1.0)
TZ31L	13.0 0.512"	31.5 1.240"	16.5 0.650"	35.7 1.406"	6.4 0.252"	74.0 2.913"	5.0 0.197"
TZ71L	8.9 0.350"	24.8 0.976"	17.0 0.669"	28.4 1.118"	7.6 0.299"	65.0 2.559"	3.0 0.118"
TZ69L TZ73L TZ75L TZ77L TZ92L	6.9 0.272"	23.6 0.929"	11.0 0.433"	26.8 1.055"	7.1 0.280"	71.0 2.795"	3.0 0.118"
TZ76L TZ84L TZ85L TZ87L	12.9 0.508"	37.5 1.476"	14.0 0.551"	41.3 1.626"	10.3 0.406"	68.0 2.677"	3.0 0.118"
TZ79L TZ96L	19.5 0.768"	48.2 1.898"	19.3 0.760"	51.2 2.016"	13.2 0.520"	270.0 10.630"	5.0 0.197"
TZ105L TZ106L	19.6 0.772"	48.2 1.898"	19.2 0.756"	52.0 2.047"	13.2 0.520"	270.0 10.630"	5.0 0.197"
TZ110L	32.3 1.272"	59.6 2.346"	18.0 0.709"	63.2 2.488"	13.3 0.524"	763.0±7.0 30.039"	6.0±2.0 0.236"

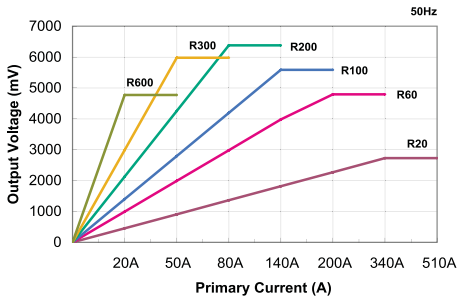
Secondary Burden & Output Voltage Graph



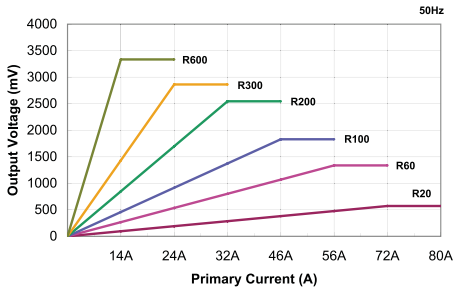
TZ76V/L



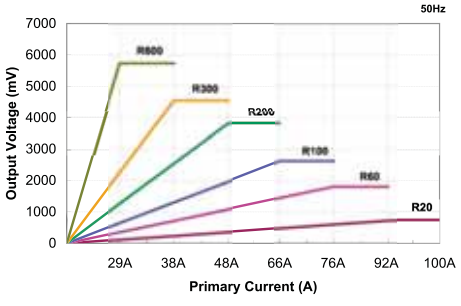
TZ105V/L



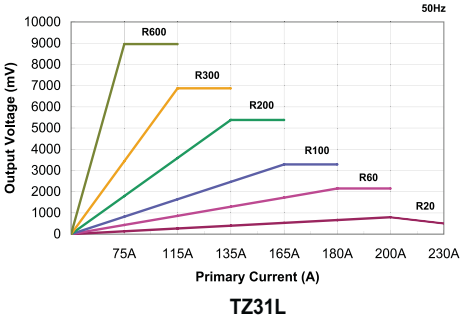
TZ106V/L & TZ79L



TZ77V/L

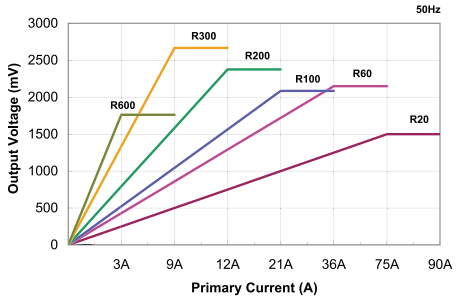


TZ71V/L

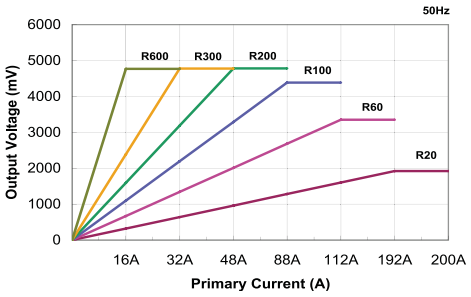


TZ31L

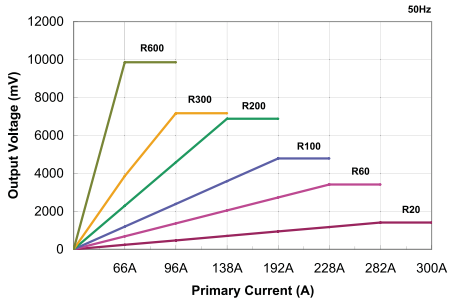
Secondary Burden & Output Voltage Graph



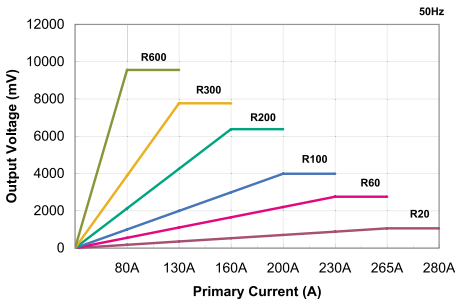
TZ84V/L



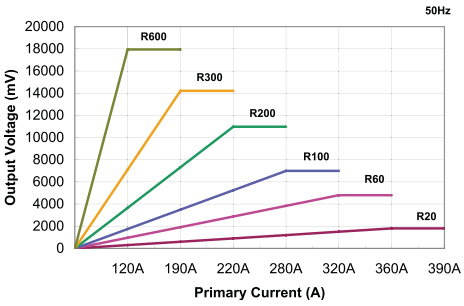
TZ85V/L



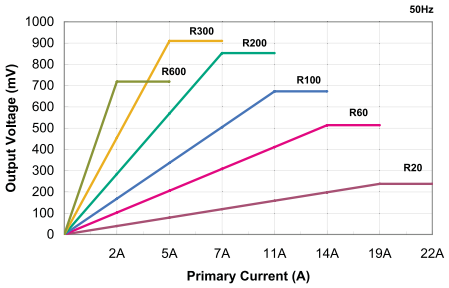
TZ87L



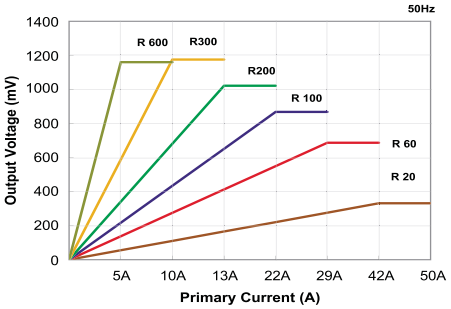
TZ96L



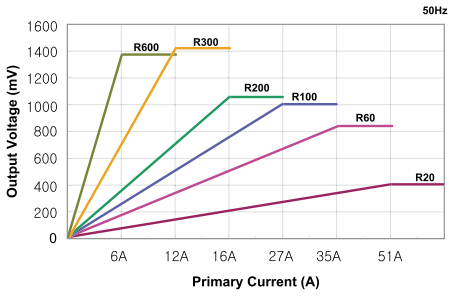
TZ110L



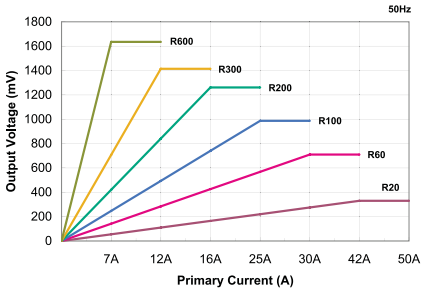
TZ67V / TZ68V1



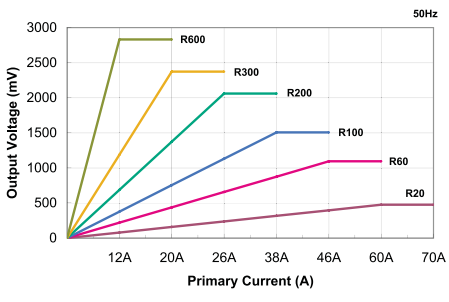
TZ69V/L



TZ92V/L



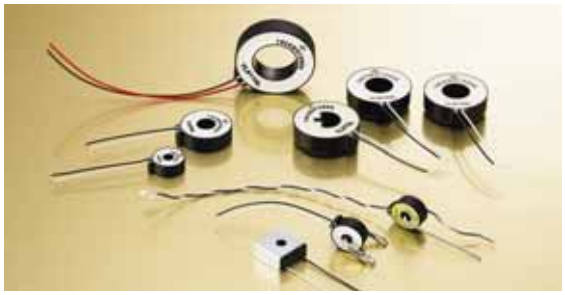
TZ73V/L



TZ75V/L

Super Accuracy for 0.2 & 0.5/1.0 Class Meter Grade

Standard Accuracy with Excellent Stability & Sensitivity in Miniature Current



Application

- 0.2 class meters in HVCT & MVCT for Power Plant, Sub-Station, and Industrial Complex
- 0.2 Class Power Meters
- Smart Grid Application
- Load Sensor for the Load Center
- In-Factory Balance Current Control & Measurement
- In-Home Display (Home Energy Management)
- Inverters for Solar & Wind Turbine Systems
- Supreme Accuracy Power Sensors & Instruments

Features

- Meeting international standard conforming to IEC62053-22 & ANSI C12.20
- Far exceeding the linearity within 0.1% through the whole range
- Excellent stability and sensitivity in the lowest miniature current level
- Supreme immunity to external AC magnetic influence
- Lowest tolerance on the temperature change
- Option : Supreme immunity to external DC magnets

Standard CT Accuracy : Class 0.1

Model & Specification

Ratio Error Variation : Within ±0.05%

(f=50Hz, PF=1.0 Unit : minute / percent)

Model No	Current Ratio	Rated Current	Phase Shift(min) at 0.25A	Phase Shift(min) at 5A	Phase Shift @0.35V
	DCR (±6%)	Max Current	Ratio Error(%)	Ratio Error(%)	Short Circuit /sec
TS73V/L	1500/1 46Ω	90A 120A	6.5 ± 3' −0.03±0.07%	5.5 ± 3' −0.03±0.07%	5.97' 7.60KA
TS77V/L	2500/1 130Ω	90A 120A	7 ± 2' −0.03±0.07%	5 ± 3' −0.03±0.07%	6.66' 6.25KA
TS76V/L	2500/1 51Ω	300A 520A	3.5 ± 2.5' −0.03±0.07%	3.0 ± 2.5' −0.03±0.07%	2.51' 12.8KA

Standard CT Accuracy : Class 0.2 / 0.5

Model & Specification

(f=50Hz, PF=1.0 Unit : percent / degree)

Model No	Current Ratio	DCR (±6%)	Rated Current	Max Current	Ratio Error Variation	Ls(min) 0.03V	Phase Shift(μi)
TL67V	1600/1	113Ω	22A	37A	〈 0.1%	〉40H	〈 0.233°
TLS68V/L	1600/1	113Ω	24A	37A	〈 0.1%	〉40H	〈 0.240°
TLS65V	1000/1	43Ω	22A	36A	〈 0.1%	〉20H	〈 0.212°
TLS77V/L	2500/1	138Ω	90A	100A	〈 0.1%	〉137H	〈 0.181°
TLS71V/L	2500/1	187Ω	90A	120A	〈 0.1%	〉220H	〈 0.159°
TLS76V/L	2500/1	51Ω	300A	470A	〈 0.1%	〉130H	〈 0.076°
TLS31L	5000/1	395Ω	300A	300A	〈 0.1%	〉1kH	〈 0.060°
TLS79L	2500/1	30Ω	590A	950A	〈 0.1%	〉90H	〈 0.061°
TLS105V/L	2000/1	26Ω	430A	750A	〈 0.1%	〉70H	〈 0.073°
TLS106V/L	2500/1	30Ω	590A	950A	〈 0.1%	〉90H	〈 0.061°
TLS110L	4000/1	262Ω	200A	550A	〈 0.1%	〉490H	〈 0.100°

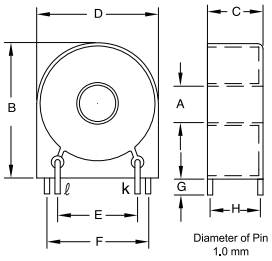
Definition of Terms

DCR : DC Resistance of secondary winding

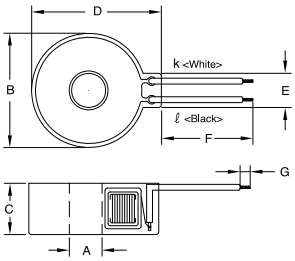
Remark : The data of maximum current, ratio and phase error on 60Hz testing would be around 20% better than those of above 50Hz

Supreme Accuracy Current Transformer

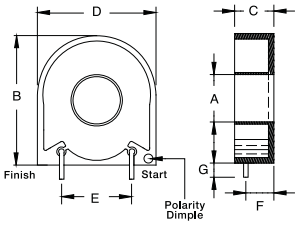
Drawing



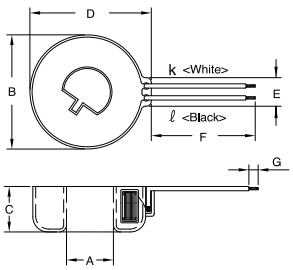
PCB Mountable Type



Wire Lead Type



TL67V



TLS79L

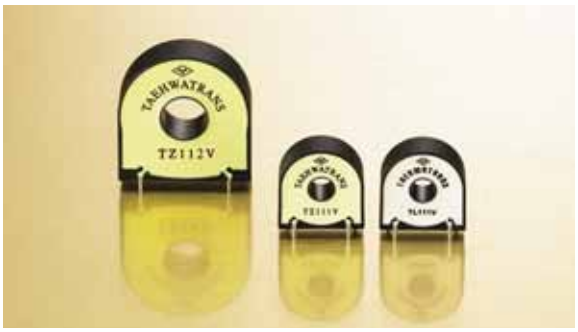
Dimension

PCB Mountable type (unit : mm/inch)

Model No	A(min)	B(max)	C(max)	D(max)	E(±0.3)	F(±0.3)	G(±0.5)	H(±0.3)	I(max)
TL67V	5.59 0.220"	19.38 0.337"	8.55 0.337"	19.25 0.758"	12.7 0.500"	5.54 0.218"	3.5 0.138"		
TLS65V TLS68V	5.7 0.224"	19.5 0.768"	8.6 0.339"	19.2 0.756"	12.7 0.500"	16.0 0.630"	3.0 0.118"	7.5 0.295"	
TLS71V	8.9 0.350"	27.5 1.083"	17.0 0.669"	25.3 0.996"	15.1 0.594"	19.1 0.752"	3.0 0.118"	15.1 0.594"	
TS73V TS77V TLS77V	6.8 0.268"	25.0 0.984"	11.0 0.433"	23.5 0.925"	15.1 0.594"	19.1 0.752"	3.0 0.118"	9.1 0.358"	
TS76V TLS76V	12.9 0.508"	39.3 1.547"	14.0 0.551"	38.0 1.496"	25.2 0.992"	32.8 1.291"	3.0 0.118"	12.1 0.476"	
TLS105V TLS106V	18.4 0.724"	55.5 2.185″	20.3 0.799″	50.5 1.988″	30.0 1.181″	60.0 2.362″	4.0 0.157″	10.0 0.394″	67.6 2.661″

Wire lead type (unit : mm/inch)

Model No	A(min)	B(max)	C(max)	D(max)	E(max)	F(±3.0)	G(±1.0)
TLS68L	5.7 0.224"	19.5 0.768"	8.6 0.339"	19.2 0.756"	7.6 0.299"	65.0 0.559"	3.0 0.118"
TLS71L	8.9 0.350"	24.8 0.976"	17.0 0.669"	28.4 1.118"	7.6 0.299"	65.0 2.559"	3.0 0.118"
TS73L TS77L TLS77L	6.9 0.272"	23.6 0.929"	11.0 0.433"	26.8 1.055"	7.1 0.280"	71.0 2.795"	3.0 0.118″
TS76L TLS76L	12.9 0.508″	37.5 1.476″	14.0 0.551″	41.3 1.626″	10.3 0.406″	68.0 2.677″	3.0 0.118″
TLS31L	13.0 0.512"	31.5 1.240"	16.5 0.650"	35.7 1.406"	6.4 0.252"	74.0 2.913"	5.0 0.197"
TLS79L	19.5 0.768"	48.2 1.898″	19.3 0.760″	51.2 2.016″	13.2 0.520″	270.0 10.630″	5.0 0.197″
TLS105L TLS106L	19.6 0.772″	48.2 1.898"	19.2 0.756″	52.0 2.047″	13.2 0.520"	270.0 10.630″	5.0 0.197″
TLS110L	32.3 1.272″	59.6 2.346″	18.0 0.709″	63.2 2.488″	13.3 0.524"	763.0±7.0 30.039″	6.0±2.0 0.236″



Isolation Current Transformer

Standard Accuracy : Class 0.5

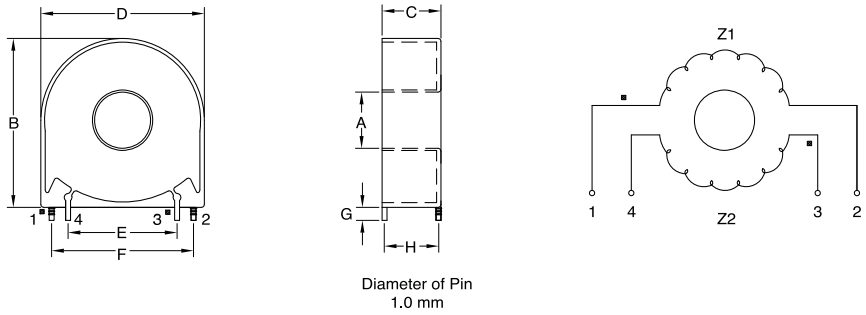
Application : Voltage Measurement

Model & Specification

(f=50Hz, PF=1.0 Unit : percent / minute)

Model No	Current Ratio	DCR ±6%	Ratio Error	Ls 0.05V	Phase Shift 0.5V
TZ111V	1 : 1	100Ω	⟨0.1%	38.423H	15.63 '
TL111V	1 : 1	100Ω	⟨0.1%	41.973H	16.38 '
TZ112V	1 : 1	245Ω	⟨0.1%	161.86H	13.82 '

Drawing

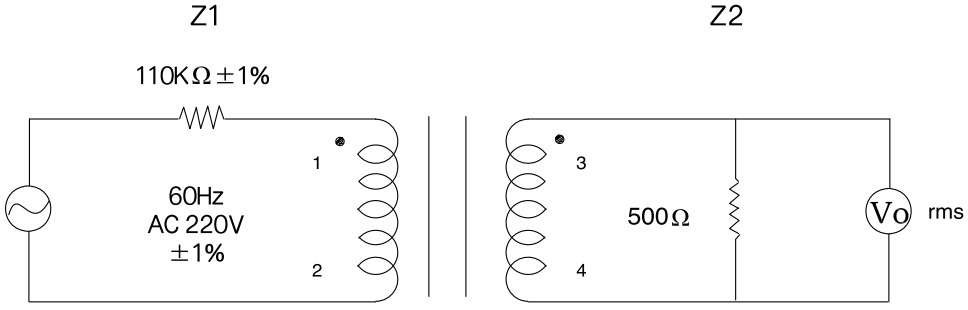


Dimension

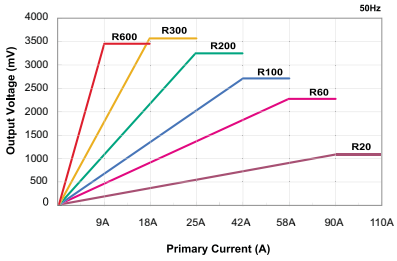
PCB Mountable type (unit : mm/inch)

Model No	A(min)	B(max)	C(max)	D(max)	E(±0.3)	F(±0.3)	G(±0.5)	H(±0.3)
TZ111V TL111V	6.9 0.272″	25.0 0.984″	11.0 0.433″	24.5 0.965″	15.1 0.594″	19.1 0.752″	3.0 0.118″	9.2 0.362″
TZ112V	12.9 0.508″	39.3 1.547″	14.0 0.551″	38.0 1.496″	25.2 0.992″	32.8 1.291″	3.0 0.118″	12.1 0.476″

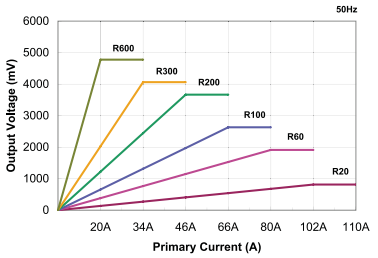
Measuring Circuitry



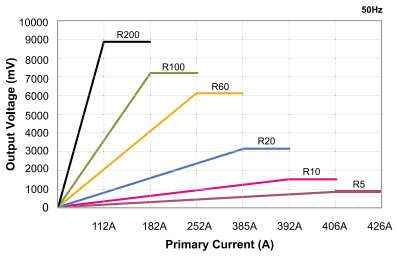
Secondary Burden & Output Voltage Graph



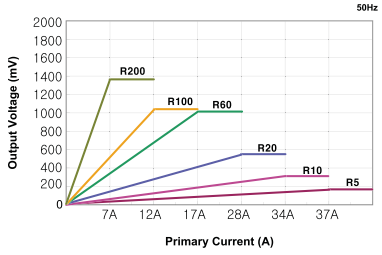
TS73V/L



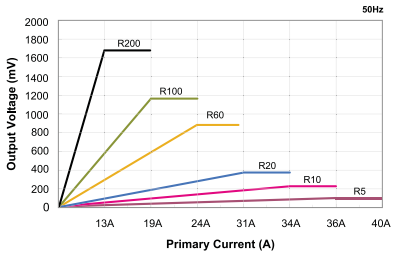
TS77V/L



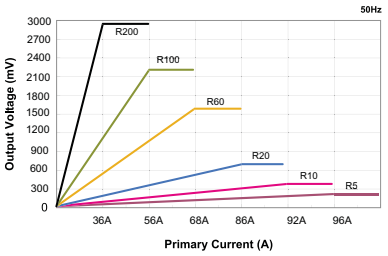
TS76V/L



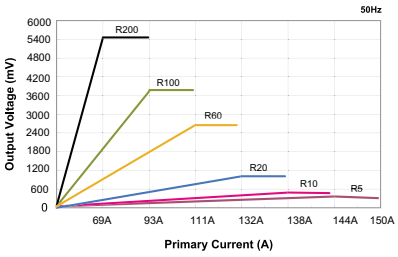
TLS65V



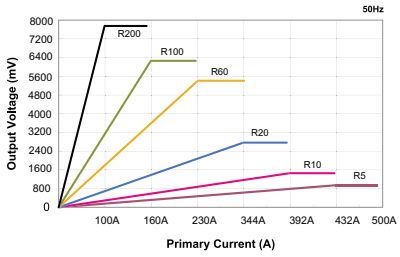
TLS68V/L



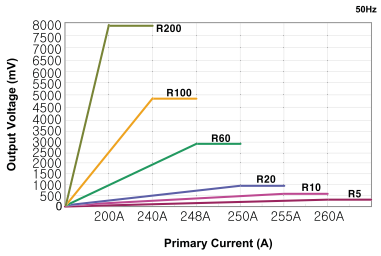
TLS77V/L



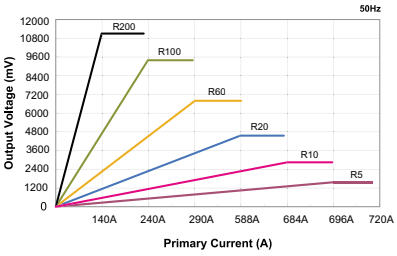
TLS71V/L



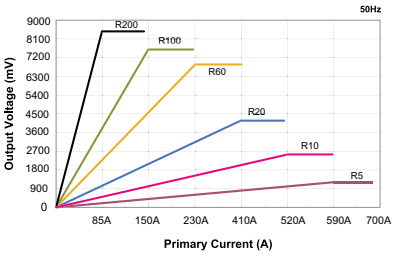
TLS76V/L



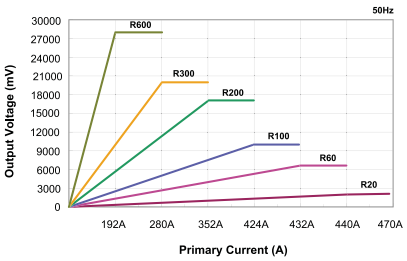
TLS31L



TLS106V/L & TLS79L

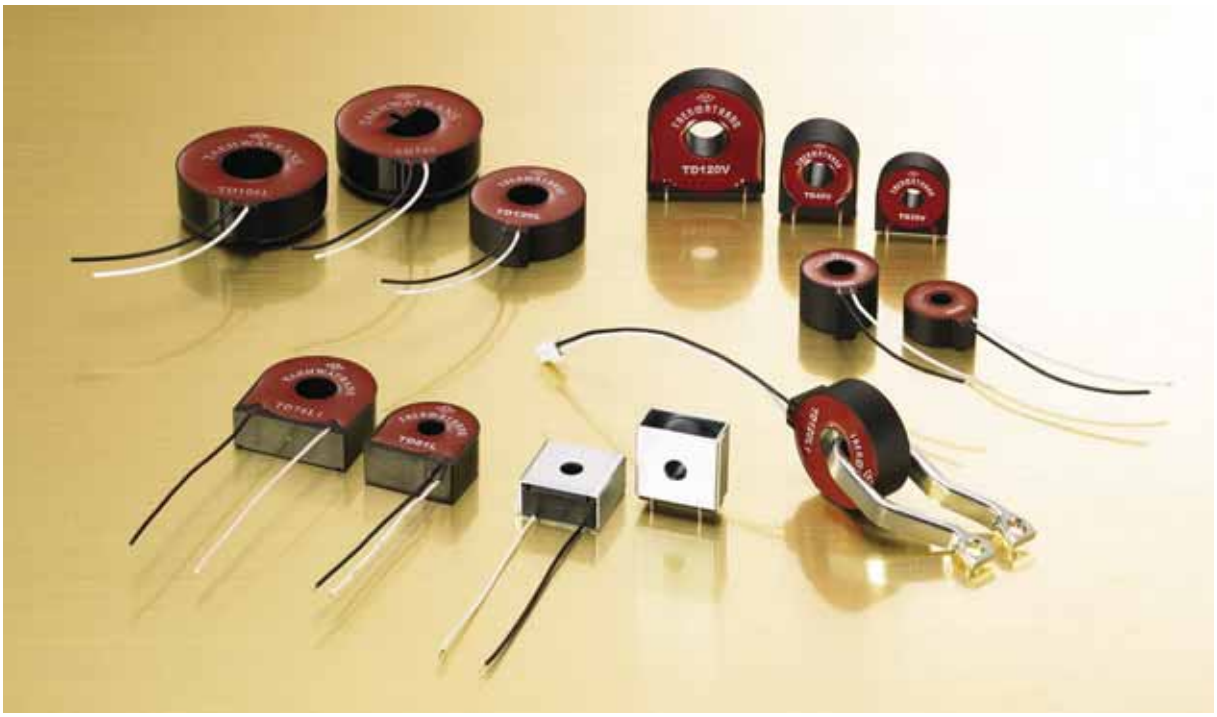


TLS105V/L



TLS110L

DC Immune Current Transformer



Application

- Precision DC immune electronic energy meters conforming to IEC 62053-21 (former IEC 61036)
- Smart Grid Application
- Accurate measurement under DC components & anti tampering
- Immunity to DC Magnets for requirements
- In-Home Display (Home Energy Management System)

Features

- Excellent linearity & precision
- Steady phase shift & No saturation in DC factor
- Stability from the external magnetic field
- Possible to adopt the permanent magnetic immunity
- High potential voltage of 2.5KV-4.0KV/min
- RoHS compliant

Standard Accuracy : Class 0.5

Model & Specification

(f=50Hz, Rb=1Ω, PF=1.0, unit : percent / minute)

Model No	Current Ratio	Im	Idc	DCR (±6%)	Rn 0.25A	Pn 0.25A	Rn 5A	Pn 5A	Rnv 0.25-5A	Pnv 0.25-5A
TD35V TD35L	2500 : 1	140A	40A	110Ω	−0.3±0.5%	500±25′	−0.3±0.5%	500±25′	0.1%	3′
TD40V TD40L	2500 : 1	145A	40A	100Ω	−0.3±0.4%	250±20′	−0.3±0.4%	250±20′	0.1%	2′
TD61L	2500 : 1	275A	60A	49Ω	−0.3±0.5%	240±25′	−0.3±0.5%	240±25′	0.1%	2′
TD62V TD62L	2500 : 1	348A	60A	51Ω	−0.5±0.5%	300±25′	−0.5±0.5%	300±25′	0.1%	2′
TD120V TD120L	2500 : 1	510A	120A	49Ω	−0.25±0.25%	200±25′	−0.25±0.25%	200±25′	0.1%	1′
TD140V TD140L	2500 : 1	540A	140A	56Ω	−0.25±0.25%	180±20′	−0.25±0.25%	180±20′	0.1%	1′

DC Immune Current Transformer

(f=50Hz, Rb=1Ω, PF=1.0, unit : percent / minute)

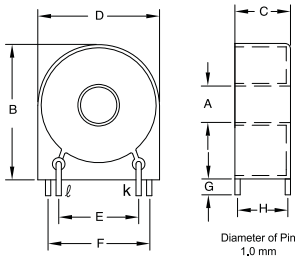
Model No	Current Ratio	Im	Idc	DCR (±6%)	Rn 0.25A	Pn 0.25A	Rn 5A	Pn 5A	Rnv 0.25-5A	Pnv 0.25-5A
TD77V TD77L	2500 : 1	132A	40A	85Ω	±0.5%	230±20′	±0.5%	220±20′	0.1%	8′
TD71V TD71L	2500 : 1	216A	60A	81Ω	±0.8%	310±20′	±0.8%	310±10′	0.1%	5′
TD76V TD76L	2500 : 1	330A	100A	41Ω	±0.4%	230±20′	±0.5%	230±20′	0.1%	2′
TD79L	2500 : 1	486A	160A	27Ω	±0.2%	165′	±0.2%	165′	0.1%	5′
TD106V TD106L	2500 : 1	486A	160A	27Ω	±0.2%	165′	±0.2%	165′	0.1%	5′

Definition of Terms

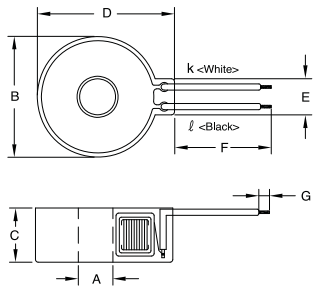
Imax : Max rated current Rn : Nominal ratio error at the mentioned primary current Pn : Nominal phase error at the mentioned primary current Rnv : Nominal variation of ratio error at the mentioned primary current range Pnv : Nominal variation of phase error at the mentioned primary current range Idc : DC immune rated current range Rb : Burden resistance PF : Power factor DCR : DC Resistance of secondary winding

Remark : The data of maximum current, ratio and phase error on 60Hz testing would be around 20% better than those of above 50Hz

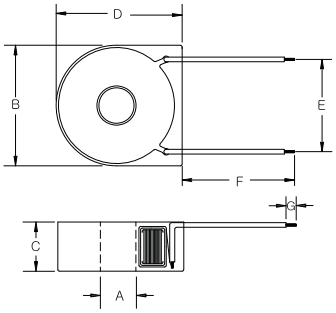
Drawing



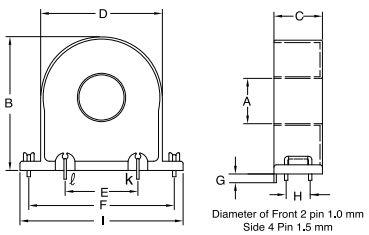
PCB Mountable Type



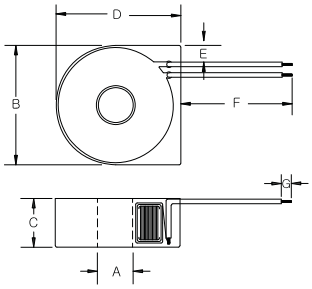
Wire Lead Type



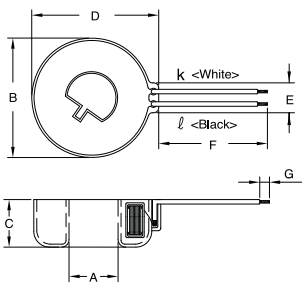
TD71L



TD106V



TD61L



TD79L

Dimension

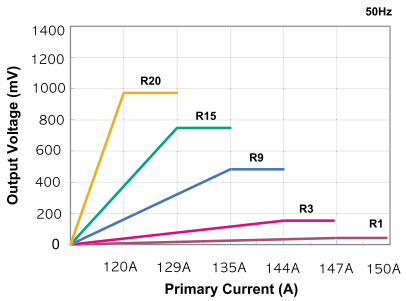
PCB Mountable type (unit : mm/inch)

Model No	A(min)	B(max)	C(max)	D(max)	E(±0.3)	F(±0.3)	G(±0.5)	H(±0.3)	I
TD35V TD77V	6.8 0.268″	25.0 0.984″	11.0 0.433″	23.5 0.925″	15.1 0.594″	19.1 0.752″	3.0 0.118″	9.1 0.358″	
TD40V	8.9 0.350″	27.5 1.083″	17.0 0.669″	25.3 0.996″	15.1 0.594″	19.1 0.752″	3.0 0.118″	15.1 0.594″	
TD71V	11.2 0.441″	28.7 1.130″	17.0 0.669″	26.9 1.059″	15.1 0.594″	19.1 0.752″	3.0 0.118″	15.1 0.594″	
TD62V TD76V TD120V TD140V	12.9 0.508″	39.3 1.547″	14.0 0.551″	38.0 1.496″	25.2 0.992″	32.8 1.291″	3.0 0.118″	12.1 0.476″	
TD106V	18.4 0.724″	55.5 2.185″	20.3 0.799″	50.5 1.988″	30.0 1.181″	60.0 2.362″	4.0 0.157″	10.0 0.394″	67.6 2.661″

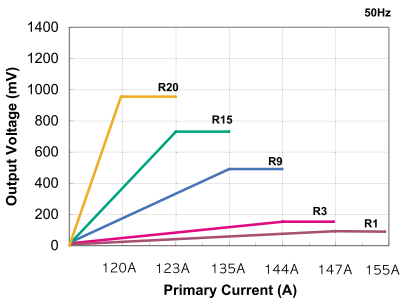
Wire lead type (unit : mm/inch)

Model No	A(min)	B(max)	C(max)	D(max)	E(max)	F(±3.0)	G(±1.0)
TD35L TD77L	6.9 0.272″	23.6 0.930″	11.0 0.433″	26.8 1.055″	7.1 0.280″	71.0 2.795″	3.0 0.118″
TD71L	11.2 0.441″	28.7 1.130″	17.0 0.669″	26.9 1.059″	15.1 0.594″	71.0 2.795″	3.0 0.118″
TD40L	8.9 0.350″	24.8 0.976″	17.0 0.670″	28.4 1.118″	7.6 0.299″	64.0 0.520″	3.0 0.118″
TD61L	8.0 0.315″	30.5 1.201″	15.0 0.591″	31.5 1.240″	6.0 0.236″	71.0 2.795″	3.0 0.118″
TD62L TD76L TD120L TD140L	12.9 0.508″	37.5 1.476″	14.0 0.551″	41.3 1.626″	10.3 0.406″	68.0 2.677″	3.0 0.118″
TD79L	19.5 0.768″	48.2 1.898″	19.3 0.760″	51.2 2.008″	13.2 0.520″	270.0 10.630″	5.0 0.197″
TD106L	19.6 0.772″	48.2 1.898″	19.2 0.756″	52.0 2.047″	13.2 0.520″	270.0 10.630″	5.0 0.197″

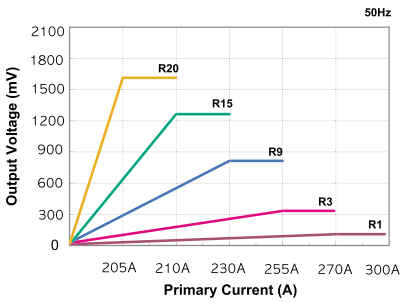
Secondary Burden & Output Voltage Graph



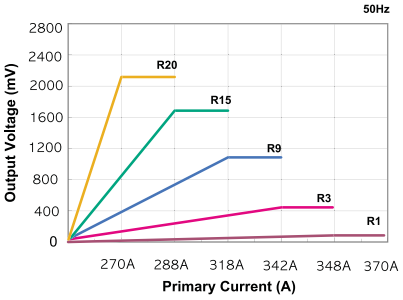
TD35V/L



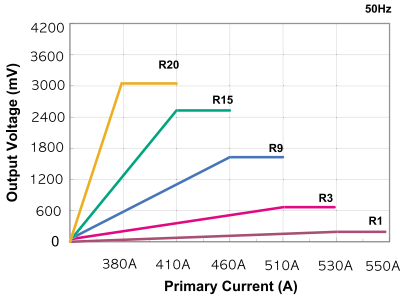
TD40V/L



TD61L



TD62V/L



TD120V/L

Hall Effect Sensor

Application

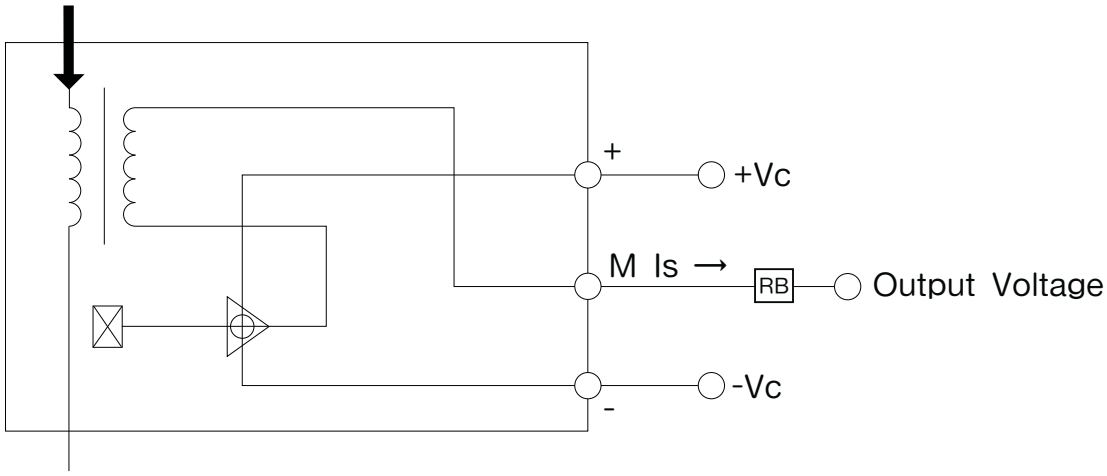
- Inverter Monitoring & Measurement
- Smart Grid Application
- Energy & Power Measurement & Monitoring
- DC Motor Control
- Uninterruptible Power Supplies
- Motor Drives

Features

- Closed Loop Zero Flux Compensated Current Sensor
- Hall Element & Current Transformer Combined
- Supreme Accuracy and Linearity
- Minimal Temperature Drift
- No Core Loss
- Good Response Time
- Wide Frequency Bandwidth

Electrical Characteristics

- Current Rating : 100A
- Maximum Current : 150A
- Current Ratio : 2000:1
- Secondary Coil Resistance : 95~105 Ω
- Supply Voltage : +/-12V to +/-15V
- Current Consumption : IsmA +10mA
- Linearity Error (0.01 Inom to Nominal) : Within 0.5%
- Accuracy : Within ±0.7%
- Off-set Current : ±0.1mA
- Reaction time to 0.1 Inom : Less Than 500nS
- Response time to 0.9 Inom : Less Than 1uS
- Ambient Operating Temp : -40℃ to +85℃...
- Ambient Storage Temp : -40℃ to +90℃...



Split Core (Clip-On) Current Transformer

1. Split Core Current Transformer For Metering Purpose

Application & Features

- Sub-Metering Accurate Measurement
- Data Loggers to analyze Building & Machinery Performance
- Digital Fault Recorders
- Smart Grid Application
- Load Center
- Three Phase Balance Control
- In-Factory Display
- In-Home Display
- Inverters for Solar & Wind Turbine Systems
- Power Measurement Device For PLC

Features
- Excellent Sensitivity at the Low Current Level
- Good Stability & Linearity through all working Range
- Compact Size
- RoHS Compliant

Model & Specification

Standard Accuracy : Class 1.0
Nominal Linearity : Within ±0.5 %
Operating Frequency : 20Hz to 400Hz
Self Resonant Frequency : Approx. 2KHz

(f=50Hz, PF=1.0 Unit : minute / percent)

Model No	Current Ratio	Rated Current	Phase Shift(min) at 0.25A	Phase Shift(min) at 5A	Phase Shift @1V
	DCR (±6%)	Max Current at (10Ω)	Ratio Error(%)	Ratio Error(%)	Short Circuit /sec
TS9L	800/1 68Ω	15A 22A	340 ± 40' ±0.5%	300 ± 50' ±0.5%	206' 2.0KA
TS10L	3000/1 335Ω	85A 110A	80 ± 20' −0.4 ±0.6%	75 ± 25' −0.4 ±0.6%	62' 7.5KA
TS12L	2500/1 231Ω	100A 115A	80 ± 30' 0.1 ±0.5%	75 ± 30' 0.1 ±0.5%	65' 6.25KA
TS16L	3000/1 245Ω	190A 200A	75 ± 25' ±0.5%	70 ± 20' ±0.5%	42' 10.86KA
TS24LF	2000/1 59Ω	230A 230A	35 ± 20' −0.3 ±0.6%	33 ± 20' −0.3 ±0.6%	32' 15.00KA

2. Split Core Current Transformer For Monitoring & Protection Purpose

Application & Features

- Smart Grid Application
- Sub-Metering & Monitoring of high ampere rating application
- Excellent Stability & Linearity from 5Amp up to the rating
- Accurate current monitoring
- Compact size
- RoHs Compliant

Model & Specification

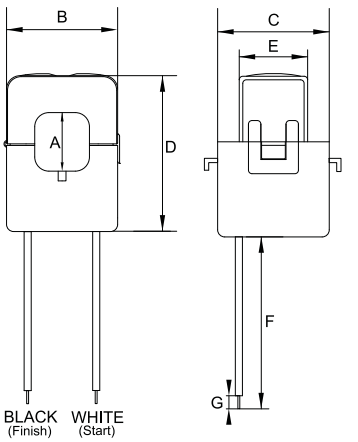
Standard Accuracy : Class 1.0
Nominal Linearity : Within ±0.5 %
Operating Frequency : 20Hz to 400Hz
Self Resonant Frequency : About 600Hz

(f=50Hz, PF=1.0 Unit : minute / percent)

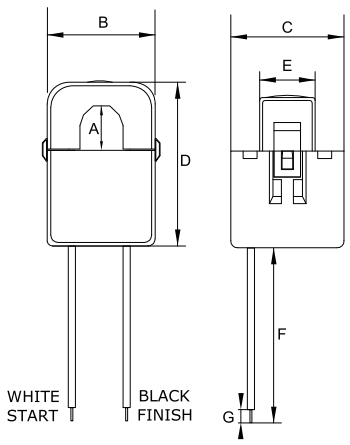
Model No	Current Ratio	Rated Current	Phase Shift(min) at 10A	Phase Shift(min) at 50A	Total Energy Error	Phase Shift @1V
	DCR (±6%)	Max Current at 10Ω	Ratio Error(%)	Ratio Error(%)	At 1000A	Short Circuit /sec
TS24L2K	2000/1 59Ω	390A 1000A	25 ± 20' -0.4 ±0.3%	20 ± 20' -0.4 ±0.3%	-4.0%	7' 10.08KA
TS36L1K	1000/1 8.7Ω	610A 1000A	15 ± 15' 0.3 ±0.7%	10 ± 10' 0.3 ±0.7%	-3.0%	5' 20.50KA
TS36L2K	2000/1 39Ω	610A 1000A	25 ± 20' -0.4 ±0.3%	20 ± 20' -0.4 ±0.3%	-4.5%	6' 20.09KA
TS36L3K	3000/1 74Ω	730A 1000A	15 ± 5' -0.4 ±0.6%	6 ± 4 -0.4 ±0.6%	-6.0%	6' 30.30KA

Remark : The test results are derived without the Compensation of the phase shift & ratio error

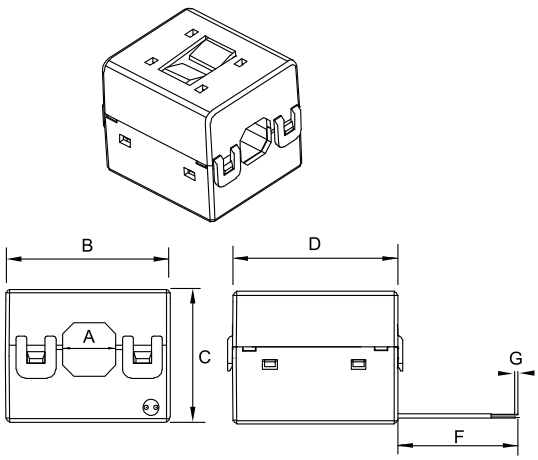
Drawing



Standard Model



TS9L



TS12L

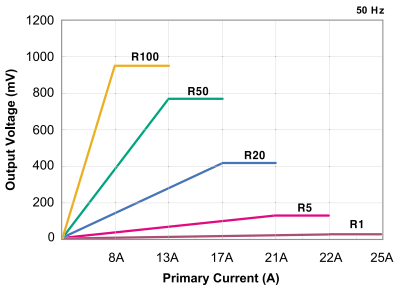
Dimension

Wire lead type

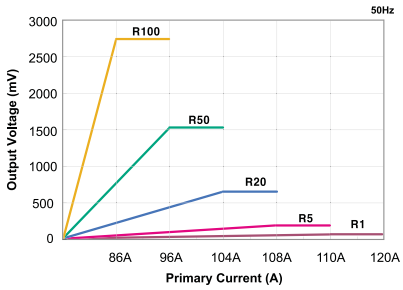
(unit : mm/inch)

Model No	A(min)	B(max)	C(max)	D(max)	E(max)	F(±5)	G(±3)
TS9L	6.0 0.236″	19.0 0.748″	19.1 0.752″	32.6 1.283″	10.2 0.402″	150.0 5.906″	10.0 0.394
TS10L	10.0 0.394″	25.0 0.984″	26.4 1.039″	40.0 1.575″	14.0 0.551″	150.0 5.906″	10.0 0.394″
TS12L	12.0 0.472″	36.2 1.425″	32.6 1.283″	40.2 1.583″		100.0 3.937″	5.0 0.197″
TS16L	16.0 0.630″	31.0 1.220″	32.0 0.126″	48.0 1.889″	19.2 0.756″	150.0 5.906″	10.0 0.394″
TS24LF TS24L2K	24.0 0.945″	46.0 1.811″	34.2 1.346″	66.0 2.598″	22.1 0.870″	150.0 5.906″	10.0 0.394″
TS36L1K TS36L2K TS36L3K	36.0 1.417″	57.7 2.272″	38.2 1.504″	82.0 3.228″	23.0 0.906″	150.0 5.906″	10.0 0.394″

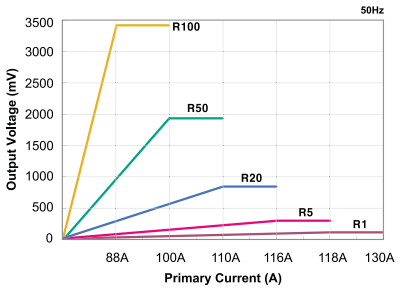
Primary Current Vs Output Voltage Graph



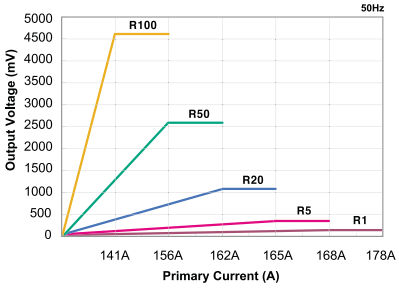
TS9L



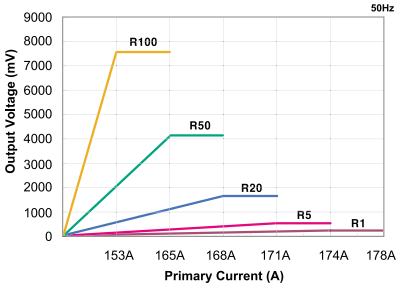
TS10L



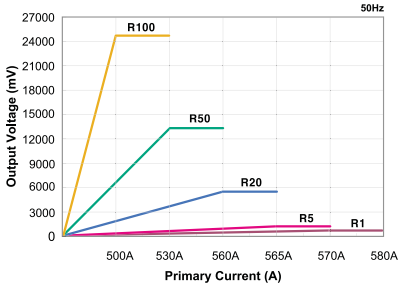
TS12L



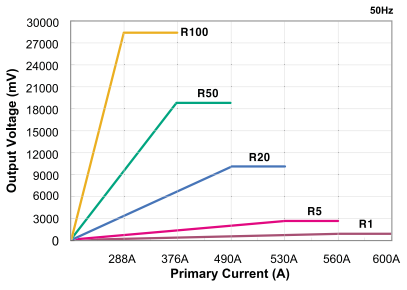
TS16L



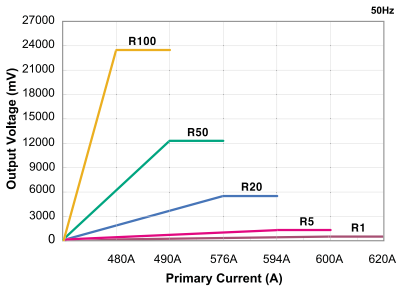
TS24LF



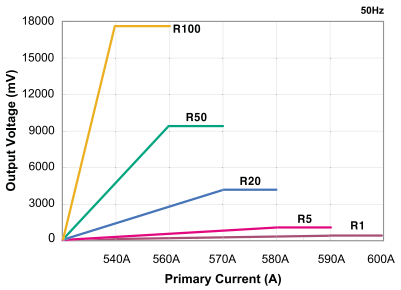
TS24L2K



TS36L1K



TS36L2K



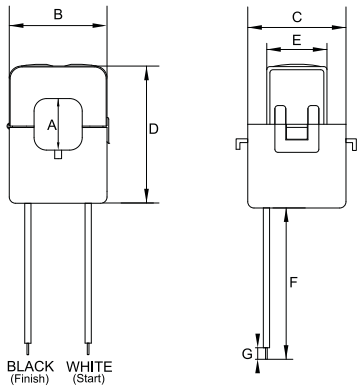
TS36L3K

Split Core (Clip-On) Outdoor Current Transformer

Application & Features

- Better than 1.0 Class Metering Accuracy
- Excellent Linearity over the whole dynamic Range
- Smart Grid Application
- Sub-Metering & Monitoring Accurate Measurement
- Monitoring & Measurement System For Utility Pole (Pylon) Transformer
- PLC Transformer Equipment (PTE)
- Accurate Measurement with 1.0 Class Accuracy up to 1000Amp
- RoHS Compliant

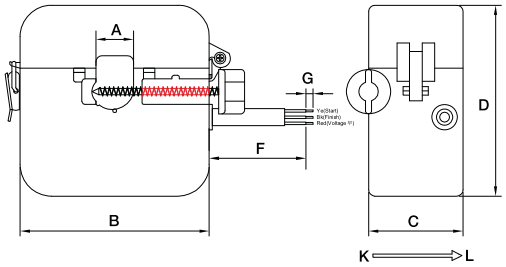
Drawing



TSZ24L & TSZ36L

Model & Specification

Standard Accuracy : Class 1.0
Nominal Linearity : Within ±1.0 %
Operating Frequency : 20Hz to 400Hz
Self Resonant Frequency : About 600Hz



TSZ100L

Dimension

(unit : mm/inch)

Model No	A(min)	B(max)	C(max)	D(max)	E(max)	F(±5)	G(±3)
TSZ24L	24.0 0.945″	46.0 1.811″	34.2 1.346″	66.0 2.598″	22.1 0.870″	150.0 5.906″	10.0 0.394
TSZ36L	36.0 1.417″	57.7 2.272″	38.2 1.504″	82.0 3.228″	23.0 0.906″	150.0 5.906″	10.0 0.394″
TSZ100L	19.8 0.780″	80.2 3.157″	30.2 1.189″	88.2 3.472″	–	150.0 5.906″	10.0 0.394″

Model & Specification

(f=50Hz, PF=1.0 Unit : minute / percent)

Model No	Current Ratio	Rated Current	Phase Shift(min) at 10A	Phase Shift(min) at 50A	Total Energy Error	Phase Shift @1V
	DCR (±6%)	Max Current	Ratio Error(%)	Ratio Error(%)	At 1000A	Short Circuit /sec
TSZ24L	2000/1 59Ω	390A 1000A	130 ± 25' −4.0 ± 2.0%	120 ± 25' −4.0 ± 2.0%	−6.5%	100' 10.09kA
TSZ36L	2000/1 39Ω	610A 1000A	80 ± 25' −5.0 ± 2.0%	75 ± 25' −5.7 ± 2.0%	−9.0%	80' 20.09kA
TSZ100L	2500/1 60Ω	730A 1000A	70 ± 60' −0.6 ± 0.6%	60 ± 60' −0.5 ± 0.5%	−9.9%	92' 25.50kA

Remark : The test results are derived without the Compensation of the phase shift & ratio error.

Clamp-On Weather Proof Rogowski Coil

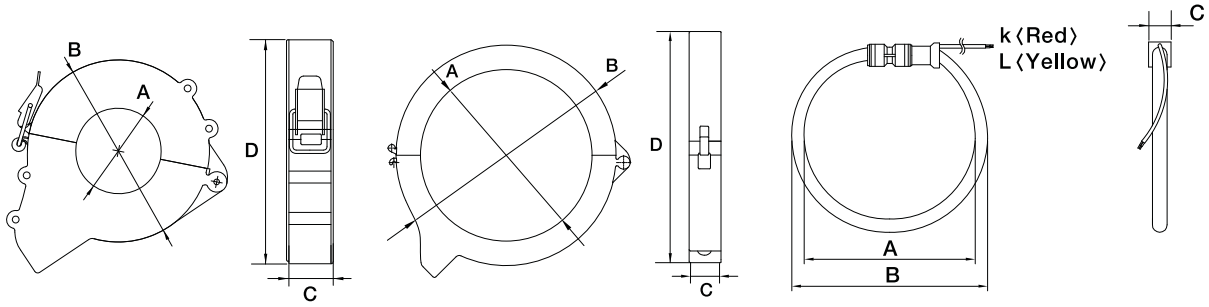
Application

- Monitoring / Control For SCADA System of Power-Station & Sub-Station
- Monitoring / Control For Remote Terminal Unit of Distributed Control System
- Smart Grid Application
- Monitoring & Measurement System For Utility Pole Transformer
- PLC Transformer Equipment
- Low, Medium, & High Current / Voltage Rogowski Coils for the Monitoring & Control in Current & Phase Displacement
- Transmission & Distribution

Features

- Well qualified to the External Magnetic Field
- Inherent Linearity Characteristics
- More than 20KA for Linearity Excellence
- Supreme rejection of AC external fields
- Perfect Immunity to DC external magnets
- RoHS Compliant

Drawing



TSR35L **TSR115L / TSR145L** **Flexible Rogowski (TFR1L)**

Dimension

(Unit : mm/inch)

Model No	A(min)	B(max)	C(max)	D(max)
TSR35L	35.0	83.0	20.9	99.5
	1.378"	3.268"	0.823"	3.917"
TSR115L	114.5	151.2	22.4	173.0
	4.508"	5.953"	0.882"	6.811"
TSR145L	145.0	190.0	22.5	210.0
	5.709"	7.480"	0.886"	8.268"
TFR1L	264.0	280.0	26.0	–
	10.394"	11.024"	1.024"	–

Electrical Properties

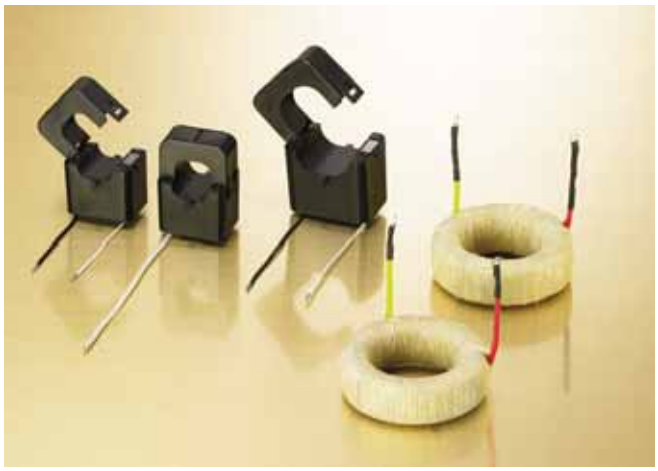
(f=50Hz, PF=1.0)

Model No	Rated Current	Self Inductance	Mutual Inductance	Max Stray Magnetic Field Noise Voltage At AC 0.5mT	DCR	Max Mutual Inductance Error At Rated Current
TSR35L	1000A	0.54mH	0.40㎂H	0.90mV	49Ω	0.75%
TSR115L	2000A	1.20mH	0.30㎂H	0.90mV	185Ω	0.95%
TSR145L	2000A	1.70mH	0.43㎂H	0.90mV	250Ω	0.70%
TFR1L	1000A	3.50mH	0.55㎂H	1.50mV	468Ω	0.92%

Ref.) Output Voltage : 2πf. M. dIp/dt

All TRS Series have the rated linearity more than 20KA.

Primary Clip-On Current Transformer



Application & Features

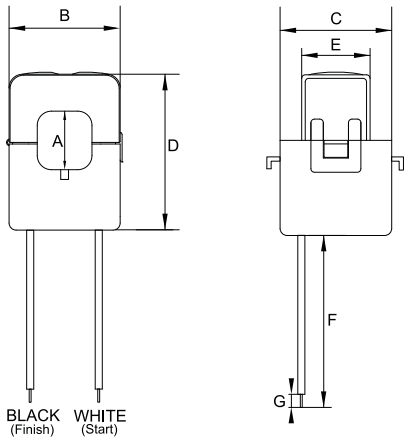
- Three Phase Balance Control
- Smart Grid Application
- In-Factory Display & Power Management
- Monitoring & Measurement System For Utility Pole Transformer
- PLC Transformer Equipment
- Qualified Monitoring & Measurement Up to 1000A
- Secondary Mostly 1A or 5A
- Best Linearity & Stability in Full Dynamic Range
- Compact Size

1. Primary Measurement & Monitoring Clip-on CT

Model Name

Model No	Current Ratio	DCR	VA
TSP24A15	150A/5A	17mΩ	1.5VA
TSP24A25	250A/5A	31mΩ	
TSP24A30	300A/5A	36.5mΩ	
TSP24A40	400A/5A	130mΩ	
TSP24A50	500A/5A	92.2mΩ	
TSP24A100	1000A/5A	700mΩ	
TSP36A15	150A/5A	21.5mΩ	2.5VA
TSP36A25	250A/5A	47.3mΩ	
TSP36A30	300A/5A	72.5mΩ	
TSP36A40	400A/5A	58mΩ	
TSP36A50	500A/5A	64.3mΩ	
TSP36A100	1000A/5A	320mΩ	

Drawing



Dimension

Wire lead type

(unit : mm/inch)

Model No	A(min)	B(max)	C(max)	D(max)	E(max)	F(±5)	G(±3)
TSP24A15 TSP24A25 TSP24A30 TSP24A40 TSP24A50 TSP24A100	24.0 0.945″	46.0 1.811″	34.2 1.346″	66.0 2.598″	22.1 0.870″	150.0 5.906″	10.0 0.394″
TSP36A15 TSP36A25 TSP36A30 TSP36A40 TSP36A50 TSP36A100	36.0 1.417″	57.7 2.272″	38.2 1.504″	82.0 3.228″	23.0 0.906″	150.0 5.906″	10.0 0.394″

Electrical Properties

(Test Conditions : No Burden) (Phase : minute / Ratio : %)

Model No	Nominal Error	0.05In	0.1In	0.2In	0.4In	0.6In	0.8In	1.0In
TSP24A15	Phase Shift Ratio Error	N.A. N.A.	185±30' −0.4±0.1%	215±30' −0.4±0.2%	210±30' −0.4±0.2%	190±30' −0.5±0.2%	140±30' −0.7±0.2%	105±30' −0.7±0.2%
TSP24A25	Phase Shift Ratio Error	260±70' −0.3±0.2%	270±70' −0.6±0.3%	215±80' −0.8±0.3%	110±70' −0.8±0.5%	70±40' −0.8±0.5%	60±30' −0.6±0.4%	55±30' −0.5±0.4%
TSP24A30	Phase Shift Ratio Error	315±80' −0.4±0.3%	310±90' −0.8±0.3%	190±100' −0.9±0.5%	125±90' −0.8±0.6%	80±50' −0.6±0.5%	70±30' −0.4±0.4%	65±30' −0.4±0.3%
TSP24A40	Phase Shift Ratio Error	140±80' −0.4±0.2%	100±70' −0.4±0.2%	55±20' −0.3±0.2%	45±20' −0.2±0.2%	40±20' −0.2±0.2%	40±20' −0.2±0.2%	38±10' −0.2±0.2%
TSP24A50	Phase Shift Ratio Error	60±20' −0.3±0.2%	50±20' −0.2±0.2%	40±20' −0.2±0.2%	40±20' −0.2±0.2%	40±15' −0.2±0.2%	40±15' −0.2±0.2%	40±13' −0.2±0.2%
TSP24A100	Phase Shift Ratio Error	35±20' −0.2±0.2%	33±20' −0.2±0.2%	30±20' −0.2±0.2%	27±20' −0.2±0.2%	26±20' −0.2±0.2%	24±20' −0.2±0.2%	22±20' −0.2±0.2%
TSP36A15	Phase Shift Ratio Error	N.A. N.A.	200±20' −0.3±0.2%	220±40' −0.3±0.2%	222±38' −0.4±0.2%	222±38' −0.5±0.2%	222±38' −0.5±0.3%	222±39' −0.6±0.3%
TSP36A25	Phase Shift Ratio Error	180±30' −0.5±0.3%	190±30' −0.3±0.2%	180±30' −0.3±0.2%	150±20' −0.5±0.2%	80±20' −0.5±0.2%	60±20' −0.4±0.2%	50±20' −0.3±0.2%
TSP36A30	Phase Shift Ratio Error	145±30' −0.2±0.2%	150±28' −0.2±0.2%	135±30' −0.3±0.2%	70±50' −0.3±0.2%	40±30' −0.3±0.2%	30±20' −0.2±0.2%	30±18' −0.2±0.2%
TSP36A40	Phase Shift Ratio Error	145±40' −0.2±0.2%	135±40' −0.2±0.2%	70±40' −0.4±0.3%	40±30' −0.2±0.2%	30±30' −0.2±0.2%	30±20' −0.2±0.2%	30±18' −0.2±0.2%
TSP36A50	Phase Shift Ratio Error	115±50' −0.4±0.3%	65±40' −0.3±0.2%	30±20' −0.2±0.2%	25±20' −0.2±0.2%	20±20' −0.2±0.2%	20±20' −0.2±0.2%	20±18' −0.2±0.2%
TSP36A100	Phase Shift Ratio Error	30±30' −0.2±0.2%	30±28' −0.2±0.2%	29±28' −0.2±0.2%	28±28' −0.2±0.2%	27±27' −0.2±0.2%	26±26' −0.2±0.2%	25±25' −0.2±0.2%

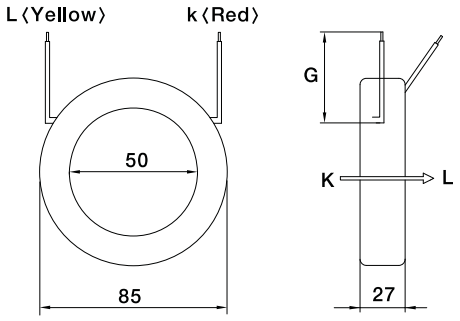
Ref.) Data has been carried out through the random sampling / In : Rated Current

2. Solid Core Primary CT

Model Name

Model No.	Current Ratio	DCR(mΩ)	VA
TCP100L	100 : 1	80	15
TCP200L	200 : 1	162	15

Drawing



TCP100L / TCP200L

Electrical Properties

(Test Conditions : No Burden) (Phase : minute / Ratio : %)

Model No	Nominal Error	0.05In	0.1In	0.2In	0.4In	0.6In	0.8In	1.0In
TCP100L	Phase Shift Ratio Error	40' −0.3%	20' −0.5%	15' −0.2%	10' −0.1%	9' −0.1%	8' −0.1%	8' −0.1%
TCP200L	Phase Shift Ratio Error	14' −0.1%	8' −0.1%	5' −0.1%	4' 0.0%	4' 0.0%	3' 0.0%	3' 0.0%

※ In : Rated Current

Rogowski Coils for Smart Meters

Application

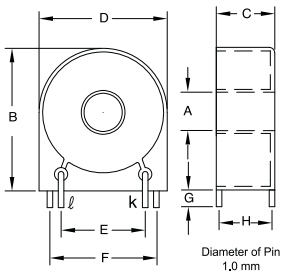
- Smart Grid Application
- New Generation Sensors for solid state Watt-Hour Meters
- High precision Power Meters
- Electronic Watt-Hour Meters (Anti-Tampering) magnets
- Smart Power Meters for Mobility Application
- AC Component Fault Detector of Inverter in DC Current
- Electric Mobility (Automotive) & Solar Application
- Harmonic Measurement Sensors

Features

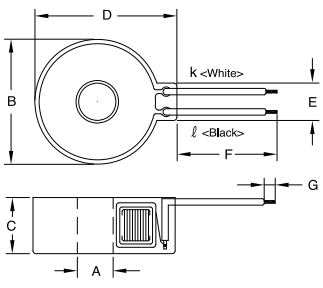
- Inherent Linearity Characteristics
- High current coverage without saturation
- Supreme rejection of AC external magnetic fields
- Perfect Immunity to DC external magnets
- Close to zero tolerance to the environmental change
- High Amplitude Output Properties

Rogowski Coil For 1.0 Class Metering Purpose

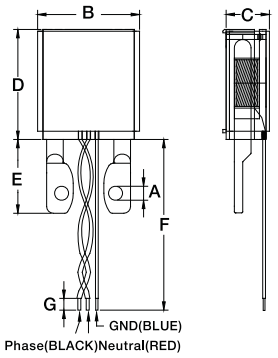
Drawing



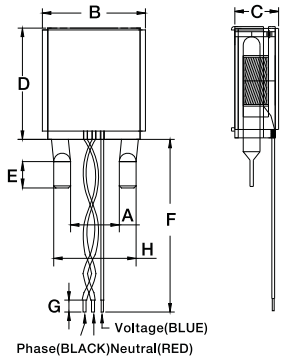
PCB Mountable Type



Wire Lead Type



TMR40L / TMR120L



TMRS120L

Dimension

PCB Mountable type (unit : mm/inch)

Model No	A(min)	B(max)	C(max)	D(max)	E(±0.3)	F(±0.3)	G(±0.5)	H(±0.3)
TR10VSH	12.9 0.508″	39.3 1.547″	14.0 0.551″	38.0 1.496″	25.2 0.992″	32.8 1.291″	3.0 0.118″	12.1 0.476″
TMRS71V	8.9 0.350″	27.5 1.083″	17.0 0.669″	25.3 0.996″	15.1 0.594″	19.1 0.752	3.0 0.118″	15.1 0.594″

Wire lead type (unit : mm/inch)

Model No	A(min)	B(max)	C(max)	D(max)	E(max)	F(±3.0)	G(±1.0)	H(±0.3)
TR10LSH	12.9 0.508"	37.5 1.476"	14.0 0.551"	41.3 1.626"	10.3 0.406"	240.0 9.450"	5.0 0.197"	
TR9L	19.6 0.772"	48.2 1.898"	19.2 0.756"	52.0 2.047"	13.2 0.520"	270.0 10.630"	5.0 0.197"	
TMR40L	4.0 0.157"	37.7 1.484"	13.8 0.543"	35.6 1.402"	24.0 0.945"	150.0 5.906"	5.0 0.197"	
TMR120L	4.0 0.157"	37.7 1.484"	13.8 0.543"	35.6 1.402"	24.0 0.945"	150.0 5.906"	5.0 0.197"	
TMRS120L	13.2 0.520"	37.7 1.484"	13.8 0.543"	35.6 1.402"	12.7±0.4 0.945"	150.0 5.906"	5.0 0.197"	29.2 0.197"

Electrical Properties(Ⅰ)

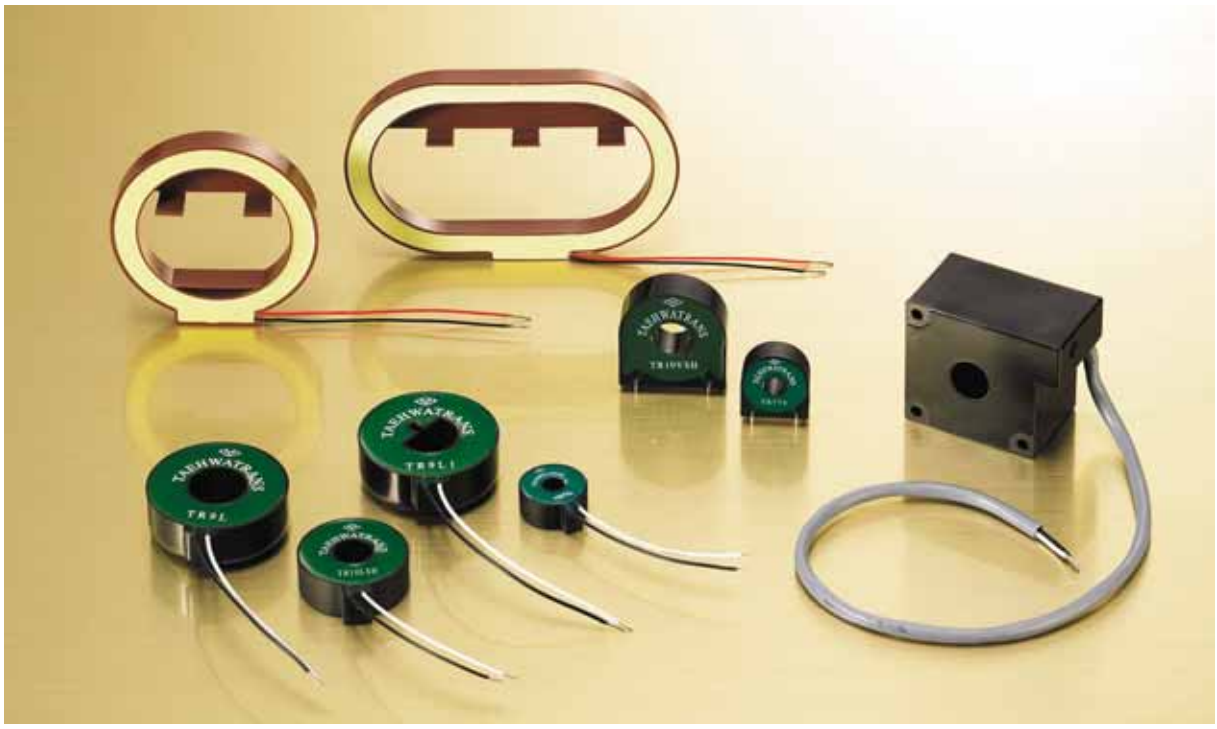
Model No	Rated Current	Self Inductance	Mutual Inductance	Rated Max Stray Mutual Inductance @AC 0.5mT	DCR	Nominal Max Mutual Inductance Error
TR10VSH TR10LSH	120A, 160A, 250A	5.9mH	2.11㎂H	4.25nH	173Ω	0.3% / 250A
TR9L	200A	21.24mH	4.71㎂H	40nH	200Ω	1.2% / 200A
TMR40L	40A	60mH	18㎂H	99nH	415Ω	0.7% / 40A
TMR120L	120A	60mH	18㎂H	34nH	415Ω	0.5% / 120A
TMRS120L	120A	60mH	18㎂H	34nH	415Ω	0.5% / 120A
	Voltage Measurement			OV to 600V		

Ref.) Output Voltage : 2πf. M. dIp/dt

Electrical Properties(Ⅱ)

Model No	Resonant Frequency	Inductance	Current Ratio	Core Resistance
TMRS71V	450KHz	6mH	600 / 1	24KΩ

Rogowski Coil



Application

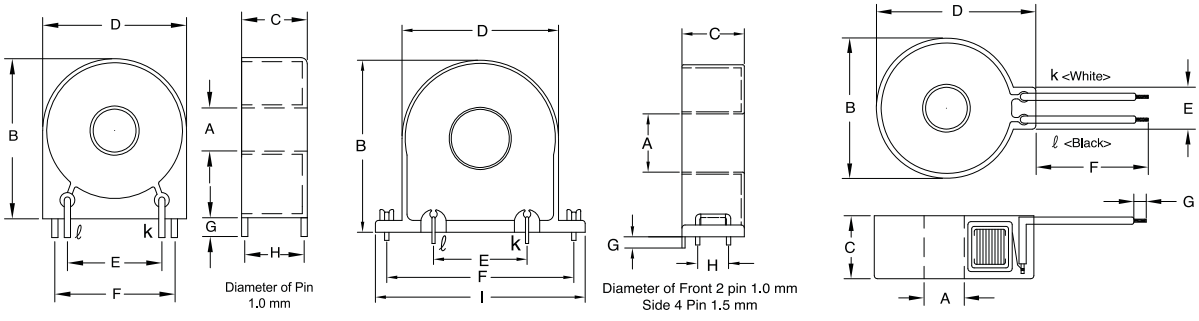
- Smart Grid Application
- High Power Protection Relays
- High frequency Power Monitoring
- Welding Machine
- Air Circuit Breaker
- Gas / Vacuum Circuit Breaker
- Gas Insulation Switch Gear

Features

- Inherent Linearity Characteristics
- Accurate linearity frequency response up to 1MHz
- Good rejection of external magnetic field
- Faster response times to fault
- High potential voltage : 4.0KV /min
- RoHs compliant
- No influence from outside environments

Rogowski Coil for precision protection & measurements

Drawing



PCB Mountable Type **TR9V** **Wire Lead Type**

Dimension

PCB Mountable type (unit : mm/inch)

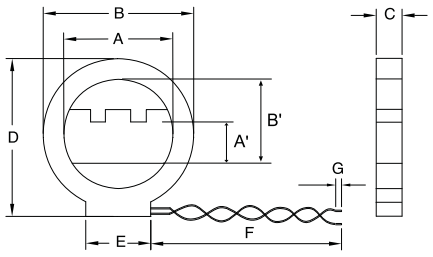
Model No	A(min)	B(max)	C(max)	D(max)	E(±0.3)	F(±0.3)	G(±0.5)	H(±0.3)	I(max)
TR77V	6.8 0.268″	25.0 0.984″	11.0 0.433″	23.5 0.925″	15.1 0.594″	19.1 0.752″	3.0 0.118″	9.1 0.358″	
TR10VSH	12.9 0.508″	39.3 1.547″	14.0 0.551″	38.0 1.496″	25.2 0.992″	32.8 1.291″	3.0 0.118″	12.1 0.476″	
TR9V	18.4 0.724″	55.5 2.185″	20.3 0.799″	50.5 1.988″	30.0 1.181″	60.0 2.362″	4.0 0.157″	10.0 0.394″	67.6 2.661″

Wire lead type (unit : mm/inch)

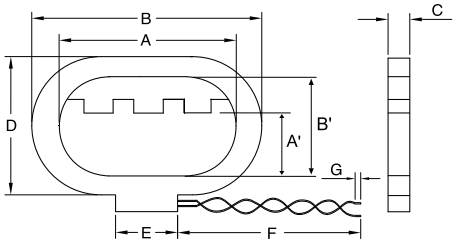
Model No	A(min)	B(max)	C(max)	D(max)	E(max)	F(±3.0)	G(±1.0)
TR77L	6.9 0.272″	23.6 0.930″	11.0 0.433″	26.8 1.055″	7.1 0.280″	71.0 2.795″	3.0 0.118″
TR10LSH	12.9 0.508″	37.5 1.476″	14.0 0.551″	41.3 1.626″	10.3 0.406″	240 9.450″	5.0 0.197″
TR9L	19.6 0.772″	48.2 1.898″	19.2 0.756″	52.0 2.047″	13.2 0.520″	270.0 10.630″	5.0 0.197″

Rogowski Coil for ACB, VCB, GIS

Drawing



Round Type



Track Type

Dimension

Wire lead type (unit : mm/inch)

Model No	Current Rating	A(min)	A'(min)	B(max)	B'(max)	C(max)	D(max)	E(max)	F(± 7)	G(± 1)	Reference
TR1L	630A										Round type 0.18Φ 7strands
TR2L	1000A	53.0 2.086″	28.3 1.114″	75.0 2.953″	48.9 1.925″	12.5 0.492″	76.5 3.012″	31.5 1.240″	300 11.811″	5.0 0.197″	
TR3L	1250A										
TR4L	1600A										
TR5L	2000A										Track type 0.18Φ 7strands
TR6L	2500A	98.0 3.858″	31.4 1.236″	119 4.685″	54.4 2.142″	11.0 0.433″	76.0 2.992″	31.5 1.240″	300 11.811″	5.0 0.197″	
TR7L	3200A										
TR8L	4000A										

Rogowski Coil

Electrical Characteristics

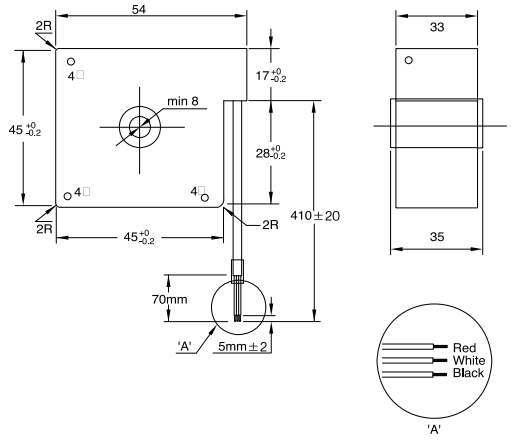
(unit : mm/inch)

Model No	Frequency	Current Rating(A)	Primary Current (Io)	Load Resistance(Ω)	Output Voltage (mV)
TR1L	50/60Hz	630A	63A	6.43KΩ	16.72~17.22mV
TR2L		1000A	100A		
TR3L		1250A	125A		
TR4L		1600A	160A		
TR5L		2000A	200A		
TR6L		2500A	250A		
TR7L		3200A	320A		
TR8L		4000A	400A		
High-Potential Voltage		AC 2.5KV per min			

Rogowski Coil for welding machine

Application : Robotic welding machine

Drawing



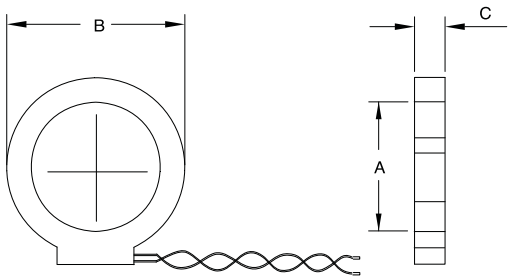
Specification

Rated Current(A)	1000A
Frequency(Hz)	50/60Hz
Output Voltage	2.55V+0, -20%
Hi-Potential Voltage	AC 2KV/min
Insulation	100MΩ per min

Upon the secondary resistance 10KΩ or equivalent for enough secondary voltage, the varistor can be used at the adjustment ±5%

Rogowski Coil for GIS

Drawing



Dimension

(unit : mm/inch)

A(ID)	B(OD)	C(H)
335	375	17
13.189″	14.764″	0.669″

Electrical Specification

Rated Current	4000A or more
Measuring conditions	Io=400A, 60Hz
	R=6.43KΩ
	V=169.7mV
Hi-Potential Voltage	AC2KV per min

Current Transformer with Cradle Fixture (Model TG4VB)

Specification

Primary Current At 60Hz	Load Resistance(Rb)	Output Voltage	Max Current At 1Ω	Winding(DC) Resistance
5mA	475Ω	1.9mV ~2.3mV	12A 0.010V	48.5Ω~54.5Ω

Three Phase Differential Transformer For Leakage Detection (Model TG77V)

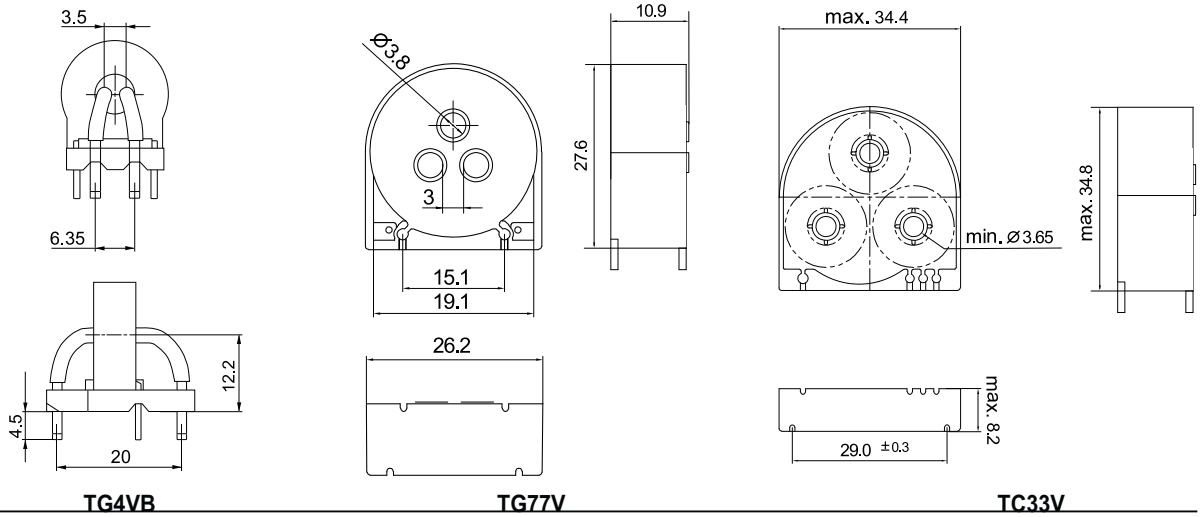
Specification

Primary Current At 60Hz	Load Resistance(Rb)	Output Voltage	Max Current At 1Ω	Winding(DC) Resistance
5mA	475Ω	1.9mV ~2.3mV	16A 0.014V	31Ω~39Ω

Three Phase Current Transformer for protection Relay (Model TC33V)

Primary Current At 60Hz	Load Resistance(Rb)	Output Voltage	Max Current At 1Ω	Winding(DC) Resistance
400mA	2KΩ	RMS ≥ 0.40V	50A 0.98V	58Ω~66Ω

Dimension & Drawing



High Precision Current Transformer

Application

- Accuracy power monitoring
- High-end digital protection relay
- Power transducer
- High-end UPS periphery relay
- High-end industrial power sensor
- Inverter controlling
- Precision motor protection relay

Features

- High precision & Stability
- High saturation induction
- Excellent linearity
- Excellent thermal properties
- High potential voltage of 2.5KV-4.0KV/min
- RoHS compliant

Standard Accuracy : 3.0 Class

Model & Specification

(f=50Hz, Rb=1Ω, PF=1.0, unit : percent / minute)

Model No	Current Ratio	DCR ±6%	Im Rb=1Ω	Im Rb=20Ω	Im Rb=500Ω	Rnv Rb=0, 1-20A	Pnv Rb=0, 1-20A	Phase Shift at 1V
TC1V TC1L	1000 : 1	74Ω	76A	60A	9A	1.5%	190′	106′
TC148V TC148L	2000 : 1	98Ω	225A	190A	38A	0.7%	75′	29′
TC149V TC149L	1500 : 1	46Ω	370A	260A	31A	1.0%	50′	24′
TC150V TC150L	2000 : 1	40Ω	870A	590A	69A	2.0%	85′	39′

Definition of Terms

Im : Max rated current Rnv : Nominal variation of ratio error at the mentioned primary current range Pnv : Nominal variation of phase error at the mentioned primary current range Rb : Burden resistance PF : Power factor DCR : DC Resistance of secondary winding

Remark : The data of maximum current, ratio and phase error on 60Hz testing would be around 20% better than those of above 50Hz

Model & Specification

(f=50Hz, Rb=1Ω, PF=1.0, unit : percent / minute)

Model No	Current Ratio	DCR ±6%	Im Rb=1Ω	Im Rb=20Ω	Im Rb=500Ω	Rnv 1-20A, Rb=0	Pnv 1-20A, Rb=0	Phase Shift at 1V
TC140V/L	1000 : 1	34Ω	125A	82A	8A	1.2%	70′	88′
TC141V/L	1000 : 1	29Ω	250A	156A	14A	0.7%	60′	65′
TC142V/L	1000 : 1	19Ω	460A	230A	17A	2.2%	90′	34′
TC143V/L	4000 : 1	154Ω	940A	840A	210A	1.5%	86′	13′

(f=50Hz, Rb=1Ω, PF=1.0, unit : percent / minute)

Model No	Current Ratio	DCR ±6%	Im Rb=1Ω	Im Rb=20Ω	Im Rb=500Ω	Rnv 1-20A, Rb=0	Pnv 1-20A Rb=0	Phase Shift at 1V
TC172V/L	2500 : 1	129Ω	210A	170A	45A	1.0%	55′	62′
TC173V/L	2500 : 1	187Ω	260A	240A	70A	1.2%	62′	28′
TC174V/L	2500 : 1	51Ω	〉1000A	790A	100A	1.3%	100′	13′
TC175V/L	2000 : 1	26Ω	〉1000A	790A	67A	1.4%	95′	11′

Definition of Terms

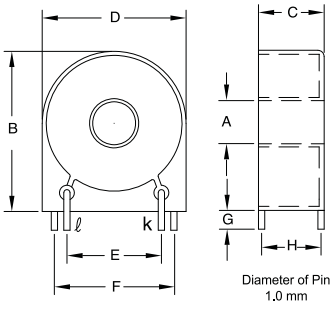
Im : Max rated current Rnv : Nominal variation of ratio error at the mentioned primary current range Pnv : Nominal variation of phase error at the mentioned primary current range Rb : Burden resistance PF : Power factor DCR : DC Resistance of secondary winding

Remark : The data of maximum current, ratio and phase error on 60Hz testing would be around 20% better than those of above 50Hz

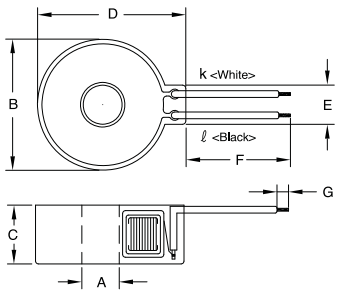
(f=50Hz, Rb=1Ω, PF=1.0, unit : percent / minute)

Model No	Current Ratio	DCR(±6%)	Tolerance	Imax		
				Rb=1Ω	Rb=20Ω	Rb=500Ω
TC1PV	1000 : 1	62Ω	±3%	54A	42A	5A
TC2V/L	1000 : 1	41Ω		60A	44A	5A
TC3L	1000 : 1	33Ω		142A	95A	9A
TC4V/L	1000 : 1	19Ω		460A	230A	17A
TC5V/L	1000 : 1	12Ω		660A	260A	16A

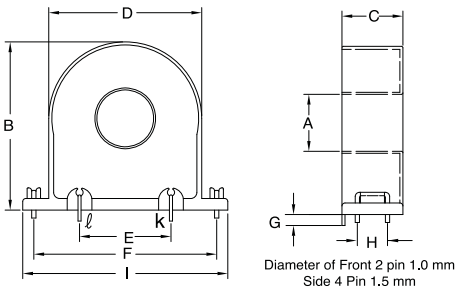
Drawing



PCB Mountable Type



Wire Lead Type



TC175V & TC5V

High Precision Current Transformer

Dimension

PCB Mountable type (unit : mm/inch)

Model No	A(min)	B(max)	C(max)	D(max)	E(±0.3)	F(±0.3)	G(±0.5)	H(±0.3)	I(max)
TC1PV	5.7 0.224"	19.5 0.768"	8.6 0.339"	19.2 0.756"	12.7 0.500"	16.0 0.630"	3.0 0.118"	7.5 0.295"	
TC1V TC140V TC148V TC172V	6.8 0.268″	25.0 0.984″	11.0 0.433″	23.5 0.925″	15.1 0.594″	19.1 0.752″	3.0 0.118″	9.1 0.358″	
TC2V TC141V TC149V TC173V	8.9 0.350″	27.5 1.083″	17.0 0.670″	25.3 0.996″	15.1 0.594″	19.1 0.752″	3.0 0.118″	15.1 0.594″	
TC4V TC142V TC143V TC150V TC174V	12.9 0.508″	39.3 1.547″	14.0 0.551″	38.0 1.496″	25.2 0.992″	32.8 1.291″	3.0 0.118″	12.1 0.476″	
TC5V TC175V	18.4 0.744″	55.5 2.185″	20.3 0.799″	50.5 1.988″	30.0 1.181″	60.0 2.362″	4.0 0.157″	10.0 0.394″	67.6 2.661″

Wire lead type (unit : mm/inch)

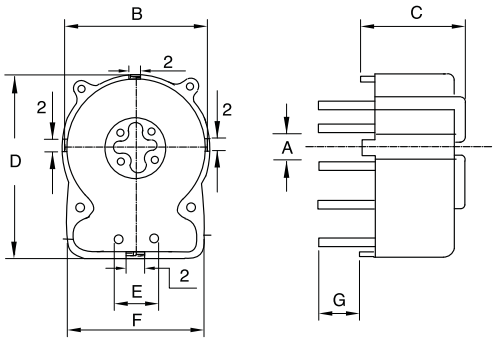
Model No	A(min)	B(max)	C(max)	D(max)	E(max)	F(±3.0)	G(±1.0)
TC1L	8.9 0.350″	22.0 0.866″	9.0 0.354″	25.0 0.984″	7.0 0.276″	73.0 2.874″	3.0 0.118″
TC2L	9.9 0.390″	24.0 0.945″	9.0 0.354″	27.0 1.063″	6.0 0.236″	120.0 4.724″	5.0 0.197″
TC3L	15.6 0.614″	30.25 1.191″	9.1 0.358″	33.8 1.331″	6.3 0.248″	122.0 4.803″	5.0 0.197″
TC172L	6.9 0.272″	23.6 0.930″	11.0 0.433″	26.8 1.055″	7.1 0.280″	71.0 2.795″	3.0 0.118″
TC140L TC148L	6.9 0.272″	23.6 0.930″	11.0 0.433″	26.8 1.055″	7.1 0.280″	81.0 3.189″	3.0 0.118″
TC141L TC149L	8.9 0.350″	24.8 0.976″	17.0 0.669″	28.4 1.118″	7.6 0.299″	73.0 2.874″	3.0 0.118″
TC173L	8.9 0.350″	24.8 0.976″	17.0 0.669″	28.4 1.118″	7.6 0.299″	65.0 2.559″	3.0 0.118″
TC150L	12.9 0.508″	37.5 1.476″	14.0 0.551″	41.3 1.626″	10.3 0.406″	77.0 3.031″	3.0 0.118″
TC4L TC142L TC143L TC174L	12.9 0.508″	37.5 1.476″	14.0 0.551″	41.3 1.626″	10.3 0.406″	68.0 2.677″	3.0 0.118″
TC175L	19.6 0.772″	48.2 1.898″	19.2 0.756″	52.0 2.047″	13.2 0.520″	110.0 4.331″	5.0 0.197″
TC5L	19.6 0.772″	48.2 1.898″	19.2 0.756″	52.0 2.047″	13.2 0.520″	130.0 5.118″	5.0 0.197″

Specialty Transformer for Bidet & Leakage Protection

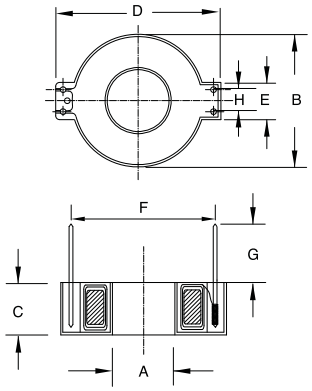
Application & Feature

- Instantaneous water heater
- Bidet (Monitoring & Leakage protection)
- Refrigerator

Drawing



TZ1PH



TC153H

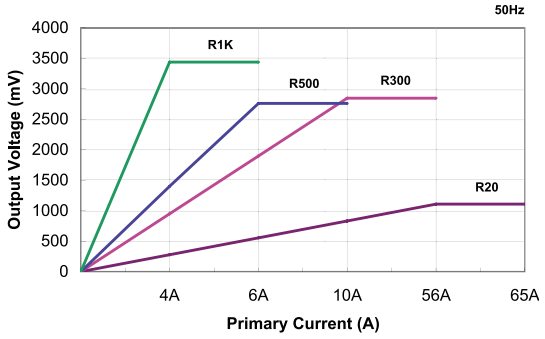
Dimension

Horizontal type

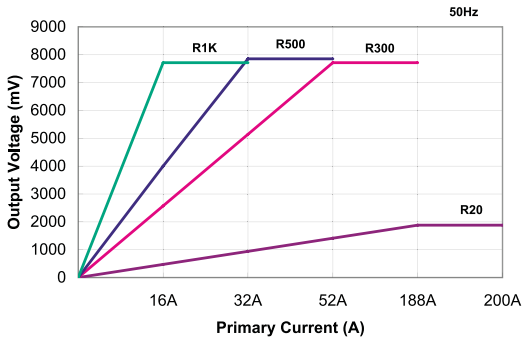
(unit : mm/inch)

Model No	A(min)	B(max)	C(max)	D(max)	E	F	G	H	Rdc
TZ1PH	5.0 0.197″	19.0 0.748″	11.0 0.433″	21.5 0.846″	5.0 0.197″	18.5 0.728″	4.2 0.165″		22.5– 28.5Ω
TC153H	10.5 0.413″	23.5 0.925″	10.0 0.394″	29.7 1.170″	7.1 0.280″	25.0 0.984″	5.5 0.217″	3.0 0.118″	22.5– 27.5Ω

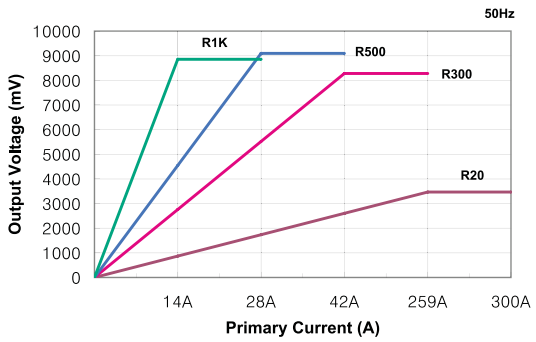
Secondary Burden & Output Voltage Graph



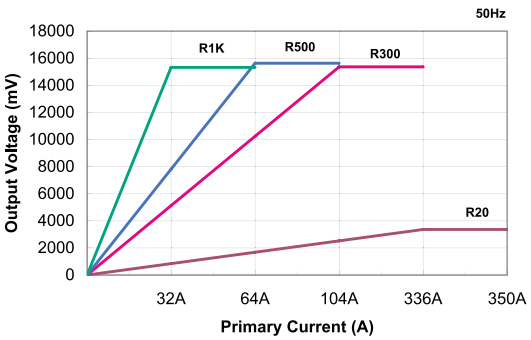
TC1V/L



TC148V/L

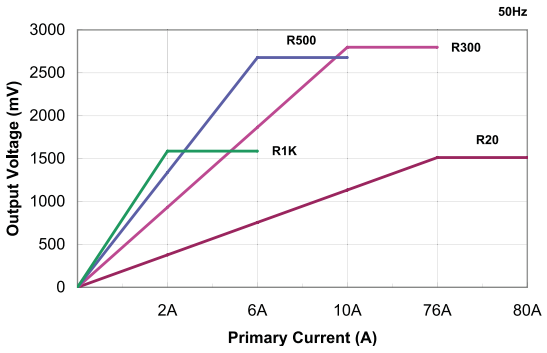


TC149V/L

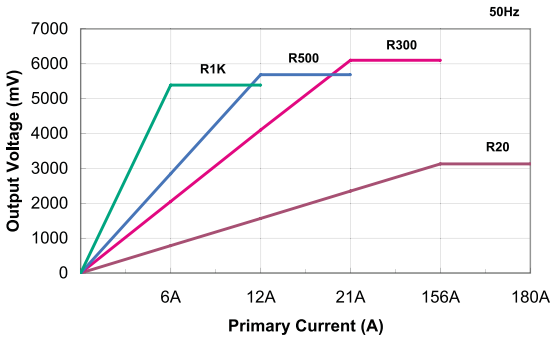


TC150V/L

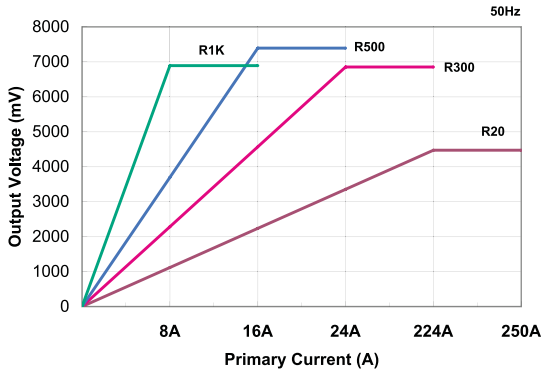
High Precision Current Transformer



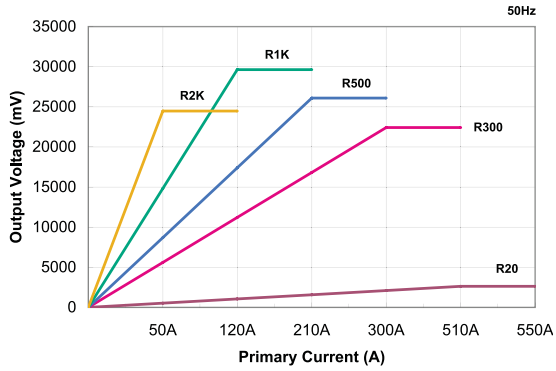
TC140V/L



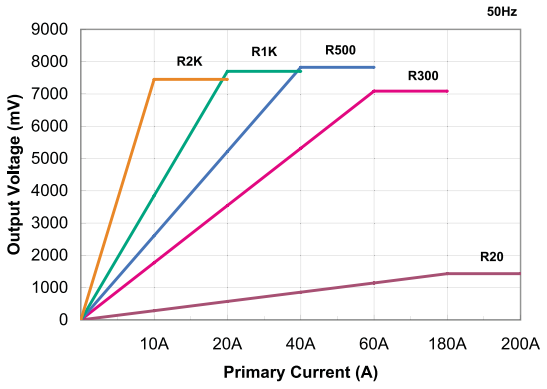
TC141V/L



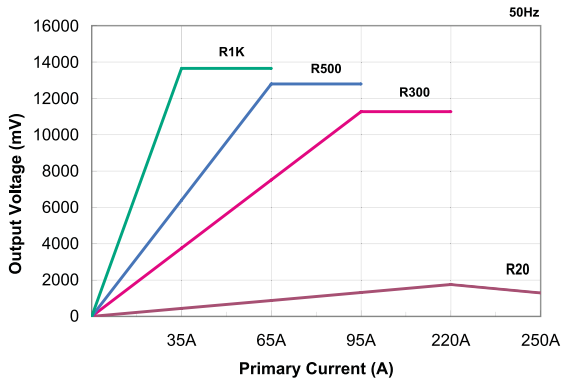
TC142V/L



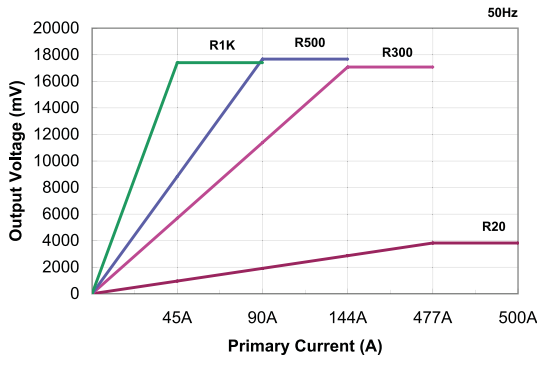
TC143V/L



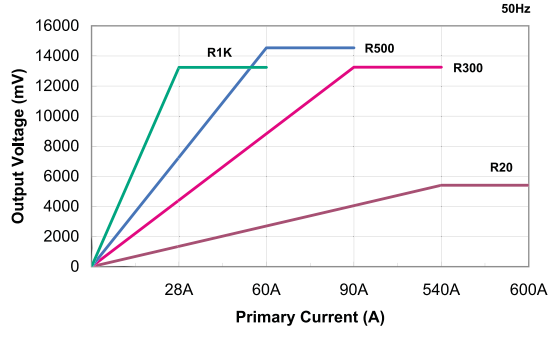
TC172V/L



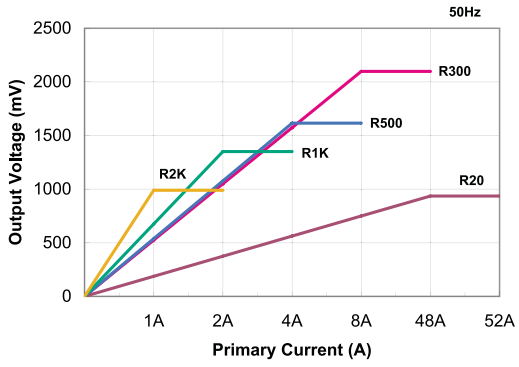
TC173V/L



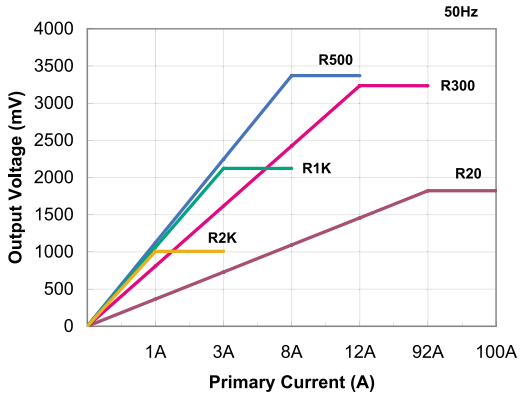
TC174V/L



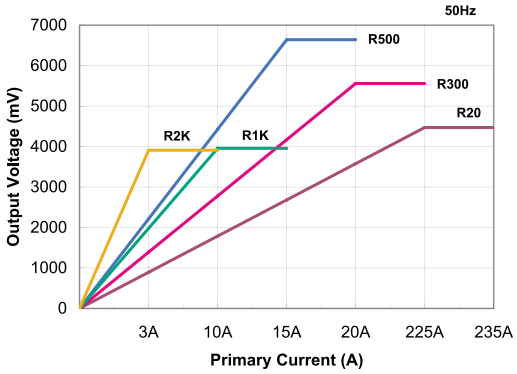
TC175V/L



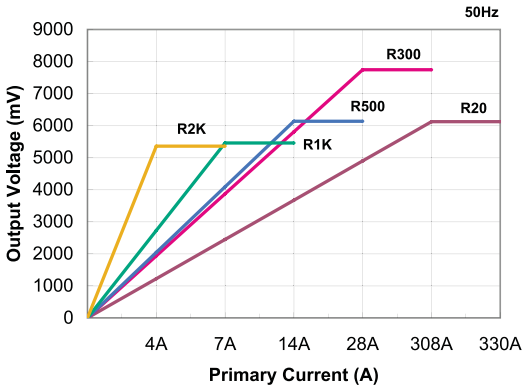
TC2V/L



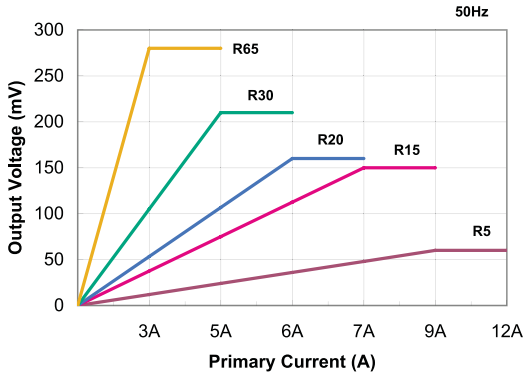
TC3L



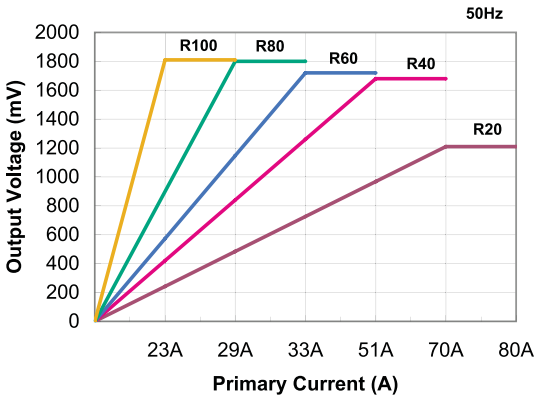
TC4V/L



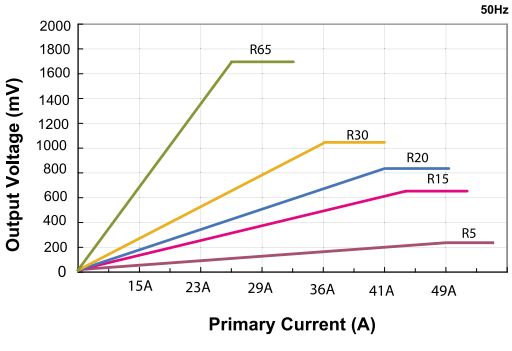
TC5V/L



TZ1PH



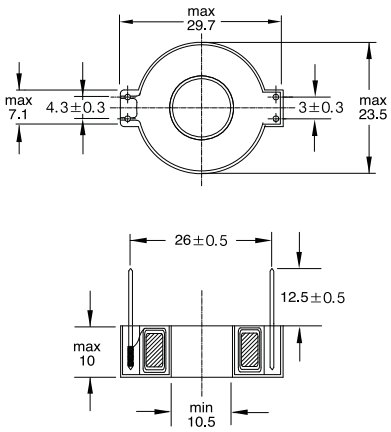
TC153H

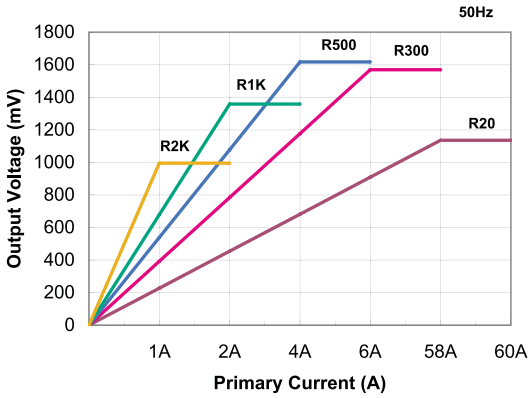


TC1PV

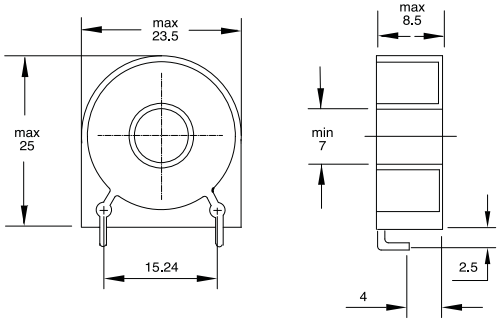
Other Current Sensor

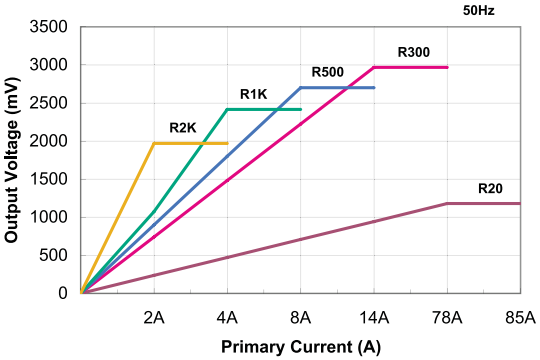
TC152H



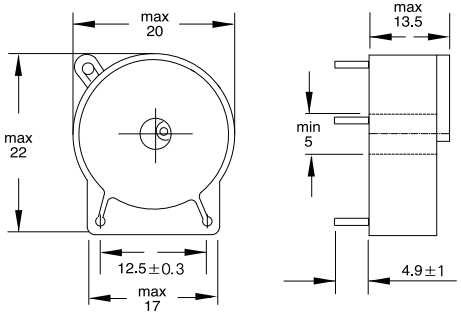


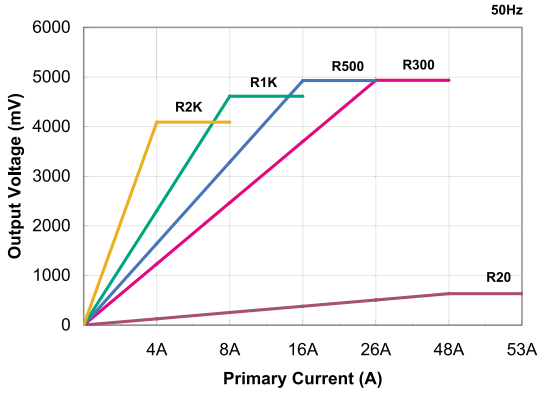
TC164H



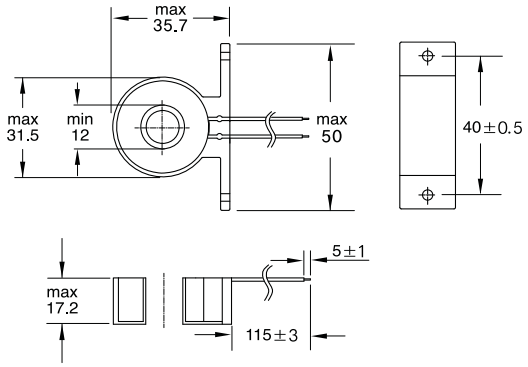


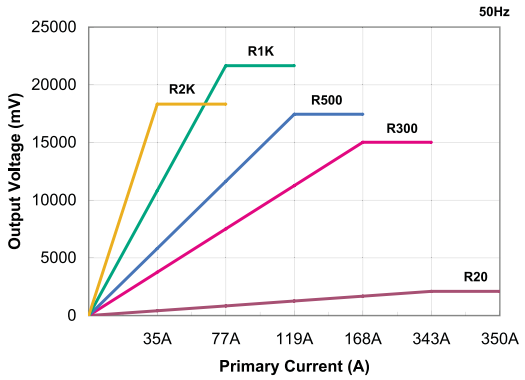
TC151H



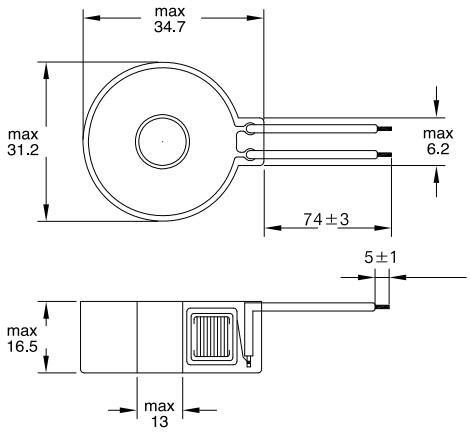


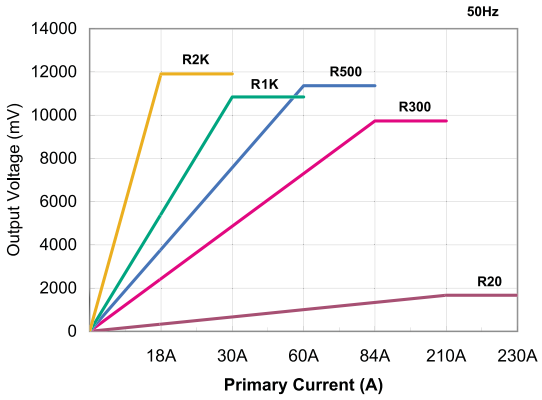
TC109L



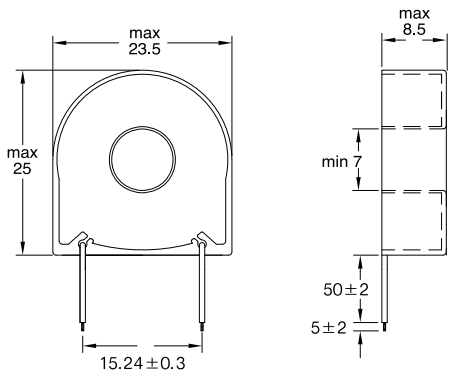


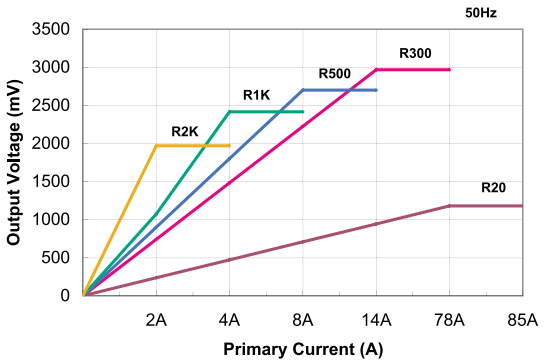
TC112L





TC164L



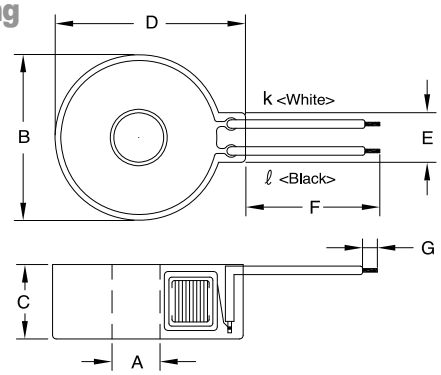


Zero Phase Current Transformer

Application

- Residual current circuit breaker
- Earth leakage circuit breaker
- Application leakage circuit interrupter
- Ground fault interrupter

Drawing



Features

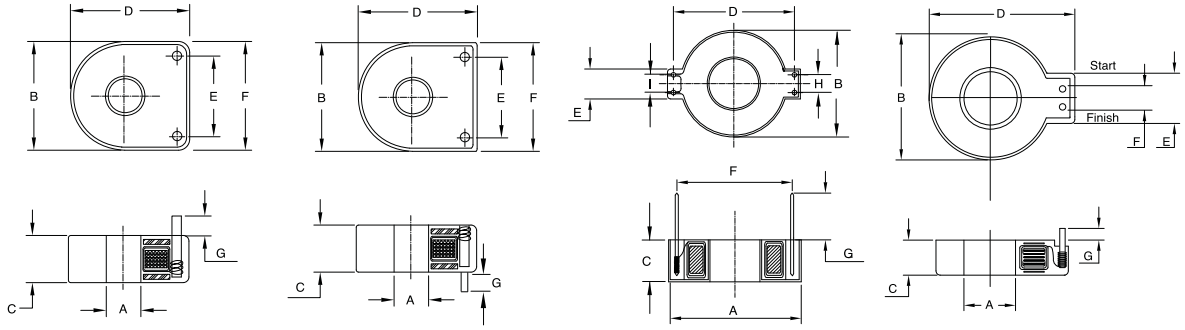
- Minimum output voltage tolerance
- Close to zero load shift & excellent thermal properties
- A variety of configuration
- RoHS compliant

Dimension & Current Rating

Wire lead type (unit : mm/inch)

Model No	A(min)	B(max)	C(max)	D(max)	E(±0.3)	F(±0.3)	G(±0.5)	Current rating
TZ1L	5.9 0.232″	17.4 0.685″	8.0 0.315″	20.5 0.807″	5.5 0.217″	73.0 2.874″	3.0 0.118″	15A 30A
TZP9L	6.0 0.236″	14.0 0.551″	9.0 0.354″	17.5 0.689″	5.7 0.224″	40.0 1.575″	3.0 0.118″	20A 30A
TZ53L10	6.9 0.272″	17.1 0.673″	6.7 0.264″	19.1 0.752″	5.2 0.205″	50.0 1.969″	3.0 0.118″	15A 30A
TZ1PL	7.3 0.287″	19.1 0.752″	8.1 0.319″	22.0 0.866″	7.0 0.276″	73.0 2.874″	3.0 0.118″	15A 30A
TZ2L9	8.9 0.350″	22.0 0.866″	8.2 0.323″	25.0 0.984″	7.0 0.276″	120± 5.0 4.724″	4.0± 0.5 0.157″	30A 50A
TZ3L	9.9 0.390″	24.0 0.945″	9.0 0.354″	27.0 1.063″	6.0 0.236″	73.0 2.874″	3.0 0.118″	50A 75A
TZ3PL	12.5 0.492″	26.2 1.031″	9.0 0.354″	29.0 1.142″	6.45 0.254″	120± 5.0 4.724″	4± 0.5 0.157″	50A
TZ4L	15.6 0.614″	30.3 1.193″	9.0 0.354″	33.2 1.307″	6.3 0.248″	73.0 2.874″	3.0 0.118″	100A
TZ5L	19.4 0.764″	40.5 1.594″	10.0 0.394″	43.5 1.713″	12.1 0.476″	87.0 3.425″	6.0 0.236″	100A 150A
TZ9L1	26.0 1.024″	49.5 1.949″	15.1 0.594″	52.5 2.067″	8.8 0.346″	106.0 4.173″	6.0 0.236″	225A

Drawing



TZ1H　　TZ1H3　　TZ2H1　　TZ53H

Dimension & Current Rating

Horizontal Type　　(unit : mm/inch)

Model No	A(min)	B(max)	C(max)	D(max)	E	F(max)	G	H	Current Rating
TZ1H	5.7 0.224″	17.4 0.685″	8.0 0.315″	17.3 0.681″	11.2 0.441″	17.4 0.685″	6± 1.0 0.236″		15A 20A 30A
TZ1H3	6.1 0.240″	17.1 0.673″	7.0 0.276″	18.2 0.717″	10.3 0.406″	17.1 0.673″	2.75 0.108″		
TZ2H1	10.5 0.413″	23.5 0.925″	10.0 0.394″	29.7 1.169″	7.1 0.280″	26.0 1.024″	12.5 0.492″	4.3 0.169″	
TZ53H	6.9 0.272″	17.1 0.673″	6.0 0.236″	19.1 0.752″	5.2 0.205″	3± 0.3 0.118″	6± 3.0 0.236″		

Electrical Properties

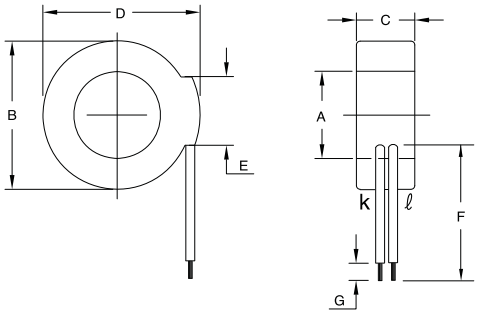
(Based on model TZ1L)

Output Voltage Properties	Vo=15mV min (at Io=25mA, R=1KΩ, f=60Hz)
Remanence Magnetism	T=10% Max (at IDC=50AT)
Thermal Properties	tv = Max 10% (at −10℃ ~ + 65℃)
Hair-Pin Properties	V″ = 6mV max (at IL=30A)
Pulse Width Properties	Tp= 2.5m sec min (at Vo = 15mV level)

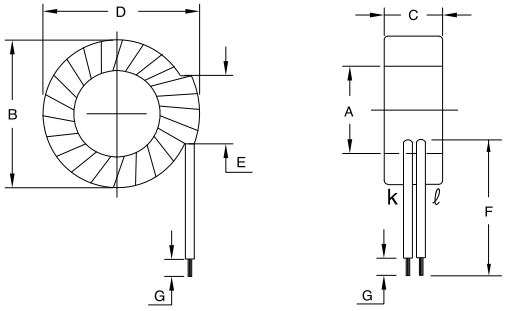
1) Output voltage properties : Being measured after demagnetized
2) Remanence magnetism : Variation of the output voltage between the virgin CT's and the saturated CT's
3) Thermal properties : Variation of the output voltage from -10℃ to +65℃ at the ambient temperature
4) Hair-pin properties : At the balanced current equivalent to 6 times of the rated current along around 360 degree, V″ is the maximum output voltage.
5) Pulse width properties : the wave width at Vo=10mV

Zero Phase Current Transformer

Drawing



TZ6T, TZ8T



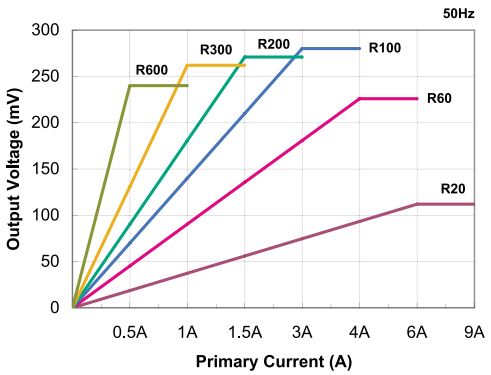
TZ11T, TZ42T

Dimension & Current Rating

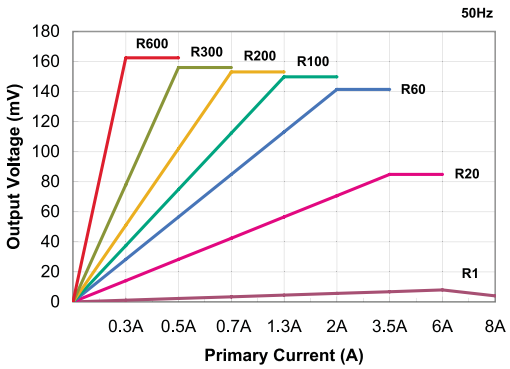
Wire lead type (unit : mm/inch)

Model No	A(min)	B(max)	C(max)	D(max)	E	F(±3.0)	G(±1.0)	Current Rating
TZ6T	22.5 0.886″	40.3 1.587″	12.7 0.500″	43.5 1.713″	17±1.0 0.669″	70.0 2.756″	6.0 0.236″	150A
TZ8T	33.0 1.299″	57.4 2.260″	18.2 0.717″	57.8 2.276″	19±1.0 0.748″	80.0 3.150″	6.0 0.236″	225A
TZ11T	72.0 2.835″	102.0 4.016″	15.0 0.591″	105.5 4.154″	22±2.0 0.866″	150.0 5.906″	3.0 0.118″	800A– 1200A
TZ42T	48.5 1.909″	75.4 2.969″	15.0 0.591″	77.0 3.031″	22±2.0 0.866″	103.0 4.055″	6.0 0.236″	400A

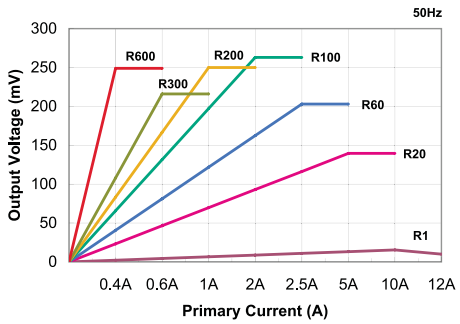
Secondary Burden & Output Voltage Graph



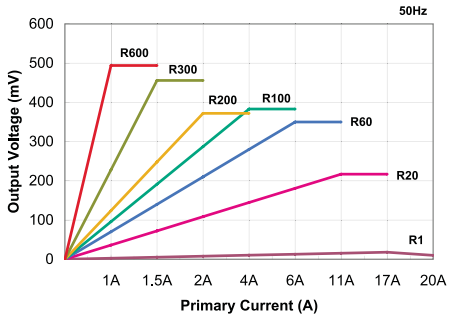
TZ1L



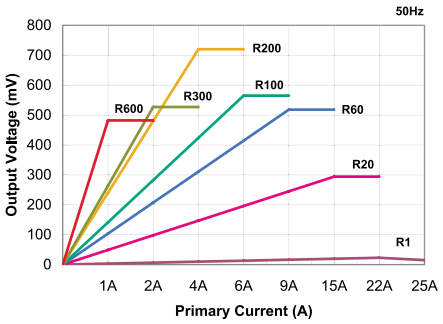
TZ53H/L10



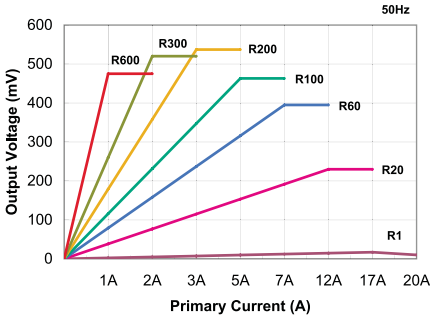
TZ1PL



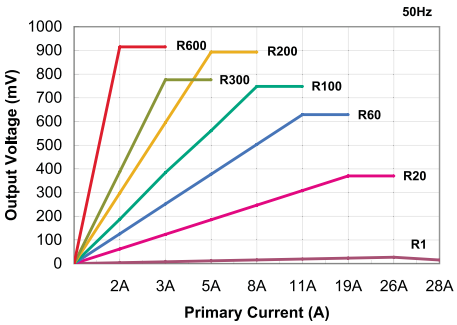
TZ2L9



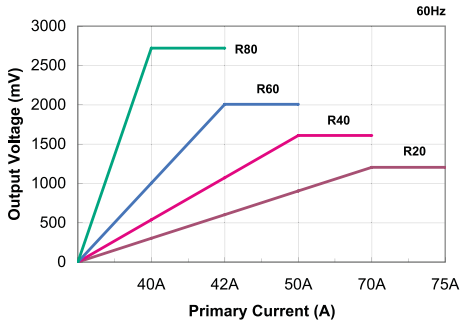
TZ3L



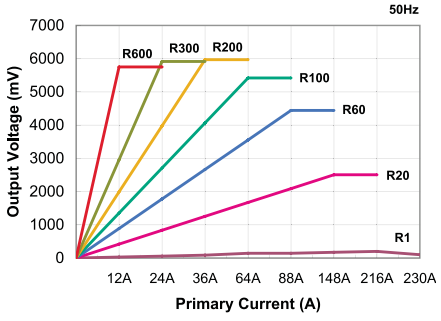
TZ3PL



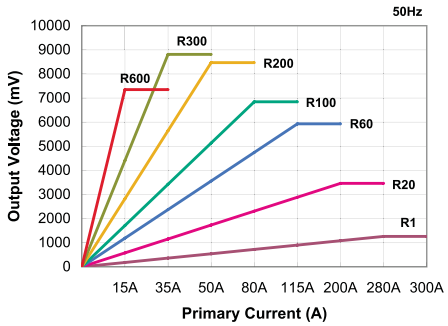
TZ4L



TZ6T



TZ8T



TZ42T

Ground Fault Current Transformer

Application

- GFCI outlet receptacle (Wall socket)
- AFCI outlet receptacle (Wall socket)
- ALCI power cord
- Differential (mA) current sensor
- Ground neutral sensor

Features

- Close to zero load shift
- Excellent balance properties
- Precision output voltage
- Superior hair-pin performance
- Minimal thermal variance
- RoHS compliant

Differential Current Sensor

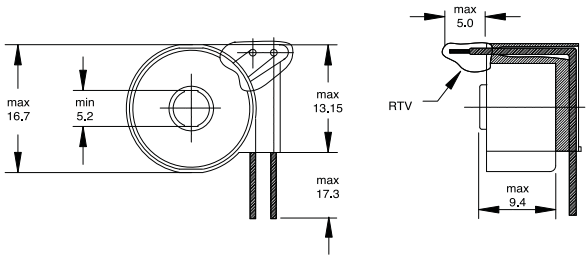
To sense the minimal differential current detected by the ground fault which could be caused by the difference between the line current and the grounded neutral current

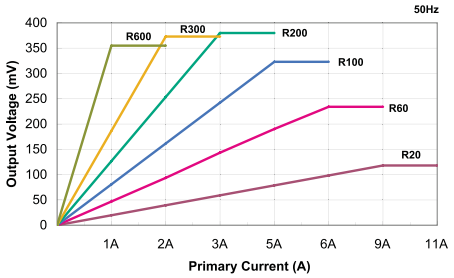
Ground Neutral sensor

To sense the unexpected high level of current magnitude change or overload current occurred from the arc by the fire or the short circuit.

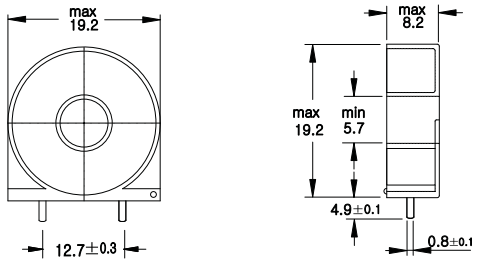
Differential Current Sensor Series

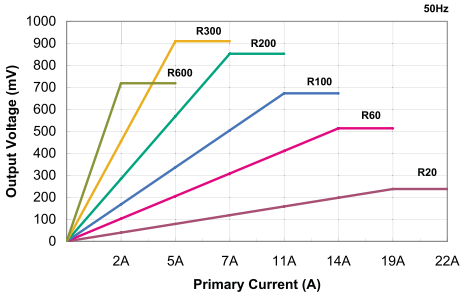
TZ47V



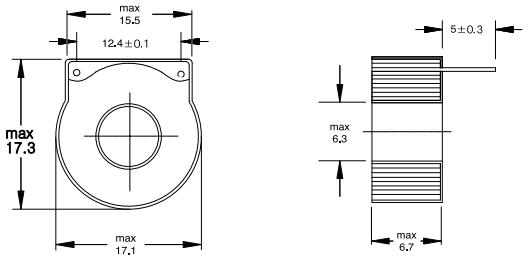


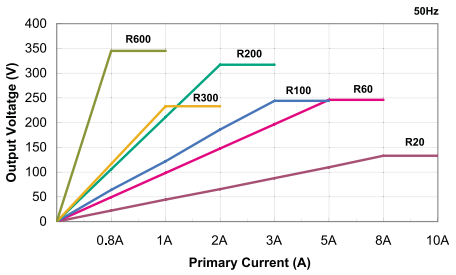
TZ68V1



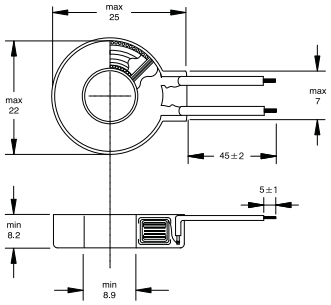


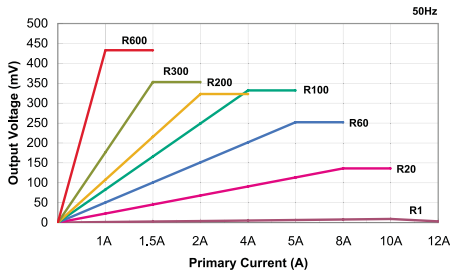
TG115H



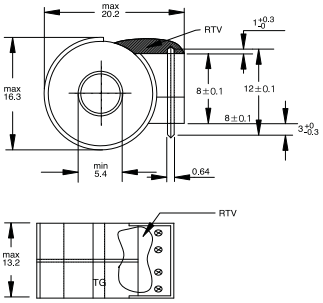


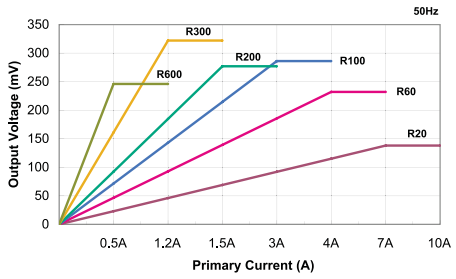
TG115L





TG111V

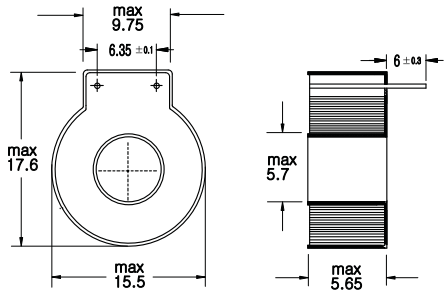




Ground Fault Current Transformer

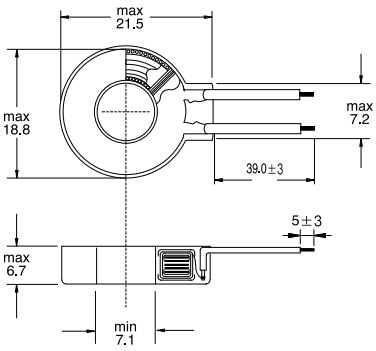
Grounded Neutral Sensor Series

TF115H



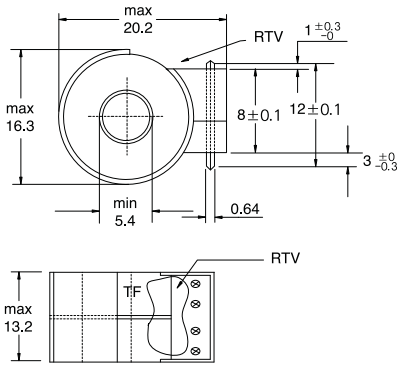
Electrical Characteristics
Input : 1KHz
Resistance : 14-16Ω
Inductance : 170-310mH

TF115L



Electrical Characteristics
Input : 1KHz
Resistance : 14.5-17.5Ω
Inductance : 270-390mH

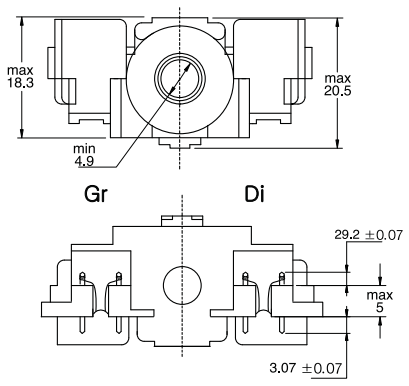
TF111V



Electrical Characteristics
Input : 1KHz
Resistance : 14-19Ω
Inductance : 260-310mH

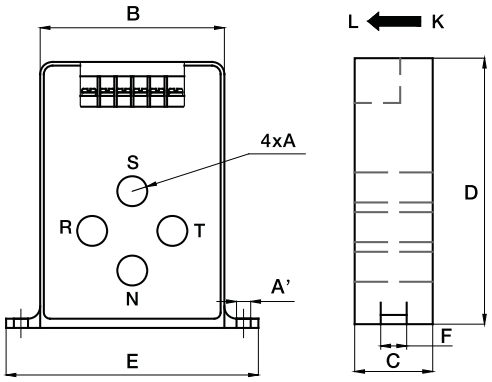
Differential / Grounded Neutral Sensor

TU108V



Electrical Characteristics
Differential
Input : 60Hz 5mA
Burden : 7.2KΩ
Output : 11.9-13.3mV
Grd/Neutral
Input : 102v/33KΩ
Burden : -
Output : 1.4ms min Vp 27mV min

Drawing



Three Phase Metering & ZCT

Dimension

(unit : mm/inch)

A(min)	A'(min)	B(max)	C(max)	D(max)	E(max)	F(max)
13.0 0.512″	6.0 0.236″	83.4 3.283″	33.7 1.327″	120.4 4.740″	107.7 4.240″	12.6 0.496″

1. Three Phase Metering with Ground Fault Detection

Application

- R,S,T 3 Phase Metering Class 2.0
  (Embedded Earth Leakage Detection : Option)

Electrical Properties

(f =50Hz, Rb =1Ω, PF = 1.0, unit : percent / minute)

Model No	Rated Current	Rated Burden	Ip : 0.25A		Ip : 5A		Max Current
			Phase Error	Ratio Error	Phase Error	Ratio Error	
TCT20L	5A	175Ω	20	−0.25%	10'	−0.12%	80A
	20A	43.75Ω	10'	−0.10%	5'	−0.10%	120A

2. Three Phase Protection Relay With Ground Fault Detection

Application

- R.S.T 3 Phase Protection Relay Class 3.0
  (Embedded Earth Leakage Detection : Option)

Electrical Properties

(f =50Hz, Rb =1Ω, PF = 1.0, unit : percent / minute)

Model No	Rated Current	Rated Burden	Ip : 0.05 In		Ip : Rated Current(In)		Max Current
			Phase Error	Ratio Error	Phase Error	Ratio Error	
TCT20L	5A	2.5KΩ	90'	−0.30%	20'	−0.60%	11A
	20A	626Ω	30'	−0.10%	16'	−0.20%	36A

Common Mode Choke Coil

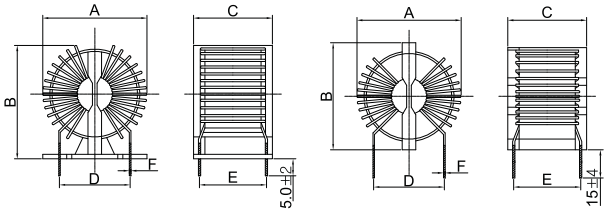
Application

- Common Mode Choke Coil
- Low Frequency AC Reactor
- Solar Power System
  (Power Conditioning System)
- Wind Power System
- Automatic Drive Machine
- Induction Heater
- Welding Machine
- Paper Industries
- RFI Suppression Choke

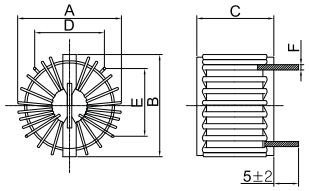
Features

- High Permeability
- Supreme Quality Nano Material
- Low Frequency Switching Noise Choke
- Compact Size (About 5 times) smaller than Ferrite
- Max Working Temp. : 130℃
- High Attenuation Level with small volume

Drawing



Drawing A **Drawing B**



Drawing C

Standard Specification

- Rated Voltage : 120V, 250V AC 50/60Hz / DC
- Ambient Temp. : -25℃ ~ 130℃ (Embedded)
- Hi-Potential Voltage : 2KV AC Per 1 min. (Coil to Coil)
- Insulation Resistance : At least 100㏁ /
  500V DC 1min (Coil to Coil)
- Out-Case : UL94V-0

Electrical Properties

(unit : mH)

Model No	Rated Current	Inductance(mH)		DCR	Coil	Dimension (mm)				
		10㎑	100㎑	mΩ	mm	A(max)	B(max)	C(max)	D	E
TCA5A	5A	15.0	2.0	35	1.0	35	36	27	18	16
TCA8A	8A	7.0	1.5	15	1.3	36	36	27	18	16
TCB8C	8A	28.0	0.6	25	1.3	50	47	30	20	10
TCA10A	10A	4.0	0.9	10	1.4	36	36	27	18	16
TCB10C	10A	21.0	0.4	19	1.4	51	47	29	20	40
TCC10C	10A	22.0	4.5	22	1.5	60	60	35	20	50
TCB15C	15A	6.5	1.0	7	1.9	53	47	30	20	40
TCC15C	15A	13.0	2.7	12	1.9	62	59	35	20	50
TCB20C	20A	3.5	0.8	5	2.0	52	47	30	20	40
TCC20C	20A	8.5	1.7	7	2.3	65	59	37	20	50
TCC25C	25A	3.5	0.9	4	2.5	65	61	38	20	50
TCC30C	30A	2.0	0.6	3	2.6	65	62	37	20	50

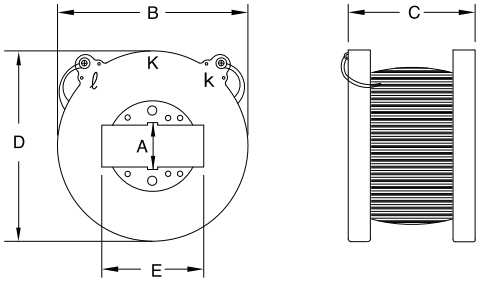
Other Current Transformer

Other Current Transformer

Application

- Track-type zero-phase CT
- ACB (Air circuit breaker)
- AVR (Automated voltage regulator)
- Over current protection relay
- Load limit hoist
- ASS (Automated section switch)
- RoHS compliant

Current Transformer For ACB



Drawing (For ACB CT)

Wire lead type

Model No	Current Rating	A(± 0.2)	B(± 0.5)	C(± 0.5)	D(± 0.5)	E(± 0.5)	Rdc(mΩ)
TC56L	80A/5A	21.6 0.850″	105.5 4.154″	52.0 2.047″	105.5 4.154″	56.0 2.205″	40–55
TC57L	160A/5A			52.0 2.047″			56–60
TC58L	320A/5A			53.5 2.106″			90–110
TC59L	630A/5A			52.5 2.067″			150–170
TC171L	800A/5A			53.5 2.106″			198–218
TC97L	1000A/5A			52.5 2.067″			140–160
TC60L	1250A/5A			51.5 2.028″			170–200
TC61L	1600A/5A			52.5 2.067″			220–250
TC62L	2000A/5A			52.5 2.067″			280–320
Hi-Potential Voltage		AC 5KV per min					

TAEHWATRANS

HEAD OFFICE & FACTORY
288-2, Misan-Dong, Siheung-Si,
Gyeonggi-Do, Korea, 429-822
TEL : 82-31-315-8161~4 FAX : 82-31-315-8165
http : //www.taehwatrans.com
E-mail : sales@taehwatrans.com

Taehwatrans America Inc
8700 Waukegan Road, ste114, Morton Grove, IL, 60053
TEL : 847-299-5182 FAX : 847-965-3336
http : //www.taehwatrans.com
E-mail : salesusa@taehwatrans.com

2011-9