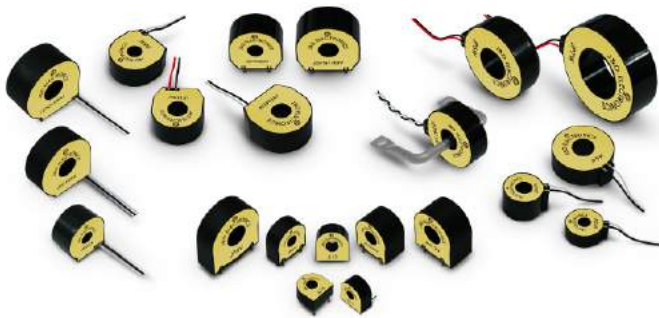


Current Transformer for Electronic Watt-Hour Meter



***High precision CT for meter 0.2/ 0.5/ 1.0 class**

JP/ JN series offer accurate measurement at low current level for industrial meter. They are complying with IEC 62053-22 or ANSI C12.20 of meter standard.

***DC tolerant (immune) CT for meter 0.5/ 1.0 class**

JDTN series are made of single core with DC immunity for Residential meter and conforms to 0.5PF grade. They are complying with IEC 62053-21 or ANSI C12.20 of meter standard.

***Shielded CT for Anti-tampering meter 0.5/ 1.0 class**

JDCT series are made of combined core with DC immunity and minimized influence from external magnetic field for Anti-external magnetic meter. It is recommended to use with shielding plates inside of meter case. They are complying with IEC 62053-21 or ANSI C12.20 of meter standard.

Applications

Electromechanical and Electronic Watt-Hour Meter

Industrial meter



Meter-class: 0.5 / 0.2 / 0.1
Standard: IEC 62053-22 or ANSI C12.xx
Indirect connected (CT connected)
I = 0 .. 5 A (10A)
Sensitivity: 2mA

Residential meter

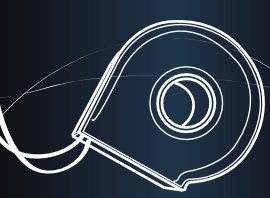


Meter-class: 1 .. 2
Standard: IEC 62053-21, -23 or ANSI C12.xx
Direct connected to the main
I = 0 .. 400 A
Sensitivity: 10mA

Specification

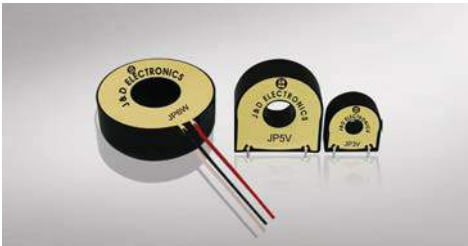
Watt-Hour Meter according to IEC 62053-21, -22, -23	
class 0.1 and better	High precision meter for power plant and distribution (indirect connected) specific requirements
class 0.2...0.5	Meter for industrial application (direct/indirect connected) IEC 62053-22
class 1.0 and 2.0	Meter for residential and workshop application (direct connected) IEC 62053-21 and -23

Watt-Hour Meter according to ANSI C12.xx	
class 0.1 and better	High precision meter for power plant and distribution (indirect connected)
class 0.2...0.5	Meter for industrial application (indirect connected)
class 1.0 and 2.0	Meter for residential and industrial application (direct connected)



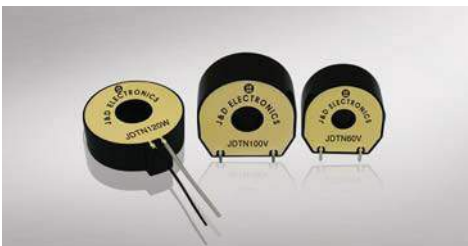
Outline

JP & JN series



The JP & JN Series are high precision CT complied with Electronic Watt-Hour Meter (0.1 / 0.2 / 0.5 class) these are designed for power plant, distribution and industrial instruments. These have excellent properties of phase angle error and linearity error in the low current. The JP & JN Series are closer to zero on the temperature dependence. The JP & JN series for Electronic Watt-Hour Meter are complied with IEC 62053-22, ANSI C12.xx and EN 50470-3. We also design indirect connected CT (industrial meter) and direct connected CT to the main(residential meter).

JDTN series



The JDTN Series is designed to comply with IEC 62053-21, -23 & EN 50470-3 for regulation of Electronic Watt-Hour Meter. It has the current range from 20Adc to 120Adc and due to the low permeability, a phase angle error of typically 4° to 5° occurs which is easy to compensate on account of its high constancy of typically ± 0.05° by microprocessor.

Feature

JP & JN series

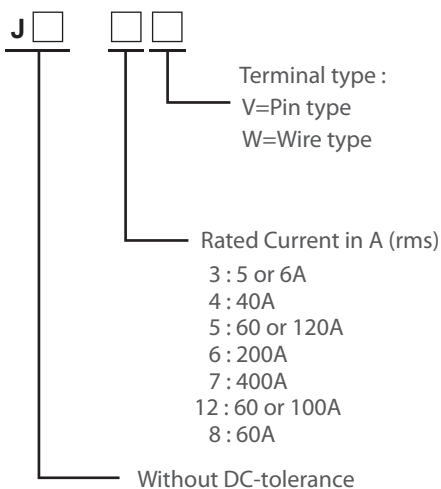
- Without DC-Tolerance
- 0.2/0.5 class meters in HVCT & MVCT for power station, sub-station and industrial complex
- Excellent coupling of primary and secondary current
- Minimal Phase Angle error
- High permeability
- UL, CSA, CE and RoHS available

JDT series

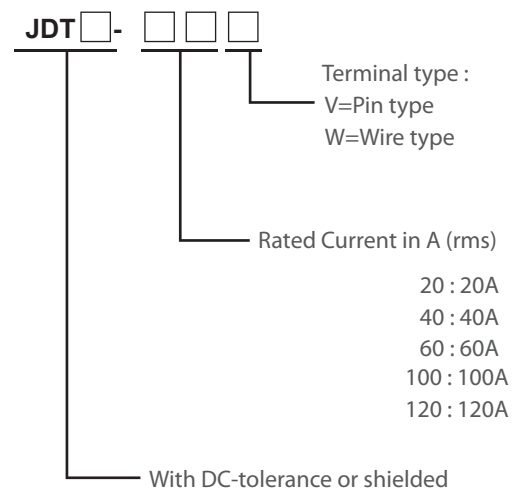
- With DC-Tolerance
- High linearity of hysteresis loop and DC-bias property
- Very low loss
- Customizing choice of primary current range : 5~400A (On request)
- Shield type: On request
- UL, CSA, CE and RoHS available

Reference of Model name

JP & JN series



JDT series





Specification without DC-Tolerance

JP Series for 0.1/0.2 Class Meter Grade

Model	Primary Current Range		Error	Turns Ratio	Characteristic Value				Terminal Structure	Dimension [mm]	
	I_{max} [Arms]	I_{peak} [AOp]	Phase $\phi(I)$ [°]		L [H]	Rcu [Ω]	RB [Ω]	UB [Vrms]		Inner Dia. ϕ	Drawing No.
JP3V	6	-	0.10	1:2500	250	138	10	0.024	Pin type	7	3-1
JP315V	6	-	0.12	1:1500	90	50	10	0.04	Pin type	7	3-1
JP32V	6	-	0.14	1:2000	160	110	10	0.03	Pin type	7	3-1
JP5V	120	-	0.10	1:2500	130	55	5	0.24	Pin type	13	3-4
JP51V	60	-	0.21	1:1000	22	20	5	0.3	Pin type	13	3-4
JP52V	100	-	0.11	1:2000	85	43	5	0.25	Pin type	13	3-4
JP3W	6	-	0.10	1:2500	250	138	10	0.024	Wire type	7	3-10
JP315W	6	-	0.12	1:1500	90	50	10	0.04	Wire type	7	3-10
JP32W	6	-	0.14	1:2000	160	110	10	0.03	Wire type	7	3-10
JP5W	120	-	0.10	1:2500	130	55	5	0.24	Wire type	13	3-12
JP51W	60	-	0.21	1:1000	22	20	5	0.3	Wire type	13	3-12
JP52W	100	-	0.11	1:2000	85	43	5	0.25	Wire type	13	3-12
JP6W	200	-	0.10	1:2500	120	38	5	0.4	Wire type	19.3	3-13
JP62W	200	-	0.11	1:2000	75	32	5	0.5	Wire type	19.3	3-13
JP7W	400	-	0.20	1:4000	300	170	5	0.4	Wire type	30	3-14

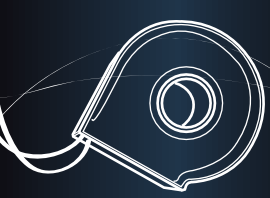
JN Series for 0.2/0.5 Class Meter Grade

Model	Primary Current Range		Error	Turns Ratio	Characteristic Value				Terminal Structure	Dimension [mm]	
	I_{max} [Arms]	I_{peak} [AOp]	Phase $\phi(I)$ [°]		L [H]	Rcu [Ω]	RB [Ω]	UB [Vrms]		Inner Dia. ϕ	Drawing No.
JN1V	6	-	0.29	1:1500	35	46	10	0.04	Pin type	5	3-5
JN2V	6	-	0.46	1:1600	60	143	10	0.037	Pin type	5.83	3-6
JN3V	6	-	0.17	1:2500	200	138	50	0.12	Pin type	7	3-1
JN315V	6	-	0.18	1:1500	70	50	20	0.08	Pin type	7	3-1
JN32V	6	-	0.24	1:2000	120	110	50	0.15	Pin type	7	3-1
JN4V	40	-	0.19	1:2500	230	200	25	0.4	Pin type	9	3-2
JN12V	60	-	0.12	1:2500	260	150	7.5	0.18	Pin type	12.2	3-3
JN8V	60	-	0.10	1:2000	250	92	10	0.3	Pin type	8	3-8
JN3W	6	-	0.17	1:2500	200	138	50	0.12	Wire type	7	3-10
JN315W	6	-	0.18	1:1500	70	50	20	0.08	Wire type	7	3-10
JN32W	6	-	0.24	1:2000	120	110	50	0.15	Wire type	7	3-10
JN4W	40	-	0.19	1:2500	230	200	25	0.4	Wire type	9	3-11
JN8W	60	-	0.10	1:2000	250	92	10	0.3	Wire type	8	3-16

Explanation with/without DC-Tolerance



I_{max}	maximum AC primary current with defined error
I_{peak}	max. half wave rectified AC amplitude without saturation (IEC 62053 -21, -23) $F(I_{peak}) < 3\%$
$\phi(I)$	max. phase error for $I < I_{max}$
$F(I)$	max. amplitude error for $I < I_{max}$
L	inductance at moderate excitation level ($I < I_{max}$)
Rcu	winding resistance
RB	burden resistor
UB	output voltage across burden resistor RB at I_{max}

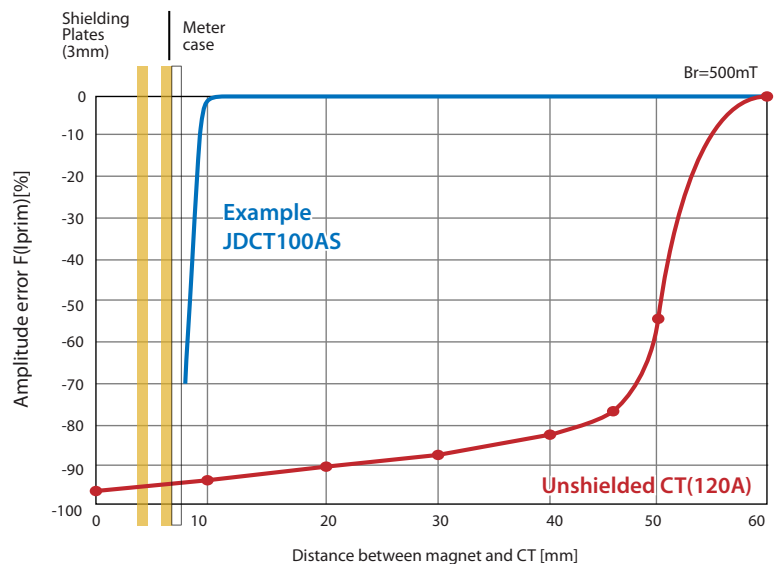


Specification with DC-Tolerance

New JDTN Series for 0.5/1.0 Class Meter Grade

Model	Primary Current Range		Error Phase $\phi(I)$ [°]	Turns Ratio	Characteristic Value				Terminal Structure	Dimension [mm]	
	I_{max} [Arms]	I_{peak} [AOp]			L [H]	Rcu [Ω]	RB [Ω]	UB [Vrms]		Inner Dia.Ø	Drawing No.
JD TN20V	20	20	4.00	1:2500	7.4	138	25	0.2	Pin type	7	3-1
JD TN40V	40	40	3.96	1:2500	4.48	93	5	0.08	Pin type	8	3-7
JD TN60V	60	80	4.94	1:2500	2.84	65	12.5	0.3	Pin type	8	3-8
JD TN100V	100	110	4.08	1:2500	3.1	62	7.5	0.3	Pin type	10.8	3-9
JD TN120V	120	120	3.83	1:2500	3.22	55	6.25	0.3	Pin type	13	3-4
JD TN20W	20	20	4.00	1:2500	7.4	138	25	0.2	Wire type	7	3-10
JD TN40W	40	40	3.96	1:2500	4.48	93	5	0.08	Wire type	8	3-15
JD TN60W	60	80	4.94	1:2500	2.84	65	12.5	0.3	Wire type	8	3-16
JD TN100W	100	110	4.08	1:2500	3.1	62	7.5	0.3	Wire type	10.8	3-17
JD TN120W	120	120	3.83	1:2500	3.22	55	6.25	0.3	Wire type	13	3-12

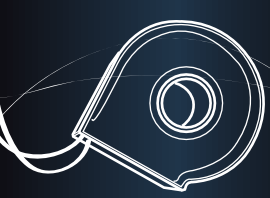
Shielded CT for 0.5 / 1.0 Class Meter Grade



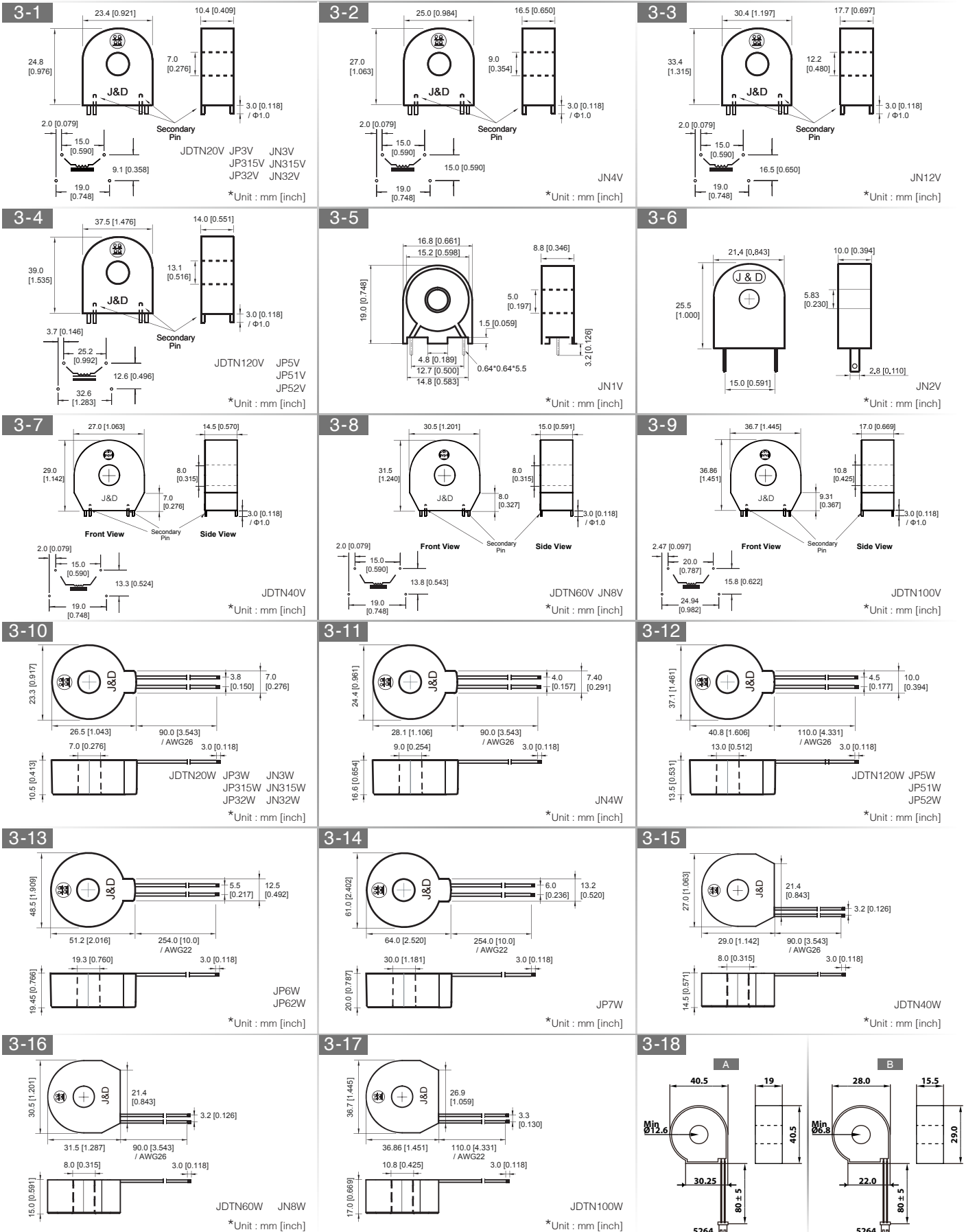
* iSAST CT, JDCT series are made of combined core with DC immunity and minimized influence from external magnetic field for Anti-external magnetic meter. It is recommended to use with shielding plates inside of meter case. They are complying with IEC 62053-21 or ANSI C12.20 of meter standard.

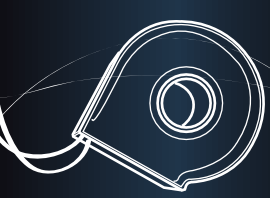
* iSAST CT, JD3AS Series minimize external magnetic effect as shielding in side of meter housing. So we recommend you to use shielding plate in side of meter housing together to make it better accuracy. It complies with metering standard IEC62053-22.

Model	Primary Current Range		Error Phase $\phi(I)$ [°]	Turns Ratio	Characteristic Value				Terminal Structure	Dimension [mm]	
	I_{max} [Arms]	I_{peak} [AOp]			L [H]	Rcu [Ω]	RB [Ω]	UB [Vrms]		Inner Dia.Ø	Drawing No.
JDCT100AS	100	100	0.12	1:2500	155	95	7.5	0.3	Wire type	12.5	3-18-A
JDCT120AS	120	120	0.12	1:2500	155	95	7.5	0.36	Wire type	12.5	3-18-A
JD3AS	6	-	0.21	1:2500	156	138	50	0.12	Wire type	6.8	3-18-B



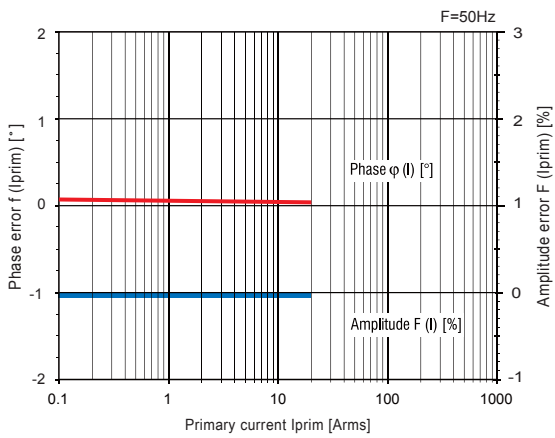
Dimensions with/without DC-Tolerance



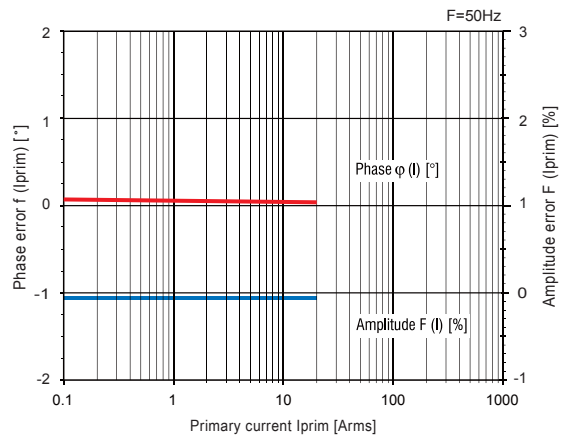


Graph

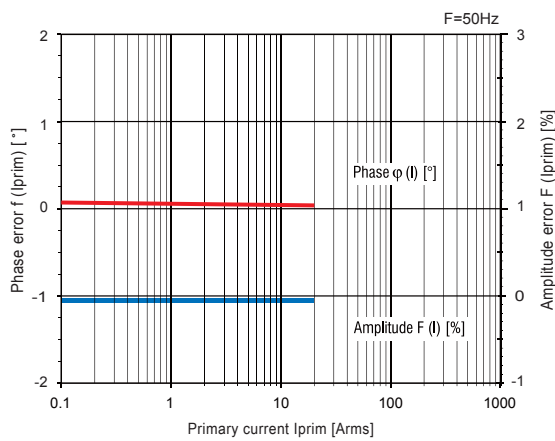
JP3V / JP3W



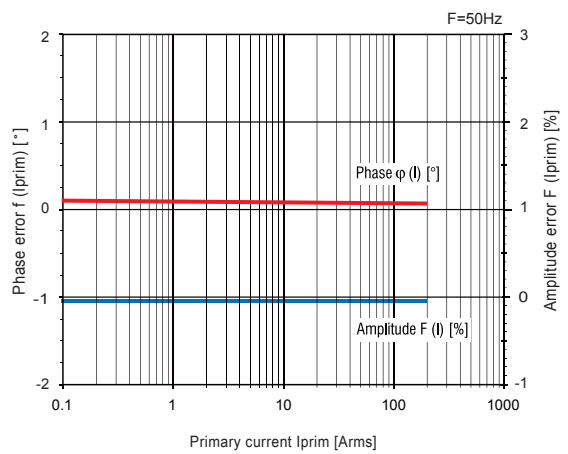
JP315V / JP315W



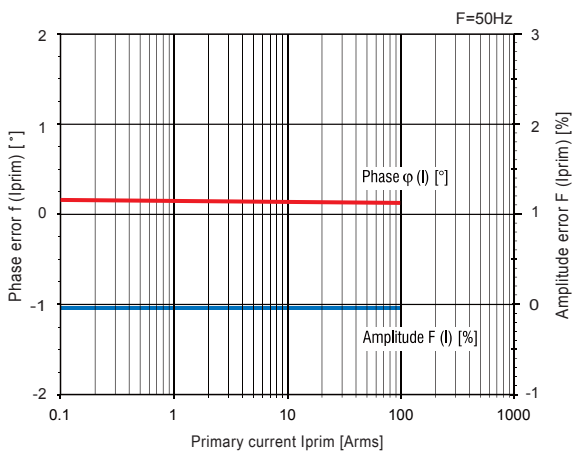
JP32V / JP32W



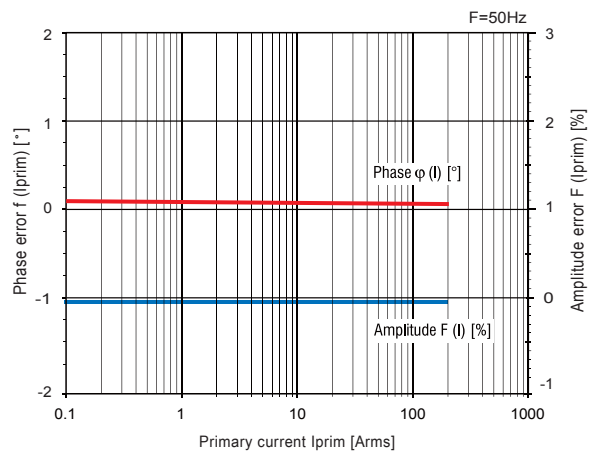
JP5V / JP5W

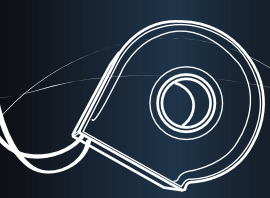


JP51V / JP51W

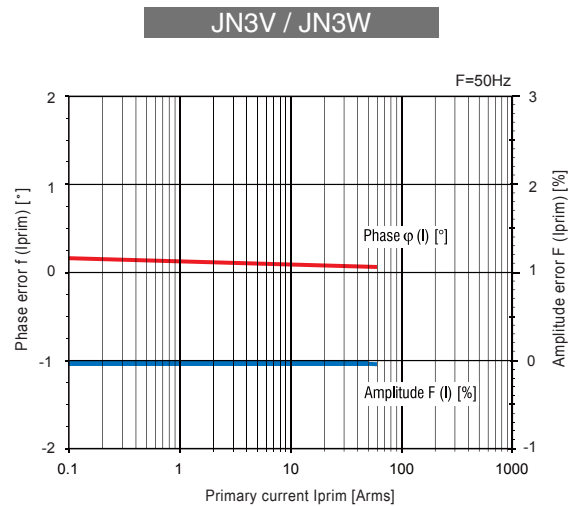
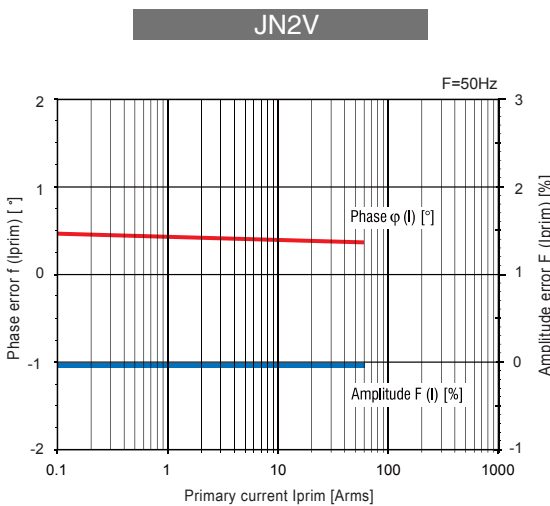
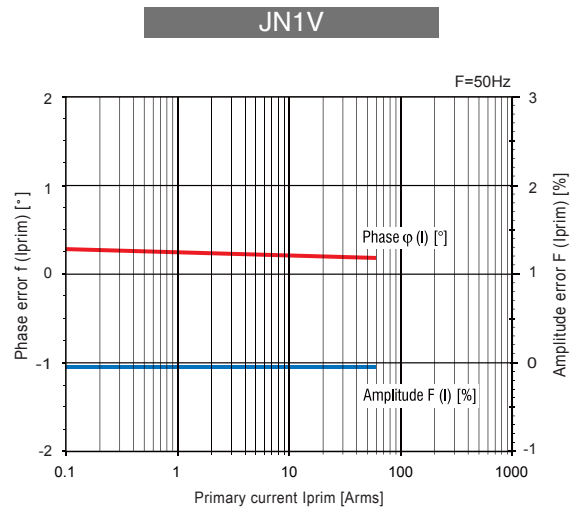
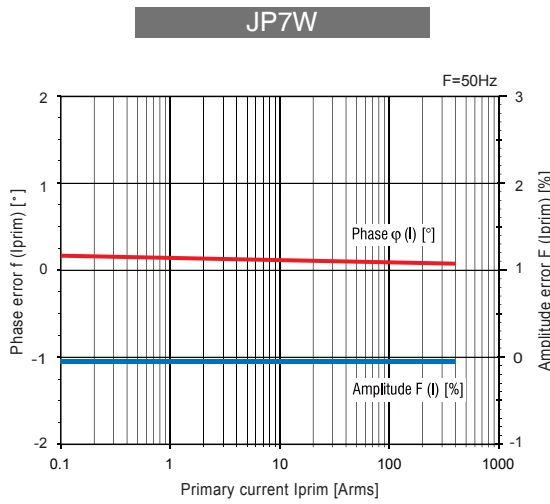
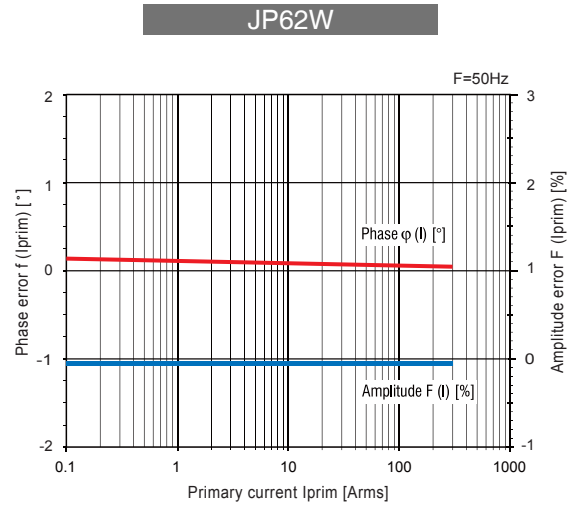
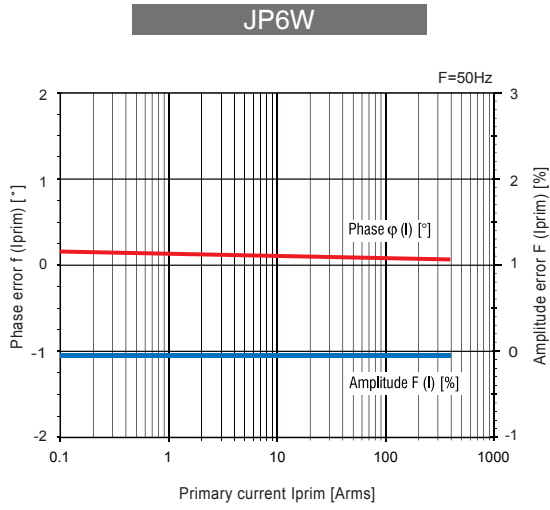


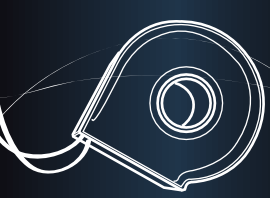
JP52V / JP52W





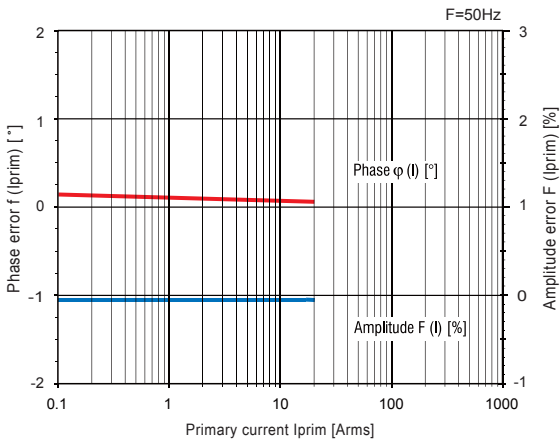
Graph



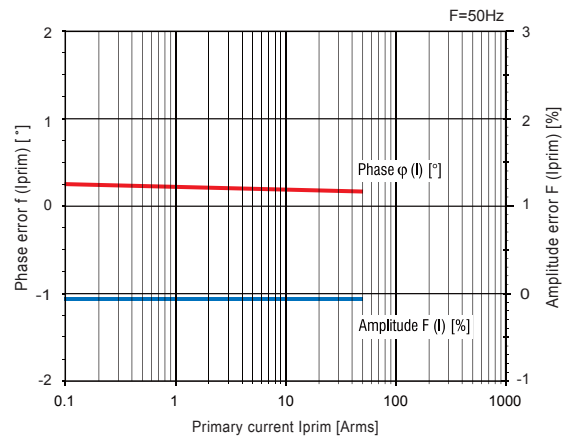


Graph

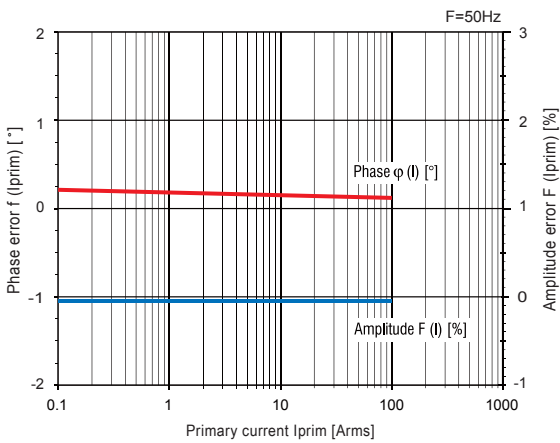
JN315V / JN315W



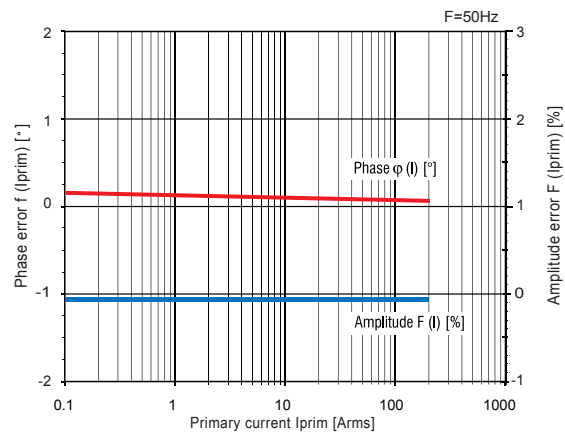
JN32V / JN32W



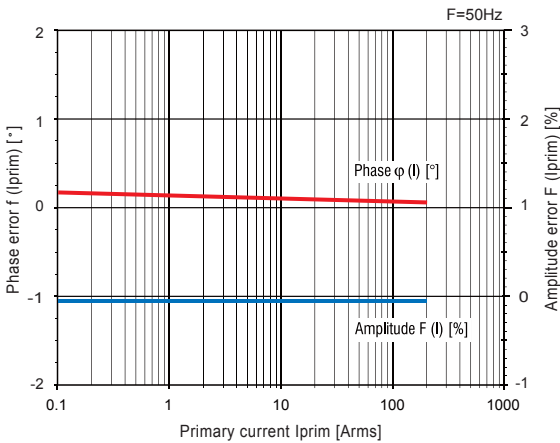
JN4V / JN4W



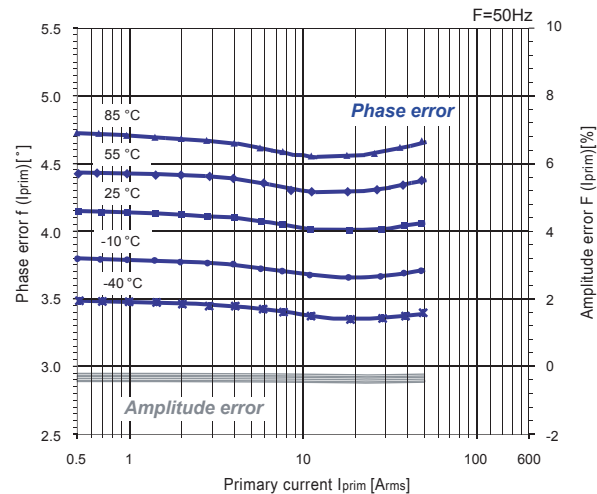
JN12V

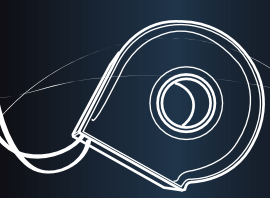


JN8V / JN8W



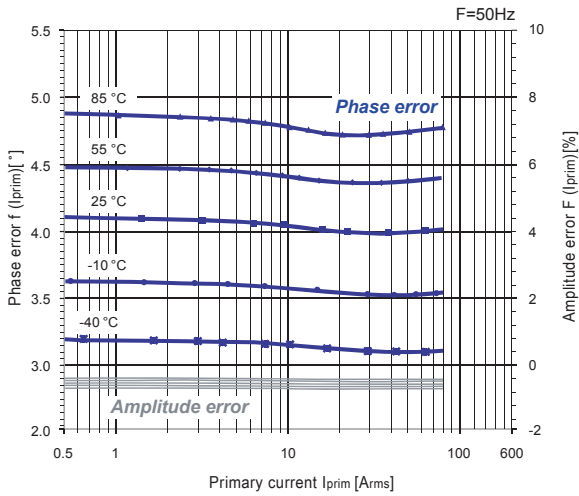
JDTN20V / JDTN20W



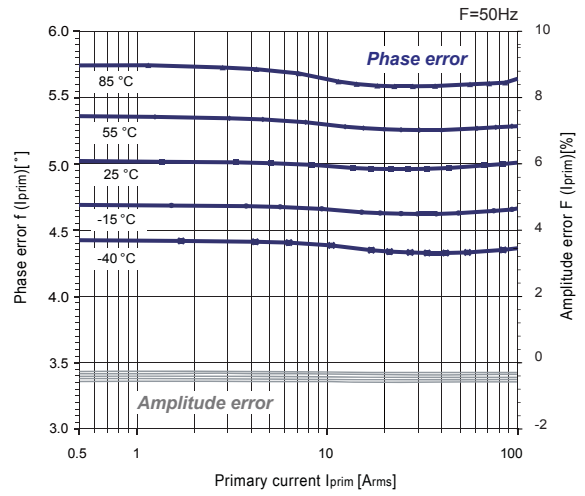


Graph

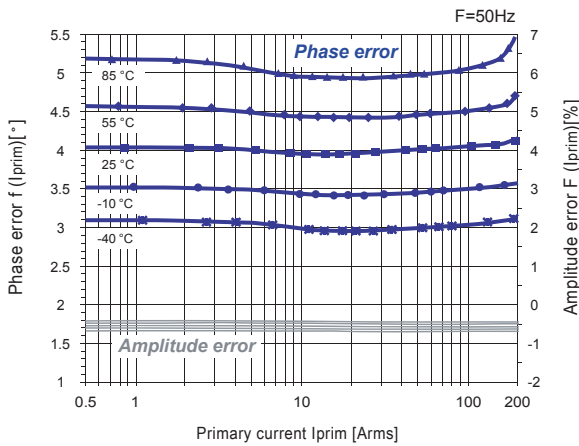
JDTN40V / JDTN40W



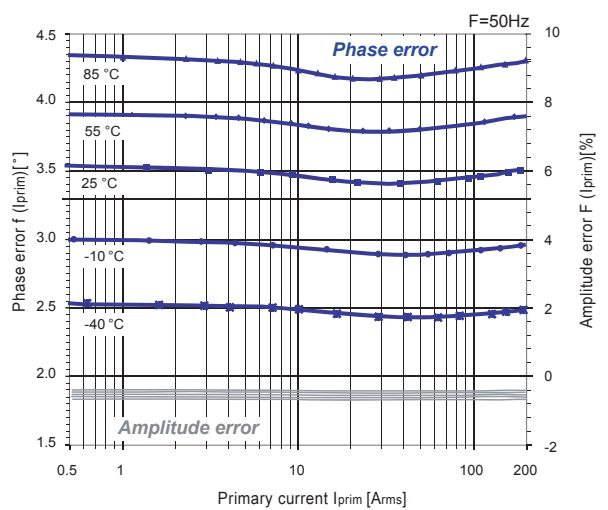
JDTN60V / JDTN60W



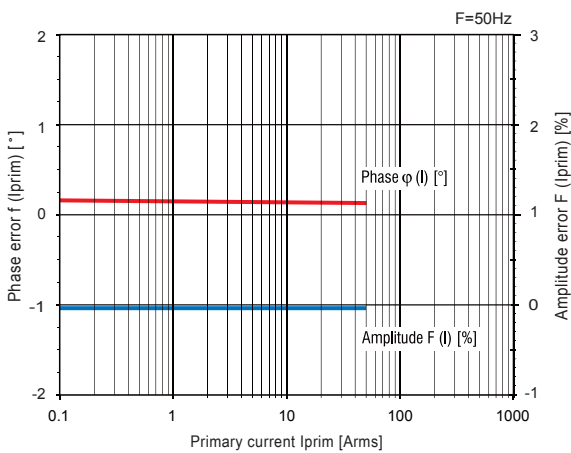
JDTN100V / JDTN100W



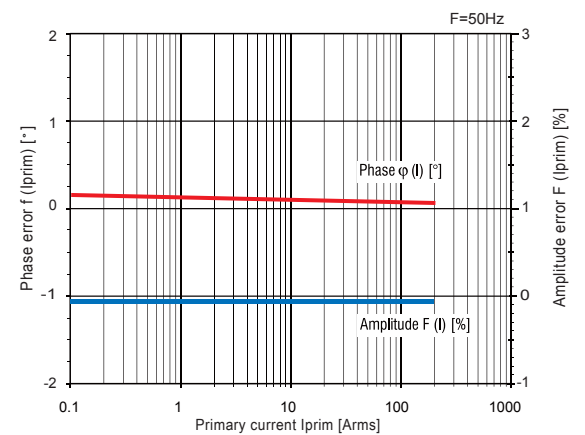
JDTN120V / JDTN120W



JD3AS



JDCT100AS/JDCT120AS





Current type Voltage Transformer

J1 / J1V



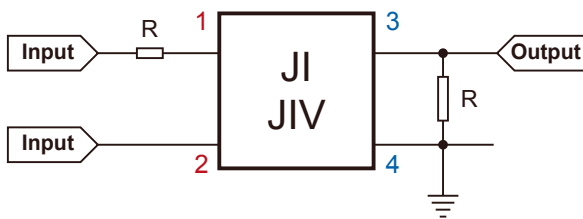
J1/ J1V are designed for indirect measuring as current type. These VTs offer 1:1 (2mA: 2mA) transformation between input and output current. Especially, external resistor is recommended under 500 ohm. These VTs are the best solution for high accurate measuring of voltage.

Model & Specification

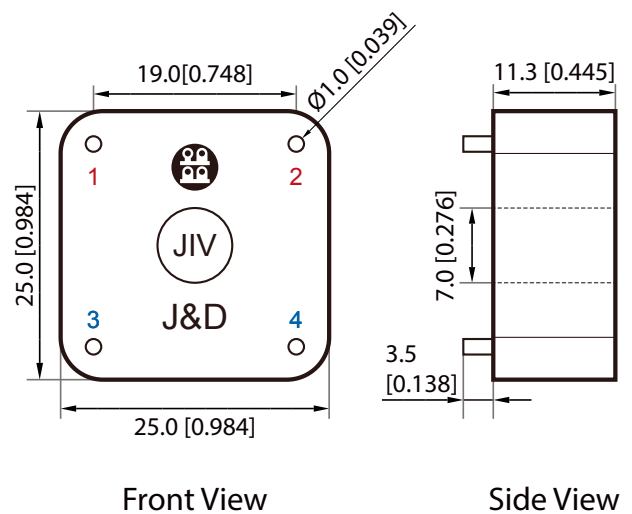
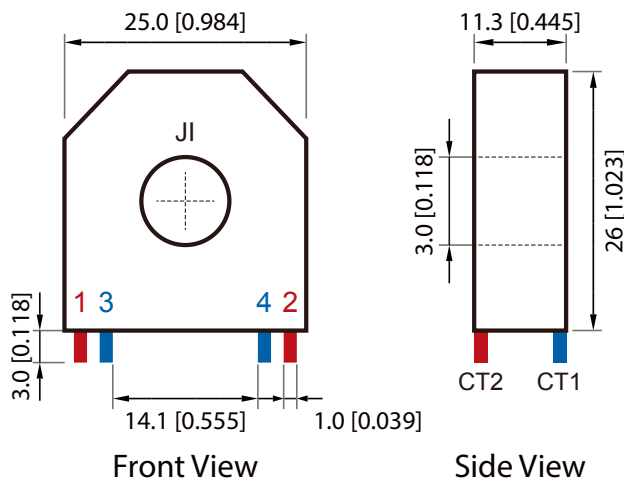
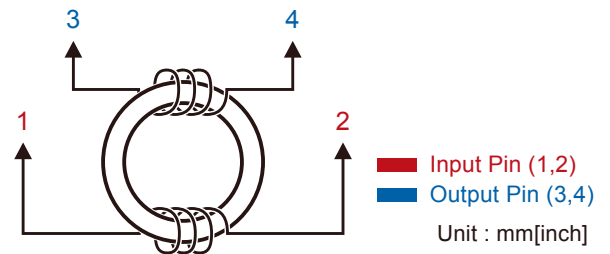
Model	Rated Current (Input/Output)	Frequency Range	Turns Ratio	Second Burden Resistance	Accuracy
 J1	2mA/2mA	50Hz to 400Hz	1250T:1250T	≤ 500Ω	0.5 Class
 J1V	2mA/2mA	50Hz to 400Hz	1250T:1250T	≤ 500Ω	0.5 Class

Dimension & Circuit

General Diagram



Circuit



Direct Voltage Transformer



JIVD30 / JIVD 50

ISOEST VT

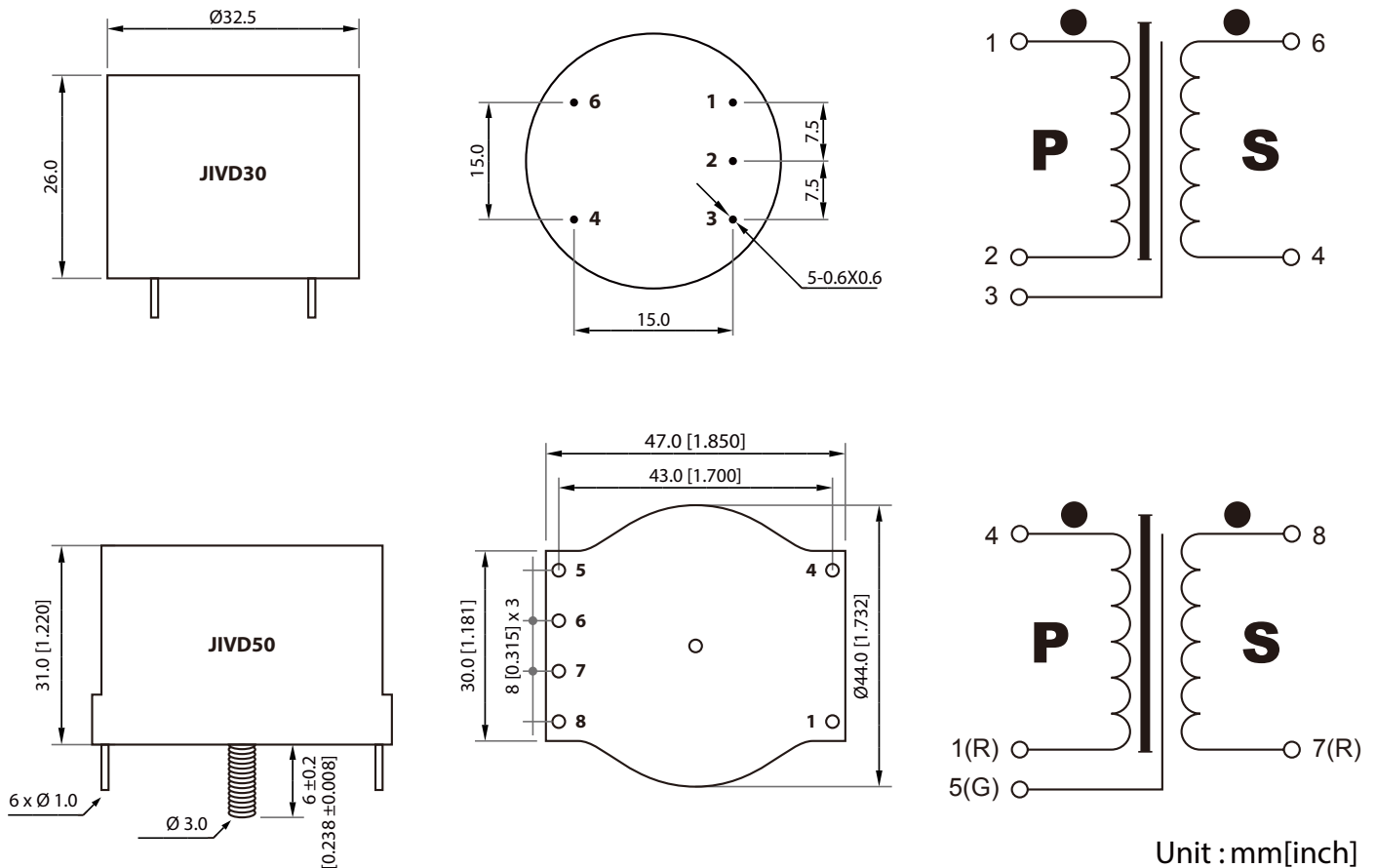


JIVD30 / JIVD50 are designed for direct measuring as PCB mounted type. These VTs offer an optional transformation between input and output voltage. Input is available from 100V - 600V and output is from 100mV - 7V by customer needs. These VTs are the best solution for high accurate measuring of voltage.

Model & Specification

Model	Input Voltage(V)	Output Voltage	Excitation Current	Accuracy	Frequency	Isolation Voltage (1min.)
 JIVD30	100, 150 220, 380	1V~5V	≤ 0.5mA	0.1 Class	50Hz to 400Hz	2500Vrms
 JIVD50	300, 380 500, 600	100mV~7V (Optional)	≤ 0.5mA	0.1 Class	50Hz to 400Hz	2500Vrms

Dimension & Circuit



Unit : mm[inch]