

MULTI-FUNCTION TRANSDUCER

MODEL WDC-

High Accuracy DC Measurement

DESCRIPTION

Model WDC transducers will provide high accuracy dc measurements. They utilize a microprocessor based design with high speed analog-to-digital converters to provide accurate measurement of power, energy, voltage and current.

Each model number provides a system consisting of a Voltage Transducer (VT), a split-core current transducer (CT) and a Processing Unit (WT). One, two or three VT/CT pairs may be supplied with each WT unit.

Optional 24Vdc supply available to power the external VT/CT pairs.

A variety of input ranges up to 1500Vdc and 4000Adc are available.

The standard MODBUS RTU interface is galvanically isolated from measured inputs and instrument power.



5 YEAR WARRANTY



FEATURES

- DIN rail mountable package, small & lightweight.
- Measures instantaneous power as well as energy.
- MODBUS RTU serial communications using RS485.

APPLICATIONS

- Determination of revenue source contributions to energy storage systems.
- Any high accuracy dc measurement requirements.

SPECIFICATIONS

INPUT

Voltage... Nominal Select from table
Range 10% to 100% of Nominal
Overrange (w/o damage) 125% of Nominal

Current .. Nominal Select from table
Range 10% to 100% of Nominal
Overrange (w/o damage) 125% of Nominal

Frequency DC

DIELECTRIC TEST

CT

Input to Output/Inst.Pwr./Case 3000Vdc, 1min.
Inst. Pwr. to Output/Case 500Vdc, 1min.

VT

Input to Output/Inst.Pwr./Case 4000Vdc, 1min.
Inst. Pwr. to Output/Case 500Vdc, 1min.

WT

Inst. Pwr. to Output/Case 3000V, 60Hz, 1min.
Output to Case 500V, 60Hz, 1min.

ACCURACY (setpoint/linearity/repeatability at 25°C)

Voltage, Current $\pm 0.2\%$ F.S.
Watts, Energy $\pm 0.3\%$ F.S.

OUTPUT

MODBUS RTU Serial Communication

Measured Parameters:
Per VT/CT pair ... Voltage, Current, Power, Energy

INSTRUMENT POWER

WT 85-264Vac, 47-63Hz, $\leq 10VA$
115-300Vdc $\leq 10VA$

VT/CT pairs 24Vdc, $\leq 6W$ /pair
(-P)..... Optional Din-Rail 24Vdc Power Supply,
1A, 20W Requires 85-264Vac/120-370Vdc Aux. Pwr.

PHYSICAL

Humidity Operating Any non-condensing

Weight **CT** ≤ 4 lbs

VT 0.35lb.

WT ≤ 1 lb.

Enclosure Mounting (all) DIN rail, 35mm
(WT may be panel mounted using 19754 adaptors)

Material... **CT** Noryl SE1X, UL94V1

VT Polyamide, UL94V0

WT ABS, UL94HB

Connections RS-45, Screw terminals

TEMPERATURE

Range Operating 0 to 75°C

Storage -25 to 85°C

Effect $\pm 0.005\%$ Rdg./°C
 $\pm 0.005\%$ F.S./°C

ORDERING INFORMATION

EXAMPLE: 2 VT/CT pairs, 1500Vdc, 4000Adc, RS485, w/24Vdc P.S.

Model number is: **WDC-26-402-M5-P**

(see table on page 2)



Ohio Semitronics, Inc.
What Can We Measure for You?

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MULTI-FUNCTION TRANSDUCER

MODEL WDC-

MODEL SELECTION

SYSTEM VOLTAGE CURRENT COMM FORMAT OPTION

WDC- - - M5 - *

* Leave blank if not applicable.

MODEL & INPUT

System:

1	One VTCT pair (1 element)
2	Two VT/CT pairs (2 elements)
3	Three VT/CT pairs (3 element)

Voltage:

1	50Vdc
2	100Vdc
3	250Vdc
4	500Vdc
5	1000Vdc
6	1500Vdc

Current:

102	1000Adc
152	1500Adc
202	2000Adc
402	4000Adc

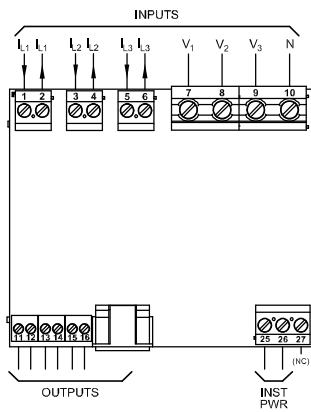
SERIAL COMMUNICATIONS

Communication Format:

M5 RS-485 Modbus RTU

WDC Processing Unit - Terminal

Dwg# 0902-01066-B Rev--

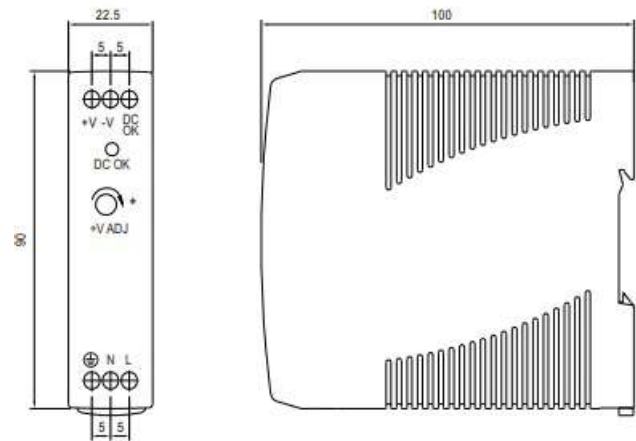


Terminals are identified using the table below.

OPTIONAL ACCESSORY

Power Supply:

P Optional Din-Rail 24Vdc power supply to power CT/VT pairs. (Leave BLANK, if not needed)



(MODBus RTU w /RJ45)

Mode	RJ45							Term. Blocks				
	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	TB11	TB12	TB13	TB14-TB16
RS485	Tx-/Rx-	Tx+/Rx+	(N/C)	Tx+/Rx+	Tx-/Rx-	(N/C)	5V	COM	N/C	COM	5V	N/C



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MODEL WDC-

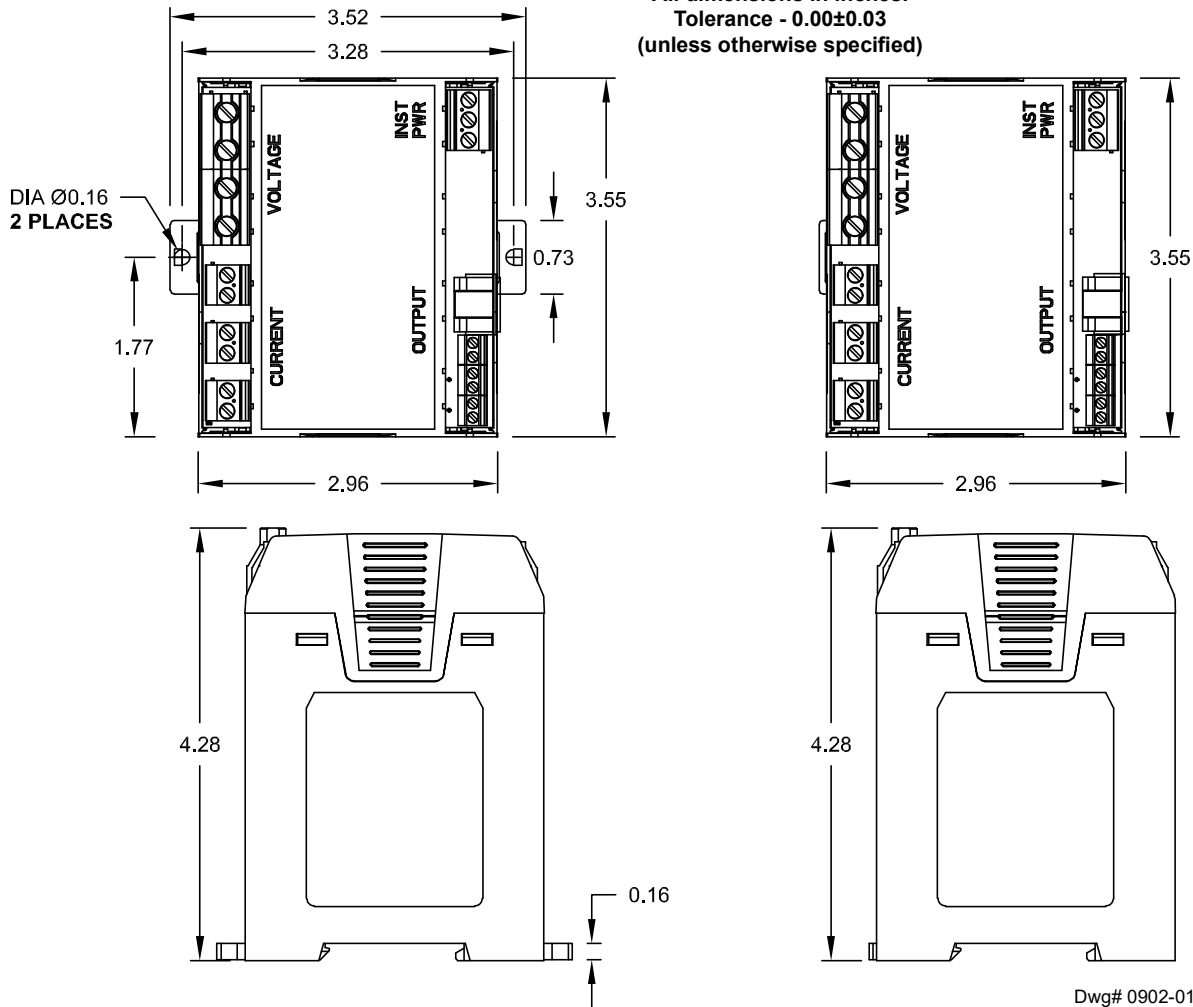
WT Processing Unit - Dimensions

DIMENSIONS FOR ALL MODELS

All dimensions in inches.

Tolerance - 0.00 ± 0.03

(unless otherwise specified)

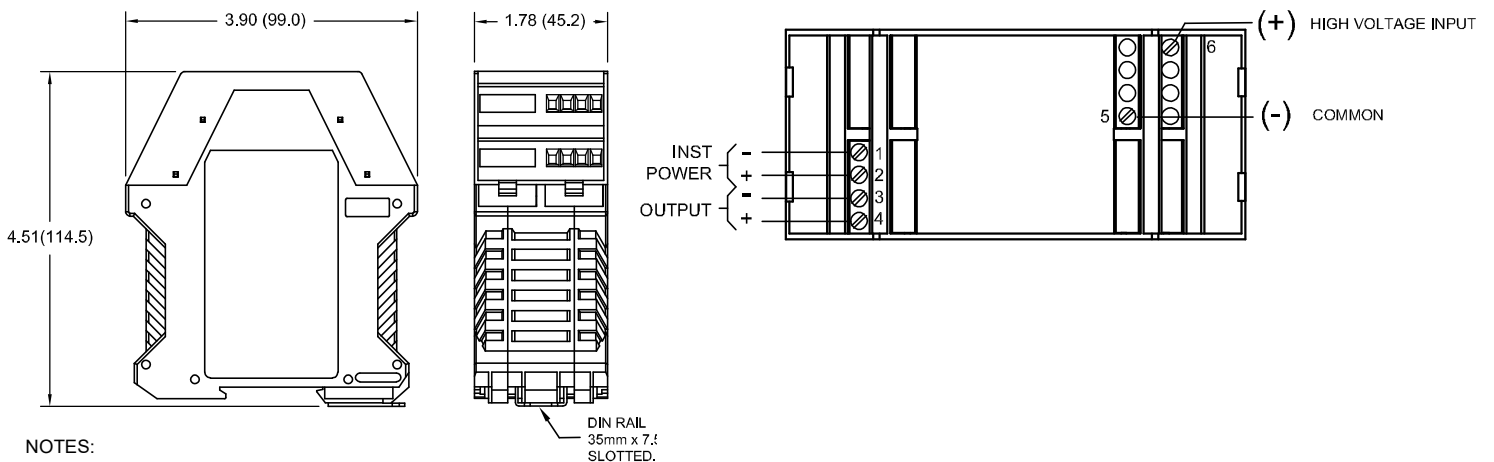


Dwg# 0902-01066-B Rev--

DIMENSIONS

VT VOLTAGE TRANSDUCER

CONNECTIONS



Dwg# 0902-01050-B Rev-D



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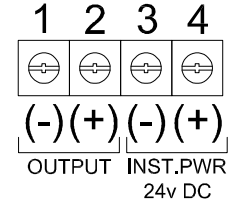
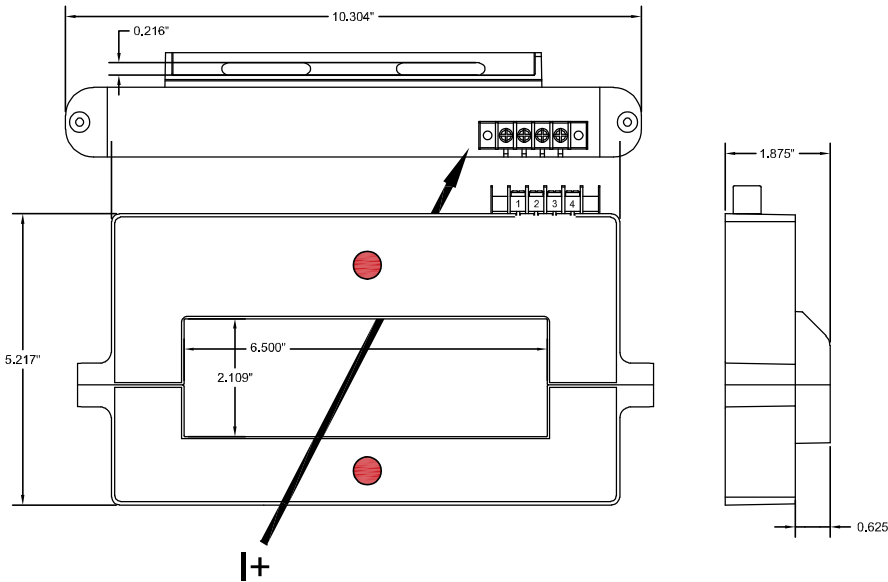
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MODEL WDC-

DIMENSIONS

CT CURRENT TRANSDUCER

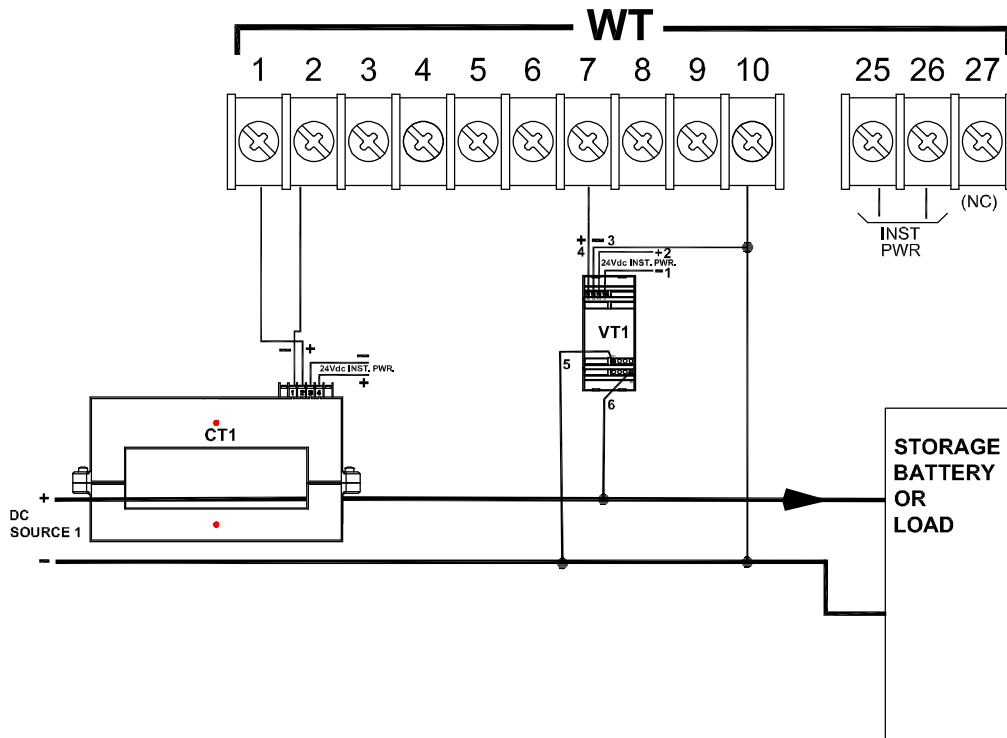
CONNECTIONS



Dwg# 0902-01058-B Rev--

24Vdc INSTRUMENT POWER FOR VT AND CT CAN BE CUSTOMER SUPPLIED OR ORDERED FROM OSI BASED ON THE WDC MODEL NUMBER USING THE "P" OPTION.

SYSTEM CONNECTIONS - ONE VT/CT PAIR



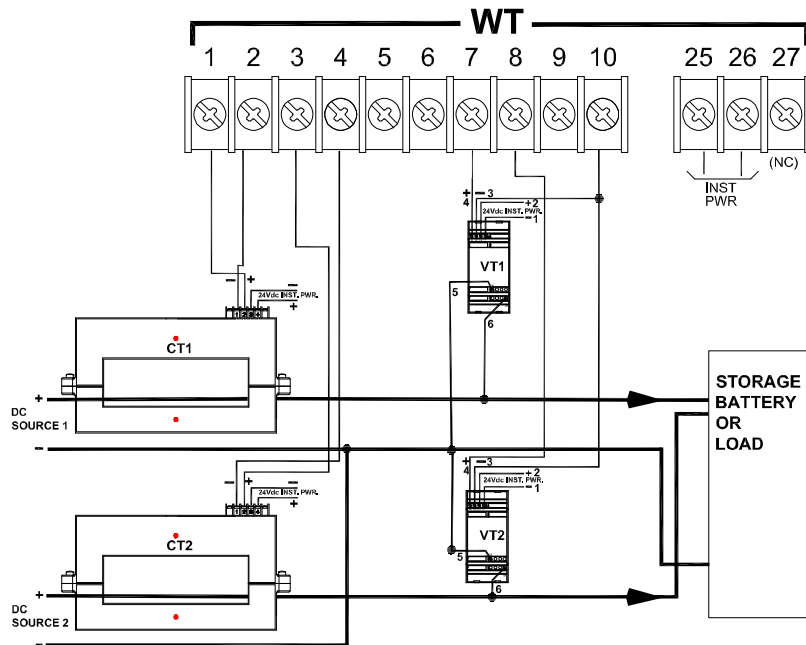
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MODEL WDC-

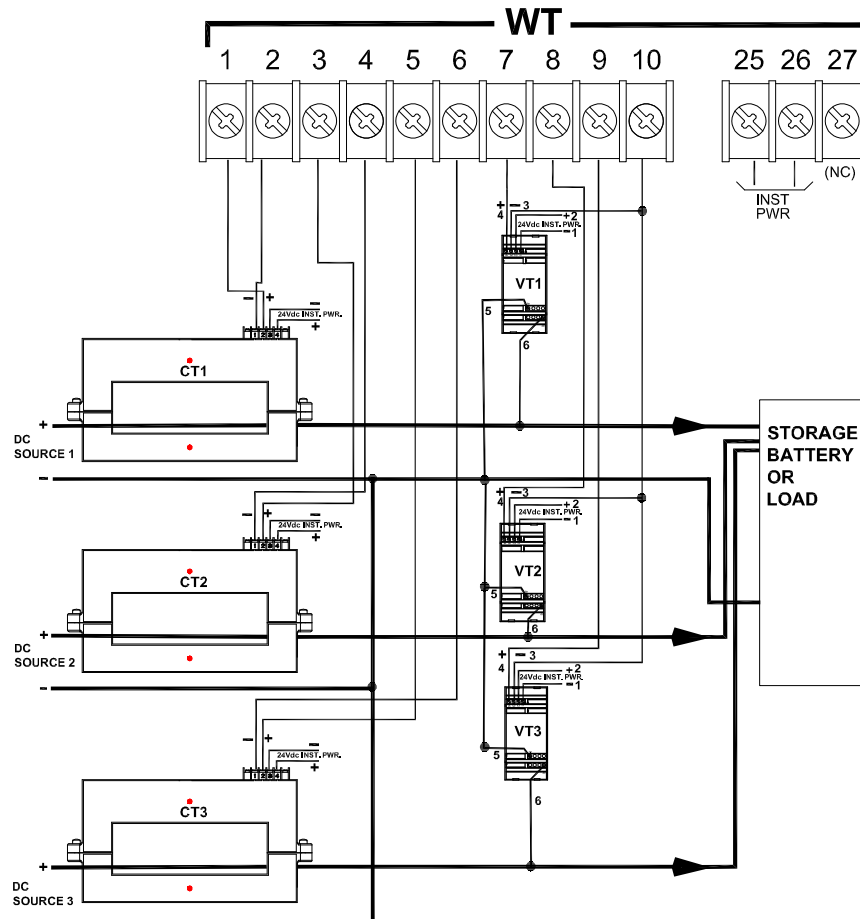
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SYSTEM CONNECTIONS - TWO VT/CT PAIRS



Dwg# 0902-01058-B Rev--

SYSTEM CONNECTIONS - THREE VT/CT PAIRS



Dwg# 0902-01058-B Rev--



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