

Ideal for
Renewables!

DTS 305



Three Phase Power Meter / Transducer

ultra-versatile



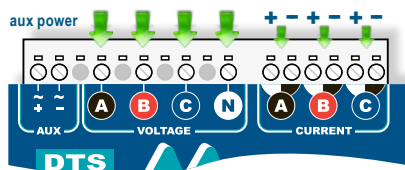
Available
with
embedded
Ethernet



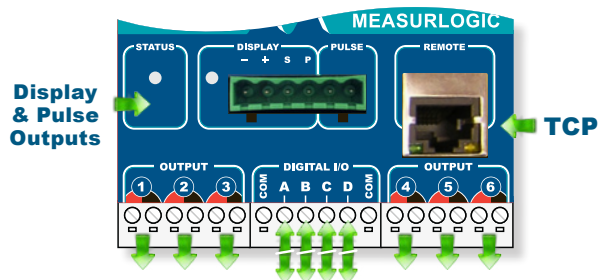
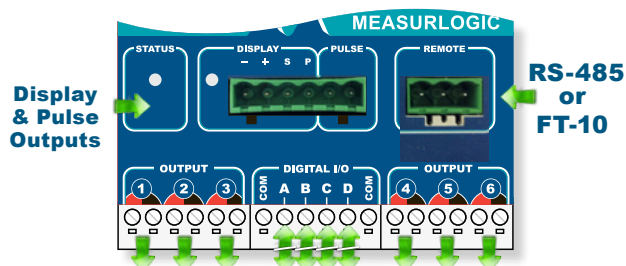
SUNSPEC
ALLIANCE



INPUTS



COMMS & I/O



Terminals 1-6 = Analog or Digital Outputs
Terminals A-D = Digital Input or Output

FEATURES

- **Auxiliary powered** single / three phase energy sub-meter with auto-topology detection
- Class 0.5 Energy Meter** (ANSI C12.20) - **"Revenue grade"**
- Bi-directional for renewable systems (**NET** metering)
- Interfaces with 1A, 5A and "safe" mV and RopeCTs
- **Embedded Ethernet connectivity** - Modbus/TCP, BACnet/IP, SNMP or DNP 3.00
- RS-485 connectivity - Modbus RTU or BACnet MS/TP
- LonWorks FT-10 communications
- 6 onboard outputs (digital or isolated analog) – optional
- 4 digital I/O (pulse outputs or status/counter inputs) – optional
- Optional remote DTS Display
- **Pulse output standard**
- Color coded pluggable connectivity
- DIN rail or surface mounting
- User configurable using DTS Config software
- User-definable Modbus register area
- Compatible with **PowerStudio** Energy Management Software
- Integrates seamlessly with AcquiSuite data acquisition server
- **SunSpec Alliance** certified
- **Designed and Manufactured in the USA.** Complies with the Buy American Provisions of ARRA Section 1605

MEASUREMENT PARAMETERS*

	DTS 305
Measurement Topologies	
3 Phase, 3 and 4-wire	✓
Single Phase 2 and 3-wire (120/208 & 120/240V)	✓
Measurements	
AC Volts (phase-phase)	L1, L2, L3 & III
AC Volts (phase-neutral)	L1, L2, L3 & III
AC Current	L1, L2, L3 & III
Neutral Current	✓
Frequency (Hz)	L1, L2, L3 & III
Power	
Active Power - kW (consumed/generated)	L1, L2, L3 & III
Reactive Power - kVAr (inductive/capacitive)	L1, L2, L3 & III
Apparent Power - kVA	L1, L2, L3 & III
Power Factor	L1, L2, L3 & III
Phase Angle	L1, L2, L3 & III
Bi-directional for renewable systems	✓
Demand	
kW - Sliding Window	L1, L2, L3 & III
Energy	
Active Energy - kWh (consumed/generated)	L1, L2, L3 & III
Reactive Energy - kVArh (inductive/capacitive)	L1, L2, L3 & III
Setpoints, Alarms, Control	
Pulse / Status Outputs	10 maximum
Analog Outputs (isolated)	6 maximum
Counter / Status Inputs	4 maximum
Communications	
Modbus RTU	✓
Modbus TCP	✓
BACnet MS/TP	✓
BACnet / IP	✓
SNMP	✓
DNP 3.00 over IP	✓
LonWorks FT-10	✓
Other Properties	
Remote LCD Display	✓

* Model dependent ** CTs excluded

Call Toll Free: 1-877-PQ-SOLNS (1-877-777-6567) or 303-805-5252 email: info@measurlogic.com

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Measuring Circuits:

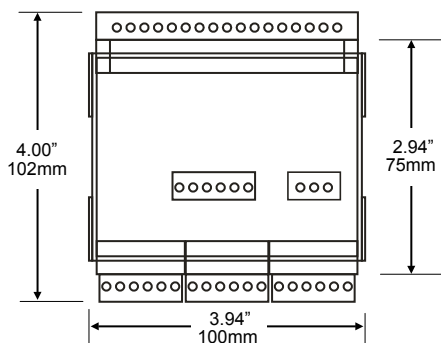
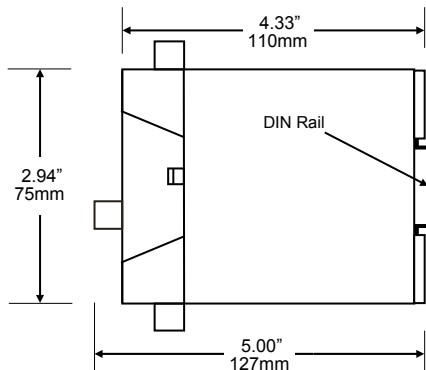
Voltage range: 208-480V ac, L-L, 3 or 4 w (690V option)
 Rated voltage: 280 V ac L-N / 485 V ac L-L
 Voltage overload: 1.2 x (1.05 x - 690V option)
 Voltage burden: <0.1 VA @ 280 V ac L-N
 Frequency: 45 to 65 Hz
 Rated current: 1A to 5A isolated
 333 mV for mV CT version
 Current overload: 1.5 x for 1A or 5A versions
 1.2 x for mV versions
 Current input burden: 0.5 VA @ 5A
 Power overload: 1.2 x

Accuracy:

Voltage: 0.5%, <0.2% typical (80-120%)
 Current: 0.5%, <0.2% typical (10-120%)
 Power: 0.5%, <0.2% typical (10-120%)
 Power Factor: 0.5% (between 0.5 and 1.0)
 Energy:** Class 0.5 (ANSI C12.20)

Power supply:

Voltage: 100-240 or 100-277 Vac/dc, 12 or 24 or 48 Vdc
 Tolerance: -10%, +10%
 Frequency: 50/60 Hz for AC supply models only
 Burden: 5VA
 Operating temp: -4° to 131°F (-20° to 55°C)
 Storage temp: -40° to 185°F (-40° to 85°C)
 Humidity: 5 to 95% R.H. non-condensing

DIMENSIONS
Front View

Side View

Mechanical:

Connection: Pluggable terminals
 Case Material: Self-extinguishable, V0 plastic
 Protection: IP40
 Dimensions: 4"(102mm)H x 5.00"(127mm)D x 3.94"(100mm)W
 Weight: 1.25 lbs (0.57 kg)

Communications: (Serial)

Connection: 3 way pluggable, screw terminal
 Protocols: Modbus RTU or BACnet MS/TP

Communications: (LonWorks)

Connection: 2 way pluggable, screw terminal
 Protocols: LonWorks FT-10

Communications: (Ethernet)

Connection: RJ45, 10/100Base-T
 Protocols: Modbus TCP or BACnet/IP or SNMP or DNP 3.00 over IP

Analog Output: (Isolated, Bi-directional)

Output Type: 1mA or 7.5 / 10 / 20mA available
 5 / 10Vdc
 Resolution: 16384 points (14 bit)
 Max impedance: 500 ohms for a 20mA range

Pulse / Status Outputs: - Optional

Type: Potential Free, N.O. Solid State Relay
 Pulse Width: 100 mS default
 Min 50 mS, User configurable up to 10 Seconds
 Max 10 Pulses per Second
 Pulse Rate: 1 Pulse / 1 kWh default, User configurable
 Max On-Resistance: 30 ohm
 Max Switching Voltage: 240Vac
 Max Switching Current: 120mA (350mA for 10mS)
 Connection: 4x Pin-Pairs (Outputs A - D)

Counter / Status Inputs: - Optional

Type: Dry Contact
 Min Pulse Width: 50mS, Max 10 Pulses per Second
 Max Current/Voltage: 15mA / 18V
 Connection: 4x Pin-Pairs (Inputs A - D)

Standards & Safety:

ETL listing: 4001073
 Conforms to: UL Std 61010.1
 Certified to: CSA Std C22.2 # 61010.1
 EMC: IEC 61000-4-2, IEC 61000-4-3, IEC 61000-4-4,
 IEC 61000-4-5, IEC 61000-4-6, IEC 61000-4-8,
 IEC 61000-4-11
 FCC: CISPR 11 class A
 Other: IEC60688
 Category III – 280Vac / 485Vac



* Model dependent ** CTs excluded
 Technical details subject to change

MODEL NUMBER BUILDER*

DTS 305 - **a b** - **c d e f g** - **h j k l** - **m n p** - **q** - **r s**

Current and Voltage Inputs

a: 1 = 1A
5 = 5A
3 = 333mV
9 = unburdened CT

Service Type:

**1P 2W, 1P 3W
or 3P 3W/4W**

b: 4 = 208-480Vac L-L
6 = 690Vac L-L

MV/HV Systems

1 = 63.5Vac L-N,
110Vac L-L
or
70Vac L-N,
120Vac L-L

I/O Options

Output 1-6 (Total of 6)

Blank: No Analog or Digital Outputs – proceed to **h**

c: **A** (Isolated analog outputs)

d: Qty of analog outputs: **0, 1 - 6**

e: **01** = 1mA
05 = 5mA
07 = 7.5mA
10 = 10mA
20 = 20mA
V1 = 10Vdc

f: **P** (Digital PhotoMOS Relay Outputs)

g: Qty of Digital Outputs: **0, 1 - 6**

Digital I/O A-D (Total of 4)

Blank: No Digital Inputs or Outputs – proceed to **m**

h: **I** (Digital Inputs)

j: Qty of potential free Opto- Isolator Inputs: **0, 1 - 4**

k: **P** (Digital PhotoMOS Relay Outputs)

l: Qty of Digital Outputs: **0, 1 - 4**

Communications

m: **2T** (Remote DTS Display Port - fitted standard)

n: **4** = Serial
E = Ethernet

p: **M** = Modbus
B = BACnet
L = LonWorks
S = SNMP
D = DNP 3.0
N = None

Auxiliary Power

q: **1** = 100-240 Vac
N = 100-277 Vac
2 = 48 Vdc
3 = 24 Vdc
4 = 12 Vdc

Split Core Current Transformers

r: **Amperage of CT's**
Blank: if 333mV or 1A/5A current input

s: **CT Aperture Size**
Blank: if 333mV or 1A/5A current input

T = 0.4" diameter
S = 0.72" x 0.62"
M = 1.3" x 1.7"
L = 2" x 3.5"
H = 2" x 5.5"

RopeCTs

R2 = 2" diameter
R3 = 3" diameter
R4 = 4" diameter
R6 = 6" diameter
R8 = 8" diameter
R12 = 12" diameter

MODEL NUMBER EXAMPLES

DTS 305 - 34 - 2T4M - 1

Equals:

3 333mV CT Input
4 208-480Vac 3P 3W/4W L-L Service (example 208Vac)
Blank: No Analog or Digital Outputs (No OUTPUT: 1-6)
Blank: No Digital Inputs/Outputs (No DIGITAL I/O: A-D)
2T Remote DTS Display Port
4 Serial Communication
M Modbus (RTU) Protocol
1 Auxiliary Powered - 120Vac

A Measurlogic DTS 305 with 3 x 333mV CTs existing or supplied by Measurlogic is metering a 3 Phase, 3 or 4 Wire 208Vac service. There are no Analog and/or Digital Input or Outputs. The meter has a RS-232 serial port for a Remote DTS Display and is communicating on a Modbus RTU (RS-485 2-Wire) network. The meter is auxiliary powered by 120Vac.

DTS 305 - 54 - A320P0 - I2P0 - 2TEM - 2

Equals:

5 5 Amp CT Input
4 208-480Vac 3P 3W/4W L-L Service (example 480Vac)
A320 3 Analog Outputs rated at 20mA (OUTPUT: 1-3)
P0 No Digital Outputs (No OUTPUT: 4-6)
I2 2 Digital Inputs (DIGITAL I/O: A-B)
P0 No Digital Outputs (No DIGITAL I/O: C-D)
2T Remote DTS Display Port
E Ethernet Communication
M Modbus TCP Protocol
2 Auxiliary powered - 48 Vdc

A Measurlogic DTS 305 connected to 3 existing 5 Amp CTs is metering a 3 Phase, 3 or 4 Wire 480Vac service. There are 3 Isolated, Bi-Directional Analog Outputs rated at 20mA. There are 2 Digital Inputs. There are no Digital Outputs. The meter has a RS-232 serial port for a DTS Display and is communicating on a Modbus TCP network using an embedded Ethernet connection. The meter is auxiliary powered by 48Vdc.

DTS 305 - 94 - I2P2 - 2TEB - N - 2000R4

Equals:

9 Unburdened CT from Measurlogic
4 208-480Vac 3P 3W/4W L-L Service (example 480Vac)
Blank: No Analog or Digital Outputs (No OUTPUT: 1-6)
I2 2 Digital Inputs (DIGITAL I/O: A-B)
P2 2 Digital Outputs (DIGITAL I/O: C-D)
2T Remote DTS Serial Display Port
E Ethernet Communication
B BACnet / IP Protocol
N Auxiliary powered - 277 Vac (VL-N)
2000 CT Current Rating (Amps)
R4 RopeCT - 4" diameter

A Measurlogic DTS 305 with 3 x 2000Amp RopeCTs (4" diameter) supplied by Measurlogic is metering a 3 Phase, 4 Wire 480Vac service. There are no Analog Outputs. There are 2 Digital Inputs and 2 Digital Outputs. The meter has a RS-232 serial port for a DTS Display and is communicating on a BACnet network over IP using an embedded Ethernet connection. The meter is auxiliary powered by 277Vac (VL-N)

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Fax (425) 799-4780

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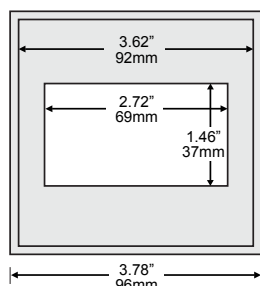
DTS Display

Remote Display for DTS 305 Energy Sub-meter

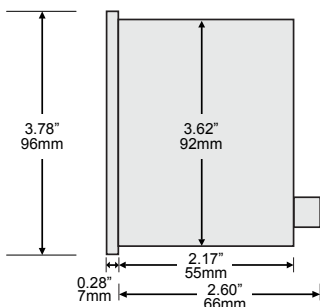


DIMENSIONS

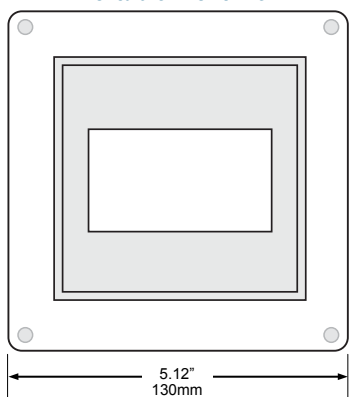
Front View



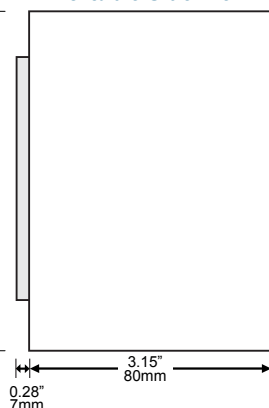
Side View



Portable Front View



Portable Side View



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FEATURES

- Interfaces with DTS 305 power meter / transducer
- Connects via a 3 foot cable with pluggable terminals (Custom lengths available)
- **Front Panel** mounting & **Portable** option
- Large backlit **LCD display**
- Displays up to **24 variables** with 3 variables per page
- **User configurable** through attached DTS meter
- Portable version available:
 - 7ft cable with plug (Custom lengths available)
 - NEMA 4 weather proof enclosure

SPECIFICATIONS

Interface:

Type: RS-232
Protocol: DTS Talk

Power supply:

Voltage: 100-240 or 100-277 Vac/dc, 12 or 24 or 48 Vdc
Can also be powered by attached DTS 305
Tolerance: -10%, +10%
Frequency: 50/60 Hz for AC supply models only
Burden: 2VA
Operating temp: -4° to 131°F (-20° to 55°C)
Storage temp: -22° to 176°F (-30° to 80°C)
Humidity: 5 to 75% R.H. non-condensing

Mechanical:

	Front Panel	Portable
Mounting Cutout:	3.62 x 3.62" (92 x 92mm)	N/A
Connection:	— Pluggable terminals —	—
Case Material:	— Self-extinguishable, V0 plastic —	—
Protection:	NEMA 4 - front panel	NEMA 4
Dimensions:	3.78"H x 3.78"W x 2.6"D 96 x 96 x 66mm	5.12"H x 5.12"W x 3.15"D 130 x 130 x 80mm
Weight:	0.75 lbs (0.35 kg)	1.1 lbs (0.5kg)

Display:

Resolution: 128x64 pixels
of pages: 8
Parameters/page: 3 (user-definable)
Alarms: Configurable low and high thresholds
Setpoints: nominal, low and high

MODEL NUMBER BUILDER*

DTS D 2 - 01 - **a** - **b**

Auxiliary Power

a: 0 = Powered from attached DTS meter
1 = 100 – 240 Vac
N = 100 – 277 Vac
2 = 48 Vdc
3 = 24 Vdc
4 = 12 Vdc

Mounting

b: **Blank:** Front Panel
P = Portable Version

Distributor:

