

Ideal for
Renewables!



DTS 310

Line Powered Three Phase Energy Sub-meter

Cost effective
solution!



FEATURES

- **Line powered** single / three phase energy sub-meter with auto-topology detection
- Class 0.2 Energy Meter** (ANSI C12.20) - "**Revenue grade**"
- Bi-directional for renewable systems (NET metering)
- Interfaces with "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
- Communications setting via DIP switches for Modbus RTU
- LonWorks FT-10 communications
- 2 digital status/counter inputs OR digital outputs - optional
- Color coded, pluggable connectivity
- Compact DIN rail design
- User configurable using DTS Config software
- User-definable Modbus register area
- Compatible with **PowerStudio** Energy Management Software
- **SunSpec Alliance** certified
- **Designed and Manufactured in the USA.** Complies with the Buy American Provisions of ARRA Section 1605

MEASUREMENT PARAMETERS*

DTS 310

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
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Energy

Active Energy - kWh (consumed/generated)	L1, L2, L3 & III
Reactive Energy - kVarh (inductive/capacitive)	L1, L2, L3 & III

Setpoints, Alarms, Control

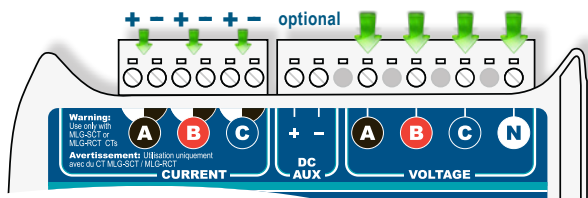
Pulse / Status Outputs	1 - 3
Counter / Status Inputs	2 maximum

Communications

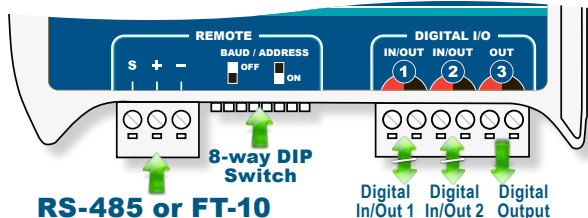
Modbus RTU	✓
Modbus TCP	✓
BACnet MS/TP	✓
BACnet / IP	✓
SNMP	✓
DNP 3.00 over IP	✓
LonWorks FT-10	✓

* Model dependent ** CTs excluded

INPUTS



COMMS & I/O



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

MEASURLOGIC

www.measurlogic.com

SPECIFICATIONS*

Measuring Circuits:

Voltage range: 120-480V ac, L-L, 3 or 4 W
 Rated voltage: 280 V ac L-N / 485 V ac L-L
 Voltage overload: 1.2 x
 Voltage burden: <0.1 VA @ 280 V ac L-N
 Frequency: 45 to 65 Hz
 Rated current: 333 mA or model dependent
 Current overload: 1.2 x
 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 0.2 (ANSI C12.20)

Voltage Supply:

Voltage: Powered from Phase A & B or Phase A & Neutral (model dependent)
 Frequency: 50/60 Hz
 Burden: <3VA
 Operating temp: -4° to 131°F (-20° to 55°C)
 Tolerance: -10%, + 10%
 Storage temp: -40° to 185°F (-40° to 85°C)
 Humidity: 5 to 95% R.H. non-condensing

Mechanical:

Connection: Pluggable screw terminals suitable for 12AWG stranded wire (2.5mm²)
 Case Material: Self-extinguishable, V0 plastic
 Protection: Nema 1 (IP40)
 Dimensions: 4.73"(120mm) H x 4.25"(108mm) D x 1.38"(35mm) W
 Weight: 1lb (0.45 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

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: Isolated Pin-Pair (Output 3, Outputs 1 and/or 2)

Counter / Status Inputs: - Optional

Type: Dry Contact
 Min Pulse Width: 50mS, Max 10 Pulses per Second
 Max Current/Voltage: 15mA / 6V
 Connection: 2 Pin-Pairs (Inputs 1 and/or 2)

Standards & Safety:

ETL listing: 4001073
 Conforms to: UL Std 61010.1
 Certified to: CSA Std C22.2 # 61010.1
 EMC: IEC 61000-6-3 Emissions, IEC 61000-6-2 Immunity, 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 22/FCC 15 class A
 Other: IEC60688
 Category III – 280Vac / 485Vac



MODEL NUMBER BUILDER*

DTS 310 - **a b** - **c d** - **e** - **f** - **g h**

Current & Voltage Inputs

a: 3 = 333mV CT
 9 = unburdened CT
b: 4 = 120 - 480 Vac L-L 3 or 4 Wire
 6 = 690 Vac L-L 4 Wire

Communications

c: S = Serial
 E = Ethernet
 N = None
d: M = Modbus
 B = BACnet
 L = LonWorks
 S = SNMP
 D = DNP 3.0
 N = None

I/O***

e: N = Not fitted
 P = 1 x Digital output (PhotoMos relay)
 A = 2 x Digital Inputs (Potential free) & 1 x Digital Output (PhotoMos relay)
 3 = 3 x Digital output (PhotoMos relay)
 ***Other configurations available

Service Type

f: N = Neutral (1P 2W, 1P 3W, 3P 4W) 120 – 480 Vac
 2 = No Neutral (3P 3W) 208 – 240 Vac L-L
 4 = No Neutral (3P 3W) 480 Vac L-L
 6 = Neutral (3P 4W) 690 Vac L-L

DC Auxiliary Option

1 = 12 Vdc
 3 = 24 Vdc
 5 = 48 Vdc

Current Transformers

g: Amperage of CT's
Blank: if 333mV current input
h: CT Aperture Size
Blank: if 333mV current input

Split Core CTs

T = 0.4" diameter
S = 0.72" x 0.62"
N = 1.00" x 1.40"
M = 1.3" x 1.7"
L = 2" x 3.5"
H = 2" x 5.5"

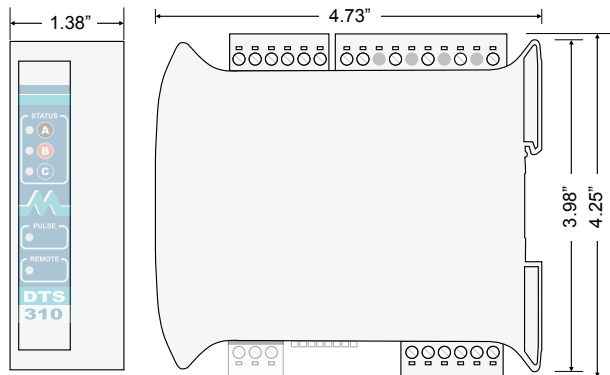
Rope CTs

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

Solid Core CTs

C1 = 0.28" diameter
C2 = 0.35" diameter
C3 = 0.51" diameter
C4 = 0.75" diameter

DIMENSIONS



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

Distributor:

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