

Ideal for Renewables!



DTS 310

Line Powered Three Phase Energy Sub-meter

Cost effective solution!



SUNSPEC ALLIANCE



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

Energy

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

Setpoints, Alarms, Control

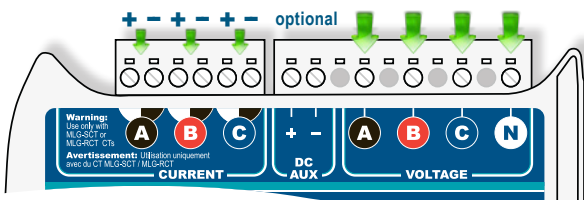
- Pulse / Status Outputs 1 - 3
- Counter / Status Inputs 2 maximum

Communications

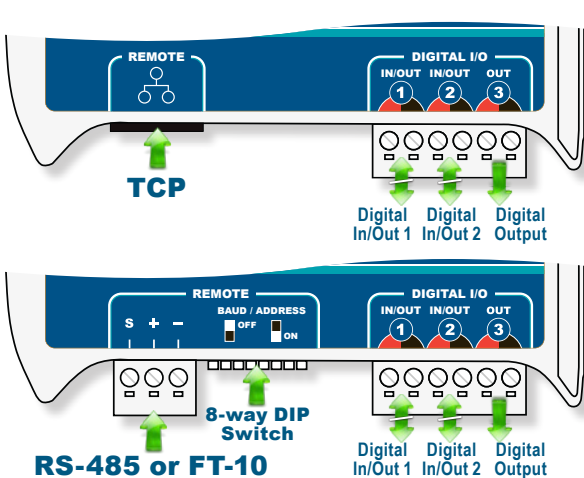
- Modbus RTU ✓
- Modbus TCP ✓
- BACnet MS/TP ✓
- BACnet / IP ✓
- SNMP ✓
- DNP 3.00 over IP ✓
- LonWorks FT-10 ✓

* 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 mV 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 (2.5mm ²) |
| Case Material: | Self-extinguishable, V0 plastic |
| Protection: | Nema 1 (IP40) |
| Dimensions: | 4.73"(120mm) D x 4.25"(108mm) H 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 = 208 - 480 Vac L-L 3 or 4 Wire
6 = 600 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) 600 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"

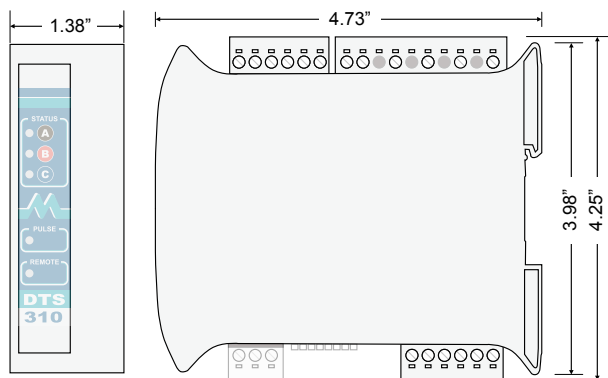
Rope CTs

- 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:

Call Toll Free: 877-PQ-SOLNS (877-777-6567)
Fax (425) 799-4780
email: info@measurlogic.com