

Ideal for Renewables!



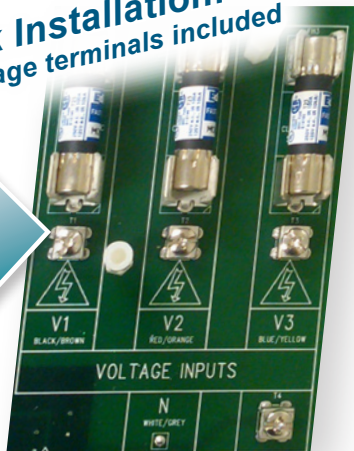
# DTS SMX

## Surface Mount Three Phase Energy Sub-meter

Versatile weather-proof design!



Quick Installation!  
Fused voltage terminals included



### FEATURES

- Line powered single / three phase energy sub-meter
- Class 0.5 Energy Meter\*\* (ANSI C12.20) - "Revenue grade"
- NEMA 4x weather-proof surface mount enclosure
- Bi-directional for renewable systems (NET metering)
- Interfaces with "safe" mV, RopeCTs or 1/5A CTs
- Fused Voltage Terminals included for quick installation
- Easy access voltage and current terminations
- **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
- **Pulse output standard**
- 2 digital status/counter inputs OR digital outputs - optional
- 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 SMX
<b>Measurement Topologies</b>	
3 Phase, 3 and 4-wire	✓
Single Phase 2 and 3-wire (120/208 & 120/240V)	✓
<b>Measurements</b>	
AC Volts (phase-phase)	L1, L2, L3 & III
AC Volts (phase-neutral)	L1, L2, L3 & III
AC Current	L1, L2, L3 & III
Frequency (Hz)	L1, L2, L3 & III
Neutral	L1, L2, L3 & III
<b>Power</b>	
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	✓
<b>Demand</b>	
kW - Sliding Window	L1, L2, L3 & III
<b>Energy</b>	
Active Energy - kWh (consumed/generated)	L1, L2, L3 & III
Reactive Energy - kVArh (inductive/capacitive)	L1, L2, L3 & III
<b>Setpoints, Alarms, Control</b>	
Pulse / Status Outputs	1 - 3
Counter / Status Inputs	2 maximum
<b>Communications</b>	
Modbus RTU	✓
Modbus TCP	✓
BACnet MS/TP	✓
BACnet / IP	✓
SNMP	✓
DNP 3.00 over IP	✓
LonWorks FT-10	✓

\* Model dependent \*\* CTs excluded

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

MEASURLOGIC

[www.measurlogic.com](http://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:	1A to 5A isolated
	333 mV for mV CT versions
Current overload:	1.5 x for 1A or 5A versions
	1.2 x for mV versions
Current input burden:	0.5 VA @ 5 A
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)

### Mechanical:

Connection:	#6-32 screw terminals with captive washers
Case Material:	Polycarbonate
Protection:	Nema 4x
Dimensions:	11.45"(291mm) H x 4.92"(125mm) D x 8.98"(228mm) W
Weight:	3.75lbs (1.7 kg)

### Voltage Supply:

Voltage:	Powered from Phase A & B or Phase A & Neutral (model dependent)
Frequency:	50/60 Hz
Burden:	<5VA
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

### 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 / 18V
Connection:	2 Pin-Pairs (Inputs 1 and/or 2)

### Standards & Safety:

Safety:	IEC 61010 Pending
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 SMX - **a b** - **c d** - **e** - **f** - **g h**

**Standard CT ranges:**  
5, 20, 50, 100, 200,  
400, 600, 800, 1000,  
1500, 2000, 2500,  
3000, 4000, 5000  
(Other currents on request)

### Current & Voltage Inputs

- a:** 3 = 333mV CT  
5 = 5A 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  
G = Ethernet Gateway  
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

### Split Core Current Transformers

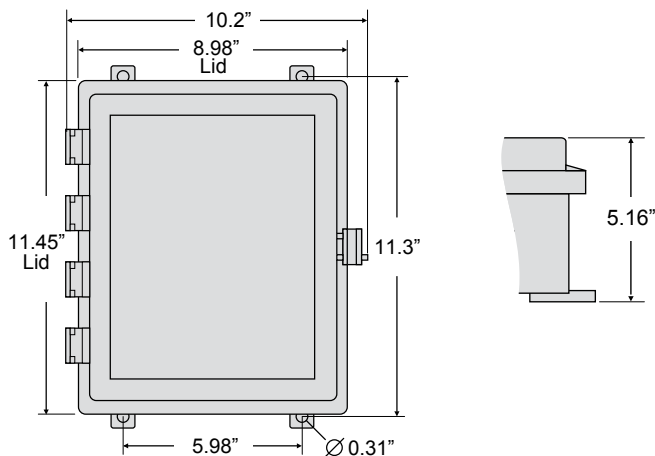
- g:** Amperage of CT's  
**Blank:** if 333mV or 5A current input
- h:** CT Aperture Size  
**Blank:** if 333mV or 5A current input

- 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

## DIMENSIONS



Distributor:

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Fax (425) 799-4780

email: [info@measurlogic.com](mailto:info@measurlogic.com)

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Technical details subject to change