# DTS SKT

# SOCKET ENERGY SUBMETER WITH REMOTE COMMUNICATIONS



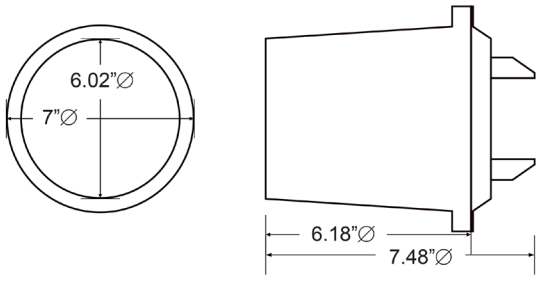
## FEATURES

- "Smart" submeter replacement for existing electro-mechanical meters
- Revenue Grade Submeter - ANSI C12.20
- Bi-directional for renewable systems (NET metering)
- Socket Form Factors
  - 2S, 9S and 16S (standard form factors)
  - 1S, 3S, 4S, 5S, 6S, 8S, 12S, 14S & 15S (special order)
  - Other form factors available
- 2 line LCD Display
- Modbus RTU & BACnet MS/TP (Software selectable)
- Modbus TCP & BACnet/IP (Concurrent)
- Pulse Output (kWh) pigtail - optional
- BTL Listed, Sunspec Alliance certified
- User-definable Modbus register area
- User configurable using DTS Config software
- Designed and Manufactured in America.
- Complies with Buy American Provisions of ARRA Section 1605

## MEASUREMENT PARAMETERS*

| | |
|---|---|
| **Socket Form Factors** | |
| 2S, 9S and 16S | ✔ |
| 1S, 3S, 4S, 5S, 6S, 12S, 14S, 15S | ✔ |
| other form factors available on request | ✔ |
| **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) | ✔ |
| **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 | ✔ |
| **Energy** | |
| Active Energy - kWh (Net) | L1, L2, L3 & III |
| Active Energy - kWh (consumed/generated) | III |
| Reactive Energy - kVArh (Net) | L1, L2, L3 & III |
| Reactive Energy - kVArh (inductive/capacitive) | III |
| **Setpoints, Alarms, Control** | |
| Pulse / Status Output | 1 |
| **Communications** | |
| Modbus RTU | ✔ |
| Modbus TCP | ✔ |
| BACnet MS/TP | ✔ |
| BACnet/ IP | ✔ |
| SNMP | ✔ |
| DNP 3.00 over IP | ✔ |

## DIMENSIONS

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## SPECIFICATIONS*

### Measuring Circuits

| | |
|---|---|
| Voltage range: | Depending on form factor and model |
| Voltage overload: | 1.1 x |
| Voltage burden: | <0.1 VA @ 277 Vac L-N |
| Frequency: | 45 to 65 Hz |
| Rated current: | Depending on form factor and model |
| Current overload: | 1.5 x In for 5A models |
| Power overload: | 1.1 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: | Socket base |
| Case Material: | Self-extinguishable, V0 plastic |
| Protection: | NEMA 4 |
| Dimensions: | 7"(178mm)Ø x 7.48"(190mm)D |
| Weight: | 2.4 lb (1.1 kg) - model dependent |

### Environmental

| | |
|---|---|
| Operating temp: | -4˚ to 158˚F (-20˚ to 70˚C) |
| Storage temp: | -22˚ to 176˚F (-30˚ to 80˚C) |
| Humidity: | 5 to 95% R.H. non-condensing |

### Communications (Serial)

| | |
|---|---|
| Connection: | Pigtail with 3 way male/female pluggable, screw terminal |
| Protocols: | Modbus RTU (SunSpec Certified) or BACnet MS/TP (BTL Listed) |

### Communications (Ethernet)

| | |
|---|---|
| Connection: | Pigtail with RJ45, 10/100 Base T plug |
| Protocols: | Modbus TCP (SunSpec Certified) and BACnet/ IP (BTL Listed) |

### Display

| | |
|---|---|
| Lines: | 2 |
| Characters: | 20 per line |
| Auto Scroll: | 5 seconds |

### Pulse Output

| | |
|---|---|
| Type: | Potential Free, N.O. Solid State Relay |
| Pulse Width: | Max 10 Pulses per Second |
| Pulse Rate: | 1 Pulse / 1 kWh default, user configurable |
| Max On-Resistance: | 30 ohm |
| Max Switching Voltage: | 50Vdc or 30Vac |
| Max Switching Current: | 120mA (350mA for 10mS) |
| Connection: | Pigtail with 3-way male/female pluggable, screw terminal |

### Standards & Safety

| | |
|---|---|
| Built to: | UL Std 61010.1 3rd Edition, May 11, 2012, Revised July 15, 2015 |
| EMC: | IEC 61000-3-2 2010, IEC 61000-3-3, 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 |
| Emissions: | CISPR 11 Group 1 Class A |
| Other: | Measurement Category III – 300Vac L-N / 520Vac L-L |
| Communications: | BTL Listed. SunSpec Alliance certified |
| RoHS: | Compliant |

## MODEL NUMBER BUILDER*

**DTS SKTD - [a b] - [c d] - [e] - [f] - [g]**

**Current & Voltage Inputs**

**a:** **1** = 1A
**5** = 5A
**9** = Internal CTs

**b:** **2** = 208 - 240 Vac L-L
**4** = 208 - 480 Vac L-L

**Communications**

**c:** **S** = Serial
**E** = Ethernet

**d:** **M** = Modbus ONLY
**B** = BACnet + Modbus
**S** = SNMP
**D** = DNP 3.0

**I/O**

**e:** **N** = Not fitted
**P** = 1 x Digital output (PhotoMos relay)

**Socket Form Factor**

**f:** - 2S, 9S, 16S (Common form factors)
- 1S, 2S, 3S, 4S, 5S, 6S 8S, 12S, 14S, 15S
- (Others on Request)

**Current Rating**

**g:** **Internal CTs** : (100A, 200A)

**External CTs** : "Blank"

### ORDERING EXAMPLES

| Part Number | Current Input | Voltage | Communications | I/O | Socket Form Factor | Current Rating |
|---|---|---|---|---|---|---|
| DTS SKTD-92-SB-N-2S-200 | Internal | 208V - 240Vac L-L | RS-485: BACnet MS/TP and Modbus RTU (software selectable) | Not fitted | 2S | 200A |
| DTS SKTD-54-SB-P-9S | External | 208V - 480Vac L-L | | 1 x digital output (kWh) | 9S | 5A |
| DTS SKTD-54-EB-N-9S | External | 208V - 480Vac L-L | Ethernet: BACnet/ IP and Modbus TCP (concurrently) | Not fitted | 9S | 5A |
| DTS SKTD-94-EB-N-16S-200 | Internal | 208V - 480Vac L-L | | Not fitted | 16S | 200A |

***Distributor:***

* Drawings are for illustrative purposes only
Technical details subject to change

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