

Ideal for Renewables!



# DTS DC

## DC Energy Sub-meter with Remote Communications

Versatile and Easy to Configure!



Available with embedded Ethernet



SUNSPEC ALLIANCE



### FEATURES

- DC power / energy sub-meter provides Voltage, Current, Power and Energy measurements
- Bi-directional for renewable systems (**NET** metering)
- Interfaces with shunt or external Hall Effect current sensors
- 0 - 50, 150, 400, 800 or 1000Vdc
- **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
- Compact DIN rail design
- User configurable using DTS Config software
- User-definable Modbus register area
- **SunSpec Alliance** certified
- **Designed and Manufactured in the USA.** Complies with the Buy American Provisions of ARRA Section 1605

### APPLICATIONS



Solar / PV



Wind generators

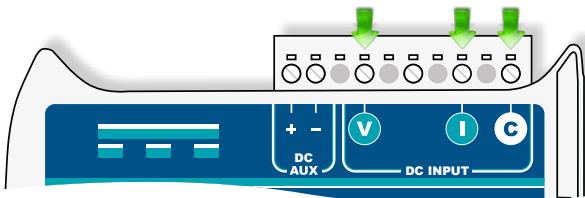


Battery chargers and systems

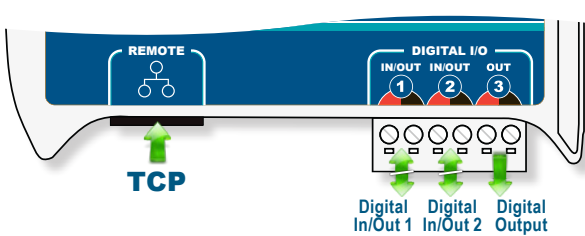


Data centers

### INPUTS



### COMMS & I/O



TCP

Digital In/Out 1 Digital In/Out 2 Digital Output

8-way DIP Switch

RS-485 or FT-10

Digital In/Out 1 Digital In/Out 2 Digital Output

### MEASUREMENT PARAMETERS\*

	DTS DC
<b>Measurements</b>	
DC Volts (Instantaneous, Max and Min)	✓
DC Current (Instantaneous, Max and Min)	✓
<b>Power</b>	
DC Power - kW (consumed/generated)	✓
Bi-directional for renewable systems	✓
<b>Energy</b>	
DC Energy - kWh (consumed/generated)	✓
<b>Setpoints, Alarms, Control</b>	
Pulse / Status Outputs	1 - 3
Counter / Status Inputs	2
<b>Communications</b>	
Modbus RTU	✓
Modbus TCP	✓
BACnet MS/TP	✓
BACnet / IP	✓
SNMP	✓
DNP 3.00 over IP	✓
LonWorks FT-10	✓

\* Model dependent

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: 0 - 50, 150, 400, 800 or 1000Vdc  
 Permanent overload: 1.2 x (1.05x for 800Vdc range)  
 Self powered: 120-400 Vdc, 420 Vdc Max  
 Input Impedance: 1MΩ for 400Vdc range & 2MΩ for 800Vdc range  
 Current Input Options: 0 - 5A (direct input)  
 >5A (external current shunt or Hall effect sensor)  
 Permanent overload: 1.25 x In  
 Shunt: 50 - 100mV (configurable)  
 Hall Effect sensors: 0-4Vdc or 0-5Vdc  
 0-20mA or 4-20mA

### Accuracy:

Voltage: 0.5% (10-110%)  
 Current: 0.5% (10-120%)  
 Power: 0.5% (10-120%)  
 Energy: 0.5% (10-120%)

### Aux Supply: (Not required for self-powered)

Voltage options: 12Vdc, 24Vdc or 48Vdc  
 Burden: <3VA  
 Isolation: 1500Vdc  
 Operating temp: -4° to 131°F (-20° to 55°C)  
 Tolerance: -25%, + 50%  
 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<sup>2</sup>)  
 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)

### Communication: (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

### Communication: (Ethernet)

Connection: RJ45, 10/100Base-T  
 Protocols: Modbus TCP or BACnet/IP or SNMP or DNP 3.0 over IP  
 Limits: Not available for 800Vdc 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: 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: Pending  
 Designed to: UL Std 61010.1  
 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 DC - **a b** - **c d** - **e** - **f** - **g**

### Current & Voltage Inputs

**a:** S = 50-100 mV shunt  
 I = external hall effect (20 mA)  
 V = external hall effect (5 Vdc)  
 D = 0-5A direct  
**b:** 1 = 50 Vdc  
 2 = 150 Vdc  
 4 = 400 Vdc  
 8 = 800 Vdc

### 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 Options\*\*

**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

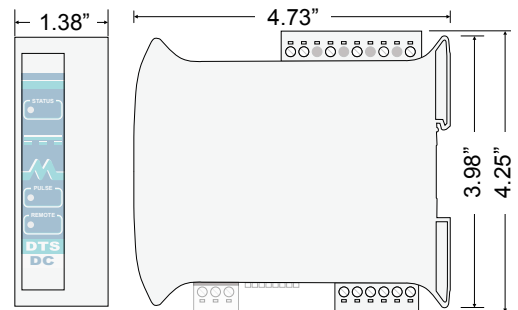
### Aux Supply

**f:** 1 = 12 Vdc  
 3 = 24 Vdc  
 5 = 48 Vdc  
 N = self-powered (120-400 Vdc)

### Current Range

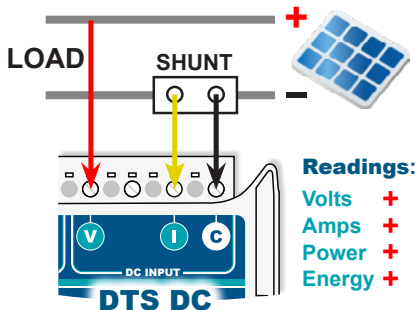
**g:** Amperage of sensor  
**Blank:** if no external sensor supplied

## DIMENSIONS

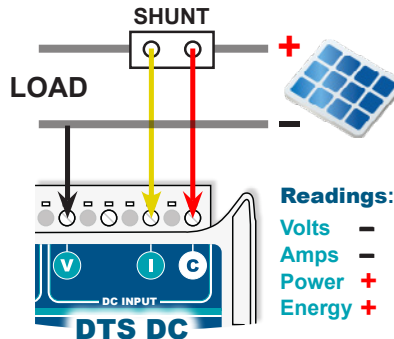


## CONNECTIONS (SHUNT OR DIRECT)

### Current Measurement in NEGATIVE Leg (recommended)



### Current Measurement in POSITIVE Leg



### Distributor:



Call Toll Free: 877-PQ-SOLNS (877-777-6567)

Fax (425) 799-4780

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

\* Model dependent  
 Technical details subject to change