DTS DC

DC ENERGY SUB-METER WITH REMOTE COMMUNICATIONS

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
- Up to 800Vdc Voltage input
- **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

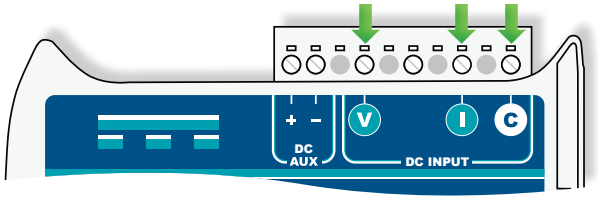

Solar / PV


Wind generators

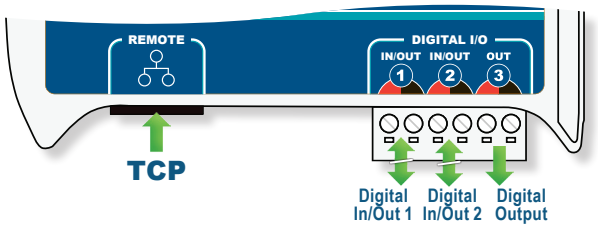

Battery chargers and systems

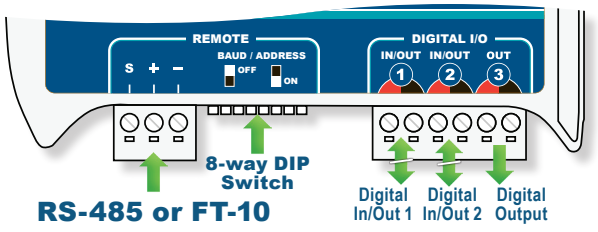

Data centers

INPUTS



COMMS & I/O





MEASUREMENT PARAMETERS*

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

* Model dependent

MEASURLOGIC
Toll-Free: 1-877-777-6567 • **Phone:** 303-805-5252 • **Email:** info@measurlogic.com

SPECIFICATIONS*

Measuring Circuits

Voltage range:	0 - 60, 150, 400 or 800Vdc
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%)

DC Aux Supply (Not required for self-powered)

Voltage options:	12Vdc, 24Vdc or 48Vdc
Tolerance:	-25%, + 50%
Burden:	<3VA
Isolation:	1500Vdc

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)

Environmental

Operating temp:	-4° to 131°F (-20° to 55°C)
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 (SunSpec Certified) 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 (SunSpec Certified) BACNet/IP or SNMP DNP 3.00 over IP

Pulse / Status Outputs (Option)

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 (Option)

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

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

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** = 60 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)

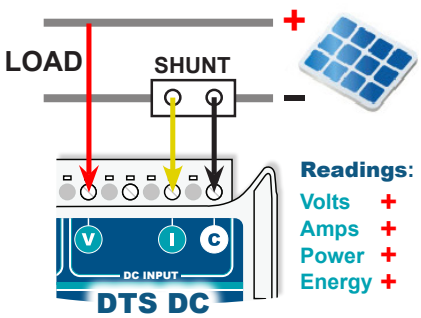
Current Range

g: **Amperage of sensor**

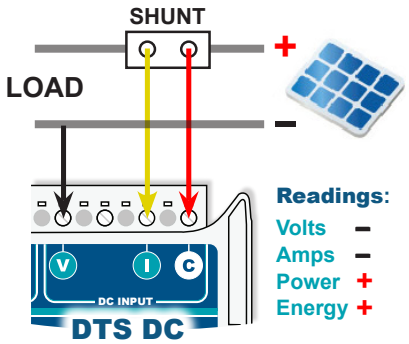
Blank: if no external sensor supplied

CONNECTIONS (SHUNT OR DIRECT)

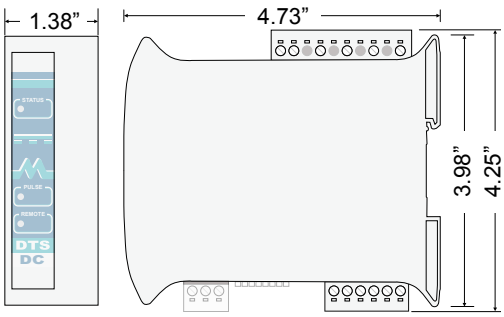
Current Measurement in NEGATIVE Leg (recommended)



Current Measurement in POSITIVE Leg



DIMENSIONS



Distributor:

* Model dependent
Technical details subject to change

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