

# DTS 307

## REVENUE GRADE ENERGY SUBMETER

## ETHERNET

Ultra  
Compact



### FEATURES

- Revenue Grade Submeter - ANSI C12.20
- Ultra-compact: 3.11" L x 1.38" W x 4.25" H
- DIN rail mounting design
- 333mV or Rogowski CTs (Software selectable)
- 208-480 Vac (1P 2W, 1P 3W, 3P 3 or 4W)
- Modbus TCP and BACnet/ IP (Concurrent)
- Pulse Output (kWh)
- Self powered single / three phase
- Inverter Mode (PV & 120V/240V panel with single DTS 307)
- Bi-directional for renewable systems (NET metering)
- Optional Low Voltage AC/DC Auxiliary (12-24Vdc or 24Vac)
- User-definable Modbus register area
- Auto-topology detection
- Color coded, pluggable connectivity
- User configurable using DTS Config software
- UL Listed, FCC Part 15 Class B
- BTL Listed, SunSpec Alliance certified
- Designed and Manufactured in the USA
- Complies with Buy American Provisions of ARRA Section 1605

### MEASUREMENT PARAMETERS\*

#### 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 (calculated)	✓
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	✓
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#### Energy

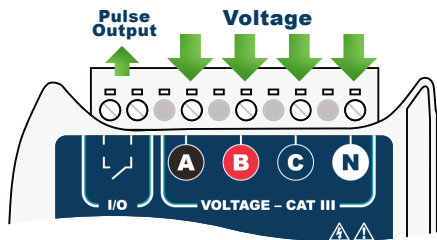
Active Energy - kWh (Net)	L1, L2, L3 & III
Active Energy - kWh (consumed/generated)	III
Reactive Energy - kVARh (Net)	L1, L2, L3 & III
Reactive Energy - kVARh (inductive/capacitive)	III

#### Setpoints, Alarms, Control

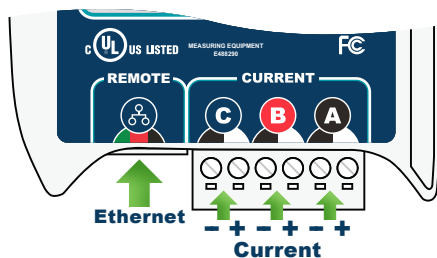
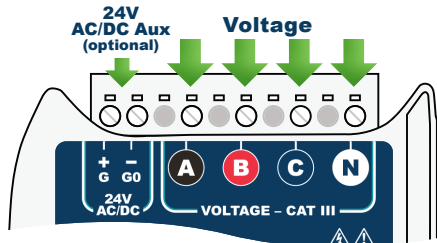
Pulse / Status Output	1
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#### Communications

Modbus TCP	✓
BACnet/ IP	✓



- OR -



## SPECIFICATIONS\*

### Measuring Circuits

Voltage range:	208-480Vac, L-L
Voltage overload:	1.1 x
Voltage burden:	<0.1 VA @ 277 Vac L-N
Frequency:	45 to 65 Hz
Rated current:	333mV
Current overload:	1.2 x
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 0.2 (ANSI C12.20)

### Voltage Supply (Self-Powered)

Voltage:	Powered from Phase A & Neutral
Frequency:	50/60 Hz
Burden:	<2VA

### Low Voltage AC/DC Auxiliary (Option)

Voltage options:	12-24Vdc or 24Vac
Tolerance:	+/- 10%
Burden:	<2VA
Isolation:	Must be powered from a Class 2 IEC 60950 isolated power supply

### 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:	3.11" (79mm) D x 4.25" (108mm) H x 1.38" (35mm) W
Weight:	0.5lb (0.23 kg)

### Environmental

Operating temp:	-31° to 158°F (-35° to 70°C)
Storage temp:	-40° to 185°F (-40° to 85°C)
Humidity:	5 to 95% R.H. non-condensing

### Communications (Ethernet)

Connection:	RJ45, 10/100 Base T
Protocols:	Modbus TCP (SunSpec Certified) or BACnet/ IP (BTL Listed)

### 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:	Isolated Pin-Pair

### Standards & Safety

UL Listing:	Pending
Conforms to:	UL Std 61010.1 3rd Edition, May 11, 2012, Revised July 15, 2015
Certified to:	CAN/CSA C22.2 # 61010.1, 3rd Edition, Revised July 15, 2015
Additional Standards:	IEC 61010-2-030: 2010, 1st Edition
EMC:	IEC 61326-1 (2012) Ed2 IEC 61000-3-2, 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:	FCC Part 15 Class B
Other:	Measurement Category III – 300Vac L-N / 520Vac L-L PD2
Communications:	BTL Listed. SunSpec Alliance certified
RoHS:	Compliant

## MODEL NUMBER BUILDER\*

DTS 307 - **a b** - **c d** - **e** - **f**

### Current & Voltage Inputs

- a: 3** = 333mV CT or Rogowski CTs  
**b: 4** = 208 - 480 Vac L-L

### Communications

- C: E** = Ethernet  
**d: M** = Modbus ONLY  
**B** = BACnet & Modbus

### I/O

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

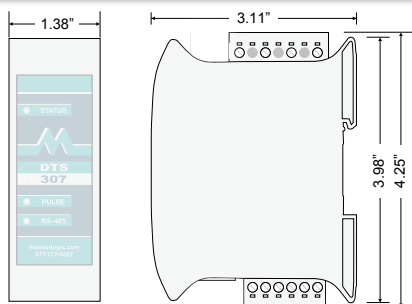
### Service Type

- f: N** = Neutral (1P 2W, 1P 3W, 3P 4W) 120 – 480 Vac  
**Low Voltage Option**  
**f: A** = 12 - 24Vdc or 24Vac

## ORDERING EXAMPLES

Part Number	Current	Voltage	Communications	I/O	Powering
DTS 307-34-EB-P-N	333mV CTs or Flexible Rogowski CTs (software selectable)	Single Phase 2 or 3 wire   3 phase 4 wire up to 480V L-L	Ethernet: BACnet/ IP and Modbus TCP (concurrently)	1 x digital output (kWh)	Self-powered (Va - N)
DTS 307-34-EB-N-A		Single Phase 2 or 3 wire   3 ph 3 or 4 wire up to 480V L-L NEUTRAL Optional		Not fitted	24Vac or 12-24Vdc

## DIMENSIONS



## CURRENT TRANSFORMER COMPATIBILITY



**Split Core CTs**  
measurlogic.com/102



**Solid Core CTs**  
measurlogic.com/104



**Rogowski CTs**  
measurlogic.com/106

**Distributor:**

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

R25A