OSI ENERGY SCOUT+ WATTHOUR METER MODEL ESP2-

LOW-COST

DESCRIPTION

The model ESP2 Watthour meter is used to measure energy at the input to electrical load centers or branch circuits. The unit displays Volts, Amps, Watts and power factor, in addition to import and export energy.

The unit is DIN-rail mounted and has optional indoor and outdoor enclosures. Solid-core or split-core current transformers are available.

FEATURES

- Easy-to-install DIN-rail package
- Indoor or outdoor package options
- Optional split-core current transformers

APPLICATIONS

- Input to electrical load centers
- Branch circuits

18 MONTH WARRANTY

CONNECTION OPTIONS

SYSTEM CONFIGURATION	VOLTAGE INPUT (Vac)	MODEL ESP2-
1-Phase 2-Wire*	120	354EDM-N
1-Phase 2-Wire*	240	354EDM-N
1-Phase 3-Wire*	120/240	25EDS-N
1-Phase 3-Wire Network*	120/208	354EDM-N
3-Phase 3-Wire*	208	354EDM-N
3-Phase 4-Wire*	120/208	354EDM-N

*Use in a 1Φ2W system requires 1 CT, use in a 1Φ3W or 3Φ3W system requires 2 CTs, use in a 3Φ4W system requires 3 CTs. Solid and Split-Core CTs are available separately. See SCT and BCT spec sheets.

ORDERING INFORMATION

Example: 3Φ3W Watthour Meter with 208Vac and 200Aac Input, with Split-core CTs in Outdoor Surface-mount Enclosure

ESP2-354EDM-N with SCT-013-200 (Qty 2) and ENC-OSM

Enclosures for indoor and outdoor applications are available. See ENC spec sheet.

SPECIFICATIONS

INPUT

Current Range
- With appropriate CTs* 0-200, 0-400, 0-600, 0-800Aac
- Over-range without damage ..... 125% F.S.

Voltage ..... Nominal by Model ..... 120, 208, 240V_{L-L}
- Operating Range ..... 120, 208, 240Vac ..... ±30%

Power Factor ..... any
Frequency Range 47-63Hz
Power Consumption ..... <1VA

OUTPUT

Pulse Value** ..... 1.25Wh/Pulse x S.F., polarity sensitive
- Contact Closure (Low-impedance) ..... low<3Ω, high>1MΩ
- Duration 50% duty cycle or 80ms, whichever is greater
- Version 2.0 Meters ..... RS-485, 1200 baud (E,7,1)
- Version 3.0 Meters ..... RS-485, 9600 baud (E,7,1)

DISPLAYED VALUES** (5s per value)

		V2.0	V3.0
Energy (Import and Export)	(kWh)	XXXXX.XX	XXXXXX.X
Volts (Per-Phase)	(Vac)	XXX.X	XXX.X
Amps (Per-Phase)	(Aac)	XXX.X	XXX.X
Power (Per-Phase & Total)	(W)	XXXXX	XXXXXXX
Pwr Factor (Per-Ph w/Dir)	(C or L)	X.XX	X.XX

Version 2.0 Meters: Displayed values are labeled 01 thru 16, skipping 09.

Version 3.0 Meters: Displayed values are labeled 01 thru 15

DIELECTRIC TEST

Input/Output/Case 2250Vac

**SCALING FACTOR (for CTs with other than 200A primary)

Displayed Values and Pulse Values must be multiplied by a scaling factor that is determined by dividing the primary current rating of the CTs by 200. (for 200A primary, S.F. = 1)

For example: If using 400A CTs, S.F. = 400/200 = 2.
- Pulse Value = 1.25 x 2 = 2.5Wh/Pulse.
- Displayed Values: displayed values x 2 = actual

TIME OF USE (Parameters Available via RS-485 Port)

Real-Time Clock Calendar with Battery Back-up

4 Tariff Periods (T_1, T_2, T_3, T_4) Per Day. (Active Tariff Period is shown on display below decimal point in kWh reading.)

Max. Demand for 15-, 30-, or 60-Minute Intervals.

Resettable Demand via RS-485 Port

NOTE: See ESP2 Serial Reading & Programming Guide (7004-00095-A) for details.

ACCURACY

IEC 61036 5(200)A & 10(400)A ..... Class 0.5

PHYSICAL & ENVIRONMENTAL

Operating Range ..... -30º to 55ºC
Storage Range ..... 0º to 40ºC
Operating Humidity ..... 0-85% non-condensing
Weight ..... 8.3 oz
Termination (Screw Compression) ..... 20-16 AWG
Enclosure Material ..... ABS

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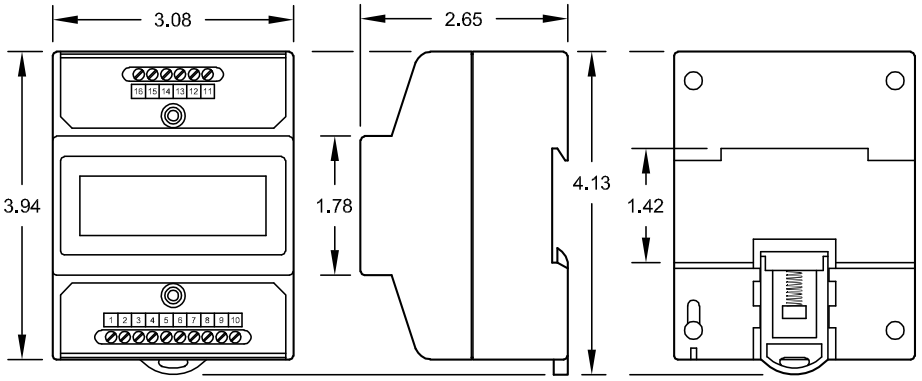
DISPLAY, CONNECTIONS & DIMENSIONS *MODEL* ESP2-

CASE DIMENSIONS



FRONT VIEW SHOWN WITH TERMINAL COVERS REMOVED

TERMINAL BLOCK ACCESS HOLE DIAMETER - .105"

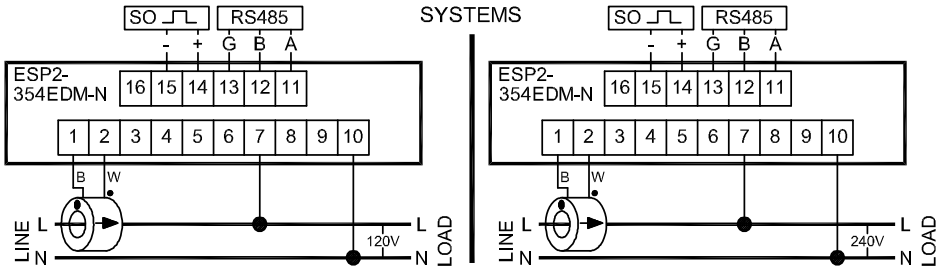
DISPLAY ORDER

Order	ver 2.0	ver 3.0
01	kWh (forward)	kWh (forward)
02	kWh (reverse)	kWh (reverse)
03	Voltage L1-L2	Voltage L1-L2
04	Voltage L2-L3	Voltage L2-L3
05	Voltage L3-L1	Voltage L3-L1
06	Amps L1	Amps L1
07	Amps L2	Amps L2
08	Amps L3	Amps L3
09	(none)	Power L1-L2
10	Power L1-L2	Power L2-L3
11	Power L2-L3	Power L3-L1
12	Power L3-L1	Power (total)
13	Power (total)	cos L1
14	cos L1	cos L2
15	cos L2	cos L3
16	cos L3	(none)

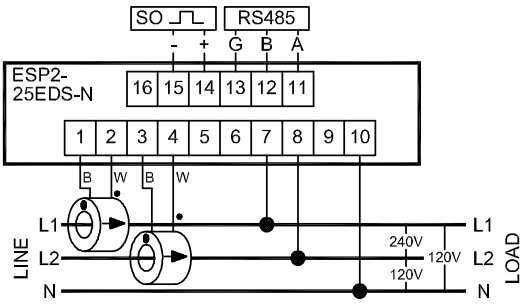
CONNECTION DIAGRAMS

ORIENTATION OF CT ON WIRE
(FOR ALL CONFIGURATIONS)

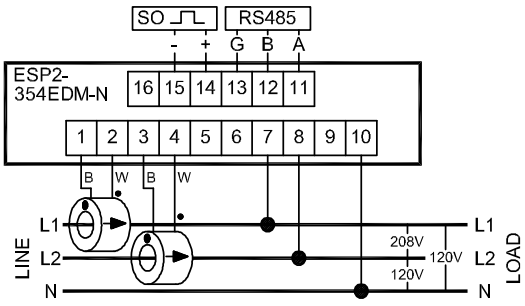
1-PHASE 2-WIRE SYSTEMS



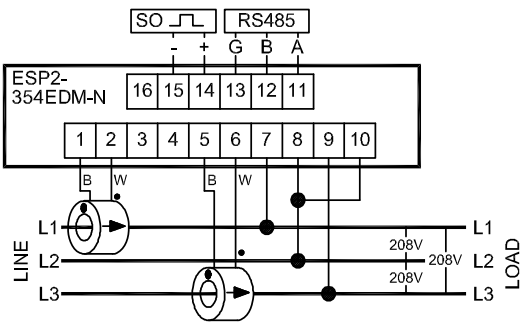
1-PHASE 3-WIRE SYSTEMS



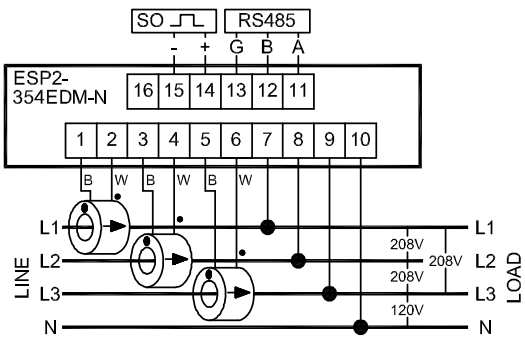
1-PHASE 3-WIRE NETWORK SYSTEMS



3-PHASE 3-WIRE SYSTEMS



3-PHASE 4-WIRE SYSTEMS



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