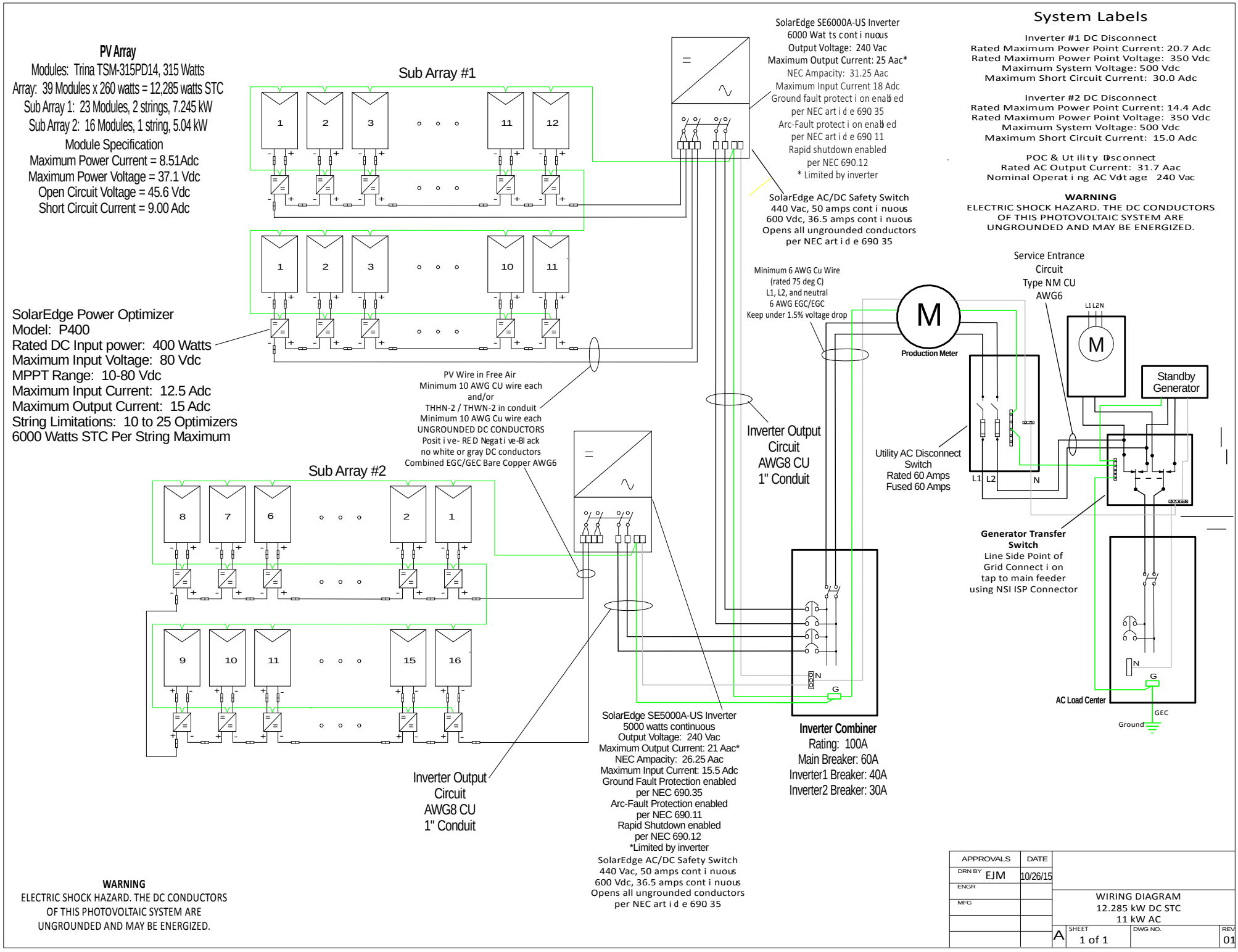
PV Array
Modules: Trina TSM-315PD14, 315 Watts
Array: 39 Modules x 260 watts = 12,285 watts STC
Sub Array 1: 23 Modules, 2 strings, 7.245 kW
Sub Array 2: 16 Modules, 1 string, 5.04 kW
Module Specification
Maximum Power Current = 8.51Adc
Maximum Power Voltage = 37.1 Vdc
Open Circuit Voltage = 45.6 Vdc
Short Circuit Current = 9.00 Adc
Sub Array #1
1 2 3 11 12
1 2 3 10 11
SolarEdge Power Optimizer
Model: P400
Rated DC Input power: 400 Watts
Maximum Input Voltage: 80 Vdc
MPPT Range: 10-80 Vdc
Maximum Input Current: 12.5 Adc
Maximum Output Current: 15 Adc
String Limitations: 10 to 25 Optimizers
6000 Watts STC Per String Maximum
SolarEdge SE6000A-US Inverter
6000 Watts continuous
Output Voltage: 240 Vac
Maximum Output Current: 25 Aac*
NEC Ampacity: 31.25 Aac
Maximum Input Current 18 Adc
Ground fault protection enabled
per NEC article 690 35
Arc-Fault protection enabled
per NEC article 690 11
Rapid shutdown enabled
per NEC 690.12
* Limited by inverter
SolarEdge AC/DC Safety Switch
440 Vac, 50 amps continuous
600 Vdc, 36.5 amps continuous
Opens all ungrounded conductors
per NEC article 690 35
System Labels
Inverter #1 DC Disconnect
Rated Maximum Power Point Current: 20.7 Adc
Rated Maximum Power Point Voltage: 350 Vdc
Maximum System Voltage: 500 Vdc
Maximum Short Circuit Current: 30.0 Adc
Inverter #2 DC Disconnect
Rated Maximum Power Point Current: 14.4 Adc
Rated Maximum Power Point Voltage: 350 Vdc
Maximum System Voltage: 500 Vdc
Maximum Short Circuit Current: 15.0 Adc
POC & Utility Disconnect
Rated AC Output Current: 31.7 Aac
Nominal Operating AC Voltage 240 Vac
WARNING
ELECTRIC SHOCK HAZARD. THE DC CONDUCTORS
OF THIS PHOTOVOLTAIC SYSTEM ARE
UNGROUNDED AND MAY BE ENERGIZED.
Minimum 6 AWG Cu Wire
(rated 75 deg C)
L1, L2, and neutral
6 AWG EGC/EGC
Keep under 1.5% voltage drop
Service Entrance
Circuit
Type NM CU
AWG6
L1 L2 N
M
Production Meter
Standby
Generator
PV Wire in Free Air
Minimum 10 AWG CU wire each
and/or
THHN-2 / THWN-2 in conduit
Minimum 10 AWG Cu wire each
UNGROUNDED DC CONDUCTORS
Positive- RED Negative-Black
no white or gray DC conductors
Combined EGC/GEC Bare Copper AWG6
Inverter Output
Circuit
AWG8 CU
1" Conduit
Utility AC Disconnect
Switch
Rated 60 Amps
Fused 60 Amps
L1 L2 N
Sub Array #2
8 7 6 2 1
9 10 11 15 16
Generator Transfer
Switch
Line Side Point of
Grid Connection
tap to main feeder
using NSI ISP Connector
N
G
AC Load Center
GEC
Ground
Inverter Output
Circuit
AWG8 CU
1" Conduit
SolarEdge SE5000A-US Inverter
5000 watts continuous
Output Voltage: 240 Vac
Maximum Output Current: 21 Aac*
NEC Ampacity: 26.25 Aac
Maximum Input Current: 15.5 Adc
Ground Fault Protection enabled
per NEC 690.35
Arc-Fault Protection enabled
per NEC 690.11
Rapid Shutdown enabled
per NEC 690.12
*Limited by inverter
SolarEdge AC/DC Safety Switch
440 Vac, 50 amps continuous
600 Vdc, 36.5 amps continuous
Opens all ungrounded conductors
per NEC article 690 35
Inverter Combiner
Rating: 100A
Main Breaker: 60A
Inverter1 Breaker: 40A
Inverter2 Breaker: 30A
WARNING
ELECTRIC SHOCK HAZARD. THE DC CONDUCTORS
OF THIS PHOTOVOLTAIC SYSTEM ARE
UNGROUNDED AND MAY BE ENERGIZED.
APPROVALS
DATE
DRN BY EJM 10/26/15
ENGR
MFG
WIRING DIAGRAM
12.285 kW DC STC
11 kW AC
A
SHEET 1 of 1
DWG NO.
REV 01