

Project:
 PETALUMA, CA 94954
 Project Details:
 1040.4 kW_{stc}, 960.0 kW AC
 AHJ: CITY OF PETALUMA

Engineering Approval:

REVISIONS		
DESCRIPTION	DATE	REV
ORIGINAL	3/23/2016	A
LAYOUT CHANGE	10/7/2016	B
OFFICE OVERLAY	10/12/2016	C

Sheet Title:
 SITE PLAN

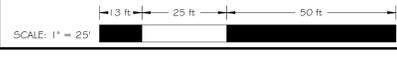
Sheet Number:
 A1.0

Sheet Size:
 ARCH D - 36" x 24"

DESIGN & DRAFTING BY:
 ERIC HAYES *Eric Hayes*



Reviewed & Approved by:
 JH



N MCDOWELL BLVD



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Sheet Title:

STRING MAP

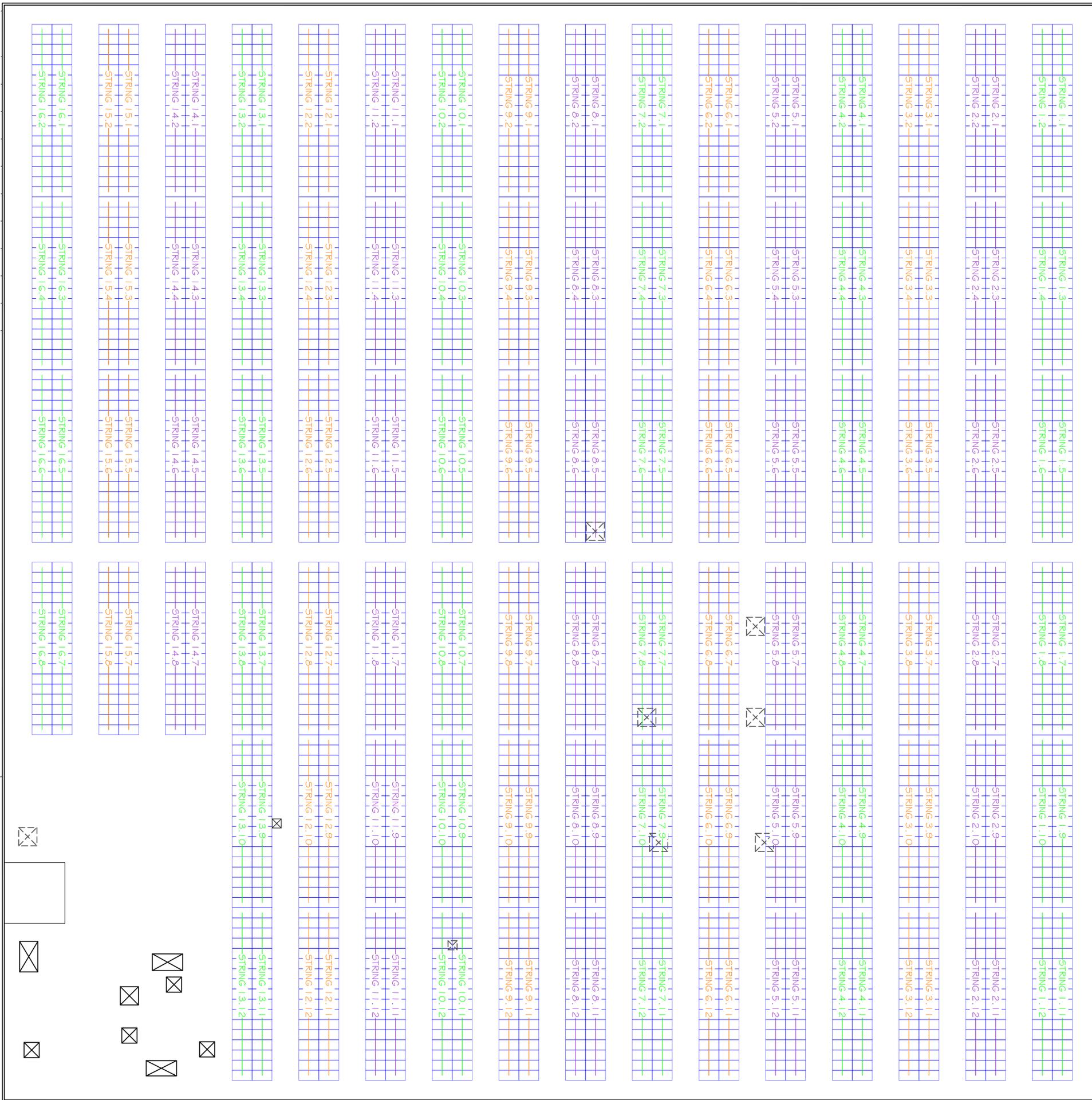
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Sheet Size:
ARCH D - 36" x 24"

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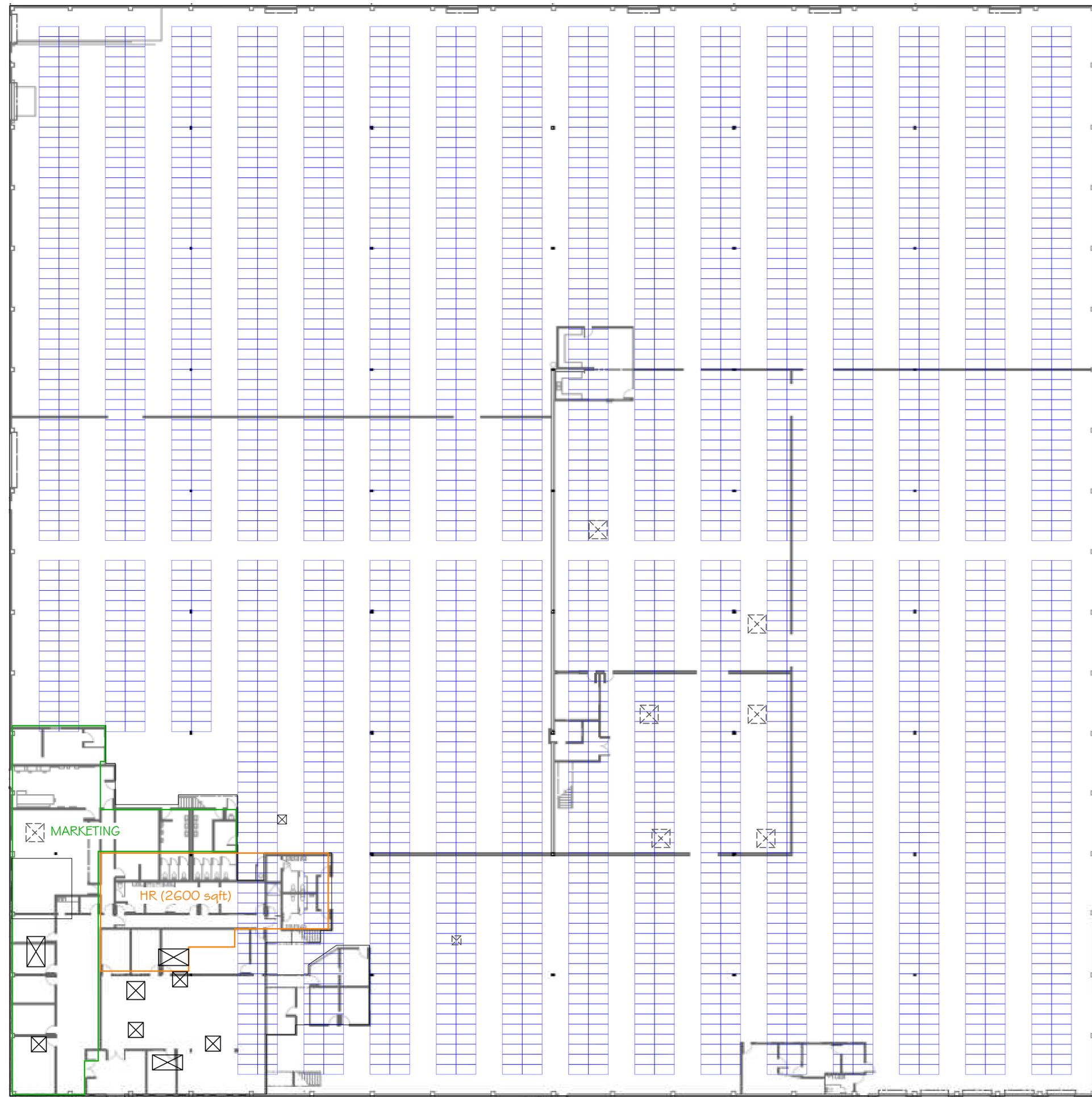
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SCALE: 1" = 16'



SCALE: 1" = 16'



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OFFICE OVERLAY

Sheet Number:

A1.4

Sheet Size:

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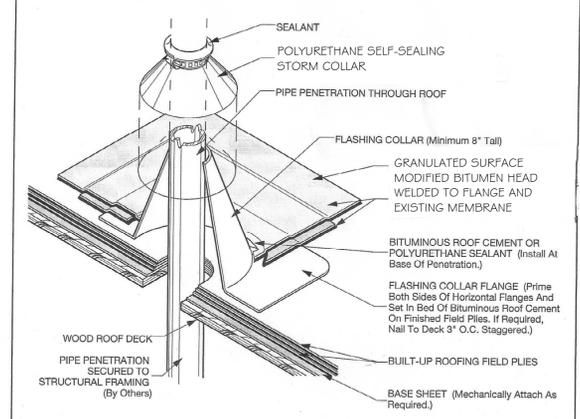
DESIGN & DRAFTING BY:
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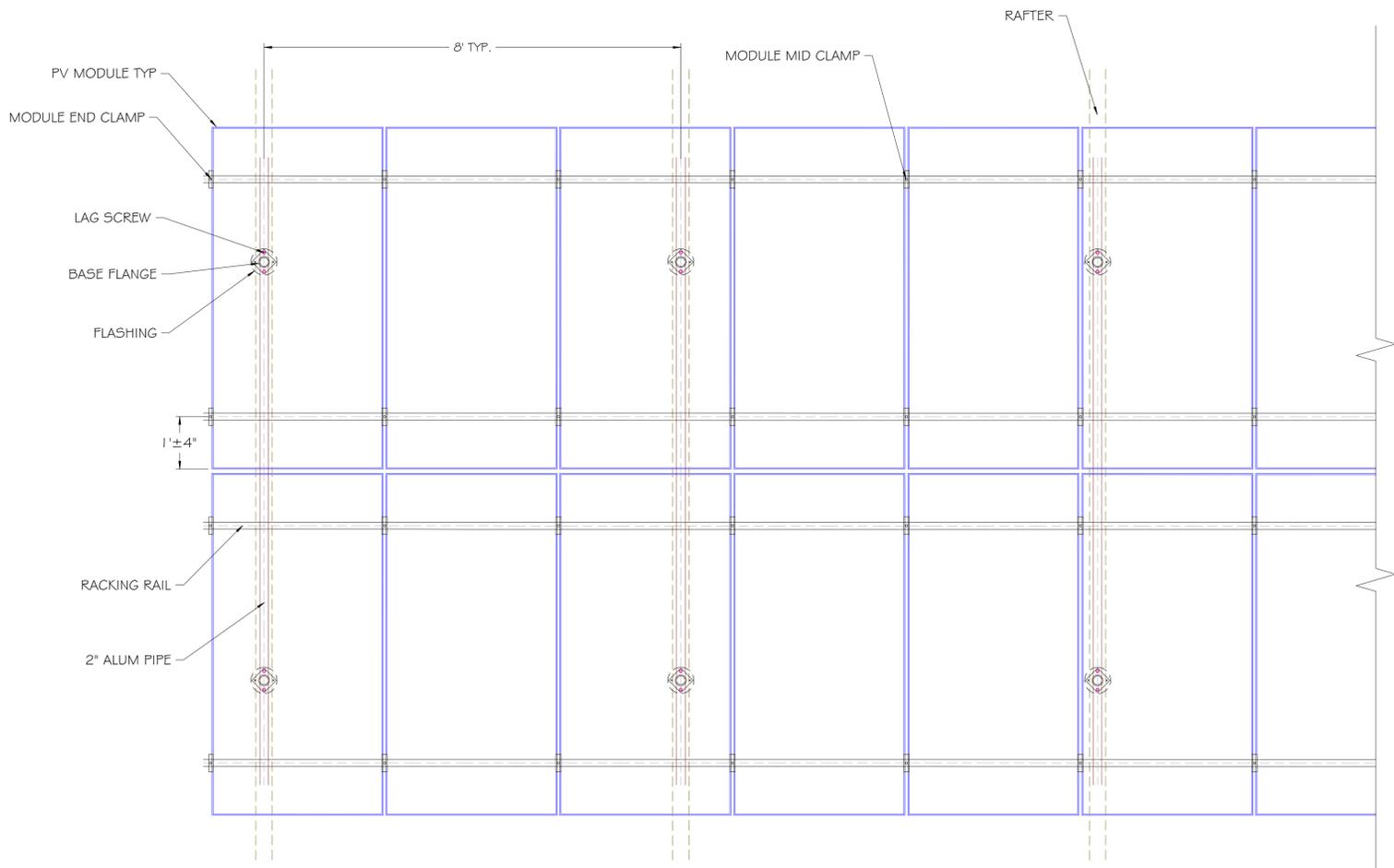
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PIPE PENETRATION WITH SHEET METAL FLASHING **BUR-5**



- Notes:
1. Dimensions shown are recommended minimums and are intended to be approximate to allow for reasonable tolerances due to field conditions.
 2. This detail is suitable for flashing round pipes used to support equipment, electrical conduit, water and gas lines, sheet metal flues, plumbing soil pipe vents and other similar penetrations.
 3. The horizontal flashing flanges are recommended to be a minimum of 4" wide.
 4. Set metal flashing flanges on finished field ples and strip-in before surfacing.
 5. Top surfaced flashing ply is recommended to be white or other light reflecting surface to minimize heat gain and thermal movement.



MOUNTING PLAN VIEW
SCALE: 1" = 18"

PENETRATION FLASHING
SCALE: N.T.S.

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ROOF MOUNTING & RACKING METHOD

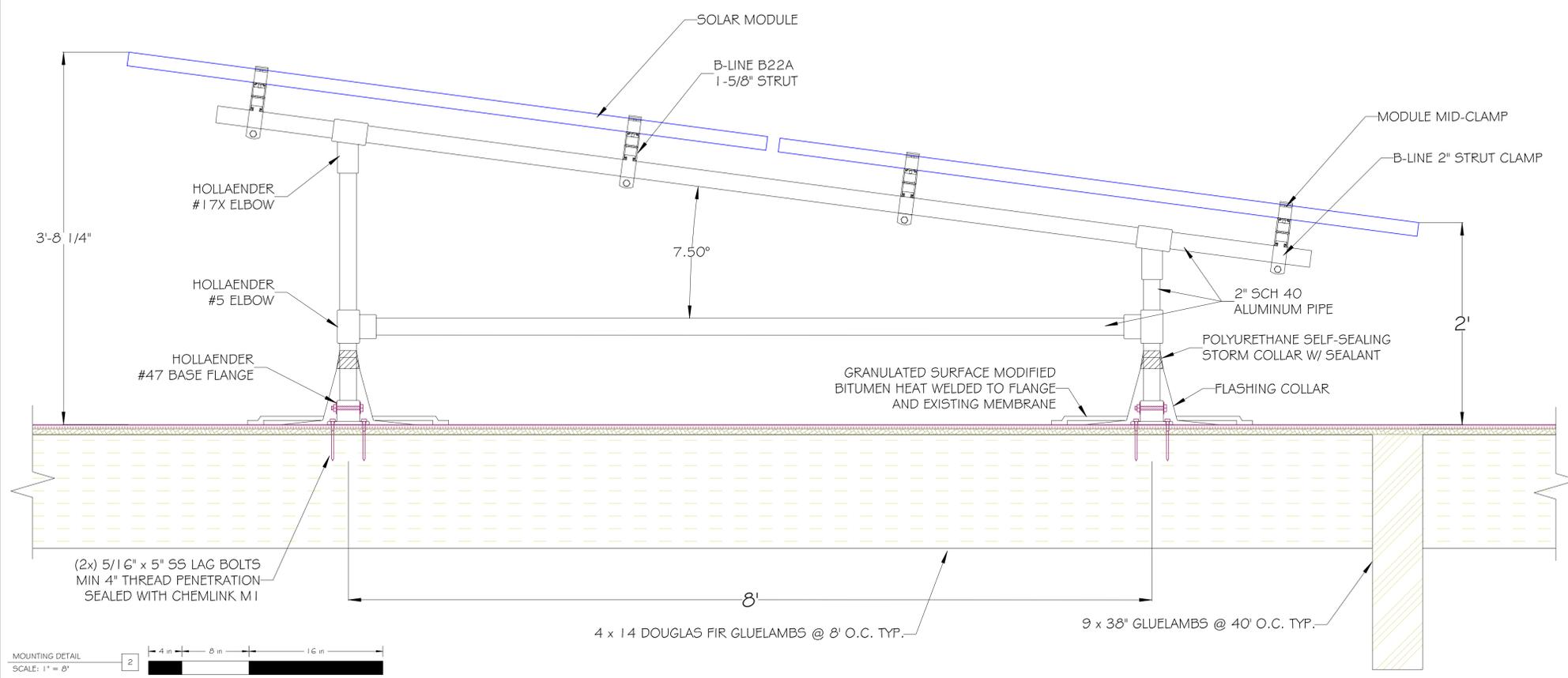
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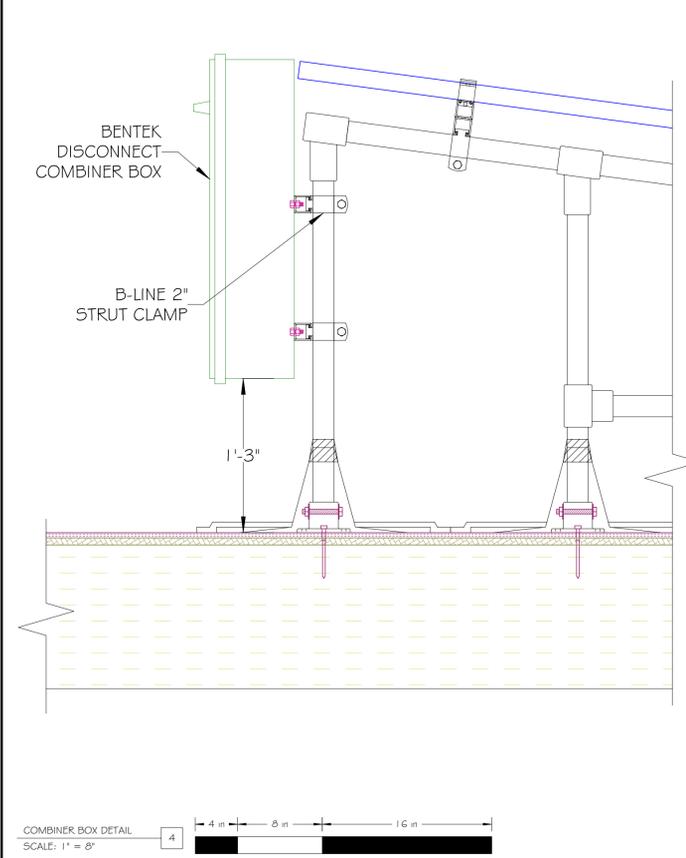
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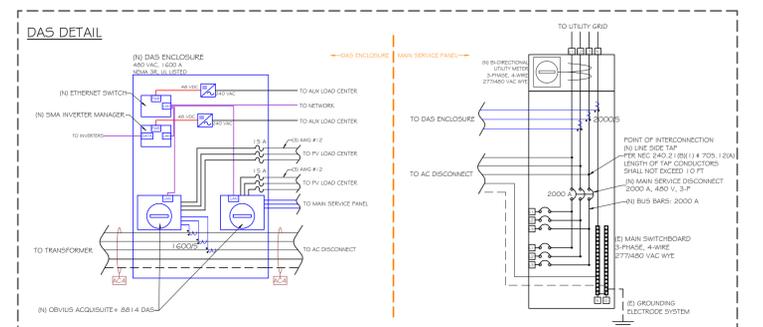
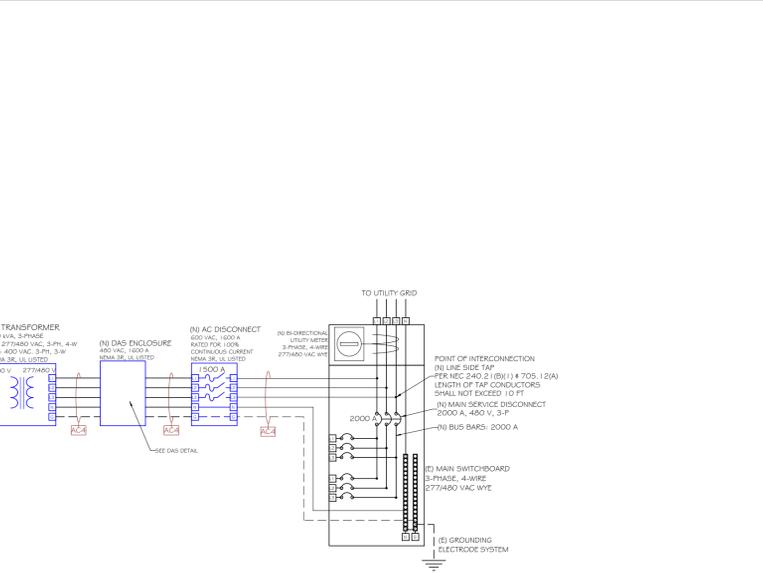
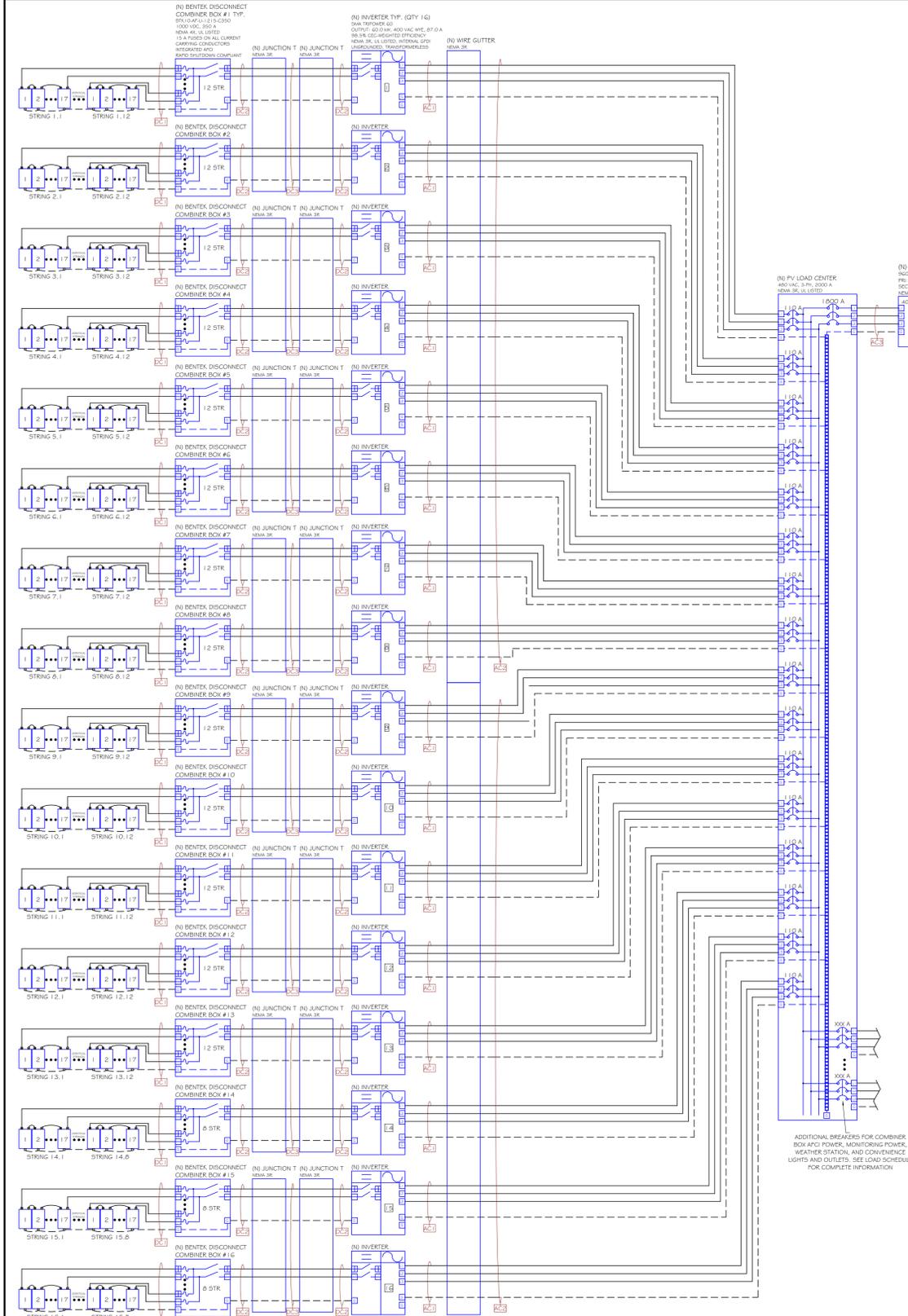


MOUNTING DETAIL
SCALE: 1" = 8"



COMBINER BOX DETAIL
SCALE: 1" = 8"

---- = EQUIP. GROUNDING CONDUCTOR — = CIRCUIT CONDUCTOR —|— = FUSE —|— = CIRCUIT BREAKER (N) = NEW EQUIP. (E) = EXISTING EQUIP. L1 = LINE 1 (BROWN) L2 = LINE 2 (ORANGE) L3 = LINE 3 (YELLOW) N = NEUTRAL (WHITE) G = GROUND (GREEN) + = POSITIVE (RED) - = NEGATIVE (BLACK)



Array Configuration																
System: 1040.4 kWstc, 960 kW AC																
Total PV Module Qty: 3060																
Inverter I.D.#	Inv #1	Inv #2	Inv #3	Inv #4	Inv #5	Inv #6	Inv #7	Inv #8	Inv #9	Inv #10	Inv #11	Inv #12	Inv #13	Inv #14	Inv #15	Inv #16
Inverter AC Power (kW):	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00
PV Power (kWstc):	69.36	69.36	69.36	69.36	69.36	69.36	69.36	69.36	69.36	69.36	69.36	69.36	69.36	46.24	46.24	46.24
Module Total Qty:	204	204	204	204	204	204	204	204	204	204	204	204	204	136	136	136
Inverter DC/AC Ratio:	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	0.77	0.77	0.77
String Qty:	12	12	12	12	12	12	12	12	12	12	12	12	12	8	8	8
String Length:	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17
Max Open Circuit Voltage:	857	857	857	857	857	857	857	857	857	857	857	857	857	857	857	857
Operating Voltage:	629	629	629	629	629	629	629	629	629	629	629	629	629	629	629	629
Max Short Circuit Current:	143.1	143.1	143.1	143.1	143.1	143.1	143.1	143.1	143.1	143.1	143.1	143.1	143.1	95.4	95.4	95.4
Operating Current:	108.2	108.2	108.2	108.2	108.2	108.2	108.2	108.2	108.2	108.2	108.2	108.2	108.2	72.2	72.2	72.2

PV Module Specifications	
Model Number:	LG LG34052W-G4
Weight:	44.8 lbs
Dimensions:	77.2 x 39.4 x 1.8 (in)
Module Power @ STC:	340 Watts
Voc (open-circuit Voltage):	46.4 Volts DC
Vmp (max-power Voltage):	37.7 Volts DC
Isc (short-circuit current):	9.54 Amps
Imp (max-power current):	9.02 Amps
Mfr Voc Temp Coefficient:	-0.30 %/°C
UL Listed Voltage Rating:	1,000 Volts DC

PV Inverter Specifications	
Model Number:	SMA STP-60-US-10
Power Rating:	60.00 kW AC
Nominal Voltage:	400 Volts AC
Max Output Current:	87.0 Amps
CEC Weighted Efficiency:	98.0%
Max Current MPPT A:	110.0
Maximum DC Voltage:	1000
DC Start Voltage:	565
MPPT Quantity:	1
Inverter Quantity:	16
Max Current MPPT B:	N/A
Max. MPPT Voltage:	800

PV System Maximum Voltage Calculation per NEC 690.7(A)			
Local Record Low Temp:	-4 °C	Voc	857.4
Voc Temp Coefficient:	0.3%/°C	Correction Factor:	1.087
Calculation:	857.4 x 1.087	Result:	931.7 Volts DC

AC System Summary (INV -> XFMR)		AC System Summary (XFMR -> POI)	
NOMINAL SYSTEM VOLTAGE:	400 Volts AC	NOMINAL SYSTEM VOLTAGE:	480 Volts AC
MAX CURRENT PER 690.8(A):	1392 Amps	MAX CURRENT PER 690.8(A):	1160 Amps
MAX CURRENT PER 690.8(B):	1740 Amps	MAX CURRENT PER 690.8(B):	1450 Amps

WIRE AND CONDUIT SCHEDULE									
TAG	COND QTY	COND SIZE	COND TYPE	GND QTY	GND SIZE	GND TYPE	CONDUIT SIZE	CONDUIT TYPE	EST. DIST.
DC1	2/STRING	AWG #10	PV-WIRE	1	AWG #6	BARE CU	N/A	N/A	50
DC2	2	AWG #4/0	PV-WIRE	1	AWG #6	PV-WIRE	2"	EMT	20
DC3	4	AWG #3/0	PV-WIRE	1	AWG #6	PV-WIRE	3"	EMT	200
AC1	3	AWG #2	THWN-2	1	AWG #6	THWN-2	1-1/4"	EMT	20
AC2	24	AWG #2	THWN-2	1	AWG #6	THWN-2	3"	EMT	20
AC3	12	1000 kcmil	THWN-2	4	250 kcmil	THWN-2	(4) 4"	EMT	20
AC4	12	1000 kcmil	THWN-2	3	AWG #4/0	THWN-2	(3) 4"	EMT	20

PV LOAD CENTER SCHEDULE

CKT NO	ACCESSORIES	RATING AMP	RATING AMP	ACCESSORIES	CKT NO
1	INVERTER #1	110/3-P	15/3-P	COMBINER #1	1
2	INVERTER #2	110/3-P	15/3-P	COMBINER #2	2
3	INVERTER #3	110/3-P	15/3-P	COMBINER #3	3
4	INVERTER #4	110/3-P	15/3-P	COMBINER #4	4
5	INVERTER #5	110/3-P	15/3-P	COMBINER #5	5
6	INVERTER #6	110/3-P	15/3-P	COMBINER #6	6
7	INVERTER #7	110/3-P	15/3-P	COMBINER #7	7
8	INVERTER #8	110/3-P	15/3-P	COMBINER #8	8
9	INVERTER #9	110/3-P	15/3-P	COMBINER #9	9
10	INVERTER #10	110/3-P	15/3-P	COMBINER #10	10
11	INVERTER #11	110/3-P	15/3-P	COMBINER #11	11
12	INVERTER #12	110/3-P	15/3-P	COMBINER #12	12
13	INVERTER #13	110/3-P	15/3-P	COMBINER #13	13
14	INVERTER #14	110/3-P	15/3-P	COMBINER #14	14
15	INVERTER #15	110/3-P	15/3-P	COMBINER #15	15
16	INVERTER #16	110/3-P	15/3-P	COMBINER #16	16
17	FUTURE PROVISION	110/3-P	15/3-P	GENERATION METER	100
18	FUTURE PROVISION	110/3-P	15/3-P	DEMAND METER	101
19	FUTURE PROVISION	15/3-P	15/3-P	INVERTER MANAGER	102
20	FUTURE PROVISION	15/3-P	15/3-P	ETHERNET SWITCH	103
21	FUTURE PROVISION	15/3-P	15/3-P	WEATHER STATION	104
22	FUTURE PROVISION	15/3-P	15/3-P	CONVENIENCE LIGHTS	105
23	FUTURE PROVISION	15/3-P	15/3-P	AUXILIARY TRANSFORMER	106

WARNING: ELECTRIC SHOCK HAZARD. DO NOT TOUCH TERMINALS. TERMINALS ON BOTH THE LINE AND LOAD SIDES MAY BE ENERGIZED IN THE OPEN POSITION.

PHOTOVOLTAIC POWER SOURCE

WARNING: IF A GROUND FAULT IS INDICATED, THE NORMALLY GROUNDED CONDUCTORS MAY BE ENERGIZED AND UNGROUNDED.

WARNING: INVERTER OUTPUT CONNECTION. DO NOT RELOCATE THIS OVERCURRENT DEVICE.

SOLAR AC DISCONNECT

SOLAR DC DISCONNECT

WARNING: ELECTRIC SHOCK HAZARD. THE DC CONDUCTORS OF THE PV SYSTEM ARE UNGROUNDED AND MAY BE ENERGIZED.

WARNING: PHOTOVOLTAIC POWER SOURCE

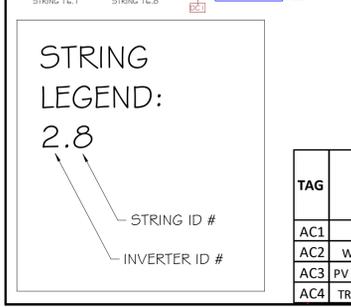
THIS ELECTRIC SERVICE IS ALSO SERVED BY A PHOTOVOLTAIC SYSTEM

GRID TIED PHOTOVOLTAIC POWER SOURCE
OPERATING CURRENT: 69.2 A
OPERATING VOLTAGE: 629 V
MAX SYSTEM VOLTAGE: 857 V
MAX SYSTEM CURRENT: 131.2 A
MAX INVERTER OUTPUT: 60 kW, 87 A, 400 VAC

PHOTOVOLTAIC SYSTEM DISCONNECT
AC CURRENT: 1450 A
VOLTAGE: 480 VAC

REVISIONS

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TAG	CIRCUIT ORIGIN	CIRCUIT DESTINATION	CONDUCTOR SPECIFICATIONS			REQUIRED CONDUCTOR AMPACITY			AMPACITY CHECK #1		CONDUCTOR TEMPERATURE DERATING				CONDUIT FILL DERATING		CORRECTED AMPACITY CALCULATION			AMPACITY CHECK #2		VOLTAGE DROP	
			MATERIAL	TEMP. RATING	TRADE SIZE	AMPACITY @ 30°C PER 310.15(B)(16)	125% PER 690.8(A)(1) x PARALLEL	125% PER 690.8(A)(1)&(2) x PARALLEL	MAX CURRENT PER 690.8(B)(2)(a)	CONDUCTOR AMPACITY	MAX CURRENT PER 690.8(B)(2)(a)	CIRCUIT ENVIRONMENT	LOCAL 2% AVG. HIGH TEMP (°C)	HEIGHT ABOVE ROOF (in)	TEMP. ADJ. PER 310.15(B)(3)(c)	EXPECTED OPERATING TEMP (°C)	AMPACITY CORRECTION 310.15(B)(2)(a)	# OF UNGROUNDED CONDUCTORS	AMPACITY CORRECTION 310.15(B)(3)(a)	AMPACITY x TEMP DERATE	CONDUIT FILL DERATE	DERATED CONDUCTOR AMPACITY	MAX CURRENT PER 690.8(A)(3)
DC1	PV STRING	COMBINER BOX	COPPER	90°C	AWG #10	40 Amps	1.25 x 9.54 x 1 = 11.9 Amps	1.25 = 14.9 Amps	14.9 Amps < 40 Amps	ROOFTOP, FREE AIR	31	1	22	53	0.76	N/A	1.00	40 x 0.76 x 1.00 = 30.4 Amps	11.9 Amps < 30.4 Amps	50 ft	0.19%		
DC2	COMBINER BOX	WIRE GUTTER	COPPER	75°C	AWG #4/0	230 Amps	1.25 x 9.54 x 12 = 143.1 Amps	1.25 = 178.9 Amps	178.9 Amps < 230 Amps	ROOFTOP, IN CONDUIT	31	1	22	53	0.67	2	1.00	230 x 0.67 x 1.00 = 154.1 Amps	143.1 Amps < 154.1 Amps	20 ft	0.04%		
DC3	WIRE GUTTER	INVERTER	COPPER	75°C	AWG #3/0	200 Amps	1.25 x 9.54 x 12 = 143.1 Amps	1.25 = 178.9 Amps	178.9 Amps < 200 Amps	INDOORS (+°C)	31	N/A	31	0.94	4	0.80	200 x 0.94 x 0.80 = 150.4 Amps	143.1 Amps < 150.4 Amps	200 ft	0.56%			
AC1	INVERTER	WIRE GUTTER	COPPER	75°C	AWG #2	115 Amps	87.0 x 1 = 87.0 Amps	1.25 = 108.8 Amps	108.8 Amps < 115 Amps	INDOORS (+°C)	31	31	0.94	3	1.00	115 x 0.94 x 1.00 = 108 Amps	87.0 Amps < 108.1 Amps	20 ft	0.17%				
AC2	WIRE GUTTER	PV LOAD CENTER	COPPER	75°C	AWG #2	115 Amps	87.0 x 1 = 87.0 Amps	1.25 = 108.8 Amps	108.8 Amps < 115 Amps	INDOORS (+°C)	31	31	0.94	3	1.00	115 x 0.94 x 1.00 = 108 Amps	87.0 Amps < 108.1 Amps	20 ft	0.17%				
AC3	PV LOAD CENTER	TRANSFORMER	COPPER	75°C	4	1000 kcmil	2180 Amps	87.0 x 16 = 1392.0 Amps	1.25 = 1740.0 Amps	INDOORS (+°C)	31	31	0.94	3	1.00	2180 x 0.94 x 1.00 = 2049 Amps	1392.0 Amps < 2049.2 Amps	20 ft	0.26%				
AC4	TRANSFORMER	PV BREAKER	COPPER	75°C	3	1000 kcmil	1635 Amps	1392 * 400/480 = 1160.0 Amps	1.25 = 1450.0 Amps	INDOORS (+°C)	31	31	0.94	3	1.00	1635 x 0.94 x 1.00 = 1537 Amps	1160.0 Amps < 1536.9 Amps	20 ft	0.22%				

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Sheet Number: E1.0

Sheet Size: ARCH D - 36" x 24"

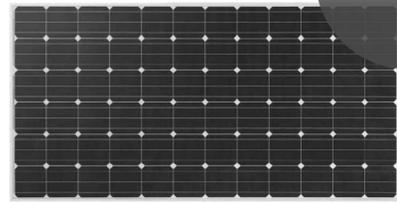
DESIGN & DRAFTING BY: ERIC HAYES

Reviewed & Approved by: JH

SepiSolar POWER BY DESIGN



Innovation for a Better Life™



LG Mono X 72cell LG34052W-G4

72 cell

LG Mono X® Plus is LG Electronics' high-quality monocrystalline module. The quality is the result of our strong commitment to developing a module to improve benefits for customers. Features of Mono X® Plus include durability, convenient installation, and aesthetic exterior.



Enhanced Performance Warranty

LG Mono X® 72cell comes with the enhanced performance limited warranty. The initial degradation has been improved from -3% to -2%, and the annual degradation has also changed from -0.7%/yr to -0.5%/yr.



Improved Product Warranty

In addition to the enhanced performance limited warranty, LG has extended the limited product warranty of LG Mono X® 72cell for additional 2 years with its newly reinforced frame design.



Convenient Installation

LG modules are carefully designed to benefit installers by allowing quick and easy installations throughout the carrying, grounding, and connecting stages of modules.



Reduced LID (LiLY) Technology

LG Mono X® 72cell has improved the initial degradation by applying LG's new LiLY (LiLY-improvement for Lifetime Yield) Technology, which controls formation of Boron-Oxygen pairs, the key factor of LID.



Light and Convenient

LG Mono X® 72cell is carefully designed to benefit installers by allowing quick installation with a weight of just 44.75 lb and better grips.

About LG Electronics

LG Electronics is a global player who has been committed to expanding its capacity, based on solar energy business as its future growth engine. We embarked on a solar energy source research program in 1985, supported by LG Group's rich experience in semi-conductor, LCD, chemistry and materials industry. We successfully released the first Mono X® series to the market in 2010, which were exported to 22 countries in the following 2 years, thereafter. In 2011, Mono X® (previously known as Mono X® Plus) & 2015 Mono X® with PERC technology won "Star Award" which proved LG is the leader of innovation in the industry.

LG Mono X 72cell LG34052W-G4

Mechanical Properties

Table with 2 columns: Property and Value. Includes Cell Vendor (LG), Cell Type (Monocrystalline / P-type), Cell Dimensions (150.75 x 150.75 mm / 6 inches), Dimensions (L x W x H) (1960 x 1050 x 46 mm), Front Load (60 psf), Rear Load (60 psf), Weight (20.3 ± 0.5 kg / 44.75 ± 1.1 lbs), Connector Type (MC4), Junction Box (IP67 with 3 Bypass Diodes), Length of Cables (1200mm x 2 ea / 47.24 x 2 ea), Glass (High Transmittance Tempered Glass), Frame (Anodized Aluminum).

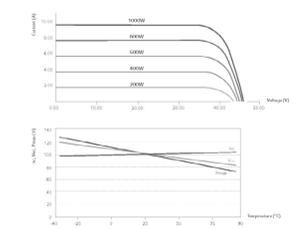
Certifications and Warranty

Table with 2 columns: Certification/Warranty and Details. Includes Certifications (UL 1703, ISO 9001, IEC 62716, IEC 61701), Module Fire Performance (USA) Type 2, Fire Rating (for CANADA) Class C, Product Warranty (12 years), Output Warranty of Power (Linear warranty**).

Temperature Characteristics

Table with 2 columns: Property and Value. Includes NOCT (46 ± 3 °C), Pmax (-0.42 %/°C), Voc (-0.30 %/°C), Isc (0.03 %/°C).

Characteristic Curves



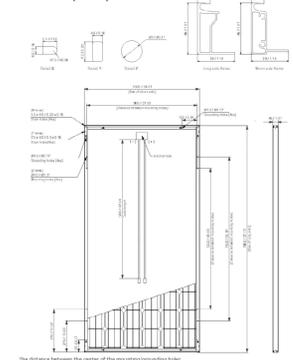
Electrical Properties (STC *)

Table with 2 columns: Property and Value. Includes Module Type (340 W), MPP Voltage (Vmp) (37.7), MPP Current (Imp) (9.02), Open Circuit Voltage (Voc) (46.6), Short Circuit Current (Isc) (9.54), Module Efficiency (%) (17.4), Operating Temperature (°C) (-40 ~ +50), Maximum System Voltage (V) (1000), Maximum Series Fuse Rating (A) (20A), Power Tolerance (%) (0 ~ +3).

Electrical Properties (NOCT*)

Table with 2 columns: Property and Value. Includes Module Type (340 W), Maximum Power (Pmax) (251), MPP Voltage (Vmp) (24.6), MPP Current (Imp) (7.25), Open Circuit Voltage (Voc) (43.3), Short Circuit Current (Isc) (7.68).

Dimensions (mm/in)



North America Solar Business Team
LG Electronics USA Inc.
1000 Skyline Ave, Englewood Cliffs, NJ 07632
Contact: us.solar@lge.com
www.lgusa.com

Product specifications are subject to change without notice.
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01/01/16



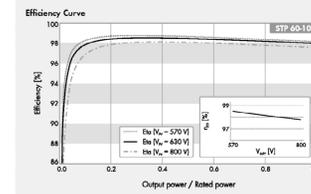
SUNNY TRIPower 60



Table with 4 columns: Efficient, Safe, Flexible, Innovative. Lists key features like maximum efficiency of 98.8%, highest PV system availability, DC input voltage up to 1,000 V, and cutting-edge system design.

Technical Data, as of February 2015 Sunny Tripower 60

Technical data table for Sunny Tripower 60. Includes Input (DC) Max. input voltage (1000 V), MPP voltage range (570 V - 800 V), Output (AC) Rated power (60000 W), Max. AC apparent power (60000 VA), Efficiency (98.8%), Protective devices (DC/AC disconnect, DC surge arrester), General Data (Dimensions, Weight, Noise emission), Features (DC connection, Display, Interface).

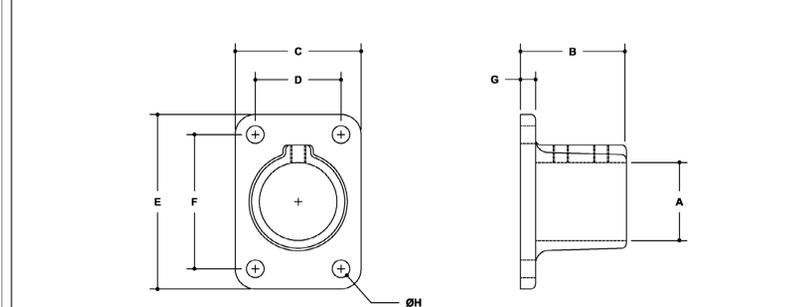


Ordering Codes: STP-60, STP60-10, STP60-10US, SMA Digital I/O Box, Certificates and approvals: IEC 62109-1, IEC 62109-2, IEC 60529, UL508, EN 60950-1, EN 60950-2, EN 55022, EN 55024, FCC Part 15, SELV Class A.

Table with 2 columns: Property and Value. Includes Voltage Supply (Input voltage: 9 - 30 Vdc), General Data (Dimensions, Weight), Interfaces (User interface, Sensor interface, Active/reactive power setpoint, Interface to inverter, Interface to external network, Interface to remote control).

www.SMA-Solar.com SMA Inverter Manager SMA Solar Technology

NOTE: DIMENSIONS LOCATED IN BOXES ARE COMMON SETBACK DIMENSIONS FOR EACH FITTING

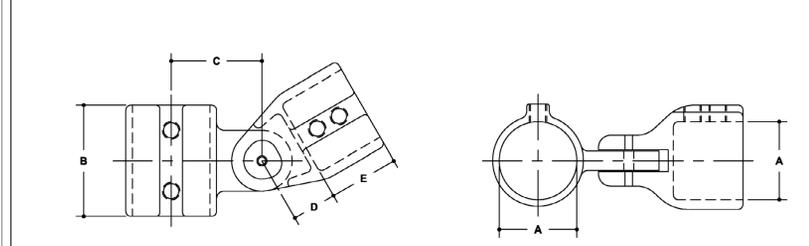


#47 Rectangular Base Flange

SCALE: HALF

Table with 2 main sections: ENGLISH UNITS (inches) and METRIC UNITS (mm). Each section has columns for Pipe Size and dimensions A through J.

NOTE: DIMENSIONS LOCATED IN BOXES ARE COMMON SETBACK DIMENSIONS FOR EACH FITTING

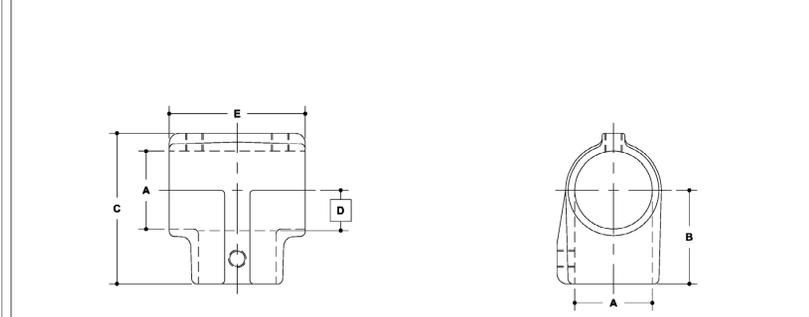


#17X Adjustable Elbow or Tee Assembly

SCALE: HALF

Table with 2 main sections: ENGLISH UNITS (inches) and METRIC UNITS (mm). Each section has columns for Pipe Size and dimensions A through G.

NOTE: DIMENSIONS LOCATED IN BOXES ARE COMMON SETBACK DIMENSIONS FOR EACH FITTING



#5 Tee

SCALE: HALF

Table with 2 main sections: ENGLISH UNITS (inches) and METRIC UNITS (mm). Each section has columns for Pipe Size and dimensions A through G.

Project: PETALUMA, CA 94954

Project Details: 1040.4 kWstc, 960.0 kW AC AHJ: CITY OF PETALUMA

Engineering Approval:

REVISIONS table with columns: DESCRIPTION, DATE, REV. Includes entries for ORIGINAL, LAYOUT CHANGE, and OFFICE OVERLAY.

Sheet Title: EQUIPMENT DATA SHEETS

Sheet Number: D1.0

Sheet Size: ARCH D - 36" x 24"

DESIGN & DRAFTING BY: ERIC HAYES



Reviewed & Approved by: JH

10/100 Unmanaged Compact Industrial 5-Port DIN-rail Mount Switch



Signamax Connectivity Systems' 065-7405CTB 5-Port 10/100 Unmanaged Compact Industrial DIN-rail Mount Switch has been developed to operate in harsh industrial environments that require equipment that can operate in extended temperature environments. These switches are an affordable solution for outdoor environments, shop floors, and other harsh environments where consistent operation at temperature extremes of 14°F to 140°F (-10°C to 60°C) is necessary and compact size is of paramount importance. This unmanaged switch is a compact, plug-and-play device that does not require complex user setup.

KEY FEATURES

- Meets IEC61000-6-2 EMC Generic Standard Immunity for Industrial Environment.
- 10/100 Mbps – Full/Half Duplex, Auto-Negotiation, Auto-MDIX.
- 2048 MAC Addresses, 2048 bits Buffer Memory, Full Wire-Speed Performance.
- 1.5 Amp rated, 24 V DC Terminal Block Power Input.
- (120-240V AC hardened external power supply sold separately.)
- Supports DIN-rail installations.

ORDERING INFORMATION

PART NUMBER	DESCRIPTION
065-7405CTB	Unmanaged Industrial Switch with 5 10/100BaseT/TX ports, 24 V DC Redundant Power Terminal Block

SPECIFICATIONS

- **APPLICABLE STANDARDS:**
IEEE802.3 10BaseT
IEEE802.3u 100BaseTX / 100BaseFX
IEEE802.3x Flow Control and Back pressure
- **FIXED PORTS:**
5 twisted-pair ports meeting IEEE 802.3 10BaseT & IEEE 802.3u 100BaseTX standard specifications; Category 5 or better cable, 100 meters maximum distance for 100BaseTX, Category 3 or better cable, 100 meters maximum distance for 10BaseT, Auto MDI/MDI-X and Auto-Negotiation Function supported.
- **SWITCH ARCHITECTURE:** Store and Forward; 384 kbits Buffer Memory; 2,048 MAC Addresses
- **PERFORMANCE:**
Forwarding Rate: 14,880 pps for 10 Mbps, 148,800 pps for 100 Mbps
Latency: less than 5.1 µs
- **LED STATUS INDICATORS:**
Global: Power1 (Green), Power2 (Green), Fault (Red)
10/100BaseT/TX Ports: Link/Activity (Green), 100 Mbps Speed (Amber)
- **POWER INPUT REQUIREMENTS:**
12 to 48 Volts DC Terminal Block. Optional hardened power supply sold separately.
- **POWER CONSUMPTION:** 12 V DC @ 0.2 A, 24 V DC @ 0.1 A, 48 V DC @ 0.05 A, 2.4 Watts Maximum.
- **INSTALLATION:**
Included DIN-rail mount.

www.signamax.com

16295 N.W. 13th Avenue • Miami, FL 33169 • 800.446.2377 • 305.944.7710 • Fax: 305.949.4483

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SPECIFICATIONS

SPECIFICATIONS (continued)

- **ENVIRONMENTAL CHARACTERISTICS:**
Operating Temperature: 14°F to 140°F (-10°C to 60°C)
Storage Temperature: 13°F to 185°F (-10°C to 85°C)
Operating Humidity: 5 to 95% (non-condensing)
- **PHYSICAL CHARACTERISTICS & CERTIFICATIONS:**
Dimensions & Weight: 1.02 in. x 2.76 in. x 4.33 in., W x D x H (26 mm x 70 mm x 110 mm); 1.76 lb (0.8 kg.)
Housing: IP20 protection, plastic case
ESD Standards (IEC 61000-4-2): Enclosure Contact: + / - 4KV; Criteria B; Enclosure Air: + / - 8KV; Criteria B
Radiated EMI Standards (IEC 61000-4-3): Enclosure Ports: 10V/m, 80 to 1000MHz; Criteria A
Burst Standards (IEC 61000-4-4): Enclosure Ports: + / - 4KV @ 2.5 KHz; Criteria B;
D.C. Power Ports: + / - 4KV; Criteria B;
A.C. Power Ports: + / - 4KV; Criteria B
- **Surge Standards (IEC 61000-4-5):** Signal Ports: + / - 1KV; Line-to-earth; Criteria B
D.C. Power Ports: + / - 0.5KV; Line-to-earth; Criteria B
A.C. Power Ports: + / - 2KV; Line-to-earth; Criteria B
- **Induced RFI Standards (IEC 61000-4-6):** Signal Ports: 10V @ 0.15 - 80MHz; Criteria A
D.C. Power Ports: 10V @ 0.15 - 80MHz; Criteria A
A.C. Power Ports: 10V @ 0.15 - 80MHz; Criteria A
Earth Ground Ports: 10V @ 0.15 - 80MHz; Criteria A
- **Magnetic Field Standards (IEC 61000-4-8):** Enclosure Ports: 30A/m @ 50, 60Hz; Criteria A
A.C. Power Ports: + / - 2KV; Line-to-earth; Criteria B
- **Voltage Dip Standards (IEC 61000-4-11):** A.C. Power Ports: 30% Reduction for 0.5 period; Criterion 3
- **Environmental Test Compliance:** (IEC 60068-2-6) Vibration Resistance: 5G @ 150Hz; Criterion 3
(Operation/Storage/Transport)
(IEC 60068-2-27) Shock: 25G @ 11ms (Half-Sine Shock Pulse; Operation); 50G @ 11ms (Half-Sine Shock Pulse; Storage/Transport)
(IEC 60068-2-32) Free Fall: 1M (2.281ft.)

- **EMISSIONS:**
FCC Class A, Part 15; CE EN6100-6-2, CE EN6100-6-3
- **SAFETY:**
UL 60950, EN 60950, IEC 60950
- **WARRANTY:**
5 years

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SPECIFICATIONS



Energy Information Made Obvius

PRODUCT DATASHEET



AcquiSuite+
Data Acquisition Server with Integrated Power Meter

ACQUISUITE+ A8814

Obvius' AcquiSuite+ is more than a flexible data acquisition server; it is an intelligent data logger, power meter and web server all in one. The AcquiSuite+ significantly reduces installation time and cost. The AcquiSuite+ offers an integrated power meter that can monitor a wide range of loads and a full color touchscreen LCD for data visualization and easy set up. The AcquiSuite plus is expandable via Modbus RTU and Modbus TCP. With Obvius' wide range of Modules, BACnet and other protocols can be supported on the same device.

DATA COLLECTION

The AcquiSuite+ collects and logs data on user selected intervals. Data from downstream devices stored locally in non-volatile memory until the next scheduled upload or manual download. Using an Ethernet (LAN) connection you can push or pull data via HTTP, XML, FTP or any custom protocol utilizing our AcquiSuite Module to build your own application, including integrated cellular communication options.

INSTALLATION & FEATURES

The AcquiSuite+ significantly reduces installation time and cost by deriving power from the voltage reference, which eliminates the need for an external power supply. Also, no additional software is required and basic set up can be performed through the intuitive full color touchscreen LCD interface.

COMPATIBILITY

The AcquiSuite+ is compatible with nearly any front-end software platform allowing customers to use a variety of reporting tools; whether it's a local server or an enterprise wide reporting suite. Obvius offers a free utility for automated .CSV file downloads or an affordable hosted solution for \$195.00 annually (unlimited data storage).

PARTNERS

Obvius' outstanding integration and software partners supplement our products and services to ensure you receive the very best energy monitoring solution.

APPLICATIONS

- Measurement and verification (M&V)
- Reduce energy costs
- Access energy information from local or remote sites
- Benchmark building energy usage
- View "real time" performance data
- Track energy use and peak demand for Demand Response programs
- Monitor performance of critical systems (lighting, HVAC, PDUs, inverters, etc.)
- Alarm notification for data points above or below target levels (including SNMP Traps)
- Monitor renewable energy performance and production
- Push or pull meter data to energy dashboards, kiosks and software applications
- LEED / Energy Star certification

ABOUT OBVIUS

Obvius manufactures data acquisition and wireless connectivity products specifically for energy management. We deliver cost-effective, reliable hardware designed to speed up installation. Our products are based on an open architecture allowing our customers to collect and log energy information from virtually any meter or sensor. The ability to support multiple communication options provides remote access to all your energy information. Founded in 2003, Obvius is located in Tualatin, Oregon. We serve a global clientele and continue to drive innovation by simplifying data collection.

SOLUTIONS

- Data Acquisition
- Wireless Communication
- Meters & Sensors
- Custom Packaged Solutions
- Integration & Software Partners

HEADQUARTERS

Tualatin, Oregon

CONTACT US

sales@obvius.com

AcquiSuite+

Obvius helps customers collect and distribute energy information. Users can begin with one best-of-breed product that satisfies a requirement, or incorporate several products and services for a complete energy management solution.

Specifications

Processor	ARM9 embedded CPU, ARM7 meter board
Operating System	Linux 2.6
Memory	32 MB RAM
Flash ROM	16 MB NOR Flash
Interval Recording	1 to 60 minutes, user selectable (default 15 minutes)
LEDs	Ethernet, Modbus TX/RX, power, alarm
Console	TFT Touch Screen
Isolation	RJ45 Ethernet and RS485 port are isolated
Serial Port	Supports up to 32 external devices (expandable)
Meter Inputs	
Input Voltage	208-480VAC Three Phase, 50/60 Hz; 120, 240, 277VAC Single Phase, 50/60 Hz
Input Current	.333V, 1V
CT's	100, 200, 300, 400, 600A. (50A to 6000A supported)
Serial Port	RS-485 Modbus
Accuracy	
Meter Accuracy	Meets or Exceeds ANSI C12.1 (class 1% meter)
Communications	
Protocols	Modbus/RTU, Modbus/TCP, BACnet IP, TCP/IP, PPP, HTTP/HTML, FTP, NTP, XML, SNMP-Trap
LAN	RJ45 10/100 Ethernet, full half duplex, auto polarity
Baud Rate	9600, 19200, 38400, 57600, 115200
Environment	
North America	-30 to +50C, 95% RH, non-condensing
Codes and Standards	
FCC	CFR 47 Part 15, Class A, EN 61000, EN 61326
CE	Compliant
UL	61010 Listed
ANSI	Conforms to all applicable standards of ANSI C12.1



Obvius
20497 SW Teton Avenue
Tualatin, OR 97062

503 601 2099
866 204 8134 (USA only)
sales@obvius.com

Project:

PETALUMA, CA 94954

Project Details:

1040.4 kW_{stc}, 960.0 kW AC
AHJ: CITY OF PETALUMA

Engineering Approval:

REVISIONS

DESCRIPTION	DATE	REV
ORIGINAL	3/23/2016	A
LAYOUT CHANGE	10/7/2016	B
OFFICE OVERLAY	10/12/2016	C

Sheet Title:

MONITORING DATA SHEETS

Sheet Number:

D1.1

Sheet Size:

ARCH D - 36" x 24"

DESIGN & DRAFTING BY:
ERIC HAYES



Reviewed & Approved by:

JH