HISTORIC AND DESIGN REVIEW COMMISSION

September 16, 2015

Agenda Item No: 12

HDRC CASE NO:	**2015-360**
ADDRESS:	1918 W HUISACHE AVE
LEGAL DESCRIPTION:	NCB 1954 BLK 12 LOT 26
ZONING:	R6 H
CITY COUNCIL DIST.:	7
DISTRICT:	Monticello Park Historic District
APPLICANT:	Craig Overmiller
OWNER:	Craig Overmiller
TYPE OF WORK:	Solar panel installation

REQUEST:

The applicant is requesting a Certificate of Appropriateness for approval to install solar panels to the roof of the non original accessory structure at the rear of the property.

APPLICABLE CITATIONS:

Historic Design Guidelines, Chapter 4, Guidelines for New Construction

7. Design for Energy Efficiency

C. SOLAR COLLECTORS
i. Location—Locate solar collectors on side or rear roof pitch of the primary historic structure to the maximum extent feasible to minimize visibility from the public right-of-way while maximizing solar access. Alternatively, locate solar collectors on a garage or outbuilding or consider a ground-mount system where solar access to the primary structure is limited.
ii. Mounting (sloped roof surfaces)—Mount solar collectors flush with the surface of a sloped roof. Select collectors that are similar in color to the roof surface to reduce visibility.
iii. Mounting (flat roof surfaces)—Mount solar collectors flush with the surface of a flat roof to the maximum extent feasible. Where solar access limitations preclude a flush mount, locate panels towards the rear of the roof where visibility from the public right-of-way will be minimized.

FINDINGS:

a. The applicant has proposed to mount a solar photovoltaic system on the roof of the two story, non original accessory structure at the rear of the property at 1918 W Huisache. According to the Guidelines for New Construction 7.C.ii., solar collectors should be located to be minimally visible from the public right of way and when possible on an accessory structure. This proposal is consistent with the Guidelines.
b. According to the Guidelines for New Construction 7.C., solar collectors are to be mounted flush to the selected roof surface. The applicant is responsible for complying with this section of the Guidelines.

RECOMMENDATION:

Staff recommends approval based on findings a and b with the stipulation that the applicant mount to solar collectors to be flush with the roof surface.

CASE MANAGER:

Edward Hall

N

Flex Viewer

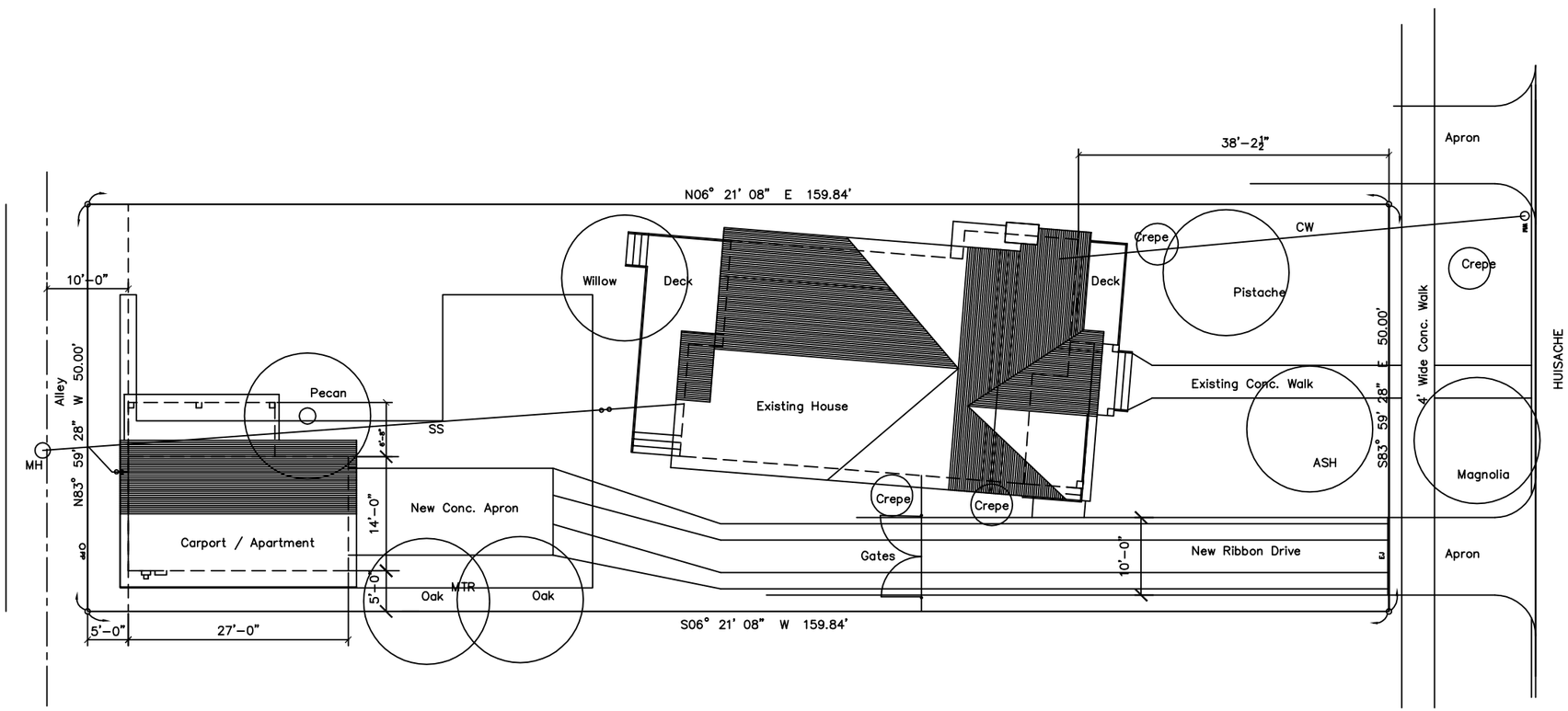
Powered by ArcGIS Server

Printed:Sep 09, 2015

Carport And Apartment Addition
1918 West Husaiche Avenue

Drawing Index

GA1 Site Roof Plan
G1 Foundation / Floor Plans
G2 Exterior Elevations / Electrical Plans
G3 Framing Plans / Building Section
S–1 Foundation Plan
S–2 Wind Bracing Plan



TRUE NORTH

PLAN NORTH

1 / A1 Site / Roof Plan
1/8" = 1'–0"

LEGAL DESCRIPTION

1918 W. Huisache Ave.
LOT 26, BLOCK 12, New City Block 1954
East Half of Woodlawn Terrace
San Antonio, Bexar County, Texas

Site Area = 7987.5 Sq. Ft.

Craig M. Overmiller, Architect
520 Fredericksburg Road
San Antonio, Texas 78201
Phone: 624–1668

A Remodel For:
Craig Overmiller
1918 W Huisache Ave.
San Antonio, TX 78201

REV 05/15/12
11023

REGISTERED ARCHITECT STATE OF TEXAS

DRAWN by: CO

DRAWING NO.
GA1

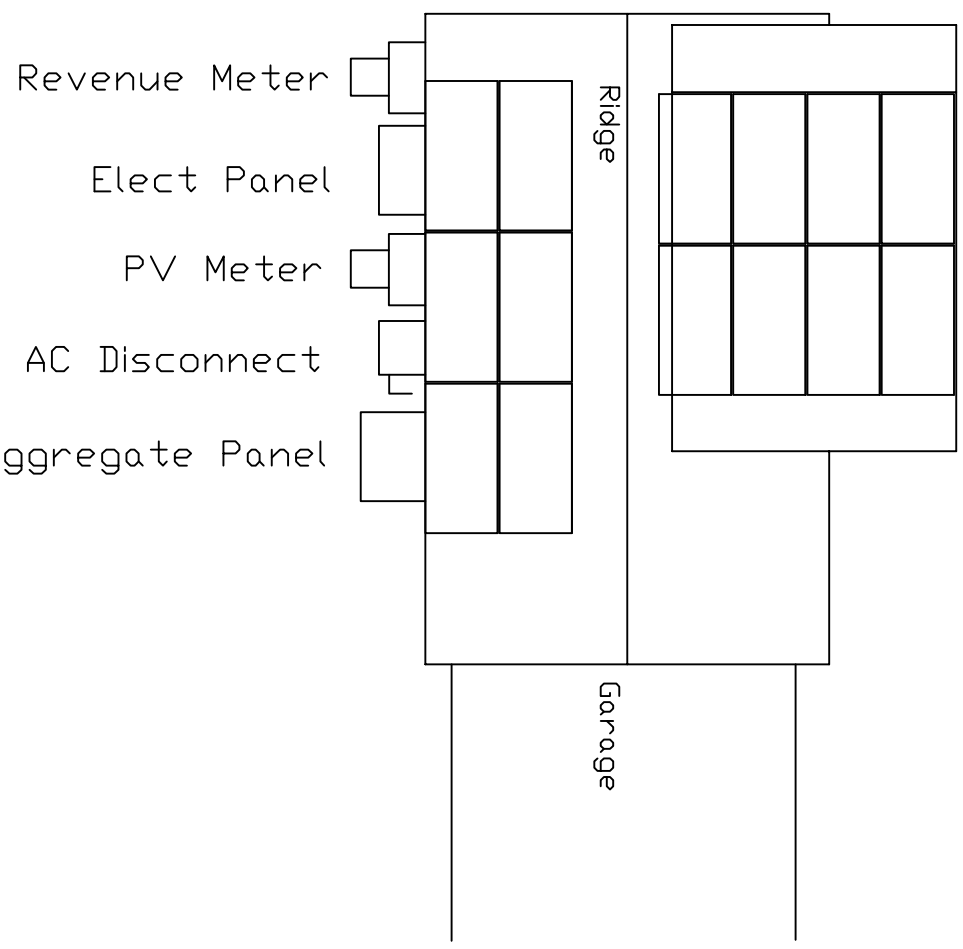
sht__of__

3 / A3 Front Elevation

1/4" = 1'-0"

1 PV3 Roof Layout

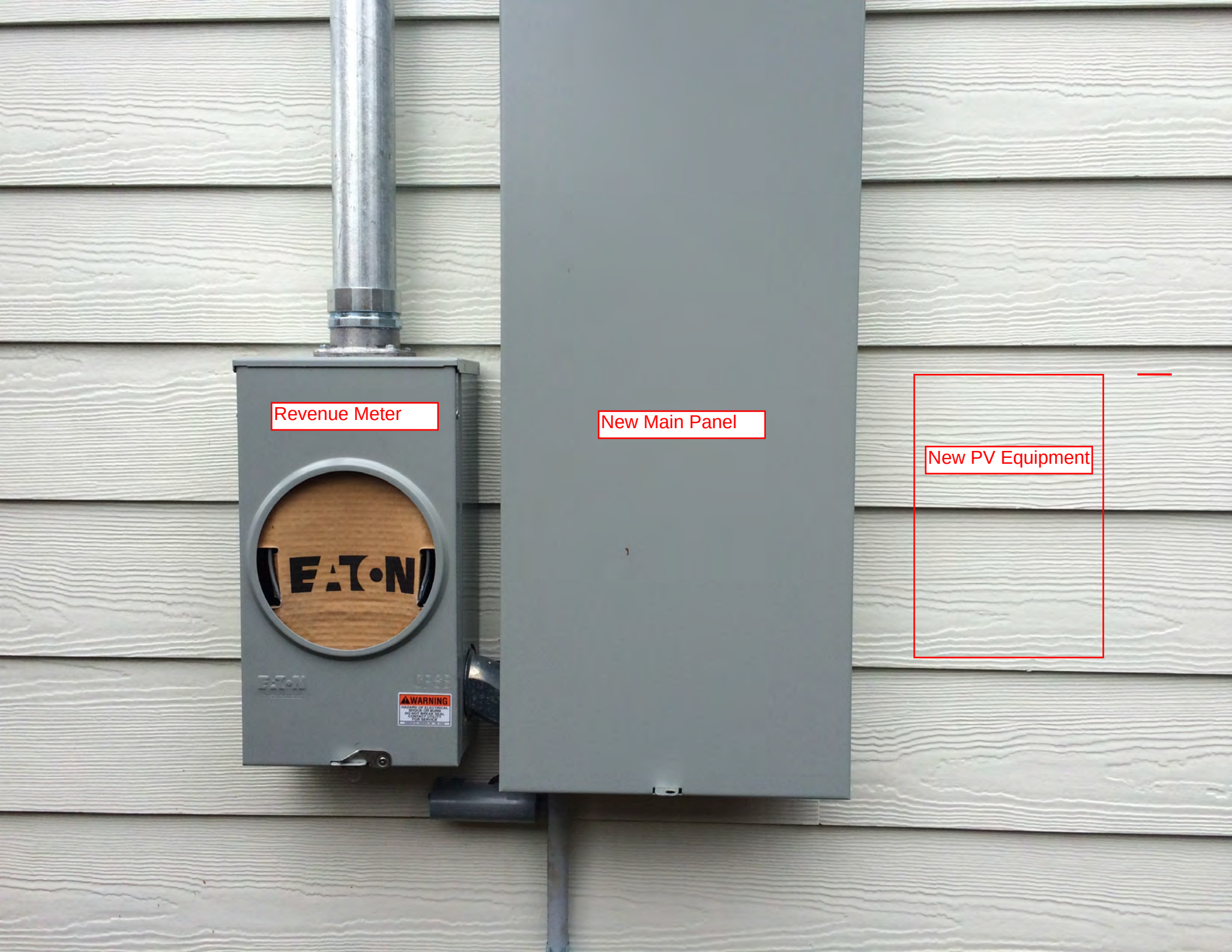
NTS



DRAWING NO. PV3 sht__of__

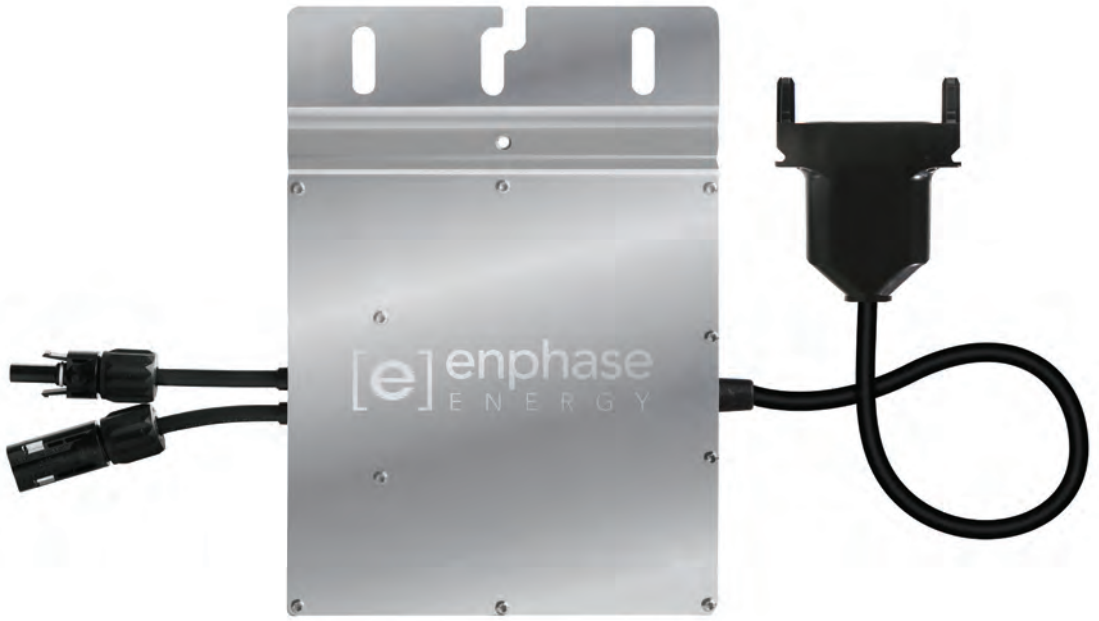
A PV ARRAY FOR:
09/12/2014
Craig M. Overmiller
1918 West Huisache
San Antonio, Texas 78201

Phone:210 732-8200
Texas Solar Power Company - SA
520 Fredericksburg Road
San Antonio, TX 78201


Revenue Meter
New Main Panel
New PV Equipment
EATON
WARNING


1918 W Huisache Ave, San Antonio, TX 78201, USA
Solar Panels
PV Meter
Disconect
Revenue Meter/
Main Panel

Enphase® **M250**



The **Enphase® M250 Microinverter** delivers increased energy harvest and reduces design and installation complexity with its all-AC approach. With the M250, the DC circuit is isolated and insulated from ground, so **no Ground Electrode Conductor (GEC) is required for the microinverter.** This further simplifies installation, enhances safety, and saves on labor and materials costs.

The Enphase M250 integrates seamlessly with the Engage® Cable, the Envoy® Communications Gateway™, and Enlighten®, Enphase's monitoring and analysis software.

PRODUCTIVE

- Optimized for higher-power modules
- Maximizes energy production
- Minimizes impact of shading, dust, and debris

SIMPLE

- No GEC needed for microinverter
- No DC design or string calculation required
- Easy installation with Engage Cable

RELIABLE

- 4th-generation product
- More than 1 million hours of testing and 3 million units shipped
- Industry-leading warranty, up to 25 years

[e] enphase® ENERGY

C US

INPUT DATA (DC)	**M250-60-2LL-S22/S23/S24**	
Recommended input power (STC)	210 - 300 W	
Maximum input DC voltage	48 V	
Peak power tracking voltage	27 V - 39 V	
Operating range	16 V - 48 V	
Min/Max start voltage	22 V / 48 V	
Max DC short circuit current	15 A	
Max input current	9.8 A	
OUTPUT DATA (AC)	**@208 VAC**	**@240 VAC**
Peak output power	250 W	250 W
Rated (continuous) output power	240 W	240 W
Nominal output current	1.15 A (A rms at nominal duration)	1.0 A (A rms at nominal duration)
Nominal voltage/range	208 V / 183-229 V	240 V / 211-264 V
Nominal frequency/range	60.0 / 57-61 Hz	60.0 / 57-61 Hz
Extended frequency range*	57-62.5 Hz	57-62.5 Hz
Power factor	>0.95	>0.95
Maximum units per 20 A branch circuit	24 (three phase)	16 (single phase)
Maximum output fault current	850 mA rms for 6 cycles	850 mA rms for 6 cycles
EFFICIENCY		
CEC weighted efficiency, 240 VAC	96.5%	
CEC weighted efficiency, 208 VAC	96.0%	
Peak inverter efficiency	96.5%	
Static MPPT efficiency (weighted, reference EN50530)	99.4 %	
Night time power consumption	65 mW max	
MECHANICAL DATA		
Ambient temperature range	-40°C to +65°C	
Operating temperature range (internal)	-40°C to +85°C	
Dimensions (WxHxD)	171 mm x 173 mm x 30 mm (without mounting bracket)	
Weight	2.0 kg	
Cooling	Natural convection - No fans	
Enclosure environmental rating	Outdoor - NEMA 6	
FEATURES		
Compatibility	Compatible with 60-cell PV modules.	
Communication	Power line	
Integrated ground	The DC circuit meets the requirements for ungrounded PV arrays in NEC 690.35. Equipment ground is provided in the Engage Cable. No additional GEC or ground is required.	
Monitoring	Free lifetime monitoring via Enlighten software	
Compliance	UL1741/IEEE1547, FCC Part 15 Class B, CAN/CSA-C22.2 NO. 0-M91, 0.4-04, and 107.1-01	

* Frequency ranges can be extended beyond nominal if required by the utility

To learn more about Enphase Microinverter technology,
visit **enphase.com**

enphase® ENERGY

CanadianSolar
Make The Difference

QUARTECH

The Next Generation Module

MAX POWER
CS6X-300 I 305 I 310P

PRODUCT | KEY BENIFITS

Higher Energy Yield

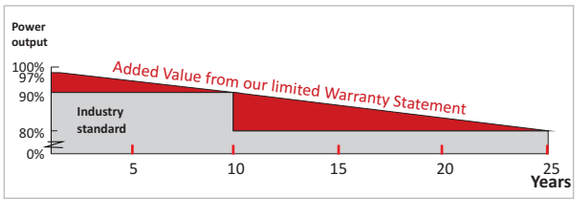
- Outstanding performance at low irradiance
- Maximum energy yield at low NOCT
- Improved energy production through reduced cell series resistance

Increased System Reliability

- Long term system reliability with IP67 junction box
- Enhanced system reliability in extreme temperature environment with special cell level stress release technology

Extra Value to Customers

- Positive power tolerance up to 5W
- Stronger 40mm robust frame to hold 5400 Pa load
- Anti-glare project evaluation
- Salt mist, ammonia and blowing sand resistance apply to seaside, farm and desert environment
- 25 year linear performance warranty
- 25 year performance warranty insurance



QUARTECH MODULE | THE NEXT GENERATION MODULE

Canadian Solar's new Quartech modules have raised the module efficiency to a new standard in the solar industry. It introduced innovative four busbar cell technology which demonstrated higher power output and higher system reliability. Our worldwide customers have embraced this next generation modules for their excellent performance, superior reliability and enhanced value.

QUARTECH MODULE | NEW TECHNOLOGY

- Reduces cell series resistance
- Reduces stress between cell interconnectors
- Improves module conversion efficiency
- Improves product reliability

PRODUCT & MANAGEMENT SYSTEM | CERTIFICATES*

IEC 61215 / IEC 61730: VDE / MCS / CE / SII / KEMCO / CEC AU/CQC / INMETRO
UL 1703 / IEC 61215 performance: CEC listed (US) / FSEC (US Florida)
UL 1703: CSA | IEC 61701 ED2: VDE | IEC 62716: TUV | IEC60068-2-68: SGS
PV CYCLE(EU) | UNI9177 Reaction to Fire: Class 1

ISO9001: 2008 I Quality management system
ISOTS16949:2009 I The automotive industry quality management system
ISO14001:2004 I Standards for environmental management system
QC080000:2012 I The certificate for hazardous substances process management
OHSAS 18001:2007 I International standards for occupational health and safety

*Please contact your sales representative for the entire list of certificates applicable to your products

CANADIAN SOLAR INC.

Founded in 2001 in Canada, Canadian Solar Inc., (NASDAQ: CSIQ) is the world's TOP 3 solar power company. As a leading manufacturer of solar modules and PV project developer with about 6 GW of premium quality modules deployed around the world in the past 13 years, Canadian Solar is one of the most bankable solar companies in Europe, USA, Japan and China. Canadian Solar operates in six continents with customers in over 90 countries and regions. Canadian Solar is committed to providing high quality solar products, solar system solutions and services to customers around the world.

www.canadiansolar.com
support@canadiansolar.com

Canadian Solar Inc.
545 Speedvale Avenue West
Guelph | Ontario N1K 1E6 | Canada

QUARTECH

CanadianSolar
Make The Difference

ELECTRICAL DATA | STC

Electrical Data	CS6X-300P	CS6X-305P	CS6X-310P
Nominal Maximum Power (Pmax)	300 W	305 W	310W
Optimum Operating Voltage (Vmp)	36.1 V	36.3 V	36.4V
Optimum Operating Current (Imp)	8.30 A	8.41 A	8.52A
Open Circuit Voltage (Voc)	44.6 V	44.8 V	44.9V
Short Circuit Current (Isc)	8.87 A	8.97 A	9.08A
Module Efficiency	15.63 %	15.90 %	16.16%
Operating Temperature	-40 ℃~+85 ℃		
Maximum System Voltage	1000 V (IEC) /600 V (UL)		
Maximum Series Fuse Rating	15 A		
Application Classification	Class A		
Power Tolerance	0 ~ +5 W		

*Under Standard Test Conditions (STC) of irradiance of 1000W/m^2, spectrum AM 1.5 and cell temperature of 25℃.

ELECTRICAL DATA | NOCT

Electrical Data	CS6X-300P	CS6X-305P	CS6X-310P
Nominal Maximum Power (Pmax)	218 W	221 W	225W
Optimum Operating Voltage (Vmp)	32.9 V	33.1 V	33.2V
Optimum Operating Current (Imp)	6.61 A	6.68 A	6.77A
Open Circuit Voltage (Voc)	41.0 V	41.2 V	41.3V
Short Circuit Current (Isc)	7.19 A	7.27 A	7.36A

*Under Nominal Operating Cell Temperature(NOCT), irradiance of 800 W/m^2, spectrum AM 1.5, ambient temperature 20℃, wind speed 1 m/s.

MODULE | MECHANICAL DATA

Specification	Data
Cell Type	Poly-crystalline, 6inch
Cell Arrangement	72 (6 x 12)
Dimensions	1954 x 982 x 40mm (76.93 x 38.7 x 1.57in)
Weight	22kg (48.5 lbs)
Front Cover	3.2mm tempered glass
Frame Material	Anodized aluminium alloy
J-BOX	IP67, 3 diodes
Cable	4mm^2(IEC)/12AWG(UL), 1150mm/1300mm**
Connectors	MC4 or MC4 comparable
Standard Packaging	24pcs, 608kg (quantity and weight per pallet)
Module Pieces Per Container	528pcs (40'HQ)

TEMPERATURE CHARACTERISTICS

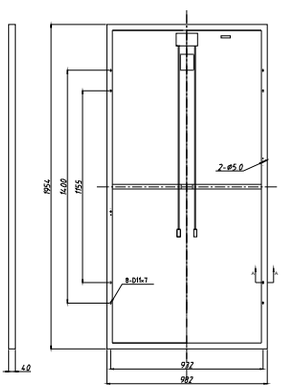
Specification	Data
Temperature Coefficient (Pmax)	-0.43 %/℃
Temperature Coefficient (Voc)	-0.34 %/℃
Temperature Coefficient (Isc)	0.065 %/℃
Nominal Operating Cell Temperature	45±2 ℃

PERFORMANCE AT LOW IRRADIANCE

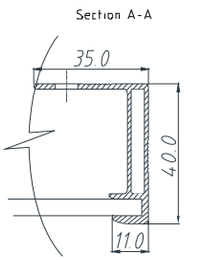
Industry leading performance at low irradiation, +96.5% module efficiency from an irradiance of 1000W/m^2 to 200W/m^2(AM 1.5, 25 ℃)

MODULE | ENGINEERING DRAWING

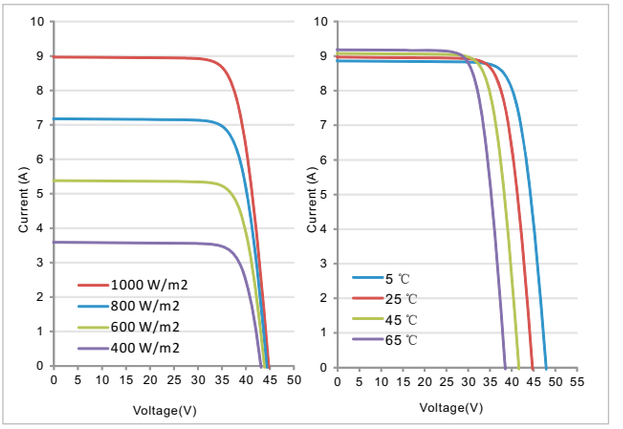
Rear View



Frame Cross Section



CS6X-305P | I-V CURVES



Partner Section

As there are different certification requirements in different markets, please contact your sales representative for the specific certificates applicable to your products. The specification and key features described in this Datasheet may deviate slightly and are not guaranteed. Due to on-going innovation, research and product enhancement, Canadian Solar Inc. reserves the right to make any adjustment to the information described herein at any time without notice. Please always obtain the most recent version of the datasheet which shall be duly incorporated into the binding contract made by the parties governing all transactions related to the purchase and sale of the products described herein.

**The CS6X with cable of 1300mm is only for Canadian market.