

Solar Panels, Windmills References

Solar market is becoming more and more important for some environment matters and is booming at the moment and for the coming years. Sefelec is already selling to this market since a couple of years and has been listening to his customers in order to adapt his range of products. This is the reason why they comply with the international standards for solar panel testing (we are TÜV official supplier) and its derivated products, and have become a reference on the international market.

Typical applications for this market are the below ones :



- Solar panel, Solar modules, Solar arrays testing according to IEC61215 and IEC61646 Ed.2 section 10.3.4c for performance or IEC61730-2 / EN 61730-2 section 10.6.2 for safety aspect / SEFELEC ref. DXS56 (5kVAC, 6 kVDC Hipot test, 500 or 1000 VDC insulation test) or SXS56 (30 or 40A ground bond test, 5kVAC, 6 kVDC Hipot test, 500 or 1000 VDC insulation test) can be used



- Electrical safety test on DC/AC solar panel converters or inverters



- Solar panel connector + cable set testing with ground bond test + H.V. test / SEFELEC ref. SXS56 (30 or 40A ground bond test, 5kVAC, 6 kVDC Hipot test, 500 or 1000 VDC insulation test) can be used



- Insulation test + H.V. test on power surge protector

REMINDER : SOLAR ELECTRIC CELLS CONVERT LIGHT FROM THE SUN INTO USABLE D.C. ELECTRICITY. SOLAR ELECTRIC SYSTEMS INVOLVE LIGHT WEIGHT-PANELS, ENCLOSED WIRES, AN INVERTER TO CONVERT FROM D.C. TO A.C. HOUSE CURRENT, AND OPTIONAL BATTERY BACKUP PACK.



... IS THE OFFICIAL PROVIDER OF SAFETY TESTING EQUIPMENT (GROUND BOND TEST, INSULATION TEST, HIGH VOLTAGE TEST) FOR ...



NKF

HOLLAND - DELFT

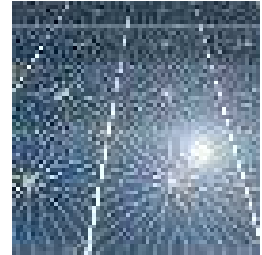
This company is manufacturing AC/DC converters used to convert energy from solar panels. They bought 3 MPC47P (6kVAC, 6 kVDC) and 2 CS1 safety cages.

SOLLAND SOLAR

HOLLAND - HEERLEN

This company is manufacturing cells and photovoltaic panels for solar panels. They bought MGR10 microhmmeter + pt100 + software.

<http://www.sollandsolar.com/index.php>

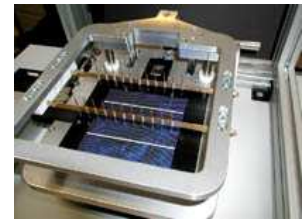


H.A.L.M.

GERMANY - FRANKFURT

They manufacture test benches in order to test solar panels and they bought 32 SXS56+XS-05-01+XS-07+XS-26+CO177+KRXS (30 A ground bond test, 5kVAC, 6 kVDC Hipot test, 1000 VDC insulation, rear outputs).

http://www.halm.de/English/frame_main.html

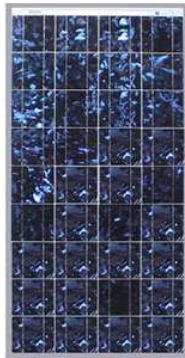


OERLIKON

SWITZERLAND - TRUEBBACH

They bring new and innovative production solutions to the solar market and provide typical manufacturers such as : CSG Solar AG, Germany, Ersol Thinfilm GmbH, Germany, Inventux Technologies, Germany, Schott Solar, Germany, Sun Well Solar, Taiwan. They bought 2 x Premier 2735A+TE76 (5kVAC, 6 kVDC Hipot test, 500 VDC insulation).

<http://www.oerlikon.com/thinfilm/>



TÜV INSTITUT RHEINLAND

GERMANY - KÖLN

Around 70 percent of all solar module manufacturers have their products tested for durability and energy efficiency at the TÜV Rheinland Group's Cologne laboratory. As world market leader in this dynamic growth sector, the global service provider for quality and safety will invest just under 3.5 million euros in the further development and expansion of their new laboratory capacities in Asia opened end of 2008. Professor Dr.-Ing. Bruno O. Braun, President and CEO of the TÜV Rheinland Group, announced these plans at the opening of the newly expanded Global Technology Assessment Center (GTAC) in Yokohama, Japan.



For their solar panel division, they bought SXS56 safety tester with ground bond 40A, insulation up to 1000 VDC, an 8 kVDC specific range for high voltage testing (hipot test), with fine current detection from 1 μ A to 1000 μ A (ref. spe. 0365114 & 115 now replaced by ref. XS-107), specific to solar panels international standards.

http://www.tuv.com/de/en/industry_solutions.html

PHOTOWATT INTERNATIONAL

FRANCE – BOURGOIN JALLIEU

Photowatt Technologies is a leading developer and integrated manufacturer of photovoltaic products and solutions.

Photowatt produces a wide range of cells, some of the thinnest on the market, which come in three dimensions: 4 inch (101.25mm x 101.25mm), 5 inch (125.50mm x 125.50mm) and 6 inch (150mm x 150mm).

The cells manufactured by Photowatt are principally used for the production of modules internally. The long service life and stability of these high output cells are a guarantee of the high performance and reliability of the modules. They bought DMG500, equivalent today to DXS506 (5kVAC, 6 kVDC Hipot test, 500 VDC insulation).

<http://www.photowatt.com/>



SC SOLAR

SWITZERLAND –

They develop solar panels and bought Premier 2715A+TE75 (5kVAC, 6 kVDC Hipot test)

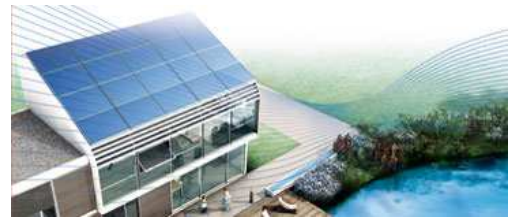
<http://www.scsolar.com/>

SCHOTT SOLAR

GERMANY - ALZENAU

They offer a wide range of solutions for almost all photovoltaic and solar thermal applications and bought RMG50 (5kVAC Hipot test) to test PV wafers, cells and modules.

<http://www.schott.com/solar/>



SCHOTT SOLAR

GERMANY - JENA

They offer a wide range of solutions for almost all photovoltaic and solar thermal applications and bought DMG50 (5kVAC, 6 kVDC Hipot test, 500 VDC insulation) to test PV wafers, cells and modules.

<http://www.schott.com/solar/>

SCHOTT SOLAR

GERMANY - PUTZBRUNN

They offer a wide range of solutions for almost all photovoltaic and solar thermal applications and bought DXS56 (5kVAC, 6 kVDC Hipot test, 500 VDC insulation) to test PV wafers, cells and modules.

<http://www.schott.com/solar/>

PI PHOTVOLTAIC INSTITUTE BERLIN

GERMANY - BERLIN

This test laboratory is testing solar panels with DXS56 (5kVAC, 6 kVDC Hipot test)

<http://www.pi-berlin.com/>



SULFURCELL

GERMANY - BERLIN

They produce modules for the photovoltaic generation of energy and bought DMG50 (5kVAC, 6 kVDC Hipot test, 500 VDC insulation) and RXS56 (5kVAC, 6 kVDC Hipot test)

<http://www.sulfurcell.de/>

WÜRTH SOLAR

GERMANY - SCHWÄBISCH HALL

Würth Solar is investing in a development in photovoltaics and is manufacturing modules ; they offer technically mature individual system solutions for photovoltaic energy supply using CIS.

They bought DMG50 (5kVAC, 6 kVDC Hipot test, 500 VDC insulation).

<http://www.wuerth-solar.de/>

WEBASTO SOLAR

GERMANY- LANDSBERG AM LECH

Webasto Solar specialises in the design, development and series production of solar modules, energy units, and Solar modules for facades and overhead glazing. They bought DXS56 (5kVAC, 6 kVDC Hipot test, 500 VDC insulation)

<http://www.webasto-solar.de/>



SOLARA (BP Solar Group / Centro Solar Group)

GERMANY - WISMAR

BP Solar is one of the largest solar manufacturers in the world, with its own casting, wafering, cell production and module assembly works, producing highly efficient solar modules with multicrystalline and monocrystalline cells. They bought DXS56 (5kVAC, 6 kVDC Hipot test, 500 VDC insulation).

<http://www.bp.com/modularhome.do>



CONCENTRIX SOLAR

GERMANY - FREIBURG

Concentrix Solar GmbH produces concentrator power plants and bought DXS56 (5kVAC, 6 kVDC Hipot test, 500 VDC insulation)

<http://www.concentrixsolar.de/>



CONERGY

GERMANY - FRANKFURT

Conergy is a supplier of solar water pumps and photovoltaic as well as solar thermal components and bought DXS56 (5kVAC, 6 kVDC Hipot test, 500 VDC insulation)



INGETEAM

SPAIN - ZAMUDIO

They manufacture various sub assemblies for windmills such as generatros, electric pitch, telecontrol, substation, ... and bought SXS500+FXS501 (30 A ground bond test, 5kVAC, 6 kVDC Hipot test, 500 VDC insulation test, line leakage test) for their test lab of Pamplona (Navarra) and 2 RXS500+PLC

(5kVAC Hipot test) for their production line.

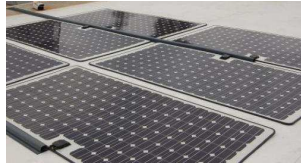
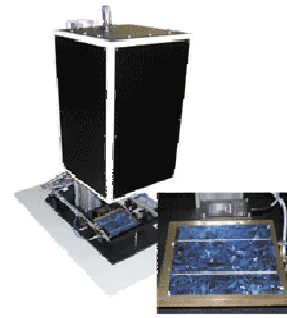
<http://www.ingeteam.com/>

PASAN

SWITZERLAND - NEUCHATEL

They manufacture test benches for solar sub assemblies and photovoltaic cells, and bought 2 SXS56 (30 A ground bond test, 5kVAC, 6 kVDC Hipot test, 500 VDC insulation) with ethernet interface (SXS56+CO177-3+XS100+CO183). Our equipment will be integrated inside their test benches.

<http://www.pasan.ch/>



BUREAU VERITAS CONSUMER PRODUCTS SERVICES

ELECTRICAL

CHINA - SHANGAI

This test Laboratory, also known under the name L.C.I.E., is testing solar panels for different types of customers. They bought SXS56 safety tester with ground bond 40A, insulation up to 1000 VDC, an 8 kVDC specific range for hipot testing, with fine current detection from 1 μ A to 1000 μ A (ref. spe. 0365114 & 115 now replaced by ref. XS-107), specific to solar panels international standards (IEC/EN 61215 ou 61646 : clause 10.3.4c and IEC/EN 61730-2: clause 10.6.2).

<http://www.bureauveritas.com>

MULTI CONTACT

GERMANY - ESSEN

This production site is manufacturing solar cables for solar panel customers like Solar World. They bought MGR10 microhmmeter + M1501P megohmmeter (very high resistance up to 2 P Ω)

<http://www.multi-contact.com/>



SILISOL (OMERIN)

FRANCE - AMBERT

This production site is manufacturing solar cables for solar panel industry and bought RMG12DC to test at 9.5 kVDC hi-pot.

<http://www.omerin.com/>

NEXANS

FRANCE - MEHUN SUR YEVRE

This production site is manufacturing Ernergyflex solar cables for solar panel industry and bought 7 DMG500, equivalent to our new version DXS500 today (5kVAC, 6 kVDC Hipot test, 500 VDC insulation), and RMG15AC (15kVAC hipot tester).

<http://www.nexans.fr/>



SMA

GERMANY - NIESTETAL

They are manufacturing what forms the heart of every solar energy system : solar inverters. Thos solar inverters convert the direct current generated by the solar module into grid-acceptable alternating current. They bought RMG12DC (12 kVDC Hipot tester) and RMG15AC (15 kVAC Hipot tester).

<http://www.sma.de/>

UNIVERSITÀ DEGLI STUDI DI SALERNO

ITALY - SALERMO

This university is working on the characterization of multicrystalline silicon for solar cells and bought DXS56 (5kVAC, 6 kVDC Hipot test, 500 VDC insulation)

<http://www.unisa.it/>



CIEMAT

SPAIN - MADRID

This official test laboratory is working and investigating on solar panel technology such as PV solar cells, modules and fields, thin films, deposited silicon PV devices, ... They are also testing outdoors solar panels made by other companies for certification. They bought SMG500 + FMG501 + IEC990 (ground bond test, insulation test, Hipot test, line leakage test) and DXS506 (insulation 1 kVDC, Hipot 5 kVAC / 6 kVDC)

<http://www.ciemat.es/>

INSTITUTO DE ENERGIA SOLAR

SPAIN - MADRID

This company is an investigation institute for the photovoltaic industry and bought DXS506 (insulation 1 kVDC, Hipot 5 kVAC / 6 kVDC) and SE6547 (5 kV DC portable insulation tester)

<http://www.ies.upm.es/>



ISOFOTON

SPAIN - MALAGA

They are producing photovoltaic modules, cells, inverters, ... and bought SXS506 (30 A ground bond test, insulation 1 kVDC, Hipot 5 kVAC / 6 kVDC)

<http://www.isofoton.com/>