

**(1) EC-TYPE EXAMINATION CERTIFICATE****(2) Equipment and protective systems intended for use in potentially explosive atmospheres - Directive 94/9/EC****(3) EC-Type Examination Certificate Number: KEMA 06ATEX0020 X****(4) Equipment: Solar Module Type TSM85EX****(5) Manufacturer: Tss4U B.V.****(6) Address: De run 4306, 5503 LN Veldhoven, The Netherlands****(7) This equipment and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.****(8) KEMA Quality B.V., notified body number 0344 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres given in Annex II to the directive.**

The examination and test results are recorded in confidential test report no. 2089531.

**(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:****EN 50014 : 1997 + A1, A2  
EN 60079-0 : 2004****EN 50019 : 2000  
EN 60079-7 : 2003****EN 50028 : 1987  
EN 60079-18 : 2004****(10) If the sign "X" is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.****(11) This EC-Type Examination Certificate relates only to the design, examination and tests of the specified equipment according to the Directive 94/9/EC. Further requirements of the directive apply to the manufacturing process and supply of this equipment. These are not covered by this certificate.****(12) The marking of the equipment shall include the following:****II 2 G Ex emb II T4**Arnhem, 29 June 2006  
KEMA Quality B.V.  
T. Pijpker  
Certification Manager

(13) **SCHEDULE**

(14) **to EC-Type Examination Certificate KEMA 06ATEX0020 X**

(15) **Description**

Solar Module Type TSM85EX contains 4 x 9 high efficiency series connected solar cells, a junction box in type of protection increased safety "e", a partly encapsulated terminal block and an electronics assembly.

The Solar Module may be connected as stated below.

Ambient temperature range -20 °C ... +55 °C.

**Electrical data**

Output Rating: max. 30 V, 100 W

Connection of the Solar Module	Maximum output rating of the junction box
2 Modules in series	48 V, 200 W
2 Modules parallel	30 V, 200 W
2 Modules in series / 2 parallel	48 V, 400 W
2 Modules in series / 3 parallel	48 V, 600 W

**Installation instructions**

The cable entry devices shall be in type of protection increased safety "e", suitable for the conditions of use and correctly installed.

**Routine tests**

The following routine test must be carried out according to Clause 9 of IEC 60079-18:

- Clause 9.1: Visual check of the encapsulated parts. No visible damage of the compound shall be evident.
- Clause 9.2: The electrical strength test shall be carried out between the supply terminals and the ground terminal of the Solar Module with a voltage of 500 V, during 1 minute.

(16) **Test Report**

KEMA No. 2089531.

(17) **Special conditions for safe use**

The junction box of the Solar Module shall not be opened when an explosive gas atmosphere is present.

The glas of the Solar Module shall be completely covered with opaque material during installation, maintenance or connection of the cables and before opening of the terminal compartment.

(13) **SCHEDULE**

(14) **to EC-Type Examination Certificate KEMA 06ATEX0020 X**

(18) **Essential Health and Safety Requirements**

Assured by compliance with the standards listed at (9).

(19) **Test documentation**

As listed in Test Report No. 2089531.