

TRI-KA – The mobile characteristics analyser: Now even more efficient

Mobile portable measuring instrument

The new TRI-KA not only identifies the current voltage curves of module strings, but also of individual photovoltaic modules. The I-U characteristic curve, output, short-circuit current and open-circuit voltage are recorded by a 16 bit processor. During each measurement the TRI-KA adjusts the measuring range and sample rate optimally. The device is easily and intuitively operated using the menus on the colour touch screen. The characteristic curve measured by the TRI-KA can be converted to a STC characteristic curve based on the values measured by the sensor TRI-SEN and displayed. In addition, the STC ideal characteristic curve of the manufacturer can be displayed, due to the integrated module data base.

Wireless sensor

Without contact, the wireless sensor TRI-SEN measures the cell temperature, the angle of inclination and the irradiation at the solar module level. The measured values are wirelessly transferred directly to the main instrument, the TRI-KA. The reference cell for the

measuring of the irradiation can be either a monocrystalline or a polycrystalline cell.

Evaluation software

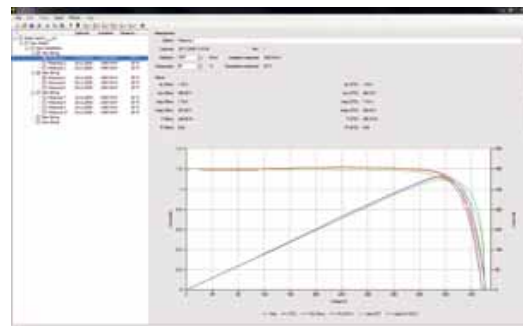
The evaluation software was also completely overhauled. The TRI-KA software can evaluate, manage and store the measured module data on the PC. With a few steps of the guided Wizard, the measured data is saved to the respective customer or system directory. Further measurements of the same system can then be added, sorted by date, and compared with the software.

Advantages in brief

- Mobile portable measuring instrument
- Wireless sensor
- Simple menu navigation on colour touch screen
- Large measuring range: 1.0 – 1000 V and 0.1 – 15.0 A
- Creation of system and maintenance protocols
- Output comparison for several years
- Simple identification of errors and faults of PV systems and PV modules



The TRI-KA characteristics analyser and the TRI-SEN irradiation and temperature sensor are easy to operate and provide reliable measurements.



With the evaluation software the individual strings are evaluated and combined to individual installations. Measurement reports from single strings, single modules and from the entire systems can be printed.

CONTROL AND MEASURING INSTRUMENTS Characteristics Analyser

Art. No. 0802201



Model	TRI-KA complete set
Included in delivery	1 TRI-KA, 1 TRI-SEN, 1 rugged case with rubber foam padding, TRI-KA measurement cable sets (MC3, MC4, Huber+Suhner, Tyco, SunClix and without connectors), 1 TRI-SEN mounting, 1 SD card (PC user software with user guide), 1 USB SD/SDHC card reader, 2 power supply units (chargeable), operating instructions

Specifications



	TRI-KA	TRI-SEN
Model	TRI-KA	TRI-SEN
Measuring	I/U characteristic curve, short-circuit current, open-circuit voltage, MPP current, MPP voltage	Global irradiation, module temperature, angle of inclination
Calculated values	STC values (short-circuit current, open-circuit voltage, MPP current, MPP voltage), fill factor, MPP output, ideal characteristic curve of module manufacturer	-
Voltage measuring range	1.0 - 1000 V ($\pm 1\%$) ($U_{oc} > 5\text{ V}$)	-
Current measuring range	0.1 - 15.0 A ($\pm 1\%$)	-
Temperature measuring range	-	0 - 100 °C ($\pm 3\%$ in relation to a black body)
Irradiation measuring range	-	100 - 1200 W/m ² ($\pm 5\%$)
Measuring connection	Measuring cable	Non-contact measurement
Characteristic curve measuring duration	15 - 30 seconds	-
Save slots for measured curves	Depending on size of SD memory card (> 1000 measured curves with 1 GB)	-
Reference cells	-	1 x monocrystalline cell, 1 x polycrystalline cell
Display	3.2 inch colour LCD touch screen (240 x 320 pixels, RGB)	B/W LC display (2-line, 16 characters)
Power supply	Lithium polymer accumulator, run-time app. 8 hours	Lithium polymer accumulator, run-time app. 8 hours
Auto power-off	Adjustable (1 - 15 minutes)	-
Interface	2 measuring cables to PV string, wireless connection to TRI-SEN, SD/SDHC memory card for PC	Wireless connection to TRI-KA
Ambient temperature	0 to +50 °C	0 to +60 °C
Protection mode	IP20	IP20
Insulation	Protection class II	-
Measuring category	CAT II 1000 V, CAT III 600 V	-
Dimensions (L / W / H)	210 mm / 105 mm / 41 mm	160 mm / 82 mm / 41 mm
Weight	500 g	200 g
Warranty	2 years	2 years
Norms	EN 61010-1, EN 61010-31, CE mark	CE mark

Spare parts

Art. No.	Model	Belongs to Art. No.
0801101	TRI-KA measurement cable replacement set for MC3	0802201
0801102	TRI-KA measurement cable replacement set for MC4	0802201
0801103	TRI-KA measurement cable replacement set for Huber+Suhner	0802201
0801104	TRI-KA measurement cable replacement set for Tyco	0802201
0801110	TRI-KA measurement cable replacement set without connector	0802201
0802202	TRI-SEN mounting	0802201
0802203	TRI-KA measurement cable replacement set for SunClix	0802201
0802205	TRI-KA SD/SDHC card reader	0802201
0802206	TRI-KA SD/SDHC memory card	0802201
0802208	TRI-KA rugged case, empty	0802201
0802209	TRI-KA chargeable power supply unit	0802201

For measurements of (certain) thin-layer modules and special module technologies, please consult TRITEC.

System requirements user software: Microsoft® Windows XP / Vista / 7; Pentium processor with a minimum of 600 MHz or similar; minimum of 256 MB memory or more; VGA graphics card with at least 16 bit colour depth (High Color) and a resolution of 1024 x 768 pixels; free hard disc memory of at least 500 MB; keyboard; mouse; USB interface