

# SolarPaq

# ... for profiling the contact firing process

# **BUILDING ON THE BEST**

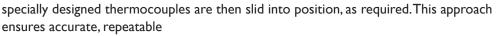
The Datapaq<sup>®</sup> SolarPaq system is widely used in the solar photovoltaic industry to profile the contact firing process. This system enables a user to set up, optimize and regularly

monitor the performance of this key process. The system has been updated to enhance ease-of-use and allow for full integration with the new Solar Insight™ Software.

Obtaining optimum performance from a silicon photovoltaic cell depends critically on the contact firing process. Incorrect time/temperature profiles will affect contact resistance, as well as fill factor, and directly reduce production yields. Datapaq temperature profiling systems enable the process to be monitored without disrupting normal production. The logger travels through the furnace, obtaining cell temperature profiles from up to 6 points on the top and bottom sides of a test cell.

# A COMPLETE SOLUTION

The Datapaq system has been comprehensively redesigned to reduce its size, and improve ease-of-use with the new cell probe clamp. Combined with the new Solar Insight software, this provides the user with the tools required to obtain the highest production yields from their furnaces. The cell is simply slotted into the carrier and the



results - the foundation of any process optimization program.

## **BENEFITS**

- Obtain accurate, repeatable results for process optimization
- Save time and money setting up or adjusting the furnace
  - Maximize cell efficiency and throughput without compromising yields

# SOLAR INSIGHT™ SOFTWARE

This all new software has been designed specifically for use within the photovoltaic (PV) solar industry and contains many process-specific analysis displays. Wizards guide the users step-by-step to quickly obtain the data and analysis of the required results. This ensures that both experienced and novice users can obtain maximum benefit in the shortest possible time.



# **TECHNICAL SPECIFICATIONS**

## THERMAL BARRIER

#### **TB7250**

Dimensions (H x W x L)		23 mm x 165 mm x 224 mm (0.91 in x 6.5 in x 8.82 in)		
Weight		914 g (2.1 lb)		
Thermal Duration Duration (mins)	200°C (392°F) 19	400°C (752°F) 5.5	600°C (1112°F) 4.5	800°C (1472°F) 3.5
Material		Stainless steel outer with microporous ceramic insulation		
TB2094				
Dimensions (H x W x L)		19.5 mm $\times$ 90.5 mm $\times$ 336.5 mm (0.77 in $\times$ 3.5 in $\times$ 13.2 in)		
Weight		900 g (1.9 lb)		·
Thermal Duration Duration (mins)	200°C (392°F) 6.5	400°C (752°F) 2.0	600°C (1112°F) 1.5	800°C (1472°F) 1.0
Material		Stainless steel outer with microporous ceramic insulation		
TB7200				
Dimensions (H x W x L)		19.5 mm x 165 mm x 234 mm (0.77 in x 6.6 in x 9.21 in)		
Weight		940 g (2.07 lb)		
Thermal Duration Duration (mins)	200°C (392°F) 6.5	400°C (752°F) 2.0	600°C (1112°F) 1.5	800°C (1472°F) 1.0
				ceramic insulation

## **DATA LOGGER**

The Datapaq Q18 logger features rugged, reliable and accurate data acquisition circuits, clear status indicators and an intelligent battery management system.

DQ1860/DQ1861	
6	
0.05 seconds to 10 minutes	
±0.5°C (±0.9°F)	
0.1°C (0.2°F)	
85°C (185°F)	
-200°C to 1370°C (-328°F to 2498°F)	
55,000 readings per channel (6 channels active)	
Start/stop buttons, time or temperature trigger	
NiMH rechargeable	
Туре К	

#### **Probe Clamps**

The probe clamp securely holds the cell, so the associated custom-designed probes can easily be slid into position.

**PA2100** is for use with 156 mm (6.1 in) or 125 mm (4.9 in) cells on flat belts or those with standoffs. **PA2110** has an outer width of 156 mm (6.1 in) and is designed for use specifically in furnaces with edge cell supports, ensuring the system rides at the correct height.

# RECOMMENDED THERMOCOUPLES

PA1570	300 mm (I ft) length
PA1571	600 mm (2 ft) length
PA 1572	1000 mm (3.25 ft) length

Ultra fine, mineral insulated Type K thermocouple, diameter 0.5 mm (0.02 in). These thermocouples comply with BSEN 60584.2 Class I.

# Type K fine wire fiber probe

PÁ i 144	500 mm (1.6 ft) length
PA1145	1000 mm (3.25 ft) length
Fig. 1. T IZ discourse L	the description of the second

Fine wire Type K thermocouple with flexible binder free fiber insulation. Hot junction flattened for improved thermal contact with the cell. Complies with ANSI MC96.1 Special Limits of Error.

# **Fluke Process Instruments**

#### **EMEA**

Cambridge, UK Tel: +44 1223 652 400 sales@flukeprocessinstruments.co.uk

#### Americas

Derry, NH USA Tel: +1 603 537 2680 sales@flukeprocessinstruments.com

#### China

Beijing, China Tel: +86 10 6438 4691 sales@flukeprocessinstruments.com.cn

#### Asia East and South

India Tel: +91 22 2920 7691 Singapore Tel: +65 6799 5596 sales.asia@flukeprocessinstruments.com

#### Worldwide Service

Fluke Process Instruments offers services, including repair and calibration. For more information, contact your local office.

#### www.flukeprocessinstruments.com

© 2016 Fluke Process Instruments Specifications subject to change without notice. 11/2016 SolarPaq Contact Firing RevB

