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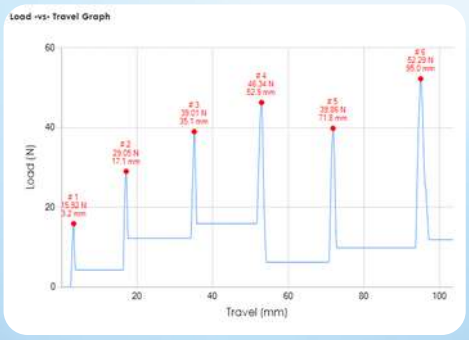
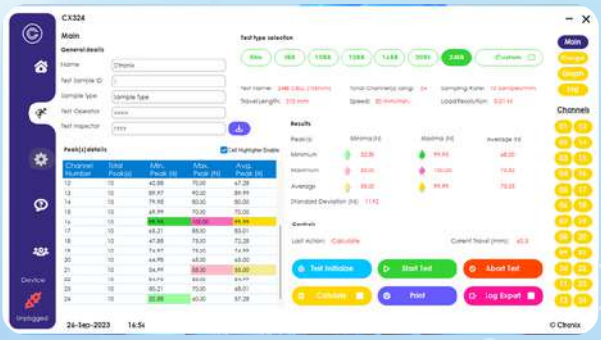
MULTI CHANNEL SOLAR CELL PEEL TESTER CX 324





Variable Peel Length || Multi Channel Peel || Custom Jig matched to Bus Bar || Auto Tightening Jaws|| Preset Tests for 10BB, 12BB, 16BB,20BB ,24BB Peel (Half Cut) || 180° Peel || High Resolution 0.01N / 0.2 mm || Real Time Force v/s Time Graph || Multiple Peaks (F Max) for each Peel || Customized reporting (for Individual channel) || Auto Return to sample length || Overload, overtravel protection

Made to Measure - Built for Precision

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Sumuntaneous Multi Channel Peel Tester customized for Solar Cell Peel Strength Testing (upto 24 BB, Half Cut). Fully automatic PC based testing system with high precision control and accuracy, includes automated computer control of test methods giving simplicity of operation.

Customized Jig matched to Solar Cell Type Efficient Loading of Samples

Rigid Frame with imported Ball Screw

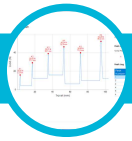
Imported Load Cell Array

Spring Loaded Auto Tightening Jaws

Step Servo Motor

Fig: Multi channel solar cell peel tester

Precision DAS



Operations & Reporting

- Auto set up of (a) Sample / Peel Length (b) Speed of Peel
- Real Time Force v/s Peel Graph with Individual Peak
- Auto Stop at preset peel Length
- Single Channel reoprt of Min / Max and individual peak values
- Super imposed reoprt of Min / Max peak values for all channels

Test Parameters

- Sample Length : Upto 240mm (24BB , 1/2 Cut)
- Peel Length : Upto 450 mm
- Max Force & Resolution: 100 N @ 0.01 N
- Peel Speed: 50 mm / Min
- Peel Resolution : 0.2 mm

Salient Features

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Robust Loading Frame

High Stiffness Loading frame based on extruded Aluminum section for precession linear guidance supporting 2 steel rails & rolling sliders with imported ball bearings ensuring flutter free sliding of the moving jaw.

Auto Tightenig Jaws

Customized auto-tightening spring-loaded Jaws ensures no slippage during peel. Custom "Spacer" for each Solar Cell Types to allign Jaws to Bus Bar

Custom Jigs

Customized Jigs for specific Solar Cell Types , with slots matched to Bus Bars ensuring hassle free set up of testing.

Drive Train

High precision Step Servo motors ensures smooth flow of power to the loading frame via imported ball screw/ nut enabling true CRE (Speed remains constant even at varying loads).

Auto Sample / Peel Length Set Up

Based on Solar Cell Type system automatically sets the Sample and Peel Length. Auto returns to sample length.post Peel Test.

Extreme Automation

The entire system is controlled by proprietary software preloaded with test parameters (sample length, speed, etc.) and an easy-to-use interface.

High Resolution Peel Strength/ Length

Modular electronic DAS (Data Acquisition System capable of high-speed data acquisition coupled with imported sensors (ensures high resolution 0.01N / 0,2mm

Enhanced reporting

Customized reporting to provide data for single test / multiple tests (with F Min/Max Avg etc.) with real time graph of Force and Peel Length.

Tried and Tested Proprietary Software

A flexible and intuitive software package to suit all types of Solar Cell Testing (180°). Automated storage of all test data, ease of export to pdf for reporting. Fully automatic fuction covering -

Set up of test bed **Sample peeling** **Reporting**

1 Set up of Test Bed

- Based on type of Solar Cell to be Tested Sample / Peel Length is configured
- Sliding Jaws to be alligned to the Bus Bar manually ensuring true 180 Degree Peel
- Jaw is Automatically Positioned to desired sample length

Fig: Test type selection

2 Sample Peeling

- Operator attaches the Bus Bar to the Auto tightening jaws.
- System starts peeling the sample at desired peel speed.
- Display of Real time Force v/s peel Length for selected Channel.
- Auto Stop post reaching Peel length and Auto return of Jaws to sample length.

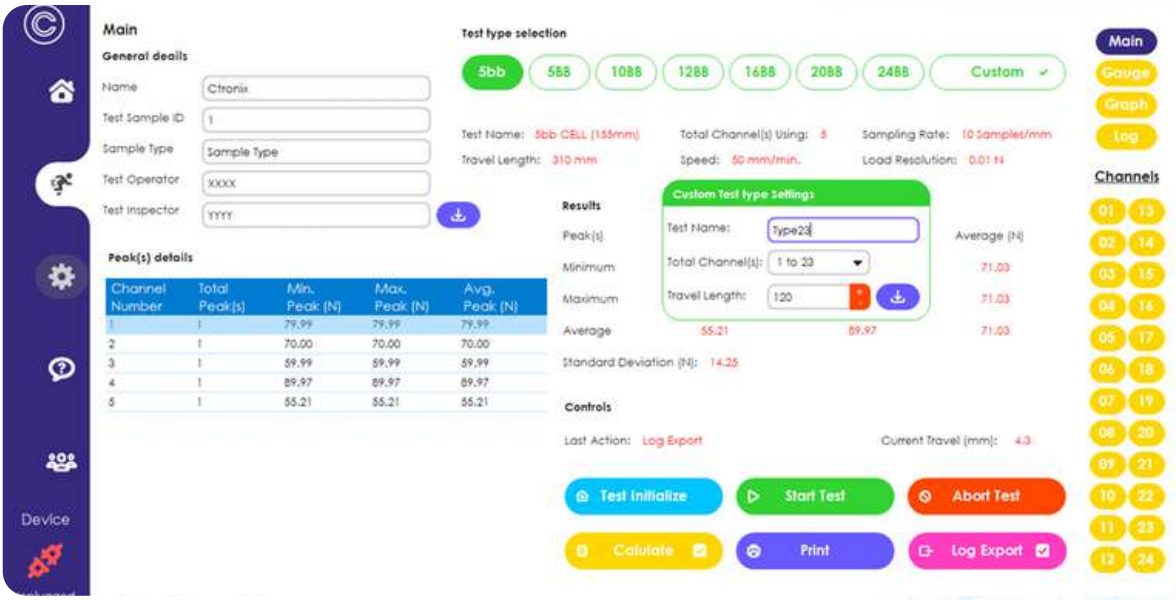


Fig: Test console panel

3 Reporting

- Real time graph of Force v/s Peel Length.
- Report for individual channel contains a) Number of Peaks , b) Values at the Peak, Mix, Max c) Avg Peel stregth of all Peaks and d) Graph with Peak values
- Consolidated report contains the aggregated min/max and average across all Channels with a superimposed graph of all Channels.

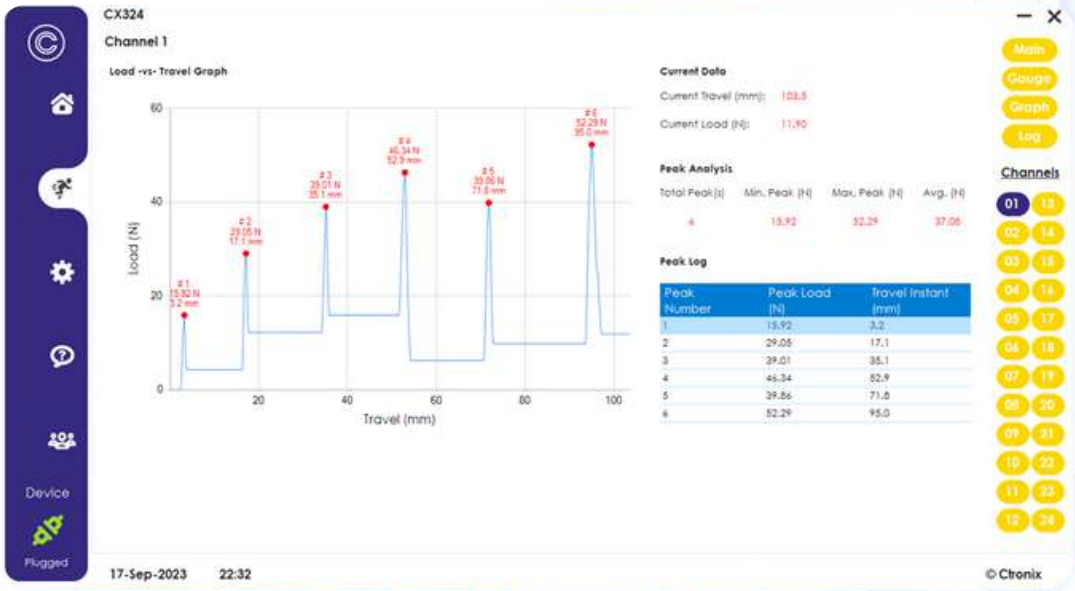
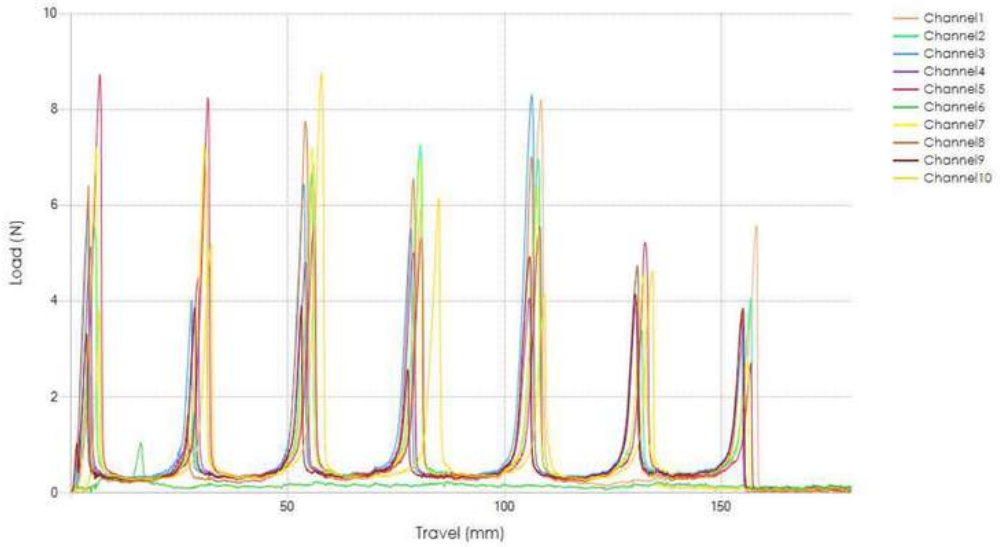


Fig: Individual Channel appearance with peak markings

Indexed Report

Date: 17-Nov-2023	Time: 16:03	Standard Deviation (N):	0.50

Peak(s)	Minima (N)	Maxima (N)	Average (N)
Minimum	1.68	3.51	2.19
Maximum	3.31	6.64	4.53
Average	2.54	4.30	3.26



Channel No.	Total Peak(s)	Min. Peak (N)	Max. Peak (N)	Avg. Peak (N)
1	5	2.03	5.45	3.27
2	6	2.33	4.47	3.12
3	5	3.39	4.57	4.00
4	4	2.03	4.53	3.36
5	4	2.60	5.94	4.30
6	5	2.02	6.64	3.35
7	6	1.68	3.99	3.12
8	3	1.74	3.63	2.54
9	8	1.97	3.86	3.06
10	5	1.79	3.43	2.71
11	5	2.14	3.41	2.75

Fig: Consolidated Report

Demo Video

https://www.youtube.com/watch?v=Mi__fe84DXc

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