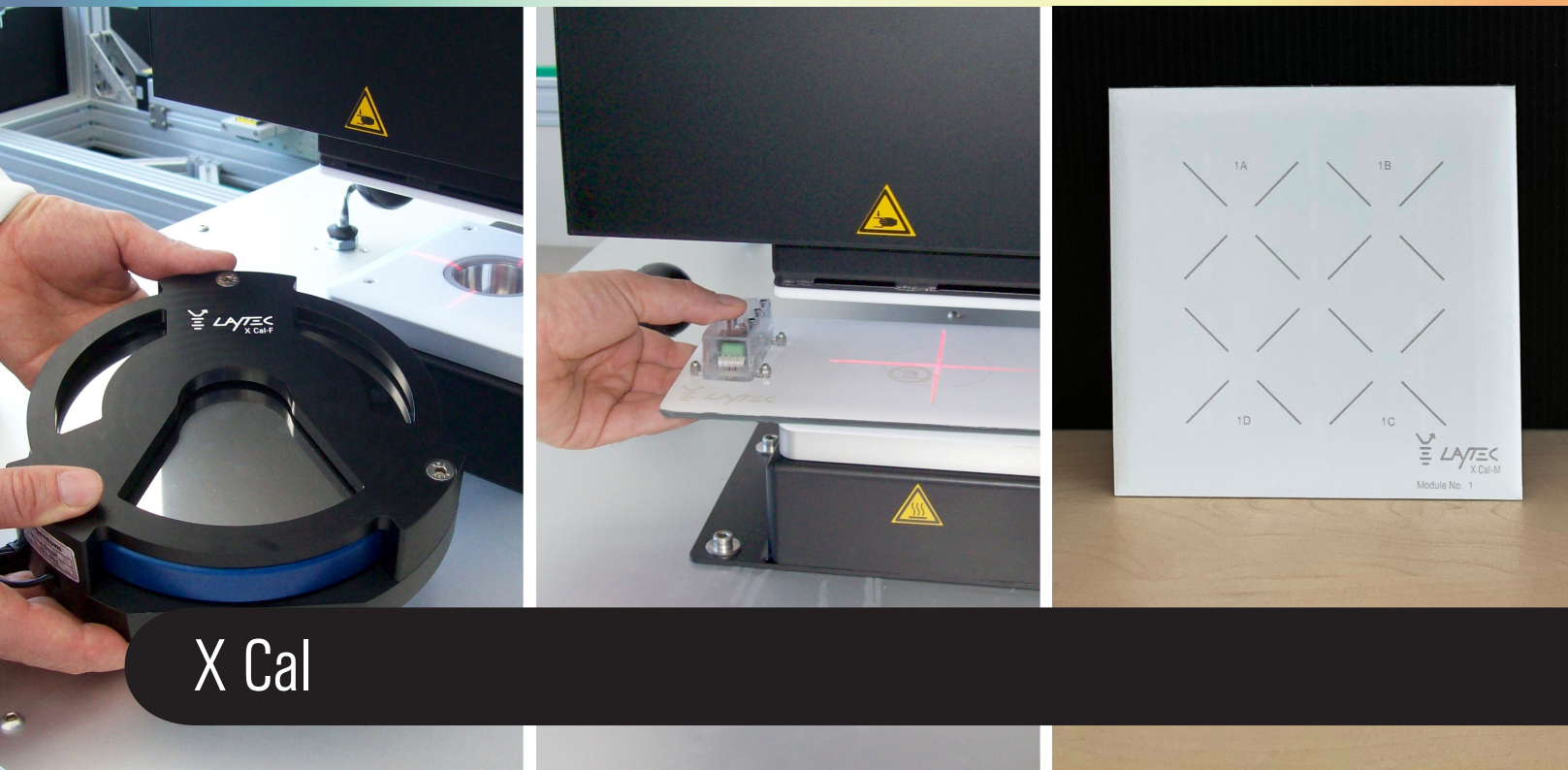




X Cal

X Cal is a set of high precision equipment for on-site calibration of LayTec's X Link® systems. X Cal guarantees the high accuracy of X Link® systems, which is indispensable for process control and quality management in solar module production. It is recommended to calibrate X Link® after its delivery or moving as well as once a year to fulfill the requirements of quality auditors.

Features

Calibration parameters

X Cal consists of three components:

- X Cal-F calibrates force measurement of X Link®
- X Cal-T calibrates temperature measurements of X Link®
- X Cal-M calibrates LXM reading (LXM= LayTec cross-linking metric) of X Link®

All components are delivered with a certified calibration. The calibration of X Cal-F and X Cal-T is traceable to official standards.

Benefits

- The automated and easy calibration procedure is guided by a feature of the XLink® software, which performs the following tasks fully automatically:
 - Performance of all calibration measurements
 - Data evaluation
 - Adjusting (if necessary and / or desired by the operator)
 - Issuing of calibration report
 - Data storage for later reference and statistical process control
- Minimum of user action, minimum human error

System components



1 X Cal-F

- 1.1 Force sensor
- 1.2 Controller with display
- 1.3 USB cable
- 1.4 Power plug
- 1.5 Calibration certificate for X Cal-F

2 X Cal-T

- 2.1 Temperature sensor
- 2.2 USB cable
- 2.3 Calibration certificate X Cal-T

3 X Cal-M

- 3.1 Six reference mini modules in a case
- 3.2 USB flash drive containing LXM reference values and the manual
- 3.3 Calibration certificate for X Cal-M

4 X Cal tool case

Technical data

	X Cal-F	X Cal-T	X Cal-M
Calibrated range	0 N – 15 N	76 °C – 100 °C	LXM: 0.9 – 1.8
Accuracy	± 0.002 N	± 0.3 K	± 1%
Duration of calibration procedure	Ca. 8 min	Ca. 20 min	Ca. 2 h
Recommended period of re-calibration	12 months	12 months	6 months
Size (H x L x D)	63 x 192 x 194 mm (sensor 1.1) 98 x 174 x 70 mm (controller 1.2)	25 x 200 x 140 mm	240 x 300 x 200 mm
Weight	3.8 kg	0.4 kg	2.5 kg
Connectors	USB (cable included), power supply: 100-240 V AC, 50 / 60 HZ		
Operation temperature	15 °C – 28 °C		
Storage temperature	-10 °C – 45 °C		
Max. operation humidity	50 %		
Max. storage humidity	80 %		
Size of the tool case	366 x 687 x 528 mm		
Weight of all parts including tool case	17 kg		

Availability

X Cal can be used with any type of X Link® system: X Link® off-line, X Link® SAM and X Link® OEM systems integrated into automatization.

Specifications are subject to further technical development and may differ from those given in the data sheet. In certain cases, performance may be limited by reactor type and/or growth conditions. Please consult our technical sales team to see how LayTec metrology can best serve your specific application.

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