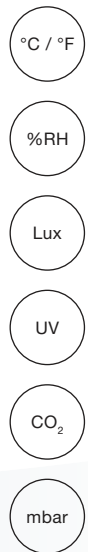


# Museum and Archives Monitoring system

testo 160 – Monitoring system for the monitoring of temperature, humidity, light intensity, barometric pressure, UV radiation, and CO<sub>2</sub> concentration.



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Measurement values transfer by wireless LAN to the Cloud storage

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Measurement values can be accessed on any device with a browser

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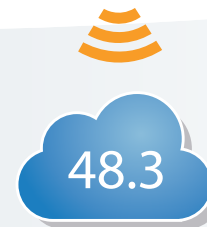
Text message or email alarms

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Small devices designed to blend in with surroundings

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Paintable deco-cover to match surrounding color



testo Saveris 2 App  
for free download



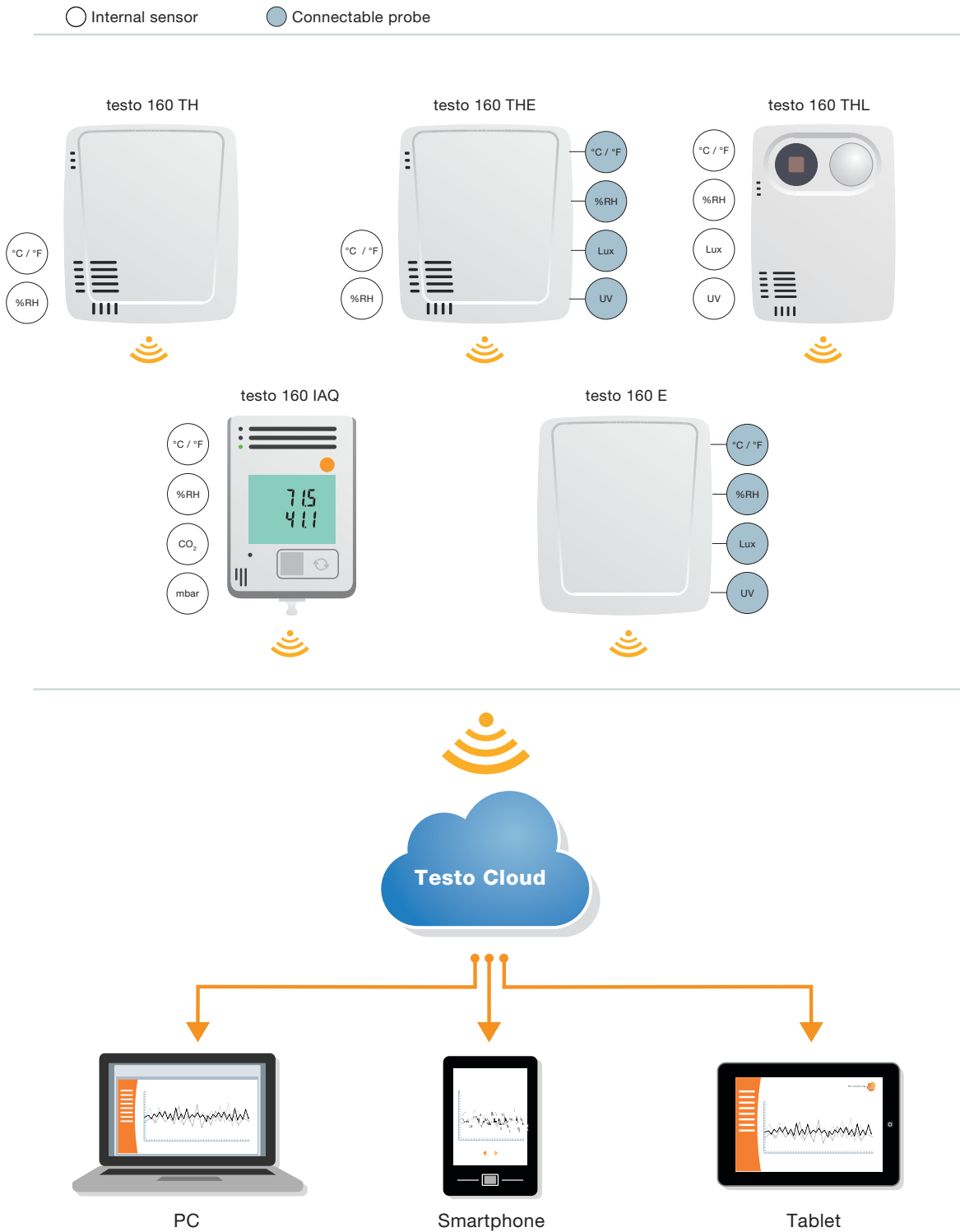
The testo 160 Museum and Archives Monitoring System monitors ambient conditions in display cases, exhibition rooms, and storage rooms. The loggers transfer measurement values by wireless LAN to the Testo Cloud. You can access all data at any time with the testo Saveris 2 App or by PC/tablet/smartphone and a normal browser. If limit values are exceeded, an alarm is immediately provided by text message and/or email. For light intensity, an alarm can also be triggered if the accumulated light quantity within a day, a week or a month exceeds a limit value.

Testo 160 loggers can be easily hidden within the exhibit area thanks to paintable deco-covers. The temperature and humidity probe with wall bushing is ideal for monitoring small display cabinets in which a data logger cannot be placed.

The testo 160 enables you to check all relevant ambient conditions, in order to safeguard the value of the exhibits and fulfill the obligation of documentation.

# How indoor climate monitoring works with **testo 160**.

With the testo 160 monitoring system, you have instant access to the state of environmental conditions effecting your exhibits.



# The testo 160 Cloud

## Our packages

The testo 160 Cloud is the central operating hub of the testo 160 monitoring system. This is where you can configure your WiFi data loggers, set alarm limits, and analyze measurement data. To start, you must register at [www.museum.saveris.net](http://www.museum.saveris.net) to have access to the testo 160 Cloud.

Depending on the range of functions you need, you can choose between the free Basic and the more extensive Advanced functionalities. Both packages also allow access to an API interface enabling export of measurement data to your own database system.

|  | Basic  | Advanced   |
|--|--|--|
| <b>Measuring cycle</b>                         | 15 min. to 24 h  | 1 min. to 24 h (selectable)  |
| <b>Communication cycle</b>                     | 15 min. to 24 h  | 1 min. to 24 h (selectable)  |
| <b>Data storage</b>                            | Max. 3 months  | Max. 2 years   |
| <b>Reports</b>                                 | Manual (.pdf/.csv)   | Manual (.pdf/.csv)<br>Automatic (.pdf/.csv)  |
| <b>Data analysis</b>                           | 1 measurement channel  | Up to 10 measurement channels simultaneously   |
| <b>Number of users per account</b>             | 1  | 10   |
| <b>Number of WiFi data loggers per account</b> | Unlimited  | Unlimited  |
| <b>Alarm options</b>                           | Upper/lower alarm limits   | <ul style="list-style-type: none"> <li>• Upper/lower alarm limits</li> <li>• Alarm delay</li> <li>• Time control of alarms</li> </ul>              |
| <b>System notifications</b>                    | <ul style="list-style-type: none"> <li>• Low battery notification</li> <li>• Radio link interrupted</li> <li>• Power supply interrupted</li> </ul> | <ul style="list-style-type: none"> <li>• Low battery notification</li> <li>• Radio link interrupted</li> <li>• Power supply interrupted</li> </ul> |
| <b>Email alarm</b>                             | Yes  | Yes  |
| <b>Text message alarm</b>                      | No   | <ul style="list-style-type: none"> <li>• Incl. 25 text msgs per logger per year</li> <li>• Additional text msg packages available</li> </ul>       |
|  | 12-month license order no. 0526 0735   | 24-month license order no. 0526 0732   |
|  |  | 36-month license order no. 0526 0733   |

## Ordering data WiFi data loggers

### testo 160 TH

testo 160 TH  
Wi-Fi data logger with  
internal temperature  
and humidity sensors



Order no. 0572 2021

### testo 160 THE

testo 160 THE  
Wi-Fi data logger with  
internal temperature and  
humidity sensors and two  
external port connections  
(S-T/RH, S-Lux/UV or  
S-Lux Probes)



Order no. 0572 2023

### testo 160 THL

testo 160 THL  
Wi-Fi data logger with  
internal temperature  
and humidity  
sensors plus Lux and  
UV sensors



Order no. 0572 2024

### testo 160 E

testo 160 E  
Wi-Fi data logger with  
two external connections  
for S-T/RH, S-Lux/UV or  
S-Lux probes



Order no. 0572 2022

### testo 160 IAQ

testo 160 IAQ  
Wi-Fi air quality logger  
with display and  
internal sensors for  
temperature, humidity,  
CO<sub>2</sub> and atmospheric  
pressure



Order no. 0572 2014

# Technical data WiFi data loggers

|                                   | WiFi data logger testo 160 TH  | WiFi data logger testo 160 THE  | WiFi data logger testo 160 THL         | WiFi air quality logger testo 160 IAQ             | WiFi data logger testo 160 E           |
|-----------------------------------|--|---|--|---|--|
| <b>Temperature measurement</b>    |  |   |  |   |  |
| Measuring range                   | -10 to +50 °C / 14 to 122 °F   |   |  |   | see external probe                     |
| Accuracy                          | ± 0.5 °C / 0.9 °F  |   |  |   |  |
| Resolution                        | 0.1 °C / 0.1 °F  |   |  |   |  |
| <b>Humidity measurement</b>       |  |   |  |   |  |
| Measuring range                   | 0 to 100 %RH   |   |  |   | see external probe                     |
| Accuracy                          | ±2 %RH at +25 °C / 77 °F and 20 to 80 %RH<br>±3 %RH at +25 °C / 77 °F and < 20 %RH or > 80 %RH<br>±1 %RH hysteresis<br>±1 %RH / year drift   |   |  |   |  |
| Resolution                        | 0.1% RH  |   |  |   |  |
| <b>Lux measurement</b>            |  |   |  |   |  |
| Measuring range                   | see external probe   | 0 to 20,000 Lux   |  | see external probe                                |  |
| Accuracy                          |  | DIN 5032-7 Class C-compliant.<br>±3 Lux or ±3 % of reference (DIN 5032 A) |  |   |  |
| Resolution                        |  | 0.1 lux   |  |   |  |
| <b>UV measurement</b>             |  |   |  |   |  |
| Measuring range                   | see external probe   | 0 to 10,000 mW/m <sup>2</sup>   |  | see external probe                                |  |
| Accuracy                          |  | ±5 mW/m <sup>2</sup> or ±5 % of m.v. (for UV; the larger value applies)   |  |   |  |
| Resolution                        |  | 0.1 mW/m <sup>2</sup>   |  |   |  |
| <b>CO<sub>2</sub> measurement</b> |  |   |  |   |  |
| Measuring range                   | 0 to 5,000 ppm   |   |  | see external probe                                |  |
| Accuracy                          | ±(50 ppm + 2 % of m.v.) at +25 °C / 77 °F<br>Without external power supply: ±(100 ppm + 2 % of m.v.) at +25 °C / 77 °F   |   |  |   |  |
| Resolution                        | 1 ppm  |   |  |   |  |
| <b>Pressure measurement</b>       |  |   |  |   |  |
| Measuring range                   | 600 to 1100 mbar   |   |  | see external probe                                |  |
| Accuracy                          | ±3 mbar<br>at +22 °C / 71.6 °F   |   |  |   |  |
| Resolution                        | 1 mbar   |   |  |   |  |
| <b>WLAN+</b>                      |  |   |  |   |  |
| Standard                          | 802.11 b/g/n   |   |  |   |  |
| Security                          | WPA2 Enterprise: EAP-TLS, EAP-TTLS-TLS, EAP-TTLS-MSCHAPv2, EAP-TTLS-PSK, EAP-PEAP0-TLS, EAP-PEAP0-MSCHAPv2, EAP-PEAP0-PSK, EAP-PEAP1-TLS, EAP-PEAP1-MSCHAPv2, EAP-PEAP1-PSK, WPA Personal, WPA2 (AES), WPA (TKIP), WEP |   |  |   |  |
| <b>General</b>                    |  |   |  |   |  |
| Operating temperature             | -10 to +50 °C / 14 to 122 °F   |   |  |   |  |
| Storage temperature               | -20 to +50 °C / -4 to 122 °F   |   |  |   |  |
| Protection class                  | IP20   |   |  |   |  |
| Measuring cycle                   | Dependent on Cloud license / Basic: 15 min to 24 h / Advanced: 1 min to 24 h selectable  |   |  |   |  |
| Communication cycle               | Dependent on Cloud license / Basic: 15 min to 24 h / Advanced: 1 min to 24 h selectable  |   |  |   |  |
| Memory                            | 40,000 readings (sum of all channels)  |   |  |   |  |
| USB Power supply                  | Optional   |   |  |   |  |
| Battery                           | 4 x AAA 1.5 V alkaline batteries   |   |  | 4 x AA 1.5 V alkaline batteries (optional backup) | 4 x AAA 1.5 V alkaline batteries       |
| Battery life (approximate)        | 18 months*   |   |  | 12 months*  | 18 months*                             |
| Dimensions                        | 64 x 76 x 22 mm<br>2.51 x 2.99 x 0.87"   | 64 x 76 x 22 mm<br>2.51 x 2.99 x 0.87"                                    | 64 x 92 x 24 mm<br>2.51 x 3.62 x 0.94" | 82 x 117 x 32 mm<br>3.29 x 4.6 x 1.26"            | 64 x 76 x 22 mm<br>2.51 x 2.99 x 0.87" |
| Weight (incl. batteries)          | 94 g / 3.31 oz.  | 94 g / 3.31 oz.   | 113 g / 3.99 oz.                       | 269 g / 9.49 oz.                                  | 96 g / 3.39 oz.                        |

\*Actual battery life depending on user settings for measurement and communication cycles

## Accessories

|  | <b>Order no.</b> |
|--|------------------|
| Deco-cover for testo 160 TH / testo 160 THE / testo 160 E                                    | 0554 2006        |
| Deco-cover for testo 160 THL   | 0554 2009        |
| Deco-cover for testo 160 IAQ   | 0554 2012        |
| Wall bracket for testo 160 TH / testo 160 THE / testo 160 E / testo 160 THL                  | 0554 2013        |
| Wall bracket for testo 160 IAQ   | 0554 2015        |
| Extension cable for probes, length 0.6 m / 1.7 ft (included with every probe)                | 0554 2004        |
| Extension cable for probes, length 2.5 m / 8.2 ft.   | 0554 2005        |
| Display cabinet bushing for temperature and humidity probes (included with every probe)      | 0554 2016        |
| AAA Alkaline batteries, up to -10 °C / 14 °F, set of 4                                       | 0515 0009        |
| AA Alkaline batteries, up to -10 °C / 14 °F, set of 4  | 0515 0414        |
| External USB power supply  | 0572 2020        |
| ISO calibration certificate temperature -18 °C, 0 °C, +40 °C                                 | 0520 0153        |
| ISO calibration certificate humidity at +25 °C, humidity points 11.3 %RH and 75.3 %RH        | 0520 0076        |
| ISO calibration certificate light intensity, calibration points 0; 500; 1000; 2000; 4000 Lux | 0520 0010        |
| ISO calibration certificate CO <sub>2</sub> , calibration points 0; 1000; 5000 ppm           | 0520 0033        |

## Probe

| <b>Probe type</b>      | Temperature and humidity probes   | Lux and UV sensors  | Lux sensor  |
|------------------------|---|---|---|
|                        |    |    |  |
| <b>Measuring range</b> | -10 to +50 °C / 14 to 122 °F<br>0 to 100 %RH  | 0 to 20,000 Lux<br>0 to 10,000 mW/m <sup>2</sup>  | 0 to 20,000 Lux   |
| <b>Accuracy</b>        | ± 0.5 °C / 0.9 °F<br>±2 %RH at +25 °C / 77 °F at 20 to 80 %RH<br>±3 %RH at +25 °C / 77 °F at < 20 %RH and > 80 %RH<br>±1 %RH hysteresis<br>± 1% RH / year drift | DIN 5032-7 Class C-compliant.<br>±3 Lux or<br>±3 % of reference (DIN 5032 A)<br>±5 mW/m <sup>2</sup> or ±5 % of m.v. (for UV; the larger value applies) | DIN 5032-7 Class C-compliant.<br>±3 Lux or<br>±3 % of reference (DIN 5032 A)          |
| <b>Order no.</b>       | 0572 2156   | 0572 2157   | 0572 2158   |

# Data management

## The testo Saveris 2 App

testo Saveris 2 Apps for iOS and Android, enable access and function operation to the testo 160 Wi-Fi data logger system

### Efficient commissioning\*:

- Selection of the Wi-Fi network, network strength indicators
- Fast parallel commissioning of several loggers

### Easy network analysis\*:

- Test the strength and range of your Wi-Fi network
- Create and send status reports

### Full alarm functionality:

- Push notifications when alarm points are crossed
- Combinable with email or text message alarms

\*These functions are available only in the Android version of the testo Saveris 2 App.



### testo Saveris 2 App

for free download go to:



## The testo 160 Cloud

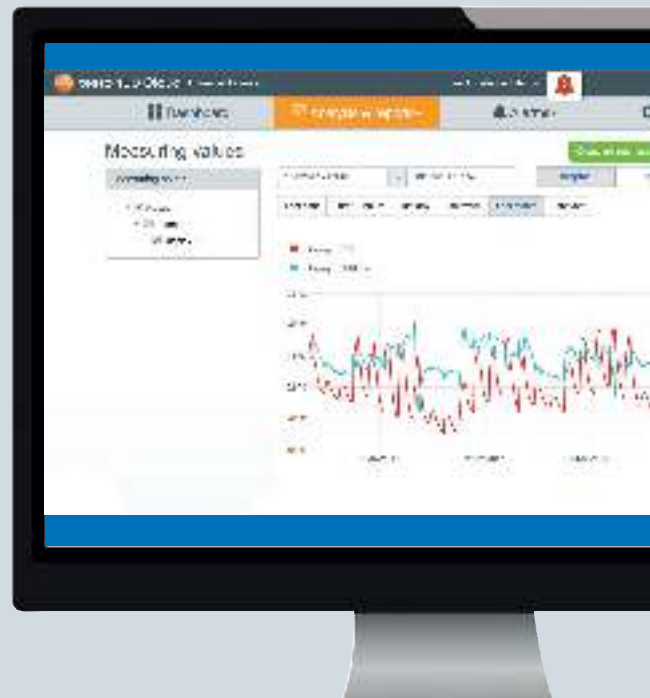
System purchase includes free access to the testo 160 Cloud account website. In the Cloud account, you can view and manage the measurement values stored online and use the email alarm function. The system can also be set up and configured here.

### The advantages of the testo 160 Cloud at a glance:

- Central operating hub for the monitoring, documentation, and administration of all measurement locations
- Measurement data security - your measurement data is protected from unauthorized access by third parties
- Automatic storage of your measurement values, all measurement data is constantly available for display and reports
- Alarm function for critical pre-set values
- Two license packages, Basic or Advanced with different ranges of operating functions

### Maximum flexibility with the Advanced license:

- Measurement timing is freely selectable
- Reports automatically sent by email, report features are selectable
- Management of user profiles – user level authorizations
- Additional text message alarms functionality



## Deco-cover

For exhibit halls with colored walls or backgrounds, the paintable deco-covers install over the data loggers to make them blend into your exhibit environment.

The loggers stay masked in the background as not to distract from the artwork or exhibits.



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Subject to change without notice.

