



Smart-View Pro Remote Monitoring Solution

A solution for sample processing and storage

A **Smart** solution provides a new **Vue** in **Protection**

Your work represents hope – for an answer, for a breakthrough, for a therapy or maybe a cure. Sample integrity is paramount to your success. Confidence that your one-of-a-kind patient samples are at the proper temperature is necessary for peace of mind. Regulatory bodies require validation of the conditions of your clinical products and materials. The reality is that many factors can affect instrument performance, including routine maintenance, usage behavior, power fluctuations, and mechanical stress over time. If the instruments fail to maintain settings accurately, then your scientific products could be at risk. **You want to be prepared for the unexpected.**

Investing in a remote monitoring solution for your laboratory is **Smart**



Remote monitoring supports sample protection

- Instant alerts for out-of-range sample conditions enables urgent proactive response so you can manage your scientific products before they are compromised.

Remote monitoring supports compliance

- Automatic and continuous data logging creates a permanent audit trail to support compliance standards and consistent, reproducible results.

Remote monitoring supports asset/cost optimization

- A remote monitoring system can serve as part of your asset management strategy by minimizing cost for insurance policies that cover the replacement of equipment and products.

Smart-Vue Pro provides Protection

Thermo Scientific™ Smart-Vue™ Pro is a remote monitoring solution for sample processing and storage applications from research through production to patient care. This

advanced solution connected by a secure, long range, dedicated network provides real-time 21 CFR compliant data logging and monitoring of critical parameters across your lab equipment.

What Smart-Vue Pro can monitor for your lab

Features

Ambient monitoring	<ul style="list-style-type: none"> • Temperature with external sensor • Temperature and relative humidity (RH) with external sensor
Ultra-low temperature freezers	-100°C to +150°C
Auto-cascade ultra-low temperature freezers	-155°C to -100°C
LN ₂ / cryo storage freezers	-196°C to -100°C
Refrigerators (single, double and triple door)	0°C to +10°C
Freezers	-40°C to 0°C
Refrigerator/freezers combinations per chamber (i.e. top/bottom, left/right)	-30°C to +8°C
Cold rooms	-30°C to +8°C; -40°C or colder
Incubators	Ambient to +100°C, +120°C, and humidity: 0 to 100% RH non condensing
Water baths	Ambient to +120°C
4-20 mA current loop (0-5 V and 0-10 V)	4 to 20 mA; device with a 4 to 20 mA self powered output



Designed with simplicity, compliance and optimization in mind

Next-generation monitoring solution for sample storage and processing

The ability to select the configuration of probe, module, and network type allows you to build the system you need. The modular, customizable architecture allows for easy expansion without costly upgrades. Smart-Vue Pro is compatible with multiple brands and types of equipment. New equipment and labs can be added to existing Smart-Vue Pro systems. With the longer range LoRa, scalability is possible across multiple labs, floors, or buildings with fewer gateways*.

*Note: Up to 2 km line of sight in urban areas. Actual range impacted by building design, construction and other natural obstacles



Hardware

- Interactive, color touchscreen module displays parameters with audio/visual alarms or at-a-glance monitoring.
- Modules can monitor up to 4 pre-calibrated parameters.



Network

- Long-Range wireless Wide Area Network, LoRa, is a stand-alone dedicated network that increases connectivity range by up to 9 km.



Software

- The cloud server allows access to the full system functionality from anywhere, anytime.
- Intuitive dashboard simplifies daily usage.
- Compliance with confidence – support 21 CFR Part 11 guidelines with audit trail and secure user-level access control.



Services

- End-to-end support is here to guide you through hardware, installation, orientation, and support.

How Smart-Vue Pro works



Data traceability & security

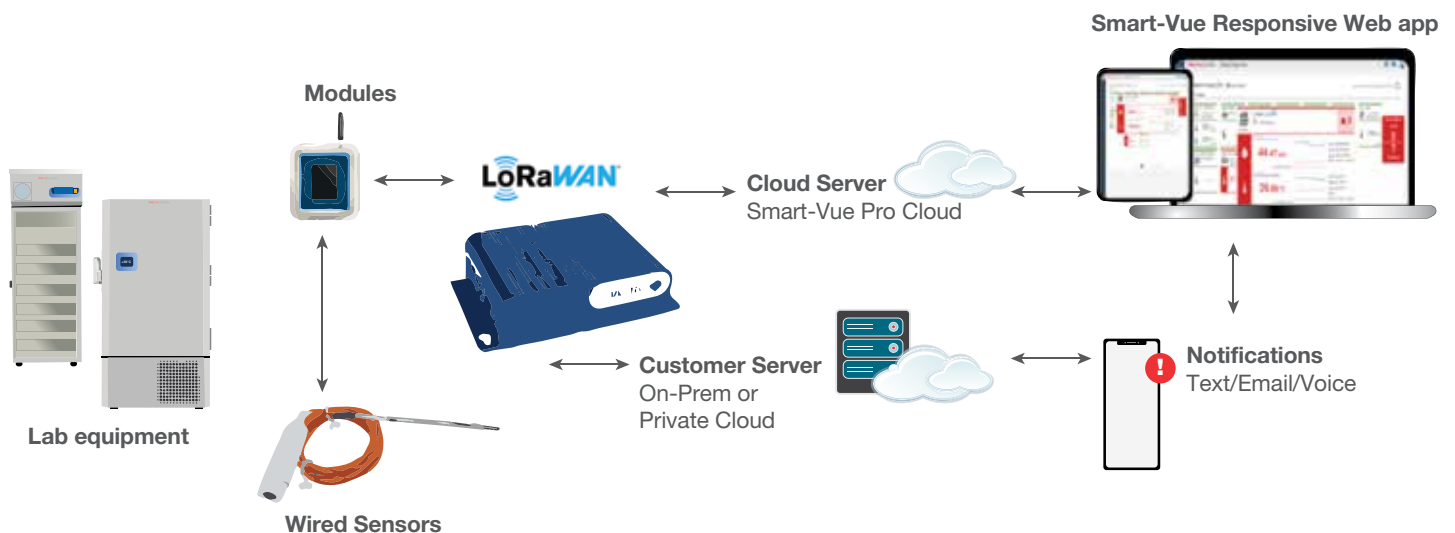
- User defines measurement and transfer periods. Data is transmitted securely in a digital format with back-up.
- Automatic and continuous data logging creates permanent record of readings, alarms, acknowledgments with impact notes, system access, and program changes with user traceability.

Notifications

- Self-monitoring alarm system activates if it exceeds high/low setpoints with immediate notification. Alerts users in the event of a power or mechanical failure by their preferred method of notification.
- Including: Audible/visual siren, telephone*, email, text message*, Smart-Vue Pro mobile app

Access

- On-premise or cloud-based configurations allow flexibility to check status anytime, anywhere from most modern web browser.
- Intuitive dashboard has multiple views-optional floor plan and site views. Data can be exported with a click for reporting and customizable graphs.



Readings are taken by smart sensors, transmitted by local modules to LoRaWAN gateways where they are processed and sent to the Cloud/On-premise server.

*Requires Smart-Vue Pro Alert subscription

Modules

Increase efficiency with multi-sensor wireless monitoring

Smart-View Pro modules support various combinations of sensors and parameters. The Duo has one physical connector allowing a wired single sensor or dual sensor probe (up to 2 parameter monitoring). The Quatro has two physical connectors allowing a combination of wired single or dual sensor probes with up to 4 parameter monitoring. Ideal for monitoring several pieces of equipment simultaneously or multiple points within one piece of equipment.



- Bright 2.4" color touchscreen with multiple views
- Audio* visual alarms for local notification
- Low AC power consumption through USB port access
- Optional replaceable battery with extended life (minimum of 1 year) allows continuous monitoring
- Choice of wired and wireless sensors with automatic sensor detection
- User traceability with customized levels of user access with encrypted password protection
- Standalone module allowing direct connection via 4-20mA output

*Requires external power

Digital smart sensors

Increase productivity in your lab with Thermo Scientific smart sensors

Designed to be plug and play with auto detection and pre-calibration, the sensors have on-board memory that stores sensor type, serial number and calibration coefficients. When connected to the modules, the information stored on them is automatically populated in the system.

Multiple parameters

- Temperature (-200 / +150°C)
- Temperature and relative humidity
- 4-20 mA / 0-10 V
- Dry Contact (available soon)
- Differential pressure (available soon)
- % CO₂ (available soon)

Smart sensors-modular configuration with smart calibration

- Plug-and-play feature with calibrated sensors with auto detection
- No data loss or down-time for calibration with off-the-shelf calibrated sensors
- Calibration coefficients stored in sensor memory to simplify recalibration process
- Data and certificates accessible easily
- Calibration in-house laboratory: ISO 17025 accredited (COFRAC) and NIST-traceable

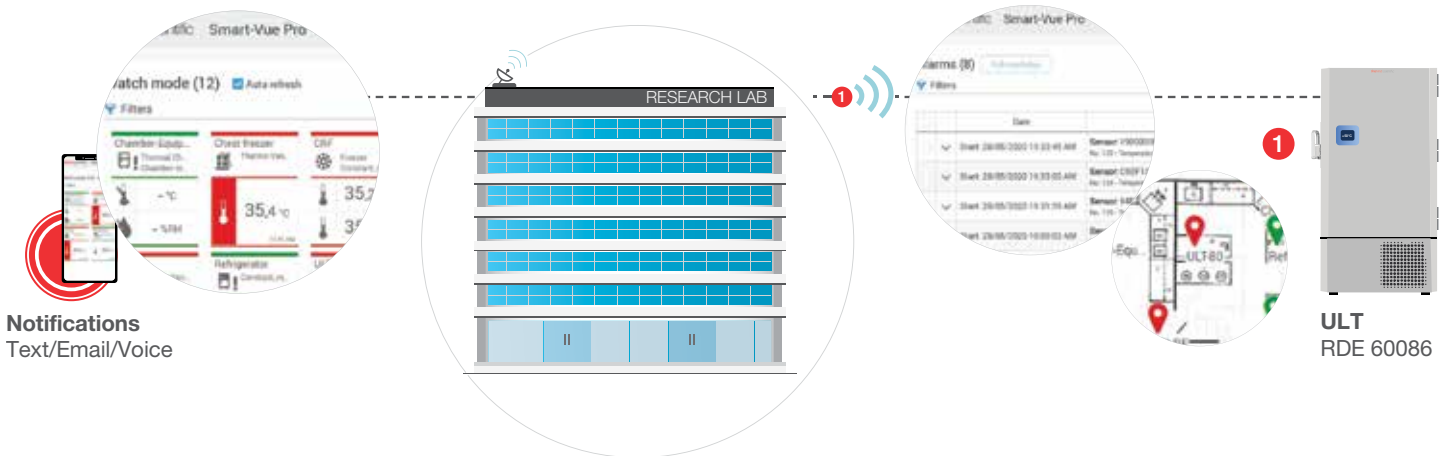
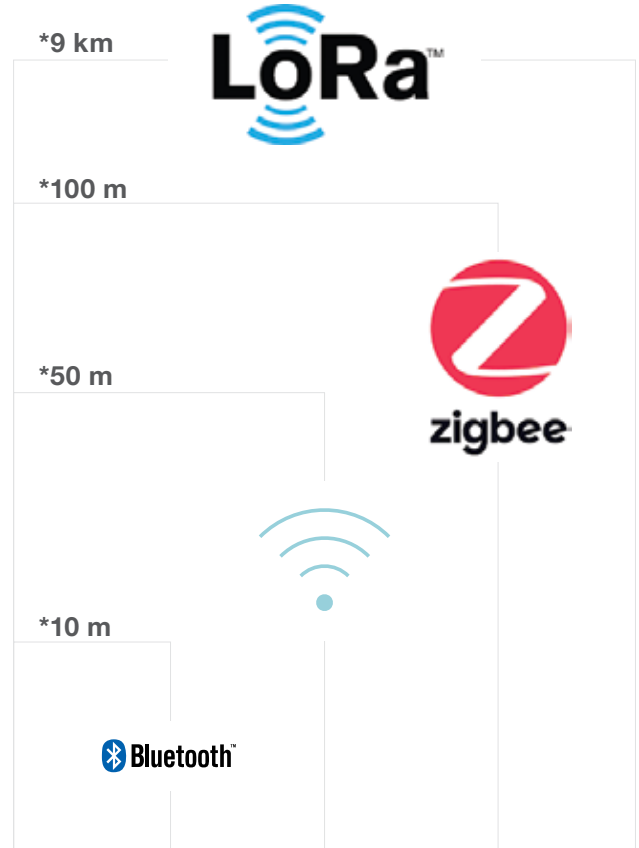


Network

IT friendly LoRaWAN provides easy set-up of a reliable, dedicated and secure wireless network

LoRaWAN is short for Long Range wireless Wide Area Network. It is a stand-alone dedicated network and increases connectivity range for IoT devices by up to 2 km in urban and 9 km in rural areas. This gateway pushes data to the Cloud by connecting to your local network via an Ethernet or Wi-Fi connection.

- Long range wireless connectivity enables a single gateway to cover large areas, replacing the need for repeaters.
- Dedicated wireless network requires only an internet connection, minimal IT support needed to set up.
- Support for up to 300 data logging parameters per gateway.



LoRa technology allows for coverage throughout your facility with as little as a single gateway.

*Under optimal conditions, LoRa can provide a 9 km range for communication. Actual performance will vary significantly, and is heavily dependent on building construction. Signal strength testing is recommended to verify performance at a specific location.

Services

Ensuring your monitoring solution is functioning properly.

Precision monitoring solution with expert service and support that gets you up and running faster.

- Expert installation and start-up services
- Priority technical support with enhanced digital tools for faster troubleshooting and diagnosis
- Corrective replacement and preventive maintenance
- Be audit-ready with compliance support

Compliance services to support your laboratory equipment

Factory-certified validation engineers meet ISO 9001 and ISO 17025 standards to ensure your Smart-Vue Pro system is installed and operating to specification

- Installation qualification
- Operational qualification
- Calibration services
- Preventive maintenance



Be ready for your next audit

Unity Lab Services helps you confidently maintain regulatory compliance leveraging a global calibration infrastructure that utilizes the latest technology and metrology techniques.

- Calibration services from Unity Lab Services meet or exceed various international standards including ISO/IEC 17025, ensuring calibration processes are routinely reviewed and audited by an external accreditation bodies, such as A2LA and that our Field Service Engineers are highly trained and certified. Flexible calibration service levels are available depending on the quality policy requirements of your organization.

Ordering pages

Modules and gateways



Smart-Vue Pro Duo and Quatro

	Product	Modules Description	Cat. No.
Module	Smart-Vue Pro Duo	Smart-Vue Pro Duo with multifrequency support. Delivered with two 3.6 V lithium batteries, one sensor mounting kit, one mounting holder, one antenna and one 1.5 m / 5 ft flat cable.	SVPHWRMOD002
Module	Smart-Vue Pro Quatro	Smart-Vue Pro Quatro with multifrequency support. Delivered with two 3.6 V lithium batteries, two sensor mounting kit, one mounting holder, one antenna and two 1.5 m / 5 ft flat cable.	SVPHWRMOD004

	Product	Modules Description	Cat. No.
Gateway	Smart-Vue Pro LoRaWAN 865-868*	865-868 MHz LoRaWAN™ enabled Ethernet/WiFi connectivity receiver with Universal Power supply	SVPHWRLGW002
Gateway	Smart-Vue Pro LoRaWAN 915*	915 MHz LoRaWAN™ enabled Ethernet/WiFi connectivity receiver with Universal Power supply	SVPHWRLGW001

*Frequencies that are approved for use are country specific. 865-868 MHz is approved for use in most European markets and 915 MHz is approved for use in North American markets. Please consult your local representative for more details.

Accessories and other parts

Customize your system with accessories to meet your specific needs

Other accessories to complete your monitoring solution

Remote contact

Help connect to your local system

Thermo Scientific smart remote contact wireless controllers are used to raise alerts if alarm conditions are detected in your Smart-Vue Pro wireless monitoring system. Alarms can be configured in the Smart-Vue Pro web application for any or all of your end-point modules and groups.



Remote siren

Provides local audio visual critical alarm notifications

Thermo Scientific smart siren adds remote audio visual siren to alert users in a remote location of critical system alarms.



Accessories and other parts.

	Product	Description	Cat. No.
Smart Siren			
Module	Smart Siren 865-868*	Wireless alert device for LoRaWAN™ solution 865-868 MHz with universal power supply	SVPACCSIR002
Module	Smart Siren 915*	Wireless alert device for LoRaWAN™ solution 915 MHz with universal power supply	SVPACCSIR001
Module - Spare	Wall mount holder	Kit included one velcro (11 cm) and two magnets for Smart-Siren	SVPACCSIR001
Module - Spare	Universal power supply	Universal power supply for Smart Siren and Smart Remote Contact 12 V	SVSPRPWR001
Smart Remote Contact			
Module	Smart Remote Contact 865-868*	Dry contact alert device with wireless connectivity 865-868 MHz for use with systems	SVPACCSRC002
Module	Smart Remote Contact 915*	Dry contact alert device with LoRaWAN™ wireless connectivity 915 MHz for use with LoRaWAN™ systems	SVPACCSRC001
Module - Spare	Wall mount holder	Wall mounting holder for Smart Remote Contact	SVSPRMNT004

*Frequencies that are approved for use are country specific. 865-868 MHz is approved for use in most European markets and 915 MHz is approved for use in North American markets. Please consult your local representative for more details.

Wired Sensors

	Product	Description	Cat. No.
Sensors	Temperature Sensor -40/+80°C, 1 m	Digital sensor -40/+80°C, cable length 1.0 meter (short)	SVPSENTUS001
Sensors	Temperature Sensor -40/+80°C, cal, 1 m	Digital sensor -40/+80°C, cable length 1.0 meter (short), calibrated at -30°C, -15°C, 0°C, 20°C, 40°C	SVPSENTCS001
Sensors	Temperature Sensor -40/+80°C, 3.5 m	Digital sensor -40/+80°C, cable length 3.5 meters (long)	SVPSENTUE001
Sensors	Temperature Sensor -40/+80°C, cal, 3.5 m	Digital sensor -40/+80°C, cable length 3.5 meters (long) calibrated at -30°C, -15°C, 0°C, 20°C, 40°C	SVPSENTCE001
Sensors	Temperature Sensor -40/+120°C, 1 m	Digital sensor -40/+120°C, cable length 1 meter	SVPSENTUS002
Sensors	Temperature Sensor -40/+120°C, cal, 1 m	Digital sensor -40/+120°C, cable length 1 meter, calibrated at 30°C, 60°C, 80°C, 100°C, 105°C.	SVPSENTCS002
Sensors	Smart Sensor Pt100 -100/+150	Smart Sensor Pt100 cable length 1.4 meters	SVPSENTUS003
Sensors	Smart Sensor Pt100 -100/+150, cal	Smart Sensor Pt100 calibrated at -196°C, -80°C, 0°C cable length 1.4 meters	SVPSENTCS003
Sensors	Smart Sensor Pt100 -200/+50	Smart Sensor Pt100 cable length 3.5 meters	SVPSENTUS004
Sensors	Smart Sensor Pt100 -200/+50 cal	Smart Sensor Pt100 calibrated at -80°C, -40°C, 0°C cable length 3.5 meters	SVPSENTCS004
Sensors	Smart Sensor Temp/RH	Smart Sensor, temperature and relative humidity -40°C to +150°C, 0 to 99.9% RH	SVPSENRUS001
Sensors	Smart Sensor Temp/RH cal 23/50	Smart Sensor, temperature and relative humidity calibrated at +23°C / 50% RH	SVPSENRCS001
Sensors	Smart Sensor Temp/RH cal 27/90	Smart Sensor, temperature and relative humidity calibrated at +37°C / 90% RH	SVPSENRCS002
Sensors	Smart Sensor 4-20 mA / 0-5 V	Smart-Sensor 4-20 mA (0-10 V / 0-10 V) Single digital sensor.	SVPSEN4US001
Sensors	Smart Sensor 4-20 mA / 0-5 V, cal	Smart-Sensor 4-20 mA (0-10 V / 0-10 V) Single digital sensor. Calibrated at 4,8,12,16 and 20 mA	SVPSEN4CS001

Replacement Parts

	Product	Modules Description	Cat. No.
Accessories	USB power supply	Universal power supply for Smart-Vue Pro with USB Cable 5 V-1.2 A	SVPACCPWR001
Accessories	Sensor mounting kit	Sensor mounting kit includes: 2 wire ties, 4 plastic holders with removable sticky back adhesive	SVPSPRMNT002
Accessories	1.5 m cable (x1)	1.5 m extension flat cable	SVPACCCBL001
Accessories	Battery cover & screw	Battery cover and screw replacement for Smart-Vue Pro	SVPSPRPRT001
Accessories	Extra Antenna	Antenna for Smart-Vue Pro Duo or Quatro, Wireless siren and dry contact	SVPSPRANT001
Accessories	Wall mount holder	Kit for Smart-Vue Pro including 1 support + 1 magnet glued to the support	SVPSPRMNT001

Subscriptions and services

Subscription & server software part numbers

Cloud	Server	Server Update	Server Maintenance	Alert
Type				
Annual	One time	Optional annual	Optional annual	Optional annual
Description				
Access to the full Smart-Vue Pro Cloud Solution for package # of sensors	Server software license for package # of sensors	Server software license for upgrade package # of sensors	Server software updates for one year (does not include installation services)	Add-on notification package though SMS and voice calls (Twilio)
SVPSWCS20005*	SVPSWPS20005*		SVPSWSU20005	SVPSWSA20005*
SVPSWCS20020	SVPSWPS20020	SVPSWPU20020	SVPSWSU20020	SVPSWSA20020
SVPSWCS20050	SVPSWPS20050	SVPSWPU20050	SVPSWSU20050	SVPSWSA20050
SVPSWCS20100	SVPSWPS20100	SVPSWPU20100	SVPSWSU20100	SVPSWSA20100
SVPSWCS20250	SVPSWPS20250	SVPSWPU20250	SVPSWSU20250	SVPSWSA20250
SVPSWCS20500	SVPSWPS20500	SVPSWPU20500	SVPSWSU20500	SVPSWSA20500
SVPSWCS21000	SVPSWPS21000**	SVPSWPU21000	SVPSWSU21000	SVPSWSA21000
SVPSWCS21500	SVPSWPS21500**	SVPSWPU21500	SVPSWSU21500	SVPSWSA21500
SVPSWCS22000	SVPSWPS22000**	SVPSWPU22000	SVPSWSU22000	SVPSWSA22000

*Promo tier

**Server capacity restrictions apply. Check with IT.

Expert start-up and installation

- Orientation
- Server Configuration
- Installation of servers, gateways, modules & sensors

IQOQ Qualification

- IOQPCKE89003675 - Field delivery and protocol
- IOQDOCE89003675 - Protocol only

Calibration for all sensor types

- ISO17025
 - CALPRRM1 - Single Point
 - CALPRRM2 - Dual Point
 - CALPRRM3 - Triple Point (coming soon)

- ISO9001
 - CALBCRM1 - Single Point
 - CALBCRM2 - Dual Point
 - CALBCRM3 - Triple Point (coming soon)

Service Contracts

- Choose the service contract to cover your full Smart-Vue Pro system at the level of care you need

Please reach out to your Thermo Scientific sales representative for more details.

Service contracts

	Remote Support	Tech Direct	Total Care
	RSRMSVPRO	TECRMSVPRO	CARERMSVPRO
Remote technical support, unlimited	X	X	X
Virtual & augmented reality support tool access	X	X	X
Annual preventive maintenance	-	X	X
Battery replacement*	-	X	X
Corrective service	not included**	not included**	X
OEM spare parts	not included**	not included**	X

*Provided with annual preventive maintenance when applicable to hardware

**15% discount on parts and labor

Data Security

Help build a Security-minded culture



- The components of the Smart-View Pro Solution have undergone rigorous security testing from our ISO 27001 certified Information Security Program. Hardware and software items go through an initial penetration test, followed by remediation guidance from industry recognized cybersecurity experts. The products are then change tested to ensure that fixes have been implemented appropriately. Product and software testing is designed around standards and recommendations set by various agencies and organizations, such as the OWASP ASVS V4.0 and OWASP Top 10 IoT Security

Practices, and all testing is peer-reviewed before being made official. In addition, Thermo Fisher has a dedicated Data Privacy Office to handle compliance with data privacy laws, such as GDPR, that product teams engage with throughout development to make sure compliance is being maintained.

- Thermo Fisher also benefits from numerous partnerships, including with the FDA, Medical Device Innovation Consortium, Healthcare ISAC, and others to keep on top of the latest design standards and threat intelligence. The Smart-View Pro Solution is hosted on a dedicated AWS instance that is secured by Trend Micro and Turbot, two industry leading software companies. In addition, Thermo Fisher Scientific has a Security Operations Center open 24/7/365 to handle the ever-changing landscape and respond quickly to concerns.
- GDPR
- OWASP Top 10 IoT Security Practices
- OWASP ASVS V4.0
- NIST-CSF
- ISO 14971
- ISO 27001 certified

Find out more at thermofisher.com/smartvuepro

ThermoFisher
S C I E N T I F I C

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