Q. What is FeverWarn?

A. FeverWarn is an IoT-based, skin temperature scanning system from MachineSense. The current models scan skin temperatures to act as your virtual screening tool without the need for personnel to hold IR scanning devices and compromise social distancing rules. The data is then captured and can be integrated into any third-party IT system depending on model.

Q. What does the FeverWarn system include?

A. The system includes a bracket for the easy mounting of one infrared, touchless temperature sensor to be installed in either a fixture or entryways so that infrared radiations from a human body can be measured for elevated temperatures.

The ODX spatial geometry sensors included with all FeverWarn OBX Series models collect the infrared radiation in its field of view. Then the infrared radiation energy is converted into corresponding electrical signals when converging on the photoelectric detector.
Q. Why is temperature scanning important for the future, no matter the vaccine rollout?

A. No matter what happens in the future with many virus variants and vaccine boosters, most employers and employees, as well as teachers and students, now recognize that keeping sick people from any workplace or inside group exposure is just plain good common sense. No matter what virus or bacteria is involved, why would you want anyone with a high temperature in your workplace, school, or waiting room?

Ongoing concern about employee and visitor wellbeing is the new byproduct of the pandemic era, no matter what happens next. Employers do not want to have sick people in their workplace or inside areas. Employees want to be assured that there are no sick people in the environment as they return to work.

The screening of people with temperatures, no matter if viral or bacterial, is even more crucial as we recognize that most buildings do not have adequate air exchange systems and that inside space with a high-temperature individual can easily result in others getting sick and preventing high productivity and good health.

Employers show they care by using FeverWarn; in turn, employees recognize that FeverWarn is a sign that their employers care about their wellbeing. Employees realize that the screening of visitors keeps them safer as well.

Screening for employee health to keep sick people home is the new standard in building safety and employee wellbeing.

Q. What are the power requirements?

A. 110/220V, 60Hz AC power supply will power FeverWarn.

Q. Can I integrate FeverWarn to automated doors and gate systems?

A. Yes. FeverWarn's 250 models come standard with integration capabilities offering a relay signal to integrate with automatic openings. Feverwarn sends an ON/OFF relay based on a go/no go temperature via USB. A customer can purchase an appropriate USB relay converter for their relay system to automate door operation. FeverWarn 1100 models do not include integration capabilities.
Q. How does FeverWarn differ from other thermal scanners?

A. FeverWarn is a patent-pending system developed by an IoT company MachineSense, LLC. and its partner Novatec, Inc., a US manufacturer with more than 50 years of experience in industrial equipment. The following are the unique features of FeverWarn when compared to other products.

1. It is easy to install at doorways, entrances, and employee check-in systems, etc.
2. It can be integrated with automated doors via USB output and is offered with Modbus and UART (FeverWarn 250 models).
3. Alarm and statistics can be sent to the cloud. Deployers can receive alerts with a timestamp via SMS text messages or emails. (Applies to FeverWarn FW1100B-OPX and FeverWarn 250D-OPX cloud models).
4. Alarms and other statistics are available over REST API to integrate with any existing ERP systems.
5. For large scale deployments, it offers an auto-calibration system for easy maintenance.
6. It is calibrated using the human body to maintain calibration easily.

Q. Why is the FeverWarn the best temperature scanning system?

A. FeverWarn is a self-service temperature scanning system. Unlike inexpensive, minimal ambient range handheld devices, another individual does not have to hold the sensor 1-4 inches away from the subject’s forehead—often putting the individual holding the handheld sensor at risk by not meeting acceptable social distancing requirements.

- FeverWarn offers cloud or onboard storage of temperature data.
- FeverWarn offers state-of-the-art OPX technology, which extends the ambient range by up to 50% over any other infrared scanner on the market today. This specialized technology makes FeverWarn ideal for poorly temperature-regulated entranceways such as vestibules, which can also be compromised by direct sunlight intrusion.
- FeverWarn 250 models offer integration capability with magnetic doors, kiosks, gates, employee card systems, and more.
**Frequently Asked Questions (continued)**

| Q. Why does FeverWarn OPX Technology make other scanners obsolete? | A. Traditionally, all infrared thermal sensing systems have suffered from high inaccuracy due to warm or cold ambient conditions and the radiation from hot and cold air molecules. As a result, almost all infrared temperature scanning systems are only rated for operation from 70-94°F. Operating these handheld units outside of this temperature bandwidth will result in inaccurate readings.

FeverWarn’s new OPX Technology development has been implemented on all FeverWarn models extending the ambient range by up to 50% (from around 40-104°F in actual testing). This proprietary patent-pending technology consists of new spatial geometry sensors combined with an artificial intelligence algorithm to filter out the effects of cold or warm weather and problems with sunlight.

FeverWarn is the only temperature sensing system to feature this new OPX, which renders most other handheld scanners obsolete. |

| Q. What are the typical applications? | A. FeverWarn’s products are designed especially for doorways at building entrances. FeverWarn assures employees and customers of an efficient scanning process without violating social distancing standards. Custom configurations for other applications can be discussed with our engineering group. Standard products are for inside use only. |

| Q. Can FeverWarn be used outside? | A. Current FeverWarn products, even with OPX technology, should not be used outside. **COMING SOON...** FeverWarn will be shortly announcing new FeverWarn variants that can be used outside. One variant will be for outside environments greater than 40 degrees F, while the second will be for environments in a freezing area (40 degrees or less). These FeverWars with protective sealing and weather shields can be positioned outside buildings, outside security gates, or other entrances. Remote visual and sound options can broadcast results inside the building for security personnel. |

| Q. How do you calibrate FeverWarn? | A. Each sensor is factory calibrated. If field calibration is required, customers can conduct their calibration by manual or automatic calibration process using the “MachineSense IoT Support” mobile app. In manual calibration mode, the human body temperature must be taken as a reference. In auto-calibration mode, the reference temperature will be taken from the calibrator by the device automatically. The calibration certificate will be readable from the web/mobile app. For bulk installation and operation, customers can purchase an auto-calibrator for automatic calibration of the system. |

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A. Fever is a rise in core body temperature. Blood vessels carry the temperature to the skin. That’s why the skin on top of the arteries is the best location for scanning a non-contact temperature. The fist has several arteries under the skin surface. The wrist or the underside of the wrist/forearm can be used in colder ambient conditions.

Q. Why is the fist used for temperature?

A. Fist and forehead temperatures go up and down with respect to body temperature exactly in the same way. If the fist temperature is known, the core body temperature can be predicted in the same way as the forehead. FeverWarn uses ambient correlated algorithms to adjust to core body temperature.

Q. How does the fist correlate to the forehead scanning?

A. Cloud storage offers significant advantages over local storage systems, including:

1. If you have multiple scanning systems in numerous locations, all the data will be stored and viewed in a single app. This provides easy access to a centralized system.
2. Email/SMS texts will be sent to designated persons as soon as an elevated temperature is detected.
3. Software features will be automatically updated.
4. Data can be seen anywhere, anytime, as opposed to a mobile app where data can only be seen when close to the device.
5. Master data hub.

Q. What are the disadvantages of thermal imaging?

A. Non-contact thermal imaging has several restrictions. Although skin temperature is a good indicator of a core body temperature, scanning skin temperature automatically can be difficult. The reliability of scanning the skin temperature depends on factors such as the use of makeup, skin color, sweating, exposure to ambient temperature, etc. Depending on those factors, error margins can be increased. That’s why the FDA recommends that if an elevated temperature is detected, a proper contact thermometer should be used to confirm a fever.

Q. What are the disadvantages of handheld forehead scanning?

A. Handheld forehead scans can be compromised by forehead perspiration, hair, makeup, and head coverings. These known issues are not associated with fist/wrist scanning.

Also, human intervention is required for forehead scanning eliminating the opportunity to maintain proper social distancing.

No automatic data outputs are available for provable compliance and defense, if needed. No data outputs are available to connect with auxiliary devices for automatic opening of doors, gates, or integration with employee card systems.
Frequently Asked Questions (continued)

Q. Can I keep the temperature data locally rather than exporting it to the Microsoft® Cloud (on FeverWarn cloud models)?

A. Many FeverWarn users store their anonymous temperature scanning information directly on the FeverWarn/MachineSense cloud (managed by Microsoft® Azure). However, in situations where information is gathered through integration with personnel or guest data, personal information storage is not permitted and should be stored locally. In this case, the data is held locally by the employer, hotel, or organization and can be easily accomplished using a private, local server with the FeverWarn master data hub (see integration section) and a site license of MachineSense’s Crystalball application.

The master data hub is a device that serves as a local computing cloud with an API that performs machine learning, aggregates, displays, routes, and transmits data. Operational modes include on-premise master and hybrid cloud master. This device can also manage multiple FeverWarn devices where an operation has numerous installations and wants to address them within a networked setting.

Q. Where is FeverWarn manufactured?

A. Baltimore, Maryland – USA

Q. Which cloud service is used with FeverWarn?

A. FeverWarn is built on the Microsoft® Azure Cloud platform. The servers are in Virginia, USA.

Q. Why is it important to buy from a US/North American Manufacturer?

A. The market has been flooded with thermal camera systems often sold through US distributors posing as manufacturers. However, most are made by one company in China, all of which are making unsupported claims involving being able to scan multiple objects, scan individuals with hats and glasses, and scan outdoors. A complaint was filed with the Security Industry Association with the FDA, and articles have been written in the Wall Street Journal and Wire Magazines of schools and other institutions being victimized by these vendors. In some cases, devices from China are also using electronic components that have been banned by the US government.

FeverWarn is part of MachineSense, LLC. and an extension of Novatec, Inc. The device is manufactured in the US and meets all the criteria established by the Security Industry Association and is FDA compliant in its performance. Novatec and its suppliers have been making industrial machinery and instrumentation since 1965.
Frequently Asked Questions (continued)

Q. Can it be used outside?
A. Due to sunlight and ambient temperatures, any infrared scanning system is not for outdoor use. These devices should always be used in an inside vestibule or entrance where the temperature is controlled.

Q. What happens in cold weather?
A. Since skin temperature can be affected by wind chill and there is no way of knowing how long somebody was outside or the level of exposure, any cold weather (below 60°F) will make most infrared devices ineffective. Individuals can roll up their sleeves and quickly scan their forearms or their wrist’s underside in colder temperatures.

For colder weather, the best way to scan is to place protected skin area under the scanner. Simply push up the sleeve on your jacket or sweater and present those unexposed skin areas for best results.