

**IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE**

WIRELESS MONITORING SYSTEMS
LLC,

Plaintiff,

vs.

AMETEK, INC.,

Defendant.

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Case No: 1:18-cv-601-GMS

JURY TRIAL DEMANDED

FIRST AMENDED COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff Wireless Monitoring Systems LLC (“Plaintiff” or “WMS”), by and through its attorneys, files this First Amended Complaint against Ametek, Inc. (“Defendant” or “Ametek”) for infringement of United States Patent Nos. 9,280,886 (“the ‘886 Patent”) and 8,912,893 (“the ‘893 Patent”).

PARTIES AND JURISDICTION

1. This is an action for patent infringement under Title 35 of the United States Code. Plaintiff is seeking injunctive relief as well as damages.

2. Jurisdiction is proper in this Court pursuant to 28 U.S.C. §§ 1331 (Federal Question) and 1338(a) (Patents) because this is a civil action for patent infringement arising under the United States patent statutes.

3. Plaintiff is a Texas limited liability company with its office located at 101 E. Park Blvd., Suite 600, Plano, TX 75074.

4. Upon information and belief, Defendant is a Delaware corporation with a principle address of 1100 Cassatt Road, Berwyn, Pennsylvania and a place of business (through

its Ametek Drexelbrook business unit) at 205 Keith Valley Road, Horsham, PA 19044. This Court has personal jurisdiction over Defendant because Defendant has committed, and continues to commit, acts of infringement in this District, has conducted business in this District, and/or has engaged in continuous and systematic activities in this District.

5. Upon information and belief, Defendant's instrumentalities that are alleged herein to infringe were and continue to be used, imported, offered for sale, and/or sold in this District. Alternatively, Defendant has already appeared in this action and has not challenged *in personam* jurisdiction, which is now waived by operation of law.

VENUE

6. On information and belief, venue is proper in this District pursuant to 28 U.S.C. § 1400(b). Defendant is deemed to reside in this District. Alternatively, Defendant has already appeared in this action and has not challenged venue which is now waived by operation of law.

COUNT I (INFRINGEMENT OF UNITED STATES PATENT NO. 9,280,886)

7. Plaintiff incorporates paragraphs 1 through 6 herein by reference.

8. This cause of action arises under the patent laws of the United States and, in particular, under 35 U.S.C. §§ 271, et seq.

9. Plaintiff is the owner by assignment of the '886 Patent with sole rights to enforce the '886 patent and sue infringers.

10. A copy of the '886 Patent, titled "Circuit Monitoring Device," is attached hereto as Exhibit A.

11. The '886 Patent is valid, enforceable, and was duly issued in full compliance with Title 35 of the United States Code.

12. The claims of the '886 Patent recite a flexible system that can reproduce the

function of a typical security management system. ‘886 Patent, 3:14-16. Typical systems are proprietary and components from one system will not work with components from another system. Additionally, any modifications to the hardware or software of a typical system usually must be done by the original manufacturer. *Id.*, 1:41-45. Further, each manufacturer of typical security management system equipment specifies a particular value of field resistance for the last field device in a line of devices. *Id.*, 2:24-34. The problems with typical systems are especially apparent when an owner needs to upgrade or modify their system. *Id.*, 2:45-46.

Because each line connected to the system includes a field resistor of a particular value, the owner is forced to return to the original supplier of the SMS in order to provide an upgrade. Alternatively, the system owner must rewire each of the lines connected to the system and replace the field resistor with a different value, as specified by the supplier of the new SMS control unit. Where the resistor is built into the field device it cannot be changed and the system owner is forced to also replace each of the devices if it wants to change to a different brand of SMS control unit.

Id., 2:45-56. And, typical systems include an operator interface which is proprietary and cannot be changed by the user. *Id.*, 2:57-60. The system claimed in the ‘886 Patent allows for the retrofit of existing security management systems while using the existing circuitry wiring of the typical legacy system. *Id.*, 4:28-33.

13. Claim 1, for example, recites:

a processor, having a memory and in input electrically coupled to the circuit which is configured to receive the measured electrical parameter of the circuit, and modules comprising software to configure the processor, the modules including:

a comparison module configured to:

compare a digital value, which corresponds to a magnitude of the measured electrical parameter, to at least one threshold value stored in memory, wherein the threshold value defines at least one range of digital values, and

assign a status based on the digital value being with the particular range defined by the threshold value

‘886 Patent, 9:20-33.

14. The processors recited in the claims (such as in claim 1 for example) are configured, such that they operate in a non-conventional manner.

15. The processors recited in the claims (such as in claim 1 for example) are configured so as to allow a user to set customized ranges of values to be set as parameters of end-of-line modules (i.e., parameters of a circuit). Generic processors cannot provide this functionality. As stated in the specification, “[t]he various threshold values . . . are preferably configured as variables which may be set as parameters of the EOL module. In this way, the EOL module may be configured to operate with a wide range of field resistors, thus enabling the EOL module to be retrofitted to a wide range of field circuits wherein the series and field resistors . . . already exist and cannot readily be changed.” ‘886 Patent, 7:17-24; see also *Id.*, 7:34-45, 7:55-57, and 8:1-6.

Such . . . systems using EOL modules according to the present invention may be readily retrofitted to existing system, while utilizing the existing wiring regardless of existing resistance values. A system built in this way, either as an original installation or as a retrofit, provides a flexible and relatively inexpensive option which eliminates dependency on proprietary hardware and software.

Id., 8:42-48. Thus, the ‘886 Patent specification clarifies that the claimed processor(s), performing the claimed steps, are not conventional or generic.

16. Collectively, the claimed embodiments in the ‘886 Patent provide new solutions to problems of traditional security monitoring systems. These solutions are enabled by non-generic components functioning in a non-conventional manner.

17. The ‘886 Patent solves a problem with the art that is rooted in computer technology. The ‘886 Patent does not merely recite the performance of some business practice known from the pre-Internet world along with the requirement to perform it on the Internet.

18. Upon information and belief, Defendant has infringed and continues to infringe one or more claims, including at least Claim 1 of the '886 Patent by making, using, importing, selling, and/or offering for sale, through its business unit Ametek Drexelbrook, field devices, wireless systems, circuit monitoring devices, and/or components for such systems, which are covered by one or more claims of the '886 Patent. Defendant causes infringement by its customers and users and encourages the use of accused devices through distribution, support and customer services. Defendant has infringed and continues to infringe the '886 Patent directly in violation of 35 U.S.C. § 271.

19. Defendant sells, offers to sell, and/or uses the Universal IV CM Model, Water Cut Monitor, and any other WirelessHART-compliant devices (e.g., Model Nos. 505-2400-xxx, 509-15-XXX , 509-85-XXX , DR-1000 , DR-1200, DR-22X0, DR-3X00, DR2000, DR5200, UNIVERSAL III, USONIC) ("Product"), which infringe at least Claim 1 of the '886 Patent.

20. Regarding Claim 1, the Product is and/or comprises a circuit monitoring device for monitoring individual circuits having at least one field device which is configured to provide a measured electrical parameter of a circuit. An example Product is indicated in the following screen shot:

The Universal IV CM Model, water cut monitor comprises a circuit monitoring device.



Specifications

Technology

RF Admittance / Capacitance

Supply Voltage

13-30VDC, 2-wire loop powered

Output/Digital Protocol

4-20mA, HART

Compatible with HART®

<https://www.drexelbrook.com/products/watercutmeter/water-cut-meter>

The Product is a WirelessHART-compliant device. WirelessHART targets sensors and actuators, rotating equipment, such as kiln dryers, and environmental health and safety applications, such as safety showers, condition monitoring and flexible manufacturing in which a portion of the plant can be reconfigured for specific products. See, e.g., A Comparison of WirelessHART™ and ISA100.11a (Exhibit C). The basic network device types include:

- field devices performing field sensing or actuating functions;
- routers – all devices must have the ability to route packets in the wireless mesh;
- adapters that bind wired HART devices into the wireless mesh;
- hand-held devices carried by mobile users such as plant engineers and service technicians;
- access points that connect wireless mesh to the gateway;
- a simplex or redundant gateway that functions as a bridge to the host applications;
- a single network manager (may be redundant) that may reside in the gateway device or be separate from the gateway;
- a security manager that may reside in the gateway device or separate from the gateway.

See Exhibit C.

21. The Product comprises a processor, having a memory and an input electrically coupled to a circuit, which is configured to receive a measured electrical parameter of the circuit, and modules comprising software to configure the processor. Certain aspects of this element are illustrated in the screen shot(s) below and/or in screen shots provided in connection with other allegations herein.

Water Cut Meter

The Drexelbrook Universal IV Series products feature full compensation for both temperature and density as well as multiple mounting options which includes insertion and spool piece probes.



For more than 50 years, Drexelbrook has been the world leader in capacitive based water cut measurement. We offer the highest pressure and temperature ratings in the industry and our capacitive probes can handle pressures up to 1500 Psi and temperatures up to 450°F.

Our popular Universal IV CM Series is a high quality water cut meter, also known as a water cut monitor or BS&W, with a range of 0-50% in light oil and 0-80% in heavy oil.

It is built upon the Drexelbrook expertise in RF Admittance that allows the electronics to ignore paraffin and other coatings that buildup on the probe.

The Universal IV CM features a unique Cote Shield that is designed into the Universal IV CM series and enables the instrument to ignore a pre-determined length of the sensing element.

This water cut meter comes with a Perm-A-Seal sensing element that does not require epoxy coatings that wear out and require expensive servicing.

Using this water cut meter together with our HRTWin or new STExplorer PC software field configuration is possible from anywhere along the two wire loop.

The Universal IV CM sensing element is selected based on pipe size, wetted parts, NACE requirement and pressure/temperature. Drexelbrook offers a wide range of probes to fit virtually any application required.

All water cut meters features a built-in LCD display and keypad and comes from the factory pre-calibrated and requires only one point validation.

The Universal IV CM water cut meter is intrinsically safe and approved for Class I, Div1, and Zone 0 hazardous locations.

Key Features

- Easy calibration
- Temperature range: Up to 232°C (450°F)
- Process pressure: Up to 103 bar (1,500 psi), probe dependent
- Power supply: 13-30VDC

Product Type

Capacitance probe, Capacitive sensor, BS&W meter, BS&W monitor, Water cut meter, Water cut monitor

Source: <https://www.drexelbrook.com/products/watercutmeter/water-cut-meter>

In order to perform the WirelessHART-compliant functions, the Product has to have a processor configured to receive measured electrical parameters of a circuit and various software modules. For example, in order to perform routing, each device must have a processor and some type of input electrically coupled to the circuit which measures various parameters of the circuit. The device must also have software to configure the processor.

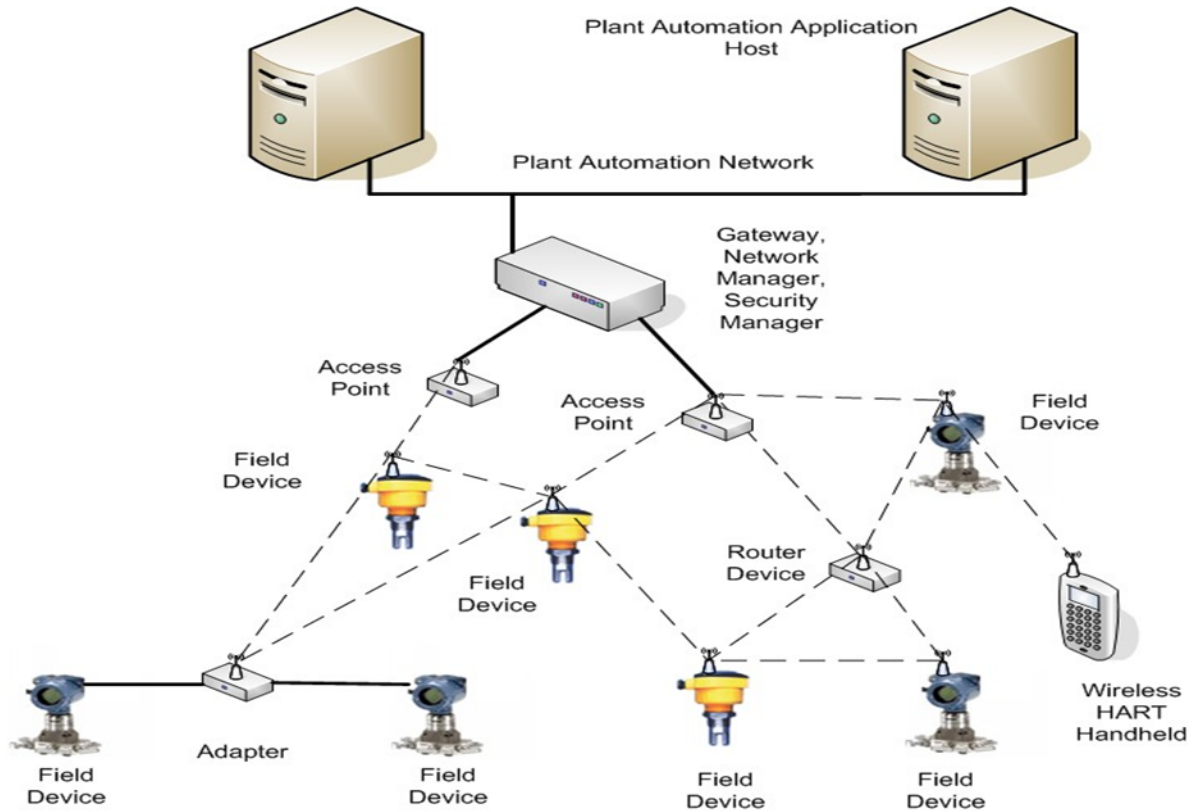
22. The Product has a comparison module configured to compare a digital value, which corresponds to a magnitude of the measured electrical parameter, to at least one threshold value stored in the memory, wherein the threshold value defines at least one range of digital values, and assign a status based on the digital value being within the particular range defined by the threshold value. For example, WirelessHART devices are designed to send status alerts when various measurements exceed digital values in memory based upon a comparison with measured values of an electrical parameter. See, e.g., System Engineering Guidelines IEC 62591 WirelessHART® (Exhibit D). According to Section 7.3.1 (Configure process alerts), process alerts allow the transmitter to indicate when the configured data point is exceeded. Process alerts can be set for process variable and secondary variable. For example, for pressure transmitter, process alerts can be set for pressure, temperature, or both. The alert will reset once the value returns within range. The device alerts are displayed on the Field Communicator, on the Asset Management System Status screen, and/or in the error section of the LCD display of the instrument. The following alarms configuration can be used for a WirelessHART device:

- HI HI Alarm
- HI Alarm
- LO Alarm
- LO LO Alarm

Among other things, the alarm configurations indicate comparison of a digital value corresponding to a measured electrical parameter with a threshold value defining a range of digital values, as well as the assignment of a status based on the digital value being in a particular range.

23. The Product comprises a communication module configured to generate a status signal including at least the assigned status. For example, WirelessHart and ISA 100 devices both use the IEEE 802.15.4 standard for low-rate wireless personal area network (L-R WPAN) to define the radio. Wireless Hart also uses the IEEE802.15.4-2006 MAC. See Exhibit C.

24. The Product includes a transmitter configured to transmit the status signal to a remote computing system over a network for output, by the remote computing system, of the status. For example, WirelessHART devices communicate status to a remote computing system over a wireless network, including status. The radio spectrum used is the 2.4 GHz ISM (Instrumentation, Scientific and Medical) band and does not require licensing. The radio technology uses a combination of channel-hopping and direct-sequence, spread spectrum (DSSS) to achieve coexistence with other users of the same spectrum. Networks can occupy the same physical space and radio spectrum without blocking one another. Certain aspects of this element are illustrated in the following screen shot(s) and/or in screen shots provided in connection with other allegations herein.



See Exhibits C and D.

25. Defendant's actions complained of herein will continue unless Defendant is enjoined by this court.

26. Defendant's actions complained of herein are causing irreparable harm and monetary damage to Plaintiff and will continue to do so unless and until Defendants are enjoined and restrained by this Court.

27. Plaintiff is in compliance with 35 U.S.C. § 287.

COUNT II
(INFRINGEMENT OF UNITED STATES PATENT NO. 8,912,893)

28. Plaintiff incorporates paragraphs 1 through 27 herein by reference.

29. This cause of action arises under the patent laws of the United States and, in particular, under 35 U.S.C. §§ 271, et seq.

30. Plaintiff is the owner by assignment of the '893 Patent with sole rights to enforce

the '893 Patent and sue infringers.

31. A copy of the '893 Patent, titled "Circuit Monitoring Device," is attached hereto as Exhibit B.

32. The '893 Patent is valid, enforceable, and was duly issued in full compliance with Title 35 of the United States Code.

33. The claims of the '893 Patent recite a flexible system that can reproduce the function of a typical security management system. '893 Patent, 3:9-13. Typical systems are proprietary and components from one system will not work with components from another system. Additionally, any modifications to the hardware or software of a typical system usually must be done by the original manufacturer. *Id.*, 1:36-40. Further, each manufacturer of typical security management system equipment specifies a particular value of field resistance for the last field device in a line of devices. *Id.*, 2:19-28. The problems with typical systems are especially apparent when an owner needs to upgrade or modify their system. *Id.*, 2:40-41.

Because each line connected to the system includes a field resistor of a particular value, the owner is forced to return to the original supplier of the SMS in order to provide an upgrade. Alternatively, the system owner must rewire each of the lines connected to the system and replace the field resistor with a different value, as specified by the supplier of the new SMS control unit. Where the resistor is built into the field device it cannot be changed and the system owner is forced to also replace each of the devices if it wants to change to a different brand of SMS control unit.

Id., 2:40-51. And, typical systems include an operator interface which is proprietary and cannot be changed by the user. *Id.*, 2:52-55. The system claimed in the '893 Patent allows for the retrofit of existing security management systems while using the existing circuitry wiring of the typical legacy system. *Id.*, 4:23-28.

34. Claim 30, for example, recites "comparing, using the one or more configured processors, a digital value, which corresponds to a magnitude of the parameter of the circuit, to a

plurality of threshold values wherein the plurality of threshold values define a respective plurality of ranges of digital values, each range corresponding to one of a plurality of conditions of the circuit . . .” ‘893 Patent, 12:1-8.

35. The processors recited in the claims (such as in claim 30 for example) are configured, such that they operate in a non-conventional manner.

36. The processors recited in the claims (such as in claim 30 for example) are configured so as to allow a user to set customized ranges of values to be set as parameters of end-of-line modules (i.e., parameters of a circuit). Generic processors cannot provide this functionality. As stated in the specification, “[t]he various threshold values . . . are preferably configured as variables which may be set as parameters of the EOL module. In this way, the EOL module may be configured to operate with a wide range of field resistors, thus enabling the EOL module to be retrofitted to a wide range of field circuits wherein the series and field resistors . . . already exist and cannot readily be changed.” ‘893 Patent, 7:13-20; see also *Id.*, 7:31-41, 7:51-53, and 7:64-8:2.

Such . . . systems using EOL modules according to the present invention may be readily retrofitted to existing system, while utilizing the existing wiring regardless of existing resistance values. A system built in this way, either as an original installation or as a retrofit, provides a flexible and relatively inexpensive option which eliminates dependency on proprietary hardware and software.

Id., 8:37-43. Thus, the ‘893 Patent specification clarifies that the claimed processor(s), performing the claimed steps, are not conventional or generic.

37. Collectively, the claimed embodiments in the ‘893 Patent provide new solutions to problems of traditional security monitoring systems. These solutions are enabled by non-generic components functioning in a non-conventional manner.

38. The ‘893 Patent solves a problem with the art that is rooted in computer

technology. The '893 Patent does not merely recite the performance of some business practice known from the pre-Internet world along with the requirement to perform it on the Internet.

39. Upon information and belief, Defendant has infringed and continues to infringe one or more claims, including at least Claim 30, of the '893 Patent by making, using, importing, selling, and/or offering for sale, through its business unit Ametek Drexelbrook, field devices, wireless systems, circuit monitoring devices, and/or components for such systems covered by one or more claims of the '893 Patent. Defendant causes infringement by its customers and users and encourages the use of accused devices through distribution, support and customer services. Defendant has infringed and continues to infringe the '893 Patent directly in violation of 35 U.S.C. § 271.

40. Defendant sells, offers to sell, and/or uses wireless security systems, including, without limitation, the Universal IV CM Model, Water Cut Monitor, and any other WirelessHART-compliant devices (e.g., Model Nos. 505-2400-xxx, 509-15-XXX, 509-85-XXX, DR-1000, DR-1200, DR-22X0, DR-3X00, DR2000, DR5200, UNIVERSAL III, USONIC) ("Product"), which infringes at least Claim 30 of the '893 Patent.

41. The Product practices monitoring a circuit with a circuit monitoring device. As discussed above, the WirelessHart standard is used to enable devices to monitor circuits.

42. The Product practices the step of receiving, using one or more processors configured by software within one or more modules, a parameter of a circuit. For example, WirelessHART targets sensors and actuators, rotating equipment, such as kiln dryers, and environmental health and safety applications, such as safety showers, condition monitoring and flexible manufacturing in which a portion of the plant can be reconfigured for specific products. See, e.g., A Comparison of WirelessHART™ and ISA100.11a (Exhibit C). The basic network

device types include:

- field devices performing field sensing or actuating functions;
- routers – all devices must have the ability to route packets in the wireless mesh;
- adapters that bind wired HART devices into the wireless mesh;
- hand-held devices carried by mobile users such as plant engineers and service technicians;
- access points that connect wireless mesh to the gateway;
- a simplex or redundant gateway that functions as a bridge to the host applications;
- a single network manager (may be redundant) that may reside in the gateway device or be separate from the gateway;
- a security manager that may reside in the gateway device or separate from the gateway.

See Exhibit C.

43. The Product practices the step of comparing, using the one or more configured processors, a digital value, which corresponds to a magnitude of the parameter of the circuit, to a plurality of threshold values wherein the plurality of threshold values define a respective plurality of ranges of digital values, each range corresponding to one of a plurality of conditions of the circuit including a normal condition and at least one alarm condition. For example, WirelessHART devices are designed to send status alerts when various measurements exceed digital values in memory based upon a comparison with measured values of an electrical parameter. See, e.g., System Engineering Guidelines IEC 62591 WirelessHART® (Exhibit D). According to Section 7.3.1 (Configure process alerts), process alerts allow the transmitter to indicate when the configured data point is exceeded. Process alerts can be set for process

variable and secondary variable. For example, for pressure transmitter, process alerts can be set for pressure, temperature, or both. The alert will reset once the value returns within range. The device alerts are displayed on the Field Communicator, on the Asset Management System Status screen, and/or in the error section of the LCD display of the instrument. The following alarms configuration can be used for a WirelessHART device:

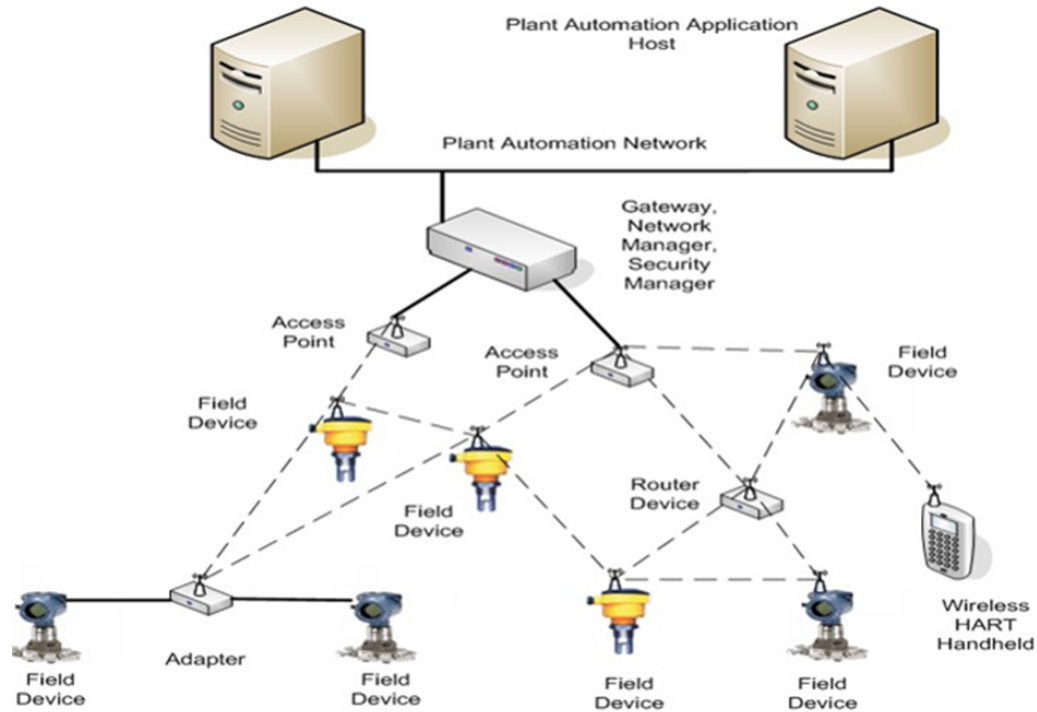
- HI HI Alarm
- HI Alarm
- LO Alarm
- LO LO Alarm

Among other things, the alarm configurations indicate comparison of a digital value corresponding to a measured electrical parameter with a threshold value defining a range of digital values, as well as the assignment of a status based on the digital value being in a particular range.

44. The Product practices assigning, using the one or more configured processors, a status according to the digital value being within a particular range defined by one or more of the plurality of threshold values. See Exhibit D, as discussed, for example, above in connection with Paragraph 43.

45. The Product practices transmitting, using a transmitter, the status to a central monitoring system. For example, WirelessHART devices communicate status to a remote computing system over a wireless network, including status. The radio spectrum used is the 2.4 GHz ISM (Instrumentation, Scientific and Medical) band and does not require licensing. The radio technology uses a combination of channel-hopping and direct-sequence, spread spectrum (DSSS) to achieve coexistence with other users of the same spectrum. Networks can occupy the

same physical space and radio spectrum without blocking one another. Certain aspects of this element are illustrated in the following screen shot(s) and/or in screen shots provided in connection with other allegations herein.



See Exhibits C and D.

46. Defendant's actions complained of herein will continue unless Defendant is enjoined by this court.

47. Defendant's actions complained of herein are causing irreparable harm and monetary damage to Plaintiff and will continue to do so unless and until Defendants are enjoined and restrained by this Court.

48. Plaintiff is in compliance with 35 U.S.C. § 287.

PRAYER FOR RELIEF

WHEREFORE, Plaintiff asks the Court to:

- (a) Enter judgment for Plaintiff on this Complaint on all causes of action asserted herein;
- (b) Award Plaintiff past and future damages, costs, and expenses resulting from Defendant's infringement in accordance with 35 U.S.C. § 284;
- (c) Award Plaintiff pre-judgment and post-judgment interest and costs; and
- (d) Award Plaintiff such further relief to which the Court finds Plaintiff entitled under law or equity.

Dated: July 27, 2018

Respectfully submitted,

/s/Stamatios Stamoulis

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State Bar No. 4606

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ATTORNEY FOR PLAINTIFF

Certificate of Service

I hereby certify that on July 27, 2018 I electronically filed the foregoing document with the clerk of the court for the U.S. District Court, District of Delaware, using the electronic case filing system of the court. The electronic case filing system sent a "Notice of Electronic Filing" to the attorneys of record who have consented in writing to accept this Notice as service of this document by electronic means.

/s/ Stamatios Stamoulis

Stamatios Stamoulis