IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

CIRCUIT VENTURES LLC,	§	
	§	
Plaintiff,	§	Case No: 1:20-cv-00080-RGA
	§	
vs.	§	
	§	
SIEMENS CORPORATION	§	JURY TRIAL DEMANDED
	§	
Defendant.	§	
	§	

FIRST AMENDED COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff Circuit Ventures LLC ("Plaintiff" or "CV"), by and through its attorneys, files this Original Complaint against Siemens Corporation ("Defendant" or "Siemens") for infringement of United States Patent Nos. 7,834,744 ("the '744 Patent"); 8,816,869 ("the '869 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 Delaware LLC, with an office address of 825 Watters Creek Blvd., Building M, Suite 250, Allen, TX 75013.

4. Upon information and belief, Defendant is a Delaware corporation with its principal place of business located at 300 New Jersey Avenue, Suite 1000, Washington, D.C. 20001. 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.

VENUE

6. On information and belief, venue is proper in this District pursuant to 28 U.S.C. § 1400(b) because Defendant is deemed to be a resident of this District.

COUNT I
(INFRINGEMENT OF UNITED STATES PATENT NO. 7,834,744)

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 '744 Patent with sole rights to enforce the '744 patent and sue infringers.

10. A copy of the '744 Patent, titled "Circuit Monitoring Device," is attached hereto as Exhibit A.

11. The '744 Patent is valid, enforceable, and was duly issued in full compliance with Title 35 of the United States Code.

12. The claims of the '744 Patent recite a flexible system that can reproduce the function of a typical security management system. '744 Patent, 3:25-29. 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*., 1:30-39. 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*., 2:18-27. The problems with typical systems are especially apparent when an owner needs to upgrade or modify their system. *Id*., 2:39-50.

> 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. And, typical systems include an operator interface which is proprietary and cannot be changed by the user. *Id*., 2:51-57. The system claimed in the '683 Patent allows for the retrofit of existing security management systems while using the existing circuity wiring of the typical legacy system. *Id*., 4:21-28.

13. Claim 1, for example, recites:

> An apparatus for monitoring a circuit and for coupling to a central system comprising:
>
> a circuit module to determine a status of the circuit;
>
> a network communication module coupled to the circuit module to communicate a signal indicative of the assigned status to the central system via a network, said network communication module limiting all status communications with the central system to only the signal indicative of the assigned status; and
>
> a display to present an indication of a status of the circuit based on the signal indicative of the assigned status, wherein the circuit module measures a magnitude of a parameter of the circuit and generates a count value representative of said magnitude.

'683 Patent, 9:10-23.

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

15. The components 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." '744 Patent, 7:12-19; see also *Id*., 7:29-63.

> 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 '744 Patent specification clarifies that the claimed components, performing the claimed functionality, are not conventional or generic.

16. The components 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. The '744 Patent specification clarifies that the claimed components, performing the claimed functionality, are not conventional or generic.

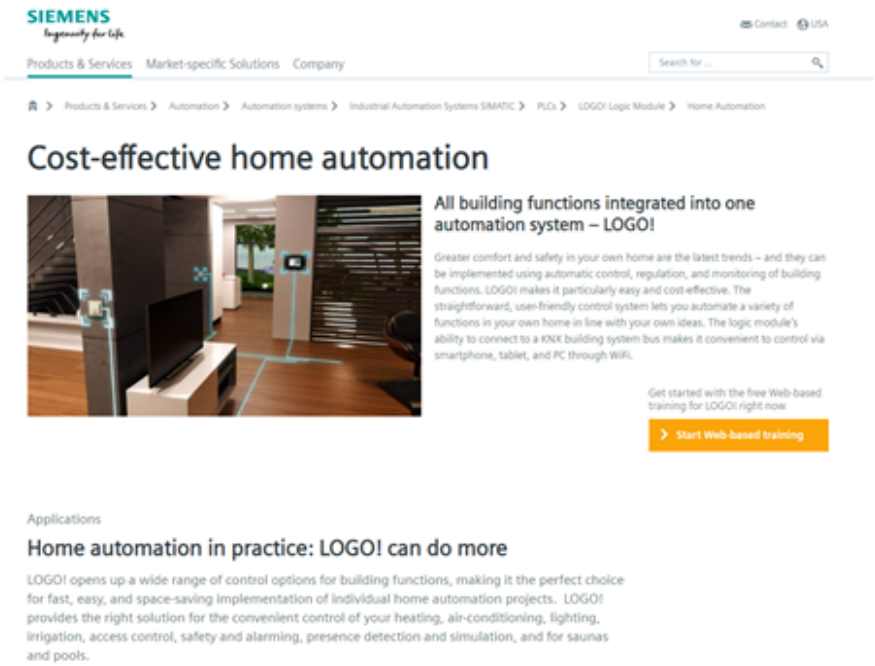
17. Collectively, the claimed embodiments in the '744 Patent provide new solutions to problems of traditional security monitoring systems. These solutions are enabled by non-generic components functioning in a non-conventional manner.

18. The '744 Patent solves a problem with the art that is rooted in computer

technology. The '744 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.

19. Upon information and belief, Defendant has infringed and continues to infringe one or more claims, including at least Claim 1, of the '744 Patent by making, using, importing, selling, and/or offering for sale, field devices, wireless systems, circuit monitoring devices, and/or components for such systems covered by one or more claims of the '744 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 '744 Patent directly in violation of 35 U.S.C. § 271.

20. Regarding Claim 1, Defendant makes, uses, sells and/or offers for sale an apparatus for monitoring a circuit and for coupling to a central system. For example, Siemens provides a LOGO! Logic Module (such as LOGO! 24CE, LOGO! 230RCE, LOGO! 24RCE, and/or LOGO! 12/24 RCE) with a built-in display for monitoring at least one of the sensors (such as Water Sensor, Reed Contacts, Motion Detector, Smoke Detector, Weather Sensor, Temperature Sensor, Light Sensor, and/or Wind Sensor). LOGO! Logic Module with a built-in display ("central system") couples to the sensor using wireless network (such as Wi-Fi, Cellular, and/or ZigBee). Infringing products and certain aspects of this element are illustrated in the screenshots below and/or in those provided in connection with other allegations herein.



Source: https://new.Siemens .com/us/en/products/automation/systems/industrial/plc/logo/home-automation.html

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LOGO! Logic Modules
Introduction

LOGO! logic module

Overview

LOGO! logic module

- The compact, easy-to-use and low-cost solution for simple control tasks
- Compact, easy to operate, universally applicable without accessories
- "All in one": Integrated display and operator panel
- 36 different functions can be connected at the press of a button or by means of PC software; up to 130 times over
- LOGO! 8: 38/43 different functions can be linked at the press of a button or using PC software; up to 200/400 times
- Functions are easy to change at the press of a button. No more time-consuming rewiring

SIPLUS LOGO!

- The controller for use in the toughest environmental conditions
- With extended temperature range from -40/-25 °C to +70 °C
- Suitable for exposure to environmental substances (harmful gas atmosphere)
- Condensation permissible
- With the proven PLC technology of LOGO!
- Easy to handle, program, maintain, and service
- Ideal for use in automotive engineering, environmental engineering, mining, chemical plants, material handling, food industry, etc.

Accessories:

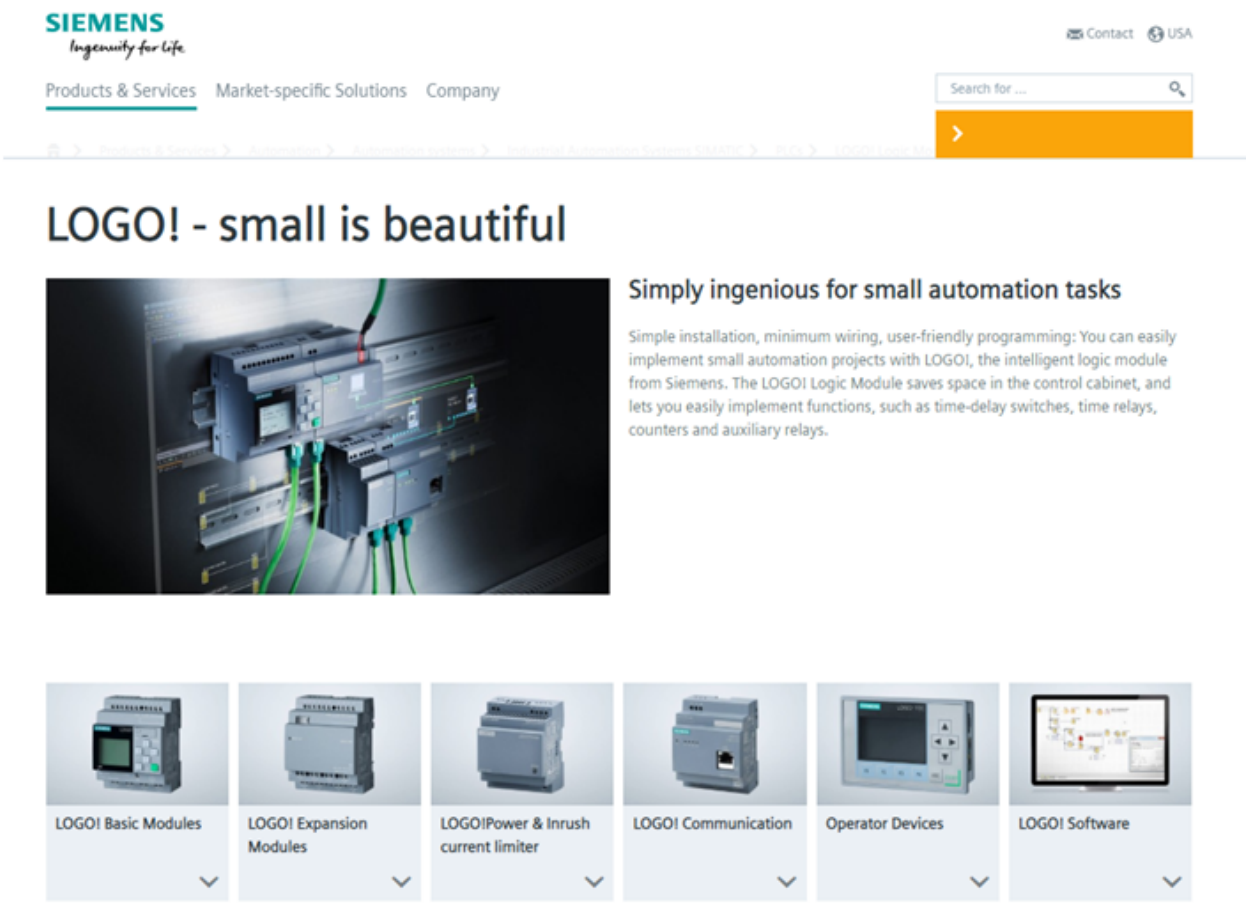
- The front panel mounting set also allows simple and reliable installation of the logic modules in front panels; IP65 protection is thus possible.
- In order to ensure dependable operation of SIPLUS devices supplied by the battery in conjunction with combustion engines, it is necessary to put in a SIPLUS upmiter upstream device between the battery and the SIPLUS LOGO!.

For more information, please go to:
http://www.siemens.com/siplus-extreme

Technical specifications SIPLUS LOGO!

Ambient temperature range	-40/-25 ... +70 °C
Conformal coating	Coating of the printed circuit boards and the electronic components
Technical data	The technical data of the standard product applies except for the ambient conditions.
Ambient conditions	
Extended range of environmental conditions	
• with reference to ambient temperature, air pressure and altitude	Tmin ... Tmax at 1080 hPa ... 795 hPa (-1000 m ... +2000 m) // Tmin ... (Tmax - 10K) at 795 hPa ... 658 hPa (+2000 m ... +3500 m) // Tmin ... (Tmax - 20K) at 658 hPa ... 540 hPa (+3500 m ... +5000 m)
• At cold restart, min.	0° C
Relative humidity	
• with condensation, max.	100 %; RH incl. bedewing/frost (no commissioning in bedewed state)
Resistance	
• to biologically active substances/ compliance with EN 60721-3-3	Yes; Class 3B2 mold and fungal spores (except fauna); the supplied plug covers must remain in place on the unused interfaces during operation.
• to chemically active substances/ compliance with EN 60721-3-3	Yes; Class 3C4 (RH < 75%) incl. salt spray in accordance with EN 60068-2-52 (severity 3); the supplied plug covers must remain in place on the unused interfaces during operation.
• to mechanically active substances, compliance with EN 60721-3-3	Yes; Class 3S4 incl. sand, dust; the supplied plug covers must remain in place on unused interfaces during operation.

Source: https://www.automation.Siemens .com/salesmaterial-as/catalog/en/simatic-st70-chap02-english-2019.pdf, page 2



Source: https://new.Siemens .com/us/en/products/automation/systems/industrial/plc/logo.html

2.2.1 Components used

The application example was created with the following components:

Hardware components

Table 2-1

No.	Component	Qty	Article number	Note
1.	LOGO! 12/24RCE	1	6ED1052-1MD08-0BA0	
2.	LOGO! CSM 12/24 COMPACT SWITCH MODULE	1	6GK7177-1MA20-0AA0	For the connection of the application example to LOGO! Set 9 or LOGO! Set 10.
3.	LOGO!POWER 24V/4 A	1	6EP1332-1SH52	
4.	SIMATIC HMI KTP400 BASIC	1	6AV2123-2DB03-0AX0	
5.	Rain sensor • *1V output voltage -> no rain • 9V output voltage -> rain • Output voltage: 0-10V DC • Operating voltage: 12-24V DC	1	Available from specialist retailers	e.g. Stengler rain sensor RS-600
6.	Temperature sensor • Measuring range: -20°C...+40°C • Output voltage: 0-10V DC • Operating voltage:12-24V DC	1	Available from specialist retailers	e.g. Stengler temp. sensor TS-S
7.	Twilight sensor • Measuring range: 0...255 Lux (linear) • Output voltage: 0-10V DC • Operating voltage:12-24V DC	1	Available from specialist retailers	e.g. Stengler twilight sensor DS-S
8.	Light sensor • Measuring range: 0...40 kLux (linear) • Output voltage: 0-10V DC • Operating voltage: 12-24 V DC	1	Available from specialist retailers	e.g.: Stengler light sensor LE-S
9.	Wind sensor • Measuring range: 0.8..40 m/s • Output signal: Frequency, max. 24 V DC, 100Hz=40m/s • Supply Voltage: max 24V DC	1	Available from specialist retailers	e.g.: Ventus Mini wind gage: Art. 200 430

Source: https://support.industry.Siemens .com/cs/ww/en/view/68585 346, page 7

Source: https://support.industry.Siemens .com/cs/document/109755864/logo!-in-building-technologies-tde-central-control-for-general-consumers?dti=0&lc=en-WW

21. Details of infringement by the infringing products are provided in the claim chart attached as Exhibit B.

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

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

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

COUNT II
(INFRINGEMENT OF UNITED STATES PATENT NO. 8,816,869)

25. Plaintiff incorporates paragraphs 1 through 24 herein by reference.

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

27. Plaintiff is the owner by assignment of the ‘869 Patent with sole rights to enforce the ‘869 Patent and sue infringers.

28. A copy of the ‘869 Patent, titled “Circuit Monitoring Device,” is attached hereto as Exhibit C.

29. The ‘869 Patent is valid, enforceable, and was duly issued in full compliance with Title 35 of the United States Code.

30. The claims of the ‘869 recite subject matter that is similar to that recited in the claims of the ‘744 Patent (discussed above in connection with Count I). The specification of the ‘869 Patent discloses problems of prior systems and non-generic solutions in a manner similar to the specification of the ‘744 Patent (discussed above in connection with Count I).

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

32. The components 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. The ‘869 Patent specification clarifies that the claimed components, performing the claimed functionality, are not conventional or generic.

33. Collectively, the claimed embodiments in the ‘869 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.

34. The ‘869 Patent solves a problem with the art that is rooted in computer technology. The ‘869 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.

35. Upon information and belief, Defendant has infringed and continues to infringe one or more claims, including at least Claim 1, of the '869 Patent by making, using, importing, selling, and/or offering for sale, field devices, wireless systems, circuit monitoring devices, and/or components for such systems covered by one or more claims of the '869 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 '869 Patent directly in violation of 35 U.S.C. § 271.

36. Regarding Claim 1, Defendant makes, uses, sells and/or offers for sale a device for monitoring the status of a circuit based on a measurable parameter of the circuit. For example, Siemens provides LOGO! Logic Modules (such as LOGO! 24CE, LOGO! 230RCE, LOGO! 24RCE, and/or LOGO! 12/24 RCE) with a built-in display for monitoring the measurable parameter (such as inductance, resistance and/or capacitance) of an electric circuit associated with at least one of the sensors (such as Water Sensor, Reed Contacts, Motion Detector, Smoke Detector, Weather Sensor, Temperature Sensor, Light Sensor, and/or Wind Sensor). Infringing products and certain aspects of this element are illustrated in the screenshots below and/or in those provided in connection with other allegations herein.

Source: https://new.siemens.com/us/en/products/automation/systems/industrial/plc/logo/home-automation.html

Source: https://mall.industry.siemens.com/mall/en/WW/Catalog/Products/10000026?tree=CatalogTree

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Accessories:

- The front panel mounting set also allows simple and reliable installation of the logic modules in front panels; IP65 protection is thus possible.
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• with condensation, max.	100 %; RH incl. bedewing/frost (no commissioning in bedewed state)
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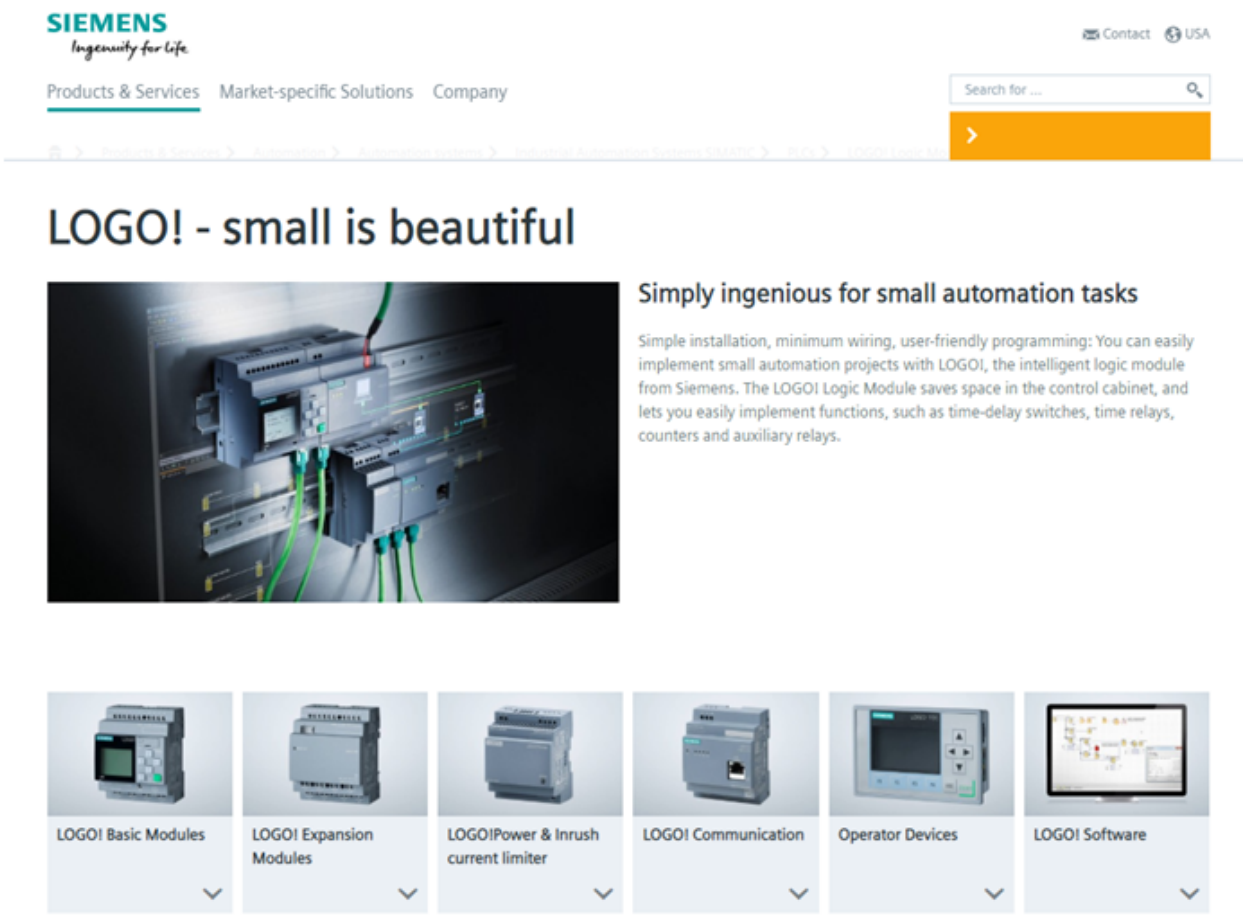
Source: https://www.automation.siemens.com/salesmaterial-as/catalog/en/simatic-st70-chap02-english-2019.pdf, page 2



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5.	Rain sensor • *1V output voltage -> no rain • 9V output voltage -> rain • Output voltage: 0-10V DC • Operating voltage: 12-24V DC	1	Available from specialist retailers	e.g. Stengler rain sensor RS-600
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9.	Wind sensor • Measuring range: 0.8..40 m/s • Output signal: Frequency, max. 24 V DC, 100Hz=40m/s • Supply Voltage: max 24V DC	1	Available from specialist retailers	e.g.: Ventus Mini wind gage: Art. 200 430

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37. Details of infringement by the infringing products are provided in the claim chart attached as Exhibit D.

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

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

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

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

41. Plaintiff incorporates paragraphs 1 through 40 herein by reference.

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

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

enforce the ‘893 Patent and sue infringers.

44. A copy of the ‘893 Patent, titled “Circuit Monitoring Device,” is attached hereto as Exhibit E.

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

46. The claims of the ‘893 recite subject matter that is similar to that recited in the claims of the ‘744 Patent (discussed above in connection with Count I). The specification of the ‘893 Patent discloses problems of prior systems and non-generic solutions in a manner similar to the specification of the ‘744 Patent (discussed above in connection with Count I).

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

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49. 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.

50. 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.

51. Upon information and belief, Defendant has infringed and continues to infringe

one or more claims, including at least Claim 1, of the '893 Patent by making, using, importing, selling, and/or offering for sale, 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.

52. Regarding Claim 1, Defendant makes, uses, sells and/or offers for sale a circuit monitoring device. For example, Siemens provides LOGO! Logic Modules (such as LOGO! 24CE, LOGO! 230RCE, LOGO! 24RCE, and/or LOGO! 12/24 RCE) with a built-in display for monitoring the measurable parameter (such as inductance, resistance and/or capacitance) of an electric circuit associated with at least one of the sensors (such as Water Sensor, Reed Contacts, Motion Detector, Smoke Detector, Weather Sensor, Temperature Sensor, Light Sensor, and/or Wind Sensor). Infringing products and certain aspects of this element are illustrated in the screenshots below and/or in those provided in connection with other allegations herein.

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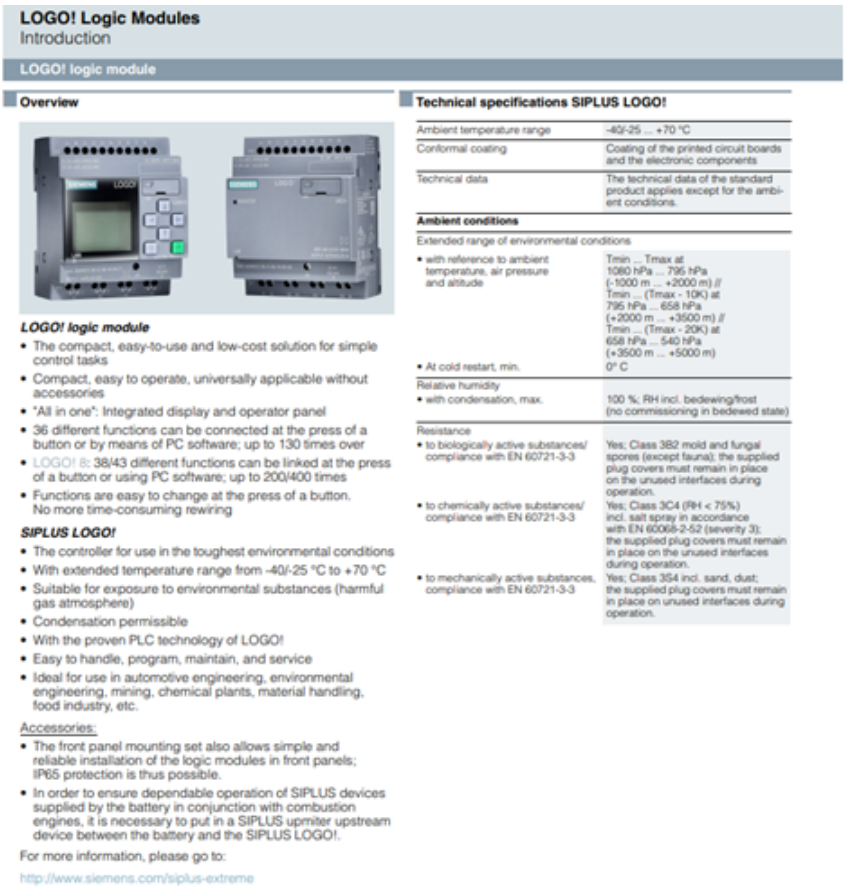

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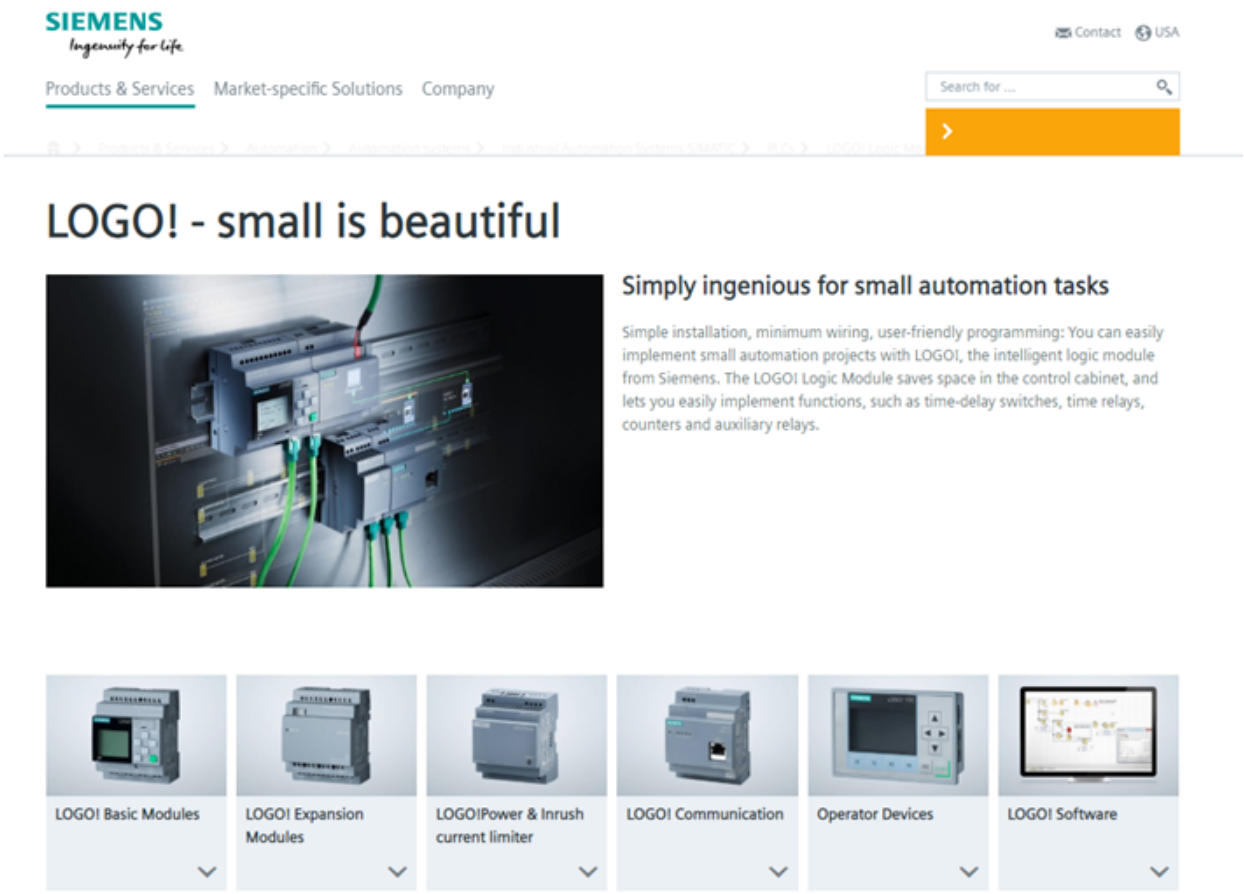
• to chemically active substances/ compliance with EN 60721-3-3	Yes; Class 3C4 (RH < 75%) incl. salt spray in accordance with EN 60068-2-52 (severity 3); the supplied plug covers must remain in place on the unused interfaces during operation.
• to mechanically active substances, compliance with EN 60721-3-3	Yes; Class 3S4 incl. sand, dust; the supplied plug covers must remain in place on unused interfaces during operation.

Source: https://www.automation.siemens.com/salesmaterial-as/catalog/en/simatic-st70-chap02-english-2019.pdf, page 2



Source: https://new.siemens.com/us/en/products/automation/systems/industrial/plc/logo.html

2.2.1 Components used

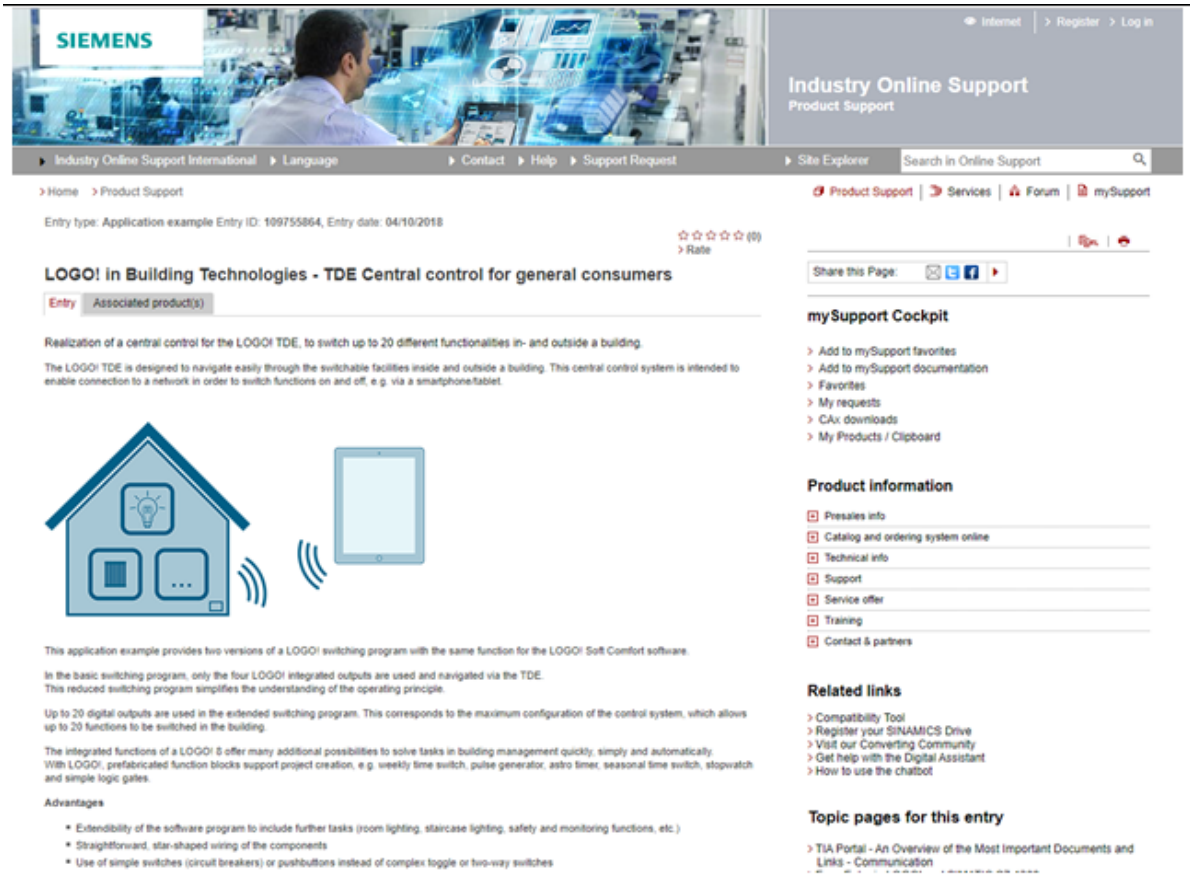
The application example was created with the following components:

Hardware components

Table 2-1

No.	Component	Qty	Article number	Note
1.	LOGO! 12/24RCE	1	6ED1052-1MD08-0BA0	
2.	LOGO! CSM 12/24 COMPACT SWITCH MODULE	1	6GK7177-1MA20-0AA0	For the connection of the application example to LOGO! Set 9 or LOGO! Set 10.
3.	LOGO!POWER 24V/4 A	1	6EP1332-1SH52	
4.	SIMATIC HMI KTP400 BASIC	1	6AV2123-2DB03-0AX0	
5.	Rain sensor • *1V output voltage -> no rain • 9V output voltage -> rain • Output voltage: 0-10V DC • Operating voltage: 12-24V DC	1	Available from specialist retailers	e.g. Stengler rain sensor RS-600
6.	Temperature sensor • Measuring range: -20°C…+40°C • Output voltage: 0-10V DC • Operating voltage:12-24V DC	1	Available from specialist retailers	e.g. Stengler temp. sensor TS-S
7.	Twilight sensor • Measuring range: 0…255 Lux (linear) • Output voltage: 0-10V DC • Operating voltage:12-24V DC	1	Available from specialist retailers	e.g. Stengler twilight sensor DS-S
8.	Light sensor • Measuring range: 0…40 kLux (linear) • Output voltage: 0-10V DC • Operating voltage: 12-24 V DC	1	Available from specialist retailers	e.g.: Stengler light sensor LE-S
9.	Wind sensor • Measuring range: 0.8..40 m/s • Output signal: Frequency, max. 24 V DC, 100Hz=40m/s • Supply Voltage: max 24V DC	1	Available from specialist retailers	e.g.: Ventus Mini wind gage: Art. 200 430

Source: https://support.industry.siemens.com/cs/ww/en/view/68585 346, page 7



Source: https://support.industry.siemens.com/cs/document/109755864/logo!-in-building-technologies-tde-central-contr general-consumers?dti=0&lc=en-WW

53. Details of infringement by the infringing products are provided in the claim chart attached as Exhibit F.

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

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

56. 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: February ___, 2020

Respectfully submitted,

/s/ Jay Johnson

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ATTORNEYS FOR PLAINTIFF

EXHIBIT A

EXHIBIT B

EXHIBIT C

EXHIBIT D

EXHIBIT E

EXHIBIT F