

# CERTIFICATE OF CONFORMITY



- HAZARDOUS (CLASSIFIED) LOCATION ELECTRICAL EQUIPMENT PER US REQUIREMENTS**
- Certificate No:** FM20US0130X
- Equipment:** Coriolis Flow Sensors & Transmitters CFS300A(C), CFS400A(C), CFS600A(C), CFS700A(C), CFT34A(F).  
**(Type Reference and Name)** Coriolis Flow Sensors CFS300A(F), CFS400A(F), CFS600A(F), CFS700A(F).
- Name of Listing Company:** Schneider Electric Systems USA Inc (MA)
- Address of Listing Company:** 70 Mechanic Street  
Foxboro, MA, 02035  
United States
- The examination and test results are recorded in confidential report number:  

PR457586 dated 9<sup>th</sup> October 2020
- FM Approvals LLC, certifies that the equipment described has been found to comply with the following Approval standards and other documents:  

FM Class 3600:2011, FM Class 3610:2015, FM Class 3611, FM Class 3615:2006, FM Class 3616:2011, FM Class 3810:2005, ANSI/ISA 61010-1 (82.02.01):2004, ANSI/NEMA 250:2003, ANSI/IEC 60529:2004, ANSI/ISA 60079-0:2009, ANSI/ISA 60079-1:2009, ANSI/ISA 60079-7:2008, ANSI/ISA 60079-11:20011, ANSI/ISA 60079-27:2006, ANSI/ISA 60079-31:2009, ANSI/ISA 12.27.01 2003
- If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to specific conditions of use specified in the schedule to this certificate.
- This certificate relates to the design, examination and testing of the products specified herein. The FM Approvals surveillance audit program has further determined that the manufacturing processes and quality control procedures in place are satisfactory to manufacture the product as examined, tested and Approved.

**Certificate issued by:**

  
\_\_\_\_\_  
J. E. Marquedant  
VP, Manager - Electrical Systems

9 October 2020  
\_\_\_\_\_  
Date

To verify the availability of the Approved product, please refer to [www.approvalguide.com](http://www.approvalguide.com)

**THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE**

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## SCHEDULE

US Certificate Of Conformity No: FM20US0130X

10. Equipment Ratings:

Explosionproof-Intrinsically Safe Apparatus for Class I, Division 1, Groups A, B, C, and D; Dust-Ignitionproof-Intrinsically Safe Apparatus for Class II and III, Division 1, Groups E, F, and G, Nonincendive-Intrinsically Safe Apparatus for Class I, II and III, Division 2, Groups A, B, C, D, F and G; Associated Apparatus with Intrinsically Safe Connections for Class I, II and III, Division 1, Groups A, B, C, D, E, F and G; Associated Nonincendive Field Wiring Circuit for Class I, II and III, Division 2, Groups A, B, C, D, F and G; Flameproof-Intrinsically Safe for Class I, Zone 1, Group IIC; Flameproof-Increased Safety-Intrinsically Safe for Class I, Zone 1, Group IIC; Dust Protection by enclosure-Intrinsically Safe for Zone 21, Group IIIC in accordance with drawings 5879959989 or 5879969989; hazardous (classified) locations, Type 4X, IP67, Dual Seal.

11. The marking of the equipment shall include:

For Coriolis Flow Compact Meters CFS300A(C), CFS400A(C), CFS600A(C), CFS700A(C) and CFT34A(F) Transmitter with IS outputs, the equipment is labelled with the following marking(s).

CL I DIV1, GPS A,B,C,D  
 CL II DIV1 GPS E,F,G, CL III DIV1 T6...T1  
 CL I DIV2 GPS A,B,C,D CL II DIV2 GPS F,G, CL III DIV2 T6...T1  
 CL I ZN1 AEx d ia[ia] IIC T6...T1 Gb  
 CL I ZN1 AEx d e ia[ia] IIC T6...T1 Gb  
 ZN21 AEx t ia[ia] IIIC T80C...270C Db  
 AMBIENT TEMP, -40°C to +65°C, Type 4X, IP67, DUAL SEAL

For Coriolis Flow Compact Meters CFS300A(C), CFS400A(C), CFS600A(C), CFS700A(C) and CFT34A(F) Transmitter without IS outputs, the equipment is labelled with the following marking(s).

CL I DIV1, GPS A,B,C,D  
 CL II DIV1 GPS E,F,G, CL III DIV1 T6...T1  
 CL I DIV2 GPS A,B,C,D CL II DIV2 GPS F,G, CL III DIV2 T6...T1  
 CL I ZN1 AEx d ia IIC T6...T1 Gb  
 CL I ZN1 AEx d e ia IIC T6...T1 Gb  
 ZN21 AEx t ia[ia] IIIC T80C...T270C Db  
 AMBIENT TEMP, -40°C to +65°C, Type 4X, IP67, DUAL SEAL

For the Coriolis Flow Sensors CFS300A(F), CFS400A(F), CFS600A(F) and CFS700A(F), the equipment is labelled with the following marking(s).

CL I DIV1, GPS A,B,C,D  
 CL I DIV2 GPS A,B,C,D CL II DIV1 GPS E,F,G, CL III DIV1 T6...T1  
 CL II DIV2 GPS F,G, CL III DIV2 T6...T1

## SCHEDULE

US Certificate Of Conformity No: FM20US0130X

CL I ZN1 AEx ia IIC T6...T1 Gb  
ZN21 AEx ia IIIC T80C...T440C Db  
AMBIENT TEMP, -40°C to +65°C, Type 4X, IP67, DUAL SEAL

### 12. Description of Equipment:

**General** - The Coriolis Flow Sensors CFS300A(F), CFS400A(F), CFS600A(F), CFS700A(F), Coriolis Flow Sensors and Transmitter CFS300A(C), CFS400A(C), CFS600A(C), CFS700A(C) and Coriolis Flow Transmitter CFT34A(F) are a Coriolis Mass Flow Meter for the direct recording and display of the mass flow of liquids. The apparatus consists of the measuring converter and sensor which are connected together directly, in compact configuration (converter bolted directly onto the sensor housing) or remote configuration (converter connected via cable). All electrical connections between the sensor and the measuring converter are Intrinsically Safe.

**Construction** - The external connection for the power supply is of non-intrinsically safe design. The input/output circuit is either Intrinsically Safe or alternatively can be of Non-intrinsically Safe design. The mass flow meter is equipped with a type CFT34A converter. The converter is installed in a measuring converter housing type MH300 with "flameproof enclosure" protection type. Sensors of the type CFS300A, CFS400A, CFS600A, CFS700A are used.

**Ratings** - The Coriolis Flow Sensors CFS300A(F), CFS400A(F), CFS600A(F), CFS700A(F), Coriolis Flow Sensors and Transmitter CFS300A(C), CFS400A(C), CFS600A(C), CFS700A(C) and Coriolis Flow Transmitter CFT34A(F) can be supplied power by a voltage source of 12 – 24 Vdc, 24Vac/Vdc or 100 – 230 Vac depending on the selected power supply board option. The maximum power consumption of the product is either 12 W or 22VA. The ambient operating temperature range of the The Coriolis Flow Sensors CFS300A(F), CFS400A(F), CFS600A(F), CFS700A(F), Coriolis Flow Sensors and Transmitter CFS300A(C), CFS400A(C), CFS600A(C), CFS700A(C) is -40°C to 65°C with Aluminum Converter housing and -40°C to 60°C with Stainless Steel Converter Housing. Process temperature range is -200°C to +400°C refer to Control Drawing.

#### **With IS outputs:**

#### **CFSa00A(C) bc COMPACT Meter.**

a = Sensor Series: 3, 4 or 7

b = Measuring tube material: T, S, A, H, D, E or U

c = Sensor size / Flow area: 06, 10, 15, 25, 40, 50, 80, 100, 150, 250 or 400

\*For Entity Parameters and Nonincendive Field Wiring Parameters reference control drawing 5880249989.  
For FISCO Parameters reference control drawing 5880279989.

## **SCHEDULE**

US Certificate Of Conformity No: FM20US0130X

***a-cdefghijklmnpqrstu. Coriolis Flow Sensor CFS300A, CFS400A, CFS700A***

a = Sensor base model: 30H, 301, 31H, 302, 404, 406, 410, 416, 70Q, 73E, 70H, 701, 71H, 702 or 703  
c = Manufacturer specific: not safety relevant  
d = Measuring tube material: T, S, A, H, D, E or U  
e = Tube surface finish: not safety relevant  
f = Process connection size: not safety relevant  
g = Process connection standard: Not safety relevant  
h = Sealing face: not safety relevant  
j = Secondary containment material: not safety relevant  
k = Heating jacket options: 0, 1, 2, 3, 5, A, B, C, D  
l = Hazardous area approvals: T  
m = Hygienic / sanitary approvals: not safety relevant  
n = Configuration: 0  
p = Calibration: not safety relevant  
q = Cleaning / degreasing: not safety relevant  
r = Extended options: not safety relevant  
s = Customer specific: S  
t = Converter type: 3 or 6  
u = Destination: Not safety relevant

***34-cdefghijklmnpqrstuv. Coriolis Flow Transmitter CFT34A***

c = Manufacturer specific: not safety relevant  
d = Converter type: 4  
e = Power supply: 1, 4 or A  
f = Hazardous area approvals: 7  
g = Cable connections: 4 or R  
h = Instruction manual / operating language: not safety relevant  
j = Custody transfer: not safety relevant  
k = Process diagnostics: not safety relevant  
l = Converter housing: 1 or 2  
m = Customer specific: S  
n = Outputs (Base Module): 2, 3, D or E  
p = Outputs (1st I/O Module): 0, 1 or 2  
q = Outputs (2nd I/O Module): 0  
r = Measuring functions: not safety related  
s = Manuals: not safety relevant  
t = Remote option cable: 0  
u = Destination: Not safety relevant  
v = Sensor: 0, 1, 2, 6, 7, A, B or C

***CFS600A(C) bc COMPACT Meter***

b = Measuring tube material: D, H or S  
c = Sensor size / Flow area: 08, 10, 15, 25, 50, 80, 100, 150, 200 or 250



## SCHEDULE

US Certificate Of Conformity No: FM20US0130X

\*For Entity Parameters and Nonincendive Field Wiring Parameters reference control drawing 5880249989.  
For FISCO Parameters reference control drawing 5880279989.

***a-cdefghijklmnpqrstu. Coriolis Flow Sensor CFS600A***

a = Sensor base model: 61Q, 63E, 60H, 601, 602, 603, 604, 606, 608 or 610  
 c = Manufacturer specific: not safety relevant  
 d = Measuring tube material: D, H or S  
 e = Tube surface finish: not safety relevant  
 f = Process connection size: not safety relevant  
 g = Process connection standard: Not safety relevant  
 h = Sealing face: not safety relevant  
 j = Design: 0 or K  
 k = Heating jacket options: 0, 1, 2, 3, 5 or A  
 l = Hazardous area approvals: T  
 m = Hygienic / sanitary approvals: not safety relevant  
 n = Configuration: 0  
 p = Calibration: not safety relevant  
 q = Process Requirements: 0, 1, C, D or T  
 r = Extended options: not safety relevant  
 s = Customer specific: S  
 t = Converter type: 3 or 6  
 u = Destination: Not safety relevant

***34-cdefghijklmnpqrstuv. Coriolis Flow Transmitter CFT34A***

c = Manufacturer specific: not safety relevant  
 d = Converter type: 4  
 e = Power supply: 1, 4 or A  
 f = Hazardous area approvals: 7  
 g = Cable connections: 4 or R  
 h = Instruction manual / operating language: not safety relevant  
 j = Custody transfer: not safety relevant  
 k = Process diagnostics: not safety relevant  
 l = Converter housing: 1 or 2  
 m = Customer specific: S  
 n = Outputs (Base Module): 2, 3, D or E  
 p = Outputs (1st I/O Module): 0, 1 or 2  
 q = Outputs (2nd I/O Module): 0  
 r = Measuring functions: not safety related  
 s = Manuals: not safety relevant  
 t = Remote option cable: 0  
 u = Destination: Not safety relevant  
 v = Sensor: 0, 1, 2, 6, 7, A, B or C

## SCHEDULE

US Certificate Of Conformity No: FM20US0130X

**Without IS outputs:**

**CFSa00A(C) bc COMPACT Meter.**

a = Sensor Series: 3, 4 or 7

b = Measuring tube material: T, S, A, H, D, E or U

c = Sensor size / Flow area: 06, 10, 15, 25, 40, 50, 80, 100, 150, 250 or 400

**a-cdefghijklmnpqrstu. Coriolis Flow Sensor CFS300A, CFS400A, CFS700A**

a = Sensor base model: 30H, 301, 31H, 302, 404, 406, 410, 416, 70Q, 73E, 70H, 701, 71H, 702 or 703

c = Manufacturer specific: not safety relevant

d = Measuring tube material: T, S, A, H, D, E or U

e = Tube surface finish: not safety relevant

f = Process connection size: not safety relevant

g = Process connection standard: Not safety relevant

h = Sealing face: not safety relevant

j = Secondary containment material: not safety relevant

k = Heating jacket options: 0, 1, 2, 3, 5, A, B, C, D

l = Hazardous area approvals: T

m = Hygienic / sanitary approvals: not safety relevant

n = Configuration: 0

p = Calibration: not safety relevant

q = Cleaning / degreasing: not safety relevant

r = Extended options: not safety relevant

s = Customer specific: S

t = Converter type: 3 or 6

u = Destination: Not safety relevant

**34-cdefghijklmnpqrstuv. Coriolis Flow Transmitter CFT34A**

c = Manufacturer specific: not safety relevant

d = Converter type: 4

e = Power supply: 1, 4 or A

f = Hazardous area approvals: 7

g = Cable connections: 4 or R

h = Instruction manual / operating language: not safety relevant

k = Custody transfer: not safety relevant

j = Process diagnostics: not safety relevant

l = Converter housing: 1 or 2

m = Customer specific: S

n = Outputs (Base Module): 1, 4, 6, 7, 8, B, C, D, E, F, G or H

p = Outputs (1st I/O Module): 0, 8, A, B, C, E, F, G, H or K

q = Outputs (2nd I/O Module): 0, 8, A, B, C, E, F, G, H or K

## SCHEDULE

US Certificate Of Conformity No: FM20US0130X

r = Measuring functions: not safety related  
s = Manuals: not safety relevant  
t = Remote option cable: 0  
u = Destination: Not safety relevant  
v = Sensor: 0, 1, 2, 6, 7, A, B or C

### **CFS600A(C) bc COMPACTMeter.**

b = Measuring tube material: D, H or S  
c = Sensor size / Flow area: 08, 10, 15, 25, 50, 80, 100, 150, 200 or 250

### **a-cdefghijklmnpqrstu. Coriolis Flow Sensor CFS600A**

a = Sensor base model: 61Q, 63E, 60H, 601, 602, 603, 604, 606, 608 or 610  
c = Manufacturer specific: not safety relevant  
d = Measuring tube material: D, H or S  
e = Tube surface finish: not safety relevant  
f = Process connection size: not safety relevant  
g = Process connection standard: Not safety relevant  
h = Sealing face: not safety relevant  
j = Secondary containment material: not safety relevant  
k = Heating jacket options: 0, 1, 2, 3, 5 or A  
l = Hazardous area approvals: T  
m = Hygienic / sanitary approvals: not safety relevant  
n = Configuration: 0  
p = Calibration: not safety relevant  
q = Process Requirements: 0, 1, C, D or T  
r = Extended options: not safety relevant  
s = Customer specific: S  
t = Converter type: 3 or 6  
u = Destination: Not safety relevant

### **34-cdefghijklmnpqrstuv. Coriolis Flow Transmitter CFT34A**

c = Manufacturer specific: not safety relevant  
d = Converter type: 4  
e = Power supply: 1, 4 or A  
f = Hazardous area approvals: 7  
g = Cable connections: 4 or R  
h = Instruction manual / operating language: not safety relevant  
k = Custody transfer: not safety relevant  
j = Process diagnostics: not safety relevant  
l = Converter housing: 1 or 2  
m = Customer specific: S  
n = Outputs (Base Module): 1, 4, 6, 7, 8, B, C, D, E, F, G or H  
p = Outputs (1st I/O Module): 0, 8, A, B, C, E, F, G, H or K

## SCHEDULE

US Certificate Of Conformity No: FM20US0130X

q = Outputs (2nd I/O Module): 0, 8, A, B, C, E, F, G, H or K  
 r = Measuring functions: not safety related  
 s = Manuals: not safety relevant  
 t = Remote option cable: 0  
 u = Destination: Not safety relevant  
 v = Sensor: 0, 1, 2, 6, 7, A, B or C

**With IS outputs:**

**CFT34A 34-bcdefghijklmnpqrstuv. Coriolis Flow Transmitter.**

c = Manufacturer specific: not safety relevant  
 d = Converter type: H  
 e = Power supply: 1, 4 or A  
 f = Hazardous area approvals: 7  
 g = Cable connections: 4 or R  
 h = Instruction manual / operating language: not safety relevant  
 j = Custody transfer: not safety relevant  
 k = Process diagnostics: not safety relevant  
 l = Converter housing: 1 or 3  
 m = Customer specific: S  
 n = Outputs (Base Module): 2, 3, D or E  
 p = Outputs (1st I/O Module): 0, 1 or 2  
 q = Outputs (2nd I/O Module): 0  
 r = Measuring functions: not safety related  
 s = Manuals: not safety relevant  
 t = Remote option cable: 1, 4 or 5  
 u = Destination: Not safety relevant  
 v = Sensor: 0, 1, 2, 6, 7, A, B or C

\*For Entity Parameters and Nonincendive Field Wiring Parameters reference control drawing 5880259989.  
 For FISCO Parameters reference control drawing 5880279989.

**Without IS outputs:**

**CFT34A 34-bcdefghijklmnpqrstuv. Coriolis Flow Transmitter.**

c = Manufacturer specific: not safety relevant  
 d = Converter type: H  
 e = Power supply: 1, 4 or A  
 f = Hazardous area approvals: 7  
 g = Cable connections: 4 or R  
 h = Instruction manual / operating language: not safety relevant  
 j = Custody transfer: not safety relevant  
 k = Process diagnostics: not safety relevant



## SCHEDULE

US Certificate Of Conformity No: FM20US0130X

l = Converter housing: 1 or 3  
 m = Customer specific: S  
 n = Outputs (Base Module): 1, 4, 6, 7, 8, B, C, D, E, F, G or H  
 p = Outputs (1st I/O Module): 0, 8, A, B, C, E, F, G, H or K  
 q = Outputs (2nd I/O Module): 0, 8, A, B, C, E, F, G, H or K  
 r = Measuring functions: not safety related  
 s = Manuals: not safety relevant  
 t = Remote option cable: 1, 4 or 5  
 u = Destination: Not safety relevant  
 v = Sensor: 0, 1, 2, 6, 7, A, B or C

**CFSa00A(F) bc REMOTE Sensor.**

a = Sensor Series: 3, 4 or 7  
 b = Measuring tube material: A, D, E, H, S, T or U  
 c = Sensor size / Flow area: 06, 10, 15, 25, 40, 50, 80, 100, 150, 250 or 400

\*For Entity Parameters and Nonincendive Field Wiring Parameters reference control drawing 5880249989.  
 For FISCO Parameters reference control drawing 5880279989.

**a-cdefghijklmnpqrstu. Coriolis Flow Sensor CFS300A, CFS400A, CFS700A**

a = Sensor base model: 30H, 301, 31H, 302, 404, 406, 410, 416, 70Q, 73E, 70H, 701, 71H, 702 or 703  
 c = Manufacturer specific: not safety relevant  
 d = Measuring tube material: A, D, E, H, S, T or U  
 e = Tube surface finish: not safety relevant  
 f = Process connection size: not safety relevant  
 g = Process connection standard: Not safety relevant  
 h = Sealing face: not safety relevant  
 j = Secondary containment material: not safety relevant  
 k = Heating jacket options: 0, 1, 2, 3, 5, A, B, C, D  
 l = Hazardous area approvals: T  
 m = Hygienic / sanitary approvals: not safety relevant  
 n = Configuration: 1 or 2  
 p = Calibration: not safety relevant  
 q = Cleaning / degreasing: not safety relevant  
 r = Extended options: not safety relevant  
 s = Customer specific: S  
 t = Converter type: 4 or 7  
 u = Destination: Not safety relevant

**CFS600A(F) bc REMOTE Sensor.**

b = Measuring tube material: D, H or S  
 c = Sensor size / Flow area: 08, 10, 15, 25, 50, 80, 100, 150, 200 or 250

## SCHEDULE

US Certificate Of Conformity No: FM20US0130X

\*For Entity Parameters and Nonincendive Field Wiring Parameters reference control drawing 5880249989.  
For FISCO Parameters reference control drawing 5880279989.

**a-cdefghijklmnpqrstu. Coriolis Flow Sensor CFS600A**

a = Sensor base model: 61Q, 63E, 60H, 601, 602, 603, 604, 606, 608 or 610

c = Manufacturer specific: not safety relevant

d = Measuring tube material: D, H or S

e = Tube surface finish: not safety relevant

f = Process connection size: not safety relevant

g = Process connection standard: Not safety relevant

h = Sealing face: not safety relevant

j = Secondary containment material: not safety relevant

k = Heating jacket options: 0, 1, 2, 3, 5, A, B, C, D

l = Hazardous area approvals: T

m = Hygienic / sanitary approvals: not safety relevant

n = Configuration: 1 or 2

p = Calibration: not safety relevant

q = Process Requirements: 0, 1, C, D or T

r = Extended options: not safety relevant

s = Customer specific: S

t = Converter type: 4 or 7

u = Destination: Not safety relevant

**13. Specific Conditions of Use:**

1. *Non-used openings shall be sealed by means of certified blind plugs.*
2. *For information on the dimensions of the flame proof joints, the manufacturer shall be contacted.*

**14. Test and Assessment Procedure and Conditions:**

This Certificate has been issued in accordance with FM Approvals US Certification Requirements.

**15. Schedule Drawings**

A copy of the technical documentation has been kept by FM Approvals.

**16. Certificate History**

## **SCHEDULE**

US Certificate Of Conformity No: FM20US0130X

Details of the supplements to this certificate are described below:

Date	Description
9 <sup>th</sup> October 2020	Original Issue.