

OIML Member State
The Netherlands

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Project number 3673732
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Issuing authority
Person responsible: NMI Certin B.V.
M.Ph.D. Schmidt

Applicant and
Manufacturer: Schneider Electric Systems USA, Inc.
70 Mechanic Street
Foxborough, MA 02035
United States of America

Identification of the
certified type: **A measurement transducer**
Type: CFS400A; CFS600A

Characteristics See page 2 and further.

This OIML Certificate is issued under scheme A

This Certificate attests the conformity of the above-identified type (represented by the sample(s) identified in the OIML Type Evaluation Report) with the requirements of the following Recommendation of the International Organization of Legal Metrology (OIML):

R 117-1:2019 "Dynamic measuring systems for liquids other than water"

Accuracy class 0.3 / 0.5

This Certificate relates only to the metrological and technical characteristics of the type of measuring instrument covered by the relevant OIML International Recommendation identified above. This Certificate does not bestow any form of legal international approval.

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Issuing Authority

NMI Certin B.V., OIML Issuing Authority NL1
11 July 2023

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The conformity was established by the results of tests and examinations provided in the associated reports:

| Report number | Issue date | Number of pages |
|------------------------------------|------------------|-----------------|
| Measurement sensor: CFS400A | | |
| NMi-2451649-05 | 13 January 2023 | 11 |
| Measurement sensor: CFS600A | | |
| NMi-245164901 | 24 November 2022 | 23 |
| CFT34A electronics | | |
| NMi-2451649-02 | 24 November 2022 | 46 |

Characteristics of the measurement transducer

In tables 1 to 4, the general characteristics of the measuring instrument are presented. The construction of the measurement transducer is recorded in documentation folders TC12618-1 for the measurement sensor and TC12617-1 for the electronics.

Table 1 General characteristics applicable to all measurement sensors

- Density range: 685 ... 1100 kg/m³
- Accuracy class: 0.3 and 0.5
- Environmental classes: M3 / E3 / H3
- Ambient temperature range: -40 ... +55 °C
- Intended for the measurement of: Oil and oil products, chemicals and potable liquids,

| Sensor Type ⁽¹⁾ | Oil and oil products, chemicals, and potable liquids | Liquefied gases under pressure | Liquefied gases below -10 °C, cryogenic liquids, LNG, LCO ₂ |
|----------------------------|--|--------------------------------|--|
| | Accuracy class | | |
| | 0.3; 0.5 | 1.0 | 1.5 |
| CFS400A | M | - | - |
| CFS600A | M D V | - | - |

Notes:

(1) This table indicates the approved measurements: **M** for Mass, **D** for density, and **V** for volume.

Table 2 Specific characteristics of the CFS400A measurement sensors

| Sensor size | DN100 | DN150 | DN250 | DN400 | | |
|------------------------------------|-------|-------|-------|-------|--|--|
| Maximum flow rate [t/h] | 220 | 500 | 1200 | 2985 | | |
| Minimum flow rate, class 0.3 [t/h] | 11 | 25 | 60 | 150 | | |
| Minimum flow rate, class 0.5 [t/h] | 6 | 16 | 40 | 100 | | |
| Minimum Measured Quantity [kg] | 200 | 200 | 500 | 1000 | | |
| Maximum viscosity [mPa·s] | 25 | 2 | 2 | 25 | | |

Further characteristics of the CFS400A:

| Accuracy Class | 0.3 | 0.5 | 1.0 | 1.5 |
|---|------------------|-----|-----|-----|
| Maximum pressure | 100 bar(g) | | NA | NA |
| Temperature range liquid for mass measurement | -5 °C ... +85 °C | | NA | NA |
| Temperature range liquid for density and volume measurement | NA | | NA | NA |

Table 3 Specific characteristics of the CFS600A measurement sensors

| Sensor size | DN8 | DN10 | DN15 | DN25 | DN50 | DN80 |
|------------------------------------|-------|------|-------|-------|-------|------|
| Maximum flow rate [t/h] | 0,6 | 1,2 | 3,8 | 19 | 35 | 80 |
| Minimum flow rate, class 0.3 [t/h] | 0,03 | 0,06 | 0,19 | 0,95 | 1,75 | 20 |
| Minimum flow rate, class 0.5 [t/h] | 0,015 | 0,03 | 0,095 | 0,475 | 0,875 | 10 |
| Minimum Measured Quantity [kg] | 1 | 1 | 1 | 5 | 50 | 50 |
| Maximum viscosity [mPa·s] | 25 | | | | | |

| Sensor size | DN100 | DN150 | DN200 | DN250 | | |
|------------------------------------|-------|-------|-------|-------|--|--|
| Maximum flow rate [t/h] | 180 | 320 | 560 | 1000 | | |
| Minimum flow rate, class 0.3 [t/h] | 28 | 70 | 148 | 270 | | |
| Minimum flow rate, class 0.5 [t/h] | 14 | 35 | 74 | 135 | | |
| Minimum Measured Quantity [kg] | 200 | 100 | 100 | 200 | | |
| Maximum viscosity [mPa·s] | 25 | | | | | |

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Further characteristics of the CFS600A:

| Accuracy Class | 0.3 | 0.5 | 1.0 | 1.5 |
|---|------------------|-----|-----|-----|
| Maximum pressure | 100 bar(g) | | NA | NA |
| Temperature range liquid for mass measurement | -5 °C ... +85 °C | | NA | NA |
| Temperature range liquid for density and volume measurement | -5 °C ... +85 °C | | NA | NA |

Table 4 General characteristics of the CFT34A electronics

| Environmental classes | M3 / E3 / H3 | | | | | |
|---------------------------|-------------------------------------|-------------------|--------------------|---------------|---------------|-------------------|
| Ambient temperature range | -40...+55 °C; condensing humidity | | | | | |
| Power supply voltage | 24 VDC 100...240 VAC, 50...60 Hz | | | | | |
| Software identification | | | | | | |
| ER version | Main software | User interface | Sensor electronics | SIL IO (exi) | IO2 software | Modbus |
| ER 2.1.2_ | V6.1.2_0x01B6 | V2.1.2_0xBEF4CBA2 | V2.0.1_0xF9F6 | V1.0.2_0x1A2B | V5.0.2_0xA6FE | V1.0.1_0x353D6ABA |
| ER 2.1.3_ | V6.1.2_0x01B6 | V2.1.3_0xAC61F43F | V2.0.1_0xF9F6 | V1.0.2_0x1A2B | V5.0.2_0xA6FE | V1.0.1_0x353D6ABA |
| ER 2.1.4_ | V6.1.3_0x71F9 | V2.1.4_0xB29DFE9A | V2.0.1_0xF9F6 | V1.0.3_0x443D | V5.0.2_0xA6FE | V1.0.1_0x353D6ABA |
| ER 2.1.5_ | V6.1.3_0x71F9 | V2.1.4_0xB29DFE9A | V2.0.1_0xF9F6 | V2.0.0_0xA75B | V5.0.2_0xA6FE | V1.0.1_0x353D6ABA |
| ER 2.1.6_ | V6.1.4_0x331C | V2.1.6_0x75E94DAF | V2.0.1_0xF9F6 | V2.0.0_0xA75B | V5.0.2_0xA8FE | V1.2.0_0x6289E485 |

The ER number is directly linked to the hardware and the software of the instrument. If either one is updated, the number changes.

The CFT34A flow transmitter may only be used in combination with Coriolis measurement sensors manufactured by Schneider Electric Systems USA, Inc.

Certificate history

| Revision | Date | Description of the modification |
|----------|--------------|---------------------------------|
| 0 | 11 July 2023 | Initial issue. |