Certificate No:
TAA000037D

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Flow Transmitter

with type designation(s)
SM4xxx, SM6xxx, SM7xxx, SM8xxx

Issued to
ifm electronic gmbh
Essen, **Germany**

is found to comply with
DNV rules for classification – Ships, offshore units, and high speed and light craft

Application :

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV.

Temperature	**B**
Humidity	**B**
Vibration	**B**
EMC	**B**
Enclosure	**B**

Issued at **Hamburg** on **2022-10-17**
This Certificate is valid until **2027-10-16**.
DNV local station: **Augsburg**

Approval Engineer: **Dariusz Lesniewski**

for **DNV**

Joannis Papanuskas
Head of Section

Product description

Magnetic-inductive flow meter Series SM4/6/7/8xx

Model variants:

Model	DN	Measuring range (l/min)	Process connection	Display	Output 1	Output 2	Pressure (bar)
SM4000	6	3…5	G 1/4" AG	yes	Switch / impuls / IO-Link	switch / 4...20 mA / 0...10 V	10
SM4100	6	3…5	G 1/4" AG	yes	switch / impuls / IO-Link	switch / 4...20 mA / 0...10 V	10
SM6000	15	25…49	G 1/2" AG	yes	switch / impuls / IO-Link	switch / 4...20 mA / 0...10 V	16
SM6001	15	25…49	G 1/2" AG	yes	switch / impuls / IO-Link	switch / 4...20 mA / 0...10 V	16
SM6050	15	25…49	G 1/2" AG	no	IO-Link	4...20 mA	16
SM6100	15	25…49	G 1/2" AG	yes	switch / impuls / IO-Link	switch / 4...20 mA / 0...10 V	16
SM6400	15	25…49	Rc 1/2" IG	yes	switch / impuls / IO-Link	switch / 4...20 mA / 0...10 V	16
SM6500	15	25…49	Rc 1/2" IG	yes	switch / impuls / IO-Link	switch / 4...20 mA / 0...10 V	16
SM6601	15	25…49	1/2 NPT IG	yes	switch / impuls / IO-Link	switch / 4...20 mA / 0...10 V	16
SM7000	20	50…99	G 3/4" AG	yes	switch / impuls / IO-Link	switch / 4...20 mA / 0...10 V	16
SM7001	20	50…99	G 3/4" AG	yes	switch / impuls / IO-Link	switch / 4...20 mA / 0...10 V	16
SM7050	20	50…99	G 3/4" AG	no	IO-Link	4...20 mA	16
SM7100	20	50…99	G 3/4" AG	yes	switch / impuls / IO-Link	switch / 4...20 mA / 0...10 V	16
SM7400	20	50…99	Rc 3/4" IG	yes	switch / impuls / IO-Link	switch / 4...20 mA / 0...10 V	16
SM7500	20	50…99	Rc 3/4" IG	yes	switch / impuls / IO-Link	switch / 4...20 mA / 0...10 V	16
SM7601	20	50…99	3/4 NPT IG	yes	switch / impuls / IO-Link	switch / 4...20 mA / 0...10 V	16
SM8000	25	100…150	G 1" AG	yes	switch / impuls / IO-Link	switch / 4...20 mA / 0...10 V	16
SM8001	25	100…150	G 1" AG	yes	switch / impuls / IO-Link	switch / 4...20 mA / 0...10 V	16
SM8050	25	100…150	G 1" AG	no	IO-Link	4...20 mA	16
SM8100	25	100…150	G 1" AG	yes	switch / impuls / IO-Link	switch / 4...20 mA / 0...10 V	16
SM8400	25	100…150	Rc 1" IG	yes	switch / impuls / IO-Link	switch / 4...20 mA / 0...10 V	16
SM8500	25	100…150	Rc 1" IG	yes	switch / impuls / IO-Link	switch / 4...20 mA / 0...10 V	16
SM8601	25	100…150	1 NPT IG	yes	switch / impuls / IO-Link	switch / 4...20 mA / 0...10 V	16

Power supply (all models): nom. 24 V DC (min. 18 V DC, max. 30V DC)
Connection (all models): PNP / NPN

Approval conditions

The Type Approval covers hardware listed under Product description. When the hardware is used in applications to be classed by DNV, documentation for the actual application is to be submitted for approval by the manufacturer of the application system in each case. Reference is made to DNV rules for classification of ships Pt.4 Ch.9 Control and monitoring systems.

Type Approval documentation

Tests carried out

Applicable tests according to class guideline DNV-CG-0339, August 2021.

Marking of product

The products to be marked with:
- manufacturer name

- model name
- serial number
- power supply ratings

Periodical assessment

The scope of the periodical assessment is to verify that the conditions stipulated for the type are complied with, and that no alterations are made to the product design or choice of systems, software versions, components and/or materials.

The main elements of the assessment are:

- Ensure that type approved documentation is available
- Inspection of factory samples, selected at random from the production line (where practicable)
- Review of production and inspection routines, including test records from product sample tests and control routines
- Ensuring that systems, software versions, components and/or materials used comply with type approved documents and/or referenced system, software, component and material specifications
- Review of possible changes in design of systems, software versions, components, materials and/or performance, and make sure that such changes do not affect the type approval given
- Ensuring traceability between manufacturer's product type marking and the type approval certificate

Periodical assessment is to be performed after 2 years and after 3.5 years. A renewal assessment will be performed at renewal of the certificate.

END OF CERTIFICATE