

TYPE APPROVAL CERTIFICATE

Certificate No:
TAA000037D
Revision No:
1

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**

Digitally Signed By: Papanuskas, Joannis
Location: DNV GL SE Hamburg, Germany

Joannis Papanuskas
Head of Section

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid.
The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to 300,000 USD.



Product description

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

Model variants:

Model	DN	Measuring range	Process connection	Display	Output 1	Output 2	Pressure (bar)
SM4000	6	0,005...3 l/min	G 1/4" AG	yes	Switch / impuls / IO-Link	switch / 4...20 mA / 0...10 V	10
SM4100	6	0,005...3 l/min	G 1/4" AG	yes	switch / impuls / IO-Link	switch / 4...20 mA / 0...10 V	10
SM6000	15	0,1...25 l/min	G 1/2" AG	yes	switch / impuls / IO-Link	switch / 4...20 mA / 0...10 V	16
SM6001	15	1,5...396 gph	G 1/2" AG	yes	switch / impuls / IO-Link	switch / 4...20 mA / 0...10 V	16
SM6050	15	0,1...25 l/min	G 1/2" AG	no	IO-Link	4...20 mA	16
SM6100	15	0,1...25 l/min	G 1/2" AG	yes	switch / impuls / IO-Link	switch / 4...20 mA / 0...10 V	16
SM6400	15	0,1...25 l/min	Rc 1/2" IG	yes	switch / impuls / IO-Link	switch / 4...20 mA / 0...10 V	16
SM6500	15	0,1...25 l/min	Rc 1/2" IG	yes	switch / impuls / IO-Link	switch / 4...20 mA / 0...10 V	16
SM6601	15	1,5...396 gph	1/2 NPT IG	yes	switch / impuls / IO-Link	switch / 4...20 mA / 0...10 V	16
SM7000	20	0,2...50 l/min	G 3/4" AG	yes	switch / impuls / IO-Link	switch / 4...20 mA / 0...10 V	16
SM7001	20	3...792 gph	G 3/4" AG	yes	switch / impuls / IO-Link	switch / 4...20 mA / 0...10 V	16
SM7050	20	0,1...50 l/min	G 3/4" AG	no	IO-Link	4...20 mA	16
SM7100	20	0,2...50 l/min	G 3/4" AG	yes	switch / impuls / IO-Link	switch / 4...20 mA / 0...10 V	16
SM7400	20	0,2...50 l/min	Rc 3/4" IG	yes	switch / impuls / IO-Link	switch / 4...20 mA / 0...10 V	16
SM7500	20	0,2...50 l/min	Rc 3/4" IG	yes	switch / impuls / IO-Link	switch / 4...20 mA / 0...10 V	16
SM7601	20	3...792 gph	3/4 NPT IG	yes	switch / impuls / IO-Link	switch / 4...20 mA / 0...10 V	16
SM8000	25	0,2...100 l/min	G 1" AG	yes	switch / impuls / IO-Link	switch / 4...20 mA / 0...10 V	16
SM8001	25	6...1584 gph	G 1" AG	yes	switch / impuls / IO-Link	switch / 4...20 mA / 0...10 V	16
SM8050	25	0,2...100 l/min	G 1" AG	no	IO-Link	4...20 mA	16
SM8100	25	0,2...100 l/min	G 1" AG	yes	switch / impuls / IO-Link	switch / 4...20 mA / 0...10 V	16
SM8400	25	0,2...100 l/min	Rc 1" IG	yes	switch / impuls / IO-Link	switch / 4...20 mA / 0...10 V	16
SM8500	25	0,2...100 l/min	Rc 1" IG	yes	switch / impuls / IO-Link	switch / 4...20 mA / 0...10 V	16
SM8601	25	6...1584 gph	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

Test reports:

Test report: IFM no. 153400-362, dated 2021-04-06

Test report: TREO no. 101-21, Issue 3, dated 2021-11-10

Test report: EMCE no. 21-0127RP16-001-A, dated 2021-05-27

Drawings:

No. 11363415-00, no. 11363418-00

BOMs:

BOM LPB 80300036, BOM electronic 80307321

Operating instructions:

No. 80237074 / 00, no. 80224865 / 00

Data sheets:

SM4000-00_EN-GB, SM4100-00_EN-GB, SM6000-00_EN-GB, SM6001-00_EN-GB, SM6050-00_EN-GB, SM6100-00_EN-GB, SM6400-00_EN-GB, SM6500-00_EN-GB, SM6601-00_EN-GB, SM7000-00_EN-GB, SM7001-00_EN-GB, SM7050-00_EN-GB, SM7100-00_EN-GB, SM7400-00_EN-GB, SM7500-00_EN-GB, SM7601-00_EN-GB, SM8000-00_EN-GB, SM8001-00_EN-GB, SM8050-00_EN-GB, SM8100-00_EN-GB, SM8400-00_EN-GB, SM8500-00_EN-GB, SM8601-00_EN-GB

Type approval assessment report issued at Augsburg on 2021-04-08

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