



# TYPE APPROVAL CERTIFICATE

Certificate no.:  
**TAA0000263**  
Revision No:  
**3**

**This is to certify:**  
**that the Flow Transmitter**

with type designation(s)  
**Promag W, P 300/500**

issued to  
**Endress+Hauser Flowtec AG**  
**Reinach, Switzerland**

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.**

## Location classes:

<b>Temperature</b>	<b>D</b>
<b>Humidity</b>	<b>B</b>
<b>Vibration</b>	<b>A</b>
<b>EMC</b>	<b>B</b>
<b>Enclosure</b>	<b>C</b>

Issued at **Hamburg** on **2024-04-05**

for **DNV**

This Certificate is valid until **2029-04-04**.

DNV local unit: **Augsburg**

Approval Engineer: **Dariusz Lesniewski**

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

Electromagnetic flowmeter for bidirectional measurement of liquids  
 The device consists of sensor Promag W, P and transmitter Promag 300/500  
 Process connection: flange  
 Flange dimensions: DN 25 to 3000 (W), DN 15 to 600 (P)  
 Power supply: 24V DC, 100-230V AC, 100-230V AC/24V DC  
 Output signal: 4-20mA HART, 4-20mA WirelessHART, Pulse/Frequency/Switch  
 Modbus, Ethernet/IP, Profibus PA, Profibus DP, Profinet, Foundation Fieldbus  
 Degree of protection: IP 66/67, IP 68 (3m H<sub>2</sub>O, 168h)  
 Ex-proof protection: according to relevant Ex-Certificate(s)

### Firmware version:

01.06.zz, HART  
 01.01.zz, Profibus PA  
 01.00.zz, Profibus DP  
 01.06.zz, Modbus  
 01.00.zz, Ethernet/IP  
 01.01.zz, Profinet  
 01.00.zz, Foundation Fieldbus

Variants according to order code:

<b>Promag W 300</b>		
Order Code	<b>x5W3B</b> aa – bb c d ee f g h i j k lll m n (x=any character or blank)	
aa	Nominal Diameter:	25; 32; 40; 50; 65; 80; 1H; 1Z; 1F; 2H;2F; 3H; 3F; 3S; 4H; 4F; 5H; 6H; 7H; 7F; 8H; 9H; T0; V0; T2; V3; T4; V5; T6; V6; T8; V9; E0; E1; E2; E3; E4; E6; E8; W4; W5; W7; W8; W9; F0
bb	Approval; Transmitter + Sensor:	Any two letter and/or number combination
c	Design:	C; D; E; F; G; H; I; J; K
d	Power Supply:	D; E; I
ee	Output; Input 1:	BA; BB; CA; CB; CC; GA; HA; LA; MA; NA; RA; SA; TA
f	Output; Input 2:	A; B; C; D; E; F; G; H; I; J; K; L
g	Output; Input 3:	A; B; C; D; E; F; G; H; I; J
h	Display; Operation:	A; F; G; M; O
i	Housing:	A
j	Electrical Connection:	A; B; C; D; L; M; N; P; R; S; T; U; V; 3; 4; 5; 6
k	Liner:	H; U; Q; 9
lll	Process Connection:	Any triple letter and/or number combination
m	Electrodes:	G; H; 0; 1; 2
n	Calibration Flow:	A; B; D; E; F; G; M; N; 8; 9

<b>Promag W 500</b>		
Order Code	<b>x5W5B</b> aa – bb c d ee f g h i j k l m n o ppp q r (x=any character or blank)	
aa	Nominal Diameter:	25; 32; 40; 50; 65; 80; 1H; 1Z; 1F; 2H;2F; 3H; 3F; 3S; 4H; 4F; 5H; 6H; 7H; 7F; 8H; 9H; T0; V0; T2; V3; T4; V5; T6; V6; T8; V9; E0; E1; E2; E3; E4; E6; E8; W4; W5; W7; W8; W9; F0
bb	Approval; Transmitter + Sensor:	Any two letter and/or number combination NS; N7; N8
c	Design:	A; B; C; D; E; F; G; H; I; J; K
d	Power Supply:	D; E; I; X
ee	Output; Input 1:	BA; BB; CA; CB; CC; GA; HA; LA; MA; NA; RA; SA; TA ; XX
f	Output; Input 2:	A; B; C; D; E; F; G; H; I; J; K; L; X

g	Output; Input 3:	A; B; C; D; E; F; G; H; I; J; X
h	Output; Input 4:	A; B; C; D; E; F; G; H; I; J; X
i	Display; Operation:	F; G; X
j	Integrated ISEM Electronic:	A; B
k	Housing:	A; L; X
l	Sensor Housing:	A; L
m	Cable, Sensor Connection:	A; B; E; F; 1; 2; 3; 4; 5
n	Electrical Connection:	A; B; C; D; L; M; N; P; R; S; T; U; V; 3; 4; 5; 6
o	Liner:	H; U; Q; 9
ppp	Process Connection:	Any triple letter and/or number combination
q	Electrodes:	G; H; 0; 1; 2
r	Calibration Flow:	A; B; D; E; F; G; M; N; 8; 9

<b>Promag P 300</b>		
Order Code	<b>x5P3B</b> aa – bb c dd e f g h i j kkk l m (x=any character or blank)	
aa	Nominal Diameter:	15; 25; 32; 40; 50; 65; 80; 1H; 1Z; 1F; 2H; 2F; 3H; 3F; 4H; 4F; 5H; 6H
bb	Approval; Transmitter + Sensor:	Any two letter and/or number combination
c	Power Supply:	D; E; I
dd	Output; Input 1:	BA; BB; CA; CB; CC; GA; HA; LA; MA; NA; RA; SA; TA
e	Output; Input 2:	A; B; C; D; E; F; G; H; I; J
f	Output; Input 3:	A; B; C; D; E; F; G; H; I; J
g	Display; Operation:	A; F; G; M; O
h	Housing:	A
i	Electrical Connection:	A; B; C; D; L; M; N; P; R; S; T; U; V; 3; 4; 5
j	Liner:	A; B; E; 9
kkk	Process Connection:	Any triple letter and/or number combination
l	Electrodes:	G; H; J; K; L; M; N; P; Q; 0; 1; 2; 3; 4; 5; 8
m	Calibration Flow:	A; B; D; E; M; N; 8; 9

<b>Promag P 500</b>		
Order Code	<b>x5P5B</b> aa – bb c dd e f g h i j k l m n ooo p q (x=any character or blank)	
aa	Nominal Diameter:	15; 25; 32; 40; 50; 65; 80; 1H; 1Z; 1F; 2H; 2F; 3H; 3F; 4H; 4F; 5H; 6H
bb	Approval; Transmitter; Sensor:	Any two letter and/or number combination
c	Power Supply:	D; E; I; X
dd	Output; Input 1:	BA; BB; CA; CB; CC ; GA; HA; LA; MA; NA; RA; SA; TA; XX
e	Output; Input 2:	A; B; C; D; E; F; G; H; I; J; X
f	Output; Input 3:	A; B; C; D; E; F; G; H; I; J; X
g	Output; Input 4:	A; B; C; D; E; G; H; I; J; X
h	Display; Operation:	F; G; X
i	Integrated ISEM Electronic:	A; B
j	Transmitter Housing:	A; L; X

k	Sensor Junction Housing:	A; L
l	Cable, Sensor Connection:	A; B; E; F; 1; 2; 3; 4; 5
m	Electrical Connection:	A; B; C; D; L; M; N; P; R; S; T; U; V; 3; 4; 5; 6
n	Liner:	A; B; E; 9
ooo	Process Connection:	Any triple letter and/or number combination
p	Electrodes:	G; H; J; K; L; M; N; P; Q; 0; 1; 2; 3; 4; 5; 8
q	Calibration Flow:	A; B; D; E; M; N; 8; 9

### Place of manufacture

Endress + Hauser Flowtec AG  
 Reinach, Switzerland

Endress + Hauser Flowtec AG, Division Cernay  
 Cernay, France

Endress + Hauser Flowtec (China) Co. Ltd.  
 Suzhou, China

### 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.

### Application/Limitation

This type approval does not cover wetted parts. Suitability of pressure contained wetted parts to be considered for each application according to relevant requirements.

### Type Approval documentation

E+H Documents-Package, issue 2018  
 Proline Promag P 300, TI01224D-06-EN-08.22  
 Proline Promag P 500, TI01226D-06-EN-04.22  
 Proline Promag W 300, TI01414D-06-EN-04.22  
 Proline Promag W 500, TI01227D-06-EN-08.22  
 Test Report: E+H Promass 500 Profibus-PA, 2016-07-25  
 Test Report: E+H Promass 300 Profibus-DP, 2018-03-12  
 Test Report: E+H Promass 300 Modbus, 2017-05-04  
 Test Report: E+H Promass 500 Profinet, 2014-08-24  
 Test Report: E+H Promass 500 EthernetIP, 2017-09-05  
 Test Report: E+H Promass 500 FoundationFieldbus, 2016-10-27  
 Test Report: paconsult No. 18-10301E, 2018-11-09  
 Test Report: paconsult No. 18-10301D Rev. 1, 2018-10-18  
 Test Report: paconsult No. 18-10301A Rev. 2, 2018-11-26  
 Test Report: IWS No. G 780-18, 2018-10-22  
 E+H Technical Note 18-10 LTE, 2018-10-24  
 E+H Technical Note: Performance Test of Promass/Promag 300,500, 2018-11-05  
 Test Report: MTN No. 01997.159.18 V1.0, 2018-07-30  
 Test Report: MTN No. 01997.138.18 V1.1, 2018-07-31  
 Test Report: E+H No. EMC2023PCF0007\_V01.00, 2023-11-01  
 Test Report: E+H No. PP1177 (IP6X), 2018-09-25  
 Test Report: E+H No. PP1180 (IPX6), 2018-09-25  
 Test Report: E+H No. PP1182 (IPX7), 2018-09-25  
 Test Report: E+H Doc. Id. EMC2019PCF0007, 2019-04-08  
 Test Report: E+H Doc. Id. EMC2019PCF0010, 2019-04-08  
 Test Report: E+H Doc. Id. EMC2023PCF0008\_V10.00, 2023-11-09  
 Assembly Drawings; Assembly Plans; Circuit Diagrams  
 Software Development and Test Documentation / Software Release Review Checklists  
 E+H 'Overview: official software status, October 2018', 2018-09-18  
 E+H Testreport\_Promag300/500 HART V1.06.00 – Software  
 E+H Testreport\_Promag300/500 Modbus V1.06.00 – Software

E+H Testreport\_Promag300/500 PROFINET V1.01.00 - Software  
IECEX Certificate of Conformity No. IECEX CSA 16.0034X  
Type approval assessment report issued at Shanghai on 2023-02-07  
Type approval assessment report issued at Augsburg on 2024-01-24  
Type approval assessment report issued at France CMC on 2024-03-14

### 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: [Promag W/P] + [Promag 300/500]
- 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