

# TYPE APPROVAL CERTIFICATE

**This is to certify:****That the Transmitter for Memosens-Sensors**with type designation(s)  
**xM72, xM82**

Issued to

**Endress+Hauser Conducta GmbH+Co. KG**  
**Gerlingen, Germany**

is found to comply with

**DNV GL 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 GL.****Location classes:**

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

Issued at **Hamburg** on **2021-07-22**for **DNV GL**This Certificate is valid until **2024-11-03**.DNV GL local station: **Augsburg**Approval Engineer: **Dariusz Lesniewski**

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**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.



## Product description

Compact transmitter configurable for Memosens sensors

	010	020	030	040	045	050	055	60	590	
<b>xM72-</b>	**	**	**	*	*	*	*	*	+	**
<b>x</b> can be named as C, O or OC										
010	Approval:									
	AA	Non-hazardous area								
	**	two letters for non-ex or ex-approval (no construction relevance)								
020	Sensor Type; Measuring Range:									
	AD	pH; 0..pH4								
	AM	ORP; -1500mV...+1500mV								
	DD	Conductivity conductive; 0..20uS/cm								
	DE	Conductivity conductive; 0..500uS/cm								
	DF	Conductivity conductive; 0..20mS/cm								
	DG	Conductivity conductive; 0..500mS/cm								
	FD	Oxygen amperometric; 0..200ug/l								
	FF	Oxygen amperometric; 0..20mg/l								
	GD	Oxygen optical; 0..200ug/l								
	GF	Oxygen optical; 0..20mg/l								
	LE	Chlorine; 0..5mg/l								
030	Communication:									
	B1	1x output 4..20mA								
040	Cable Length:									
	C	3m								
	F	7m								
	K	15m								
045	Cable Type:									
	1	Outdoor use, rugged, shielded, diameter <7mm								
050	Cable Connection:									
	A	Crimp sleeves								
055	Cable Outlet:									
	1	Straight								
060	Device Version:									
	A1	1								
590	Additional Apporoval:									
	LI	DNV								
and other additional marks (no construction relevance, can be more than two letters)										

Compact transmitter configurabile for Memosens sensors

	010	020	030	040	045	050	055	60	590	
<b>xM82-</b>	**	**	**	*	*	*	*	*	+	*
<b>x</b> can be named as C, O or OC										
010	Approval:									
	AA	Non-hazardous area								
	**	two letters for non-ex or ex-approval (no construction relevance)								
020	Sensor Type:									
	XA	Sensors with Memosens plug-in head								
030	Communication:									
	B2	1x output 4..20mA, HART								
040	Cable Length:									
	C	3m								
	F	7m								
	K	15m								
045	Cable Type:									
	1	Outdoor use, rugged, shielded, diameter < 7mm								

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Certificate No: **TAA000030R**

050	Cable Connection:
	A Crimp sleeves
055	Cable Outlet:
	1 Straight
060	Device Version:
	A1 1
590	Additional Approval:
	LI DNV
and other additional marks (no construction relevance, can be more than two letters)	

### Approval conditions

The Type Approval covers hardware listed under Product description. When the hardware is used in applications to be classed by DNV GL, 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 GL rules for classification of ships Pt.4 Ch.9 Control and monitoring systems.

Ex-certification is not covered by this certificate. Application in hazardous area to be approved in each case according to DNV GL Rules and Ex-Certification / Special Condition for Safe Use listed in valid Ex-certificate issued by a notified/recognized Certification Body.

### Place of manufacture

Endress+Hauser Conducta GmbH+Co. KG  
Landsberger Strasse 28  
04736 Waldheim, Germany

### Type Approval documentation

Test Report: Phxoenix TestLab No. S182222E1, dated 2019-03-01  
Test Report: Phxoenix TestLab No. E182222E1, dated 2019-06-27  
Test Report: Phxoenix TestLab No. U182222E1, dated 2019-07-11  
Test Report: Currenta No. 19/0390, dated 2019-03-13  
E+H List Marine Compact Transmitters V02  
Type approval assessment report issued at Magdeburg on 2019-06-05

### Tests carried out

Applicable tests according to class guideline DNVGL-CG-0339, December 2019.

### 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



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- 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