

(1) EU-TYPE EXAMINATION CERTIFICATE



(2) Equipment and Protective Systems intended for use in
Potentially Explosive Atmosphere - **Directive 2014/34/EU**

(3) EU-Type Examination Certificate Number

TÜV 13 ATEX 7459 X

Issue: 05

(4) Equipment: **Transmitter Liquiline M type CM42 - *** ** * ***** or OCM42 - *** ** * *******

(5) Manufacturer: **Endress+Hauser Conducta GmbH+Co. KG**

(6) Address: **Dieselstraße 24
70839 Gerlingen, Germany**

(7) This product and any acceptable variation thereto are specified in the schedule to this certificate and the documents therein referred to.

(8) The certification body for explosion protection of TÜV Rheinland Industrie Service GmbH, Notified Body No. 0035 in accordance with Article 21 of the Council Directive 2014/34/EU of 26th February 2014, certifies this product which has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmosphere, given in Annex II to the Directive.

The examination and test results are recorded in the confidential report 557 / Ex 7459.06 / 13. Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the schedule of this certificate, has been assessed by reference to:

EN IEC 60079-0:2018

EN 60079-11:2012

(10) If the sign "X" is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.

(11) This EU-Type Examination Certificate relates only to the design and specification for construction of the equipment or protective system. It does not cover the process for actual manufacture or supply of the equipment or protective system, for which further requirements of the directive are applicable.



II (1)2 G Ex ib [ia Ga] IIC T6/T4 Gb

TÜV Rheinland certification body for explosion protection

Cologne, 2021-06-25

Dipl.-Ing. Christian Mehnhoff



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This EU-Type Examination Certificate may be circulated only without alteration. Extracts or alterations are subject to approval by the
TÜV Rheinland Industrie Service GmbH TÜV Rheinland Group Am Grauen Stein 51105 Köln.
Tel. +49 (0) 221 806-0 Fax. + 49 (0) 221 806 114

Annex

(14)

EU-Type Examination Certificate
TÜV 13 ATEX 7459 X Issue: 05

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(15) Description of equipment

15.1 Equipment and type:

Product Type Code:

[illegible]

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15.2 Details of Change

- Standard update of 60079-0:2018
- Removal of SIL variants
- Removal of EN 60079-26
- Removal of outdated electronic module FPBA1
- Designation of non ex-relevant components generalized
- Alternative components added
- Corrections in part lists and Ex-calculations
- The CM42 housing 430196 can be used as an alternative housing for the transmitter Liquiline M
- ExTRs have been compiled

15.3 Technical Data

FBIH1 Specification of External and Internal Interfaces:

	Designation	Connector	Max. Input/Output Values
Input External (X100)	Current output 1	X100: 3-4 Terminals 133-134	U _i = 30 V
			I _i = 100 mA
			P _i = 800 mW
			C _i = 1.2 nF
			L _i = 29 µH
	Current output 2	X100: 7-8 Terminals 233-234	U _i = 30 V
Internal (X101)	VCC/Bus	X101: 15-32	I _i = 100 mA
			P _i = 800 mW
			C _i = 0.2 nF
			L _i = 24 µH
	FB_UCharge	X101: 8 (UC1_+24V)	U _j = 6.0 V
			P _i = 150 mW (400 mW)*
	FB_UReg	X101: 11 (Vcc_out)	U _o = 4.6 V
			I _o = 39 mA
			U _o = 6.51 V
			I _o = 96mA

* The specified maximum values can only be reached by temporary connection of the CDI port in non hazardous areas with the following values:

max. input voltage U_i = 6 V

max. input current I_i = 600 mA

max. input power P_i = 800 mW

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FBPA1 Specification of External and Internal Interfaces:

	Designation	Connector	Max. Input-/Output Values
Input external (X104)	Fieldbus	(X104: 1,3) Terminals 997,998	U _i = 17.5 V
			I _i = 380 mA
			P _i = 5.32 W
			C _i < 5 nF
			L _i < 10 µH
Internal (X102)	VCC/Bus	X102: 17...47	U _i = 6.0 V
			P _i = 150 mW (400 mW)*
	FB_UCharge	X102: 8	U _o = 6 V
			I _o = 2.19 mA
	FB_UReg	X102: 11	U _o = 6.51 V
			I _o = 96 mA

* The maximum values can only be reached by temporary connection of the CDI port in non-hazardous areas.

FBPA3 Specification of External and Internal Interfaces:

	Designation	Connector	Max. Input-/Output Values
Input external (X100)	Fieldbus	(X100: 1,3) Terminals 997,998	U _i = 17.5 V
			I _i = 380 mA
			P _i = 5.32 W
			C _i < 5 nF
			L _i < 10 µH
Internal (X101)	VCC/Bus	X101: 17...47	U _i = 6.0 V
			P _i = 150 mW (400 mW)*
	FB_UCharge	X101: 8	U _o = 6 V
			I _o = 2.19 mA
	FB_UReg	X101: 11	U _o = 6.51 V
			I _o = 96 mA

* The maximum values can only be reached by temporary connection of the CDI port in non-hazardous areas.

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FC2W1 Specification of Internal Interfaces:

	Designation	Connection	Max. Input-/Output Values
Internal (X100)	VCC/Bus	X100: 15 - 32	U _o = 6.0 V
			P _o = 150 mW
	FB_UCharge	X101: 8 (VC1)	U _i = 6 V
			I _i = 40 mA
	FB_UReg	X101: 11 (PVSA1)	U _i = 6.51 V
			I _i = 96 mA
SA port (X102)	VSA1	X102: 9	U _o = 5.6 V
			I _o = 125 mA (205 mA)*
			P _o = 200 mW (298 mW)*
internal	VCC/Bus	X102: 1-8, 11-15	U _o = 5.9 V
			I _o = 141 mA (152 mA)*
			P _o = 145 mW (271 mW)*
Display Port (X101)	PVSA1 (U_Reg)	X101: 30	U _o = 5.6 V
			I _o = 177 mA (316 mA)*
			P _o = 240 mW (480 mW)*
	VCC/Bus	X101: 1-25	U _o = 5.9 V
			I _o = 143 mA (152 mA)*
			P _o = 150 mW (271 mW)*

* The maximum values can only be reached by temporary connection of the CDI-port in non-hazardous areas.

FD2W1 Specification of Internal Interfaces:

	Designation	Connector	Max. Input-/Output Values
Display Port X100	PVSA1	X100: 29	U _i = 5.6 V
			I _i = 177 mA
			P _i = 240 mW
	VCC/Bus	X100: 8 - 20	U _i = 5.9 V
			I _i = 143 mA
			P _i = 150 mW
Keys/ LEDs X115		X115	U _o = 5.9 V
			I _o = 47 mA
			P _o = 66 mW

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FSPH1 Specification of Internal and External Interfaces:

	Designation	Connector	Max. Input-/Output Values
SA port (X100/ X101)	V_SA1	X100: 9	U _i = 5.6 V
			P _i = 200 mW
	VCC/Bus	X100: 1-8	U _i = 5.9 V
			P _i = 152 mW
Sensor Input pH Ex ia IIC X110	pH/Redox sensor input and temperature	X110: 317-320; 111-113	U _o = 10.08 V
			I _o = 4.1 mA
			P _o = 10.2 mW
	pH-ISFET sensor input and temperature	X110: 315-320; 111-113	U _o = 10.08 V
			I _o = 50.7 mA
			P _o = 128 mW
	Two pH-type sensors connected	Max. internal capacity Max. internal inductivity Max. external capacity Max. external inductivity	C _i = 28.9 nF
			L _i = 305 µH
			Co = 250 nF
			Lo = 1 mH

FSLI1 Specification of Internal and External Interfaces:

	Designation	Connector	Max. Input/Output Values
SA port (X100/ X101)	V_SA1	X100: 9	U _i = 5.6 V
			P _i = 200 mW
	VCC/Bus	X100: 1-8	U _i = 5.9 V
			P _i = 152 mW
Sensor Input Conductivity Ex ia IIC	Sensor input for: Inductive conductivity probe... ...Type CLS50-G... or Type CLS54-G...	X109: 1- 7 Terminal: 111-113, 215-218	U _o = 10.08 V
			I _o = 64 mA
			P _o = 128 mW
			C _i = 62 nF
			L _i = 305 µH

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FSLC1 Specification of Internal Interfaces (Safety related limits):

	Designation	Connector	Max. Input/Output Values
SA port (X100/ X110)	V_SA1	X100: 9	U _i = 5.6 V
			P _i = 200 mW
	VCC/Bus	X100: 1-5	U _i = 5.9 V
			P _i = 152 mW
			C _i = 396 nF
Sensor Input	Conductive conductivity sensor	X109: 1 - 7 Terminals: 111 to 113, 219 to 222	U _o = 10.08 V
			I _o = 23 mA
			P _o = 57 mW
			C _i = 21 nF
			L _i = 305 µH
			Co = 50 nF
			Lo = 300 µH

FSDG1 Specification of Internal and External Interfaces:

	Designation	Connector	Max. Input/Output Values
SA port (X100/ X110)	V_SA1	X100: 9	U _i = 5.6 V
			P _i = 200 mW
	VCC/Bus	X100: 1-15	U _i = 5.9 V
			P _i = 152 mW
			C _i = 246 nF
			L _i negligible
Sensor input Ex ia IIC	Sensor input for: MEMOSENS cable Typ CYK10-G**1 and an approved sensor w/ Memos- sens Technology, e.g.: CPS**(*)D-7**(*)G (pH)	X109: 1-4	U _o = 5.04 V
		Terminals	I _o = 80 mA
		187, 188, 197, 198	P _o = 112 mW
			C _i = 12,4 µF
			L _i = 160,4 µH

Ambient temperature range For T6 -20 °C ≤ T_a ≤ +50 °C
 For T4 -20 °C ≤ T_a ≤ +55 °C

(16) Test report no. 557 / Ex 7459.06 / 13

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(17) Special conditions for safe use

1. Metal enclosures must be connected to the local equipotential bonding system at the point of installation.
2. Only sensors, intended for use according to the user instruction, must be connected. The rated values of input and output circuits must be followed.

(18) Basic Safety and Health Requirements

Covered by afore mentioned standard.

TÜV Rheinland certification body for explosion protection

Cologne, 2021-06-25

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