



Type Approval Certificate

This is to certify that the undernoted product(s) has/have been tested with satisfactory results in accordance with the relevant requirements of the Lloyd's Register Type Approval System.

Manufacturer	Endress+Hauser Conducta GmbH+Co.KG
Address	Dieselstrasse 24, Gerlingen, 70839, Germany
Type	Transmitters/Transducers
Description	Multiparameter transmitter and communication module refer to the Appendix for details
Trade Name	CM442, CM442R, CM444, CM444R, CM448, CM448R
Application	Marine, offshore and industrial applications for use in environmental categories ENV1 and ENV2 as defined in Lloyd's Register's Type Approval System, Test Specification Number 1 – 2021.
Specified Standard	Manufacturer's specification IACS unified requirements E10 (Rev.8 Feb 2021)
Other Conditions	Liquiline CM44*R have to be used with a marine approved power supply. Liquiline CM44xR are suitable for use at a maximum humidity of 85%. Ratings for application in hazardous areas are to be obtained from the applicable Ex Certificates.

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Type Approval Certificate

This certificate is not valid for equipment, the design, ratings or operating parameters of which have been varied from the specimen tested. The manufacturer should notify Lloyd's Register EMEA of any modification or changes to the equipment in order to obtain a valid Certificate.

Previous Version: LR2001949TA-03

The Design Appraisal Document HPC1962062-24/TW and its supplementary Type Approval Terms and Conditions form part of this Certificate.

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Appendix

TYPES

CM442[10][20][30][40][50][60][70]
CM442R[10][20][30][40][50][60][70]

[10] = Approval:

AA: Non-hazardous area
BM: ATEX
CA: CSA C/US General Purpose
CD: CSA C/US NI Cl. I, Div. 2, GP A-D T4A
CL: CSA C/US IS Cl. I Div. 2 GP A-D T4A
GR: Non-hazardous area + EAC marking
IE: IECEX
UM: UK EX

[20] = Sensor Input:

M1: 1x digital sensor
M2: 2x digital sensor
N1: 1x digital sensor, M12 plug [CM442 only]
N2: 2x digital sensor, M12 plug [CM442 only]

[30] = Communication

A1: 2x output 0/4...20mA
A2: 2x output 0/4..20mA, HART
A3: 4x output 0/4...20mA
A4: 4x output 0/4..20mA, HART
B6: PROFIBUS DP, Webserver
B7: M12 female jack, PROFIBUS DP, Webserver (+Ethernet configuration)
[CM442 only]
B8: Modbus RS485, Webserver
B9: M12 female jack, Modbus RS485, Webserver (+Ethernet configuration)
[CM442 only]
CA: 2x output 0/4...20mA, Webserver
CB: 2x output 0/4...20mA, Webserver, M12 female jack [CM442 only]
CC: 2x output 0/4...20mA, HART, Webserver
CD: 2x output 0/4...20mA, HART, Webserver, M12 female jack [CM442 only]
CE: Modbus TCP, Webserver, 2x output 0/4..20mA
CF: Modbus TCP, WEB, 2x output 0/4...20mA, M12 female jack,

WEB=Webserver[CM442 only]
 CG: EtherNet/IP, WEB, 2x output 0/4..20mA, WEB=Webserver
 CH: EtherNet/IP, WEB, 2x output 0/4...20mA, M12 female jack,
 WEB=Webserver[CM442 only]
 CJ: PROFINET; WEB; 2xOutput 0/4; 20mA; WEB= Webserver
 CK: PROFINET; WEB; 2xOutput 0/4; 20mA; M12 female jack;
 WEB= Webserver[CM442 only]

[40] = Additional Features
 FA: 2x analogue input 0/4...20mA
 FD: 2x digital input, 2x digital output
 F0: W/o
 F2: 2x relay for cleaning; limit
 F4: 4x relay for cleaning; limit

[50] = Power supply:
 1: 100...230V AC (50/60Hz)
 6: 24 V DC
 7: 24 V AC

CM442 only:
 [60] = Cable entry
 0: Metric
 1: NPT
 2: G

CM442 only:
 [70] = Cable entry set
 A: enclosed
 B: mounted

Accessories:
 CM442:
 RS: SD card 1GB

CM442R:
 SA: external display for cabinet mounted Navigator+Softkeys including cable IP66
 SS: SD card 1GB

CM444[10][20][25][30][40][50][60][65][70]
 CM444R[10][20][25][30][40][50]

[10] = Approval:

AA: Non-hazardous area
 BM: ATEX
 CA: CSA C/US General Purpose
 CD: CSA C/US NI Cl. I, Div. 2, GP A-D T4A
 CL: CSA C/US IS Cl. I Div. 2 GP A-D T4A
 GR: Non-hazardous area + EAC marking
 IE: IECEX
 UM: UK EX

[20] = Sensor input:

M2: 2x digital sensor
 M4: 4x digital sensor
 N2: 2x digital sensor, M12 plug [CM444 only]
 N4: 4x digital sensor, M12 female jack [CM444 only]

[25] = Digital communication:

A: Modbus TCP, Webserver + optional Output
 B: Webserver + optional Outputs
 C: HART, Webserver + optional Outputs
 D: Ethernet/IP, Webserver + optional Outputs
 J: PROFINET IO; Webserver+optional outputs
 0: without
 1: HART
 2: PROFIBUS DP, Webserver
 3: Modbus RS485, Webserver

[30] = Analogue out:

A0: without
 A1: 2x 0/4...20mA
 A3: 4x 0/4...20mA
 A5: 6x 0/4...20mA
 A7: 8x 0/4...20mA

[40] = Additional features:

FA: 2x 0/4...20mA input

FE: 2x relay, 2x 0/4..20mA input
 FF: 4x relay, 2x 0/4..20mA input
 FG: 2x digital input, 2x digital output
 FH: 4x digital input, 4x digital output
 FI: 2x relay, 2x digital input, 2x digital output
 FK: 4x relay, 2x digital input, 2x digital output
 FM: 2x 0/4..20mA input, 2x relais, 2x digital input, 2x digital output
 FO: ohne
 F2: 2x relay for cleaning; limit
 F4: 4x relay for cleaning; limit

[50] = Power supply:

1: 100...230VAC (50/60Hz)
 6: 24VDC, external, DIN rail mounting

[60] - Cable Entry [CM444 only]

0: Metric
 1: NPT
 2: G

[65] = Female Jack Fieldbus Communication: [CM444 only]

BA: W/o
 BB: M12 (PROFIBUS DP, Modbus RS 485)
 BC: M12(EtherNet/IP, Ethernet configuration, Modbus TCP, PROFINET IO)
 BD: M12 (Ethernet config., Modbus TCP)

[70] = Cable entry set: [CM444 only]

A: Enclosed
 B: Mounted

Accessories:

CM444 :
 NS: SD card 1GB

CM444R:

PK: external display for cabinet mounted Navigator+Softkeys including cable IP66
 PP: SD card 1GB

CM448[10][20][25][50][60][65][70]

CM448R[10][20][25][50]

[10] = Approval

AA: Non-hazardous area

BM: ATEX

CA: CSA C/US General Purpose

CD: CSA C/US NI Cl. I, Div. 2, GP A-D T4A

CL: CSA C/US IS Cl. I Div. 2 GP A-D T4A

GR: Non-hazardous area + EAC marking

IE: IECEX

UM: UK EX

[20] = Digital communication

A - Modbus TCP, Webserver + optional

B - Webserver + optional outputs

C - HART, Webserver + optional outputs

D - Ethernet/IP, Webserver + optional outputs

J - PROFINET IO; Webserver+optional outputs

0 - without

1 - HART

2 - PROFIBUS DP (+Ethernet configuration)

3 - Modbus RS485 (+Ethernet configuration)

[25] = Digital sensor Output; Input

2A6 - 2x; 2x 0/4 - 20mA, 4x relay, 4x digital, 4x digital

2A7 - 2x; 2x 0/4 - 20mA, 8x relay, 4x digital, 4x digital

6AA - 6x; 8x 0/4 - 20mA, 4x relay, none

6A1 - 6x; none; none

6A3 - 6x; 4x relay; none

6A5 - 6x; 2x 0/4 - 20mA, 4x relay, 2x digital; 2x digital, 2x 0/4 - 20mA

6A6 - 6x; 6x 0/4 - 20mA; none

6A7 - 6x; 6x 0/4 - 20mA, 2x digital; 2x digital

6A8 - 6x; 8x 0/4 - 20mA; none

8A2 - 8x; none; none

8A3 - 8x; 2x 0/4 - 20mA; none

8A4 - 8x; 8x 0/4 - 20mA; none

8A5 - 8x; 8x 0/4 - 20mA, 4x relay; none

[50] = Power supply
1 - 100...230VAC (50/60Hz)
6 - 24VDC

[60] - Cable Entry Housing, Sensor [CM448 only]
AA: Metric, Metric
AB: NPT, NPT
AC: G, G
AD: Metric, M12
AE: NPT, M12
AF: G, M12

[65] = Female Jack Fieldbus Communication: [CM448 only]
BA: W/o
BB: M12 (PROFIBUS DP, Modbus RS 485)
BC: M12(EtherNet/IP, Ethernet configuration, Modbus TCP, PROFINET IO)

[70] = Cable entry set + female Jack: [CM448 only]
A: Enclosed
B: Mounted

Accessories:
CM448:
NS: SD card 1GB

CM448R:
PK: external display for cabinet mounted Navigator+Softkeys including cable IP66
PP: SD card 1GB



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