



Certificate of Compliance

Certificate: 2352860

Master Contract: 205557

Project: 80158246

Date Issued: Dec 28, 2023

Issued To: Endress+Hauser Conducta GmbH & Co. KG
Dieselstraße 24
Gerlingen, Baden-Württemberg, 70839
Germany

Attention: Henryk Hofmann

The products listed below are eligible to bear the CSA Mark shown with adjacent indicators 'C' and 'US' for Canada and US or with adjacent indicator 'US' for US only or without either indicator for Canada only.

Zahra Amini

Issued by:

Zahra Amini



PRODUCTS

- CLASS 2258 03** - PROCESS CONTROL EQUIPMENT - Intrinsically Safe and Non-incendive Systems - For Hazardous Locations
- CLASS 2258 83** - PROCESS CONTROL EQUIPMENT - Intrinsically Safe and Non-incendive Systems - For Hazardous Locations - Certified to US Standards

Class I, Division 2, Groups A, B, C and D:

Field housing transmitters

- 1) Liquiline, type xM442-abcdefgh. Field-housing transmitter for liquid analysis. Input rated 100-230Vac, 50/60Hz, 55VA (AC Version) or 24Vac, 50/60Hz, 55VA, 24Vdc, 22Watts (24Vac/dc Version); One set of relay contacts rated 250Vac, 0.5 Amps (alarm contacts) another 2 or 4 sets rated 250Vac, 2 Amps, 2 or 4 4-20mA signal circuits, probe and sensor connections all SELV, communication (HART, PROFIBUS DP, Modbus, EtherNet/IP, PROFINET), 1 set of 2 digital inputs and 2 digital outputs (passive), with auxiliary voltage 24V DC (max. 50mA). Temperature Code T4A. $-20^{\circ}\text{C} \leq T_{\text{amb}} \leq +60^{\circ}\text{C}$. Provides non-incendive field wiring connection to field sensors when installed per control drawing 961006059. Enclosure Type 4X, IP66/67.



Certificate: 2352860
Project: 80158246

Master Contract: 205557
Date Issued: Dec 28, 2023

Note: Prefix x = C or O or OC

xM442 Approved Order code options

a = approval = CD

b = sensor input = M1, M2, N1, N2

c = communication = A1, A2, A3, A4, BA, BC, BB, BD, BE, B6, B7, B8, B9, CA, CB, CC, CD, CE, CF, CG, CH, CJ, CK

d = additional function = FA, FD, F0, F2, F4

e = power supply = 1, 6, 7

f = cable entry = 0, 1,

g = cable entry set = A, B

h = *** Non Critical for Hazloc

- 2) Liquiline, type xM444-abcdefghij, xM448-abcdefgh. Field-housing transmitter for liquid analysis. Input rated 100-230Vac, 50/60Hz, 73VA (AC Version) or 24Vdc, max. 68Watts (24Vdc Version); One set of relay contacts rated 250Vac, 0.5 Amps (alarm contacts) another 2 or 4 sets rated 250Vac, 2 Amps, 2 or 4 4-20mA signal circuits, probe and sensor connections all SELV, communication (HART, PROFIBUS DP, Modbus, EtherNet/IP, PROFINET), 1 or 2 sets of 2 digital inputs and 2 digital outputs (passive), with auxiliary voltage 24V DC (max. 50mA). Temperature Code T4A, $-20^{\circ}\text{C} \leq T_{\text{amb}} \leq +55^{\circ}\text{C}$, and $-20^{\circ}\text{C} \leq T_{\text{amb}} \leq +50^{\circ}\text{C}$ (for selected packages). Provides non-incendive field wiring connection to field sensors when installed per control drawing 961006059. Enclosure Type 4X, IP66/67.

Note: Prefix x = C or O or OC

xM444 Approved Order code options

a = approval = CD

b = sensor input = M2, M4, N1, N2, N4

c = communications = A, B, C, D, J, 0, 1, 2, 3, 4, 5, 6, 7

d = analog output = A0, A1, A3, A5, A7

e = additional features = FA, FE, FF, FG, FH, FI, FK, FM, F0, F2, F4

f = power supply = 1, 6

g = cable entry = 0, 1

h = female jack Fieldbus communication = BA, BB, BC, BD

i = cable entry set = A, B

j = *** Non- Critical for Hazloc

xM448 Approved Order Code options:

a = approval = CD

b = communication = A, B, C, D, J, 0, 1, 2, 3, 4, 5, 6, 7

c = digital sensor output/input = 2A6, 2A7, 6AA, 6A1, 6A3, 6A5, 6A6, 6A7, 6A8, 8A2, 8A3, 8A4, 8A5

d = power supply = 1, 6

e = cable entry housing, sensor = AA, AB, AD, AE

f = female jack Fieldbus communication = BA, BB, BC, BD



Certificate: 2352860
Project: 80158246

Master Contract: 205557
Date Issued: Dec 28, 2023

g = cable entry set = A, B
h = *** Non Critical for Hazloc

- 3) Liquiline, type xM44P- abchefghijklm (FIH option). Input rated 100-230Vac, 50/60Hz, max. 73VA (AC Version) or 24Vdc, max. 68 Watts (24Vdc Version). One set of relay contacts rated 250V ac, 0.5 Amps (alarm contacts) another 2 or 4 sets rated 250Vac, 2 Amps. 2 or 4 4-20mA signal circuits, probe and sensor connections all SELV, communication (HART, PROFIBUS DP, Modbus, EtherNet/IP, PROFINET), 1 or 2 sets of 2 digital inputs and 2 digital outputs (passive), with auxiliary voltage 24V DC (max. 50mA); Temperature Code T4A, $-20^{\circ}\text{C} \leq T_a \leq 50^{\circ}\text{C}$; Provides non-incendive field wiring connection to field sensors when installed per control drawing 961006059. External power supply is in hazardous location. Enclosure Type 4X, IP66/67.

Note: Prefix x = C or O or OC

xM44P (FIH) Approved Order Code options:

a = approval = CD
b = housing = FIH
c = optional sensor input = P1, P2, S1
d = sensor input = M0, M2, M4, N2, N4
e = digital communication = A, B, C, D, J, 0, 1, 2, 3
f = analog output = A0, A1, A3, A5, A7
g = additional features = FA, FE, FF, FG, FH, FI, FK, FM, F0, F2, F4
h = power supply = 1, 6
i = cable entry housing = 0, 1, 5
j = female jack Fieldbus communication = BA, BB, BC
k = cable entry set = A, B, E
l = calibration = A, B
m= *** Non-Critical for Hazloc

Rail mount transmitters:

- 1) Liquiline, type xM442R-abcdeh, Rail-mount transmitter for liquid analysis. Input rated 100-230Vac, 50/60Hz, 55VA (AC Version) or 24Vac, 50/60Hz, 55VA, 24Vdc, 22Watts (24Vac/dc Version). One set of relay contacts rated 250Vac, 0.5 Amps (alarm contacts) another 2 or 4 sets rated 250Vac, 2 Amps, 2 or 4 4-20mA signal circuits, probe and sensor connections all SELV, communication (HART, PROFIBUS DP, Modbus, EtherNet/IP, PROFINET), 1 set of 2 digital inputs and 2 digital outputs (passive), with auxiliary voltage 24V DC (max. 50mA). Temperature Code T4A, $0^{\circ}\text{C} \leq T_{amb} \leq +60^{\circ}\text{C}$. Provides non-incendive field wiring connection to field sensors when installed per control drawing 961006059. Installed in a cabinet connected to an external graph display, cabinet 71185295 in hazardous location. External power supply is in hazardous location.

Note: Prefix x = C or O or OC

xM442R Approved Order code options

a = approval = CD



Certificate: 2352860
Project: 80158246

Master Contract: 205557
Date Issued: Dec 28, 2023

b = sensor input = M1, M2
c = communication = A1, A2, A3, A4, BA, BD, B6, B8, CA, CC, CE, CG, CJ
d = additional features = FA, FD, F0, F2, F4
e = power supply = 1, 6, 7
h = *** Non-Critical for Hazloc

- 2) Liquiline, type xM444R-abcdefj, xM448R-abcdh, Rail-mount transmitter for liquid analysis. Input rated, 24Vdc, max. 50Watts. One set of relay contacts rated 250Vac, 0.5 Amps (alarm contacts) another 2 or 4 sets rated 250Vac, 2 Amps, 2 or 4 4-20mA signal circuits, probe and sensor connections all SELV, communication (HART, PROFIBUS DP, Modbus, EtherNet/IP, PROFINET), 1 or 2 sets of 2 digital inputs and 2 digital outputs (passive), with auxiliary voltage 24V DC (max. 50mA). Temperature Code T4A, $0^{\circ}\text{C} \leq T_{amb} \leq +55^{\circ}\text{C}$ and $0^{\circ}\text{C} \leq T_{amb} \leq +50^{\circ}\text{C}$ (for selected packages). Provides non-incendive field wiring connection to field sensors when installed per control drawing 961006059. Installed in a cabinet connected to an external graph display, cabinet 71185295 in hazardous location. External power supply is in hazardous location.

Note: Prefix x = C or O or OC

xM444R Approved Order code options

a = approval = CD
b = sensor input = M2, M4
c = communication = A, B, C, D, J, 0, 1, 2, 3, 4, 5, 6, 7
d = analog output = A0, A1, A3, A5, A7
e = additional features = FA, FE, FF, FG, FH, FI, FK, FM, F0, F2, F4
f = power supply = 1, 6
j = *** Non-Critical for Hazloc

xM448R Approved Order Code options:

a = approval = CD
b = communication = A, B, C, D, J, 0, 1, 2, 3, 4, 5, 6, 7
c = digital sensor output/input = 2A6, 2A7, 6AA, 6A1, 6A3, 6A5, 6A6, 6A7, 6A8, 8A2, 8A3, 8A4, 8A5
d = power supply = 1, 6
h = *** Non Critical for Hazloc

- 3) Liquiline, type xM44P -abcchefghlm (DIN option). Input rated 24Vdc, max. 50 Watts. One set of relay contacts rated 250V ac, 0.5 Amps (alarm contacts) another 2 or 4 sets rated 250Vac, 2 Amps, 2 or 4 4-20mA signal circuits, probe and sensor connections all SELV, communication (HART, PROFIBUS DP, Modbus, EtherNet/IP, PROFINET), 1 or 2 sets of 2 digital inputs and 2 digital outputs (passive), with auxiliary voltage 24V DC (max. 50mA); Temperature Code T4A, $0^{\circ}\text{C} \leq T_a \leq 50^{\circ}\text{C}$; Provides non-incendive field wiring connection to field sensors when installed per control drawing 961006059. Installed in a cabinet connected to an external graph display, cabinet 71185295 in hazardous location. External power supply is in hazardous location.

Note: Prefix x = C or O or OC

xM44P (FIH) Approved Order Code options:



Certificate: 2352860
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Master Contract: 205557
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a = approval = CD
b = housing = DIN
c = optional sensor input = P1, P2, S1
d = sensor input = M0, M2, M4, N2, N4
e = digital communication = A, B, C, D, J, 0, 1, 2, 3
f = analog output = A0, A1, A3, A5, A7
g = additional features = FA, FE, FF, FG, FH, FI, FK, FM, F0, F2, F4
h = power supply = 1, 6
l = calibration = A, B
m= *** Non Critical for Hazloc

Approved cabinets and sensors for use with the transmitters above

- 1) External graph display, cabinet 71185295 for xM442R, xM444R, xM448R; ambient temperature -20 to 60°C; IP66/ Type 4X enclosure. Installed as per control drawing 961006059.
- 2) xCS142D membrane-covered sensor, connected to transmitter xM44x(R) with a measuring cable xYK10 or xYK20 with a maximum cable length of 100m. Temperature Code T6, $-5^{\circ}\text{C} \leq T_{\text{amb}} \leq +55^{\circ}\text{C}$. Input voltage V_{max} : 5.7V, Input power: 180mW.
- 3) Memosens Sensors: xCS50D, xCS51D, xCS55D, xCS58D, xCS120D, connected to transmitter xM44x(R) with a measuring cable xYK10 or xYK20 with a maximum cable length of 100m. Temperature Code T6, $0^{\circ}\text{C} \leq T_{\text{amb}} \leq +60^{\circ}\text{C}$. Input voltage V_{max} : 3.5V, Input power: 15mW.

Conditions of Acceptability:

- Power to rail mount controllers xM444R, xM448R, and xM44P to be supplied by power supplies certified for Class I, Division 2, GP A, B, C and D.
- The xM442, xM444R, xM448R, and xM44P (DIN) version shall be completely installed inside a suitable Type rated enclosure, appropriate for the end application, and acceptable to the Authority Having Jurisdiction (AHJ).

Class I, Division 2, Groups A, B, C and D, T4A; Associated Intrinsically Safe outputs to Class I Division 1, Group A, B, C, D [Ex ia Ga] IIC

Field housing transmitters

- 1) Liquiline, type xM442-abc-efgh, Field-housing transmitter for liquid analysis. Input rated 100-230Vac, 50/60Hz, 55VA (AC Version) or 24Vac, 50/60Hz, 55VA, 24Vdc, 22Watts (24Vac/dc Version); One set of relay contacts rated 250Vac, 0.5 Amps (alarm contacts), two 4-20mA signal circuits, probe and sensor connections all SELV, communication (HART, PROFIBUS DP, Modbus, EtherNet/IP, PROFINET), Temperature Code T4A. $-20^{\circ}\text{C} \leq T_{\text{amb}} \leq +50^{\circ}\text{C}$. Provides associated Intrinsically Safe connection to field sensors from installed 2DS Ex I modules (terminals 87i, 88i, 97i, 98i) when installed per control drawing 961006059. Enclosure Type 4X, IP66/67.



Certificate: 2352860
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Master Contract: 205557
Date Issued: Dec 28, 2023

Note: Prefix x = C or O or OC

xM442 Approved Order Code options:

- a = approval = CL
- b = sensor input = M2
- c = communications = CA, CB, CC, CD, CE, CF, CG, CH, CI, CK
- e = power supply = 1, 6, 7
- f = cable entry = 0, 1
- g = cable entry set = A, B
- h = *** Non-Critical for Hazloc

- 2) Liquiline, type xM444-abcdefghijkl, xM448-abcdefgh, Field-housing transmitter for liquid analysis. Input rated 100-230Vac, 50/60Hz, 73VA (AC Version) or 24Vdc, max. 68Watts (24Vdc Version); One set of relay contacts rated 250Vac, 0.5 Amps (alarm contacts) another 2 or 4 sets rated 250Vac, 2 Amps, 2 or 4 4-20mA signal circuits, probe and sensor connections all SELV, communication (HART, PROFIBUS DP, Modbus, EtherNet/IP, PROFINET), 1 or 2 sets of 2 digital inputs and 2 digital outputs (passive), with auxiliary voltage 24Vdc (max. 50mA). Temperature Code T4A, $-20^{\circ}\text{C} \leq T_{\text{amb}} \leq +50^{\circ}\text{C}$. Provides associated Intrinsically Safe connection to field sensors from installed 2DS Ex I modules (terminals 87i, 88i, 97i, 98i) when installed per control drawing 961006059. Enclosure Type 4X, IP66/67.

Note: Prefix x = C or O or OC

xM444 Approved Order Code options:

- a = approval = CL
- b = sensor input = M2, M4
- c = communications = A, B, C, D, J, 0, 1, 2, 3
- d = analog output = A0, A1, A3, A5, A7
- e = additional features = FA, FE, FF, FG, FH, FI, FK, FM, F0, F2, F4
- f = power supply = 1, 6
- g = cable entry = 0, 1
- h = female jack Fieldbus communication = BA, BB, BC
- i = cable entry set = A, B
- j = *** Non-Critical for Hazloc

xM448 Approved Order Code options:

- a = approval = CL
- b = communication = A, B, C, D, J, 0, 1, 2, 3
- c = digital sensor output/input = 2A6, 6AA, 6A1, 6A3, 6A5, 6A6, 6A7, 6A8
- d = power supply = 1, 6
- e = cable entry housing, sensor = AA, AB
- f = female jack Fieldbus communication = BA, BB, BC
- g = cable entry set = A, B
- h = *** Non Critical for Hazloc



Certificate: 2352860
Project: 80158246

Master Contract: 205557
Date Issued: Dec 28, 2023

- 3) Liquiline, type xM44P- abcdefghijklm (FIH option). Input rated 100-230Vac, 50/60Hz, max. 73VA (AC Version) or 24Vdc, max. 68 Watts (24Vdc Version). One set of relay contacts rated 250Vac, 0.5 Amps (alarm contacts) another 2 or 4 sets rated 250Vac, 2 Amps. two or 4 4-20mA signal circuits, probe and sensor connections all SELV, communication (HART, PROFIBUS DP, Modbus, EtherNet/IP, PROFINET), 1 or 2 sets of 2 digital inputs and 2 digital outputs (passive), with auxiliary voltage 24V DC (max. 50mA); Temperature Code T4A, $-20^{\circ}\text{C} \leq \text{Ta} \leq 50^{\circ}\text{C}$; Provides associated Intrinsically Safe connection to field sensors from installed 2DS Ex I modules (terminals 87i, 88i, 97i, 98i) when installed per control drawing 961006059. Enclosure Type 4X, IP66/67.

Note: Prefix x = C or O or OC

xM44P (FIH) Approved Order Code options:

- a = approval = CL
- b = housing = FIH
- c = optional sensor input = P1, P2, S1
- d = sensor input = M2
- e = digital communications = A, B, C, D, J, 0, 1, 2, 3
- f = analog output = A0, A1, A3, A5, A7
- g = additional features = FA, FE, FF, FG, FH, FI, FK, FM, F0, F2, F4
- h = power supply = 1, 6
- i = cable entry housing = 0, 1
- j = female jack Fieldbus communication = BA, BB, BC
- k = cable entry set = A, B
- l = calibration = A, B
- m = *** Non-Critical for Hazloc

Rail mount transmitters:

- 1) Liquiline, type xM442R-abc-eh, Rail-mount transmitter for liquid analysis. Input rated 100-230Vac, 50/60Hz, 55VA (AC Version) or 24Vac, 50/60Hz, 55VA, 24Vdc, 22Watts (24Vac/dc Version). One set of relay contacts rated 250Vac, 0.5 Amps (alarm contacts) two 4-20mA signal circuits, probe and sensor connections all SELV, communication (HART, PROFIBUS DP, Modbus, EtherNet/IP, PROFINET), Temperature Code T4A, $0^{\circ}\text{C} \leq \text{Tamb} \leq +50^{\circ}\text{C}$. Provides associated Intrinsically Safe connection to field sensors from installed 2DS Ex I modules (terminals 87i, 88i, 97i, 98i) when installed per control drawing 961006059. Enclosure is installed in a cabinet connected to an external graph display, cabinet 71185295 in hazardous location. External power supply is in hazardous location.

Note: Prefix x = C or O or OC

xM442R Approved Order Code options:

- a = approval = CL
- b = sensor input = M2
- c = communication = CA, CB, CC, CD, CE, CF, CG, CH, CJ, CK
- e = power supply = 1, 6, 7
- h = *** Non-Critical for Hazloc



Certificate: 2352860
Project: 80158246

Master Contract: 205557
Date Issued: Dec 28, 2023

- 2) Liquiline, type xM444R-abcdefj, xM448R-abcdh, Rail-mount transmitter for liquid analysis. Input rated 24Vdc, max. 50Watts. One set of relay contacts rated 250Vac, 0.5 Amps (alarm contacts) another 2 or 4 sets rated 250Vac, 2 Amps, 2 or 4 4-20mA signal circuits, probe and sensor connections all SELV, communication (HART, PROFIBUS DP, Modbus, EtherNet/IP, PROFINET), 1 or 2 sets of 2 digital inputs and 2 digital outputs (passive), with auxiliary voltage 24Vdc (max. 50mA). Temperature Code T4A, $0^{\circ}\text{C} \leq T_{\text{amb}} \leq +50^{\circ}\text{C}$. Provides associated Intrinsically Safe connection to field sensors from installed 2DS Ex I modules (terminals 87i, 88i, 97i, 98i)-when installed per control drawing 961006059. Enclosure is installed in a cabinet connected to an external graph display, cabinet 71185295 in hazardous location. External power supply is in hazardous location.

Note: Prefix x = C or O or OC

xM444R Approved Order Code options:

- a = approval = CL
- b = sensor input = M2, M4
- c = communication = A, B, C, D, J, 0, 1, 2, 3
- d = analog output = A0, A1, A3, A5, A7
- e = additional features = FA, FE, FF, FG, FH, FI, FK, FM, F0, F2, F4
- f = power supply = 1, 6
- j= *** Non-Critical for Hazloc

xM448R Approved Order Code options:

- a = approval = CL
- b = communications = A, B, C, D, J, 0, 1, 2, 3
- c = digital sensor output/input = 2A6, 6AA, 6A1, 6A3, 6A5, 6A6, 6A7, 6A8
- d = power supply = 1, 6
- h = *** Non-Critical for Hazloc

- 3) Liquiline, type xM44P -abchefghl (DIN option). Input rated 24Vdc, max. 50 Watts. One set of relay contacts rated 250V ac, 0.5 Amps (alarm contacts) another 2 or 4 sets rated 250Vac, 2 Amps, two or 4 4-20mA signal circuits, probe and sensor connections all, communication (HART, PROFIBUS DP, Modbus, EtherNet/IP, PROFINET), 1 or 2 sets of 2 digital inputs and 2 digital outputs (passive), with auxiliary voltage 24Vdc (max. 50mA); Temperature Code T4A, $0^{\circ}\text{C} \leq T_{\text{a}} \leq 50^{\circ}\text{C}$; Provides associated I.S. connection to field sensors from installed 2DS Ex I modules (terminals 87i, 88i, 97i, 98i) when installed per control drawing 961006059 Enclosure is installed in a cabinet connected to an external graph display, cabinet 71185295 in hazardous location. External power supply is in hazardous location.

Note: Prefix x = C or O or OC

xM448P (DIN) Approved Order Code options:

- a = approval = CL
- b = housing = DIN
- c = optional sensor input = P1, P2, S1



Certificate: 2352860
Project: 80158246

Master Contract: 205557
Date Issued: Dec 28, 2023

d = sensor input = M2
e = digital communication = A, B, C, D, J, 0, 1, 2, 3
f = analog output = A0, A1, A3, A5, A7
g = additional features = FA, FE, FF, FG, FH, FI, FK, FM, F0, F2, F4
h = power supply = 1, 6
l = calibration = A, B
m= *** Non Critical for Hazloc

Approved cabinets, sensors, and associated apparatus modules for use with the transmitters above

- 1) External graph display, cabinet 71185295 for xM442R, xM444R, xM448R; ambient temperature -20 to 60°C; IP66/ Type 4X enclosure. Installed as per control drawing 961006059.
- 2) xCS142D membrane-covered sensor, connected to transmitter xM44x(R) with a measuring cable xYK10 or xYK20 with a maximum cable length of 100m. Temperature Code T6, $-5^{\circ}\text{C} \leq T_{\text{amb}} \leq +55^{\circ}\text{C}$. Input voltage V_{max} : 5.7V, Input power: 180mW.
- 3) Memosens Sensors: xCS50D, xCS51D, xCS55D, xCS58D, xCS120D, connected to transmitter xM44x(R) with a measuring cable xYK10 or xYK20 with a maximum cable length of 100m. Temperature Code T6, $0^{\circ}\text{C} \leq T_{\text{amb}} \leq +60^{\circ}\text{C}$. Input voltage V_{max} : 3.5V, Input power: 15mW.
- 4) 2DS Ex I modules
Intrinsically safe connections (sensor 1 and sensor 2) - light blue connection terminals: 87i, 88i, 97i, 98i per terminal connection when installed per drawing 961006059.

Allowed sensors/connections in Zone 0/Div 1:

- a. xLS50D sensors
- b. Cables xYK10 or xYK20 with the following sensors with a max cable length of 100m.
 1. Digital Memosens Sensors per listed CSA report 80021719
 2. Digital Memosens 2.0 sensors listed per CSA 80021490
 3. xYP03D

Conditions of Acceptability:

- Power to rail mount controllers xM444R, xM448R, and xM44P to be supplied by power supplies certified for Class I, Division 2, Groups A, B, C and D.
- The xM442, xM444R, xM448R, and xM44P (DIN) version shall be completely installed inside a suitable Type rated enclosure, appropriate for the end application, and acceptable to the Authority Having Jurisdiction (AHJ).

APPLICABLE REQUIREMENTS

CAN/CSA C22.2 No. 61010-1-12	Safety requirements for electrical equipment for measurement, control, and laboratory use — Part 1: General requirements
ANSI/UL 61010-1-2012 Third Edition	Safety requirements for electrical equipment for measurement, control, and laboratory use — Part 1: General requirements
CSA C22.2 No. 94.2-15	Enclosures for Electrical Equipment, Environmental Considerations
ANSI/UL 50E-2015 Second Edition	Enclosures for Electrical Equipment, Environmental Considerations
*CAN/CSA C22.2 No. 60079-0:19	Explosive atmospheres – Part 0: Equipment – General requirements
*ANSI/UL 60079-0-2020 Seventh Edition	Explosive atmospheres – Part 0: Equipment – General requirements
*CAN/CSA C22.2 No. 60079-11:14 (R2018)	Explosive atmospheres – Part 11: Equipment protection by intrinsic safety “i”
*ANSI/UL 60079-11-2014 Sixth Edition	Explosive atmospheres – Part 11: Equipment protection by intrinsic safety “i”
C22.2 No. 213-17 3 rd Ed (R 2022) + Update 1(2018) + Update 2(2019) +Update 3(2021)	Nonincendive electrical equipment for use in Class I and II, Division 2 and Class III, Divisions 1 and 2 hazardous (classified) locations
UL 121201-2019 9 th Edition	Nonincendive Electrical Equipment for Use in Class I and II, Division 2 and Class III, Division 1 and 2 Hazardous (Classified) Locations.

MARKINGS

As per CSA Descriptive report

Notes:

Products certified under Class C225803, C225883 have been certified under CSA’s ISO/IEC 17065 accreditation with the Standards Council of Canada (SCC). www.scc.ca





Supplement to Certificate of Compliance

Certificate: 2352860

Master Contract: 205557

The products listed, including the latest revision described below, are eligible to be marked in accordance with the referenced Certificate.

Product Certification History

Project	Date	Description
80158246	2023-12-28	Evaluation to update cCSAus report # 2352860 to assess the following: <ol style="list-style-type: none">1. Add alternate enclosure materials2. Add Bluetooth module FWBT13. Add alternate connectors4. Update to CSA C22.2 No. 213-17/ UL 121201 9th Edition per certification notice Hazardous Locations Products No. 28
80094716	2022-04-26	Evaluation for update of CSA report 2352860 to assess the following changes: <ol style="list-style-type: none">1. Add alternate transformer: PREMO, X-18792-003R12. Add new sensor card: 2DS Ex-i module3. Use the Phoenix connector FKC 2,5 / 4-ST-5,08 for modules BASE2-X, AOR, FA2R1 and FA4R1.4. Addition of KSAM2 electronics to sensors.
80069885	2021-03-12	Update to cCSAus report # 2352860 for intrinsically safe and non-incendive Memosens Sensors to add a new ozone sensor model xCS58D using existing electronics, a new membrane, electrolyte and housing material POM.
80008137	2019-11-04	Update CSA report 2352860 for the following modifications: <ol style="list-style-type: none">1. Introduction of new model xM44P with PCB module FSIP1 photometer (PEM-module) and FSDG3 SPECTRO (SEM-module)2. Minor changes that affect xM44x.xM44xR, xM44P3. Addition of alternate relays
70208479	2019-02-25	Update CSA report 2352860 to include two new type of Disinfection sensor models xCS5xD and xCS120D for NI Class I Div. 2, Grps ABCD, T6. $0^{\circ}\text{C} \leq T_a \leq +60^{\circ}\text{C}$. Additionally some minor modifications to the CMR44x (R) transmitter components.
70155895	2018-02-23	Update CSA report 2352860 to include additional Liquiline models; xM442R, xM444/8 & xM444/8R, additional sensor models; xPS171D,



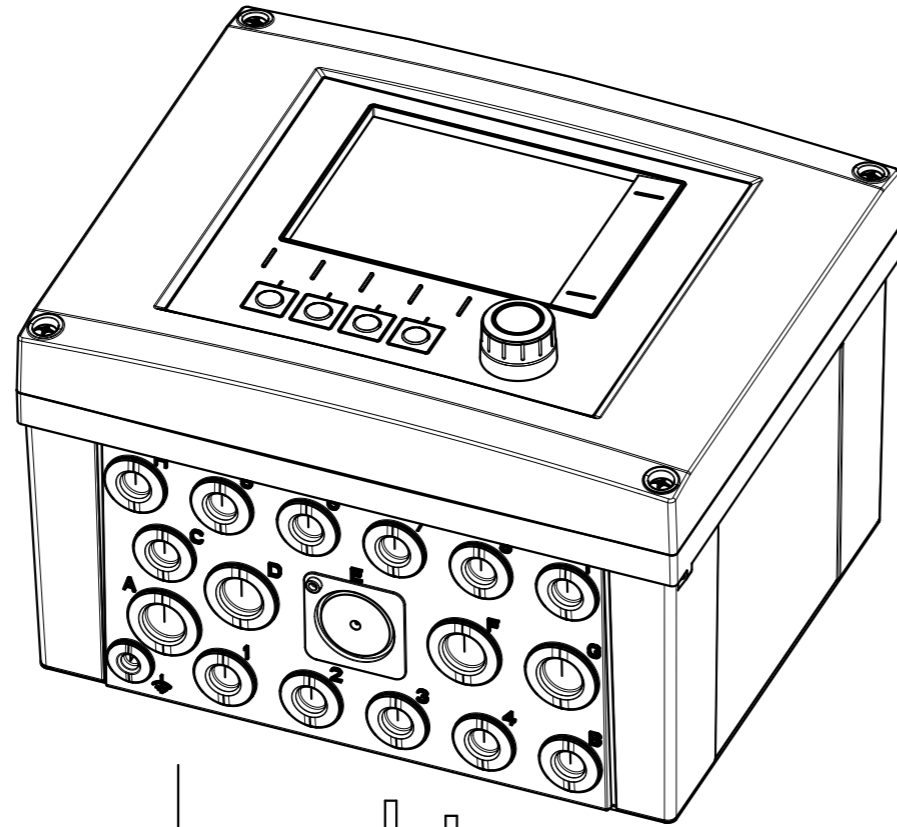
xLS82D, xOS81D, xCS142D & CLS50D and an external display for railmount model to use in Class I, Division 2. In addition, assessment of minor modifications to the existing electronics and update of applicable standards.

70100152	2016-10-19	Update to CSA report 2352860 to include an alternate SD card holder and subsequent changes to certification drawings.
70046559	2016-03-03	Update to include several minor drawing changes.
2556622	2012-12-24	Update to include Hart and Fieldbus modules and other minor circuitry changes.
2391256	2011-02-04	Update to include addition of I/O modules.
2352860	2010-11-10	CSAc/us Non-Incendive Certification of Liquidline Transmitter, type CM442 Series to Class I, Div. 2, Groups A, B, C & D.

ISO 13715 GPS-FUNDAMENTALS ISO 1101 GPS-DIMENSIONAL TOLERANCING ISO 14405 GPS-DRAWING INDICATIONS
 ISO 13715 GPS-FUNDAMENTALS ISO 1101 GPS-DIMENSIONAL TOLERANCING ISO 14405 GPS-DRAWING INDICATIONS
 ISO 13715 GPS-FUNDAMENTALS ISO 1101 GPS-DIMENSIONAL TOLERANCING ISO 14405 GPS-DRAWING INDICATIONS
 ISO 13715 GPS-FUNDAMENTALS ISO 1101 GPS-DIMENSIONAL TOLERANCING ISO 14405 GPS-DRAWING INDICATIONS

B Hazardous location
 NI Class 1, Division 2, Groups A-D T4A

Non hazardous location



xM44P-CDFIH
 xM442-CD
 xM444-CD **B**
 xM448-CD
 x ... C or O or OC

Conduits

- Power supply 100... 230 V AC or 24 V AC/DC
- Relay 230 V AC or 24 V DC
- Digital/ analog input/ output 0/4 mA... 20 mA
Communication (Ethernet/ Fieldbus/ RS485)
- Fixed cable sensors with Memosens protocol,
max. cable length 100 m (330 ft), including,
but not limited to, the following sensor types:
CAS51D (Nitrate)
CUS51D (Turbidity)

Note:
 Installation shall be in accordance with the NEC/ CEC.

THIS APPARATUS IS SUITABLE FOR USE IN CLASS 1, DIVISION 2, GROUPS A-D OR UNCLASSIFIED LOCATIONS

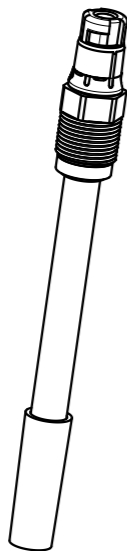
WARNING: EXPLOSION HAZARD - SUBSTITUTION OF COMPONENTS MAY IMPAIR SUITABILITY FOR USE IN CLASS 1, DIVISION 2.
 AVERTISSEMENT: RISQUE D'EXPLOSION - LA SUBSTITUTION DES COMPOSANTS PEUT RENDRE CE MATERIEL INACCEPTABLE POUR LES EMPLACEMENTS DE CLASSE 1, DIVISION 2.

WARNING: EXPLOSION HAZARD - DO NOT DISCONNECT EQUIPMENT UNLESS POWER HAS BEEN SWITCHED OFF OR THE AREA IS KNOWN TO BE NON-HAZARDOUS.
 AVERTISSEMENT: RISQUE D'EXPLOSION - AVANT DE DECONNECTER L'EQUIPEMENT, COUPER LE COURANT OU S'ASSURER QUE L'EMPLACEMENT EST DESIGNÉ NON DANGEREUX.

WARNING: EXPOSURE TO SOME CHEMICALS MAY DEGRADE THE SEALING PROPERTIES OF MATERIALS USED IN THE FOLLOWING DEVICES: Power Relay Takamisawa JS12N-K, TE Connectivity RY612012, Zettler AZ69601CB12DEA or Zettler AZ69601CE12DEA.

WARNING: EXPLOSION HAZARD - DO NOT SERVICE ELECTRICAL CONNECTIONS (CONNECT OR DISCONNECT RELAYS, REMOVE OR REPLACE PLUG-IN MODULES) UNLESS POWER HAS BEEN DISCONNECTED OR THE AREA IS KNOWN TO BE FREE OF IGNITIBLE CONCENTRATIONS OF FLAMMABLE GASES OR VAPORS.

All below listed digital sensors, digital cables (max. 100m/330ft) and digital sensor simulators certified for hazardous location IS/ NI Class 1, Division 1 or 2 may be connected to the non-incendive Field Wiring Terminals 87, 88, 97, 98 and used in hazardous location NI Class 1, Division 2, Groups A-D T4A only.



Digital Memosens Sensors
 Certificate/ Report 80021719

Digital Memosens 2.0 Sensors
 Certificate/ Report 80021490.

xYPO3D according to
 Certificate/ Report 80021719

Digital oxygen sensor COS61D
 Certificate/ Report 70220753
 (only CSA US)



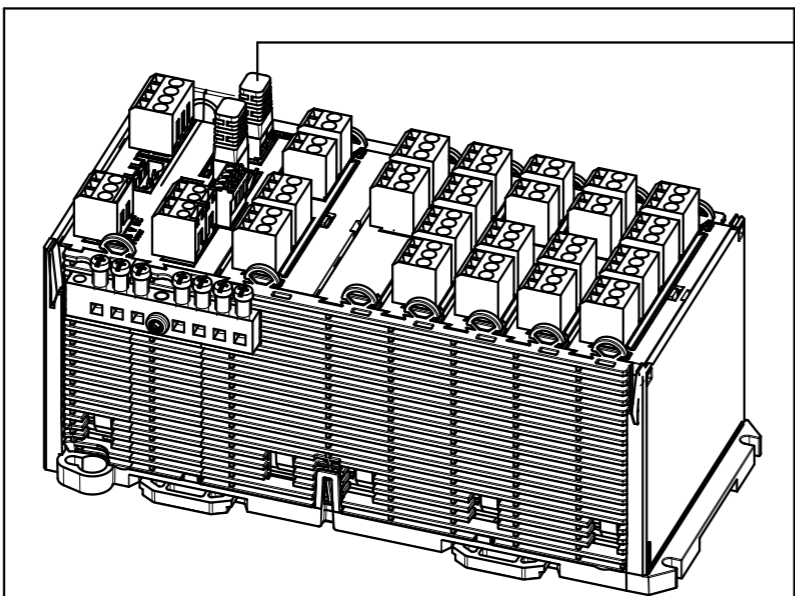
Endress+Hauser Endress+Hauser Conductra GmbH+Co. KG 70839 Gerlingen, Germany	Refer to protection notice ISO 16016 internal	Scale 1:2	Tolerance		
	Classification CM44	Notif. no. 118342	Designed 03.03.2022 TameggerR		
	Control Drawing xM44x (R)	Number of changes 24 B	Drawing chng. 26.04.2023 LoefflerD	Welding contr.	
		Status Approved	Approval contr. 26.04.2023 AmroH	Pressure contr.	
	Zulassungszeichnung xM44x (R)	No. of document 961006059	Released 26.04.2023 LoefflerD	Version B	Doc. part 000
Material	Weight - kg	Volume - dm3	Format DIN A3	Sheet 1/4	

ISO 13715 GPS-FUNDAMENTALS
 ISO 1101 GPS-DIMENSIONAL TOLERANCING
 ISO 14405 GPS-DIMENSIONAL TOLERANCING INDICATIONS
 ISO 1302 GPS-DRAWING INDICATIONS
 GPS-INDICATION OF SURFACE TEXTURE
 GPS-GEOMETRICAL TOLERANCING
 GPS-INDICATION OF SURFACE TEXTURE

B Hazardous location
 NI Class 1, Division 2, Groups A-D T4A

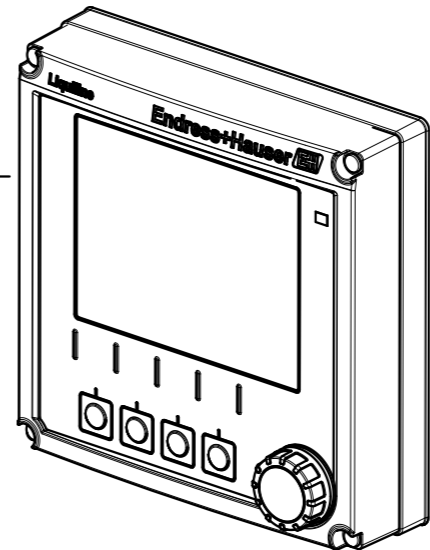
Non hazardous location

B
 xM44P-CDDIN
 (with external Class 1, DIV 2
 certified power supply)
 xM442R-CD
 xM444R-CD
 (with external Class 1, DIV 2
 certified power supply)
 xM448R-CD
 (with external Class 1, DIV 2
 certified power supply)



Prior use the external
 graph. display, cabinet
 (71185295) must be
 installed at the cabinet
 door.

The CL 1, DIV 2
 external graph.
 display, cabinet
 (71185295) may be
 connected to all CL 1,
 DIV 2 approved
 xM44xR transmitter.



Suitable enclosure
 See conditions of use

Conduits

- Power supply 100... 230 V AC or 24 V AC/DC
- Relay 230 V AC or 24 V DC
- Digital/ analog input/ output 0/4 mA... 20 mA
 Communication (Ethernet/ Fieldbus/ RS485)
- Fixed cable sensors with Memosens protocol,
 max. cable length 100 m (330 ft), including,
 but not limited to, the following sensor types:
 CAS51D (Nitrate)
 CUS51D (Turbidity)

All below listed digital sensors,
 digital cables (max. 100m/330ft)
 and digital sensor simulators
 certified for hazardous location IS/
 NI Class 1, Division 1 or 2 may be
 connected to the non-incendive
 Field Wiring Terminals 87, 88, 97,
 98 and used in hazardous location
 NI Class 1, Division 2, Groups A-D
 T4A only.



Note:
 Installation shall be in accordance with the NEC/ CEC.

THIS APPARATUS IS SUITABLE FOR USE IN CLASS 1, DIVISION 2, GROUPS A-D OR UNCLASSIFIED LOCATIONS

WARNING: EXPLOSION HAZARD - SUBSTITUTION OF COMPONENTS MAY IMPAIR SUITABILITY FOR USE IN CLASS 1, DIVISION 2.
 AVERTISSEMENT: RISQUE D'EXPLOSION - LA SUBSTITUTION DES COMPOSANTS PEUT RENDRE CE MATERIEL INACCEPTABLE POUR LES EMPLACEMENTS DE CLASSE 1, DIVISION 2.

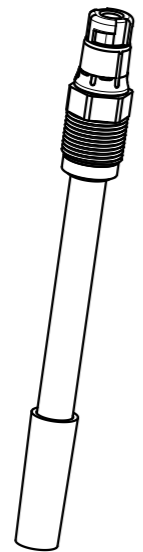
WARNING: EXPLOSION HAZARD - DO NOT DISCONNECT EQUIPMENT UNLESS POWER HAS BEEN SWITCHED OFF OR THE AREA IS KNOWN TO BE NON-HAZARDOUS.
 AVERTISSEMENT: RISQUE D'EXPLOSION - AVANT DE DECONNECTER L'EQUIPEMENT, COUPER LE COURANT OU S'ASSURER QUE L'EMPLACEMENT EST DESIGNÉ NON DANGEREUX.

B
 Digital Memosens Sensors
 Certificate/Report 80021719

Digital Memosens 2.0 Sensors
 Certificate/ Report 80021490.

xYPO3D according to
 Certificate/Report 80021719

Digital oxygen sensor COS61D
 Certificate/ Report 70220753
 (only CSA US)

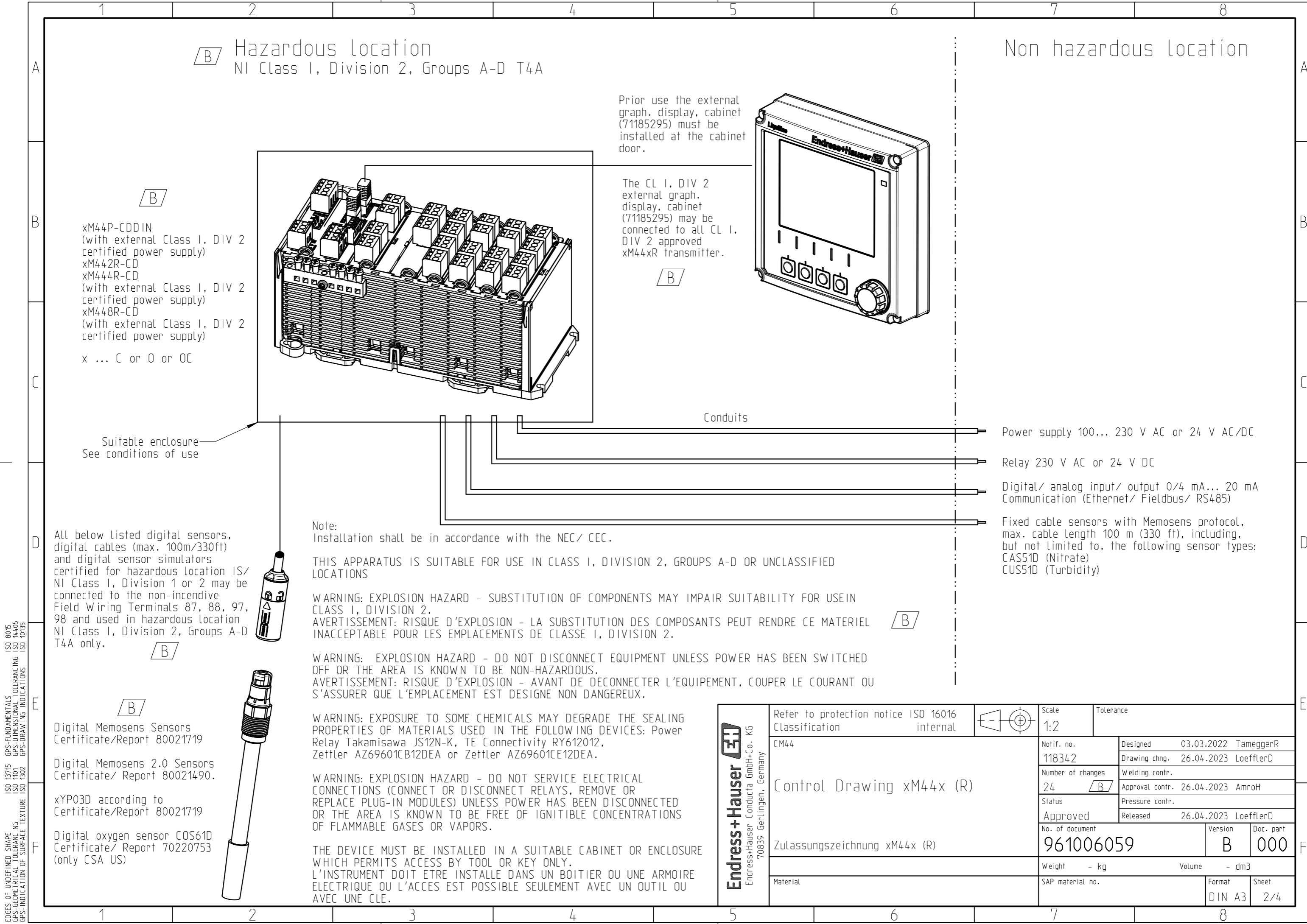


WARNING: EXPOSURE TO SOME CHEMICALS MAY DEGRADE THE SEALING PROPERTIES OF MATERIALS USED IN THE FOLLOWING DEVICES: Power Relay Takamisawa JS12N-K, TE Connectivity RY612012, Zettler AZ69601CB12DEA or Zettler AZ69601CE12DEA.

WARNING: EXPLOSION HAZARD - DO NOT SERVICE ELECTRICAL CONNECTIONS (CONNECT OR DISCONNECT RELAYS, REMOVE OR REPLACE PLUG-IN MODULES) UNLESS POWER HAS BEEN DISCONNECTED OR THE AREA IS KNOWN TO BE FREE OF IGNITIBLE CONCENTRATIONS OF FLAMMABLE GASES OR VAPORS.

THE DEVICE MUST BE INSTALLED IN A SUITABLE CABINET OR ENCLOSURE WHICH PERMITS ACCESS BY TOOL OR KEY ONLY.
 L'INSTRUMENT DOIT ETRE INSTALLE DANS UN BOITIER OU UNE ARMOIRE ELECTRIQUE OU L'ACCES EST POSSIBLE SEULEMENT AVEC UN OUTIL OU AVEC UNE CLE.

Endress+Hauser Endress+Hauser Conducta GmbH+Co. KG 70839 Gerlingen, Germany	Refer to protection notice ISO 16016 internal	Scale 1:2	Tolerance	
	CM44	Notif. no. 118342	Designed 03.03.2022 TameggerR	
	Control Drawing xM44x (R)	Number of changes 24 B	Welding contr.	Drawing chng. 26.04.2023 LoefflerD
		Status Approved	Pressure contr.	Approval contr. 26.04.2023 AmroH
	Zulassungszeichnung xM44x (R)	No. of document 961006059	Version B	Doc. part 000
Material	Weight - kg	Volume - dm3	SAP material no.	
		Format DIN A3	Sheet 2/4	

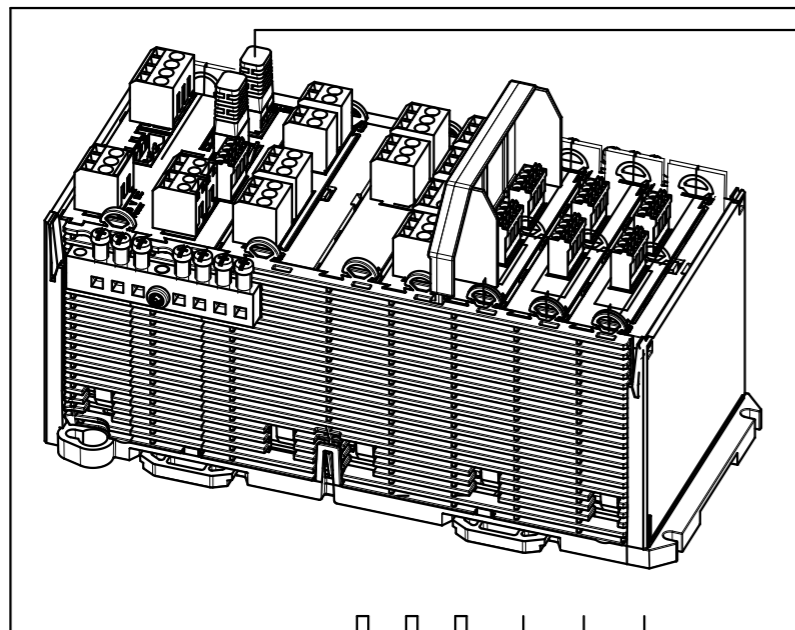


B Hazardous Location DIV 2

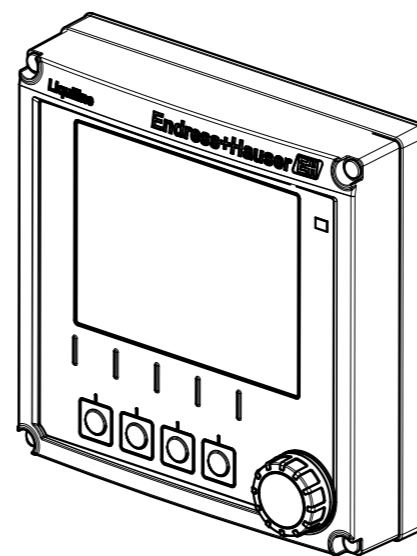
B Class 1, Division 2, GP A-D T4A
 Transmitter with associated IS connection to digital Sensor: Class 1, Division 1, Zone 0, 1, 2

- B** xM44P-CLDIN (with external Class 1, DIV 2 certified power supply)
- xM442R-CL (with external Class 1, DIV 2 certified power supply)
- xM444R-CL (with external Class 1, DIV 2 certified power supply)
- xM448R-CL (with external Class 1, DIV 2 certified power supply)
- x ... C or O or OC

Prior use the external graph. display, cabinet (71185295) must be installed at the cabinet door.



B The CL 1, DIV 2 external graph. display, cabinet (71185295) may be connected to all CL 1, DIV 2 approved xM44xR transmitter.



Suitable enclosure
 See conditions of use

Conduits

WARNINGS:
 See page 2

B Hazardous Location DIV 1

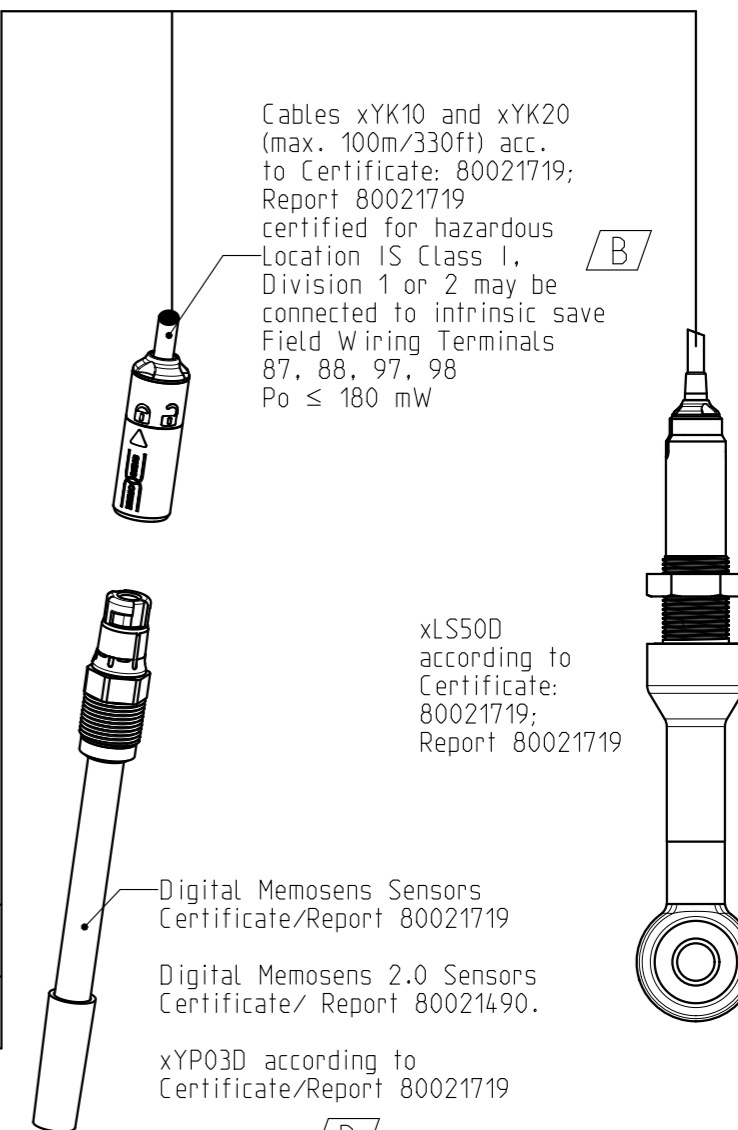
Cables xYK10 and xYK20 (max. 100m/330ft) acc. to Certificate: 80021719; Report 80021719 certified for hazardous Location IS Class 1, Division 1 or 2 may be connected to intrinsic safe Field Wiring Terminals 87, 88, 97, 98 Po ≤ 180 mW

xLS50D according to Certificate: 80021719; Report 80021719

Digital Memosens Sensors Certificate/Report 80021719

Digital Memosens 2.0 Sensors Certificate/ Report 80021490.

xYP03D according to Certificate/Report 80021719



Non-Hazardous Location

SPECIFIC CONDITIONS OF USE:

1. The xM44x shall be completely installed inside a suitable Type rated enclosure that provides ingress protection appropriate for the end application, and acceptable to the authority having Jurisdiction (AHJ)
2. The environmental data must be taken into account - see the operating instructions of the manufacturer.

- Power supply 100... 230 V AC or 24 V AC/DC
- Relay 230 V AC or 24 V DC
- Digital/ analog input/ output 0/4 mA... 20 mA
- Communication (Ethernet/ Fieldbus/ RS485)

Endress+Hauser Endress+Hauser Conducta GmbH+Co. KG 70839 Gerlingen, Germany	Refer to protection notice ISO 16016 Classification	internal	Scale	Tolerance		
	CM44		1:2			
	Control Drawing xM44x (R)		Notif. no.	Designed	03.03.2022	TameggerR
			118342	Drawing chng.	26.04.2023	LoefflerD
	Zulassungszeichnung xM44x (R)		Number of changes	Welding contr.		
24 B			Approval contr.	26.04.2023	AmroH	
Material		Status	Pressure contr.			
		Approved	Released	26.04.2023	LoefflerD	
		No. of document	Version	Doc. part		
		961006059	B	000		
		Weight	- kg	Volume	- dm3	
		SAP material no.		Format	Sheet	
				DIN A3	3/4	

ISO 13715 GPS-FUNDAMENTALS ISO 8015
 ISO 1101 GPS-DIMENSIONAL TOLERANCING ISO 14405
 ISO 1302 GPS-DRAWING INDICATIONS ISO 10135
 EDGES OF UNDEFINED SHAPE
 GPS-GEOMETRICAL TOLERANCING
 GPS-INDICATION OF SURFACE TEXTURE

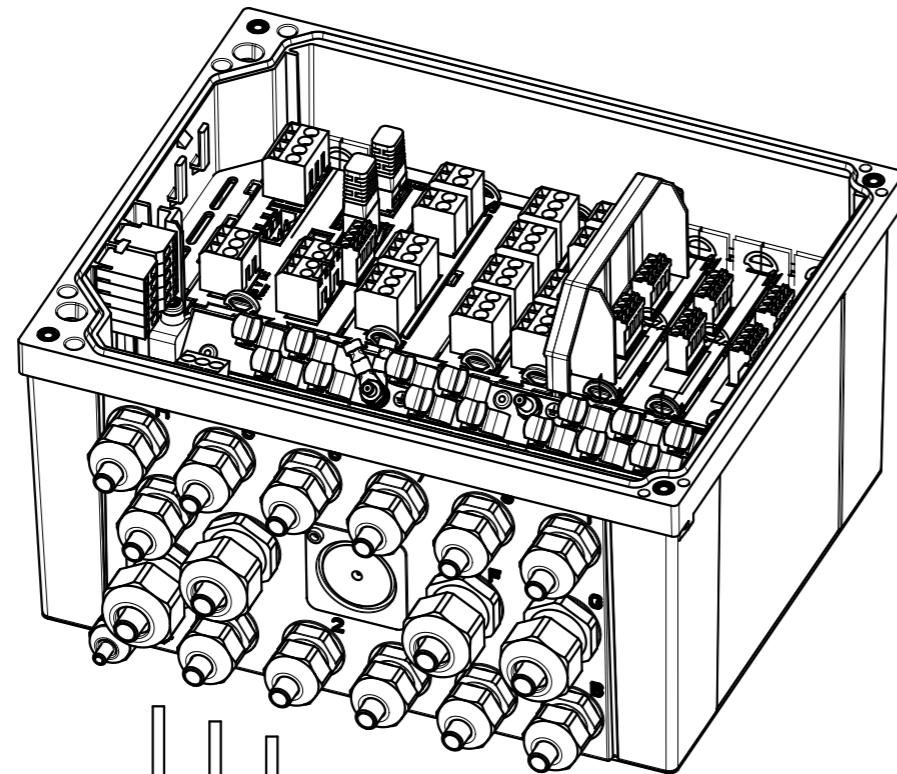
Hazardous Location DIV 2 B

B Class I, Division 2, GP A-D T4A
Transmitter with associated IS connection to digital Sensor: Class I, Division 1, Zone 0, 1, 2

B

xM44P-CLFIH
xM442-CL
xM444-CL
xM448-CL

x stands for C, O or OC



Conduits

WARNINGS:
See page 1

Non-Hazardous Location



SPECIFIC CONDITIONS OF USE:

The environmental data must be taken into account
- see the operating instructions of the manufacturer.

- Power supply 100... 230 V AC or 24 V AC/DC
- Relay 230 V AC or 24 V DC
- Digital/ analog input/ output 0/4 mA... 20 mA
- Communication (Ethernet/ Fieldbus/ RS485)

Hazardous Location DIV 1 B

Cables xYK10 and xYK20
(max. 100m/330ft) acc.
to Certificate: 80021719;
Report 80021719
certified for hazardous
Location IS Class I
Division 1 or 2 may be
connected to intrinsic safe
Field Wiring Terminals
87, 88, 97, 98
 $P_o \leq 180$ mW



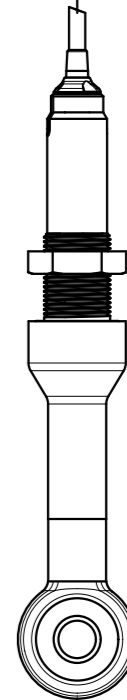
B



Digital Memosens Sensors
Certificate/Report 80021719

Digital Memosens 2.0 Sensors
Certificate / Report 80021490. B

xYP03D according to
Certificate/Report 80021719



xLS50D
according to
Certificate:
80021719;
Report 80021719

ISO 13715 GPS-FUNDAMENTALS ISO 8015
 ISO 1101 GPS-DIMENSIONAL TOLERANCING ISO 14405
 ISO 1302 GPS-DRAWING INDICATIONS ISO 10135
 EDGES OF UNDEFINED SHAPE
 GPS-GEOMETRICAL TOLERANCING
 GPS-INDICATION OF SURFACE TEXTURE

Endress+Hauser Endress+Hauser Conducta GmbH+Co. KG 70839 Gerlingen, Germany	Refer to protection notice ISO 16016 Classification	internal		Scale	1:2	Tolerance		
	CM44			Notif. no.	118342	Designed	03.03.2022	TameggerR
	Control Drawing xM44x (R)	Zulassungszeichnung xM44x (R)	Material	Number of changes	24 B	Drawing chng.	26.04.2023	LoefflerD
				Status	Approved	Approval contr.	26.04.2023	AmroH
					Released	26.04.2023	LoefflerD	
			No. of document	961006059	Version	B	Doc. part	000
			Weight	- kg	Volume	- dm3		
			SAP material no.		Format	DIN A3	Sheet	4/4