Certificate of Compliance

Certificate:	80102913	**Master Contract:**	152450
Project:	80102913	**Date Issued:**	2022-06-01

Issued To: **Micro Motion Incorporated**
7070 Winchester Cir
Boulder, Colorado, 80301
United States

Attention: James Warren

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.

Issued by: *Tim McCoy*
Tim McCoy

PRODUCTS

CLASS - C225206 - PROCESS CONTROL EQUIPMENT
CLASS - C225286 - PROCESS CONTROL EQUIPMENT-Certified to US Standards

Name: **8782 Slurry Transmitter**

Electrical Rating:
90 to 250 Vac, 50/60 Hz, 1.5 A, 120 VA; or
12 to 42 Vdc, 8.5 A, 120 W; or
12 to 48 Vdc, 8.5 A, 120 W
Output: 85 Vpeak max, 2.0 A max

Ambient Temperature: -40°C to +50°C
Enclosure Rating: IP66/IP69; Type 4X
Rated Altitude:

- AC Power Model - up to 4000 m above sea level at the rated input voltage of 90-250VAC.

- AC Power Model - up to 5000 m above sea level at a maximum input voltage of 150VAC.
- DC Power Model - up to 5000 m above sea level at rated input voltage.

Model: **8782abcdeffgghh**
a = Revisions Level: A
b = Transmitter Mounting Options: W
c = Power Supply: 1 or 2
d = Transmitter Outputs: A, B, F, P, D or M
e = Conduit Entry: 1 or 2
ff = Safety Approvals Code Option: **N5, N6, NH**
gg = Any alpha-numeric characters representing non-certification related product options, up to fifty digits.
hh = Display Option: M4 (Local Operator Interface), M5 (Local Display Only), *blank* (No Display)

Name: **MS Slurry Sensor**
Electrical Rating: 85 Vmax, 2.0 A
Ambient Temperature: -50°C to +60°C (Stainless Steel)
-29°C to +60°C (Carbon Steel)
Enclosure Rating: IP66/IP68/IP69; Type 4X
Max Process Working Pressure: 50 psi to 6170 psi depending on flange option chosen
Max Process Temperature: 177°C
Rated Altitude: Up to 5000 m
Dual Seal – When the DS option is selected.

Model: **MSaaabcdefghijkkllmnnoopp**
aaa = Line size: 030 – 360 (3-36 inch)
b = Rev level: A
c= Mounting option: R (Remote)
d = Conduit Entry: 1 (1/2" NPT), 2 (M20)
e = Lining Material: Any one-digit alpha or numeric character
f = Electrode Material: Any one-digit alpha or numeric character
g = Electrode Type: Any one-digit alpha or numeric character
h = Flange Material: Any one-digit alpha or numeric character
i = Flange Type: Any one-digit alpha or numeric character
j = Flange Rating: Any one-digit alpha or numeric character
kk = Coil Housing Configuration: M0, M1, M2, or M4.
ll = Safety Approval Option: **N5, N6, NH, K6**
m = Options: Any alpha-numeric characters representing non-certification related product options, up to fifty-two digits in length.
nn = Dual Seal Option: DS (Dual Seal) or *blank* (No sealing)
oo = Enhanced Corrosion Resistance Options: SJ (316 SST Junction Box and Carbon Steen Coil Wrapper), SH (316 SST Juncton Box and Coil Wrapper), or *blank* (Carbon Steel Junction Box and Coil Wrapper)
pp = Specialty Paint: V1, V2 or *blank*

Conditions of Acceptability:

1. The 8782 Slurry Transmitter and the MS Slurry Sensor are permanently (conduit) connected, intended for continuous operation in extended environmental conditions as specified. Overvoltage Category II, Pollution Degree 2.
2. The 8782 Slurry Transmitter can be remotely connected to the 8707 Sensor which is separately certified under CSA Certificate 70081297.
3. The MS Slurry Sensor can be remotely connected to the 8782, 8732EM and the 8712EM transmitters or a transmitter with equal or less output ratings. The 8732EM and 8712EM transmitters are separately certified under CSA certificate 70081467X.
4. The MS Slurry Sensor specialty paint options pp = V1 or V2 are not Type 4X Corrosion Resistant.

Products may be marked with any of the following Trademarks and/or Tradenames: "Rosemount" or "Micro Motion"

CLASS - C225802 - PROCESS CONTROL EQUIPMENT - For Hazardous Locations
CLASS - C225882 - PROCESS CONTROL EQUIPMENT - For Hazardous Locations - Certified to US Standards

Class II, Division 1, Groups E, F, G; Class III; T5
Class II, Division 2, Groups F, G; Class III; T5

Name: **8782 Slurry Transmitter**

Electrical Rating:

90 to 250 Vac, 50/60 Hz, 1.5 A, 120 VA
12 to 42 Vdc, 8.5 A, 120 W
12 to 48 Vdc, 8.5 A, 120 W
Output: 85 Vpeak max, 2.0 A max

Ambient Temperature: -40°C to +60°C
Enclosure Rating: IP66/IP69; Type 4X
Rated Altitude:

- AC Power Model - up to 4000 m above sea level at the rated input voltage of 90-250VAC.
- AC Power Model - up to 5000 m above sea level at a maximum input voltage of 150VAC.
- DC Power Model - up to 5000 m above sea level at rated input voltage.

Model: **8782abcdeffgghh**

a = Revisions Level: A
b = Transmitter Mounting Options: W
c = Power Supply: 1 or 2
d = Transmitter Outputs: A, B, F, P, D or M
e = Conduit Entry: 1 or 2
ff = Safety Approvals Code Option: **N5**
gg = Any alpha-numeric characters representing non-certification related product options, up to fifty digits.
hh = Display Option: M4 (Local Operator Interface), M5 (Local Display Only), *blank* (No Display)

Conditions of Acceptability:

1. The 8782 Slurry Transmitter is permanently (conduit) connected, intended for continuous operation in extended environmental conditions as specified. Overvoltage Category II, Pollution Degree 2.
2. The 8782 Slurry Transmitter can be remotely connected to the MS Slurry Sensor or the 8707 Sensor. The 8707 Sensor is separately certified under CSA Certificate 70081297.
3. Appropriately rated conduit entries must be installed to maintain the enclosure ingress ratings of IP66 or IP69.

Ex ic tc IIIC T80°C Dc
Zone 22, AEx ic tc IIIC T80°C Dc

Name: **8782 Slurry Transmitter**

Electrical Rating:
12 to 42 Vdc, 10 A, 120 W or
12 to 48 Vdc, 10 A, 120 W
Output: 85 V max, 2.0 A max
Intrinsically safe when installed per 08782-0066.
Ambient Temperature: -40°C to +60°C
Enclosure Rating: IP66/IP69; Type 4X
Rated Altitude:

- AC Power Model - up to 4000 m above sea level at the rated input voltage of 90-250VAC.
- AC Power Model - up to 5000 m above sea level at a maximum input voltage of 150VAC.
- DC Power Model - up to 5000 m above sea level at rated input voltage.

Model: **8782abcdeffgghh**
a = Revisions Level: A
b = Transmitter Mounting Options: W
c = Power Supply: 2
d = Transmitter Outputs: A, B, F, P, D or M
e = Conduit Entry: 1 or 2
ff = Safety Approvals Code Option: **N6**
gg = Any alpha-numeric characters representing non-certification related product options, up to fifty digits.
hh = Display Option: M4 (Local Operator Interface), M5 (Local Display Only), *blank* (No Display)

Conditions of Acceptability:

1. The 8782 Slurry Transmitter is permanently (conduit) connected, intended for continuous operation in extended environmental conditions as specified. Overvoltage Category II, Pollution Degree 2.
2. The 8782 Slurry Transmitter can be remotely connected to the MS Slurry Sensor or the 8707 Sensor. The 8707 Sensor is separately certified under CSA Certificate 70081297.
3. Under certain extreme circumstances, the non-metallic parts incorporated in the enclosure of this equipment may generate an ignition-capable level of electrostatic charge. Therefore, the equipment shall not be installed in a location where the external conditions are conducive to the build-up of electrostatic charge on such surfaces. In addition, the equipment shall only be cleaned with a damp cloth.
4. The 8782 Slurry Transmitter enclosure is manufactured from Aluminum Alloy. In rare cases, ignition sources due to impact and friction sparks could occur. This shall be considered during installation.
5. The 8782 Slurry Transmitter is not capable of passing the 500 V isolation test on terminals to chassis due to integral transient protection. This must be considered upon installation.
6. Appropriately rated conduit entries must be installed to maintain the enclosure ingress ratings of IP66 or IP69.

Class II, Division 1, Groups E, F, G; Class III; T71°C …T206°C

Name: **MS Slurry Sensor**
Electrical Rating: 85 Vpeak max, 2.0 A max
Ambient Temperature: -50°C to +60°C (Stainless Steel)

-29°C to +60°C (Carbon Steel)
Enclosure Rating: IP66/IP68/IP69; Type 4X
Rated Altitude: Up to 5000 m
Max Process Working Pressure: 50 psi to 6170 psi depending on flange option chosen
Max Process Temperature: See conditions of acceptability for maximum process temperatures.
Dual Seal – When DS option selected

Model: **MSaaabcdefghijkkllmnnoopp**
aaa = Line size: 030 – 360 (3-36 inch)
b = Rev level: A
c= Mounting option: R (Remote)
d = Conduit Entry: 1 (1/2" NPT), 2 (M20)
e = Lining Material: Any one-digit alpha or numeric character
f = Electrode Material: Any one-digit alpha or numeric character
g = Electrode Type: Any one-digit alpha or numeric character
h = Flange Material: Any one-digit alpha or numeric character
i = Flange Type: Any one-digit alpha or numeric character
j = Flange Rating: Any one-digit alpha or numeric character
kk = Coil Housing Configuration: M0, M1, M2, or M4.
ll = Safety Approval Option: **N5**
m = Options: Any alpha-numeric characters representing non-certification related product options, up to fifty-two digits in length.
nn = Dual Seal Option: DS(Dual Seal) or *blank* (No sealing)
oo = Enhanced Corrosion Resistance Options: SJ (316 SST Junction Box and Carbon Steen Coil Wrapper), SH (316 SST Juncton Box and Coil Wrapper), or *blank* (Carbon Steel Junction Box and Coil Wrapper)
pp = Specialty Paint: V1, V2 or *blank*

Conditions of Acceptability:

1. The MS Slurry Sensor is permanently (conduit) connected, intended for continuous operation in extended environmental conditions as specified. Overvoltage Category II, Pollution Degree 2.
2. The MS Slurry Sensor can be remotely connected to the 8782, 8732EM and the 8712EM transmitters or a transmitter with equal or less output ratings. The 8732EM and 8712EM transmitters are separately certified under CSA certificate 70081467X.
3. Specialty paint options pp = V1 or V2 are not Type 4X Corrosion Resistant.
4. Appropriately rated conduit entries must be installed to maintain the enclosure ingress ratings of IP66, IP68 or IP69.
5. To maintain the ingress protection level on the M4 electrode housing for the MS Slurry Sensor, the copper crush washer that seals the electrode access plug shall be replaced when the plug is reinstalled. The copper crush washer is one-time use only.
6. The sensor is not allowed to be thermally insulated.
7. The temperature code, ambient temperature range, and maximum process temperature for the MS Slurry Sensors are as follows:

Hazardous Dust Locations (Class II, Division 1, Groups E, F, G; Class III)

T-Code	Coil Housing Material	Line Size	Ambient Temperature Range	Maximum Process Temperature
T71°C	Carbon Steel	All	-29°C to 35°C	45°C
T86°C	Carbon Steel	All	-29°C to 60°C	60°C
T141°C	Carbon Steel	All	-29°C to 60°C	105°C
T206°C	Carbon Steel	All	-29°C to 60°C	177°C
T71°C	Stainless Steel	All	-50°C to 35°C	45°C
T86°C	Stainless Steel	All	-50°C to 60°C	60°C
T141°C	Stainless Steel	All	-50°C to 60°C	105°C
T206°C	Stainless Steel	All	-50°C to 60°C	177°C

Ex tb IIIC T65°C …T200°C Db
Zone 21, AEx tb IIIC T65°C …T200°C Db

Name: **MS Slurry Sensor**

Electrical Rating: 85 Vpeak max, 2.0 A max
Intrinsically safe when installed per 08782-0066.
Enclosure Rating: IP66/IP68/IP69; Type 4X
Rated Altitude: Up to 5000 m
Process Working Pressure: 50 psi to 6170 psi depending on flange option chosen
Process Temperature: See conditions of acceptability for maximum process temperatures.
Dual Seal – When DS option selected

Model: **MSaaabcdefghijkkllmnnoopp**

aaa = Line size: 030 – 360 (3-36 inch)
b = Rev level: A
c= Mounting option: R (Remote)
d = Conduit Entry: 1 (1/2” NPT), 2 (M20)
e = Lining Material: Any one-digit alpha or numeric character
f = Electrode Material: Any one-digit alpha or numeric character
g = Electrode Type: Any one-digit alpha or numeric character
h = Flange Material: Any one-digit alpha or numeric character
i = Flange Type: Any one-digit alpha or numeric character
j = Flange Rating: Any one-digit alpha or numeric character
kk = Coil Housing Configuration: M0, M1, M2, or M4.
ll = Safety Approval Options: Class Zone: **K6**
m = Options: Any alpha-numeric characters representing non-safety product options up to fifty-two digits in length.
nn = Dual Seal Option: DS (Dual Seal) or *blank* (No sealing)
oo = Enhanced Corrosion Resistance Options: SJ (316 SST Junction Box and Carbon Steen Coil Wrapper), SH (316 SST Juncton Box and Coil Wrapper), or *blank* (Carbon Steel Junction Box and Coil Wrapper)
pp = Specialty Paint: V1, V2 or *blank*

Conditions of Acceptability:

1. The MS Slurry Sensor is permanently (conduit) connected, intended for continuous operation in extended environmental conditions as specified. Overvoltage Category II, Pollution Degree 2.
2. The MS Slurry Sensor can be remotely connected to the 8782, 8732EM and the 8712EM transmitters or a transmitter with equal or less output ratings. The 8732EM and 8712EM transmitters are separately certified under CSA certificate 70081467X.
3. Specialty paint options pp = V1 or V2 are not Type 4X Corrosion Resistant.
4. Specialty paint options pp = V1 or V2 may be subject to electrostatic discharge. To avoid electrostatic charge build-up, do not rub the flowmeter with a dry cloth or clean with solvents.
5. Under certain extreme circumstances, the non-metallic parts incorporated in the enclosure of this equipment may generate an ignition-capable level of electrostatic charge. Therefore, the equipment shall not be installed in a location where the external conditions are conducive to the build-up of electrostatic charge on such surfaces. In addition, the equipment shall only be cleaned with a damp cloth.
6. Appropriately rated conduit entries must be installed to maintain the enclosure ingress ratings of IP66, IP68 or IP69.
7. To maintain the ingress protection level on the M4 electrode housing for the MS Slurry Sensor, the copper crush washer that seals the electrode access plug shall be replaced when the plug is reinstalled. The copper crush washer is one-time use only.
8. When “Special Paint Systems” are applied, instructions for safe use regarding potential electrostatic charging hazard have to be followed
9. The sensor is not allowed to be thermally insulated.
10. The temperature code, ambient temperature range, and maximum process temperature for the MS Slurry Sensors are as follows:

Hazardous Dust Locations (Zone 21 Group IIIC)

T-Code	Coil Housing Material	Line Size	Ambient Temperature Range	Maximum Process Temperature
T65°C	Carbon Steel	All	-29°C to 35°C	45°C
T80°C	Carbon Steel	All	-29°C to 60°C	60°C
T135°C	Carbon Steel	All	-29°C to 60°C	105°C
T200°C	Carbon Steel	All	-29°C to 60°C	177°C
T65°C	Stainless Steel	All	-50°C to 35°C	45°C
T80°C	Stainless Steel	All	-50°C to 60°C	60°C
T135°C	Stainless Steel	All	-50°C to 60°C	105°C
T200°C	Stainless Steel	All	-50°C to 60°C	177°C

Products may be marked with any of the following Trademarks and/or Tradenames: "Rosemount" or "Micro Motion"

CLASS - C225804 - PROCESS CONTROL EQUIPMENT- Intrinsically Safe, Entity - For Hazardous Locations
CLASS - C225884 - PROCESS CONTROL EQUIPMENT - Intrinsically Safe, Entity - For Hazardous Locations - Certified to US Standards

Class I, Division 2, Groups A, B, C, D; T4 with non-incendive field wiring

Name: **8782 Slurry Transmitter**

Electrical Rating:

90 to 250 Vac, 50/60 Hz, 1.5 A, 120 VA
12 to 42 Vdc, 8.5 A, 120 W
12 to 48 Vdc, 8.5 A, 120 W
Output: 85 Vpeak max, 2.0 A max

Non-Incendive field wiring when installed per 08782-0061.
Ambient Temperature: -40°C to +60°C
Enclosure Rating: IP66/IP69; Type 4X
Rated Altitude:

- AC Power Model - up to 4000 m above sea level at the rated input voltage of 90-250VAC.
- AC Power Model - up to 5000 m above sea level at a maximum input voltage of 150VAC.
- DC Power Model - up to 5000 m above sea level at rated input voltage.

Model: **8782abcdeffgghh**

a = Revisions Level: A
b = Transmitter Mounting Options: W
c = Power Supply: 1 or 2
d = Transmitter Outputs: A, B, F, P, D or M
e = Conduit Entry: 1 or 2
ff = Safety Approvals Code Option: **N5**
gg = Any alpha-numeric characters representing non-certification related product options, up to fifty digits.
hh = Display Option: M4 (Local Operator Interface), M5 (Local Display Only), *blank* (No Display)

Conditions of Acceptability:

1. The 8782 Slurry Transmitter is permanently (conduit) connected, intended for continuous operation in extended environmental conditions as specified. Overvoltage Category II, Pollution Degree 2.
2. The 8782 Slurry Transmitter can be remotely connected to the MS Slurry Sensor or 8707 Sensor. The 8707 Sensor is separately certified under CSA Certificate 70081297.
3. Appropriately rated conduit entries must be installed to maintain the enclosure ingress ratings of IP66 or IP69.

Ex ec ic [ia Ga] IIC T4 Gc
Class I, Zone 2, AEx ec ic [ia Ga] IIC T4 Gc
Ex ic nA [ia Ga] IIC T4 Gc
Class I, Zone 2, AEx ic nA [ia Ga] IIC T4 Gc
Ex ic tc [ia Da] IIIC T80°C Dc

Zone 22, AEx ic tc [ia Da] IIIC T80°C Dc

Name: **8782 Slurry Transmitter**

Electrical Rating:

12 to 42 Vdc, 8.5 A, 120 W or
12 to 48 Vdc, 8.5 A, 120 W
Output: 85 V max, 2.0 A max

Intrinsically safe when installed per 08782-0066.
Ambient Temperature: -40°C to +60°C
Enclosure Rating: IP66/IP69; Type 4X
Rated Altitude:

- DC Power Model - up to 5000 m above sea level at rated input voltage.

Model: **8782abcdeffgghh**

a = Revisions Level: A
b = Transmitter Mounting Options: W
c = Power Supply: 2
d = Transmitter Outputs: A, B, F, P, D or M
e = Conduit Entry: 1 or 2
ff = Safety Approvals Code Option: **N6**
gg = Any alpha-numeric characters representing non-certification related product options, up to fifty digits.
hh = Display Option: M4 (Local Operator Interface), M5 (Local Display Only), *blank* (No Display)

Conditions of Acceptability:

1. The 8782 Slurry Transmitter is permanently (conduit) connected, intended for continuous operation in extended environmental conditions as specified. Overvoltage Category II, Pollution Degree 2.
2. The 8782 Slurry Transmitter can be remotely connected to the MS Slurry Sensor or 8707 Sensor. The 8707 Sensor is separately certified under CSA Certificate 70081297.
3. Under certain extreme circumstances, the non-metallic parts incorporated in the enclosure of this equipment may generate an ignition-capable level of electrostatic charge. Therefore, the equipment shall not be installed in a location where the external conditions are conducive to the build-up of electrostatic charge on such surfaces. In addition, the equipment shall only be cleaned with a damp cloth.
4. The 8782 Slurry Transmitter enclosure is manufactured from Aluminum Alloy. In rare cases, ignition sources due to impact and friction sparks could occur. This shall be considered during installation.
5. The 8782 Slurry Transmitter is not capable of passing the 500 V isolation test on terminals to chassis due to integral transient protection. This must be considered upon installation.
6. Appropriately rated conduit entries must be installed to maintain the enclosure ingress ratings of IP66 or IP69.

Class I, Division 2, Groups A, B, C, D; T6…T3 with non-incendive field wiring

Name: **MS Slurry Sensor**

Electrical Rating: 85 Vpeak max, 2.0 A max

Non-Incendive field wiring installed per 08782-0061.
Ambient Temperature: -50°C to +60°C (Stainless Steel)
-29°C to +60°C (Carbon Steel)
Enclosure Rating: IP66/IP68/IP69; Type 4X
Rated Altitude: Up to 5000 m
Max Process Working Pressure: 50 psi to 6170 psi depending on flange option chosen
Max Process Temperature: See conditions of acceptability for maximum process temperatures.
Dual Seal – When DS option selected

Model: **MSaaabcdefghijkkllmnnoopp**
aaa = Line size: 030 – 360 (3-36 inch)
b = Rev level: A
c= Mounting option: R (Remote)
d = Conduit Entry: 1 (1/2" NPT), 2 (M20)
e = Lining Material: Any one-digit alpha or numeric character
f = Electrode Material: Any one-digit alpha or numeric character
g = Electrode Type: Any one-digit alpha or numeric character
h = Flange Material: Any one-digit alpha or numeric character
i = Flange Type: Any one-digit alpha or numeric character
j = Flange Rating: Any one-digit alpha or numeric character
kk = Coil Housing Configuration: M0, M1, M2, or M4.
ll = Safety Approval Option: **N5**
m = Options: Any alpha-numeric characters representing non-certification related product options, up to fifty-two digits in length.
nn = Dual Seal Option: DS (Dual Seal) or *blank* (No sealing)
oo = Enhanced Corrosion Resistance Options: SJ (316 SST Junction Box and Carbon Steen Coil Wrapper), SH (316 SST Juncton Box and Coil Wrapper), or *blank* (Carbon Steel Junction Box and Coil Wrapper)
pp = Specialty Paint: V1, V2 or *blank*

Conditions of Acceptability:

1. The MS Slurry Sensor is permanently (conduit) connected, intended for continuous operation in extended environmental conditions as specified. Overvoltage Category II, Pollution Degree 2.
2. The MS Slurry Sensor can be remotely connected to the 8782, 8732EM and the 8712EM transmitters or a transmitter with equal or less output ratings. The 8732EM and 8712EM transmitters are separately certified under CSA certificate 70081467X.
3. Specialty paint options pp = V1 or V2 are not Type 4X Corrosion Resistant.
4. Appropriately rated conduit entries must be installed to maintain the enclosure ingress ratings of IP66, IP68 or IP69.
5. To maintain the ingress protection level on the M4 electrode housing for the MS Slurry Sensor, the copper crush washer that seals the electrode access plug shall be replaced when the plug is reinstalled. The copper crush washer is one-time use only.
6. The temperature code, ambient temperature range, and maximum process temperature for the MS Slurry Sensors are as follows:

Hazardous Gas Locations (Class I, Division 2, Groups A, B, C, D)

T-Code	Coil Housing Material	Line Size	Ambient Temperature Range	Maximum Process Temperature
T6	Carbon Steel	All	-29°C to 35°C	45°C
T5	Carbon Steel	3”	-29°C to 60°C	60°C
T4	Carbon Steel	3”	-29°C to 60°C	105°C
T3	Carbon Steel	3”	-29°C to 60°C	177°C
T5	Carbon Steel	4”-36”	-29°C to 60°C	65°C
T4	Carbon Steel	4”-36”	-29°C to 60°C	110°C
T3	Carbon Steel	4”-36”	-29°C to 60°C	177°C
T6	Stainless Steel	All	-50°C to 35°C	45°C
T5	Stainless Steel	3”	-50°C to 60°C	60°C
T4	Stainless Steel	3”	-50°C to 60°C	105°C
T3	Stainless Steel	4”-36”	-50°C to 60°C	177°C
T5	Stainless Steel	4”-36”	-50°C to 60°C	65°C
T4	Stainless Steel	4”-36”	-50°C to 60°C	110°C
T3	Stainless Steel	4”-36”	-50°C to 60°C	177°C

Ex ec ic IIC T6…T3 Gc
Class I, Zone 2, AEx ec ic IIC T6…T3 Gc
Ex ic nA IIC T6…T3 Gc
Class I, Zone 2, AEx ic nA IIC T6…T3 Gc

Name: **MS Slurry Sensor**

Electrical Rating: 85 Vpeak max, 2.0 A max
Intrinsically safe when installed per 08782-0066
Ambient Temperature: -50°C to +60°C (Stainless Steel)
-29°C to +60°C (Carbon Steel)
Enclosure Rating: IP66/IP68/IP69; Type 4X
Rated Altitude: Up to 5000 m
Max Process Working Pressure: 50 psi to 6170 psi depending on flange option chosen
Max Process Temperature: See conditions of acceptability for maximum process temperatures.
Dual Seal – When DS option selected

Model: **MSaaabcdefghijkkllmnnoopp**

aaa = Line size: 030 – 360 (3-36 inch)
b = Rev level: A
c= Mounting option: R (Remote)
d = Conduit Entry: 1 (1/2” NPT), 2 (M20)
e = Lining Material: Any one-digit alpha or numeric character
f = Electrode Material: Any one-digit alpha or numeric character
g = Electrode Type: Any one-digit alpha or numeric character
h = Flange Material: Any one-digit alpha or numeric character
i = Flange Type: Any one-digit alpha or numeric character
j = Flange Rating: Any one-digit alpha or numeric character

kk = Coil Housing Configuration: M0, M1, M2, or M4.
ll = Safety Approval Option: **N6**
m = Options: Any alpha-numeric characters representing non-certification related product options, up to fifty-two digits in length.
nn = Dual Seal Option: DS (Dual Seal) or *blank* (No sealing)
oo = Enhanced Corrosion Resistance Options: SJ (316 SST Junction Box and Carbon Steen Coil Wrapper), SH (316 SST Juncton Box and Coil Wrapper), or *blank* (Carbon Steel Junction Box and Coil Wrapper)
pp = Specialty Paint: V1, V2 or *blank*

Conditions of Acceptability:

1. The MS Slurry Sensor is permanently (conduit) connected, intended for continuous operation in extended environmental conditions as specified. Overvoltage Category II, Pollution Degree 2.
2. The MS Slurry Sensor can be remotely connected to the 8782, 8732EM and the 8712EM transmitters or a transmitter with equal or less output ratings. The 8732EM and 8712EM transmitters are separately certified under CSA certificate 70081467X.
3. Specialty paint options pp = V1 or V2 are not Type 4X Corrosion Resistant.
4. Specialty paint options pp = V1 or V2 may be subject to electrostatic discharge. To avoid electrostatic charge build-up, do not rub the flowmeter with a dry cloth or clean with solvents.
5. Under certain extreme circumstances, the non-metallic parts incorporated in the enclosure of this equipment may generate an ignition-capable level of electrostatic charge. Therefore, the equipment shall not be installed in a location where the external conditions are conducive to the build-up of electrostatic charge on such surfaces. In addition, the equipment shall only be cleaned with a damp cloth.
6. Appropriately rated conduit entries must be installed to maintain the enclosure ingress ratings of IP66, IP68 or IP69.
7. To maintain the ingress protection level on the M4 electrode housing for the MS Slurry Sensor, the copper crush washer that seals the electrode access plug shall be replaced when the plug is reinstalled. The copper crush washer is one-time use only.
8. When “Special Paint Systems” are applied, instructions for safe use regarding potential electrostatic charging hazard have to be followed
9. The temperature code, ambient temperature range, and maximum process temperature for the MS Slurry Sensors are as follows:

Hazardous Gas Locations (Zone 2, Group IIC)

T-Code	Coil Housing Material	Line Size	Ambient Temperature Range	Maximum Process Temperature
T6	Carbon Steel	All	-29°C to 35°C	45°C
T5	Carbon Steel	3”	-29°C to 60°C	60°C
T4	Carbon Steel	3”	-29°C to 60°C	105°C
T3	Carbon Steel	3”	-29°C to 60°C	177°C
T5	Carbon Steel	4”-36”	-29°C to 60°C	65°C
T4	Carbon Steel	4”-36”	-29°C to 60°C	110°C
T3	Carbon Steel	4”-36”	-29°C to 60°C	177°C
T6	Stainless Steel	All	-50°C to 35°C	45°C
T5	Stainless Steel	3”	-50°C to 60°C	60°C

T-Code	Coil Housing Material	Line Size	Ambient Temperature Range	Maximum Process Temperature
T4	Stainless Steel	3”	-50°C to 60°C	105°C
T3	Stainless Steel	4”-36”	-50°C to 60°C	177°C
T5	Stainless Steel	4”-36”	-50°C to 60°C	65°C
T4	Stainless Steel	4”-36”	-50°C to 60°C	110°C
T3	Stainless Steel	4”-36”	-50°C to 60°C	177°C

Ex eb ia IIC T6…T3 Ga/Gb
Class I, Zone 1, AEx eb ia IIC T6…T3 Ga/Gb

Name: **MS Slurry Sensor**

Electrical Rating: 85 Vpeak max, 2.0 A max
Intrinsically safe when installed per 08782-0066.
Enclosure Rating: IP66/IP68/IP69; Type 4X
Rated Altitude: Up to 5000 m
Process Working Pressure: 50 psi to 6170 psi depending on flange option chosen
Process Temperature: See conditions of acceptability for maximum process temperatures.
Dual Seal – When DS option selected

Model: **MSaaabcdefghijkkllmnnoopp**

aaa = Line size: 030 – 360 (3-36 inch)
b = Rev level: A
c= Mounting option: R (Remote)
d = Conduit Entry: 1 (1/2” NPT), 2 (M20)
e = Lining Material: Any one-digit alpha or numeric character
f = Electrode Material: Any one-digit alpha or numeric character
g = Electrode Type: Any one-digit alpha or numeric character
h = Flange Material: Any one-digit alpha or numeric character
i = Flange Type: Any one-digit alpha or numeric character
j = Flange Rating: Any one-digit alpha or numeric character
kk = Coil Housing Configuration: M0, M1, M2, or M4.
ll = Safety Approval Options: Class Zone: **K6**
m = Options: Any alpha-numeric characters representing non-safety product options up to fifty-two digits in length.
nn = Dual Seal Option: DS(Dual Seal) or *blank* (No sealing)
oo = Enhanced Corrosion Resistance Options: SJ (316 SST Junction Box and Carbon Steen Coil Wrapper), SH (316 SST Juncton Box and Coil Wrapper), or *blank* (Carbon Steel Junction Box and Coil Wrapper)
pp = Specialty Paint: V1, V2 or *blank*

Conditions of Acceptability:

1. The MS Slurry Sensor is permanently (conduit) connected, intended for continuous operation in extended environmental conditions as specified. Overvoltage Category II, Pollution Degree 2.

2. The MS Slurry Sensor can be remotely connected to the 8782, 8732EM and the 8712EM transmitters or a transmitter with equal or less output ratings. The 8732EM and 8712EM transmitters are separately certified under CSA certificate 70081467X.
3. Specialty paint options pp = V1 or V2 are not Type 4X Corrosion Resistant.
4. Specialty paint options pp = V1 or V2 may be subject to electrostatic discharge. To avoid electrostatic charge build-up, do not rub the flowmeter with a dry cloth or clean with solvents.
5. Under certain extreme circumstances, the non-metallic parts incorporated in the enclosure of this equipment may generate an ignition-capable level of electrostatic charge. Therefore, the equipment shall not be installed in a location where the external conditions are conducive to the build-up of electrostatic charge on such surfaces. In addition, the equipment shall only be cleaned with a damp cloth.
6. Appropriately rated conduit entries must be installed to maintain the enclosure ingress ratings of IP66, IP68 or IP69.
7. The MS Slurry Sensor contains nonconductive liners over the grounded tube. For process requiring EPL Ga, precautions shall be taken to avoid the liner being charged by the flow of nonconductive media.
8. To maintain the ingress protection level on the M4 electrode housing for the MS Slurry Sensor, the copper crush washer that seals the electrode access plug shall be replaced when the plug is reinstalled. The copper crush washer is one-time use only.
9. When “Special Paint Systems” are applied, instructions for safe use regarding potential electrostatic charging hazard have to be followed
10. Warning - Ignition hazard. Process wetted parts may contain Titanium and Zirconium. For processes requiring EPL Ga and Gb rated equipment, suitability for use must be determined by the end-user to eliminate ignition hazard due to impact or friction.
11. The temperature code, ambient temperature range, and maximum process temperature for the MS Slurry Sensors are as follows:

Hazardous Gas Locations (Zone 0 or 1, Group IIC)

T-Code	Coil Housing Material	Line Size	Ambient Temperature Range	Maximum Process Temperature
T6	Carbon Steel	All	-29°C to 35°C	45°C
T5	Carbon Steel	3”	-29°C to 60°C	60°C
T4	Carbon Steel	3”	-29°C to 60°C	105°C
T3	Carbon Steel	3”	-29°C to 60°C	177°C
T5	Carbon Steel	4”-36”	-29°C to 60°C	65°C
T4	Carbon Steel	4”-36”	-29°C to 60°C	110°C
T3	Carbon Steel	4”-36”	-29°C to 60°C	177°C
T6	Stainless Steel	All	-50°C to 35°C	45°C
T5	Stainless Steel	3”	-50°C to 60°C	60°C
T4	Stainless Steel	3”	-50°C to 60°C	105°C
T3	Stainless Steel	4”-36”	-50°C to 60°C	177°C
T5	Stainless Steel	4”-36”	-50°C to 60°C	65°C
T4	Stainless Steel	4”-36”	-50°C to 60°C	110°C
T3	Stainless Steel	4”-36”	-50°C to 60°C	177°C

Products may be marked with any of the following Trademarks and/or Tradenames: "Rosemount" or "Micro Motion"

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
CAN/CSA C22.2 No. 94.2-15	Enclosures for Electrical Equipment, Environmental Considerations
CSA C22.2 No. 213-17	Nonincendive Electrical Equipment for use in Class I and II, Division 2 and Class III, Divisions 1 and 2 Hazardous (Classified) Locations
CSA C22.2 No. 25-17	Enclosures for use in Class II, Division 1, Groups E, F, and G hazardous locations
CAN/CSA C22.2 No. 60079-0:15	Explosive Atmospheres – Part 0: Equipment – General Requirements
CAN/CSA C22.2 No. 60079-7:15	Explosive Atmospheres – Part 7: Equipment protection by increased safety “e” – Second Edition
CAN/CSA C22.2 No. 60079-11:14	Explosive Atmospheres – Part 11: Equipment Protection by Intrinsic Safety “i” – Second Edition
CAN/CSA C22.2 No. 60079-15:16	Explosive Atmospheres – Part 15: Equipment Protection by Type of Protection “n”
CAN/CSA C22.2 No. 60079-26:16	Explosive Atmospheres – Part 26: Equipment with Equipment Protection Level (EPL) Ga
CAN/CSA C22.2 No. 60079-31:15	Explosive Atmospheres – Part 31: Equipment Dust Ignition Protection by Enclosure “t”
ANSI/UL 61010-1-2018 (Third Edition)	Safety Requirements for Electrical Equipment for Measurement, Control and Laboratory Use – Part 1: General Requirements
ANSI/UL 50E-15 (Second Edition)	Enclosures for Electrical Equipment, Environmental Considerations
ANSI/UL 60079-0-2013 (Sixth Edition)	Explosive Atmospheres – Part 0: Equipment – General Requirements
ANSI/UL 60079-7-2017 (Fifth Edition)	Explosive Atmospheres – Part 7: Equipment Protection by Increased Safety “e”
ANSI/UL 60079-11-2014 (Sixth Edition)	Explosive Atmospheres – Part 11: Equipment Protection by Intrinsic Safety ″i″
ANSI/UL 60079-15-2013 (R2017) (Fourth Edition)	Explosive atmospheres – Part 15: Equipment protection by type of protection ″n″
ANSI/UL 60079-26-2017 (Third Edition)	Explosive atmospheres – Part 26: Equipment with Equipment Protection Level (EPL) Ga
ANSI/UL 60079-31 (Second Edition)	Explosive Atmospheres – Part 31: Equipment Dust Ignition Protection by Enclosure “t”
ANSI/UL 121201 (Ninth Edition)	Nonincendive Electrical Equipment for use in Class I and II, Division 2 and Class III, Divisions 1 and 2 Hazardous (Classified) Locations
ANSI/UL 122701 (Third Edition)	Requirements for Process Sealing Between Electrical Systems and Flammable or Combustible Process Fluids
FM 3600 (2018)	Approval Standard for Electrical Equipment for Use in Hazardous (Classified) Locations – General Requirements
FM 3616 (2011)	Approval Standard for Dust-Ignitionproof Electrical Equipment General Requirements

MARKINGS

Please refer to CSA Report #80102913 - MARKINGS section for details.

Notes:

Products certified under Class C225206, C225286 have been certified under CSA's ISO/IEC 17065 accreditation with the Standards Council of Canada (SCC). www.scc.ca

Products certified under Class C225206, C225286 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: 80102913 **Master Contract:** 152450

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
80102913	2022-06-01	Certification of the Models 8782 Slurry Transmitter and MS Slurry Sensor based on the transfer from Master Contract 264512 under CSA Report 80008850 (project 80078529) to Master Contract number 152450.