

MXD75 Multi Channel Suspended Solids and Turbidity Transmitter

- Up to 3 Sensors on one Transmitter.
- Parameters include Suspended Solids, Turbidity and Electrodeless Conductivity.
- Multiple measurements can be selected and displayed.
- Simple menu driven interface.
- User selectable bar graph display option.
- SD card interface allows trouble free saving of configuration and simplifies software upgrades.
- Base model includes 2 relay and a single 4-20mA output. Can be expanded to 6 relay outputs and 6 isolated 4-20mA outputs.
- Simple 2 point or up to 9 point lineariser. Manual or automatic linearisation sample data input, making the process simple and fast.
- 8 independent programmable digital inputs with user selectable operations.

Provides accurate, repeatable and reliable process monitoring of Suspended Solids and Turbidity using Quadbeam Technologies S10, S20, S40 or T30 sensors.

Gain improved control in;

- Dairy Processing
- Food & Beverage Processing
- Waste Water Monitoring and Treatment
- Mining
- Pulp & Paper
- Industrial and Chemical

The MXD75 Transmitter is an innovative and sophisticated transmitter, yet still simple and intuitive to use.

The clear LCD display providing up to 3 levels of information for up to 3 Sensors.

5 tactile feedback, micro-switched, silicone buttons help make interface simple and easy to use.

With the capacity to include Electrodeless Conductivity sensors into the mix of analysis means it is possible to make significant efficiency improvements to processes like CIP.

The relay and digital inputs allow for great flexibility coupled with the Cleaning function make sensor cleaning set-up simple.



SPECIFICATIONS*

Measurement Input:

A mix of up to 3 Sensors. Suspended Solids Series S10, S20, S40 and or Turbidity Series T30 and or. Electrodeless Conductivity Sensor ECS40.

Current Output

Up to 6 current outputs, depending on number of relays, each selectable 0-20mA or 4-20mA into 1000 ohms max, fully isolated to 2kV. Expandable up to 5% of any operating range and offset anywhere in that range.

Setpoints and Control Relay

2 change over relays as standard, expandable up to a total of either 4 change over relays, or 4 change over relays plus 2 normally open relays. depending on the number of current outputs. Fully configurable setpoints with volt free contacts for each relay. Rated at 5A at 30V DC /5A at 250V AC

Digital Inputs

8 contact closures for remote activation of user defined operations. Can be configured to operate either normally open or normally closed.

MODEL NO. SELECTION GUIDE

Basic Model No:

MXD75 - Surface mounted enclosure to IP66.

Output:

I- 1 (max 3) fully isolated to 2kV current outputs, software selectable to be either 0 to 20mA or 4 to 20mA into a maximum of 1000 ohms.

R- 2 relays (max 6)

Supply Voltage:

U - Universal 80-265V AC or DC, 15W max.

LV - 18 -36 V AC/DC or DC, 20W max.

Sample model no: MXD75-2R-11-U

SD Card Interface

Display

95mm QVGA back lit LCD.

Measurement Units:

NTU, FTU, ppm, mg/l, g/l, %, EBC or OD can be selected and displayed.

Calibration:

Simple two point, or up to 9 point linearisations can be entered.

Linearity:

0.1% of range.

Repeatability:

0.1% of range.

Ambient Operating Range:

-20°C to +50°C

Surface mounted housing manufactured from moulded polyurethane and rated to IP66.

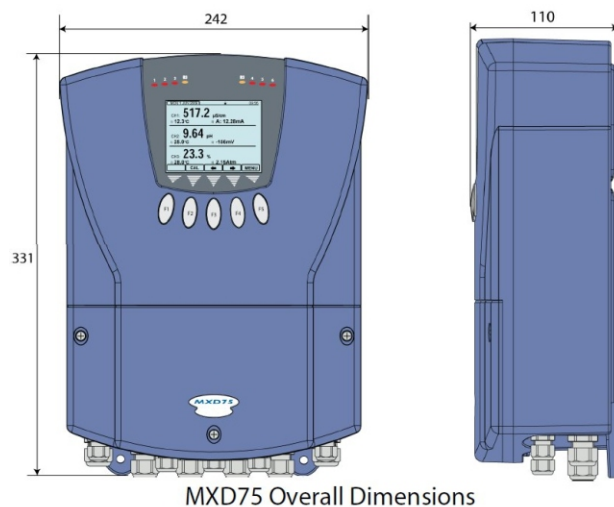
Weight: Max 2.7kg

EMC

2004/108/EC using BS EN 61326:2006

Low Voltage Directive

2006/95/EC using BS EN 61010-1:2001



* Due to our policy of continuous improvements, specifications are subject to change without notice.

T30 Turbidity Sensor

Measurement range 0 to 50 through to 0 to 1000 FNU/FTU/NTU

Turbidity Series 30 Sensors

The T30 sensor is a new generation of Quadbeam process sensors, which combine both light attenuation and 90 degree scattered light measurements in a ratiometric sensor with digital communication. This technique vastly increases the sensitivity compared to sensors using just light attenuation. The T30 is designed to meet the international standards for turbidity measurement ISO 27027.

The T30 sensor has two emitters and two detectors, set at exactly 90 degrees to each other. As each emitter is pulsed in sequence it produces two detector currents, one from the detector opposite the emitter (attenuation) and the other from the detector at 90 degrees to the emitter (scattered light).

Signals from each detector are fed into the microprocessor which calculates the value of Turbidity from the ratio of the two emitter/detector pairs.

A built in cleaner is standard with the immersion version of the T30. High pressure air with optional biocide is the recommended method of cleaning. The stainless steel support rods are designed to lift the sensor fingers above the floor of the drain and to protect the sensor fingers from impact.

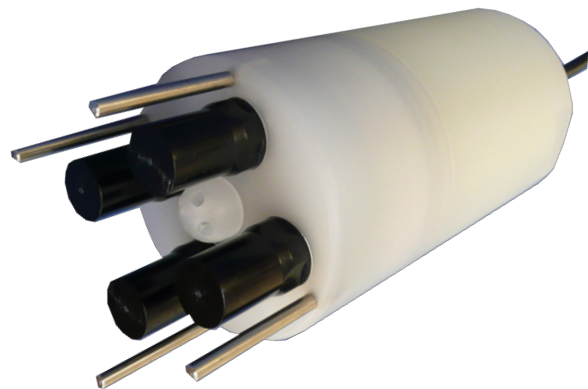
Applications:

- Monitoring of clarifier overflow weirs.
- Final outlet of effluent from DAF plants.
- Raw water inlet measurements in water treatment plants.
- Surface water monitoring.
- Solids loading in rivers and streams.
- Product breakthrough on plate heat exchangers.
- Percentage solids in fruit and vegetable juices.

Key Features

- Ratiometric signal processing compensates for changes in the optical properties of the emitters and detectors due to ageing and surface coating.
- Effects of colour, temperature and changes in background ambient light are virtually eliminated.
- The T30 sensor is designed for use with the Quadbeam MXD75 or MXD73 microprocessor based transmitter providing both relay and/or analogue outputs.

Immersion Sensor



Hygienic Sensor



SPECIFICATIONS*

Measuring Range

0 to 50 through to 0 to 1000 FNU / FTU / NTU

(The measuring range will vary according to media and particle characteristics)

Accuracy:

+/-2% of reading

Repeatability:

+/-1% of reading

Temperature:

0 to 80 °C operating range

Pressure:

10 Bar

Cable:

Polyurethane covered cable rated to 95 °C. Extension cables can be supplied to extend the cable length up to a maximum of 50M.

MODEL NO. SELECTION GUIDE

Body Style:

T30-IMM - Immersion style body

T30-3HY - Hygienic style body with 3" Triclover fitting

Wavelength:

880nm - Standard. Other wavelengths available.

Body Material:

PP - Polypropylene

Cable:

10 - Both immersion and hygienic sensors are supplied with a 10m cable as standard. Other lengths available.

Connector:

NC - No Connector. Cores stripped and crimped for direct connection to MSSD53 and MXD transmitters.

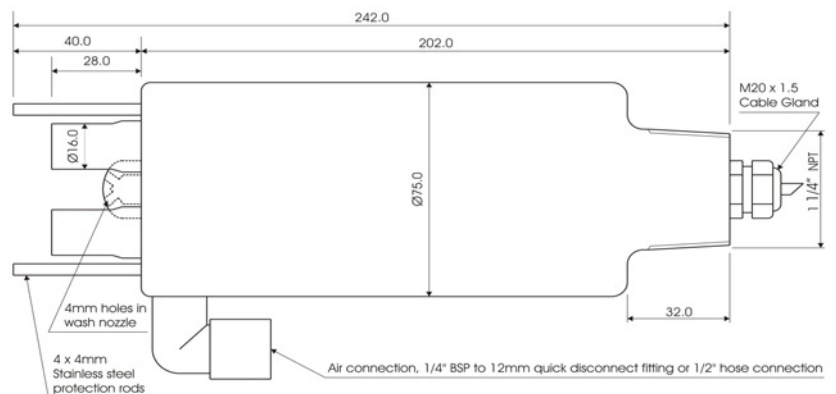
CA - Amphenol Connector. For use with Hygienic sensors using extension cables.

Sample model no: T30-IMM-880-PP-10-NC

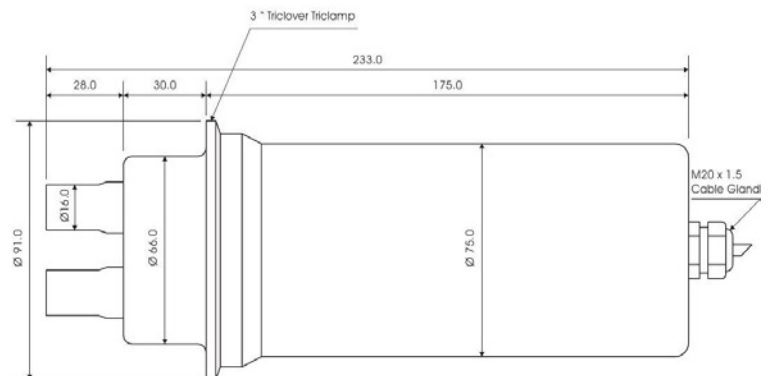
Optional Extras:

Flanges/Adapters - To mount Immersion sensors into pipes or vessels, 50mm flanges or adapters for Triclover, RJT and DIN11851 fittings are available.

Immersion Sensor



Hygienic Sensor



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07/04/13

Quadbeam Technologies Ltd
13/18 Lambie Drive, Manukau, Auckland, New Zealand
PO Box 97511, Manukau, Auckland 2241, New Zealand
ph+64-9-2764434
www.quadbeam.com info@quadbeam.co

S40 Suspendid Solid Sensor

Measurement range 0 to 25 g/L in normal activated sludge, 0-1.5% Milk Fat

Immersion Sensors

Immersion style sensors are designed for continuous on-line monitoring of suspended solids in industrial/municipal water and waste water treatment plants.

Applications:

- Effluent monitoring in clarifier overflow weirs
- Raw water inlet turbidity measurements in water treatment plants
- Final effluent monitoring
- White water solids concentration



Hygienic Sensors

Hygienic style sensors are designed for installation directly into food product lines where CIP cleaning is used.

One piece polypropylene construction with a surface finish of better than $Ra = 0.9\mu m$ eliminates bacteria traps. 3A Certified. Industry standard 3" Triclover connections.

Applications:

- Product breakthrough on plate heat exchangers
- Solids content in whey

Series 40 Sensors

- 'QuadBeam' optical systems use 2 pairs of infrared light emitting diodes and photodetectors which are pulsed in sequence.
- Ratiometric signal processing compensates for changes in the optical properties of the emitters and detectors due to ageing and surface coating.
- Effects of colour, temperature and changes in background ambient light are virtually eliminated.
- Designed for use with the Quadbeam MXD microprocessor based transmitters providing both relay and/or analogue outputs.
- Physical dimensions and electrical characteristics are compatible with sensors from other suppliers allowing direct replacement.

SPECIFICATIONS*

Measuring Range

Immersion Sensor
0 to 2.5g/l in normal activated sludge:
Hygienic Sensor:
0 to 1.5% milkfat
(The measuring range will vary according to media and particle characteristics)

Accuracy:

+/-2% of reading

Repeatability:

+/-1% of reading

Temperature:

0 to 85 °C operating range

Pressure:

10 BarG

Cable:

Polyurethane covered cable rated to 95 °C. Extension cables can be supplied to extend the cable length up to a maximum of 50M.

MODEL NO. SELECTION GUIDE

Body Style:

S40-IMM - Immersion style body

S40-3HY - Hygienic style body with 3" Triclover fitting

Wavelength:

880nm - Standard. Other wavelengths available.

Body Material:

PP - Polypropylene

Cable:

10 - Both immersion and hygienic sensors are supplied with a 10m cable as standard. Other lengths available.

Connector:

NC - No Connector. Cores stripped and crimped for direct connection to MXD transmitters.

CA - Amphenol Connector. For use with Hygienic sensors using extension cables.

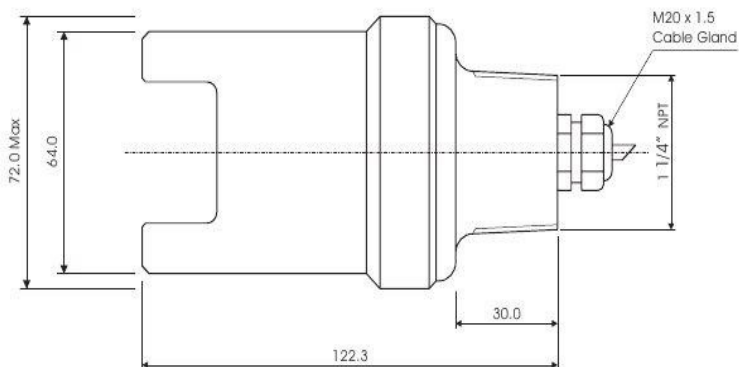
Sample model no: S40-3HY-880-PP-10-NC

Optional Extras:

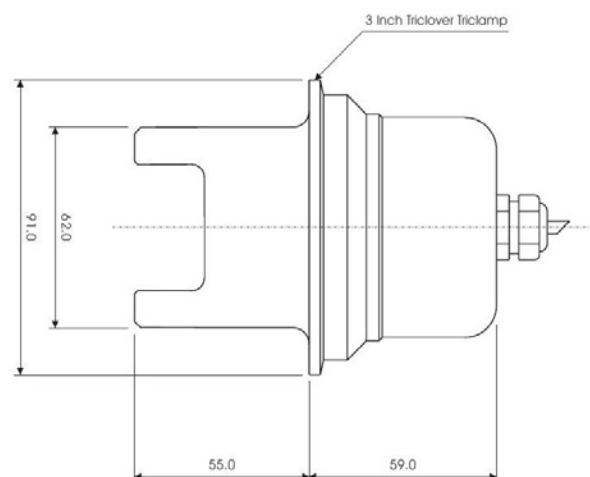
Cleaner - Powered using air at 10 Bar.

Flanges/Adapters - To mount Immersion sensors into pipes or vessels, 50mm flanges or adapters for Triclover, RJT and DIN11851 fittings are available.

Immersion Sensor



Hygienic Sensor



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Quadbeam Technologies Ltd
13/18 Lambie Drive, Manukau, Auckland, New Zealand
PO Box 97511, Manukau, Auckland 2241, New Zealand
ph+64-9-2764434
www.quadbeam.com info@quadbeam.co



QUADBEAM TECHNOLOGIES

~ Specialists in process suspended solids & turbidity ~

Immersion Sensors

Immersion style sensors are designed for continuous on-line monitoring of suspended solids in waste water treatment plants.

Applications:

- Mixed Liquor Suspended Solids (MLSS)
- Return Activated Sludge (RAS)
- Sludge Blanket Detection
- Product loss monitors in milk processing plants



Hygienic Sensors

Hygienic style sensors are designed for installation directly into food product lines where CIP cleaning is used.

One piece polypropylene construction with a surface finish of better than $Ra = 0.9\mu m$ eliminates bacteria traps. 3A certified.

Industry standard 3" Triclover connections.

Applications:

- Extensively used in the dairy industry for milk fat measurements.
- Percentage solids in fruit & vegetable juices



Series 20 Sensors

- 'QuadBeam' optical systems use 2 pairs of infrared light emitting diodes and photodetectors which are pulsed in sequence.
- Ratiometric signal processing compensates for changes in the optical properties of the emitters and detectors due to ageing and surface coating.
- Effects of colour, temperature and changes in background ambient light are virtually eliminated.
- Designed for use with the Quadbeam MSSD53 microprocessor based transmitters providing both relay and/or analogue outputs.
- Physical dimensions and electrical characteristics are compatible with sensors from other suppliers allowing direct replacement.

SPECIFICATIONS*

Measuring Range

Immersion Sensor:
0 to 10g/l in normal activated sludge

Hygienic Sensor:
0 to 20% milkfat

(The measuring range will vary according to media and particle characteristics)

Accuracy:

+/-2% of reading

Repeatability:

+/- 1% of reading

Temperature:

0 to 85°C operating range

Pressure:

10 BarG

Cable:

Polyurethane covered cable rated to 95°C. Extension cables can be supplied to extend the cable length up to a maximum of 100M.

MODEL NO. SELECTION GUIDE

Body Style:

S20-IMM - Immersion style body

S20-3HY - Hygienic style body with 3" Triclover fitting

Wavelength:

880nm - Standard. Other wavelengths available.

Body Material:

PP - Polypropylene

Cable:

10 - Both immersion and hygienic sensors are supplied with a 10m cable as standard. Other lengths available.

Connector:

NC - No Connector. Cores stripped and crimped for direct connection to MSSD33/53 transmitters.

CA - Amphenol Connector. For use with Hygienic sensors using extension cables.

CS - Schaltbau Connector. For use with BTG/Zellweger Analytics transmitters.

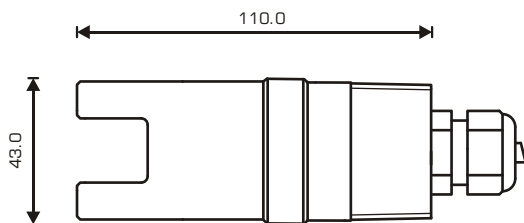
Sample model no: S20-IMM-880-PP-10-NC

Optional Extras:

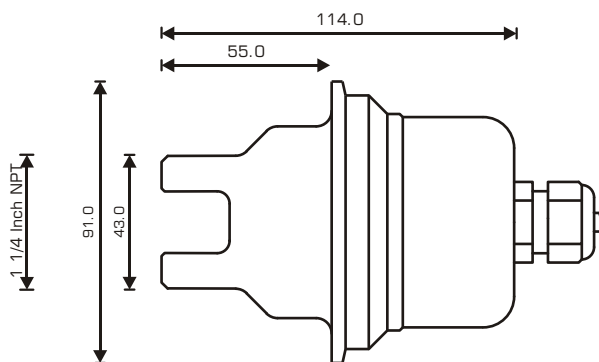
Cleaner - Powered using air at 10 Bar.

Flanges/Adapters - To mount Immersion sensors into pipes or vessels, 50mm flanges or adapters for Triclover, RJT and DIN1 1851 fittings are available.

Immersion Sensor



Hygienic Sensor



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Immersion Sensors

Immersion style sensors are designed for continuous on-line monitoring of suspended solids in waste water treatment plants, mining and refining operations.

Applications:

- Return and waste sludge measurements
- Thickened and digested sludge to clarifiers
- Centrifugal, gravity or filter separation processes



Hygienic Sensors

Hygienic style sensors are designed for installation directly into food product lines where CIP cleaning is used.

One piece polypropylene construction with a surface finish of better than $Ra = 0.9\mu m$ eliminates bacteria traps. 3A Certified.

Industry standard 2" or 3" Triclover connections.

Applications:

- Extensively used in the dairy industry for the determination of fat in milk
- Percentage solids in fruit juice



Series 10 Sensors

- 'QuadBeam' optical systems use 2 pairs of infrared light emitting diodes and photodetectors which are pulsed in sequence.
- Ratiometric signal processing compensates for changes in the optical properties of the emitters and detectors due to ageing and surface coating.
- Effects of colour, temperature and changes in background ambient light are virtually eliminated.
- Designed for use with the Quadbeam MSSD53 microprocessor based transmitters providing both relay and/or analogue outputs.
- Physical dimensions and electrical characteristics are compatible with sensors from other suppliers allowing direct replacement.

SPECIFICATIONS*

Measuring Range

Immersion Sensor
0 to 25g/l in normal activated sludge
4% maximum of coal dust

Hygienic Sensor:
0 to 40% milkfat

(The measuring range will vary according to media and particle characteristics)

Accuracy:

+/-2% of reading

Repeatability:

+/- 1% of reading

Temperature:

0 to 85°C operating range

Pressure:

10 BarG

Cable:

Polyurethane covered cable rated to 95°C. Extension cables can be supplied to extend the cable length up to a maximum of 100M.

MODEL NO. SELECTION GUIDE

Body Style:

S10-IMM - Immersion style body

S10-2HY - Hygienic style body with 2" Triclover fitting

S10-3HY - Hygienic style body with 3" Triclover fitting

Wavelength:

880nm - Standard. Other wavelengths available.

Body Material:

PP - Polypropylene

Cable:

10 - Both immersion and hygienic sensors are supplied with a 10m cable as standard. Other lengths available.

Connector:

NC - No Connector. Cores stripped and crimped for direct connection to MSSD33/53 transmitters.

CA - Amphenol Connector. For use with Hygienic sensors using extension cables.

CS - Schaltbau Connector. For use with BTG/Zellweger Analytics transmitters.

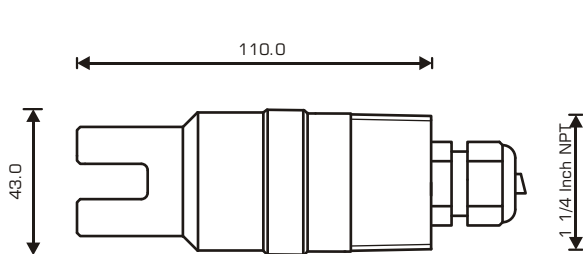
Sample model no: S10-3HY-880-PP-10-NC

Optional Extras:

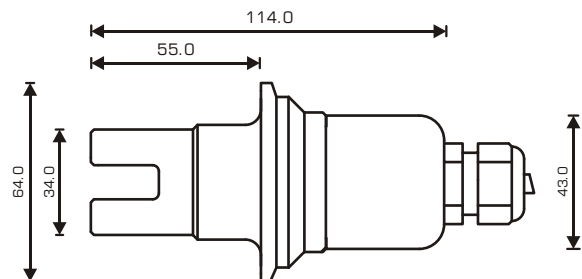
Cleaner - Powered using air at 10 Bar.

Flanges/Adapters - To mount Immersion sensors into pipes or vessels, 50mm flanges or adapters for Triclover, RJT and DIN1 1851 fittings are available.

Immersion Sensor



Hygienic Sensor



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