



Monitran
Sensors for Industry



2200 Series **Sensor Guide**





2200 Series Sensor Guide

Introduction

	03	Introduction
	04	Services
05 06 07 08		Monitoring
09 10 11		Analysis
12 13		Special Purpose
	14	Accessories

Monitran. A leader in the design, development and manufacture of sensors and systems for vibration, proximity and displacement measurement.

Established in 1986, Monitran remains a privately owned company, based near High Wycombe 35 miles west of London.

We manufacture in the United Kingdom and source the majority of our materials and components from selected quality-managed local and national suppliers. This enables us to respond quickly to orders both for standard products and for custom-built solutions.

We believe that customer service is of paramount importance. For this reason our experienced engineers are always on hand to offer advice and assistance in the selection of sensors and solutions to best suit your application.

Our products include general and special purpose accelerometers, velocity sensors, eddy current probes and LVDTs. They are used in a diverse range of applications including industrial processing, power stations, water treatment, wind turbines, mining and the oil and gas industry. As an OEM we can also provide a full custom design and development service.

We have two categories of general purpose accelerometer:

- AC output units suitable for vibration analysis with hand-held and online vibration analysers; and
- DC output units suitable for machine protection, ideal for direct input to PLC, DCS and other industrial controllers.

For more specialised applications we have sensors providing dual outputs such as acceleration with temperature and velocity with acceleration. We also have special purpose sensors for high temperature applications, AC velocity, modal analysis and tri-axial measurements.



2200 Series Sensor Guide

Services

A product is only as good as the service and support that comes with it.

That's why at Monitran we have a dedicated team of professionals to help you at every stage. We strive to find the best product(s) to suit your individual needs. We can offer support by telephone, email and on-site visits.

Monitran is committed to providing a high level of customer support both pre and post sale to ensure the highest level of customer satisfaction. We have a dedicated team that includes sales professionals and engineers to guarantee that you receive fit for purpose and cost effective solutions as well as prompt and accurate technical advice and support.

Primarily a supplier of cost-effective sensors, we are steadily increasing our portfolio of project management clients, providing sophisticated turnkey solutions, incorporating vibration sensors with monitoring and display hardware to integrate with other sensor types and customer control systems.

Our team of expert engineers and service specialists are always on hand to help you integrate our products into your specific project and develop control and monitoring systems that are built around you and your needs.

Hovercraft Vibration Monitoring System:

The modern fully amphibious hovercraft is unique in its ability to travel over both water and flat land with equal facility and without any interruption during transition between the two.

We were approached with a view to providing an integrated engine and gearbox vibration monitoring system. The brief was to provide real-time condition monitoring direct to the pilot on a fleet of 12 vessels designed for coastguard use.

Our development team was able to combine microcontroller technology with well-established and field-tested sensors to provide a tailored solution to meet this challenging brief.

Thames Barrier Lift Control:

Operated by the Environment Agency, the Thames Barrier is London's main defence against flooding.

We were asked to design, install and commission a system to monitor bearing movement and gate position. Critically, the system had to be a permanent fixture and would require equipment to be placed on the outer faces of the bearings where it would be subjected to the full force of a tidal river.

Several elements of the project required custom-built equipment and, additionally, we needed to assemble a team of skilled engineers trained and certified to work in confined spaces and on floating platforms.

For further information on the products listed on this page, or to discuss a more bespoke solution, please call us on +44 (0)1494 816569 email info@monitran.com or visit www.monitran.com

	03	Introduction
	04	Services
05	06 07 08	Monitoring
	09 10 11	Analysis
	12 13	Special Purpose
	14	Accessories

MTN/2285-2P/4P/C
 MTN/2285I-2P/4P/C
 MTN/M2285IC

Monitoring Sensors



MTN/2285-2P/4P/C

General purpose, top-entry velocity transducer with DC output. Made from robust stainless steel throughout for continuous vibration monitoring in harsh environments. Internal electronics are enclosed in a Faraday cage and isolated to minimise noise.

Sealed to IP67 with industry standard two wire 4-20mA output proportional to sensor range that can connect directly to PLC, DCS and other industrial controllers. Includes 2-pin MS connector, 4-pin M12 connector or stainless steel overbraided ETFE cable and is available with a wide range of mountings.

- Environment:** Industrial
- Frequency Range:** 2Hz – 1kHz
- Temperature Range:** -25 to 90°C
- Output:** DC 4-20mA
- Entry Type:** Top Entry

MTN/2285I-2P/4P/C MTN/M2285IC*

ATEX and IECEx Group I & II certified. General purpose, top-entry velocity transducer with DC output. Made from robust stainless steel throughout for continuous vibration monitoring in harsh industrial environments. Internal electronics are enclosed in a Faraday cage and isolated to minimise noise.

Sealed to IP67 with industry standard two wire 4-20mA output proportional to sensor range that can connect directly to PLC, DCS and other industrial controllers. Includes 2-pin MS connector, 4-pin M12 connector or stainless steel overbraided ETFE cable and is available with a wide range of mountings.

- Environment:** Industrial, Hazardous, *Mining
- Frequency Range:** 2Hz – 1kHz
- Temperature Range:** -25 to 90°C
- Output:** DC 4-20mA
- Entry Type:** Top Entry



2200 Series Sensor Guide

Monitoring



MTN/2285W

Submersible, general purpose, top-entry velocity transducer with DC output. Made from robust stainless steel throughout for continuous vibration monitoring in harsh underwater environments. Internal electronics are enclosed in a Faraday cage and isolated to minimise noise.

Sealed to IP68 with industry standard two-wire 4-20mA output proportional to sensor range that can connect directly to PLC, DCS and other industrial controllers. Includes integral heavy duty polyurethane cable and is available with a wide range of mountings.

Environment: Submersible ⓘ
Frequency Range: 2Hz – 1kHz
Temperature Range: -25 to 90°C
Output: DC 4-20mA
Entry Type: Top Entry

MTN/2285IW

ATEX and IECEx Group II certified. Submersible, general purpose, top-entry velocity transducer with DC output. Made from robust stainless steel throughout for continuous vibration monitoring in harsh underwater environments and areas with constant moisture or condensation. Internal electronics are enclosed in a Faraday cage and isolated to minimise noise.

Sealed to IP68 with industry standard two-wire 4-20mA output proportional to sensor range that can connect directly to PLC, DCS and other industrial controllers. Includes integral heavy duty polyurethane cable and is available with a wide range of mountings.

Environment: Submersible ⓘ
Hazardous
Frequency Range: 2Hz – 1kHz
Temperature Range: -25 to 90°C
Output: DC 4-20mA
Entry Type: Top Entry

MTN/2285S-2P/4P/C

General purpose, side-entry velocity transducer with DC output. Made from robust stainless steel throughout for continuous vibration monitoring in harsh environments. Internal electronics are enclosed in a Faraday cage and isolated to minimise noise.

Sealed to IP67 with industry standard two wire 4-20mA output proportional to sensor range that can connect directly to PLC, DCS and other industrial controllers. Includes 2-pin MS connector, 4-pin M12 connector or stainless steel overbraided ETFE cable and is available with ¼"-28UNF, M6 or M8 mounting bolt.

Environment: Industrial
Frequency Range: 2Hz – 1kHz
Temperature Range: -25 to 90°C
Output: DC 4-20mA
Entry Type: Side Entry



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03	Introduction	MTN/2285W
04	Services	MTN/2285IW
05 06 07	08 Monitoring	MTN/2285S-2P/4P/C
09 10 11	Analysis	MTN/2285IS-2P/4P/C
12 13	Special Purpose	MTN/M2285ISC
14	Accessories	MTN/2287-2P/4P/C
		MTN/2287I-2P/4P/C
		MTN/M2287IC



MTN/2285IS-2P/4P/C MTN/M2285ISC*

ATEX and IECEx Group I & II certified. General purpose, side-entry velocity transducer with DC output. Made from robust stainless steel throughout for continuous vibration monitoring in harsh industrial environments. Internal electronics are enclosed in a Faraday cage and isolated to minimise noise.

Sealed to IP67 with industry standard two wire 4-20mA output proportional to sensor range that can connect directly to PLC, DCS and other industrial controllers. Includes 2-pin MS connector, 4-pin M12 connector or stainless steel overbraided ETFE cable and is available with 1/4"-28UNF, M6 or M8 mounting bolt.

Environment: Industrial, Hazardous, *Mining

Frequency Range: 2Hz – 1kHz

Temperature Range: -25 to 90°C

Output: DC 4-20mA

Entry Type: Side Entry

MTN/2287-2P/4P/C

General purpose, top-entry accelerometer with DC output proportional to acceleration. Made from robust stainless steel throughout for continuous vibration monitoring in harsh environments. Internal electronics are enclosed in a Faraday cage and isolated to minimise noise.

Sealed to IP67 with industry standard two wire 4-20mA output proportional to sensor range that can connect directly to PLC, DCS and other industrial controllers. Includes 2-pin MS connector, 4-pin M12 connector or stainless steel overbraided ETFE cable and is available with a wide range of mountings.

Environment: Industrial

Frequency Range: 2Hz – 1kHz

Temperature Range: -25 to 90°C

Output: DC 4-20mA

Entry Type: Top Entry

MTN/2287I-2P/4P/C MTN/M2287IC*

ATEX and IECEx Group I & II certified. General purpose, top-entry accelerometer with DC output proportional to acceleration. Made from robust stainless steel throughout for continuous vibration monitoring in harsh underwater environments and areas with constant moisture or condensation. Internal electronics are enclosed in a Faraday cage and isolated to minimise noise.

Sealed to IP67 with industry standard two wire 4-20mA output proportional to sensor range that can connect directly to PLC, DCS and other industrial controllers. Includes 2-pin MS connector, 4-pin M12 connector or stainless steel overbraided ETFE cable and is available with a wide range of mountings.

Environment: Industrial, Hazardous, *Mining

Frequency Range: 2Hz – 1kHz

Temperature Range: -25 to 90°C

Output: DC 4-20mA

Entry Type: Top Entry



2200 Series Sensor Guide

Monitoring



MTN/2287W

Submersible, general purpose, top-entry accelerometer with DC output proportional to acceleration. Made from robust stainless steel throughout for continuous vibration monitoring in harsh environments. Internal electronics are enclosed in a Faraday cage and isolated to minimise noise.

Sealed to IP68 with industry standard two wire 4-20mA output proportional to sensor range that can connect directly to PLC, DCS and other industrial controllers. Includes integral heavy duty polyurethane cable and is available with a wide range of mountings.

Environment: Submersible ⓘ
Frequency Range: 2Hz – 1kHz
Temperature Range: -25 to 90°C
Output: DC 4-20mA
Entry Type: Top Entry

MTN/2287IW

ATEX and IECEx Group II certified. Submersible, general purpose, top-entry accelerometer with DC output proportional to acceleration. Made from robust stainless steel throughout for continuous vibration monitoring in harsh underwater environments and areas with constant moisture or condensation. Internal electronics are enclosed in a Faraday cage and isolated to minimise noise.

Sealed to IP68 with industry standard two wire 4-20mA output proportional to sensor range that can connect directly to PLC, DCS and other industrial controllers. Includes integral heavy duty polyurethane cable and is available with a wide range of mountings.

Environment: Submersible ⓘ
Hazardous
Frequency Range: 2Hz – 1kHz
Temperature Range: -25 to 90°C
Output: DC 4-20mA
Entry Type: Top Entry

MTN/2287S-2P/4P/C

General purpose, side-entry accelerometer with DC output proportional to acceleration. Made from robust stainless steel throughout for continuous vibration monitoring in harsh environments. Internal electronics are enclosed in a Faraday cage and isolated to minimise noise.

Sealed to IP67 with industry standard two wire 4-20mA output proportional to sensor range that can connect directly to PLC, DCS and other industrial controllers. Includes 2-pin MS connector, 4-pin M12 connector or stainless steel overbraided ETFE cable and is available with ¼"-28UNF, M6 or M8 mounting bolt.

Environment: Industrial
Frequency Range: 2Hz – 1kHz
Temperature Range: -25 to 90°C
Output: DC 4-20mA
Entry Type: Side Entry



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03	Introduction	MTN/2287W
04	Services	MTN/2287IW
05 06 07 08	Monitoring	MTN/2287S-2P/4P/C
09 10 11	Analysis	MTN/2200-2P/4P/C
12 13	Special Purpose	MTN/2200I-2P/4P/C
14	Accessories	MTN/M2200IC

Analysis Sensors



MTN/2200-2P/4P/C

General purpose top-entry constant current accelerometer with isolated AC output. Made from robust stainless steel throughout for long term vibration analysis in harsh environments. Internal electronics are isolated to minimise noise with increased bias voltage stability.

Sealed to IP67 and includes 2-pin MS connector, 4-pin M12 connector or stainless steel overbraided ETFE cable and is available with a wide range of mountings.

Environment: Industrial

Frequency Range: 0.8Hz – 12kHz

Temperature Range: -55 to 140°C

Output: AC 100mV/g

Entry Type: Top Entry

MTN/2200I-2P/4P/C MTN/M2200IC*

ATEX and IECEx Group I & II certified.

General purpose top-entry constant current accelerometer with isolated AC output. Made from robust stainless steel throughout for long term vibration analysis in harsh, hazardous gas and dust environments. Internal electronics are isolated to minimise noise with increased bias voltage stability.

Sealed to IP67 and includes 2-pin MS connector, 4-pin M12 connector or stainless steel overbraided ETFE cable and is available with a wide range of mountings.

Environment: Industrial, Hazardous, *Mining

Frequency Range: 0.8Hz – 12kHz

Temperature Range: -55 to 140°C

Output: AC 100mV/g

Entry Type: Top Entry



2200 Series Sensor Guide

Analysis



MTN/2200W

Submersible, general purpose, top-entry constant current accelerometer with isolated AC output. Made from robust stainless steel throughout for long term vibration analysis in harsh underwater environments. Internal electronics are isolated to minimise noise with increased bias voltage stability.

Sealed to IP68 and includes integral heavy duty polyurethane cable. Available with a wide range of mountings.

Environment: Submersible ⓘ
Frequency Range: 0.8Hz – 12kHz
Temperature Range: -55 to 90°C
Output: AC 100mV/g
Entry Type: Top Entry

MTN/2200IW

ATEX and IECEx Group II certified. Submersible, general purpose, top-entry constant current accelerometer with isolated AC output. Made from robust stainless steel throughout for long term vibration analysis in harsh underwater environments and areas with constant moisture or condensation. Internal electronics are isolated to minimise noise with increased bias voltage stability.

Sealed to IP68 and includes integral heavy duty polyurethane cable. Available with a wide range of mountings.

Environment: Submersible ⓘ
Hazardous
Frequency Range: 0.8Hz – 12kHz
Temperature Range: -55 to 90°C
Output: AC 100mV/g
Entry Type: Top Entry

MTN/2200S-2P/4P/C

General purpose, side-entry constant current accelerometer with isolated AC output. Made from robust stainless steel throughout for long term vibration analysis in harsh environments. Internal electronics are isolated to minimise noise with increased bias voltage stability.

Sealed to IP67 and includes 2-pin MS connector, 4-pin M12 connector or stainless steel overbraided ETFE cable and is available with ¼"-28UNF, M6 or M8 mounting bolt.

Environment: Industrial
Frequency Range: 0.8Hz – 12kHz
Temperature Range: -55 to 140°C
Output: AC 100mV/g
Entry Type: Side Entry



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03	Introduction	MTN/2200W
04	Services	MTN/2200IW
05 06 07 08	Monitoring	MTN/2200S-2P/4P/C
09 10 11	Analysis	MTN/2200IS-2P/4P/C
12 13	Special Purpose	MTN/M2200ISC
14	Accessories	MTN/2200SW
		MTN/2200ISW



MTN/2200IS-2P/4P/C MTN/M2200ISC*

ATEX and IECEx Group I & II certified. General purpose side-entry constant current accelerometer with isolated AC output. Made from robust stainless steel throughout for long term vibration analysis in harsh, hazardous gas and dust environments. Internal electronics are isolated to minimise noise with increased bias voltage stability.

Sealed to IP67 and includes 2-pin MS connector, 4-pin M12 connector or stainless steel overbraided ETFE cable and is available with 1/4"-28UNF, M6 or M8 mounting bolt.

Environment: Industrial, Hazardous, *Mining
Frequency Range: 0.8Hz – 12kHz
Temperature Range: -55 to 140°C
Output: AC 100mV/g
Entry Type: Side Entry

MTN/2200SW

Submersible, general purpose, side-entry constant current accelerometer with isolated AC output. Made from robust stainless steel throughout for long term vibration analysis in harsh underwater environments. Internal electronics are isolated to minimise noise with increased bias voltage stability.

Sealed to IP68 and includes integral heavy duty polyurethane cable. Available with 1/4"-28UNF, M6 or M8 mounting bolt.

Environment: Submersible ⓘ
Frequency Range: 0.8Hz – 12kHz
Temperature Range: -55 to 90°C
Output: AC 100mV/g
Entry Type: Side Entry

MTN/2200ISW

ATEX and IECEx Group II certified. Submersible, general purpose, side-entry constant current accelerometer with isolated AC output. Made from robust stainless steel throughout for long term vibration analysis in harsh underwater environments and areas with constant moisture or condensation. Internal electronics are isolated to minimise noise with increased bias voltage stability.

Sealed to IP68 and includes integral heavy duty polyurethane cable. Available with 1/4"-28UNF, M6 or M8 mounting bolt.

Environment: Submersible ⓘ
 Hazardous
Frequency Range: 0.8Hz – 12kHz
Temperature Range: -55 to 90°C
Output: AC 100mV/g
Entry Type: Side Entry



2200 Series Sensor Guide

Special Purpose

Special Purpose



MTN/2200T-4P/C

General purpose top-entry constant current accelerometer with isolated AC and temperature outputs. Made from robust stainless steel throughout for long term vibration analysis in harsh environments. Internal electronics are isolated to minimise noise with increased bias voltage stability.

Sealed to IP67 and includes 4-pin M12 connector or stainless steel overbraided ETFE cable and is available with a wide range of mountings.

Environment: Industrial
Frequency Range: 0.8Hz – 12kHz
Temperature Range: -55 to 90°C
Output: AC 100mV/g and 10mV/°C
Entry Type: Top Entry

MTN/2200STC

Dual purpose, side-entry constant current accelerometer with isolated AC and temperature outputs. Made from robust stainless steel throughout for long term vibration analysis in harsh environments. Internal electronics are isolated to minimise noise with increased bias voltage stability.

Sealed to IP67 and includes stainless steel overbraided ETFE cable. Available with a wide range of mountings.

Environment: Industrial
Frequency Range: 0.8Hz – 12kHz
Temperature Range: -55 to 140°C
Output: AC 100mV/g and 10mV/°C
Entry Type: Side Entry



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	03	Introduction	MTN/2200T-4P/C
	04	Services	MTN/2200STC
05 06 07 08		Monitoring	MTN/2200TW
09 10 11		Analysis	MTN/2285T-4P/C
12 13	13	Special Purpose	MTN/2285STC
	14	Accessories	



MTN/2200TW

Submersible, dual purpose, top-entry constant current accelerometer with isolated AC and temperature outputs. Made from robust stainless steel throughout for long term vibration analysis in harsh underwater environments and areas with constant moisture or condensation. Internal electronics are isolated to minimise noise with increased bias voltage stability.

Sealed to IP68 and includes integral heavy duty polyurethane cable. Available with a wide range of mountings.

Environment: Submersible ⓘ
Frequency Range: 0.8Hz – 12kHz
Temperature Range: -55°C – 140°C
Output: AC 100mV/g and 10mV/°C
Entry Type: Top Entry

MTN/2285T-4P/C

Dual purpose, top-entry velocity transducer with DC and temperature outputs. Made from robust stainless steel throughout for continuous vibration monitoring in harsh environments. Internal electronics are enclosed in a Faraday cage and isolated to minimise noise.

Sealed to IP67 with loop powered, 4-20mA output for direct connection to PLC and other industrial controllers. Includes 4-pin M12 connector or stainless steel overbraided ETFE cable and is available with a wide range of mountings.

Environment: Industrial
Frequency Range: 2Hz – 1kHz
Temperature Range: -25 to 90°C
Output: DC 4-20mA and 10mV/°C
Entry Type: Top Entry

MTN/2285STC

Dual purpose, side-entry velocity transducer with DC and temperature outputs. Made from robust stainless steel throughout for continuous vibration monitoring in harsh environments. Internal electronics are enclosed in a Faraday cage and isolated to minimise noise.

Sealed to IP67 with loop powered, 4-20mA output for direct connection to PLC and other industrial controllers. Includes stainless steel overbraided ETFE cable. Available with ¼"-28UNF, M6 or M8 mounting bolt.

Environment: Industrial
Frequency Range: 2Hz – 1kHz
Temperature Range: -25 to 90°C
Output: DC 4-20mA and 10mV/°C
Entry Type: Side Entry



2200 Series Sensor Guide

Accessories

Magnets

MTN/MM001

1/4"-28UNF male, 35mm,
2 pole type, 20kgs

MTN/MM002

10-32UNF male, 19mm, 7kgs

MTN/MM004

10-32UNF male, 35mm,
2 pole type, 20kgs

MTN/MM005

Quick-fit male, 35mm,
2 pole type, 20kgs

MTN/MM006

M6 female, 19mm, 7kgs

MTN/MM007

M8 female, 35mm,
2 pole type, 20kgs

MTN/MM009

10-32UNF male, 25mm,
2 pole type

Studs and grub screws

MTN/MS036

1/4"-28 UNF Male to M6 Male

MTN/MS039

1/4"-28 UNF Male to 10-32 UNF Male

MTN/MS067

1/4"-28 UNF Male to M8 Male

MTN/MS068

1/4"-28 UNF Male to 1/4"-28 UNF Male

MTN/MS124

1/4"-28 UNF Male to M10 Male

MTN/MS132

1/4"-28 UNF Male to M12 Male

Quick fit adapters

MTN/MS001

Q/F Male to Glue base

MTN/MS002

Q/F Male to M8 Male

MTN/MS003

Q/F Male to M10 Male

MTN/MS004

Q/F Male to 1/4"-28 UNF Male

MTN/MS006

Q/F Male to M6 Male

Mounting adapters

MTN/MS005

Q/F Male to 1/4"-28 UNF Female

MTN/MS007

Q/F Male to 10-32 UNF Female

MTN/MS008

Q/F Male to M8 Female

MTN/MS011

1/4"-28 UNF Male to Q/F Female

MTN/MS013

1/4"-28 UNF Male to Glue base

MTN/MS033

1/4"-28 UNF Male to Q/F Female

MTN/MS038

Q/F Male to M8 Conical Male

MTN/MS061

1/4"-28 UNF Male to 10-32 UNF Male

MTN/MS079

1/4"-28 UNF Male to Q/F Female

MTN/MS106

Q/F Male to M10 Female

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Isolation

MTN/MS034

1/4"-28 UNF Male to 1/4"-28 UNF Female

MTN/MS093

Q/F Male to M8 Male

Tools

MTN/MH001

M8 spot face tool

MTN/MH010

Mounting stud adhesive (liquid steel type), for 20 -25 glue-on adaptors

MTN/8301

Accelerometer cable checker

Cable assemblies

Bespoke cable assemblies made to order (including high volume), please contact us for details.

i Other accessories are available; please contact us for more information.







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Sensors for Industry

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