

Product identity and trade record

190501-09-99-01

Velomitor CT Low-Frequency Velocity Transducer

Bently Nevada 190501-09-99-01 is a Velomitor CT velocity transducer configured for low-frequency casing-vibration velocity on cooling-tower or air-cooled heat-exchanger fan assemblies.

PRODUCT & TRADE RECORD	DETAIL
Manufacturer	Bently Nevada
Model	190501-09-99-01
Country of origin	USA
HS code	8537101190
Shipping origin	Xiamen, Fujian, China
Availability	Stock 1 3-day lead time Fast shipping

Measured quantity and system role

The Velomitor CT measures absolute machine-case velocity. Its low-frequency response supports cooling-tower and air-cooled heat-exchanger fan monitoring, with any-orientation mounting on an appropriately rigid structure.

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Technical specifications

Model-specific configuration and manufacturer-published performance values. Ordering options are preserved for the complete 190501-09-99-01 configuration.

PARAMETER	VALUE
Transducer type	Velomitor CT velocity transducer
Primary application	Low-frequency casing vibration on cooling-tower or air-cooled heat-exchanger fans
Sensitivity	3.94 mV/mm/s (100 mV/in/s), +/-5%
Frequency response	3.0 to 900 Hz, +/-1 dB
Extended frequency response	1.5 Hz to 1 kHz, +/-3 dB
Velocity range	63.5 mm/s peak (2.5 in/s peak)
Transverse sensitivity	Less than 5%
Amplitude linearity	+/-2%
Mounted resonance	9 kHz minimum
Bias voltage	10.1 Vdc +/-1 Vdc
Dynamic impedance	Less than 400 ohm
Broadband noise floor	0.229 mm/s peak
Maximum cable length	305 m (1000 ft)
Operating temperature	-40 to +85 degC
Storage temperature	-40 to +100 degC
Shock resistance	5000 g
Humidity	100% condensing, non-submerged
Case material	316L stainless steel
Connector	2-pin MIL-C-5015
Mounting interface	Plate stud 3/8-24 to 1/4-in NPT
Mounting torque	4.5 +/-0.6 N m
Mounting orientation	Any orientation
Agency approval option	01, North America cNRTLus option per approvals guide 108M1756

Applications and system role

Cooling-tower fan velocity

Measures low-frequency casing motion on fan assemblies for condition assessment.

Air-cooled heat exchangers

Supports vibration monitoring on air-cooled heat-exchanger fan assemblies.

Low-frequency measurement

Velocity response extends to the low-frequency fan operating region.

Installed monitoring channel

Provides a dynamic velocity signal with DC bias for the compatible monitor input.

Signal path and compatible elements

SYSTEM ELEMENT	MODEL-SPECIFIC DETAIL
Signal source	Absolute casing-velocity output from the Velomitor CT sensing element.
Mechanical interface	Plate stud: 3/8-24 to 1/4-in NPT on the documented rigid fan structure.
Cable arrangement	Included 32 ft cable with supported route, shield and assigned monitor termination.
Electrical acceptance	Confirm bias, polarity and broadband noise before a controlled velocity-response check.

Engineering note

Install the plate-stud transducer on the documented rigid fan-assembly structure, torque the 3/8-24 to 1/4-in NPT interface to 4.5 +/-0.6 N m, and verify the 32 ft cable routing. Confirm bias voltage, polarity, frequency response and the cNRTLus approval option before returning the monitoring channel to service.

Engineer questions

QUESTION	ENGINEERING ANSWER
Which fan assemblies use 190501-09-99-01?	The 190501-09-99-01 Velomitor CT is intended for low-frequency casing-vibration velocity on cooling-tower and air-cooled heat-exchanger fan assemblies.
What mounting interface is supplied on 190501-09-99-01?	The ordering code specifies a plate stud with a 3/8-24 thread to 1/4-in NPT interface; preserve that exact mechanical execution during replacement.
What cable arrangement must be checked on 190501-09-99-01?	The -99 option is supplied as a unit with an included 32 ft cable; verify the cable route, connector condition and monitor termination before removal.
What velocity signal does 190501-09-99-01 provide?	It provides 3.94 mV/mm/s (100 mV/in/s) sensitivity with a 3 to 900 Hz response at +/-1 dB and an extended 1.5 Hz to 1 kHz response at +/-3 dB.
What torque should be used for 190501-09-99-01?	Use the manufacturer mounting torque of 4.5 +/-0.6 N m for the plate-stud interface, with a rigid, clean mounting surface.
How is the approval option in 190501-09-99-01 interpreted?	Option 01 is the North America cNRTLus approval option listed in the 108M1756 approvals quick-reference guide; confirm the installed site approval drawing.
What electrical checks are required after replacing 190501-09-99-01?	Confirm the 10.1 Vdc +/-1 Vdc bias, broadband noise floor, polarity, stable connector termination and a controlled fan-response trend before release.
What should be recorded for 190501-09-99-01 maintenance?	Retain the complete model code, mounting torque, cable route, approval option, bias and noise checks, diagnostic state and final alarm-response evidence.

Related products and support

Related Apter Power pages are navigation aids, not evidence for the technical values in this document.

BRAND + MODEL	PRODUCT ROLE	APTER POWER PAGE
Bently Nevada 190501-02-99-00	Velomitor CT velocity transducer	View Bently Nevada 190501-02-99-00 page
Bently Nevada 190501-10-00-00	Velomitor CT velocity transducer	View Bently Nevada 190501-10-00-00 page
Bently Nevada 190501-12-00-01	Velomitor CT velocity transducer	View Bently Nevada 190501-12-00-01 page
Bently Nevada 190501-01-00-04	Velomitor CT velocity transducer	View Bently Nevada 190501-01-00-04 page
Bently Nevada 190501-12-00-02	Velomitor CT velocity transducer	View Bently Nevada 190501-12-00-02 page
Bently Nevada 330500-07-00	Velomitor CT velocity transducer	View Bently Nevada 330500-07-00 page
Bently Nevada 330500-01-00	Velomitor CT velocity transducer	View Bently Nevada 330500-01-00 page
Bently Nevada 330525-00	Velocity transducer system accessory	View Bently Nevada 330525-00 page

Manufacturer source identifiers

Bently Nevada 190501 Velomitor CT Transducer Datasheet - 141636 Rev. AF. Approval option reference: Approvals Quick Reference Guide - 108M1756.

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