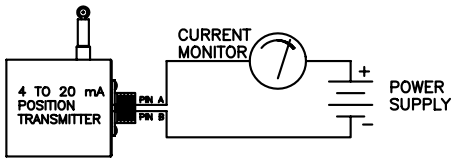
HX-VP420 Series Installation Guide

Wiring and Circuit Diagram

Model HX-VP420



The 4 to 20 mA output transducer is a 2-wire, loop powered device. The transducer, power supply, and current monitor must be connected in series as illustrated above.

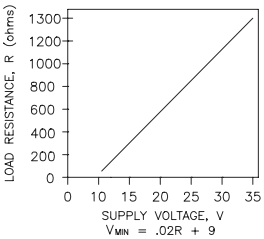
The minimum supply voltage is a function of total loop resistance. It may be calculated using the formula:

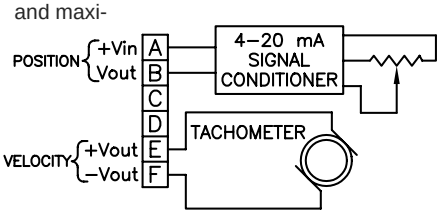
V(Min.)= (0.02 x Load Res.) + 9 VDC

It may also be determined from the accompanying graph, shown at right.

When mounting, insure that the baseplate of the transducer is grounded to earth ground. For best noise immunity, use twisted pair shielded cable between the transducer and the electrical interface. The shield of the cable should be open at the transducer and grounded at the electrical interface.

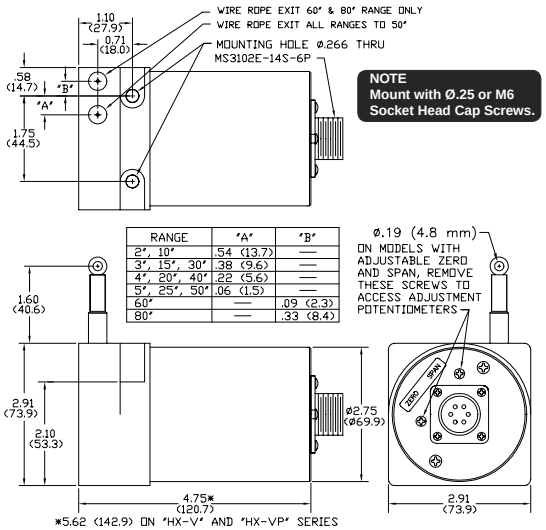
With small blade type screwdriver (.105" max. blade width X .023" max. blade thickness), adjust the *Zero* and *Span* controls on the transducer to set the 4 and 20 mA output limits. **Note:** The *Zero* and *Span* controls are somewhat interactive and may require several iterations to obtain the desired zero and maximum settings. Extend the transducer's cable (on angular position transducers, rotate shaft) to the desired zero position (must be within 0% to 30% of range). Adjust the *Zero* control so that the output current is 4 mA. Then extend the cable (on angular position transducers, rotate shaft) to the desired maximum position (must be within 80% to 100% of range). Adjust the *Span* control for maximum output current of 20 mA. Recheck the zero setting and adjust if necessary. Recheck the Span setting and readjust if necessary.





Velocity
The tachometer is self energizing and requires no input voltage.

Dimensional Information



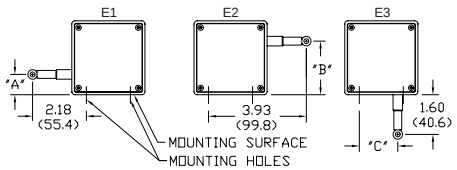
RANGE	"A"	"B"
2", 10"	.54 (13.7)	—
3", 15", 30"	.38 (9.6)	—
4", 20", 40"	.22 (5.6)	—
5", 25", 50"	.06 (1.5)	—
60"	—	.09 (2.3)
80"	—	.33 (8.4)

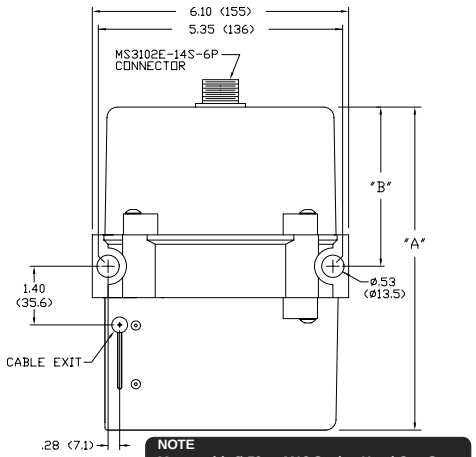
Note: Dimensions in brackets are millimeters.

Alternate Wire Rope Exit

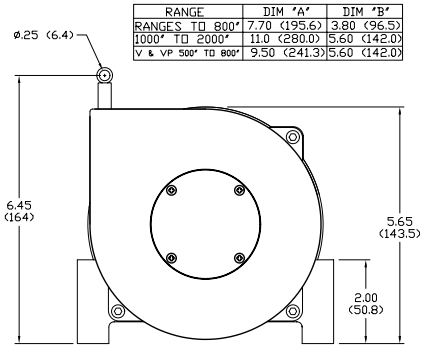
RANGE	"A"	"B"	"C"
2", 10"	1.12 (28.4)	1.79 (45.5)	1.21 (30.7)
3", 15", 30"	.96(24.4)	1.95 (49.5)	1.37 (34.8)
4", 20", 40"	.80 (20.3)	2.11 (53.6)	1.53 (38.9)
5", 25", 50"	.64 (16.3)	2.27 (57.7)	1.69 (42.9)
60"	.49 (12.4)	2.42 (61.5)	1.84 (46.7)
80"	.25 (6.4)	2.66 (67.6)	2.08 (52.8)

Alternate Wire Rope Exit



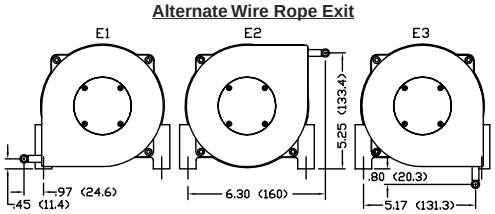


RANGE	DIM "A"	DIM "B"
RANGES TO 800"	7.70 (195.6)	3.80 (96.5)
1000" TO 2000"	11.0 (280.0)	5.60 (142.0)
V & VP 500" TO 800"	9.50 (241.3)	5.60 (142.0)



DIMENSIONS IN BRACKETS ARE MILLIMETERS

Alternate Wire Rope Exit



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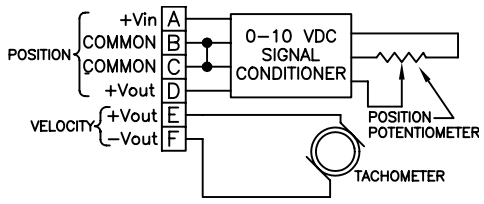
HX-VP510 Series Installation Guide

Wiring and Circuit Diagram

Model HX-VP510

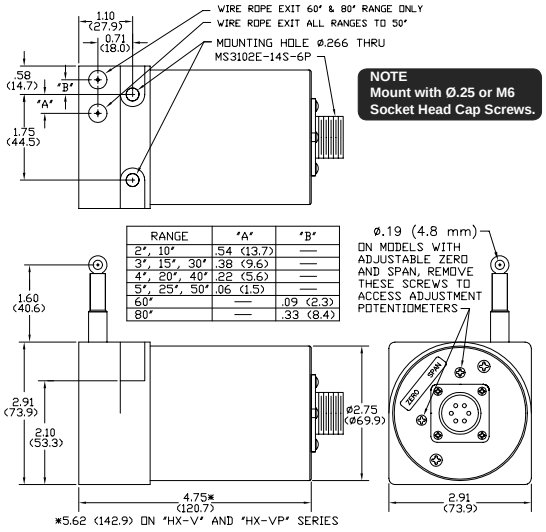


Velocity
The tachometer is self energizing and requires no input voltage.

Excitation Voltage.....4.9 to 30 VDC
Excitation Current.....40 mA max.
Output Impedance.....10 Ω max.
Output Load.....5KΩ min.

As shown in the diagram above, both commons on pins "B" and "C" are connected together internally at the transducer, so that either a 3-wire or 4-wire connection to the transducer may be made.
With small blade type screwdriver (.105" max. blade width X .023" max. blade thickness), adjust the *Zero* and *Span* controls on the transducer to set zero output voltage and maximum output voltage. **Note:** The *Zero* and *Span* controls are somewhat interactive and may require several iterations to obtain the desired zero and maximum settings.
Extend the cable (on angular position transducers, rotate shaft) of the transducer to the desired zero position (must be within 0% to 30% of range.) Adjust the *Zero* control so that the output voltage is zero. Then extend the cable (on angular position transducers, rotate shaft) to the desired maximum position (must be within 80% to 100% of range.) Adjust the *Span* control for maximum output voltage required (unit will adjust from 5 VDC to 10 VDC). Recheck the zero setting and adjust if necessary. Recheck the Span setting and readjust if necessary.

Dimensional Information



RANGE	"A"	"B"
2", 10"	.54 (13.7)	—
3", 15", 30"	.38 (9.6)	—
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Note: Dimensions in brackets are millimeters.

Alternate Wire Rope Exit

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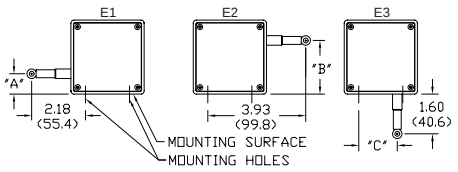
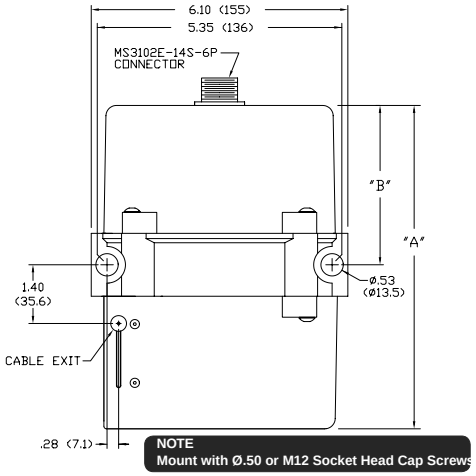
Alternate Wire Rope Exit





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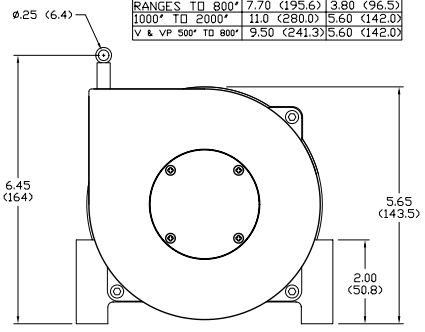
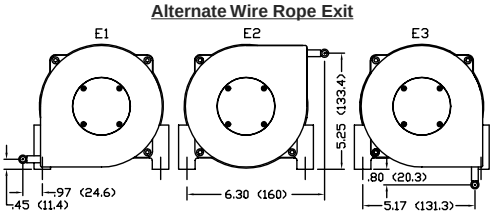


DIMENSIONS IN BRACKETS ARE MILLIMETERS

Alternate Wire Rope Exit



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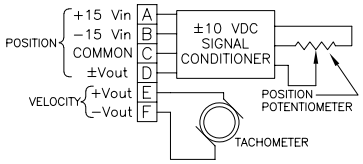
HX-VP1010 Series Installation Guide

Wiring and Circuit Diagram

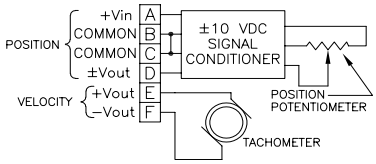
Model HX-VP1010



Position
Excitation Voltage..... +15 & -15 VDC (±5%)
Output Impedance..... 1.0 Ω max.
Output Load..... 5KΩ min.

Velocity
The tachometer is self energizing and requires no input voltage.

Model HX-VP1010-xx-



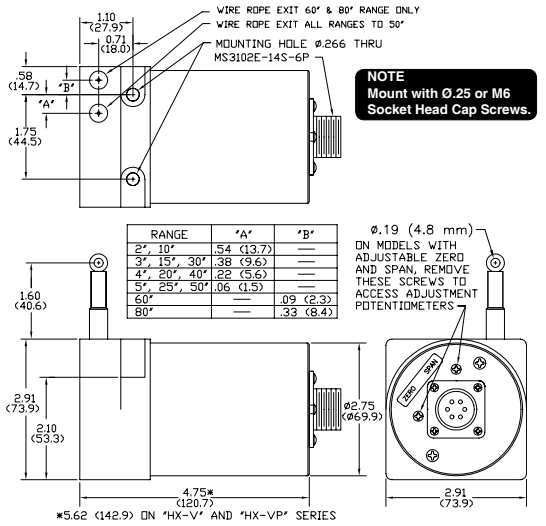
Position
See **Table 1** at right for position input voltage.

Velocity
The tachometer is self energizing and requires no input

Option Designator	Input Voltage
SI	**4.9 to 30 VDC**
SI5	5 ±0.5 VDC
SI12	12 ±0.5 VDC
SI15	15 ±0.5 VDC
SI24	24 ±1.0 VDC

With small blade type screwdriver (.105" max. blade width X .023" max. blade thickness), adjust the *Zero* and *Span* controls on the transducer to set the zero and maximum output voltages. **Note:** The *Zero* and *Span* controls are somewhat interactive and may require several iterations to obtain the desired zero and maximum voltage settings. Extend the transducer cable (on angular position transducers, rotate shaft) to the desired zero position (must be within 10% to 90% of the total range). Adjust the *Zero* control to give a zero voltage output. Then extend the cable (on angular position transducers, rotate shaft) to the desired maximum position in the direction of longest possible travel (either positive or negative) from the zero position. To obtain maximum output voltage magnitude this position must lie within 50% to 100% of the longest possible travel. Adjust the *Span* control to the output voltage magnitude required (+ or - 10 VDC maximum). Recheck the zero and span settings and readjust if necessary.

Dimensional Information



Alternate Wire Rope Exit

Note: Dimensions in brackets are millimeters.

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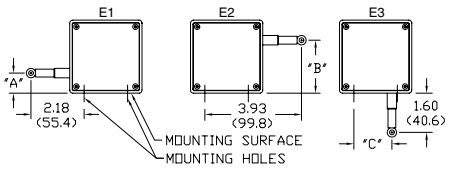

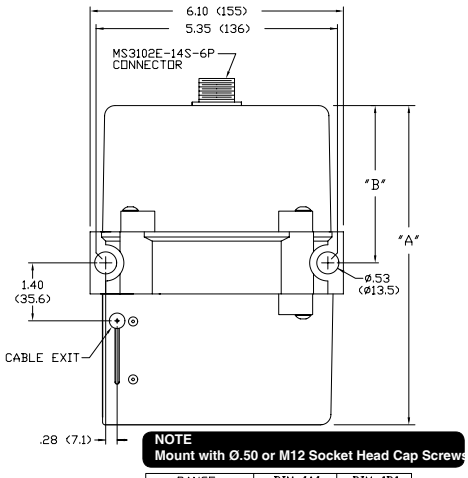

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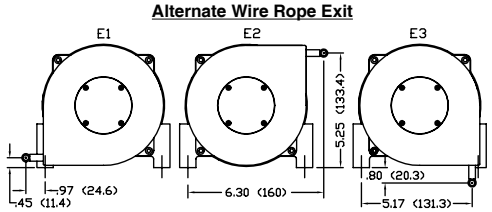
Alternate Wire Rope Exit



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