

# VRVT 190 LINEAR DISPLACEMENT TRANSDUCER



The VRVT 190 Linear Displacement Transducer combines the best features associated with LVDT's and potentiometers into one rugged, contactless and highly reliable displacement transducer.

The VRVT 190 utilises the proven VRVT contactless operating principle, allowing a short body to stroke length ratio. Housed within a rugged, welded stainless steel case, it is suitable for use in the most arduous environments.

With no electrical sliding contacts, the VRVT 190 has a working life which is almost limitless. The standard spherical bearing mounting style enables easy installation, and offers the user the option of upgrading to VRVT technology from potentiometers or LVDTs.

Signal conditioning is carried out in a separate electronics package which can be sited up to 30 metres away from the harsh environment in which the transducer may be required to operate. The package has a dc volts input, with dc volts (or current) output and span and zero adjustment facility in a choice of enclosures.

## PERFORMANCE

Electrical stroke length	mm	50 to 500mm
Independent linearity		Better than $\pm 0.2\%$ of stroke
Resolution		Infinite
Operational temperature	$^{\circ}\text{C}$	$-40^{\circ}\text{C}$ to $+85^{\circ}\text{C}$
Temperature performance	ppm	$\leq \pm 100\text{ppm}$ of electrical stroke/ $^{\circ}\text{C}$ ( $+20$ to $+60^{\circ}\text{C}$ ) $\leq \pm 200\text{ppm}$ of electrical stroke/ $^{\circ}\text{C}$ ( $-40$ to $+85^{\circ}\text{C}$ )
Operating force	gmf	120 max. (in horizontal plane)
Insulation resistance		$50\text{M}\Omega$ at 100Vdc
Sealing		IP65

## Note

The above specifications apply only when the VRVT 190 is operated in conjunction with a Penny & Giles EM Series electronic module.

## SIGNAL CONDITIONING

Input voltages	$\pm 15\text{V}$ ( $\pm 10\%$ ) and $+18$ to $30\text{Vdc}$
Standard outputs	$0$ to $10\text{Vdc}$ $0$ to $5\text{Vdc}$ $-5$ to $+5\text{Vdc}$ $5$ to $25\text{mA}$ $0$ to $20\text{mA}$ $4$ to $20\text{mA}$

## Notes

Each transducer is supplied with a programming module calibrated to match the electrical stroke length. The module is plugged into the required EM electronic module via mating connectors.

Maximum recommended distance between sensor and EM electronic module is 30m.

## AVAILABILITY

The VRVT 190 is available from stock in standard stroke lengths from 50mm to 500mm.

For custom requirements please contact one of our Sales Application Engineers for assistance.

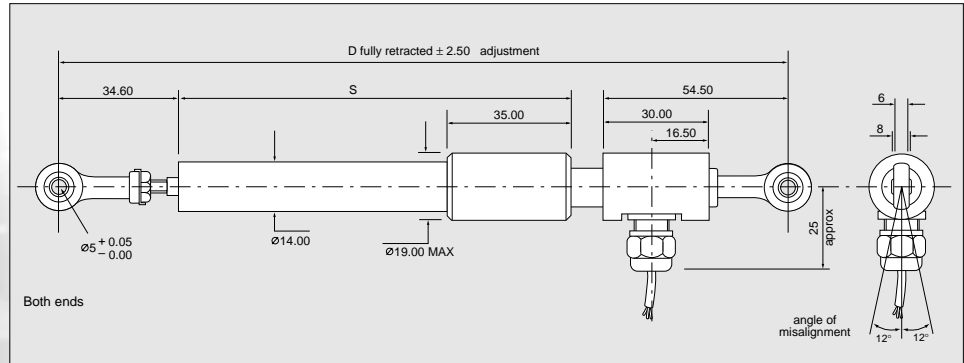
**Penny + Giles**

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## DIMENSIONS

Electrical stroke	E mm	50	75	100	125	150	200	250	300	400 <sup>†</sup>	500 <sup>†</sup>
Mechanical stroke	M mm	52	77	102	127	152	202	252	302	402 <sup>†</sup>	502 <sup>†</sup>
Sleeve length	S mm	126	151	176	201	226	276	326	376	476	576
Distance between centres	D mm	222	247	272	297	322	372	422	472	572	672
Approximate weight	gms	260	270	290	310	330	370	400	440	510	580

<sup>†</sup>400mm and 500mm models may require special mounting consideration - depending on application. Please consult our application engineers for assistance.



## ELECTRICAL CONNECTIONS

### Standard Cable:

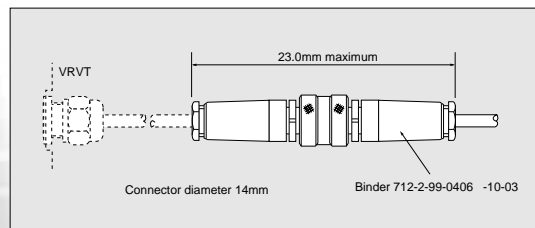
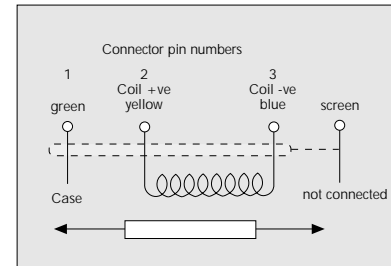
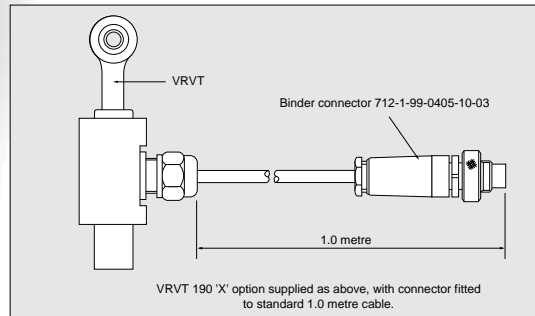
3 core + screen 19/0.15 ETFE insulated, TPS 120 sheath x 1 metre long

### Optional Connector:

Binder 712-1-99-0405-10-03 fitted to transducer cable

### Optional Mating Connector with Cable Extension:

Binder 712-2-99-0406-10-03 fitted to cable extension



Note: Drawings not to scale

## ORDERING CODES

VRVT190/SA /.... /....

E = Stroke length mm  
X = Cable connector option

Mating connector and extension cable order as:

SA 56332/....

Extension cable length (metres)

**NOTE** See EM Series data sheets for full technical specifications and ordering code.

### WEB SITE

<http://www.penny-giles-controls.co.uk>

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DOC: REF: VRVT190/US/98

Penny + Giles – the technology for linear position sensing