

DCV Series Isolated 0 to 10V Output Displacement Transducer

- Electrical interface for industrial applications
- High cycle life
- Stainless steel
- High accuracy
- High resolution
- Input/output isolation
- Supply 24V, Output 0-10V



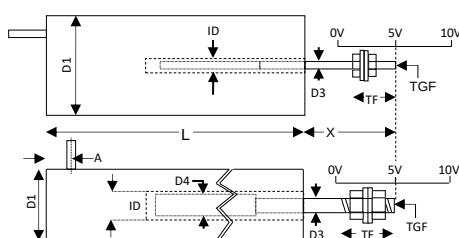
These transducers are for displacement / position measurement. They make an accurate position measurement of the movement of the armature (the sliding part) relative to the body of the displacement transducer.

This transducer uses the Linear Variable Differential Transformer (LVDT) principle which means that it is probably the most robust and reliable position sensor type available. The strength of the LVDT sensor's principle is that there is no electrical contact across the transducer position sensing element which for the user of the sensor means clean data, infinite resolution and a very long life.

Our DC to DC LVDT transducer has all of the benefits of the LVDT sensor principle with the added convenience of built-in LVDT electronics enabling a dc supply and dc output.

This series of displacement transducer is available as either an unguided, captive or spring return version.

Unguided version.



DCTH100/1430 to DCTH400/1430

D1=31.75mm D3=2mm
ID=2.54mm TGF=M3

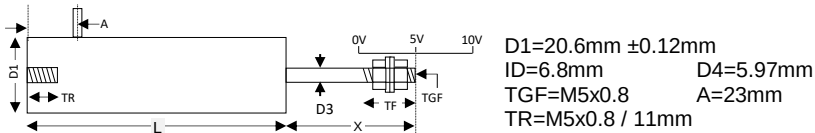
DCV025U to DCV0400U

D1=20.6mm ± 0.12 mm
D3=4.75mm ID=6.8mm
D4=5.97mm TGF=M5x0.8
A=9mm

On our DCV unguided LVDTs the armature assembly is a separate component, to make a measurement the user must guide the armature inside the body without touching the sides. Our DCV unguided position measurement transducers are appropriate where external guidance is available and give truly non-contact operation

Type	Range	Linearity error (% F.S.)	L	X (nom)	Total weight	Armature weight	TF	Inward over-travel
DCTH100/1430	5mm	$\pm 0.5/\pm 0.25/\pm 0.1$	83mm	34mm	207g	3g	18mm	11.6mm
DCTH200/1430	10mm	$\pm 0.5/\pm 0.25/\pm 0.1$	83mm	34mm	207g	3g	18mm	9.0mm
DCTH300/1430	15mm	$\pm 0.5/\pm 0.25/\pm 0.1$	83mm	34mm	207g	3g	18mm	6.5mm
DCTH400/1430	20mm	$\pm 0.5/\pm 0.25$	83mm	34mm	207g	3g	18mm	3.9mm
DCV025U	25mm	$\pm 0.5/\pm 0.25/\pm 0.1$	175mm	43mm	213g	17g	15mm	16mm
DCV050U	50mm	$\pm 0.5/\pm 0.25/\pm 0.1$	203mm	68mm	270g	23g	15mm	22mm
DCV100U	100mm	$\pm 0.5/\pm 0.25/\pm 0.1$	317mm	81mm	369g	37g	15mm	16mm
DCV150U	150mm	$\pm 0.5/\pm 0.25/\pm 0.1$	430mm	120mm	497g	55g	15mm	29mm
DCV200U	200mm	$\pm 0.5/\pm 0.25/\pm 0.1$	475mm	132mm	625g	71g	15mm	16mm
DCV300U	300mm	$\pm 0.5/\pm 0.25$	666mm	183mm	852g	100g	15mm	16mm
DCV400U	400mm	$\pm 0.5/\pm 0.25$	856mm	259mm	1.3kg	140g	29mm	27mm

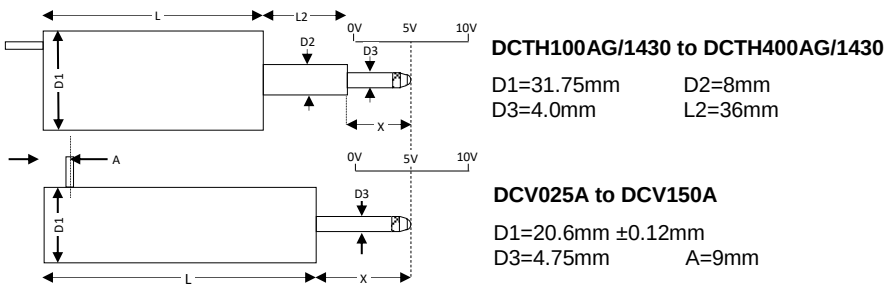
Captive guided version.



Our DCV captive guided displacement transducer has bearings to guide the armature inside the measurement sensor. Our DCV captive LVDTs are for position measurement applications where guidance may be poor and end bearings may be required.

Type	Range	Linearity error (% F.S.)	L	X (nom)	D3	Total weight	TF	Inward over-travel	Outward over-travel
DCV025C	25mm	$\pm 0.5/\pm 0.25/\pm 0.1$	194mm	38mm	4.75mm	340g	15mm	10mm	12mm
DCV050C	50mm	$\pm 0.5/\pm 0.25/\pm 0.1$	222mm	63mm	4.75mm	398g	15mm	13mm	10mm
DCV100C	100mm	$\pm 0.5/\pm 0.25/\pm 0.1$	336mm	76mm	4.75mm	511g	15mm	10mm	14mm
DCV150C	150mm	$\pm 0.5/\pm 0.25/\pm 0.1$	448mm	114mm	4.75mm	625g	15mm	24mm	15mm
DCV200C	200mm	$\pm 0.5/\pm 0.25/\pm 0.1$	494mm	127mm	4.75mm	767g	15mm	8mm	14mm
DCV300C	300mm	$\pm 0.5/\pm 0.25$	684mm	178mm	4.75mm	1.0kg	15mm	12mm	17mm
DCV400C	400mm	$\pm 0.5/\pm 0.25$	875mm	254mm	4.75mm	1.4kg	32mm	22mm	25mm
DCV500C	500mm	$\pm 0.5/\pm 0.25$	1067mm	305mm	4.75mm	1.7kg	27mm	34mm	35mm
DCV760C	760mm	± 0.5	1473mm	406mm	4.75mm	2.2kg	19mm	13mm	13mm
DCV940C	940mm	± 0.5	1740mm	508mm	6.00mm	2.6kg	27mm	5mm	33mm

Spring return version.



Our DCV spring displacement transducer has bearings to guide the armature inside the measurement sensor and a spring which pushes the armature to the fully out position. Our DCV spring return LVDTs are appropriate where it is not possible to connect the transducer armature to the moving component being measured.

Type	Range	Linearity error (% F.S.)	L	X (nom)	Total weight	Spring force at X	Spring rate	Inward over-travel	Outward over-travel
DCTH100AG/1430	5mm	$\pm 0.5/\pm 0.25/\pm 0.1$	83mm	12mm	220g	1.0N	0.9N/cm	2.2mm	1.3mm
DCTH200AG/1430	10mm	$\pm 0.5/\pm 0.25/\pm 0.1$	83mm	13mm	220g	1.0N	0.8N/cm	0.3mm	1.3mm
DCTH300AG/1430	15mm	$\pm 0.5/\pm 0.25/\pm 0.1$	83mm	18mm	220g	1.5N	0.6N/cm	1.4mm	1.3mm
DCTH400AG/1430	20mm	$\pm 0.5/\pm 0.25$	83mm	22mm	220g	1.8N	0.8N/cm	1.3mm	1.3mm
DCV025A	25mm	$\pm 0.5/\pm 0.25/\pm 0.1$	182mm	38mm	227g	1.3N	0.2N/cm	1.0mm	13mm
DCV050A	50mm	$\pm 0.5/\pm 0.25/\pm 0.1$	210mm	63mm	284g	2.0N	0.3N/cm	3.0mm	10mm
DCV100A	100mm	$\pm 0.5/\pm 0.25/\pm 0.1$	324mm	75mm	398g	1.8N	0.2N/cm	8mm	14mm
DCV150A	150mm	$\pm 0.5/\pm 0.25/\pm 0.1$	436mm	114mm	511g	6.0N	0.4N/cm	15mm	15mm

Specification	
Excitation/supply (acceptable)	14V to 26V, 30mA
Output	0V to 10V (0 = inward full scale)
Output ripple	30mV (peak-to-peak)
Analogue output bandwidth	200Hz
Output impedance	2 Ohms
Linearity error (Standard)	$\pm 0.5\%$ F.S.
Linearity error (Optional on some models)	$\pm 0.25\%$ F.S.
Linearity error (Optional on some models)	$\pm 0.1\%$ F.S.
Operating temperature range	-40°C to 70°C
Temperature coefficient (span)	$\pm 0.03\%$ F.S. /°C (typical)
Electrical termination	2m (integral cable) Longer available to order.

Torque
 Position
 Pressure
 Load Cells
 Displacement
 Instrumentation



Due to our policy of on-going development, DCV specifications may change without notice. Any modification to our DCV may affect some or all of the specifications for our equipment. All DCV dimensions and specifications are nominal.

DCV - WARNING - PERSONAL INJURY

Do not use our DCV as safety, emergency stop or feedback devices in any application where the failure of this product could result in damage to equipment, personal injury or death.

USA & Canada
RDP Electrosense
2216 Pottstown Pike
Pottstown, PA 19465
USA
Tel: 610-469-0850
Tel: 800-334-5838
Fax: 610-469-0852
Email: info@rdpe.com

Global Head Office
RDP Electronics Ltd
Grove Street, Heath Town
Wolverhampton, West Midlands, WV10 0PY
United Kingdom
Tel: +44 1902 457512
Email: sales@rdpe.com
URL: www.rdpe.com

Torque
Position
Pressure
Load Cells
Displacement
Instrumentation