DISPLACEMENT

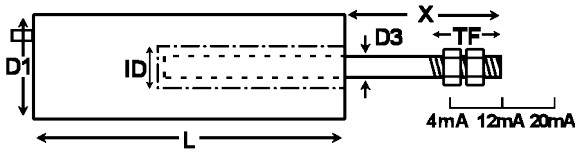
DCC Series 4-20mA 2-wire Output Displacement Transducer

- Electrical interface for industrial applications
- 4-20mA 2 wire interface
- Stainless steel
- High accuracy
- High cycle life
- High resolution

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 4-20mA LVDT transducer has all of the benefits of the LVDT sensor principle with the added convenience of a 2-wire interface..
This series of displacement transducer is available as either an unguided, captive or spring return version.

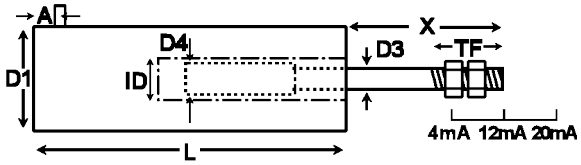
Unguided version.

DCC005U to DCC020U - End (axial) exit cable



D1=0.811'' ±0.005''
D3=0.08''
ID=0.100''
TGF=M3x0.5
X=Center of range

DCC025U to DCC0400U - Side (radial) exit cable



D1=0.811'' ±0.005''
D3=0.2''
D4=0.235''
ID=0.268''
TGF=M5x0.8
X=Center of range

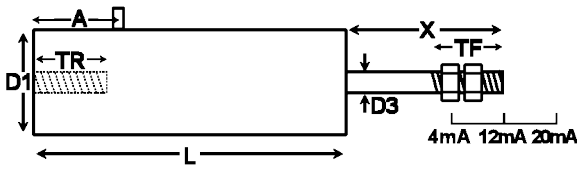
On our DCC unguided LVDTs the armature assembly is a separate component, to make a measurement the user must guide the armature inside the body without touching the sides. Our DCC unguided position measurement transducers are appropriate where external guidance is available and give truly non-contact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

Type	Range	Linearity error (% F.S.)	L	X (nom)	Total weight	Armature weight	TF	Inward over-travel
DCC005U	5mm (0.2")	±0.5/±0.25/±0.1	2.52"	1.3"	2.6oz	0.05oz	0.72"	0.46"
DCC010U	10mm (0.4")	±0.5/±0.25/±0.1	2.52"	1.3"	2.6oz	0.06oz	0.72"	0.35"
DCC015U	15mm (0.6")	±0.5/±0.25/±0.1	2.52"	1.3"	2.6oz	0.06oz	0.72"	0.26"
DCC020U	20mm (0.8")	±0.5/±0.25	2.52"	1.3"	2.6oz	0.07oz	0.72"	0.15"
DCC025U	25mm (1")	±0.5/±0.25/±0.1	6.89"	1.7"	7.5oz	0.60oz	0.59"	0.63"
DCC050U	50mm (2")	±0.5/±0.25/±0.1	7.99"	2.7"	9.5oz	0.81oz	0.59"	0.87"
DCC100U	100mm (4")	±0.5/±0.25/±0.1	12.48"	3.2"	13.0oz	1.31oz	0.59"	0.63"
DCC150U	150mm (6")	±0.5/±0.25/±0.1	16.93"	4.7"	1.1lb	1.94oz	0.59"	1.14"
DCC200U	200mm (8")	±0.5/±0.25/±0.1	18.70"	5.2"	1.4lb	2.50oz	0.59"	0.63"
DCC300U	300mm (11.8")	±0.5/±0.25	26.22"	7.2"	1.9lb	3.53oz	0.59"	0.63"
DCC400U	400mm (15.7")	±0.5/±0.25	33.70"	10.2"	2.8lb	4.94oz	1.15"	1.06"

Captive guided version.

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

DCC025C to DCC0940C - Side (radial) exit cable



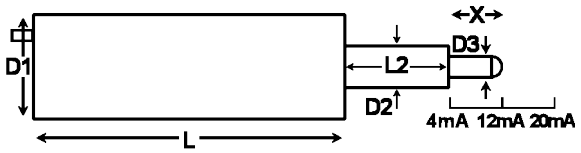
D1=0.811'' ±0.005''
A=0.91''
TGF=M5x0.8
TR=M5x0.8 / 0.4''
X=Center of range

Type	Range	Linearity error (% F.S.)	L	X (nom)	D3	Total weight	TF	Inward over-travel	Outward over-travel
DCC025C	25mm (1")	±0.5/±0.25/±0.1	7.64"	1.5"	0.187"	12.0oz	0.59"	0.39"	0.47"
DCC050C	50mm (2")	±0.5/±0.25/±0.1	8.74"	2.5"	0.187"	14.0oz	0.59"	0.51"	0.39"
DCC100C	100mm (4")	±0.5/±0.25/±0.1	13.23"	3.0"	0.187"	1.1lb	0.59"	0.39"	0.55"
DCC150C	150mm (6")	±0.5/±0.25/±0.1	17.64"	4.5"	0.187"	1.4lb	0.59"	0.94"	0.6"
DCC200C	200mm (8")	±0.5/±0.25/±0.1	19.45"	5.0"	0.187"	1.7lb	0.59"	0.31"	0.6"
DCC300C	300mm (11.8")	±0.5/±0.25	26.93"	7.0"	0.187"	2.3lb	0.59"	0.47"	0.67"
DCC400C	400mm (15.7")	±0.5/±0.25	34.45"	10.0"	0.187"	3.2lb	1.25"	0.87"	0.98"
DCC500C	500mm (19.7")	±0.5/±0.25	42.01"	12.0"	0.187"	3.7lb	1.05"	1.34"	1.38"
DCC760C	760mm (29.9")	±0.5	57.99"	16.0"	0.187"	4.9lb	0.75"	0.51"	0.51"
DCC940C	940mm (37.0")	±0.5	68.50"	20.0"	0.236"	5.8lb	1.05"	0.20"	1.30"

Spring return version.

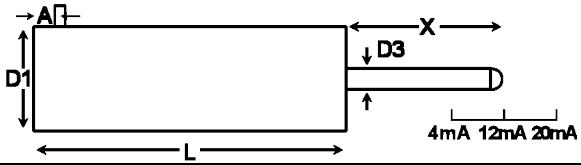
Our DCC spring displacement transducer has bearings to guide the armature inside the measurement sensor and a spring which pushes the armature to the fully out position. Our DCC spring return LVDTs are appropriate where it is not possible to connect the transducer armature to the moving component being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

DCC005A to DCC020A - End (axial) exit cable



D1=0.811'' ±0.005''
D2=0.315''
D3=0.16''
L2=1.40''
X=Center of range

DCC025A to DCC150A - Side (radial) exit cable



D1=0.811'' ±0.005''
D3=0.187''
A=0.35''
X=Center of range

Type	Range	Linearity error (% F.S.)	L	X (nom)	Total weight	Spring force at X	Spring rate	Inward over-travel	Outward over-travel
DCC005A	5mm (0.2")	±0.5/±0.25/±0.1	2.52"	0.5"	2.9oz	4oz	9oz/inch	0.09"	0.05"
DCC010A	10mm (0.4")	±0.5/±0.25/±0.1	2.52"	0.5"	2.9oz	4oz	7oz/inch	0.01"	0.05"
DCC015A	15mm (0.6")	±0.5/±0.25/±0.1	2.52"	0.7"	2.9oz	5oz	6oz/inch	0.06"	0.05"
DCC020A	20mm (0.8")	±0.5/±0.25	2.52"	0.9"	2.9oz	6oz	7oz/inch	0.05"	0.05"
DCC025A	25mm (1")	±0.5/±0.25/±0.1	7.17"	1.5"	8.0oz	5oz	2oz/inch	0.04"	0.51"
DCC050A	50mm (2")	±0.5/±0.25/±0.1	8.27"	2.5"	10.0oz	7oz	3oz/inch	0.12"	0.39"
DCC100A	100mm (4")	±0.5/±0.25/±0.1	12.76"	3.0"	14.0oz	6oz	2oz/inch	0.31"	0.55"
DCC150A	150mm (6")	±0.5/±0.25/±0.1	17.17"	4.5"	1.1lb	1lbs	3oz/inch	0.59"	0.59"

Specification	
Excitation/supply (acceptable)	12V to 36V
Max loop resistance	(Vs-11) x 50Ohms (maximum)
Output	4-20mA (4mA = inward full scale)
Output ripple	50uA (peak-to-peak)
Analogue output bandwidth	250Hz
Linearity error (Standard)	±0.5% F.S.
Linearity error (Optional on some models)	±0.25% F.S.
Temperature coefficient (span)	±0.017% F.S. /°F (typical)
Linearity error (Optional on some models)	±0.1% F.S.
Operating temperature range	14°F to 158°F
Electrical termination	6.6ft (integral cable) Longer available to order.

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

DCC - WARNING - PERSONAL INJURY
Do not use our DCC 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.

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