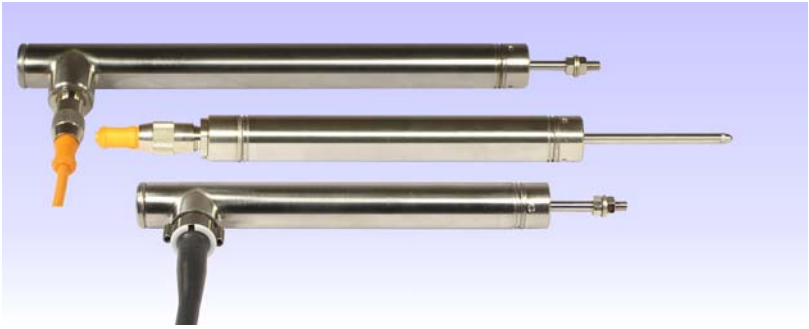
ACW Submersible LVDT Displacement Transducer

- High accuracy
- High cycle life
- Stainless steel
- Submersible
- Infinite 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.

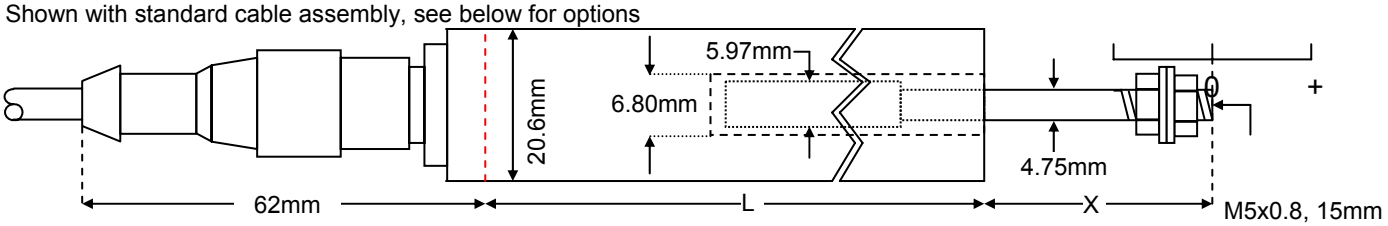
Our submersible displacement transducers are designed to make measurements whilst submerged in suitable liquids. Fluids which are non-magnetic can be allowed to flood the armature tube without affecting the operation of the transducer.

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

Unguided version.

On our 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. Unguided position measurement transducers are appropriate where external guidance is available and give truly non-contact operation

Shown with standard cable assembly, see below for options

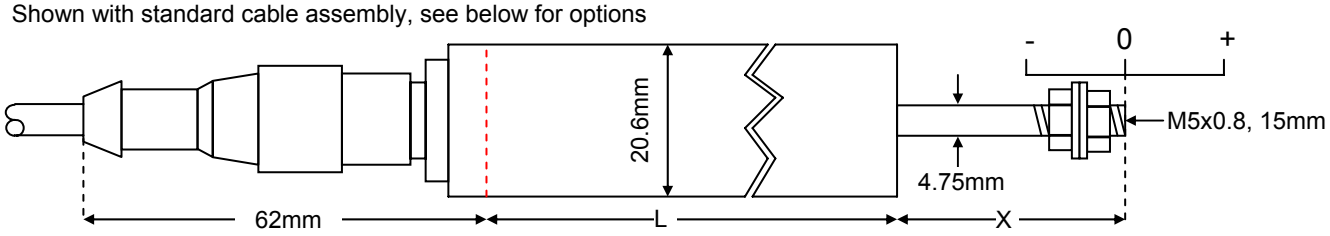


Type	Range	Linearity error (% F.S.)	L	X	Total weight	Armature weight	Inward over-travel	Sensitivity (nom)
ACW500	±12.5mm	<±0.5/±0.25/±0.1	153mm	38mm	200g	19g	10mm	0.7V/V
ACW1000	±25mm	<±0.5/±0.25/±0.1	181mm	63mm	257g	26g	23mm	0.9V/V
ACW2000	±50mm	<±0.5/±0.25/±0.1	304mm	76mm	350g	40g	10mm	1.5V/V
ACW3000	±75mm	<±0.5/±0.25/±0.1	420mm	114mm	484g	57g	23mm	1.5V/V
ACW4000	±100mm	<±0.5/±0.25/±0.1	453mm	127mm	598g	71g	10mm	3.2V/V
ACW6000	±150mm	<±0.5/±0.25	632mm	178mm	854g	104g	10mm	2.4V/V
ACW8000	±200mm	<±0.5/±0.25	858mm	254mm	1.2kg	142g	36mm	1.5V/V

Captive guided version.

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

Shown with standard cable assembly, see below for options

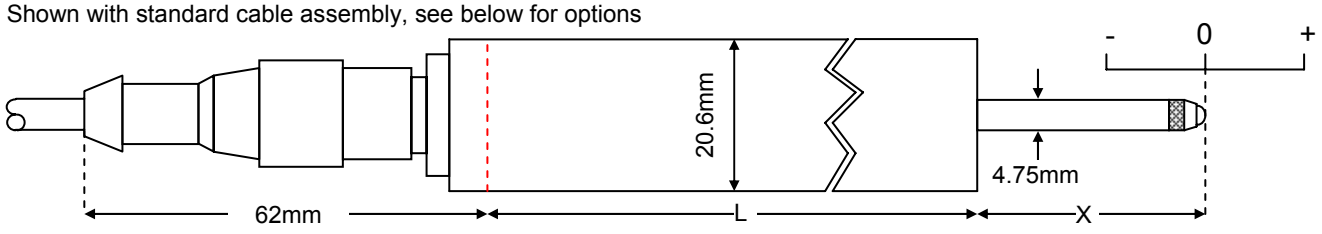


Type	Range	Linearity error (% F.S.)	L	X	Total weight	Inward over-travel	Outward over-travel	Sensitivity (nom)
ACW500B	±12.5mm	<±0.5/±0.25/±0.1	153mm	38mm	314g	10mm	28mm	0.7V/V
ACW1000B	±25mm	<±0.5/±0.25/±0.1	181mm	63mm	370g	17mm	25mm	0.9V/V
ACW2000B	±50mm	<±0.5/±0.25/±0.1	304mm	76mm	541g	10mm	28mm	1.5V/V
ACW3000B	±75mm	<±0.5/±0.25/±0.1	420mm	114mm	683g	23mm	28mm	1.5V/V
ACW4000B	±100mm	<±0.5/±0.25/±0.1	453mm	127mm	740g	10mm	28mm	3.2V/V
ACW6000B	±150mm	<±0.5/±0.25	632mm	178mm	1.1kg	10mm	35mm	2.4V/V
ACW8000B	±200mm	<±0.5/±0.25	858mm	254mm	1.5kg	36mm	41mm	1.5V/V
ACW10000B	±250mm	<±0.5/±0.25	1043mm	305mm	1.6kg	36mm	47mm	2.0V/V
ACW15000B	±375mm	<±0.5	1443mm	406mm	2.2kg	10mm	28mm	3.2V/V
ACW18500B	±470mm	<±0.5	1716mm	508mm	2.6kg	23mm	35mm	3.6V/V

Spring return version.

Our 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. Spring return LVDTs are appropriate where it is not possible to connect the transducer armature to the moving component being measured.

Shown with standard cable assembly, see below for options

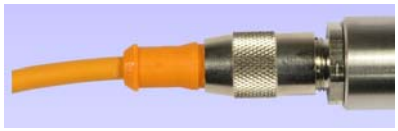


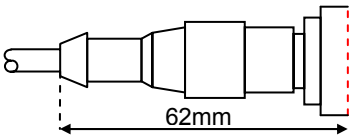
Type	Range	Linearity error (% F.S.)	L	X	Total weight	Spring force at X	Spring rate	Inward over-travel	Outward over-travel	Sensitivity (nom)
ACW500A	±12.5mm	<±0.5/±0.25/±0.1	153mm	38mm	214g	1.2N	0.2N/cm	6mm	28mm	0.7V/V
ACW1000A	±25mm	<±0.5/±0.25/±0.1	181mm	63mm	257g	1.9N	0.3N/cm	4mm	25mm	0.9V/V
ACW2000A	±50mm	<±0.5/±0.25/±0.1	304mm	76mm	428g	4.1N	0.4N/cm	6mm	28mm	1.5V/V
ACW3000A	±75mm	<±0.5/±0.25/±0.1	420mm	114mm	513g	5.4N	0.4N/cm	29mm	28mm	1.5V/V

Electrical termination options

*Transducer and cable option specifications should be compared and the worst figures used

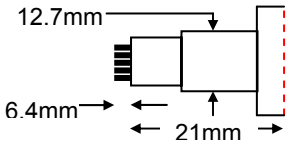
Standard cable - End exit connector with cable fitted





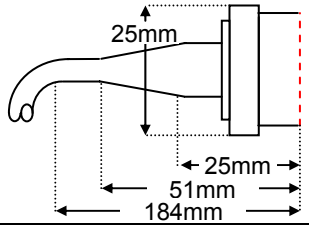
Cable length = 5m
Operating temperature range* = -25°C to 90°C
Maximum static pressure* = 10bar

Option code 1 - End exit solder pins for customer to fit their own cable



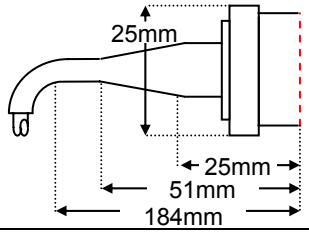
Operating temperature range* = -40°C to 125°C

Option code 2 - End exit fully sleeved integral cable



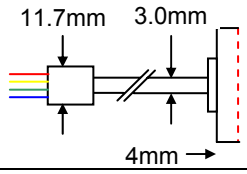
Cable length = 600mm to 7m
Operating temperature range* = -40°C to 100°C
Maximum static pressure* = 34bar

Option code 3 - End exit part-sleeved integral cable



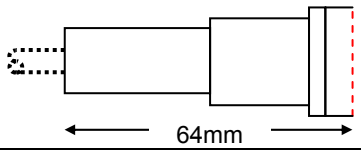
Cable length = 1000mm to 100m
Cable sleeve length = 600mm
Operating temperature range* = -40°C to 90°C
Maximum static pressure* = 17bar

Option code 5 - End exit integral MI (mineral insulated) stainless steel cable



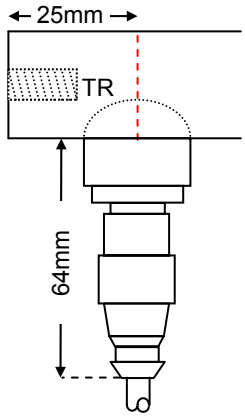
Operating temperature range* = -40°C to 200°C
Cable length = 100mm to 70m
Maximum static pressure* = 207bar

Option code 6 - End exit connector with customer defined cable length fitted



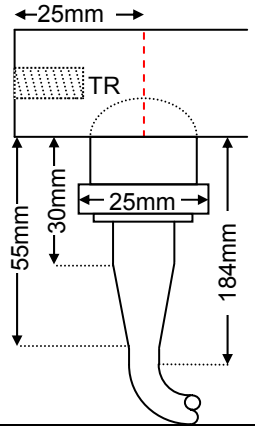
Cable length = 0mm to 1000m
Operating temperature range* = -25°C to 125°C
Maximum static pressure* = 8bar

Standard cable 7 - Side exit connector with cable fitted



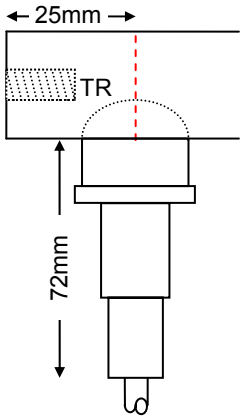
Cable length = 5m
Operating temperature range* = -25°C to 90°C
Maximum static pressure* = 10bar
TR = M5x0.8, 11mm

Standard cable 8 - Side exit fully sleeved integral cable



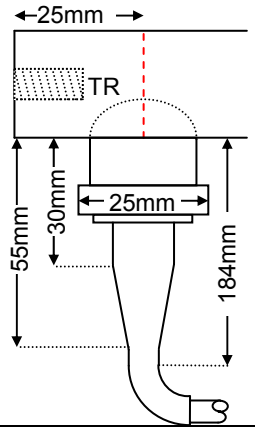
Cable length	=	600mm to 7m
Operating temperature range*	=	-40°C to 100°C
Maximum static pressure*	=	34bar
TR	=	M5x0.8, 11mm

Standard cable 9 - Side exit connector with customer defined cable length fitted



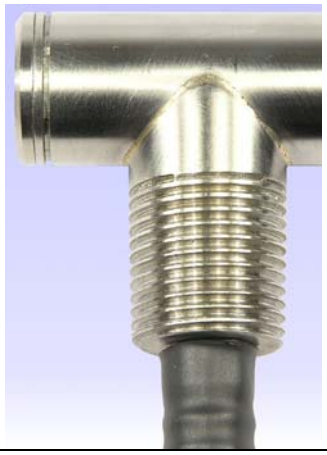
Cable length	=	0mm to 1000m
Operating temperature range*	=	-25°C to 125°C
Maximum static pressure*	=	8bar
TR	=	M5x0.8, 11mm

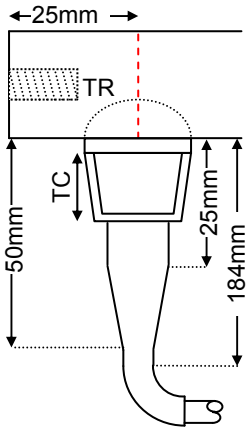
Standard cable 10 - Side exit part-sleeved integral cable



Cable length	=	600mm to 1000m
Cable sleeve length	=	150mm
Operating temperature range*	=	-40°C to 90°C
Maximum static pressure*	=	17bar
TR	=	M5x0.8, 11mm

Standard cable 11 - Side exit part-sleeved integral cable and conduit fitting





Cable length	=	1000mm to 1000m
Cable sleeve length	=	150mm
Operating temperature range*	=	-40°C to 90°C
Maximum static pressure*	=	17bar
TR	=	M5x0.8, 11mm
TC	=	1/2"-14 NPT, 20mm

Specification *Transducer and cable option specifications should be compared and the worst figures used	
Excitation/supply (acceptable)	0.5V to 7V rms, 2kHz to 10kHz (sinusoidal)
Excitation/supply (calibrated)	5V rms, 5kHz (sinusoidal)
Output load	100k Ohms
Temperature coefficient (zero)	±0.01% F.S. /°C (typical)
Temperature coefficient (span)	±0.01% F.S. /°C (typical)
Operating temperature range (minimum)	-40°C*
Operating temperature range (maximum)	125°C*
Maximum static pressure	207bar*

All dimensions and specifications are nominal.

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

UK Head Office
RDP Electronics Ltd
Grove Street, Heath Town
Wolverhampton, West Midlands, WV10 0PY
United Kingdom
Tel: +44 1902 457512
Fax: +44 1902 452000
Email: sales@rdpe.com
URL: www.rdpe.com
Registered in England No. 1688591

Distribuidor

Brasil e América do Sul

CONTATO

Endereço
Rua Sete de Setembro, 2671 - Centro
13560-181 - São Carlos - SP - Brasil

Telefone
+ 55 (16) 3371-0112

Fax
+ 55 (16) 3372-7800

Internet
www.metrolog.net
metrolog@metrolog.net

Metrolog Controles de Medição