

# Technical Manual DISPLACEMENT TRANSDUCERS ACT SERIES

Doc. Ref CD1062F





Affirmed by Declaration of Conformity

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### OPERATION MANUAL FOR THE ACT SERIES OF DISPLACEMENT TRANSDUCERS

### 1. INTRODUCTION

Our standard range of AC energised LVDTs are for use in many applications including those where ambient temperature or vibration are too high to allow the option of integrated electronics. These A-C-LVDTs are a compact long stroke series and can be used whenever physical space is limited. The 'ACT' requires separate signal conditioning and will deliver its optimum performance when energised with between 0.5V and 7V rms at 5 kHz using a high quality carrier amplifier, such as those available from RDP.

These transducers are available in three different armature configurations:

Outling	Drowing
Outilitie	Drawing

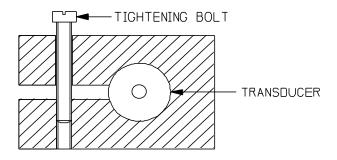
<ul><li>(a) Free armature</li><li>(b) Spring return</li><li>(c) Captive guided</li></ul>	Free armature	(no suffix)	D9307
	(suffix A) (suffix C)	D9309 D9310	

# 2. HANDLING PRECAUTIONS

- 2.1 DO NOT pull the cable.
- 2.2 Ensure the cable is correctly protected and supported.
- 2.3 Ensure the transducer temperature rating limits are not exceeded.
- 2.4 Ensure the transducer pressure rating is not exceeded.
- 2.5 Ensure the armature is not bent. Transport the transducer with the armature fully retracted for extra protection.
- 2.6 Ensure that when the transducer is fitted with end bearing that ranges of ±100 mm and higher are supported at the centre when used horizontally.

## 3. INSTALLATION

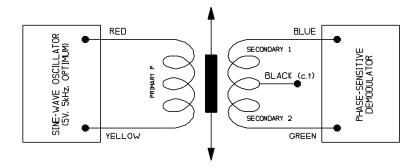
3.1 Mount the transducer by clamping the body. A suitable method of doing this is with a split block type of clamp as shown below.



- 3.2 On the free armature version (standard), the armature (probe) should be mounted on the moving part to be measured so that the armature moves centrally in the bore of the transducer body.
- 3.3 On the spring return version (suffix A), the probe tip is positioned against the part to be measured.
- 3.4 On the guided versions (suffix C), the threaded armature can be attached to the part to be measure directly or a rod end can be used to allow greater mechanical flexibility.
- 3.5 On the standard version, the cable supplied is 2 m long and 2.9/3.25 mm diameter. The material is Hytrel/Polyurethane.
- 3.6 Mounting blocks are available from RDP, Part No MB01.

#### 4. ELECTRICAL CONNECTIONS

The ACT transducer requires an oscillator – demodulator type instrument such as one of the following RDP instruments: S7AC, S7M, DR7AC, E309, E725-AC.



The cable screen (shield) is not connected to the body of the transducer. It should be grounded at the instrument.

### 5. CALIBRATION

5.1 The calibration of the ACT transducer with its instrument is fully covered in the Technical Manual for the instrument.

# 6. MAINTENANCE AND INSPECTION

- 6.1 Check the cable is undamaged.
- 6.2 The insulation resistance between primary and secondary coils and between coils and case, should be minimum 100 M ohms.
- 6.3 Check that the black core when not used is correctly insulated.