RDP Customer Document

Technical Manual

APPLICATION DETAILS FOR DCV TRANSDUCERS

Doc. Ref CD1069F

bsi. ISO 9001:2015 Quality Management FM 13141

UK CA CE

Affirmed by Declaration of Conformity

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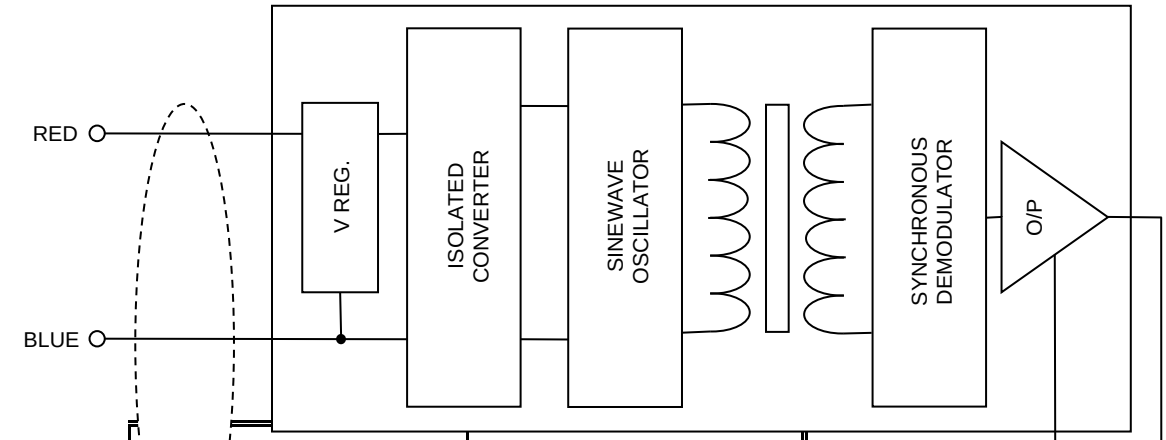
APPLICATION DETAILS FOR DCV TRANSDUCERS

The DCV range of transducers are DC in - DC out LVDT based, displacement measuring instruments. They require only a +14 to +26V dc supply to give an output signal of 0 to 10V dc that is electronically isolated from the input voltage. DCV transducers cover total measuring ranges from 25 mm to 940 mm (1" to 37"). These ranges are sometimes expressed as ±12.5 mm to ±470 mm (±0.5" to ±37"). Shorter measuring ranges are available in RDP's DCTH/1430 series.



le Core Colour	Connection
[illegible]	+14 to +26V dc
Blue	Supply Com (0V)
Black	Output Low
Green	Output High
Shield	Instrument Ground

Note:

1. Incorrect connection may cause irreparable damage. Contact our Sales Department if you require assistance.

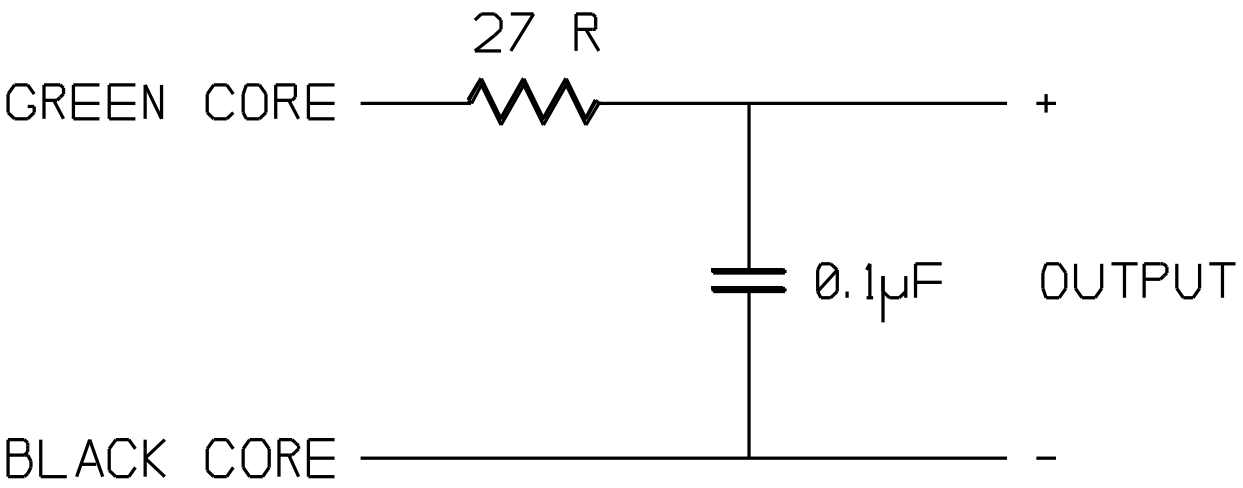
2. The transducer is factory-calibrated with an energising voltage of +24V, fitted with 2 metres of shielded cable.

3. To help prevent output noise and to comply with EMC requirements, it is preferable to connect cable shield to earth.

Output Noise (Ripple)

The output noise on DCV transducers is 30mV peak to peak. This consists of 10kHz ripple with H.F. (>200kHz) superimposed on it.

This can be reduced to a 10mV peak to peak 10kHz ripple by the addition of an RC network across the output:



Specification

Input requirements	+14V to 26V dc at 30 mA typical
Linearity	±0.5% of full range max. standard or ±0.25% and ±0.1% is available at extra cost in some models
Output Voltage	0 to 10V dc nominal for working stroke (s/c protected) and isolated
Output Load (Minimum)	2k ohms
Output Ripple	30mV peak to peak
Output Bandwidth	200Hz (flat)
Output Impedance	2 ohms
Zero Temp. Coefficient	±0.01% FS/°C (0.005%FS/°F)
Span Temp. Coefficient	±0.03% FS/°C (0.015%/FS/°F)
Operating Temp. Range	-40°C (-40°F) to +70°C (160°F)