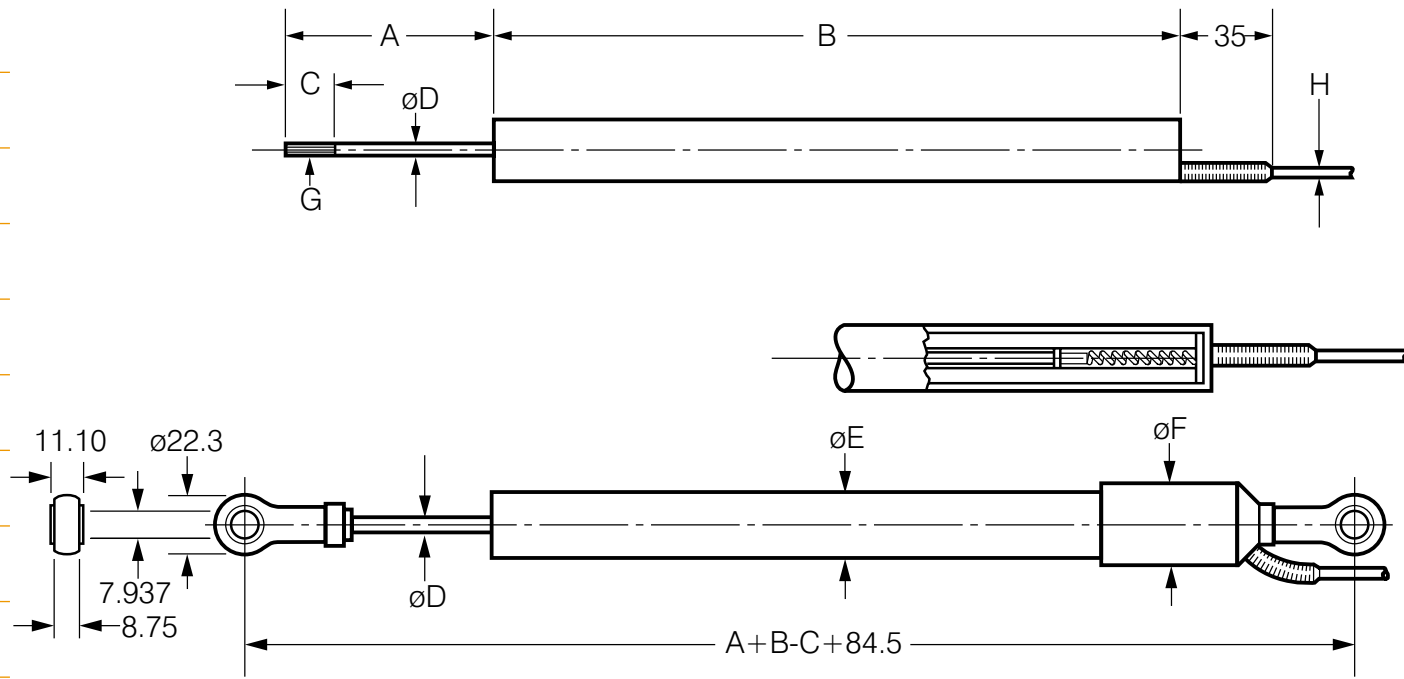


# standard ac & dc

## long stroke displacement transducers



Dimensions mm

	AC15	AC25	AC50	AC100	AC150	AC250	AC300
	ACR15	ACR25	ACR50	ACR100	ACR150	-	-
	DC15	DC25	DC50	DC100	DC150	DC250	DC300
	DCR15	DCR25	DCR50	DCR100	DCR150	-	-
A*	45	60	85	145	197	298	349
B	97	156	280	450	552	755	857
C	20	20	20	20	19	19	19
D	3.17	4.0	4.0	4.75	4.75	4.75	4.75
E	19	19	19	25	25	25	25
F	25	25	32	32	32	32	32
G	M3	M4	M4	M5	M5	M5	M5
H	3.5	3.5	3.5	4.5	4.5	4.5	4.5

\*at electrical zero

## Specification

AC captive armature type	AC15	AC25	AC50	AC100	AC150	AC250	AC300
AC sprung armature type	ACR15	ACR25	ACR50	ACR100	ACR150	-	-
DC captive armature type	DC15	DC25	DC50	DC100	DC150	DC250	DC300
DC sprung armature type	DCR15	DCR25	DCR50	DCR100	DCR150	-	-
Linear measuring stroke, ±mm	15	25	50	100	150	250	300

### Mechanical: AC & DC series

Max stroke, ±mm	22	35	62	125	178	279	330
Weight, g							
Body, including leads	60	96	170	600	900	1300	1600
Armature assembly	10	18	25	54	78	106	122
Spring rate	3.3	2.34	1.95	1.19	1.0		
Force at electrical zero, in g ACR	110	150	185	120	120		

### Electrical: AC series

Winding configuration	LVDT	LVDT	LVDT	LVDT	LVDT	LVDT	LVDT
Sensitivity, mV/V/mm (typical)	35	20	9.3	5	3.2	2.1	1.7
Energising current, mA	6	4	4	6	5	6	9
Output impedance, Ω	220	210	160	160	150	110	90
Input/Output phase shift, °	7	9	10	7	7	5	2
Zero phase shift, kHz	2.4	2	1.6	2.6	23	7	5.5

Energising voltage	1 to 10V rms						
Energising frequency	5kHz						
Residual voltage at zero	>0.5%						
Temperature range	-40 to +100°C						
Temperature coefficient % measuring stroke	Zero <0.005%/°C		Sensitivity % per °C <0.01%/°C				
Termination	3m PVC insulated 5 core 19/0.07mm screened cable. 100 to 300: 28/0.07mm screened cable						
Calibration	The specification provided is with a supply of 5V rms 5kHz and a calibration load of 100kΩ at 20°C. Variations of these parameters will result in changes of performance						

### Electrical connections

Red & blue	Primary Energising
White	Secondary Signal
Green	Secondary OV
Yellow	Secondary centre tap (dc not connected)
Red & white	In phase for inward displacement

### Electrical: DC series

Winding configuration	LVDT	LVDT	LVDT	LVDT	LVDT	LVDT	LVDT
Sensitivity, mV/V/mm at 10V dc (typical)	280	165	60	20	13.3	8.0	6.6
Energising current at 10V, mA	10	18	40	40	40	40	40
Input voltage range, V	9 to 24	9 to 24	9 to 24	9 to 15	9 to 15	9 to 15	9 to 15

Output ripple	<1% full scale deflection						
Response time constant	0.4 ms up to 50mm						
Frequency response	For transducers up to ±50mm: -3dB attenuation at 100Hz, -20dB/decade above 100Hz						
Temperature range	-30°C to +80°C						
Temperature coefficient % total stroke	Zero <0.005%/°C		Sensitivity % per °C <0.015%/°C				
Non-linearity	0.3% is available						
Termination	3m pvc insulated 5 core 14/0.07mm screened cable. 100 to 300: 14/0.1mm screened cable						
Calibration	Specification is provided with a transducer output impedance of 2kΩ into a calibration load of 20kΩ at 20°C. Variations of these parameters will result in changes of performance						

### Electrical connections

Red & blue	Primary Energising
White	Secondary Signal
Green	Secondary OV
Red & white	+ve output on white lead with respect to green for inward displacement