



# ESA Messtechnik GmbH

Schlossstr. 119 - D-82140 Olching / Munich  
 Telefon: +49 (0)8142 444 130 - Fax: +49 (0)8142 444 131  
 Internet: [www.esa-messtechnik.de](http://www.esa-messtechnik.de)  
 E-Mail: [info@esa-messtechnik.de](mailto:info@esa-messtechnik.de)

## LVDT Displacement Transducers Series DLH / DUH

### Description:

- Up to 85% of overall length usable as displacement range with high linearity of up to 0.1%
- Fully symmetrical LVDT design
- Series DLH with 12 mm diameter for standard applications
- Series DUH with rugged 16 mm diameter for severe environment applications



### Technical Specifications:

		DLH 50 DUH 50	DLH 100 DUH 100	DLH 200 DUH 200	DLH 300 DUH 300	DLH 400 DUH 400	DLH 500 DUH 500
Nominal Range	mm	±25	±50	±100	±150	±200	±250
Stroke	mm	55	105	210	320	420	520
Mounting Length B	mm	100	160	260	370	480	600
Dimension A (other dimensions optional *)	mm	55	80	135	190	240	290
Diameter D	mm	12h9 for DLH 16 ± 0,1 for DUH					
Plunger Diameter d	mm	3 for DLH 5 for DUH					
Plunger Diameterr d (incl. Teflon-coating)	mm	3,6 for DLH (Series) 5,6 for DUH *)					
Weight (approx..)	g	50 DLH 100 DUH	70 DLH 150 DUH	120 DLH 240 DUH	150 DLH 340 DUH	190 DLH 440 DUH	220 DLH 540 DUH
Plunger Weight (approx.)	g	7 DLH 20 DUH	10 DLH 28 DUH	15 DLH 45 DUH	20 DLH 60 DUH	26 DLH 78 DUH	32 DLH 94 DUH
Carrier Frequency	kHz	5 kHz , Options: 3 kHz / 10 kHz					
Excitation Voltage	V <sub>RMS</sub>	Bis 10 V					
Linearitätsfehler *)		< ±0,5% of FS nominal range Options: ±0,25%; 0,1%					
Temperature Drift of Zero		< ±0,02% / 10K					
Temperature Drift of Sensitivity		< ±0,08% / 10K					
Temperature Operation Range *)		-40°C ... +80°C, Option: bis 120°C					
Protected According To DIN 40050		IP 64					

\*) Options to be specified with ordering

## Design Versions:

Ordering Code																		
DLH DUH		nnn		NN			n.nn %			n kHz			/Option 1 /Option 2 ...					
Series	Range	Connection Variety					Linearity (FS)			Carrier Freq.			Options					
	See technical Data	Stranded Wire	Cable axial <sup>1)2)</sup>	Cable radial <sup>1)2)</sup>	Connector axial <sup>2)3)</sup>	Connector radial <sup>3)</sup>	Connector radial <sup>3)</sup>	0,50%	0,25%	0,10%	3 kHz	5 kHz	10 kHz	Elevat'd operat. Temp. <sup>1)</sup>	Customer specif. Dimension A	Teflon coated core	80 mV/V nom. Output signal <sup>4)5)</sup>	5-wire circuit <sup>6)</sup>
		o.	K	Q	LX	R	RS				/3k		/10k	/120 °C	/Axx	/KT	/80 mV/V	/5L
DLH	50 bis 500	AWG30	X	X	X	X	-	X	X	X	O	X	O	-	O	Series	O	(O)
DLH	50 bis 500	AWG30	X	X	X	-	X	X	X	X	O	X	O	O	O	Series	O	(O)
DUH	50 bis 500	AWG26	X	X	X	X	-	X	X	X	O	X	O	-	O	O	O	(O)
DUH	50 bis 500	AWG26	X	X	X	-	X	X	X	X	O	X	O	O	O	O	O	(O)

X = available variety

O = available option

-- = not available

1) Standard: PE-Cable, At 120°C: Teflon-Cable

2) Core channel not fully through

3) Mating connector supplied

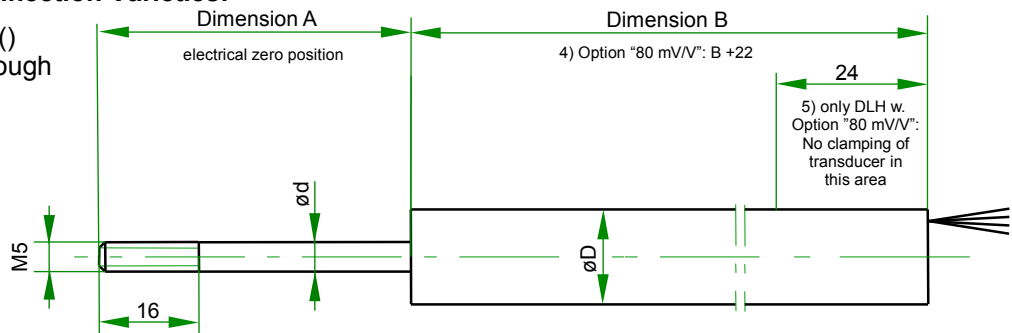
4) Stranded wire cable: B + 22 mm

5) Restricted clamping possibilities in connection area (see drawing.) !

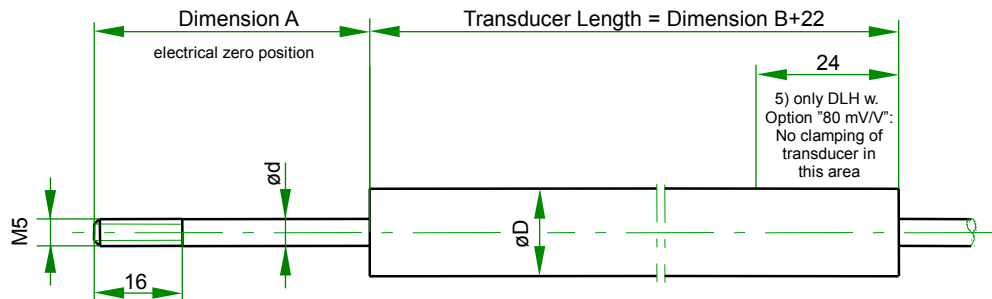
6) On request; Only certain designs possible

## Dimensions and Connection Varieties:

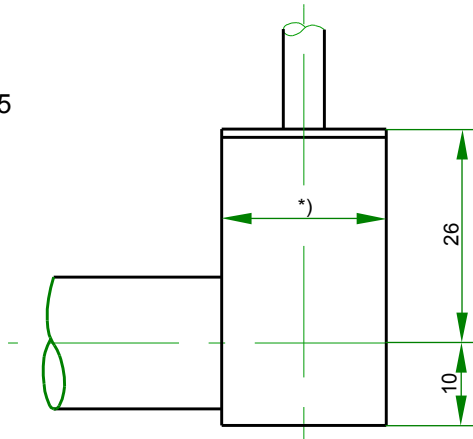
Stranded Wire Cable ( )  
Core channel fully through



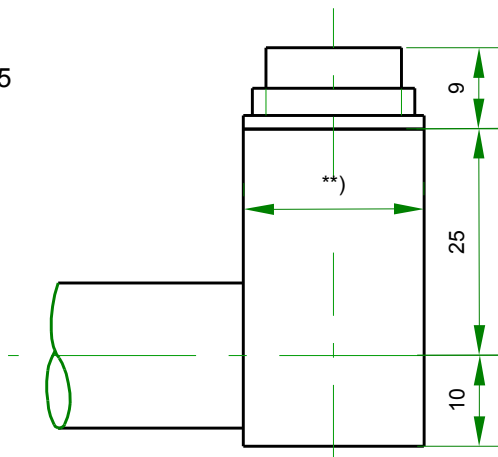
Cable connection axial (K)



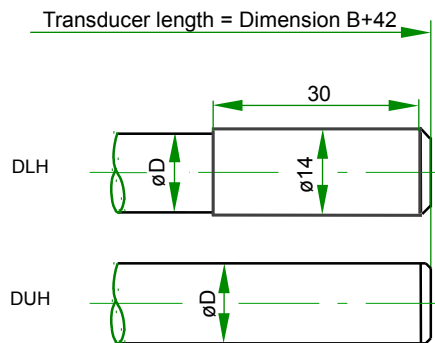
Cable connection radial (Q)  
 Core channel fully through  
 Transducer Length: Dimension B+5  
 \*) for DLH: 15x15  
 for DUH: 20x20



Connector radial (R or RS)  
 Core channel fully through  
 Transducer Length: Dimension B+5  
 \*\*) for version R: 20x20  
 for version RS: 30x30



Connector axial (LX)



**Power Connection and Connector Pins:**

