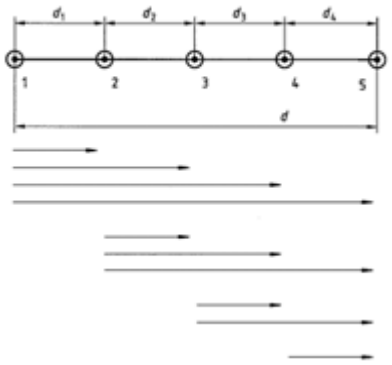
INTERNATIONAL STANDARD ISO 17123-4

Optics and optical instruments – Field procedures for testing geodetic and surveying instruments

Part 4: Electro-optical distance meters (EDM instruments)

Full test procedure



$d_{1,2}$=	$d_{1,3}$=	$d_{1,4}$=	$d_{1,5}$=
	$d_{2,3}$=	$d_{2,4}$=	$d_{2,5}$=
		$d_{3,4}$=	$d_{3,5}$=
			$d_{4,5}$=

$a_3= d_{1,4}+ d_{2,5}- d_{1,3}- d_{2,4}- d_{3,57}$=		$b_1=(d_{1,2}+d_{1,3}+d_{1,4}+d_{1,5})/5$=	
$a_4= d_{1,5}- d_{1,2}- d_{2,3}- d_{3,4}- d_{4,5}$=		$b_2=(d_{2,3}+d_{2,4}+d_{2,5}-d_{1,2})/5$=	
		$b_3=(d_{3,4}+d_{3,5}-d_{1,3}-d_{2,3})/5$=	
		$b_4=(d_{4,5}-d_{1,4}-d_{2,4}-d_{3,4})/5$=	
		$b_5=(-d_{1,5}-d_{2,5}-d_{3,5}-d_{4,5})/5$ =	

$r_{1,2}= b_1-b_2-5\delta/7-d_{1,2}$	$r_{1,3}= b_1-b_3-3\delta/7-d_{1,3}$	$r_{1,4}= b_1-b_4-\delta/7-d_{1,4}$	$r_{1,5}= b_1-b_5+\delta/7-d_{1,5}$
	$r_{2,3}=b_2-b_3-5\delta/7-d_{2,3}$	$r_{2,4}=b_2-b_4-3\delta/7-d_{2,4}$	$r_{2,5}=b_2-b_5-\delta/7-d_{2,5}$
		$r_{3,4}=b_3-b_4-5\delta/7-d_{3,4}$	$r_{3,5}=b_3-b_5-3\delta/7-d_{3,5}$
			$r_{4,5}=b_4-b_5-5\delta/7-d_{4,5}$

$$\sum r^2 = r_{1,2}^2 + r_{1,3}^2 + r_{1,4}^2 + r_{1,5}^2 + r_{1,6}^2 + r_{1,7}^2 + r_{2,3}^2 + r_{2,4}^2 + r_{2,5}^2 + r_{2,6}^2 + r_{2,7}^2 + r_{3,4}^2 + r_{3,5}^2 + {}_{3,6}^2 + r_{3,7}^2 + r_{4,5}^2 + r_{4,6}^2 + r_{4,7}^2 + r_{5,6}^2 + r_{5,7}^2 + r_{6,7}^2 =$$

v=n-u=10-5=5

$$s = \sqrt{\frac{\sum r^2}{\nu}} =$$