

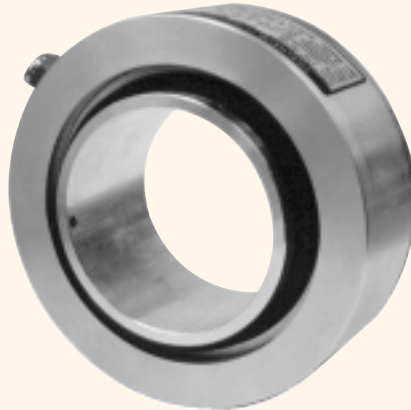
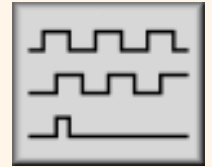
# Incremental Encoder without bearings

## ITD 75 A 4

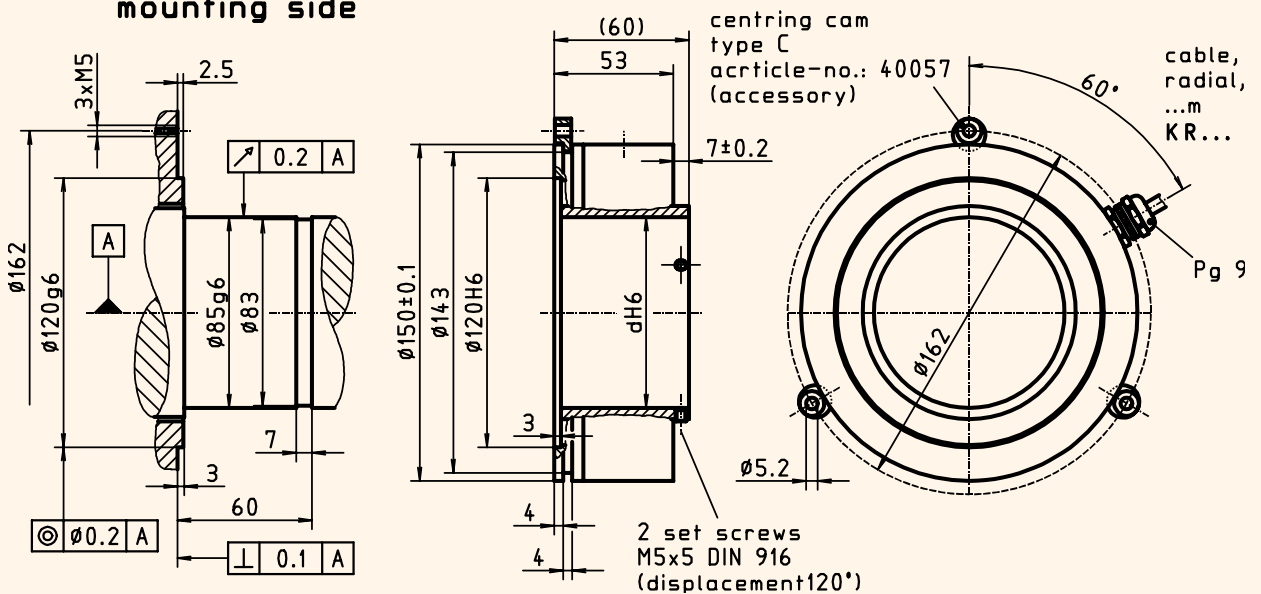


### Qualities :

- incremental encoder with hollow shaft going through, without bearings
- **Number of pulses**, up to **2500** pulses per revolution
- Hollow shaft diameter up to 85 mm
- Centering seat  $\varnothing$  120, mounting punch circle  $\varnothing$  162
- TTL- or HTL-output signals
- Connector version optional



mounting side



ITD 75 A 4

drawing-no.: 025 - 6

### Mechanical data:

Housing		light-alloy metal, unpainted	
Design style	<b>A 4</b>	A 4, without bearings	
Protective class	<b>IP54</b>	IP54	according to DIN 40 050, IEC 529
Construction principle		OPSIC with slotdisc	
max. revolution (mechanical)	$n_{max}$	$\leq 3000$ rpm	(observe frequency limit)
Admissible motor-shaft play	axial	$\pm 0.2$ mm	(with rotor in center position)
	radial	$\leq 0.2$ mm	
Vibration	55... 2000 Hz	$\leq 100$ m/s <sup>2</sup>	according to DIN IEC 68, part 2-6
Shock	11 ms	$\leq 1000$ m/s <sup>2</sup>	according to DIN IEC 68, part 2-27
Hollow shaft diameter	d	85mm	
Weight		approx. 1500 g	

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### Electrical data:

• Number of pulses	Z	<b>XXXX</b>	1024, 2048, 2500 pulses per revolution
• Execution of electronic	TTL	<b>T</b>	TTL-output signals <i>line driver-output stage</i> supply voltage: $U_B = 5 \text{ VDC} \pm 5\%$ (poling error safe)
	HTL	<b>H</b>	HTL-output signals <i>push pull-output stage</i> (shortening proof) supply voltage: $U_B = 8 - 30 \text{ VDC}$ (poling error safe)
• Output signals	A, B + Inv.	<b>BI</b>	2 square-wave pulse trains phase shifted by $90^\circ (\pm 10^\circ)$ electr. + inverting pulse : pause = 1 : 1 $\pm 10\%$ at 30 kHz
Pulse ratio			$\geq 15 \text{ V}/\mu\text{s}$
Flank steepness			120 kHz
Frequency limit	$f_G$		$\leq 70 \text{ mA}$
Output load current	$I_{\text{Load}}$		$\leq 100 \text{ mA}$ (without load)
Input current	$I_{\text{max}}$		$\leq 100 \text{ m}$ (Thalheim-cable)
Permissible cable length			$\leq 100 \text{ m}$ (standard length)
• Type of connection		<b>KR1</b>	cable, radial, 1.0 m
• Operating temperature range		<b>S</b>	-20° C to +70° C

### Options:

• Execution of electronic		<b>R</b>	TTL-output signals <i>line driver-output stage</i> supply voltage: $U_B = 8 - 30 \text{ VDC}$ (poling error safe)
• Output signals	A, B, N + Inv.	<b>NI</b>	2 square-wave pulse trains + zero pulse, $90^\circ$ electr. + inverting
• Type of connection	connector	<b>D2SR12</b>	socket type 2, pin contacts, radial, 12-poles
	connector	...	performed at cable ( ref. data sheet <b>Type of performed cables</b> )

### Accessories:

Connector, for version <b>H2SK12</b>	<b>S2BG12</b>	connector type 2, bush contacts, straight, 12- poles
Centring cam - set type C ( 3 pcs. )		article-no.: 40057-3

### Connection table:

wire color	PIN-no.	signals
brown	PIN 5	= A
green	PIN 6	= A inverted
grey	PIN 8	= B
pink	PIN 1	= B inverted
red	PIN 3	= N
black	PIN 4	= N inverted
brown 0.5 mm <sup>2</sup>	PIN 12	= + $U_B$
white 0.5 mm <sup>2</sup>	PIN 10	= 0 V
blue	PIN 2	= + $U_{\text{sensor}}$
white	PIN 11	= 0 $V_{\text{sensor}}$
	PIN 7	= NC
transparent	PIN 9	= shilding/housing

### Output signal diagram:

	BI	NI
<b>Pulse trains:</b>		
	<i>Clockwise rotation when looking at the end of the shaft. ( mounting side )</i>	

### Ordering example:

<b>ITD 75</b>	<b>A 4</b>		<b>2500</b>	<b>H</b>	<b>BI</b>	<b>KR1</b>	<b>S</b>	<b>85</b>	<b>IP54</b>	
Incremental encoder ITD 75	Design style A 4	Mechanical variante Y... = look at the drawing	Number of pulses 2500 pulses / revolution	Execution of electronic $U_B = 8-30 \text{ VDC HTL-output}$	Output signals A-, B-track + inverting	Type of connection cable, radial, 1 m	Operating temperature -20 °C to +70 °C	Hollow shaft diameter 85 mm	Protective class IP 54	Attachment kit variante