

2007/2008 KC KIM CONSULTING GMBH

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ITD 0... – series
ENCODER
HOLLOW SHAFT

Type	Diameter	Connection	Pulses
ITD 01 A 4	4 – 6 mm	Cable	30 – 1.024 I/U
ITD 01 A 4 Y 1	4 mm	Cable	30 – 1.024 I/U
ITD 01 A 4 Y 4	4 mm	Coupling	30 – 1.024 I/U
ITD 01 A 4 Y 6	4 mm	Coupling	30 – 1.024 I/U
ITD 01 A 4 Y 9	4 mm	Cable	30 – 1.024 I/U

ITD 2... – series
ENCODER
HOLLOW SHAFT

Type	Diameter	Connection	Pulses
ITD 2 A 4	8 – 14 mm	Cable	2 – 60 I/U
ITD 2 A 4 Y22	10, 12, 14 mm	Connector	2 – 60 I/U
ITD 2 A 4 Y28	10, 12, 14 mm	Cable	2 – 60 I/U
ITD 2 A 4 Y29	10, 12, 14 mm	Connector	2 – 60 I/U
ITD 2 A 4 Y36	10, 12, 14 mm	Cable	2 – 60 I/U

Type	Diameter	Connection	Pulses
ITD 20 A 4	8 – 14 mm	Cable	50 – 1.024 I/U
ITD 20 A 4 Y 2	8 – 14 mm	Cable	50 – 1.024 I/U
ITD 20 A 4 Y 3	8 – 14 mm	Connector	50 – 1.024 I/U
ITD 20 A 4 Y 4	10 mm	Cable	50 – 1.024 I/U
ITD 20 A 4 Y 5	8, 10 mm	Cable	50 – 1.024 I/U
ITD 20 A 4 Y10	6 – 16 mm	Connector	50 – 1.024 I/U
ITD 20 A 4 Y14	8 – 14 mm	Cable	50 – 1.024 I/U
ITD 20 A 4 Y15	6 – 16 mm	Cable	50 – 1.024 I/U
ITD 20 A 4 Y16	6 – 12 mm	Connector	50 – 1.024 I/U
ITD 20 A 4 Y21	10, 12, 14 mm	Cable	50 – 1.024 I/U
ITD 20 A 4 Y22	10, 12, 14 mm	Connector	50 – 1.024 I/U
ITD 20 A 4 Y29	10, 12, 14 mm	Connector	50 – 1.024 I/U
ITD 20 A 4 Y34	10 mm	Cable	50 – 1.024 I/U
ITD 20 A 4 Y36	10, 12, 14 mm	Cable	50 – 1.024 I/U
ITD 20 A 4 Y38	8 – 16 mm	Connector	50 – 1.024 I/U
ITD 20 A 4 Y40	12 mm	Cable	50 – 1.024 I/U
ITD 20 A 4 Y50	10 mm	Connector	50 – 1.024 I/U
ITD 20 A 4 Y64	14 mm	Connector	50 – 1.024 I/U
ITD 20 A 4 Y90	10, 12, 14 mm	Connector	50 – 1.024 I/U
ITD 20 A 4 Y112 (Niro)	10, 12, 14 mm	Cable	50 – 1.024 I/U
ITD 20 A 4 Y114	10, 12, 14 mm	Cable box	100 – 2.048 I/U

Type	Diameter	Connection	Pulses
ITD 21 A 4 Y 2	14 mm	Cable	100 – 6.000 I/U – incl. NI
ITD 21 A 4 Y 3	14 mm	Cable	100 – 6.000 I/U – incl. NI
ITD 21 A 4 Y10	6 – 16 mm	Connector	100 – 10.000 I/U – incl. NI
ITD 21 A 4 Y15 (form. Y 1)	6 – 16 mm	Cable	100 – 10.000 I/U – incl. NI
ITD 21 A 4 Y21	10, 12, 14 mm	Cable	100 – 6.000 I/U – incl. NI
ITD 21 A 4 Y22	10, 12, 14 mm	Connector	100 – 6.000 I/U – incl. NI
ITD 21 A 4 Y28	10, 12, 14 mm	Cable	100 – 6.000 I/U – incl. NI
ITD 21 A 4 Y29	10, 12, 14 mm	Connector	100 – 6.000 I/U – incl. NI
ITD 21 A 4 Y35	10 – 13 mm	Cable	100 – 6.000 I/U – incl. NI
ITD 21 A 4 Y36	10, 12, 14 mm	Cable	100 – 6.000 I/U – incl. NI
ITD 21 A 4 Y42	14 mm	Cable	100 – 6.000 I/U – incl. NI
ITD 21 A 4 Y47	10, 12, 14 mm	Connector	100 – 6.000 I/U – incl. NI
ITD 21 A 4 Y49	14 mm	Cable	100 – 6.000 I/U – incl. NI
ITD 21 A 4 Y56	14 mm	Cable	100 – 6.000 I/U – incl. NI
ITD 21 A 4 Y57	14 mm	Cable	100 – 6.000 I/U – incl. NI
ITD 21 A 4 Y58	14 mm	Cable	100 – 6.000 I/U – incl. NI
ITD 21 A 4 Y59	14 mm	Cable	100 – 6.000 I/U – incl. NI
ITD 21 A 4 Y63	14 mm	Cable	100 – 6.000 I/U – incl. NI
ITD 21 A 4 Y65 (Niro)	10, 12, 14 mm	Cable	100 – 6.000 I/U – incl. NI

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Type	Diameter	Connection	Pulses
ITD 21 A 4 Y66	14 mm	Cable	100 – 6.000 I/U – incl. NI
ITD 21 A 4 Y68 (Niro)	12 mm	Cable	100 – 6.000 I/U – incl. NI
ITD 21 A 4 Y69	10, 12, 14 mm	Cable	100 – 6.000 I/U – incl. NI
ITD 21 A 4 Y73	10, 12, 14 mm	Cable	100 – 6.000 I/U – incl. NI
ITD 21 A 4 Y79	14 mm	Cable	100 – 6.000 I/U – incl. NI
ITD 21 A 4 Y82	14 mm	Cable	100 – 6.000 I/U – incl. NI
ITD 21 A 4 Y85	10, 12, 14 mm	Connector	100 – 6.000 I/U – incl. NI
ITD 21 A 4 Y90	10, 12, 14 mm	Connector	100 – 6.000 I/U – incl. NI
ITD 21 A 4 Y91	10, 12, 14 mm	Cable	100 – 6.000 I/U – incl. NI
ITD 21 A 4 Y99	8, 10, 12, 14 mm	Cable	100 – 6.000 I/U – incl. NI
ITD 21 A 4 Y101	10, 12, 14 mm	Cable	100 – 6.000 I/U – incl. NI
ITD 21 A 4 Y109 (anodised)	10, 12, 14 mm	Cable	100 – 6.000 I/U – incl. NI

ITD 3... – series
ENCODER HOLLOW SHAFT

Type	Diameter	Connection	Pulses
ITD 3 A 4	10 – 16 mm	Cable	1 – 1.024 I/U
ITD 3 A 4 Y 9	10 – 16 mm	Cable	1 – 1.024 I/U
ITD 3 A 4 Y18	10 – 16 mm	Cable	1 – 1.024 I/U
ITD 3 A 4 Y20	10 – 16 mm	Connector	1 – 1.024 I/U
ITD 3 A 4 Y22	10 – 16 mm	Connector	1 – 1.024 I/U
ITD 3 A 4 Y29	10 – 16 mm	Connector	1 – 1.024 I/U

ITD 4... – series
ENCODER HOLLOW SHAFT

Type	Diameter	Connection	Pulses
ITD 4 A 4	10 – 16 mm	Cable	1 – 100 I/U
ITD 4 A 4 Y 1	10 – 16 mm	Connector	1 – 100 I/U
ITD 4 A 4 Y 2	10 – 16 mm	Cable	1 – 100 I/U
ITD 4 A 4 Y 3	10 – 16 mm	Connector	1 – 100 I/U
ITD 4 A 4 Y22	17 – 27 mm	Cable	1 – 100 I/U
ITD 4 A 4 Y141 (Niro)	20, 22, 25, 27 mm	Cable	1 – 100 I/U

Type	Diameter	Connection	Pulses
ITD 40 A 4	10 – 16 mm	Cable	100 – 2.048 I/U
ITD 40 A 4 Y 1	10 – 16 mm	Connector	100 – 2.048 I/U
ITD 40 A 4 Y 2	10 – 16 mm	Cable	100 – 2.048 I/U
ITD 40 A 4 Y 3	10 – 16 mm	Connector	100 – 2.048 I/U
ITD 40 A 4 Y 4	10 – 16 mm	Cable	100 – 2.048 I/U
ITD 40 A 4 Y 5	10 – 16 mm	Socket	100 – 2.048 I/U
ITD 40 A 4 Y19	10 – 16 mm	Cable	100 – 2.048 I/U
ITD 40 A 4 Y20	18 – 27 mm	Cable	100 – 2.048 I/U
ITD 40 A 4 Y22	17 – 27 mm	Cable	100 – 2.048 I/U
ITD 40 A 4 Y23	17 – 27 mm	Connector	100 – 2.048 I/U
ITD 40 A 4 Y27	18 – 27 mm	Cable	100 – 2.048 I/U
ITD 40 A 4 Y34	28, 29 mm	Cable	100 – 2.048 I/U
ITD 40 A 4 Y36	10 – 16 mm	Cable	100 – 2.048 I/U
ITD 40 A 4 Y37	10 – 16 mm	Connector	100 – 2.048 I/U
ITD 40 A 4 Y38	10 – 16 mm	Cable	100 – 2.048 I/U
ITD 40 A 4 Y40	18 – 27 mm	Cable	100 – 2.048 I/U
ITD 40 A 4 Y42	18 – 27 mm	Cable	100 – 2.048 I/U
ITD 40 A 4 Y44	18 – 27 mm	Connector	100 – 2.048 I/U
ITD 40 A 4 Y52	10 – 16 mm	Cable	100 – 2.048 I/U
ITD 40 A 4 Y71	10 – 16 mm	Cable	100 – 2.048 I/U
ITD 40 A 4 Y72 (Niro)	10 – 16 mm	Cable	100 – 2.048 I/U
ITD 40 A 4 Y74 (Niro)	10 – 16 mm	Cable	100 – 2.048 I/U
ITD 40 A 4 Y76 (Niro)	18 – 27 mm	Cable	100 – 2.048 I/U
ITD 40 A 4 Y78	10 – 16 mm	Cable	100 – 2.048 I/U
ITD 40 A 4 Y79	20, 22, 25, 27 mm	Cable	100 – 2.048 I/U

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Type	Diameter	Connection	Pulses	Price €
ITD 40 A 4 Y83	10 □ 16 mm	Cable	100 □ 2.048 I/U	
ITD 40 A 4 Y84 (Niro)	20, 22, 25, 27 mm	Cable	100 □ 2.048 I/U	
ITD 40 A 4 Y87	20, 22, 25, 27 mm	Connector	100 □ 2.048 I/U	
ITD 40 A 4 Y90	10 □ 16 mm	Cable	100 □ 2.048 I/U	
ITD 40 A 4 Y92	20, 22, 25, 27 mm	Cable	100 □ 2.048 I/U	
ITD 40 A 4 Y97	18 □ 27 mm	Cable	100 □ 2.048 I/U	
ITD 40 A 4 Y98	20, 22, 25, 27 mm	Connector	100 □ 2.048 I/U	
ITD 40 A 4 Y99	20, 22, 25, 27 mm	Cable	100 □ 2.048 I/U	
ITD 40 A 4 Y100	25 mm, isoliert	Cable	100 □ 2.048 I/U	
ITD 40 A 4 Y101	20, 22, 25, 27 mm	Cable	100 □ 2.048 I/U	
ITD 40 A 4 Y106	10 □ 16 mm	Cable	100 □ 2.048 I/U	
ITD 40 A 4 Y107	10 □ 20 mm	Cable	100 □ 2.048 I/U	
ITD 40 A 4 Y109	10 □ 16 mm	Connector	100 □ 2.048 I/U	
ITD 40 A 4 Y110 (heating)	10 □ 16 mm	Connector	100 □ 2.048 I/U	
ITD 40 A 4 Y114	10 □ 20 mm mit Nut	Cable	100 □ 2.048 I/U	
ITD 40 A 4 Y116	10 □ 20 mm mit Nut	Cable	100 □ 2.048 I/U	
ITD 40 A 4 Y120 (cULus)	17 □ 27 mm	Cable	100 □ 2.048 I/U	
ITD 40 A 4 Y123	12 mm, isoliert	Cable	100 □ 2.048 I/U	
ITD 40 A 4 Y124	10 □ 20 mm mit Nut	Cable	100 □ 2.048 I/U	
ITD 40 A 4 Y125	12 mm, isoliert	Cable	100 □ 2.048 I/U	
ITD 40 A 4 Y127 (heating)	10 □ 16 mm	Connector	100 □ 2.048 I/U	
ITD 40 A 4 Y135	25 mm, isoliert	Connector	100 □ 2.048 I/U	
ITD 40 A 4 Y136	10 □ 16 mm	Cable	100 □ 2.048 I/U	
ITD 40 A 4 Y138 (shO.K.)	14 mm	Cable	100 □ 2.048 I/U	
ITD 40 A 4 Y141 (Niro)	20, 22, 25, 27 mm	Cable	100 □ 2.048 I/U	
ITD 40 A 4 Y145 (heating)	10 □ 16 mm	Cable	100 □ 2.048 I/U	

Type	Diameter	Connection	Pulses
ITD 41 A 4	10 □ 16 mm	Cable	2.000 □ 10.000 I/U □ incl. NI
ITD 41 A 4 Y 1	10 □ 16 mm	Connector	2.000 □ 10.000 I/U □ incl. NI
ITD 41 A 4 Y 2	10 □ 16 mm	Cable	2.000 □ 10.000 I/U □ incl. NI
ITD 41 A 4 Y 3	10 □ 16 mm	Connector	2.000 □ 10.000 I/U □ incl. NI
ITD 41 A 4 Y 4	10 □ 16 mm	Cable	2.000 □ 10.000 I/U □ incl. NI
ITD 41 A 4 Y 5	10 □ 16 mm	Socket	2.000 □ 10.000 I/U □ incl. NI
ITD 41 A 4 Y19	10 □ 16 mm	Cable	2.000 □ 10.000 I/U □ incl. NI
ITD 41 A 4 Y20	18 □ 27 mm	Cable	2.000 □ 10.000 I/U □ incl. NI
ITD 41 A 4 Y22	17 □ 27 mm	Cable	2.000 □ 10.000 I/U □ incl. NI
ITD 41 A 4 Y23	17 □ 27 mm	Connector	2.000 □ 10.000 I/U □ incl. NI
ITD 41 A 4 Y24	10 □ 16 mm / isoliert	Cable	2.000 □ 10.000 I/U □ incl. NI
ITD 41 A 4 Y27	17 □ 27 mm	Cable	2.000 □ 10.000 I/U □ incl. NI
ITD 41 A 4 Y36	10 □ 16 mm	Cable	2.000 □ 10.000 I/U □ incl. NI
ITD 41 A 4 Y37	10 □ 16 mm	Connector	2.000 □ 10.000 I/U □ incl. NI
ITD 41 A 4 Y38	10 □ 16 mm	Cable	2.000 □ 10.000 I/U □ incl. NI
ITD 41 A 4 Y40	18 □ 27 mm	Cable	2.000 □ 10.000 I/U □ incl. NI
ITD 41 A 4 Y52	10 □ 16 mm	Cable	2.000 □ 10.000 I/U □ incl. NI
ITD 41 A 4 Y59	27 mm	Connector	2.000 □ 10.000 I/U □ incl. NI
ITD 41 A 4 Y64 (Niro)	18 □ 27 mm	Cable	2.000 □ 10.000 I/U □ incl. NI
ITD 41 A 4 Y68	28 □ 30 mm	Cable	2.000 □ 10.000 I/U □ incl. NI
ITD 41 A 4 Y69	28 □ 30 mm	Connector	2.000 □ 10.000 I/U □ incl. NI
ITD 41 A 4 Y70	28 □ 30 mm	Connector	2.000 □ 10.000 I/U □ incl. NI
ITD 41 A 4 Y72 (Niro)	10 □ 16 mm	Cable	2.000 □ 10.000 I/U □ incl. NI
ITD 41 A 4 Y74 (Niro)	10 □ 16 mm	Cable	2.000 □ 10.000 I/U □ incl. NI
ITD 41 A 4 Y76 (Niro)	18 □ 27 mm	Cable	2.000 □ 10.000 I/U □ incl. NI
ITD 41 A 4 Y78	10 □ 16 mm	Cable	2.000 □ 10.000 I/U □ incl. NI
ITD 41 A 4 Y79	20, 22, 25, 27 mm	Cable	2.000 □ 10.000 I/U □ incl. NI
ITD 41 A 4 Y84 (Niro)	20, 22, 25, 27 mm	Cable	2.000 □ 10.000 I/U □ incl. NI
ITD 41 A 4 Y87	20, 22, 25, 27 mm	Connector	2.000 □ 10.000 I/U □ incl. NI
ITD 41 A 4 Y90	10 □ 16 mm	Cable	2.000 □ 10.000 I/U □ incl. NI
ITD 41 A 4 Y92	20, 22, 25, 27 mm	Cable	2.000 □ 10.000 I/U □ incl. NI
ITD 41 A 4 Y100	25 mm, isoliert	Cable	2.000 □ 10.000 I/U □ incl. NI

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Type	Diameter	Connection	Pulses
ITD 41 A 4 Y104	20, 22, 25, 27 mm	Connector	2.000 – 10.000 I/U – incl. NI
ITD 41 A 4 Y109	10 – 16 mm	Connector	2.000 – 10.000 I/U – incl. NI
ITD 41 A 4 Y112	10 – 16 mm, isoliert	Cable	2.000 – 10.000 I/U – incl. NI
ITD 41 A 4 Y117	14 mm, isoliert	Cable	2.000 – 10.000 I/U – incl. NI
ITD 41 A 4 Y120 (cULus)	17 – 27 mm	Cable	2.000 – 10.000 I/U – incl. NI
ITD 41 A 4 Y126	10 – 16 mm, isoliert	Connector	2.000 – 10.000 I/U – incl. NI
ITD 41 A 4 Y141 (Niro)	20, 22, 25, 27 mm	Cable	2.000 – 10.000 I/U – incl. NI
ITD 41 A 4 Y147	17 – 27 mm	Cable	2.000 – 10.000 I/U – incl. NI

ITD 6... – series ENCODER HOLLOW SHAFT

Type	Diameter	Connection	Pulses
ITD 61 A 4	30 – 50 mm	Cable	1.024, 2.048, 2.500, 4.096 I/U – incl. NI
ITD 61 A 4 Y 1	30 – 50 mm	Connector	1.024, 2.048, 2.500, 4.096 I/U – incl. NI
ITD 61 A 4 Y 4 (Niro)	30 – 50 mm	Cable	1.024, 2.048, 2.500, 4.096 I/U – incl. NI

ITD 7... – series ENCODER HOLLOW SHAFT

Type	Diameter	Connection	Pulses
ITD 70 A 4 Y 2	38 – 65 mm	Cable	1.000, 1.024, 2.048, 2.500 I/U
ITD 70 A 4 Y 5	38 – 65 mm	Connector	1.000, 1.024, 2.048, 2.500 I/U
ITD 70 A 4 Y 7	40, 45, 50, 55, 60, 65 mm	Cable	1.000, 1.024, 2.048, 2.500 I/U
ITD 70 A 4 Y 8	70, 75, 80 mm	Cable	1.000, 1.024, 2.048, 2.500 I/U
ITD 70 A 4 Y 9	40, 45, 50, 55, 60, 65 mm	Connector	1.000, 1.024, 2.048, 2.500 I/U
ITD 70 A 4 Y16	65, 70, 75 mm, isoliert	Cable	1.000, 1.024, 2.048, 2.500 I/U

ITD 8... – series ENCODER HOLLOW SHAFT

Type	Diameter	Connection	Pulses
ITD 80 A 4	80, 85 mm, isoliert	Cable	1.000, 1.024, 2.048, 2.500 I/U

ITD 9... – series ENCODER HOLLOW SHAFT

Type	Diameter	Connection	Pulses
ITD 90 A 4	100 mm, isoliert	Cable box	1.024 I/U

TIL – series ENCODER HOLLOW SHAFT

Type	Diameter	Connection	Pulses
TIL	10, 12, 14, 16 mm	Cable	100 – 2.048 I/U

ITD 48 – series ENCODER REDUNDANT

Type	Diameter	Connection	Pulses
ITD 48 A 4 Y 2	10 – 16 mm	Connector	100 – 1.024 I/U
ITD 48 A 4 Y 5	10 – 16 mm	Cable	100 – 1.024 I/U

* For surcharges for special pulse discs outside of data sheet range see "ENCODER OPTIONS"

ITD 0... – series
ENCODER **SHAFT**

Type	Diameter	Connection	Pulses
ITD 01 B14	4 mm	Cable	30 – 1.024 I/U
ITD 01 B14 Y 2	4 mm	Cable	30 – 1.024 I/U

ITD 2... – series
ENCODER **SHAFT**

Type	Diameter	Connection	Pulses
ITD 2 B 5	3 mm	Cable	2– 60 I/U

Type	Diameter	Connection	Pulses
ITD 2 B10	6 mm	Cable	2– 60 I/U

Type	Diameter	Connection	Pulses
ITD 20 B10	6 mm	Cable	50 – 1.024 I/U
ITD 20 B10 Y 1	6 mm	Connector	50 – 1.024 I/U
ITD 20 B10 Y 2	10, 11, 12 mm	Cable	50 – 1.024 I/U
ITD 20 B10 Y 3	10, 11, 12 mm	Connector	50 – 1.024 I/U
ITD 20 B10 Y 4	6 mm	Cable	50 – 1.024 I/U
ITD 20 B10 Y 9	7 mm	Cable	50 – 1.024 I/U
ITD 20 B10 Y14	11 mm	Cable	50 – 1.024 I/U

Type	Diameter	Connection	Pulses
ITD 21 B10	6 mm	Cable	1.000 – 6.000 I/U – incl. NI
ITD 21 B10 Y 2	10, 11, 12 mm	Cable	1.000 – 6.000 I/U – incl. NI
ITD 21 B10 Y 3	10, 11, 12 mm	Connector	1.000 – 6.000 I/U – incl. NI

Type	Diameter	Connection	Pulses
ITD 2 B14	6 mm	Cable	2 - 60 I/U
ITD 2 B14 Y 1	6 mm	Connector	2 - 60 I/U
ITD 2 B14 Y 2	6 mm	Connector	2 - 60 I/U
ITD 2 B14 Y 4	6 mm	Cable	2 - 60 I/U
ITD 2 B14 Y10	6 mm	Cable	2 - 60 I/U
ITD 2 B14 Y12	6 mm	Connector	2 - 60 I/U
ITD 2 B14 Y18	6 mm	Cable	2 - 60 I/U
ITD 2 B14 Y20	12 mm	Connector	2 - 60 I/U
ITD 2 B14 Y33	6 mm	Connector	2 - 60 I/U

Type	Diameter	Connection	Pulses
ITD 20 B14	6 mm	Cable	50 – 1.024 I/U
ITD 20 B14 Y 1	6 mm	Connector	50 – 1.024 I/U
ITD 20 B14 Y 2	6 mm	Connector	50 – 1.024 I/U
ITD 20 B14 Y 9	10 mm	Cable	50 – 1.024 I/U
ITD 20 B14 Y10	6 mm	Cable	50 – 1.024 I/U
ITD 20 B14 Y11	10 mm	Connector	50 – 1.024 I/U
ITD 20 B14 Y25	10 mm	Connector	50 – 1.024 I/U
ITD 20 B14 Y28	10 mm	Connector	50 – 1.024 I/U
ITD 20 B14 Y63	10 mm	Cable	50 – 1.024 I/U

Type	Diameter	Connection	Pulses
ITD 21 B14	6 mm	Cable	1.000 – 10.000 I/U – incl. NI
ITD 21 B14 Y 1	6 mm	Connector	1.000 – 10.000 I/U – incl. NI
ITD 21 B14 Y 2	6 mm	Connector	1.000 – 10.000 I/U – incl. NI
ITD 21 B14 Y 4	10 mm	Cable	1.000 – 10.000 I/U – incl. NI

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Type	Diameter	Connection	Pulses
ITD 21 B14 Y 6 (Hollow shaft!)	7 mm	Cable	1.000 – 10.000 I/U – incl. NI
ITD 21 B14 Y 9	10 mm	Cable	1.000 – 6.000 I/U – incl. NI
ITD 21 B14 Y10	6 mm	Cable	1.000 – 10.000 I/U – incl. NI
ITD 21 B14 Y11	10 mm	Connector	1.000 – 6.000 I/U – incl. NI
ITD 21 B14 Y21	10 mm	Connector	1.000 – 6.000 I/U – incl. NI
ITD 21 B14 Y27	10 mm	Connector	1.000 – 6.000 I/U – incl. NI
ITD 21 B14 Y28	10 mm	Connector	1.000 – 6.000 I/U – incl. NI
ITD 21 B14 Y30	10 mm	Connector	1.000 – 6.000 I/U – incl. NI
ITD 21 B14 Y34	10 mm	Cable	1.000 – 6.000 I/U – incl. NI
ITD 21 B14 Y44	10 mm	Connector	1.000 – 6.000 I/U – incl. NI

ITD 2... – series (with explosion protection) ENCODER SHAFT

Type	Diameter	Connection	Pulses
ITD 21 B14 II 2 G EEx de IIB T6	12 mm	Pg 16 - cable box	1.000 – 6.000 I/U – incl. NI

ITD 3... – series ENCODER SHAFT

Type	Diameter	Connection	Pulses
ITD 3 B 3	10 mm	Cable	1 – 1.024 I/U

Type	Diameter	Connection	Pulses
ITD 3 B10	10 mm	Cable	1 – 1.024 I/U
ITD 3 B10 Y 3	10 mm	Cable	1 – 1.024 I/U
ITD 3 B10 Y 4	10 mm	Cable	1 – 1.024 I/U

Type	Diameter	Connection	Pulses
ITD 3 B14	10 mm	Cable	1 – 1024 I/U
ITD 3 B14 Y 1	10 mm	Cable	1 – 1.024 I/U

ITD 4... – series ENCODER SHAFT

Type	Diameter	Connection	Pulses
ITD 4 B10	11 mm	Cable	1 – 100 I/U
ITD 4 B10 Y 1	11 mm	Connector	1 – 100 I/U
ITD 4 B10 Y 2	11 mm	Cable box	1 – 100 I/U
ITD 4 B10 Y 3	11 mm	Cable	1 – 100 I/U
ITD 4 B10 Y 4	11 mm	Connector	1 – 100 I/U
ITD 4 B10 Y 5	11 mm	Cable box	1 – 100 I/U

Type	Diameter	Connection	Pulses
ITD 40 B10	11 mm	Cable	100 – 2.048 I/U
ITD 40 B10 Y 1	11 mm	Connector	100 – 2.048 I/U
ITD 40 B10 Y 2	11 mm	Cable box	100 – 2.048 I/U
ITD 40 B10 Y 3	11 mm	Cable	100 – 2.048 I/U
ITD 40 B10 Y 4	11 mm	Connector	100 – 2.048 I/U
ITD 40 B10 Y 5	11 mm	Cable box	100 – 2.048 I/U
ITD 40 B10 Y 6	11 mm	Cable	100 – 2.048 I/U

Type	Diameter	Connection	Pulses
ITD 40 B14 Y28 (Niro)	10 mm	Connector	100 – 2.048 I/U

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Type	Diameter	Connection	Pulses	Price €
ITD 41 B10	11 mm	Cable	1.000 – 6.000 I/U – incl. NI	
ITD 41 B10 Y 2	11 mm	Cable box	1.000 – 6.000 I/U – incl. NI	
ITD 41 B10 Y 3	11 mm	Cable	1.000 – 6.000 I/U – incl. NI	
ITD 41 B10 Y 4	11 mm	Connector	1.000 – 6.000 I/U – incl. NI	
ITD 41 B10 Y 5	11 mm	Cable box	1.000 – 6.000 I/U – incl. NI	

* For surcharges for special pulse discs outside of data sheet range see "ENCODER OPTIONS"

ITD 2... – series
ENCODER **SINUS**

Type	Diameter	Connection	Pulses	Price €
ITD 22 A 4 Y36	10, 12, 14 mm	Cable	2.048 I/U – incl. NI	
ITD 22 A 4 Y47	10, 12, 14 mm	Connector	2.048 I/U – incl. NI	
ITD 22 A 4 Y66	14 mm	Cable	2.048 I/U – incl. NI	
ITD 22 A 4 Y73	10, 12, 14 mm	Cable	2.048 I/U – incl. NI	
ITD 22 A 4 Y81	14 mm	Cable	2.048 I/U – incl. NI	
ITD 22 A 4 Y82	14 mm	Cable	2.048 I/U – incl. NI	
ITD 22 A 4 Y92	14 mm	Connector	1.024, 2.048 I/U – incl. NI	
ITD 22 A 4 Y95	8, 10, 12, 14 mm	Cable	1.024, 2.048 I/U – incl. NI	
ITD 22 A 4 Y105	14 mm	Cable	1.024, 2.048 I/U – incl. NI	

Type	Diameter	Connection	Pulses
ITD 22 B14	6 mm	Cable	1.024, 2.048 I/U – incl. NI
ITD 22 B14 Y 9	10 mm	Cable	1.024, 2.048 I/U – incl. NI
ITD 22 B14 Y11	10 mm	Connector	1.024, 2.048 I/U – incl. NI

ITD 4... – series
ENCODER **SINUS**

Type	Diameter	Connection	Pulses
ITD 42 A 4	10 – 16 mm	Cable	1.024, 2.048 I/U – incl. NI
ITD 42 A 4 Y 2	10 – 16 mm	Cable	1.024, 2.048 I/U – incl. NI
ITD 42 A 4 Y22	17 – 27 mm	Cable	1.024, 2.048 I/U – incl. NI
ITD 42 A 4 Y42	18 – 27 mm	Cable	1.024, 2.048 I/U – incl. NI
ITD 42 A 4 Y43	18 – 27 mm	Connector	1.024, 2.048 I/U – incl. NI
ITD 42 A 4 Y79	20, 22, 25, 27 mm	Cable	1.024, 2.048 I/U – incl. NI
ITD 42 A 4 Y90	10 – 16 mm	Cable	1.024, 2.048 I/U – incl. NI
ITD 42 A 4 Y120 (cULus)	17 – 27 mm	Cable	1.024, 2.048 I/U – incl. NI
ITD 42 A 4 Y141 (Niro)	20, 22, 25, 27 mm	Cable	1.024, 2.048 I/U – incl. NI

* For surcharges for special pulse discs outside of data sheet range see "ENCODER OPTIONS"

ITD 2... – series **ENCODER** **WITHOUT BEARING**

Type	Diameter	Connection	Pulses
ITD 25 A 4 Y 6	10 mm	Cable	up to 360 I/U
ITD 25 A 4 Y 8	10 mm	Cable	up to 360 I/U
ITD 25 A 4 Y13	10 mm	Cable	up to 360 I/U

ITD 4... – series **ENCODER** **WITHOUT BEARING**

Type	Diameter	Connection	Pulses
ITD 45 A 4 Y 4	10 – 15 mm	Cable	up to 512 I/U

ITD 7... – series **ENCODER** **WITHOUT BEARING**

Type	Diameter	Connection	Pulses
ITD 75 A 4	60 – 85 mm	Cable	1.000, 1.024, 2.048, 2.500 I/U
ITD 75 A 4 Y 1	60 – 85 mm	Connector	1.000, 1.024, 2.048, 2.500 I/U
ITD 75 A 4 Y 5	85 mm	Cable	1.000, 1.024, 2.048, 2.500 I/U

IK 80 – series **ENCODER** **KIT**

Type	Diameter	Connection	Pulses
IK 80-2 A 4	15 – 50 mm	Cable	80 I/U
IK 80-2 A 4 Y 1	15 – 50 mm	Cable	80 I/U

ITD 2... – series **ENCODER** **MAGNETICAL**

Type	Diameter	Connection	Pulses
ITD 26 A 4	8 – 14 mm	Cable	4 – 1.024 I/U
ITD 26 A 4 Y 2	8 – 14 mm	Connector	4 – 1.024 I/U

Type	Diameter	Connection	Pulses
ITD 27 A 4 Y 6	10 mm	Cable	1, 4, 8, 20 I/U (16, 32 I/U)
ITD 27 A 4 Y 8	14 mm	Cable	1, 4, 8, 20 I/U (16, 32 I/U)
ITD 27 A 4 Y 9	15 mm	Cable	1, 4, 8, 20 I/U (16, 32 I/U)
ITD 27 A 4 Y10	10, 12, 14 mm	Cable	1, 4, 8, 20 I/U (16, 32 I/U)
ITD 27 A 4 Y11	14 mm	Cable	1, 4, 8, 20 I/U (16, 32 I/U)
ITD 27 A 4 Y14	15 mm	Cable	1, 4, 8, 20 I/U (16, 32 I/U)
ITD 27 A 4 Y15	10, 12, 14 mm	Cable	1, 4, 8, 20 I/U (16, 32 I/U)
ITD 27 A 4 Y16	10, 12, 14 mm	Cable	1, 4, 8, 20 I/U (16, 32 I/U)
ITD 27 A 4 Y18	10 – 16 mm	Cable	1, 4, 8, 20 I/U (16, 32 I/U)
ITD 27 A 4 Y19	10, 12, 14 mm	Cable	1, 4, 8, 20 I/U (16, 32 I/U)
ITD 27 A 4 Y22	4.97, 5.97, 7.97 mm	Leads	2, 4, 12 I/U
ITD 27 A 4 Y24	10, 12, 14 mm	Cable	1, 4, 8, 20 I/U (16, 32 I/U)
ITD 27 A 4 Y25	10, 12, 14 mm	Cable	1, 4, 8, 20 I/U (16, 32 I/U)
ITD 27 A 4 Y27	10 – 16 mm	Cable	1, 4, 8, 20 I/U (16, 32 I/U)
ITD 27 A 4 Y34	10, 12, 14 mm	Cable	1, 4, 8, 20 I/U (16, 32 I/U)

ITD 6... – series **ENCODER** **MAGNETICAL**

Type	Diameter	Connection	Pulses
ITD 67 A 4 Y 2 (anodised)	16, 20, 25, 30, 35 mm	Cable	20, 50 I/U
ITD 67 A 4 Y 8 (redundant)	10 – 45 mm	Cable	20 I/U
ITD 67 A 4 Y 9	10 – 45 mm	Cable	20, 50 I/U
ITD 67 A 4 Y11 (anodised)	28 mm	Cable	20, 50 I/U
ITD 67 A 4 Y12 (redundant)	40 mm	Cable	20, 50 I/U
ITD 67 A 4 Y16 (anodised)	28 mm	Cable	20, 50 I/U
ITD 67 A 4 Y18	40 mm	Cable	20, 50 I/U
Type	Diameter	Connection	Pulses
ITD 69 A 4	58 mm	Cable	128, 256, 512, 1.024, 2.048 I/U
ITD 69 A 4 Y 5	40, 45, 50, 55, 60, 65 mm	Cable	128, 256, 512, 1.024, 2.048 I/U

ITD 9... – series **ENCODER** **MAGNETICAL**

Type	Diameter	Connection	Pulses
ITD 97 A 4	28 mm	Cable	6, 10 I/U

* For surcharges for special pulse discs outside of data sheet range see "ENCODER OPTIONS"

Options ENCODER OPTIONS

Type	Miscellaneous	
Electronic version	R	UB = 8 – 30 VDC / TTL-output signals
	K	UB = 5 VDC / TTL-output signals, RS-422
	U	UB = 8 – 30 VDC / TTL-output signals, RS-422
	L	UB = 9 – 30 VDC / HTL-output signals, output stage
Output signals	NI	2 square wave pulse trains + zero pulse + inverting
Operating temperature range	E	Up to + 100 °C
	F	Up to + 120 °C
High pulse numbers		7200+ pulses
Special pulse numbers		Outside of data sheet range
Enhanced protection		From IP54 to IP65 (only for combinations!)
UL-approval		Surcharge for UL-certification of the encoder
Zone 22 declaration		Only for ITD 21... And ITD 40...

Accessories ENCODER OPTIONS

Type	Miscellaneous	
Socket	S2BG12	Item no.: 511855 – for D2S...12 – 12 pin
Eccentric discs (set)		For further choices and item numbers see "ACCESSORIES"

Connection elements at cable ENCODER OPTIONS

Type	Miscellaneous	
Back plate connector		H2SK12 at cable KR... or KA... – 12 pin
Back plate connector		H9SK12 at cable KR... or KA... – 12 pin – 20° twisted
Back plate connector		J2SK1R at cable KR... or KA... – 12 pin
Connector		S2SK12 at cable KR... or KA... – 12 pin
Connector		S8BK12 at cable KR... or KA... – 12 pin
Coupling		K1SG7 at cable KR... or KA... – 7 pin
Coupling		K1SG12 at cable KR... or KA... – 12 pin
Coupling (pin contacts)		K4SK9 at cable KR... or KA... – 9 pin
Coupling (socket contacts)		K4BK9 at cable KR... or KA... – 9 pin
Coupling (angular)		K4SW15 at cable KR... or KA... – 15 pin

Attachment kits ENCODER OPTIONS

Type	Miscellaneous	
per attachment kit		all series

Extension cables ENCODER OPTIONS

Type	Miscellaneous	
Socket at cable		S2BG12 with cable 1 m – 12 pin – Item-no.: 48031–01000
Socket at cable		S2BG12 with cable 2 m – 12 pin – Item-no.: 48031–02000
Socket at cable		S2BG12 with cable 3 m – 12 pin – Item-no.: 48031–03000
Socket at cable		S2BG12 with cable 4 m – 12 pin – Item-no.: 48031–04000
Socket at cable		S2BG12 with cable 5 m – 12 pin – Item-no.: 48031–05000
Socket at cable		S2BG12 with cable 10 m – 12 pin – Item-no.: 48031–10000

* For individual configuration of extension cables see "ACCESSORIES"

ATD 2... – series
ABSOLUTE ENCODERS

Type	Diameter	Interface	Resolution
ATD 2B A 4 Y 7	10, 12, 14 mm	BiSS	Singleturn 524.288 (19 Bit)
ATD 2B A 4 Y 7	10, 12, 14 mm	BiSS	Multiturn 16.777.216 (24 Bit)

Type	Diameter	Interface	Resolution
ATD 2S A 4 Y 7	10, 12, 14 mm	SSI	Singleturn 524.288 (19 Bit)
ATD 2S A 4 Y 7	10, 12, 14 mm	SSI	Multiturn 16.777.216 (24 Bit)

Type	Diameter	Interface	Resolution
ATD 2A B14 Y 1	6 mm	Analogue design	Voltage output AU
ATD 2A B14 Y 1	6 mm	Analogue design	Current output AI
ATD 2P B14 Y 3	10 mm	Parallel design	Singleturn 1.024 (10 Bit)

Type	Diameter	Interface	Resolution
ATD 2B B14 Y 4	10 mm	PROFIBUS-DP	Singleturn 8.192 (13 Bit)
ATD 2B B14 Y 4	10 mm	PROFIBUS-DP	Multiturn 65.536 (16 Bit)

ATD 3... – series
ABSOLUTE ENCODERS

Type	Diameter	Interface	Resolution
ATD 3S A 4 Y 1	10 - 16 mm	SSI	Singleturn 4.096 (12 Bit)
ATD 3S A 4 Y 1	10 - 16 mm	SSI	Multiturn 4.096 (12 Bit)

Type	Diameter	Interface	Resolution
ATD 3S A 4 Y 1	10 - 16 mm	SSI / programmable	Singleturn 4.096 (12 Bit)
ATD 3S A 4 Y 1	10 - 16 mm	SSI / programmable	Multiturn 4.096 (12 Bit)

Type	Diameter	Interface	Resolution
ATD 3S A 4 Y 7	10, 12, 14 mm	SSI	Singleturn 4.096 (12 Bit)
ATD 3S A 4 Y 7	10, 12, 14 mm	SSI	Multiturn 4.096 (12 Bit)

Type	Diameter	Interface	Resolution
ATD 3S A 4 Y 7	10, 12, 14 mm	SSI / programmable	Singleturn 4.096 (12 Bit)
ATD 3S A 4 Y 7	10, 12, 14 mm	SSI / programmable	Multiturn 4.096 (12 Bit)

Type	Diameter	Interface	Resolution
ATD 3B A 4 Y 8	10, 12, 14 mm	PROFIBUS-DP	Singleturn 4.096 (12 Bit)
ATD 3B A 4 Y 8	10, 12, 14 mm	PROFIBUS-DP	Multiturn 4.096 (12 Bit)

Type	Diameter	Interface	Resolution
ATD 3B A 4 Y10	10, 12, 14 mm	DeviceNet	Singleturn 4.096 (12 Bit)
ATD 3B A 4 Y10	10, 12, 14 mm	DeviceNet	Multiturn 4.096 (12 Bit)

Type	Diameter	Interface	Resolution
ATD 3P B14	10 mm	Parallel	Singleturn 8.192 (13 Bit)
ATD 3P B14	10 mm	Parallel	Multiturn 8.192 (13 Bit)
ATD 3P B14 Y 1	10 mm	Parallel	Singleturn 8.192 (13 Bit)
ATD 3P B14 Y 1	10 mm	Parallel	Multiturn 8.192 (13 Bit)

Type	Diameter	Interface	Resolution
ATD 3S B14 Y 1	10 mm	SSI / programmable	Singleturn 8.192 (13 Bit)
ATD 3S B14 Y 1	10 mm	SSI / programmable	Multiturn 8.192 (13 Bit)

Type	Diameter	Interface	Resolution
ATD 3B B14 Y13	10 mm	PROFIBUS-DP	Singleturn 8.192 (13 Bit)
ATD 3B B14 Y13	10 mm	PROFIBUS-DP	Multiturn 8.192 (13 Bit)

Type	Diameter	Interface	Resolution
ATD 3B B14 Y14	10 mm	DeviceNet	Singleturn 4.096 (12 Bit)
ATD 3B B14 Y14	10 mm	DeviceNet	Multiturn 4.096 (12 Bit)

Type	Diameter	Interface	Resolution
ATD 3B B14 Y14	10 mm	CANopen	Singleturn 4.096 (12 Bit)
ATD 3B B14 Y14	10 mm	CANopen	Multiturn 4.096 (12 Bit)

ATD 4... – series ABSOLUTE ENCODERS

Type	Diameter	Interface	Resolution
ATD 4S A 4 Y 1	12, 14 mm	SSI / programmable	Singleturn 8.192 (13 Bit)
ATD 4S A 4 Y 1	12, 14 mm	SSI / programmable	Multiturn 8.192 (13 Bit)
ATD 4S A 4 Y10	18, 20, 23, 25, 27 mm	SSI / programmable	Singleturn 8.192 (13 Bit)
ATD 4S A 4 Y10	18, 20, 23, 25, 27 mm	SSI / programmable	Multiturn 8.192 (13 Bit)

Type	Diameter	Interface	Resolution
ATD 4B A 4 Y 4	12, 14 mm	PROFIBUS-DP	Singleturn 8.192 (13 Bit)
ATD 4B A 4 Y 4	12, 14 mm	PROFIBUS-DP	Multiturn 65.536 (16 Bit)

ATD 5... – series ABSOLUTE ENCODERS

Type	Diameter	Interface	Resolution
ATD 5S A 4 Y 1	15, 16, 18, 25, 25.4 mm	SSI / programmable	Singleturn 8.192 (13 Bit)
ATD 5S A 4 Y 1	15, 16, 18, 25, 25.4 mm	SSI / programmable	Multiturn 8.192 (13 Bit)

*The ATD 5S A 4 Y 1 will be sold in series of minimum 100 pieces only.

Type	Diameter	Interface	Resolution
ATD 5B A 4 Y 2	15, 16, 18, 25, 25.4 mm	PROFIBUS-DP	Singleturn 8.192 (13 Bit)
ATD 5B A 4 Y 2	15, 16, 18, 25, 25.4 mm	PROFIBUS-DP	Multiturn 65.536 (16 Bit)

Type	Diameter	Interface	Resolution
ATD 5B A 4 Y 3	15, 16, 18, 25, 25.4 mm	CANopen	Singleturn 8.192 (13 Bit)
ATD 5B A 4 Y 3	15, 16, 18, 25, 25.4 mm	CANopen	Multiturn 65.536 (16 Bit)

ATD 6... – series ABSOLUTE ENCODERS

Type	Diameter	Interface	Resolution
ATD 6S A 4 Y 1	50, 50.8 mm	SSI	Singleturn 8.192 (13 Bit)
ATD 6S A 4 Y 1	50, 50.8 mm	SSI	Multiturn 8.192 (13 Bit)

* For Accessories, attachment kits and cables see "ENCODER □ OPTIONS" and "ACCESSORIES".

TD 2... – series
THREE PHASE TACHOGENERATORS

Type	Diameter	Design
TD 2 A 4	6 – 10 mm	Hollow shaft
TD 2 A 4 Y 3	6 – 10 mm	Hollow shaft

TD 3... – series
THREE PHASE TACHOGENERATORS

Type	Diameter	Design
TD 3 A 4 AL AM	10 – 16 mm	Hollow shaft
TD 3 A 4 AL KM	10 – 16 mm	Hollow shaft
TD 3 A 4 AL RM	10 – 16 mm	Hollow shaft
TD 3 A 4 AL SM	5 mm	Hollow shaft

Type	Diameter	Design
TD 3 A 4 KA AM	10 – 16 mm	Hollow shaft
TD 3 A 4 KA KM	10 – 16 mm	Hollow shaft
TD 3 A 4 KA RM	10 – 16 mm	Hollow shaft
TD 3 A 4 KA SM	5 mm	Hollow shaft

Type	Diameter	Design
TD 3 B 3 AL	10 mm	Shaft
TD 3 B 5 AL	7 mm	Shaft
TD 3 B10 AL	10 mm	Shaft

TD 4... – series
THREE PHASE TACHOGENERATORS

Type	Diameter	Design
TD 41 F A 4	10 – 16 mm	Hollow shaft
TD 42 F A 4	10 – 16 mm	Hollow shaft

Type	Diameter	Design
TD 41 F B 3 KA	9 mm	Shaft
TD 42 F B 3 KA	9 mm	Shaft
TD 41 F B10	7, 10, 11 mm	Shaft
TD 42 F B10	7, 10, 11 mm	Shaft

TD 5... – series
THREE PHASE TACHOGENERATORS

Type	Diameter	Design
STD 51 F A 4	18 mm	Hollow shaft
TD 51 F B 3	10 mm	Shaft
TD 51 S B 3 KA	8, 10 mm	Shaft
TD 52 S B 3 KA	8, 10 mm	Shaft
TD 51 S B10 KA	11 mm	Shaft
TD 52 S B10 KA	11 mm	Shaft

Type	Design
TD 51 A 4 ZM	Pivot A, B, C

* For TD-hollow shaft rotors see "ACCESSORIES".

Options**THREE PHASE TACHOGENERATORS****Type****Miscellaneous**

DTD

Three phase AC output

WTD

AC (alternating current) output

STD

Mechanical variant

Accessories**THREE PHASE TACHOGENERATORS****Type****Miscellaneous**

Cable box set for TD 3... KA

Item-no.: 40049

KTD 2... – series
DC TACHOGENERATORS

Type	Diameter	Design
KTD 2-1 A 4 DS	8 – 12,7 mm	Hollow shaft
KTD 2-1 A 4 KSE	8 – 10 mm	Hollow shaft
KTD 2-1 A 4 SM	12, 7 mm	Hollow shaft

Type	Diameter	Design
KTD 2-1 A 4 KA DS	8 – 12,7 mm	Hollow shaft
KTD 2-1 A 4 KA KSE	10 mm	Hollow shaft
KTD 2-1 A 4 KA RM	11, 12 mm	Hollow shaft
KTD 2-1 A 4 KA SM	8 mm	Hollow shaft

Type	Diameter	Design
KTD 2-1 A 4 L	10 – 12 mm	Hollow shaft
KTD 2-1 A 4 L Y 4	12 mm	Hollow shaft

Type	Diameter	Design
KTD 2-1 B14	6 mm	Shaft

KTD 3... – series
DC TACHOGENERATORS

Type	Diameter	Design	Voltage
KTD 3-1 A 4	10 – 16 mm	Hollow shaft	10 VDC
KTD 3-2 A 4	10 – 16 mm	Hollow shaft	20 VDC
KTD 3-3 A 4	10 – 16 mm	Hollow shaft	30 VDC
KTD 3-4 A 4	10 – 16 mm	Hollow shaft	40 VDC
KTD 3-6 A 4	10 – 16 mm	Hollow shaft	60 VDC
KTD 3-1 A 4 Y 2	10 – 16 mm	Hollow shaft	10 VDC
KTD 3-2 A 4 Y 2	10 – 16 mm	Hollow shaft	20 VDC
KTD 3-3 A 4 Y 2	10 – 16 mm	Hollow shaft	30 VDC
KTD 3-4 A 4 Y 2	10 – 16 mm	Hollow shaft	40 VDC
KTD 3-6 A 4 Y 2	10 – 16 mm	Hollow shaft	60 VDC
KTD 3-1 A 4 Y 4	15 mm	Hollow shaft	10 VDC
KTD 3-2 A 4 Y 4	15 mm	Hollow shaft	20 VDC
KTD 3-3 A 4 Y 4	15 mm	Hollow shaft	30 VDC
KTD 3-4 A 4 Y 4	15 mm	Hollow shaft	40 VDC
KTD 3-6 A 4 Y 4	15 mm	Hollow shaft	60 VDC
KTD 3-1 A 4 Y36	14 mm	Hollow shaft	10 VDC
KTD 3-2 A 4 Y36	14 mm	Hollow shaft	20 VDC
KTD 3-3 A 4 Y36	14 mm	Hollow shaft	30 VDC
KTD 3-4 A 4 Y36	14 mm	Hollow shaft	40 VDC
KTD 3-6 A 4 Y36	14 mm	Hollow shaft	60 VDC

Type	Diameter	Design	Voltage
SKTD 3-1 A 4	10 – 16 mm	Hollow shaft	10 VDC
SKTD 3-2 A 4	10 – 16 mm	Hollow shaft	20 VDC
SKTD 3-3 A 4	10 – 16 mm	Hollow shaft	30 VDC
SKTD 3-4 A 4	10 – 16 mm	Hollow shaft	40 VDC
SKTD 3-6 A 4	10 – 16 mm	Hollow shaft	60 VDC

Type	Diameter	Design	Voltage
KTD 3-3 B 5 Y 3	6 – 11 mm	Shaft	30 VDC
KTD 3-4 B 5 Y 3	6 – 11 mm	Shaft	40 VDC
KTD 3-6 B 5 Y 3	6 – 11 mm	Shaft	60 VDC

Type	Diameter	Design	Voltage
KTD 3□1 B10	7 □ 11 mm	Shaft	10 VDC
KTD 3□2 B10	7 □ 11 mm	Shaft	20 VDC
KTD 3□3 B10	7 □ 11 mm	Shaft	30 VDC
KTD 3□4 B10	7 □ 11 mm	Shaft	40 VDC
KTD 3□6 B10	7 □ 11 mm	Shaft	60 VDC

KTD 4... – series DC TACHOGENERATORS

Type	Diameter	Design	Voltage
KTD 4□1 A 4	10 □ 16 mm	Hollow shaft	10 VDC
KTD 4□2 A 4	10 □ 16 mm	Hollow shaft	20 VDC
KTD 4□3 A 4	10 □ 16 mm	Hollow shaft	30 VDC
KTD 4□4 A 4	10 □ 16 mm	Hollow shaft	40 VDC
KTD 4□6 A 4	10 □ 16 mm	Hollow shaft	60 VDC

KTD 50 – series DC TACHOGENERATORS

Type	Diameter	Design	Voltage
KTD 50□6 B 3 Y 1	11 mm	Shaft	60 VDC
KTD 50□10 B 3 Y 1	11 mm	Shaft	100 VDC
KTD 50□15 B 3 Y 1	11 mm	Shaft	150 VDC

Type	Diameter	Design	Voltage
KTD 50□4 B10	7, 11 mm	Shaft	40 VDC
KTD 50□6 B10	7, 11 mm	Shaft	60 VDC
KTD 50□10 B10	7, 11 mm	Shaft	100 VDC
KTD 50□15 B10	7, 11 mm	Shaft	150 VDC

* For KTD-hollow shaft rotors see 'ACCESSORIES'

TG... – series DC TACHOGENERATORS

Type	Diameter	Design	Voltage
TG 71□1 A 4 + flange form A/B/C/D		Hollow shaft	10 VDC
TG 71□2 A 4 + flange form A/B/C/D		Hollow shaft	20 VDC
TG 71□3 A 4 + flange form A/B/C/D		Hollow shaft	30 VDC
TG 71□4 A 4 + flange form A/B/C/D		Hollow shaft	40 VDC

FS... – series CENTRIFUGAL SWITCHES

Type	Diameter	Design
FS A 4	15 mm	Hollow shaft
FS A 4 L	10 □ 16 mm	Hollow shaft
FS A 4 L Y 4	19 □ 22 mm	Hollow shaft
FS A 4 L Y 7	14 □ 22 mm	Hollow shaft

Options DC TACHOGENERATORS

Type
Silver track

Accessories**DC TACHOGENERATORS****Type**

Terminal board cover for KTD 3...

Clear cover for KTD 3...Y36, Y52, Y56

Miscellaneous

Item-no.: 40246 (inclusive screw: 510079)

Item-no.: 43303

BLTD 1... – series **BRUSHLESS TRAPEZOIDAL TACHOGENERATORS**

Type	Diameter	Design
BLTD 1 A 4	6 – 10 mm	Hollow shaft

BLTD 4... – series **BRUSHLESS TRAPEZOIDAL TACHOGENERATORS**

Type	Diameter	Design
BLTD 4 A 4	10 – 12 mm	Hollow shaft
BLTD 4 A 4 Y15	15 mm	Hollow shaft

LG 1... – series **BRUSHLESS TRAPEZOIDAL TACHOGENERATORS**

Type	Diameter	Design
LG 1 A 4	6, 8, 10 mm	Hollow shaft
LG 1 A 4 Y 1	10 mm	Hollow shaft

Accessories **BRUSHLESS TRAPEZOIDAL TACHOGENERATORS**

Type	Miscellaneous
Eccentric disc set	For further choices and item numbers see "ACCESSORIES"

RTD 1... – series **RESOLVERS**

Type	Diameter	Connection
RTD 1 A 4 Y 9	8, 9.52, 10 mm	Leads
RTD 1 B14	6 mm	Cable

RTD 2... – series **RESOLVERS**

Type	Diameter	Connection
RTD 2 A 4 Y13	10 – 20 mm	Leads

RTD 3... – series **RESOLVERS**

Type	Diameter	Connection
RTD 3 A 4 Y 1	12 – 22 mm	Leads

RTD 4... – series **RESOLVERS**

Type	Diameter	Connection
RTD 4 A 4 Y 1	10 – 16 mm	Cable
RTD 4 A 4 Y 2	10 – 16 mm	Connector

Accessories **RESOLVERS**

Type	Miscellaneous
Eccentric disc set	For further choices and item numbers see "ACCESSORIES"

ITD 3 + ITD 3 – series (encoder + encoder)
COMBINATIONS

Type	Diameter	Connection	Pulses
ITD 3 + ITD 3 A 4 Y 1	10 – 16 mm	Cable	see "ENCODERS"
ITD 3 + ITD 3 A 4 Y 2	10 – 16 mm	Connector	see "ENCODERS"

ITD 3 + TD 3 – series (encoder + tachogenerator)
COMBINATIONS

Type	Diameter	Connection	Pulses
ITD 3 + TD 3... A 4	10 – 16 mm	Cable	see "ENCODERS"

KTD 3 + ITD 2 – Serie (tachogenerator + encoder)
COMBINATIONS

Type	Diameter	Connection	Pulses
KTD 3–1 + ITD 2... A 4 Y 1	10 – 16 mm	Cable	see "ENCODERS"
KTD 3–2 + ITD 2... A 4 Y 1	10 – 16 mm	Cable	see "ENCODERS"
KTD 3–3 + ITD 2... A 4 Y 1	10 – 16 mm	Cable	see "ENCODERS"
KTD 3–4 + ITD 2... A 4 Y 1	10 – 16 mm	Cable	see "ENCODERS"
KTD 3–6 + ITD 2... A 4 Y 1	10 – 16 mm	Cable	see "ENCODERS"

Type	Diameter	Connection	Pulses
KTD 3–1 + ITD 21 B10	11 mm	Cable	see "ENCODERS" – incl. NI
KTD 3–2 + ITD 21 B10	11 mm	Cable	see "ENCODERS" – incl. NI
KTD 3–3 + ITD 21 B10	11 mm	Cable	see "ENCODERS" – incl. NI
KTD 3–4 + ITD 21 B10	11 mm	Cable	see "ENCODERS" – incl. NI
KTD 3–6 + ITD 21 B10	11 mm	Cable	see "ENCODERS" – incl. NI

ITD 3 + KTD 3 – series (encoder + tachogenerator)
COMBINATIONS

Type	Diameter	Connection	Pulses
ITD 3 + KTD 3–1 A 4	10 – 16 mm	Cable	see "ENCODERS"
ITD 3 + KTD 3–2 A 4	10 – 16 mm	Cable	see "ENCODERS"
ITD 3 + KTD 3–3 A 4	10 – 16 mm	Cable	see "ENCODERS"
ITD 3 + KTD 3–4 A 4	10 – 16 mm	Cable	see "ENCODERS"
ITD 3 + KTD 3–6 A 4	10 – 16 mm	Cable	see "ENCODERS"

Type	Diameter	Connection	Pulses
ITD 3 + KTD 3–1 A 4 Y12	10 – 16 mm	Cable	see "ENCODERS"
ITD 3 + KTD 3–2 A 4 Y12	10 – 16 mm	Cable	see "ENCODERS"
ITD 3 + KTD 3–3 A 4 Y12	10 – 16 mm	Cable	see "ENCODERS"
ITD 3 + KTD 3–4 A 4 Y12	10 – 16 mm	Cable	see "ENCODERS"
ITD 3 + KTD 3–6 A 4 Y12	10 – 16 mm	Cable	see "ENCODERS"

ITD 4 + KTD 3 – series (encoder + tachogenerator)
COMBINATIONS

Type	Diameter	Connection	Pulses
ITD 4... + KTD 3–1 B10	11 mm	Cable	see "ENCODERS"
ITD 4... + KTD 3–2 B10	11 mm	Cable	see "ENCODERS"
ITD 4... + KTD 3–3 B10	11 mm	Cable	see "ENCODERS"
ITD 4... + KTD 3–4 B10	11 mm	Cable	see "ENCODERS"
ITD 4... + KTD 3–6 B10	11 mm	Cable	see "ENCODERS"

Type	Diameter	Connection	Pulses
ITD 4... + KTD 3-1 B10 Y 4	11 mm	Sleeve	see "ENCODERS"
ITD 4... + KTD 3-2 B10 Y 4	11 mm	Sleeve	see "ENCODERS"
ITD 4... + KTD 3-3 B10 Y 4	11 mm	Sleeve	see "ENCODERS"
ITD 4... + KTD 3-4 B10 Y 4	11 mm	Sleeve	see "ENCODERS"
ITD 4... + KTD 3-6 B10 Y 4	11 mm	Sleeve	see "ENCODERS"

Type	Diameter	Connection	Pulses
ITD 4... + KTD 3-1 B10 Y 8	11 mm	Connector	see "ENCODERS"
ITD 4... + KTD 3-2 B10 Y 8	11 mm	Connector	see "ENCODERS"
ITD 4... + KTD 3-3 B10 Y 8	11 mm	Connector	see "ENCODERS"
ITD 4... + KTD 3-4 B10 Y 8	11 mm	Connector	see "ENCODERS"
ITD 4... + KTD 3-6 B10 Y 8	11 mm	Connector	see "ENCODERS"

ITD 4 + FS – series (encoder + centrifugal switch) COMBINATIONS

Type	Diameter	Connection	Pulses
ITD 4... + FS B10	11 mm	Sleeve	see "ENCODERS"
ITD 4... + FS B10 Y 1	11 mm	Sleeve	see "ENCODERS"
ITD 4... + FS B10 Y 2	11 mm	Cable	see "ENCODERS"
ITD 4... + FS B10 Y 4	11 mm	Cable box	see "ENCODERS"

FS + ITD 21 – series (centrifugal switch + encoder) COMBINATIONS

Type	Diameter	Connection	Pulses
FS + ITD 21 B10	11 mm	Cable	see "ENCODERS"

KTD 3-... + FS – series (tachogenerator + centr. switch) COMBINATIONS

Type	Diameter	Connection
KTD 3-1 + FS B10	11 mm	Cable
KTD 3-2 + FS B10	11 mm	Cable
KTD 3-3 + FS B10	11 mm	Cable
KTD 3-4 + FS B10	11 mm	Cable
KTD 3-6 + FS B10	11 mm	Cable

KTD + KTD – series (tachogenerator + tachogenerator) COMBINATIONS

Type	Diameter	Connection
KTD 50-6 + 6 B10	11 mm	Cable box

* For surcharges for special pulse discs outside of data sheet range, for options, accessories, attachment kits and cables see "ENCODER OPTIONS"

Display devices
DISPLAY DEVICES

Type	Miscellaneous
DX 345	Pure display device
DX 346	Display device with analogue output
DX 347	Display device with 2 presets and outputs
DX 348	Display device with serial interface (RS 232 and RS 485)

Type	Miscellaneous
DZ 251	4 opto-isolated transistor outputs
DZ 252	2 relays

Type	Miscellaneous
IX 345	Pure display device
IX 346	Display device with analogue output
IX 347	Display device with 2 presets and outputs
IX 348	Display device with serial interface (RS 232 and RS 485)

Type	Miscellaneous
QX 340	Housing 96x48x150
QX 540	Housing 96x72x150
QX 640	Housing 96x96x150

Type	Miscellaneous
SX 340	Housing 96x48x150
SX 540	Housing 96x72x150
SX 640	Housing 96x96x150

Type	Miscellaneous
ZX 340	Housing 96x48x150
ZX 540	Housing 96x72x150
ZX 640	Housing 96x96x150

Synchro-controllers
DISPLAY DEVICES

Type	Miscellaneous
BY 125	Low-Cost-Synchro-controller
BY 240	Synchro-controller in print-design

Converters
DISPLAY DEVICES

Type	Miscellaneous
FU 251	Frequency converter

Type	Miscellaneous
HEAG 151	TTL □ TTL
HEAG 152	HTL □ TTL
HEAG 153	TTL □ HTL
HEAG 154	HTL □ HTL

Tester
DISPLAY DEVICES

Type	Miscellaneous
HENQ 1100	Encoder tester

Hand-held tachometers
DISPLAY DEVICES

Type	Miscellaneous
DHT 105	Hand-held tachometer – digital
DHT 205	Hand-held tachometer – digital
AHT 110	Hand-held tachometer – analogue

Accessories for DHT 105
DISPLAY DEVICES

Type	Miscellaneous
Cone tip adapter	Item-no.: 510831
Funnel tip adapter	Item-no.: 510835
Measuring wheel for DHT	4 inch (10 cm) – Item-no.: 510832
	6 inch (15,5 cm) – Item-no.: 510833
Extension shaft	75 mm – Item-no.: 510837

Accessories for DHT 205
DISPLAY DEVICES

Type	Miscellaneous
Reflex stickers	1 set = 5 tables à 35 pieces – Item-no.: 510834

Couplings
ACCESSORIES

Type	Diameter
KK 14	3 – 7 mm
KK 20	4 – 11 mm

Type	Diameter
FK 16	6 – 8 mm
FK 26	6 – 11 mm

Type	Diameter
CPS 25	6 – 12 mm
CPS 37	6 – 20 mm

Type	Diameter
ASK 18	6 – 10 mm
ASK 25	6 – 12 mm
ASK 30	6 – 14 mm

Eccentric disc set
ACCESSORIES

Type	Diameter
Form A – set	3 pieces – Item-no.: 40701–3
Form B – set	3 pieces – Item-no.: 40702–3
Form C – set	3 pieces – Item-no.: 40057–3
Form D – set	3 pieces – Item-no.: 41389–3

Tappets
ACCESSORIES

Type	Miscellaneous
Form A	Item-no.: 40353
Form B	Item-no.: 40352

Measuring wheels
ACCESSORIES

Type	Miscellaneous
Measuring wheel	0,2 m – hollow shaft 4, 7 mm – aluminium – cross knurl
Measuring wheel	0,2 m – hollow shaft 4, 5, 6, 7, 10 mm – hytrel – plane
Measuring wheel	0,2 m – hollow shaft 4, 5, 6, 7, 10 mm – hytrel – checkered
Measuring wheel	0,2 m – hollow shaft 4, 6, 7, 10 mm – nitril – knobbed rubber
Measuring wheel	0,5 m – hollow shaft 7, 10 mm – aluminium – cross knurl
Measuring wheel	0,5 m – hollow shaft 6, 7, 10, 12 mm – hytrel – plane
Measuring wheel	0,5 m – hollow shaft 6, 7, 10, 12 mm – hytrel – checkered
Measuring wheel	0,5 m – hollow shaft 7, 10 mm – vulkolan – plane
Measuring wheel	0,5 m – hollow shaft 7, 10 mm – nitril – knobbed rubber

Connection cables
ACCESSORIES

Type	Miscellaneous
Connection cable	12 core cable (for 12 pin sockets) – each meter
Connection cable	16 core cable (for 16 pin sockets) – each meter
Assembling	to a socket

Connectors
ACCESSORIES

Type	Miscellaneous
Socket (standard)	S2BG12 – sleeve – Item-no.: 511855 – for D2S...12 – 12 pin
Socket	S2BG1R – sleeve – l.-no.: 513528 – D2S...12 – 12 p., reverse rotational direction
Socket	S2BG16 – sleeve – Item-no.: 513866 – for D2S...16 – 16 pin
Angular socket	S2BW12 – sleeve – Item-no.: 513824 – for D2S...12 – 12 pin
Installation wrench	for socket S2BG12 – Item-no.: 513238
Installation wrench	for socket H2SG12 – Item-no.: 513269
Coupling	K3BW4 – sleeve – Item-nor.: 511872 – 4 pin
Coupling	K1SG7 – pins – Item-no.: 511386 – 7 pin
Coupling	K1SG12 – pins – Item-no.: 510887 – 12 pin
Back plate connector	H2SG12 – pins – Item-no.: 512101 – for cables – 12 pin
Back plate connector	H2SG12 – sleeve – Item-no.: 513199 – for encoders – 12 pin

Sockets with cable
ACCESSORIES

Type	Miscellaneous
Socket with cable	S2BG12 with cable 1 m – 12 pin – Item-no.: 48031-01000
Socket with cable	S2BG12 with cable 2 m – 12 pin – Item-no.: 48031-02000
Socket with cable	S2BG12 with cable 3 m – 12 pin – Item-no.: 48031-03000
Socket with cable	S2BG12 with cable 4 m – 12 pin – Item-no.: 48031-04000
Socket with cable	S2BG12 with cable 5 m – 12 pin – Item-no.: 48031-05000
Socket with cable	S2BG12 with cable 10 m – 12 pin – Item-no.: 48031-10000
Socket with cable	S2BG16R with cable 1 m – 16 pin – Item-no.: 48016-01000
Socket with cable	S2BG16R with cable 2 m – 16 pin – Item-no.: 48016-02000
Socket with cable	S2BG16R with cable 3 m – 16 pin – Item-no.: 48016-03000
Socket with cable	S2BG16R with cable 4 m – 16 pin – Item-no.: 48016-04000
Socket with cable	S2BG16R with cable 5 m – 16 pin – Item-no.: 48016-05000
Socket with cable	S2BG16R with cable 10 m – 16 pin – Item-no.: 48016-10000

Carbon brush sets
ACCESSORIES

Type	Miscellaneous
KTD 2-...	Silver graphite – 1 set (4 pieces) – Item-no.: 40281-AG-S
KTD 2-... S	Electro graphite – 1 set (4 pieces) – Item-no.: 40281-EG-S
KTD 3-...	Silver graphite – 1 set (4 pieces) – Item-no.: 40588-AG-S
KTD 3-... S	Electro graphite – 1 set (4 pieces) – Item-no.: 40588-EG-S
KTD 4-...	Silver graphite – 1 set (4 pieces) – Item-no.: 40588-AG-S
KTD 4-... S	Electro graphite – 1 set (4 pieces) – Item-no.: 40588-EG-S
KTD 50-...	Electro graphite – 1 set (2 pairs) – Item-no.: ET.02.1057 L
KTD 5-...	Silver graphite – 1 set (4 pieces) – Item-no.: 40588-AG-S
KTD 5-... S	Electro graphite – 1 set (4 pieces) – Item-no.: 40588-EG-S
TG 7-...	Silver graphite – 1 set (4 pieces) – Item-no.: 40488-AG-S
TG 7-... S	Electro graphite – 1 set (4 pieces) – Item-no.: 40488-EG-S

Accessories for c. brushes
ACCESSORIES

Type	Miscellaneous
Protective caps	Item-no.: 511226

Hollow shaft rotors**ACCESSORIES****Type**

TD 2

TD 3

TD 41

TD 42

TD 51

TD 51 ZM-A (pivot A)

TD 51 ZM-B (pivot B)

TD 51 ZM-C (pivot C)

TD 52

Type

KTD 3-1 to -3

KTD 3-4 to -6

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