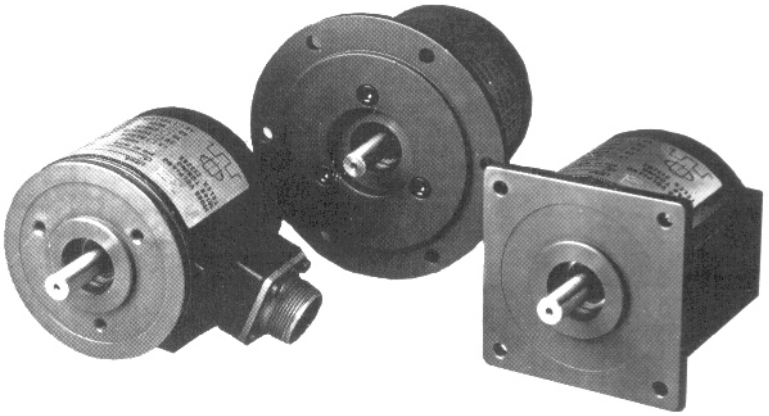
TK100 series



Main features

Extremely rugged mechanical part

Housing sealed against oil, moisture and dust

Standard pulse rate up to 10.000 pulses per revolution (without count multiplication logic)

Output capacity over 300 kHz

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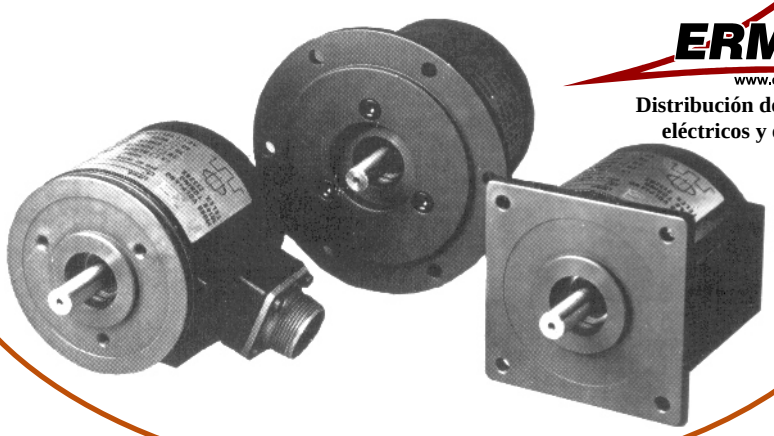
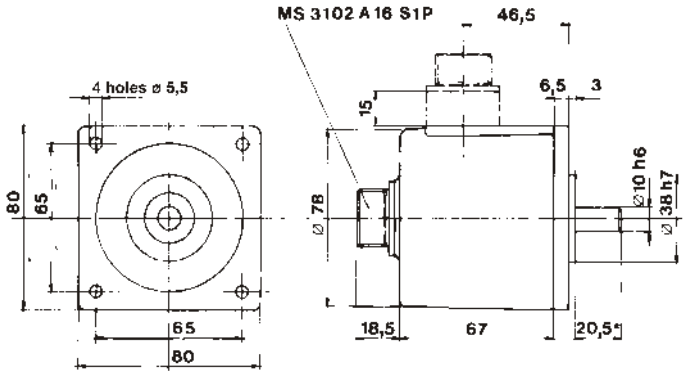
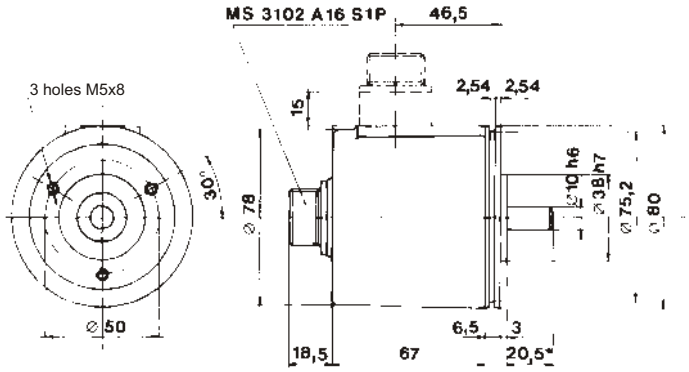




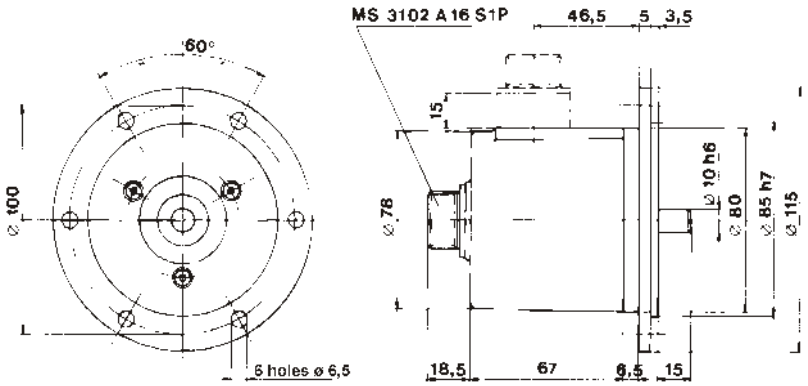
*22,2 mm for shaft Ø 9,52

F = Square flange



*22,2 mm for shaft Ø 9,52

SG = Servo-brackets



FRE = Flange REO 444

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TECHNICAL DATA SHEET: TK100 series

TEKEL INSTRUMENTS

TECHNICAL CHARACTERISTICS

Models	TK110 unidirectional TK111 unidirectional+ zero index TK120 bi-directional TK121 bi-directional+ zero index
Standard no. of increments per revolution	2 - 5 - 10 - 20 - 25 - 30 - 32 - 36 - 40 - 50 - 60 - 64 - 72 - 80 - 88 - 90 - 100 - 120 - 125 - 127 - 128 - 150 - 180 - 200 - 240 - 250 - 254 - 256 - 300 - 314 - 360 - 375 - 400 - 500 - 512 - 576 - 600 - 625 - 635 - 720 - 750 - 800 - 900 - 1000 - 1024 - 1200 - 1250 - 1270 - 1440 - 1500 - 1800 - 2000 - 2048 - 2500 - 2540 - 2700 - 3600 - 4096 - 5000 - 9000 - 10000

MECHANICAL CHARACTERISTICS

Assembly	**F** Square flange **SG** Servo-brackets **FRE** Flange REO 444
Dimension	See drawings
Mass	0,7 Kg
Slewing speed	12,000 rpm for short period; 6,000 rpm for normal operation; 2,000 rpm with shaft seal
Shaft diameter	10 mm 9,52 mm 8 mm 6 mm
Hollow shaft	Not available
Shaft seal	Available
Starting torque at 25°C	0,025 Nm without shaft seal; 0,040 with shaft seal
Starting inertia	40 gr/cm^2
Acceleration	150.000 rad/sec^2(rad galss); 200.000 rad/sec^2(flexible disc- "DP")
Ball bearing working life	10^9 revolutions min
Low torque	Not available
Shaft loading	axial 200 N; radial 200 N

MATERIALS

Mainframe	"Al" thermally stabilised and anodised
Housing	Cast "Al" painted with oven treating at 180°C
Shaft	Stainless steel
Light source	GaAsAl infrared light emitting diode MTFB 10^5 hrs min.
Receivers	Two opto-receivers in push-pull for each channel

ENVIRONMENTAL CHARACTERISTICS

Operating temperature	-10 ÷ +70°C ; -25 ± +85°C optional
Storage temperature	-30 ÷ +80°C
Humidity	Up to 98% RH without condesation
Protection	**K4** IP 64 DIN 40050; **K5** IP 65 DIN 40050; **K6** IP 66 DIN 40050
Vibrations	10 g (10 ÷ 2000 Hz)
Shock	20 g for 11 ms

ELECTRICAL CHARACTERISTICS

Zero index	Gated on channel A, B, A+B (depending on the model)
Voltage supply	5V ±5% 12V ±5% 11/30V ±5%
Power consumption	150 mA max
Protection	Against polarity reverse (not with 5V)
Frequency range (T=-10°C ÷ + 70°C)	**S** 0÷100KHz **V** 0 ÷ 300 KHz
Output	**S** NPN standard (pull-up resistor included) **OC** NPN open collector **P** PNP pull-down resistor included **OP** PNP open collector **PP** push-pull (NPN + PNP) **PP2** push-pull with short circuit protection **PP3** push-pull complementary output **LD** line driver RS422 - 5V (26LS31) only with 5 o 24/5 V power supply **LD** line driver RS422 - 12V (MM88C30) only with 12 or 24/12 V power supply

CONNECTION CONFIGURATIONS

Output configurations S,OP, OC, PP, PP2	**P** on axial cable gland with cable 1 ÷ 6 m long; **PL** radial cable gland with cable 1 ÷ 6 m long; **S** on 7 pins axial MIL connector; **L** on 7 pins radial MIL connector
Output configurations LD and PP3	**P** on axial cable gland with cable 1 ÷ 6 m long; **PL** radial cable gland with cable 1 ÷ 6 m long; **S** on 10 pins axial MIL connector; **L** on 10 pins radial MIL connector

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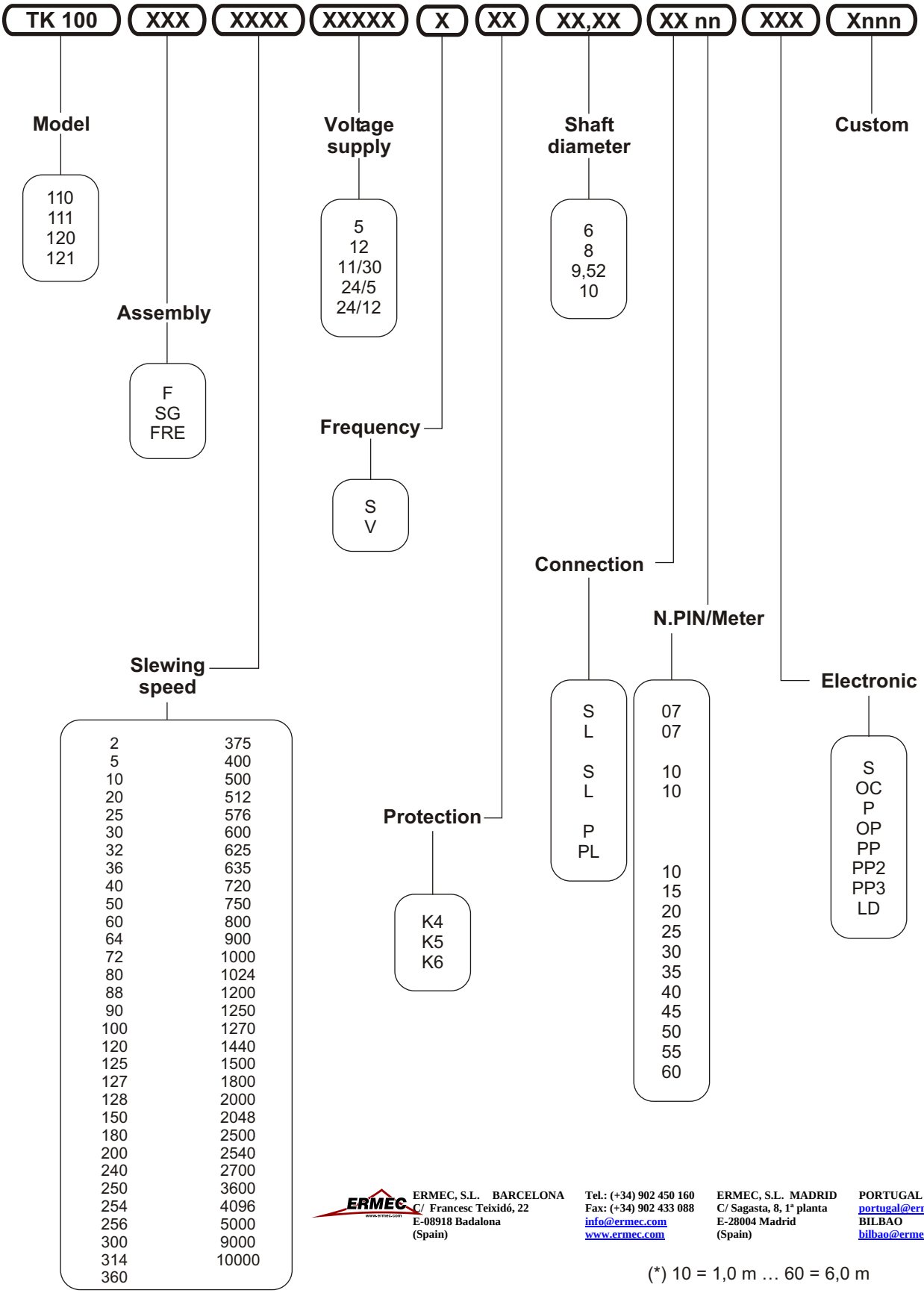
Order Code: TK100 series



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(*) 10 = 1,0 m … 60 = 6,0 m