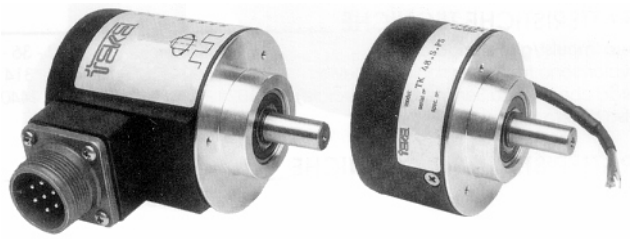
TK48 series



Main features

Extremely rugged mechanical part

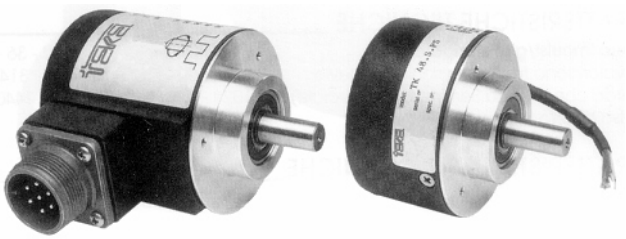
Housing sealed against oil, moisture and dust

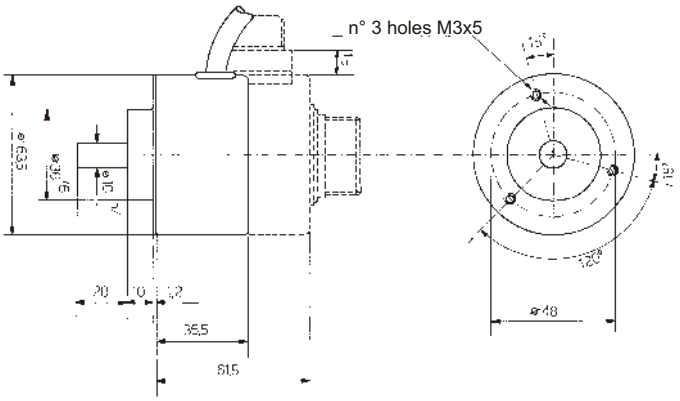
Standard pulse rate up to 2700 pulses per revolution (without count multiplication logic)

Output capacity over 100 kHz

TEKEL Instruments S.r.l. - Via Torino 13/1 - 10060 Roletto (TO) Italia
Tel +39 0121.343811 (10 linee r.a.) - Fax +39 0121.343888
http://www.tekel.it - e-mail: tekel@tekel.it

TK48 series





S = Servo

TECHNICAL CHARACTERISTICS

Models	TK481 unidirectional TK482 unidirectional+ zero index TK491 bi-directional TK492 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

MECHANICAL CHARACTERISTICS

Assembly	**S** Servo standard
Dimension	See drawin gs
Mass	0,23 kg
Slewing speed	10.000 rpm for short period ; 6.000 rpm for normal operation
Shaft diameter	10 mm 9,52 mm 8 mm 6 mm
Hollow shaft	Not available
Shaft seal	0,025 Nm without shaft seal
Starting torque at 25°C	50 g/ cm^2
Starting inertia	150.000 rad/s^2 (glass disc); 200.000 rad/s^2 (flexibile disc "DP")
Acceleration	10^9 revolutions min.
Ball bearing working life	Not available
Low torque	Axial 200 N; radial 200 N
Shaft loading	Not available

MATERIALS

Mainframe	"Al"anticorodal thermally stabilised
Housing	ABS anti-shock reinforced with fibre glass
Shaft	Stainless steel
Light source	GaAsAl infrared light emitting diode - MTBF 10^5 hours min.
Receivers	Two opto-receivers in push-pull for each channel

ENVIRONMENTAL CHARACTERISTICS

Operating temperature	-10 ÷ +70 °C
Storage temperature	-30 ÷ +80 °C
Humidity	Up to 98 % RH without condensation
Protection	**K1** IP 55 per DIN 40050 (only with gland) **K4** (connector)
Vibrations	10 g (from 10 to 2000 Hz)
Shock	20 g for 11 ms

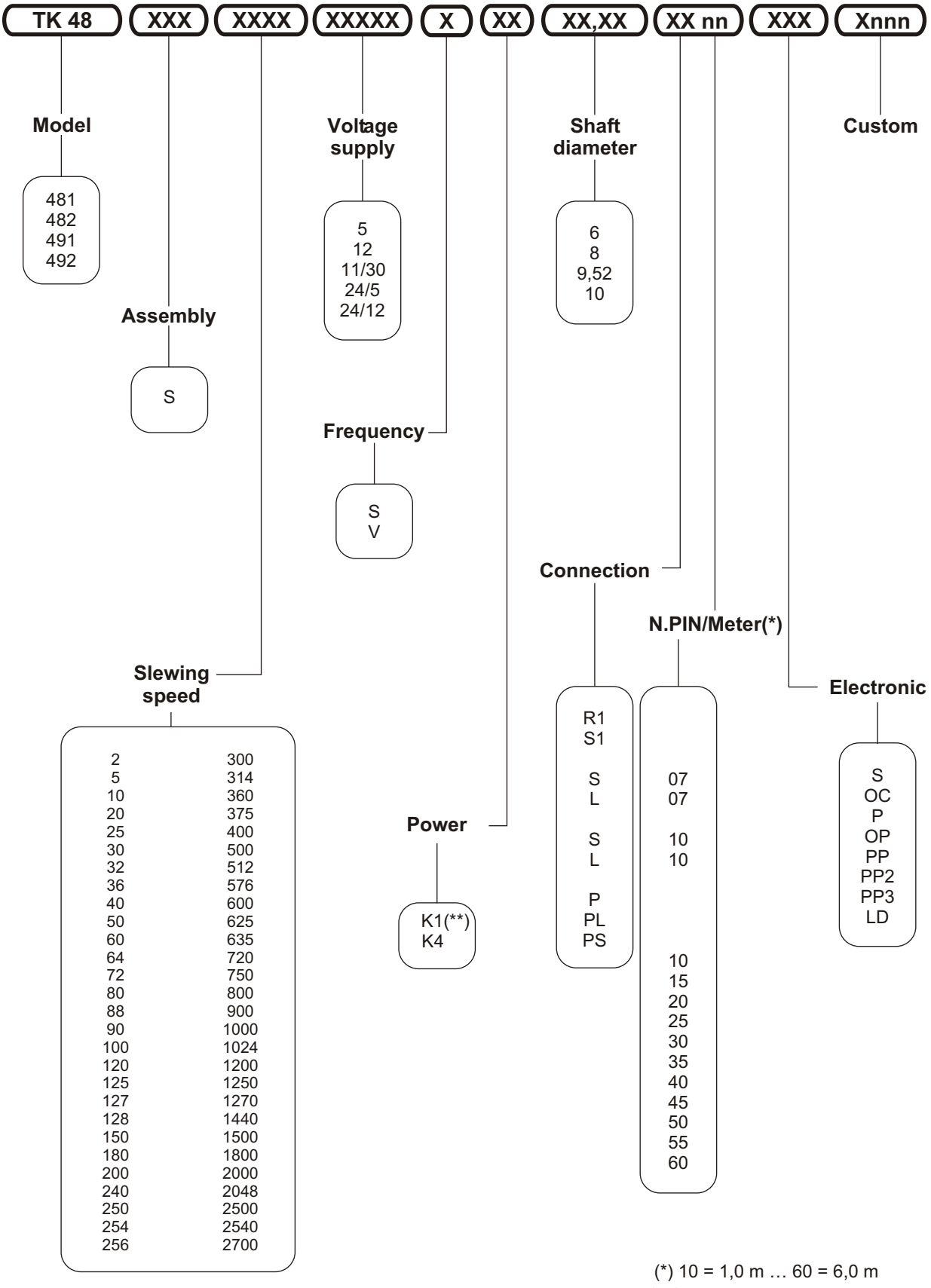
ELECTRICAL CHARACTERISTICS

Zero index	Gated on channel A, B, A+B (depending on the model)
Voltage supply	5V ±5%, 12V ±5%, 15V ±5% 11/30 V
Power consumption	150 mA max
Protection	Against polarity reverse (not 5V)
Frequency range (T=-10°C ÷ + 70°C)	**S** 0 ÷ 50 kHz **V** 0 ÷ 100 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 a 5V (26LS31) with supply of 5 o 24/5 V **LD** line driver RS422 a 12V (MM88C30) with supply of 12 o 24/12 V **LD** line driver RS422 a 15 V (MM88C30) with supply of 15

CONNECTION CONFIGURATIONS

Output configurations S, OC, P, OP, PP, PP2	**P** on axial cable gland with cable 1÷ 6 m long ; **PL** radial cable gland with cable 1÷ 6 m long; **PS** cap radial cable gland only 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; **PS** cap radial cable gland only with cable 1÷ 6 m long; **S** on 10 pins axial MIL connector; **L** on 10 pins radial MIL connectori; **S1** on 12 pins axial MIL connector "Contact" ; **R1** on 12 pins radial MIL connector "contact"

Order Code: TK48 series



(*) 10 = 1,0 m … 60 = 6,0 m
(**) only with gland