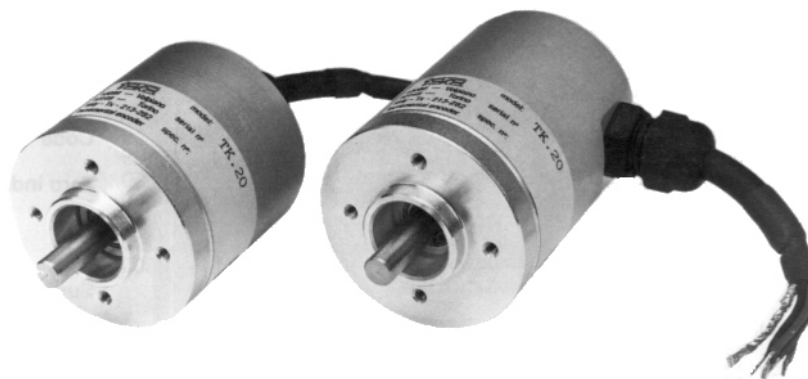


TK20 series



Main features



Extremely rugged mechanical part despite miniature dimensions



Housing sealed against oil, moisture and dust



Standard pulse rate up to 3600 pulses per revolution (without count multiplication logic);
14400 pulses per revolution after x 4 external evaluation



Output capacity over 150 kHz

TECHNICAL DATA SHEET: TK20 series

TECHNICAL CHARACTERISTICS

| | |
|--|---|
| Models | TK210 unidirectional TK211 unidirectional+ zero index TK220 bi-directional TK221 b-directional+ zero index |
| Standard no. of increments per revolution | 2 - 3 - 5 - 10 - 15 - 20 - 25 - 32 - 36 - 40 - 50 - 60 - 64 - 72 - 78 - 100 - 125 - 128 - 150 - 180 - 200 - 250 - 254 - 256 - 300 - 314 - 360 - 400 - 500 - 512 - 600 - 625 - 720 - 800 - 900 - 1000 - 1024 - 1250 - 2000 - 2500 - 3600 |

MECHANICAL CHARACTERISTICS

| | |
|----------------------------------|--|
| Assembly | S Servo standard SP Special version |
| Dimension | See drawings |
| Mass | 0,23 kg |
| Slewing speed | 10.000 rpm for short period; 6.000 rpm for normal operation; 2.000 rpm with shaft seal |
| Shaft diameter | 6 mm (h6) |
| Hollow shaft | Not available |
| Shaft seal | Available (optional) |
| Starting torque at 25 °C | 0,005 Nm without shaft seal ; 0,006 Nm with shaft seal |
| Starting inertia | 6 g/ cm ² |
| Acceleration | 150.000 rad/s ² (glass disc); 200.000 rad/s ² (flexible disk - "DP") |
| Ball bearing working life | 10 ⁹ revolutions min. |
| Low torque | Not available |
| Shaft loading | Axial 20 N; radial 20 N |

MATERIALS

| | |
|---------------------|---|
| Mainframe | "Al" anticorodal thermally stabilised |
| Housing | Aluminium |
| Shaft | Stainless steel |
| Light source | GaAsA 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 senza condensazione |
| Protection | K4 IP 64 per DIN 40050 - K5 IP 65 per DIN 40050 - K6 IP 66 per DIN 40050 |
| Vibrations | 10 g (10 ÷ 2000 Hz) |
| Shock | 20 g for 11 ms |

ELECTRICAL CHARACTERISTICS

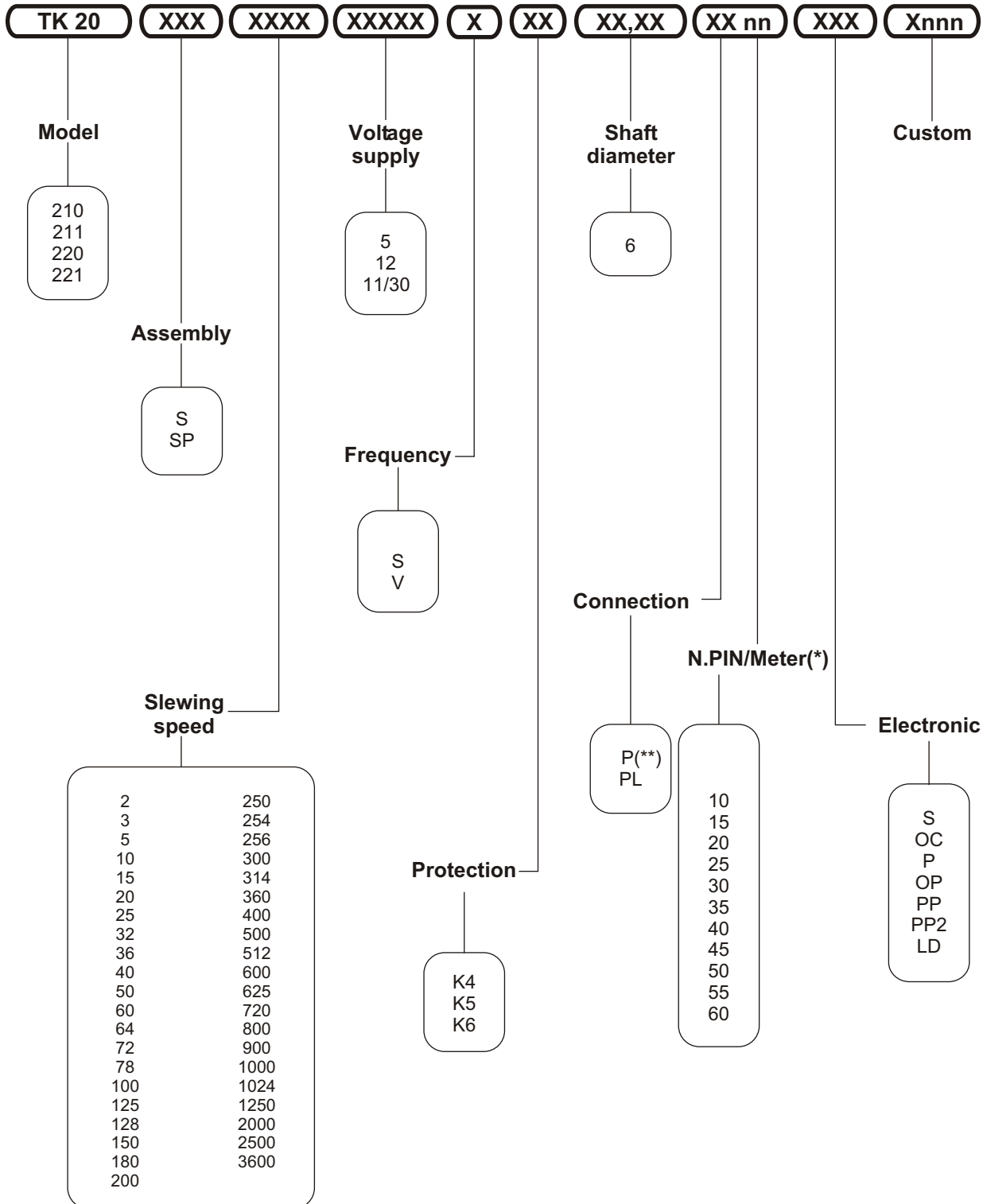
| | |
|--|--|
| Zero index | Gated on channel A, B, A+B (depending on the models) |
| Voltage supply (c.c.) | 5 V ±5 % 12 V ±5 % 11 ÷ 30 V |
| Power consumption | 100 mA max |
| Protection | Against polarity reverse (not for 5 Vcc) |
| Frequency range (T = -10 °C ÷ +70 °C) | S 0 ÷ 50 KHz (standard) V 0 ÷ 150 KHz (fast option) |
| 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 LD line driver RS422 a 5 V (Motorola 26LS31) only with 5 V supply |

CONNECTION CONFIGURATIONS

| | |
|--|--|
| Output configurations S, OC, P, OP, PP, PP2 | P on axial cable gland with cable 1 ÷ 6 m long; PL on radial cable gland with cable 1 ÷ 6 m long |
| Output configurations LD | P on axial cable gland with cable 1 ÷ 6 m long; PL on radial cable gland with cable 1 ÷ 6 m long |

(*)Special version, cod. **SP** for all ellettronic, available only exit **P** on axial with cable gland with cable 1 to 6 m.

Order Code: TK20 series



(*) 10 = 1,0 m ... 60 = 6,0 m

(**) only SP version