**CHARACTERISTICS**

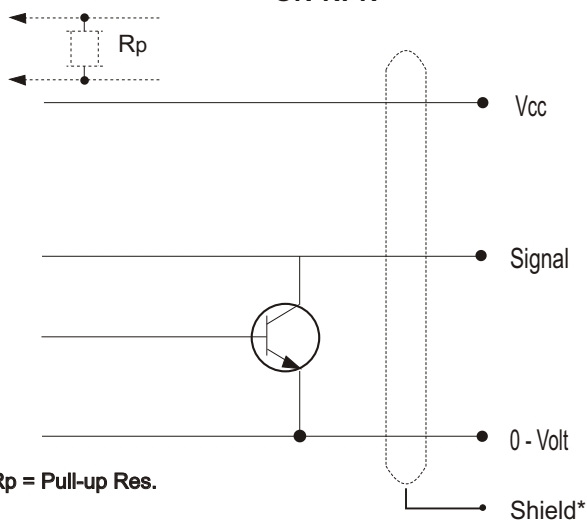
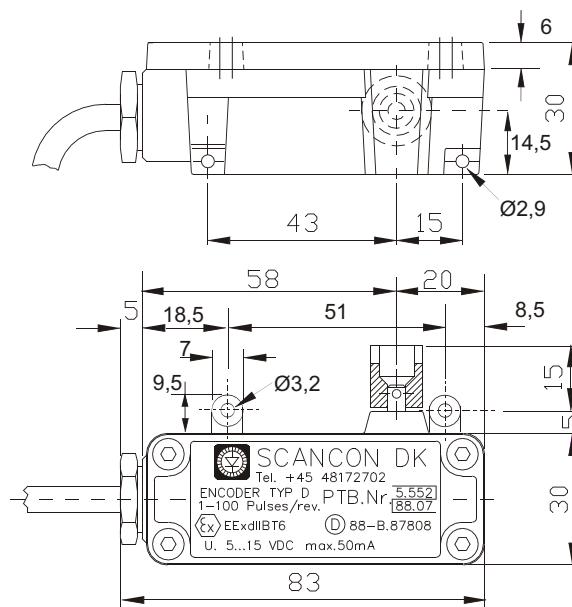
ENCODER TYPE	Shaft encoder
SMD - TECHNOLOGY	Strong compact electronics
HIGH IP-RATING	Std. IP 54 (Option IP 64)
LOW CURRENT CONSUMPTION	To be connected directly to PLC'S and counters
WIDE SUPPLY RANGE	5-24V
STRONG MEC. CONSTRUCTION	Based on 2 Sinter bronze bearings
APPROVAL	II 2 G/D EEx d IIB T6

**ELECTRICAL SPECIFICATIONS**


	At +25°C
Output	Totempole, OC NPN, OC, PNP
Output waveform	Incremental (A, B)
Supply-voltage	5-24V ±10%
Current (no load)	<25 mA
Max. load pr. output	30 mA
V out low	Max. 0,4 mV at I out low = 10mA
Operating temp.	-40°C to +75°C
Storage temp.	-40°C to +75°C
Max. pulse frequency	100 kHz
Max. operating rev./min.	Max. pulse frequency x 60 pulses/rev.
Phase difference	90° ± 20%
Duty cycle	50% ± 10%
Cable data	4 or 6-leads (0,14 mm <sup>2</sup> ) shielded
Ex certified acc. to	EN 50014 and EN 50018
CE certified acc. to	EN 50081-1 and EN 50082-2 and 94 / 9 / EC (ATEX)
PTB Nr.	5.552 88.07

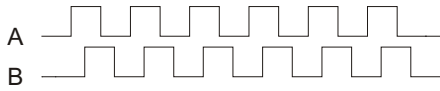
**MECHANICAL SPECIFICATIONS**

Weight	About 125 g
Materials: Housing	Zinc
Shaft	Stainless steel
Bearings	Lifetime lubricated sinter bronze bearings
Shaft dimensions	Ø4 mm
Shaft loads	Axial max. 20 N Radial max. 20 N
Max. rev.	5.000 rev./min.
IP-rating	Standard IP 54 Option 1-IP-64)
Start torque	40 mNm at 25°C
Mass moment of inertia	2 gcm <sup>2</sup>
Max. Shock	30 G/11 ms.

**OUTPUT CIRCUIT****ON-NPN****MECHANICAL DIMENSIONS**

## OUTPUT WAVEFORMS

 Rotation: Clockwise (cw) from shaftside



## CONNECTIONS

### 1-Channel

Color code

Red Channel A Signal  
 Yellow Channel A 0-Volt  
 White Vcc  
 Black 0-Volt

### 2-Channels

Color code

Red Channel A Signal  
 Blue Channel A 0-Volt  
 Green Channel B Signal  
 Yellow Channel B 0-Volt  
 White Vcc  
 Black 0-Volt

4-leads

6-Leads

## ORDERING CODES

	Options	Ordering codes
Pulses pr.rev.:	50 / 100	No. of pulses
Output signal:	TP OC NPN OC PNP	TP ON OP
Shaft dimensions:	ø4 mm x 6 mm long	04
IP-rating:	IP 54 Option-1-IP64	54 64
Length of cable:	Standard 1,5 meter No. of meters	1,5 XX

## PULSES/REV.

4	90
10	100
11	125
12	128
15	150
20	180
25	200
30	250
36	256
50	300
60	360
75	

**TYPE 2D**

Pulses      Output signal      Shaft      IP- rating      Length of cable