



## Standard Encoder ED 58

Optical incremental shaft encoders Industrial standard, hundreds of thousands in use

### Resolution

#### Resolution (Pulses/Revolution):

1 - 6000	7000	7200	8000
8192	9000	9144	10000

Every other resolution up to 500 000 on request

### Type explanation

#### ED 58-6-2500-05-D-RC12

Encoder type	Incremental
Flange type	Servoflansch
Flange diameter	ø 58 mm
Case diameter	ø 58 mm
Number of channels	3 = A + B + M 6 = AA + BB + MM
Resolutions	xxxx = Impulse pro Umdrehung
Supply voltage	05 = 5 VDC ± 5% 30 = 10..30 VDC
Output driver	D-RS422 P S
Position of connection	R S
Connector	C07 = 7 pins Binder C12 = 12 pins M23
Shaft diameter	ø 6 mm

## Technical data

### Mechanical data

Rotational speed	$\leq 12000 \text{ min}^{-1}$
Torque	$\leq 0,3 \text{ Ncm}$
Breakaway torque	$\leq 1 \text{ Ncm}$
shaft loading	$\leq 20 \text{ N radial}$ $\leq 10 \text{ N axial}$
Angular acceleration	$\leq 10^4 \text{ rad/sec}^2$
Weight	$\leq 0,5 \text{ kg}$

### Environmental conditions

Vibration	$200 \text{ ms}^{-2}$ (20 ... 2000 Hz)
Shock	$2000 \text{ ms}^{-2}$ (11 ms)
Operating temperature	0 .. +80°C standard -20 .. +110°C optional -42 .. +110°C optional
Atmospheric humidity	$\leq 85\% \text{ r.h.}$
Protection class	IP 65 (DIN 40050/IEC 144)

### Electrical data

Scanning type	Optical, without contact
Transmitter, infrared	LED
Receiver	Photo-Transistor
Measurement accuracy	$\pm 1'$ standard $\pm 10''$ optional
Supply voltage	$V_{cc} = 5 \text{ VDC} \pm 5\%$ $V_{cc} = 10 \dots 30 \text{ VDC}$
Power consumption	200 mA max.
Output frequency	$\leq 300 \text{ kHz}$ (Output D) $\leq 160 \text{ kHz}$ (Output P, S)
Signal level	High $> V_{cc} - 2 \text{ V}$ (Output D, P) Low $< 0,5 \text{ V}$ (Output D, P) Analog 1 $V_{ss}$ (Output S)
Load capacity of the outputs	20 mA

### Cable 3 channels

Wire colour	Signal
Brown	+Vcc
Grey	0 V GND
Green	Signal A
White	Signal B
Yellow	Signal M
Shield	N.C.

### Cable 6 channels

Wire colour	Signal
Brown 0,5 mm <sup>2</sup>	+Vcc
Blue	+Vcc Sense <sup>1)</sup>
White 0,5 mm <sup>2</sup>	0 V GND
White	0 V Sense
Brown	Signal A+
Green	Signal A-
Grey	Signal B+
Pink	Signal B-
Red	Signal M+
Black	Signal M-
Shield	N.C.

1) nur bei Vcc = 5 VDC TTL

### Connector 7 pins Binder

Connection	Signal
Pin 1	0 V GND
Pin 2	N.C.
Pin 3	Signal A
Pin 4	Signal B
Pin 5	+Vcc
Pin 6	Signal M
Pin 7	Shield

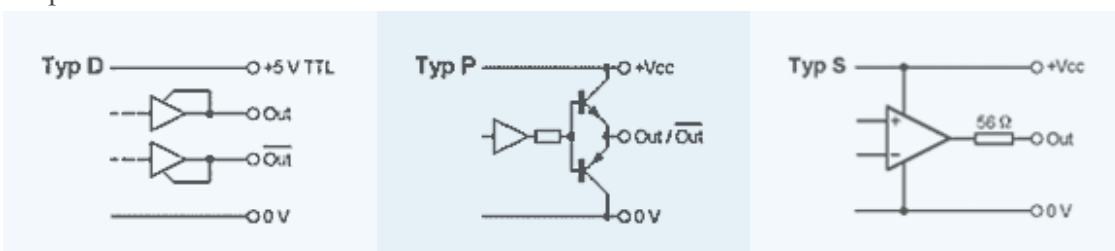
### Connector 12 pins M23

Connection	Signal
Pin 1	Signal B- <sup>1)</sup>
Pin 2	+Vcc Sense <sup>2)</sup>
Pin 3	Signal M+
Pin 4	Signal M- <sup>1)</sup>
Pin 5	Signal A+
Pin 6	Signal A- <sup>1)</sup>
Pin 7	N.C.
Pin 8	Signal B+
Pin 9	Shield
Pin 10	0 V GND
Pin 11	0 V Sense
Pin 12	+Vcc

1) nur bei 6 Ausgangskanälen

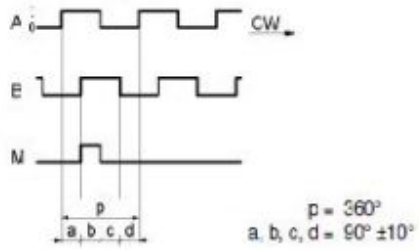
2) nur bei Vcc = 5 VDC TTL

### Output driver

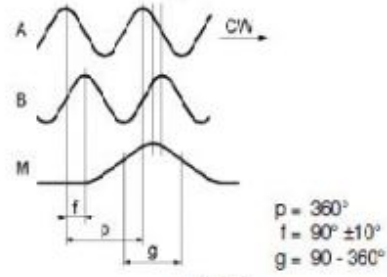


## Output channels / Output signals

### Rechteck-Signale



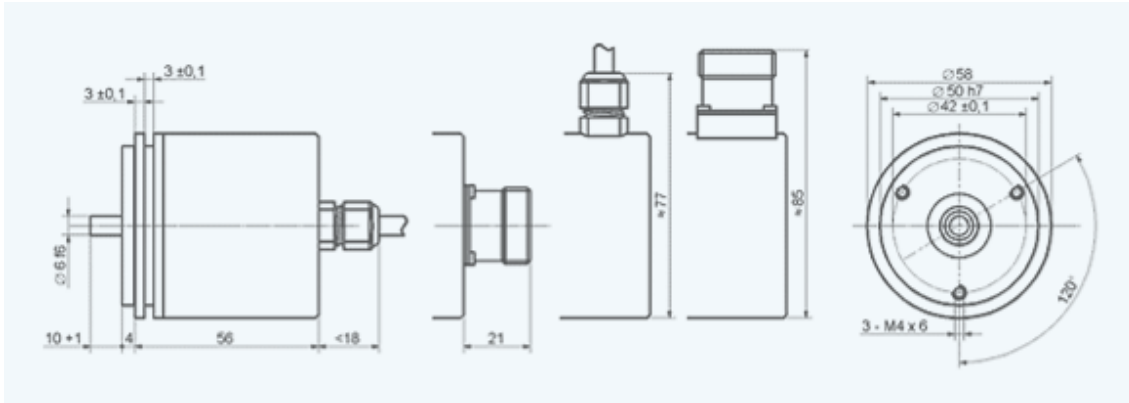
### Sinus-/Cosinus-Signale



E506-210

Änderungen vorbehalten / Soumis aux changements / Subject to change

## Outline drawing



Version E 506-210 · Subject to change

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