INCREMENTAL ENCODER TYPE EC58

- HIGHER SHAFT LOADS PERMITTED
- HIGH SPEED SWITCHING >300 kHz
- ENVIRONMENTAL PROTECTION TO IP67

ORDERING CODE

EC58 - [ ] [ ] [ ] [ ] [ ] [ ] [ ] (S)

SHAFT

10mm dia.	2

SHAFT SEAL

Without	0
With	1

ELECTRICAL CONNECTION

Cable 1,5M	0
IP65 CONTACT connector without mating connector	3
IP65 CONTACT connector with mating connector	4
Customer special	5

CABLE/CONNECTOR EXIT

End exit	0
Side exit	1
Customer special	2

LINE NUMBER S= 'SPECIAL FEATURE'

5/10/20/25/30/36/50/60/64/100/120/125/127/144/150/180
200/216/240/250/254/256/300/314/360/375/400/500/512
600/625/720/745/750/762/800/900/927/1000/1024/1200
1250/1270/1400/1500/1800/2000/2048/2250/2400/2500
3000/3600/4000/4096/5000

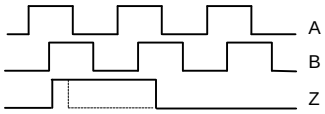
OPERATING VOLTAGE

0	5 VDC
1	10-30 VDC
2	5-30 VDC
3	Customer special

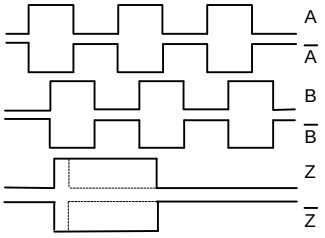
OUTPUTS

0	A, B, Z
1	A, B Only
2	A Only
3	A$\overline{A}$, B$\overline{B}$, Z$\overline{Z}$ - Z Ungated
4	A$\overline{A}$, B$\overline{B}$, Z$\overline{Z}$ - Outputs reg. to 5V
5	A$\overline{A}$, B$\overline{B}$, Z$\overline{Z}$ - Z gated with A & B
6	Customer special

OUTPUT SIGNALS

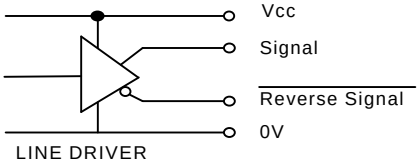


3 CHANNEL

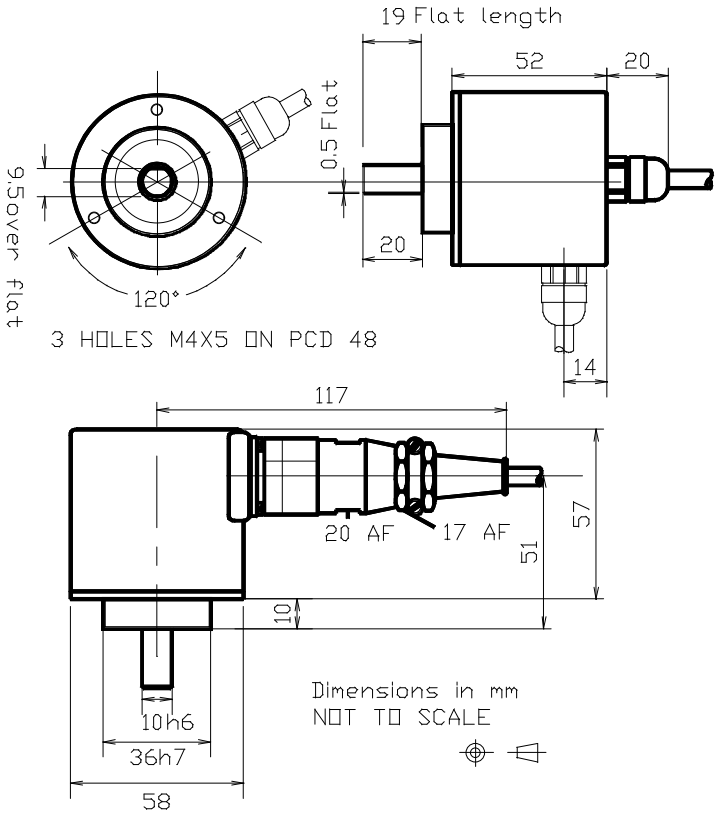


6 CHANNEL

OUTPUT CIRCUIT



MECHANICAL DIMENSIONS

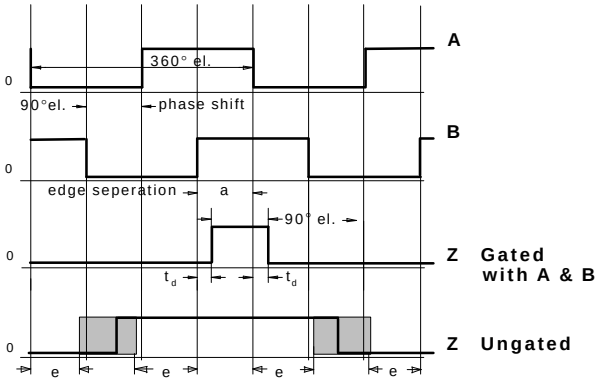


EC58

ELECTRICAL DATA

OPTO-COMPONENTS	LED and photodiode array		
POWER SUPPLY	5V±10%	10-30V	5-30V
PROTECTION	Short circuit proof	Short circuit / reverse polarity proof	
CURRENT CONSUMPTION	70mA (no load) MAX		
LOADING	$-I_{High} \leq 20mA$ per channel, $I_{Low} \leq 20mA$ per channel $C_{Load} \leq 1000pF$ per channel		
SIGNAL LEVELS	$U_{High} \geq 2.5V$ at -I = 20mA RS422A, CMOS, TTL $U_{Low} \geq 0.5V$ at.....I = 20mA COMPATIBLE		
SWITCHING TIMES	Rise time $t_+ \leq 100ns$ Fall time $t_- \leq 100ns$		
SWITCHING FREQUENCY	$\geq$ 300kHz Higher on special request		
ELECTRICAL CONNECTION	Cable 1.5M rear/side exit, Cable special length IP65 CONTACT R2,5 connector, Other connectors		
PERMISSIBLE CABLE LENGTH	100M MAX with suitable twisted pair shielded cable to subsequent electronics		

OUTPUT SIGNAL DATA

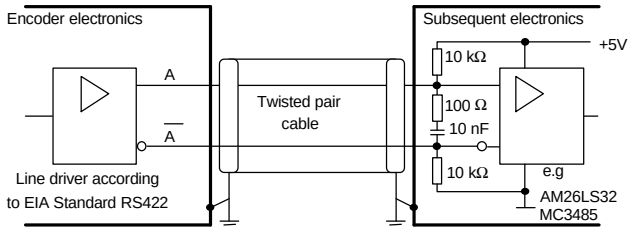


Incremental signals	TTL square wave pulses A & B with compliments $\overline{A}$ & $\overline{B}$. B lags A with clockwise rotation (viewed from the shaft end)
Edge seperation	$a \geq 0,8\ \mu s$ at 160 kHz
Reference signal	1 square wave pulse Z per revolution its compliment $\overline{Z}$
non-gated	Width 360° el. or alternative
gated	Z lags A and B by $t_d \leq 50ns$

CABLE / CONNECTOR WIRING CODES

+	-	A	A-	B	B-	Z	Z-	SHIELD
RED	BLUE	YELLOW	GREEN	BROWN	WHITE	PINK	GREY	
1	8	2	3	4	5	6	7	9

RECOMMENDED INPUT CIRCUITRY TO SUBSEQUENT ELECTRONICS



MECHANICAL DATA

SHAFT SPEED	12000 rpm MAX
MOMENT OF INERTIA OF ROTOR	1.8 . 10^{-6} kgm^2
TORQUE at 20° C	$\leq$ 0.01 Nm $\leq$ 0.1 Nm with extra shaft seal
PERMISSIBLE SHAFT LOAD	Axial : 40N Radial : 60N at shaft end
WEIGHT	Approx. 0.36kg

ENVIRONMENTAL DATA

PROTECTION	IP64 IP65 / IP67 wth extra shaft seal
TEMPERATURE	-30° C to +85° C Operating -40° C to + 100° C Storage
HUMIDITY	< RH 85% no condensation
VIBRATION	< 100m/s^2 (50 to 2000 Hz)
SHOCK	< 1000 m/s^2 (11ms)