

MAIN FEATURES

ø 49 mm encoder series recommended in feedback control systems on AC servomotors.
 They include a traditional incremental encoder and commutation signals (Hall effect phases).

- Easy mechanical mounting
- Small dimensions
- Wide range of resolutions available
- High temperature resistance
- 6 channels encoder with optical generation of "Hall effect phases" (commutation signals)
- Signal transmission by bit parallel bus



ORDERING CODE

EF 49C 6 L 500 S 5 L 8 X 6 PR .XXX

SERIES
 incremental encoder with Hall phases EF

MODEL
 blind hollow shaft 49C
 through hollow shaft 49P

MOTOR POLES
 4 poles (2 poles pair) 4
 6 poles (3 poles pair) 6
 8 poles (4 poles pair) 8

ELECTRICAL INTERFACE FOR COMMUTATION SIGNALS
 NPN open collector C
 line driver RS-422 L

INCREMENTAL RESOLUTION
 ppr from 100 to 2048
 see table for pulses availability

ZERO PULSE
 without zero pulse S
 with zero pulse Z

POWER SUPPLY
 5 V DC 5

ELECTRICAL INTERFACE FOR INCREMENTAL SIGNALS
 line driver L

BORE DIAMETER
 mm 6
 mm 8
 (3/8") 9,52 mm 9
 mm 10
 mm 12
 (1/2") mm 12,7

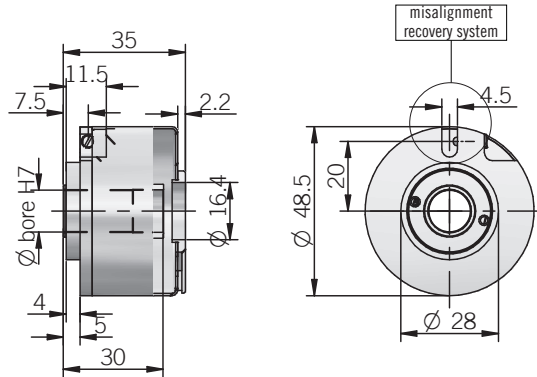
ENCLOSURE RATING
 IP 40 X

MAX ROTATION SPEED
 6000 rpm 6

OUTPUT TYPE
 radial cable (standard length 0,3 m) PR
 preferred cable lengths 2 / 3 / 5 / 10 m, to be added after OUTPUT TYPE (eg. PR5)

VARIANT
 custom version XXX

49 C / P



dimensions in mm

ELECTRICAL SPECIFICATIONS

Incremental resolution	from 100 to 2048 ppr
Power supply	4,5 ... 5,5 V DC
Current consumption without load	150 mA max
Max load current	20 mA / channel
Output type for incremental signals *	line driver RS-422 (AELT-5000 or equivalent)
Output type for Hall phases*	NPN open collector (pull-up max +30V DC) line driver RS-422 (AELT-5000 or equivalent)
Max output frequency	150 kHz
Counting direction	A leads B clockwise (shaft view)
Electromagnetic compatibility	according to 2014/30/EU directive
RoHS	according to 2011/65/EU directive
UL / CSA	certificate n. E212495

* for further details please see OUTPUT LEVELS under TECHNICAL BASICS section

CONNECTIONS

Function	Cable
+V DC	red
0 V	black
Ch. A	green
Ch. B	yellow
Ch. Z	blue
Ch. A-	brown
Ch. B-	orange or pink
Ch. Z-	white
Ch. U	grey
Ch. V	violet
Ch. W	grey-pink
Ch. U-	red-blue
Ch. V-	white-green
Ch. W-	brown-green
⏏	shield

MECHANICAL SPECIFICATIONS

Bore diameter	ø 6 / 8 / 9,52 / 10 / 12 / 12,7 mm
Enclosure rating	IP 40 (IEC 60529)
Max rotation speed	6000 rpm
Shock	50 G, 11 ms (IEC 60068-2-27)
Vibration	5 G, 10 ... 500 Hz (IEC 60068-2-6)
Moment of inertia	2 x 10 ⁻⁶ kgm ² (47 x 10 ⁻⁶ lbft ²)
Starting torque (at +20°C / +68°F)	< 0,01 Nm (1,42 Ozin)
Bearing stage material	EN-AW 2011 aluminum
Shaft material	1.4305 / AISI 303 stainless steel
Housing material	nickel plated brass
Bearings	2 ball bearings
Bearings life	10 ⁹ revolutions
Operating temperature	-20° ... +85 °C (-4° ... +185°F) -10° ... +100°C (+14° ... +212°F) on demand
Storage temperature	-25° ... +85°C (-13° ... +185°F)
Weight	150 g (5,29 oz)

RESOLUTIONS

100 4 / 6 poles
 200 4 / 6 poles
 500 4 / 6 / 8 poles
 512 4 / 6 / 8 poles
 1000 4 / 6 / 8 poles
 1024 4 / 6 / 8 poles
 2000 4 / 6 / 8 poles
 2048 4 / 6 / 8 poles

please directly contact our offices for other pulses