

MAIN FEATURES

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

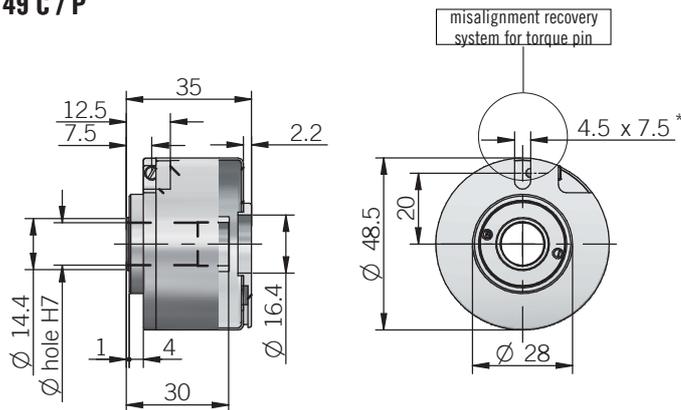
- Easy mechanical mounting
- Small dimensions
- Wide range of resolutions available
- High temperature resistance
- 6 channels encoder with optical generation of "Hall effect phases" (commutation signals)
- Signal transmission by bit parallel bus



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 refer to the available pulses list	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") mm 9,52 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 1,5 / 2 / 3 / 5 / 10 m, to be added after OUTPUT TYPE (eg. PR5)	VARIANT custom version XXX
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49 C / P



* \varnothing 4 mm torque pin min 0.5 mm from bottom end
for size 19 (version 01 or 14) resolver flange please refer to Accessories

recommended mating shaft tolerance g6
dimensions in mm

ELECTRICAL SPECIFICATIONS

Incremental resolution	from 100 to 2048 ppr
Power supply¹	4,5 ... 5,5 V DC
Current consumption without load	150 mA max
Max load current	20 mA / channel
Electrical interface for incremental signals²	line driver RS-422 (AELT-5000 or similar)
Electrical interface for Hall phases²	NPN open collector (pull-up max +30V DC) line driver RS-422 (AELT-5000 or similar)
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

CONNECTIONS

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

MECHANICAL SPECIFICATIONS

Bore diameter	\varnothing 6 / 8 / 9,52 (3/8") / 10 / 12 / 12,7 (1/2") 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	2×10^{-6} kgm ² (47×10^{-6} lbf 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	n.2 ball bearings
Bearings life	10 ⁹ revolutions
Operating temperature^{3,4}	-20° ... +85 °C (-4° ... +185°F) -10° ... +100°C (+14° ... +212°F) on demand
Storage temperature⁴	-25° ... +85°C (-13° ... +185°F)
Weight	150 g (5,29 oz)

¹ as measured at the transducer without cable influences

² for further details refer to OUTPUT LEVELS on TECHNICAL BASICS section

³ measured on the transducer flange

⁴ condensation not allowed

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