

MAIN FEATURES

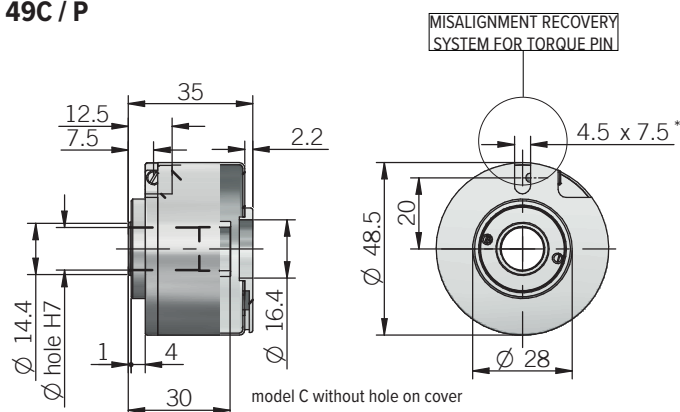
ø 49 mm encoder series recommended for feedback control systems on AC servomotors. They include a traditional incremental encoder and commutation signals (Hall effect phases).

- Easy mechanical mounting
- Small dimensions
- Wide range of resolutions available
- High temperature resistance
- 6 channel encoder with optical generation of "Hall effect phases" (commutation signals)



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													

49C / 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)
Index signal	180°e (gated A)
Mean time to dangerous failure (MTTF_d)³ according to EN ISO 13849-1	277 years
Mission time (Tm)³	20 years
Diagnostic coverage (DC)³	0%
Cable type	shielded - fixed installation conductors section 0,14 mm ² / AWG 26 bending radius min 50 mm
Electromagnetic compatibility	according to 2014/30/EU directive
RoHs	according to 2011/65/EU directive
UL / CSA	file n. E212495

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

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} lbft ²)
Starting torque (at +20°C / +68°F)	< 0,01 Nm (1,42 Ozin)
Bearing stage material	aluminum
Shaft material	stainless steel
Housing material	nickel plated brass
Bearings	n.2 ball bearings
Bearings life	10 ⁹ revolutions
Operating temperature^{4,5}	-20° ... +85 °C (-4° ... +185°F)
Storage temperature⁵	-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 this product is not a safety component, for further details refer to TECHNICAL BASICS section

⁴ measured on the transducer flange

⁵ condensation not allowed

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
$\frac{\perp}{\perp}$	shield