

HD SYSTEMS® FHA Series
Rotary Actuator with AC Brushless motor
With Copley XTL Xenus Amplifier



Features

- Hollow-shaft design.
- High Torque range 15Nm to 300Nm continuous, 39Nm to 820Nm peak.
- Speed range 25rpm to 96rpm.
- Commutating Encoder 2500 line count (up to 1,600,000cpr at output shaft).
- High Rigidity range 2.2Nm/rad to 14 Nm/rad moment of stiffness.
- 24V Brake option.

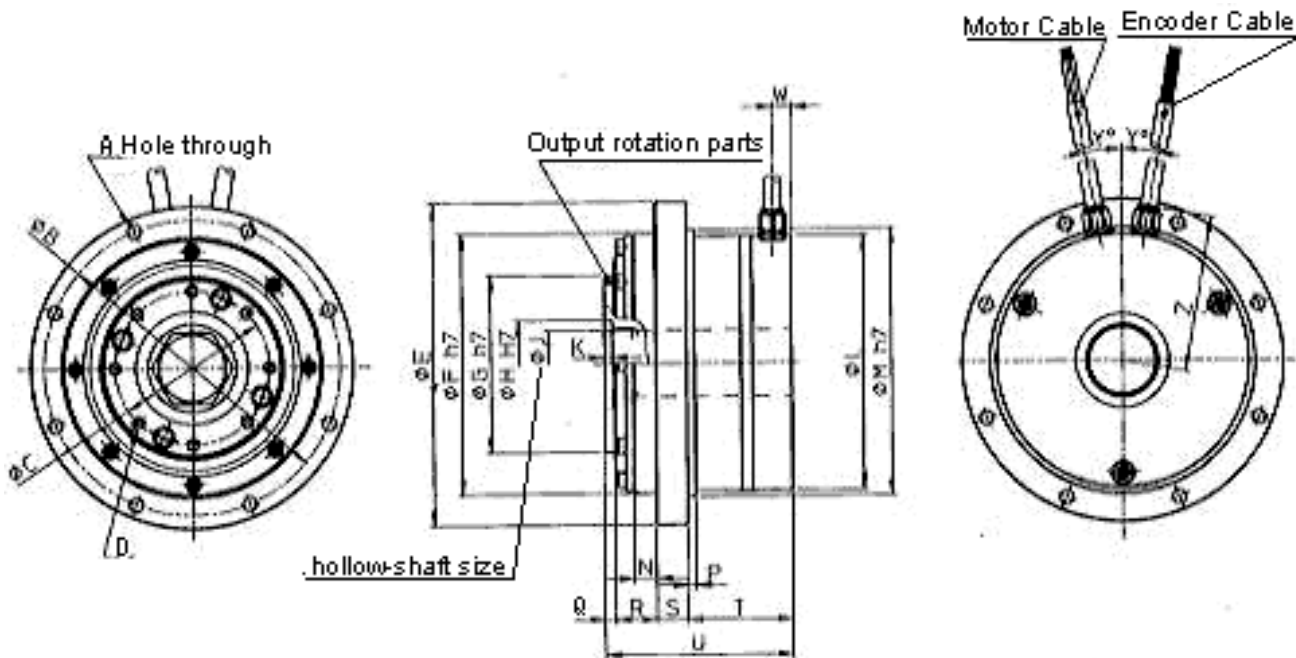
Motor Data

Harmonic Drive Systems motor data files can be downloaded from the web for use with the Xenus XTL-230-18 and CME2 software. <http://www.copleycontrols.com/motion/software/#m>

		FHA-17C			FHA-25C		
		-50	-100	-160	-50	-100	-160
Max torque	N•m	39	57	64	150	230	260
Max speed of rotation	r/min	96	48	30	90	45	28
Torque constant	N•m/A	21	42	67	22	45	72
Continuous Current	A	0.93	0.74	0.51	2.1	2.1	1.6
Moment of inertia(GD ² /4)	kg•m ²	0.17	0.67	1.7	0.81	3.2	8.3
Tolerable radial load	kN	2.9			4.9		
Tolerable axial load	kN	9.8			14.7		
Tolerable moment of load	N•m	188			370		
Rigidity of moment	N•m/rad	220X10 ³			490X10 ³		
One-direction positional accuracy	sec.	60	40	40	40	30	30
Quad Encoder-resolution	p/rev	500,000	1,000,000	1,600,000	500,000	1,000,000	1,600,000

		FHA-32C			FHA-40C		
		-50	-100	-160	-50	-100	-160
Max torque	N•m	281	398	453	500	690	820
Max speed of rotation	r/min	80	40	25	70	35	21.9
Torque constant	N•m/A	27	54	86	31	64	102
Continuous current	A	3.1	3.1	3	4	4	3.8
Moment of inertia(GD ² /4)	kg•m ²	1.8	7.1	18.1	4.9	19.5	50
Tolerable radial load	kN	9.5			14.7		
Tolerable axial load	kN	24.5			39.2		
Tolerable moment of load	N•m	530			690		
Rigidity of moment	N•m/rad	790X10 ³			1400X10 ³		
One-direction positional accuracy	sec.	40	30	30	40	30	30
Quad Encoder-resolution	p/rev	500,000	1,000,000	1,600,000	500,000	1,000,000	1,600,000

Dimensions

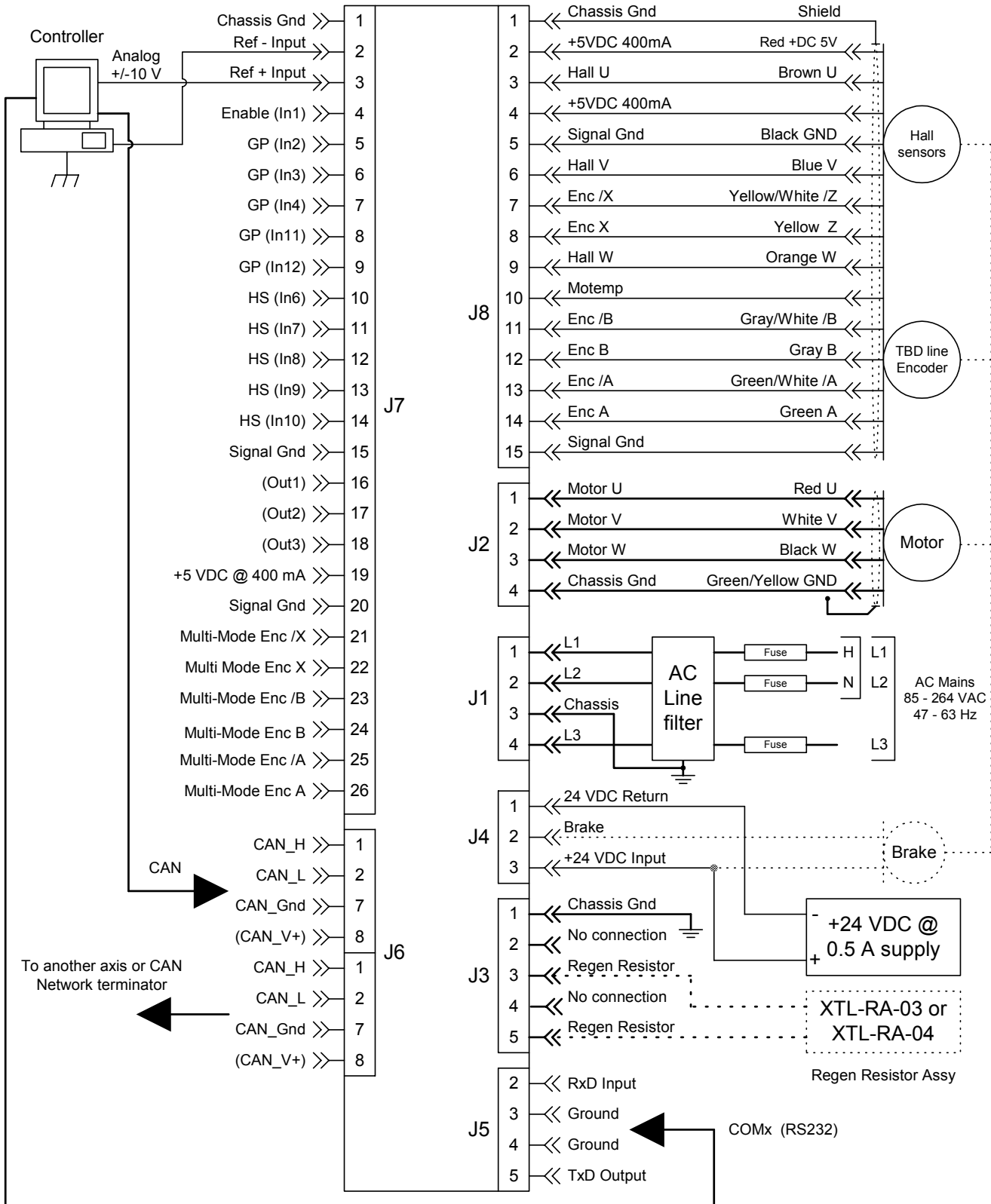


Size	A	ϕB	ϕC	D	ϕE	$\phi F h7$	$\phi G h7$	$\phi H H7$	ϕJ	K	ϕL
FHA-17C	6- $\phi 5.5$	118	60	6-M5 8 Deep	128	105	70	25	18	3.5	106
FHA-25C	8- $\phi 6.6$	142	74	8-M6 10 Deep	155	125	85	42	32	5	123
FHA-32C	12- $\phi 6.6$	162	95	16-M6 10 Deep	175	140	105	60	35	3.5	129
FHA-40C	8- $\phi 11$	208	112	8-M10 15 Deep	230	185	130	60	45	7.6	164

Size	$\phi M h7$	N	P	Q	R	S	T	U	W	Y	Z	Weight
FHA-17C	108	6.5	4	5	16	12	45	78	8.5	12	68	2.5kg
FHA-25C	128	11	4	5	20	15	50.5	90.5	9	10	77	4kg
FHA-32C	148	7.7	4	5	17	18	71.5	111.5	9	9	80	6.5kg
FHA-40C	185	11	8	7	23	22	75	127	9	10	97	12kg

Dimensions in mm

XTL Xenus Wiring



Typical Profile



Image of CME2 Software's Scope Screen using the Profile tab. Using Harmonic Drive Systems FHA-17C-100-D250 1rev at 30rpm at output shaft is 100rev at 3000rpm at the internal motor shaft.