



HARMONIC ROBOT JOINT MODULES

AHM Series | Compact Harmonic Joint Modules

Compact harmonic platforms for precision wrists, end-effectors and lightweight robotic joints.

PLATFORM SELECTION

Platform	Motor Ø (mm)	Module Ø (mm)	Available Ratios	Peak Torque Range (Nm)	Rated Power (W)	Weight — No Brake (kg)	Communication
AHM-030-040	30	40	51 / 101	3.3 — 4.8	30	0.19	CAN / EtherCAT
AHM-040-052	40	52	51 / 101	8.3 — 11	50	0.32	CAN / EtherCAT
AHM-050-060	50	60	51 / 81 / 101	23 — 34	85	0.45	CAN / EtherCAT

MODEL CONFIGURATION

Base model: AHM-[motor diameter]-[module diameter]-R[ratio]. Add B for brake, 2E for dual encoder, and EC for EtherCAT where required. Final suffixes are confirmed against the project configuration before ordering.



HARMONIC ROBOT JOINT MODULES

AHM-030-040 | Harmonic Joint Module Specification

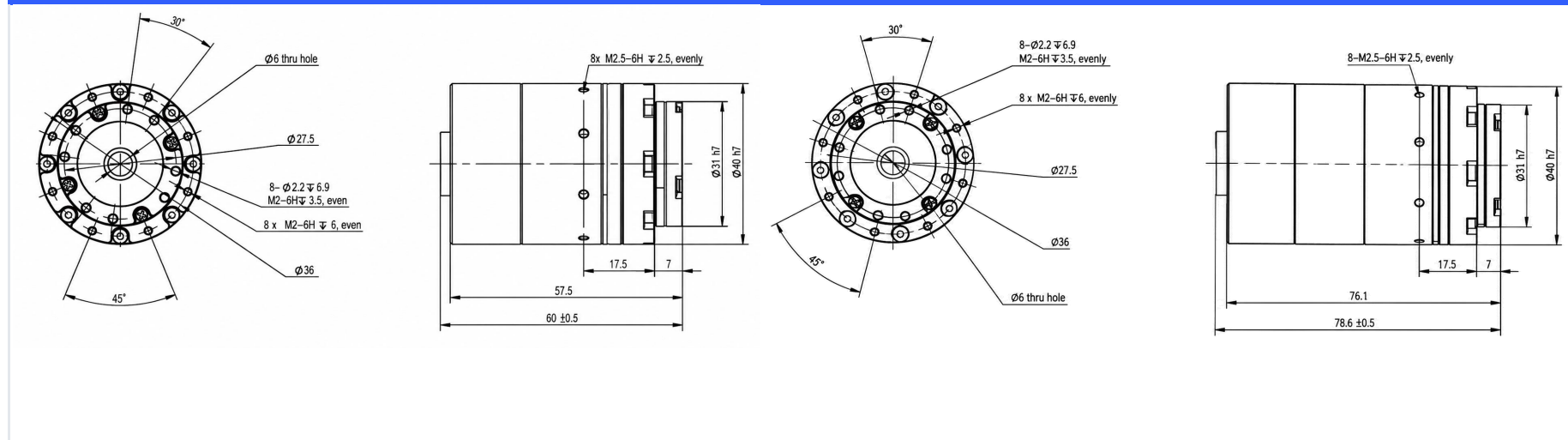
PRODUCT PLATFORM

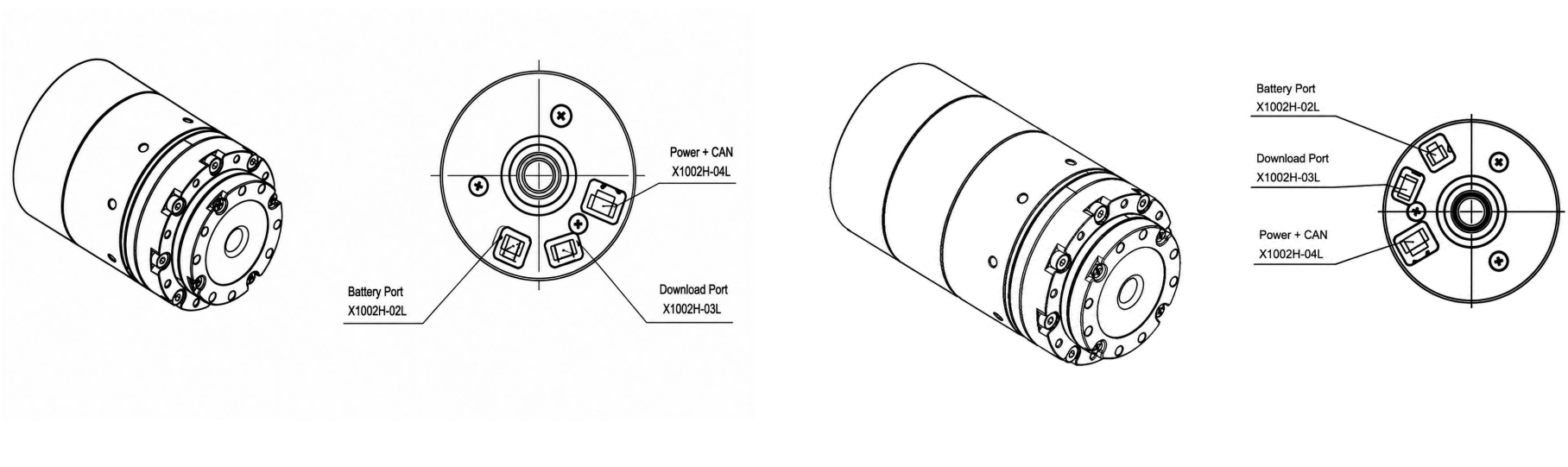
ARTUS PLATFORM	AHM-030-040
2 RATIO OPTIONS	Ø40 mm 3.3–4.8 Nm PEAK TORQUE CAN / EtherCAT

Parameter	Unit	AHM-030-040-R51	AHM-030-040-R101
Reduction Ratio	:1	51	101
Start / Stop Peak Torque	Nm	3.3	4.8
Max. Average Load Torque — Robot	Nm	2.3	3.3
Rated Torque at 2000 rpm / Ratio — Industrial	Nm	1.8	2.4
Output Peak Speed	rpm	118	59
Rated Speed at 1/2 Rated Torque	rpm	90	45
Backlash	arcsec	40	40
Rated Power	W	30	30
Supply Voltage	VDC	24–48	24–48
Encoder Resolution	bit	16; dual encoder optional	16; dual encoder optional

Communication	—	CAN / EtherCAT	CAN / EtherCAT
Brake Torque — No Brake / Brake	Nm	0 / 0.06	0 / 0.06
Torsional Stiffness	10 ⁴ N/rad	0.04	0.09
Allowable Radial Load	kN	3.19	3.19
Allowable Axial Load	kN	6.56	6.56
Allowable Bending Moment	Nm	38	38
Length — No Brake / Brake	mm	60±0.5 / 78.6±0.5	60±0.5 / 78.6±0.5
Through Bore	mm	6	6
Weight — No Brake / Brake	kg	0.19 / 0.27	0.19 / 0.27
Inertia — No Brake / Brake	g·cm ²	27.4 / 45.1	27.4 / 45.1

DIMENSIONAL DRAWINGS — STANDARD / BRAKE CONFIGURATION





Operating environment: -40 to 70°C extreme working range; -10 to 45°C general use; -30 to 60°C storage. Indoor use, no condensation, dust, corrosive or flammable gas, oil mist, or direct sunlight.



HARMONIC ROBOT JOINT MODULES
AHM-040-052 | Harmonic Joint Module Specification

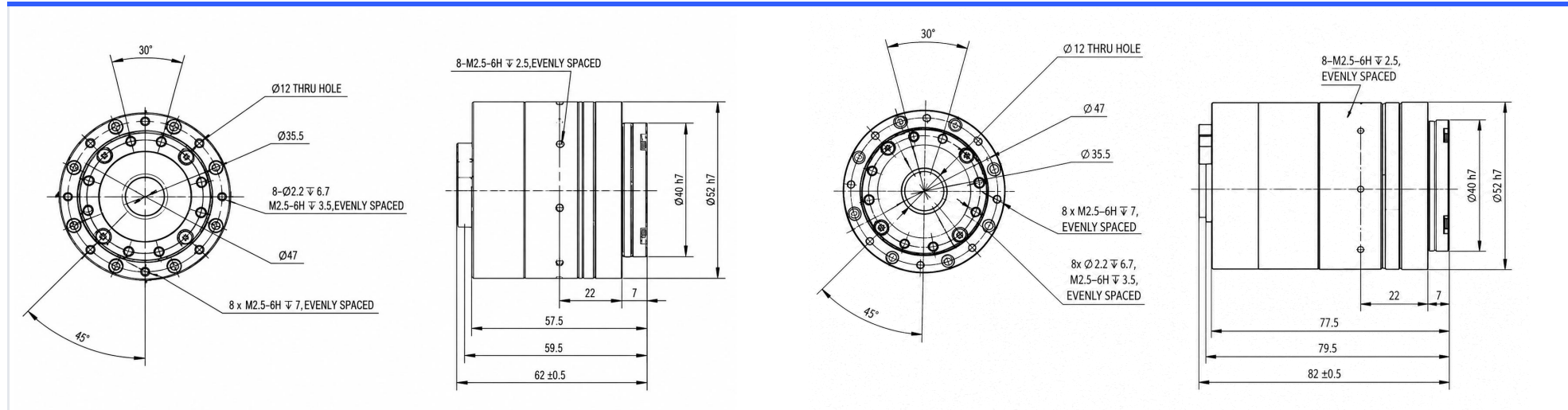
PRODUCT PLATFORM

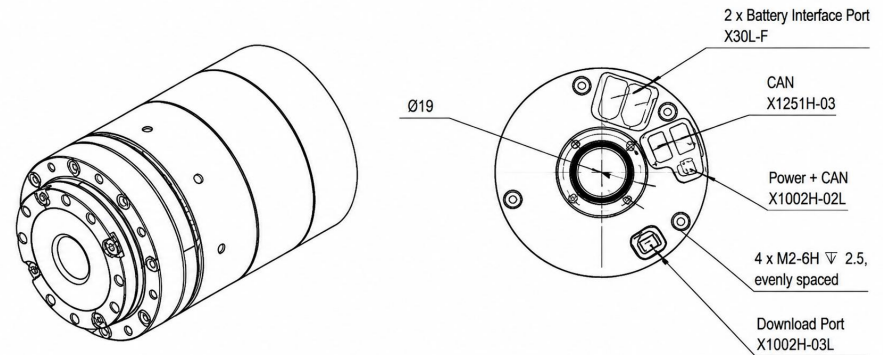
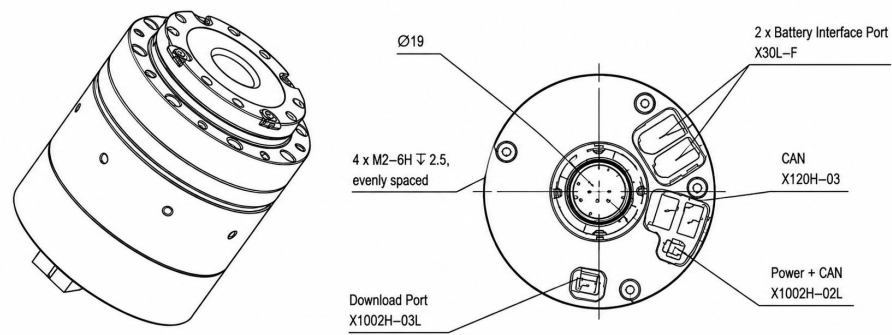
ARTUS PLATFORM	AHM-040-052
2 RATIO OPTIONS	Ø52 mm 8.3–11 Nm PEAK TORQUE CAN / EtherCAT

Parameter	Unit	AHM-040-052-R51	AHM-040-052-R101
Reduction Ratio	:1	51	101
Start / Stop Peak Torque	Nm	8.3	11
Max. Average Load Torque — Robot	Nm	5.5	8.9
Rated Torque at 2000 rpm / Ratio — Industrial	Nm	3.5	5
Output Peak Speed	rpm	118	59
Rated Speed at 1/2 Rated Torque	rpm	80	40
Backlash	arcsec	40	30
Rated Power	W	50	50
Supply Voltage	VDC	24–48	24–48
Encoder Resolution	bit	16; dual encoder optional	16; dual encoder optional

Communication	—	CAN / EtherCAT	CAN / EtherCAT
Brake Torque — No Brake / Brake	Nm	0 / 0.15	0 / 0.15
Torsional Stiffness	10^4 N/rad	0.22	0.27
Allowable Radial Load	kN	5.31	5.31
Allowable Axial Load	kN	10.59	10.59
Allowable Bending Moment	Nm	82	82
Length — No Brake / Brake	mm	62±0.5 / 82±0.5	62±0.5 / 82±0.5
Through Bore	mm	12	12
Weight — No Brake / Brake	kg	0.32 / 0.42	0.32 / 0.42
Inertia — No Brake / Brake	$\text{g} \cdot \text{cm}^2$	73 / 116.2	73 / 116.2

DIMENSIONAL DRAWINGS — STANDARD / BRAKE CONFIGURATION





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HARMONIC ROBOT JOINT MODULES
AHM-050-060 | Harmonic Joint Module Specification

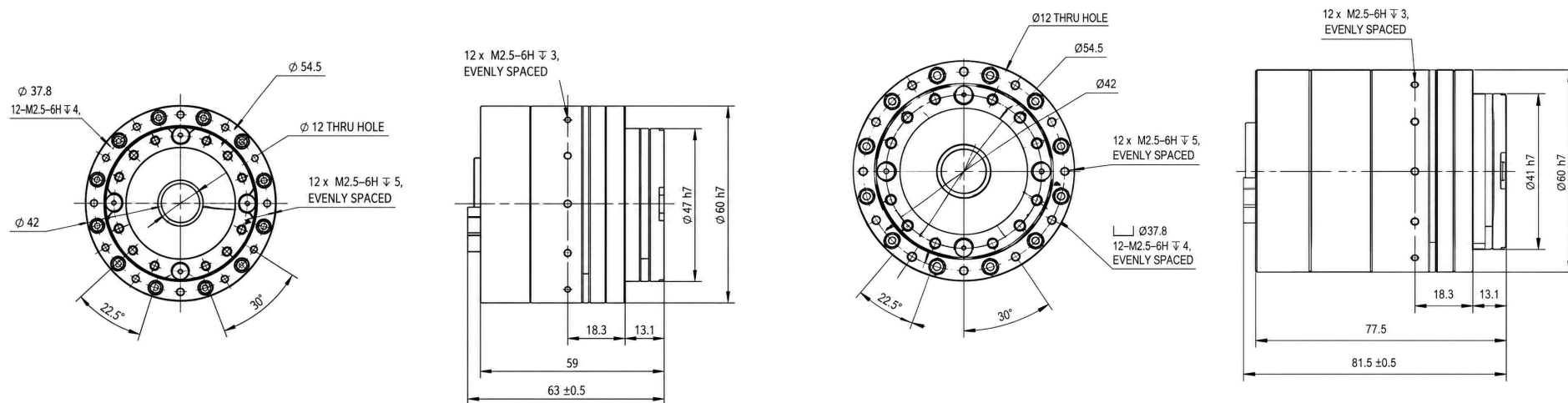
PRODUCT PLATFORM

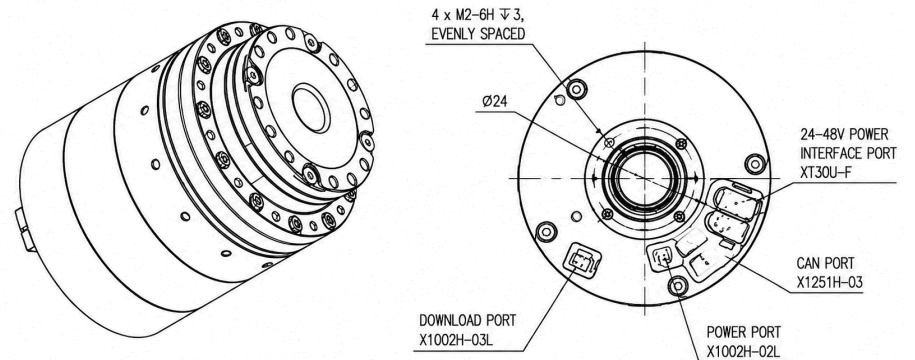
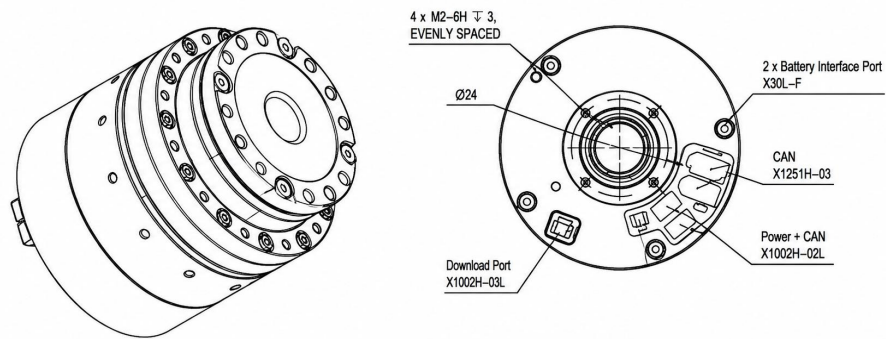
ARTUS PLATFORM	AHM-050-060
3 RATIO OPTIONS	Ø60 mm 23–34 Nm PEAK TORQUE CAN / EtherCAT

Parameter	Unit	AHM-050-060-R51	AHM-050-060-R81	AHM-050-060-R101
Reduction Ratio	:1	51	81	101
Start / Stop Peak Torque	Nm	23	29	34
Max. Average Load Torque — Robot	Nm	8.6	13.5	13.5
Rated Torque at 2000 rpm / Ratio — Industrial	Nm	6.6	9.6	9.6
Output Peak Speed	rpm	97	61	49
Rated Speed at 1/2 Rated Torque	rpm	75	46	37
Backlash	arcsec	20	20	10
Rated Power	W	85	85	85
Supply Voltage	VDC	24–48	24–48	24–48
Encoder Resolution	bit	16; dual encoder optional	16; dual encoder optional	16; dual encoder optional

Communication	—	CAN / EtherCAT	CAN / EtherCAT	CAN / EtherCAT
Brake Torque — No Brake / Brake	Nm	0 / 0.03	0 / 0.03	0 / 0.03
Torsional Stiffness	10 ⁴ N/rad	0.32	0.45	0.45
Allowable Radial Load	kN	6.8	6.8	6.8
Allowable Axial Load	kN	15.4	15.4	15.4
Allowable Bending Moment	Nm	146	146	146
Length — No Brake / Brake	mm	63±0.5 / 81.5±0.5	63±0.5 / 81.5±0.5	63±0.5 / 81.5±0.5
Through Bore	mm	12	12	12
Weight — No Brake / Brake	kg	0.45 / 0.58	0.45 / 0.58	0.45 / 0.58
Inertia — No Brake / Brake	g·cm ²	158.8 / 228.8	158.8 / 228.8	158.8 / 228.8

DIMENSIONAL DRAWINGS — STANDARD / BRAKE CONFIGURATION





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