Laifual Drive ROBOT JOINT

Build the robot faster

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Specification

LFRob70I	LFRob80I	LFRob90I	LFRob110I	LFRob142I
Outer diameter: 70mm Length: 81mm Weight: 0.98kg Max. torque: 70Nm Max. speed: 60RPM	Outer diameter: 80mm Length: 95mm Weight: 1.4kg Max. torque: 143Nm Max. speed: 37.5RPM	Outer diameter: 90mm Length: 102mm Weight: 2.1kg Max. torque: 191Nm Max. speed: 37.5RPM	Outer diameter: 110mm Length: 127mm Weight: 3.3kg Max. torque: 395Nm Max. speed: 30RPM	Outer diameter: 142mm Length: 137mm Weight: 6.7kg Max. torque: 892Nm Max. speed: 30RPM

Makes robot development more easier, faster and safer!
Saves hunderds of components' selection, design, procurement, assembly and time costs.

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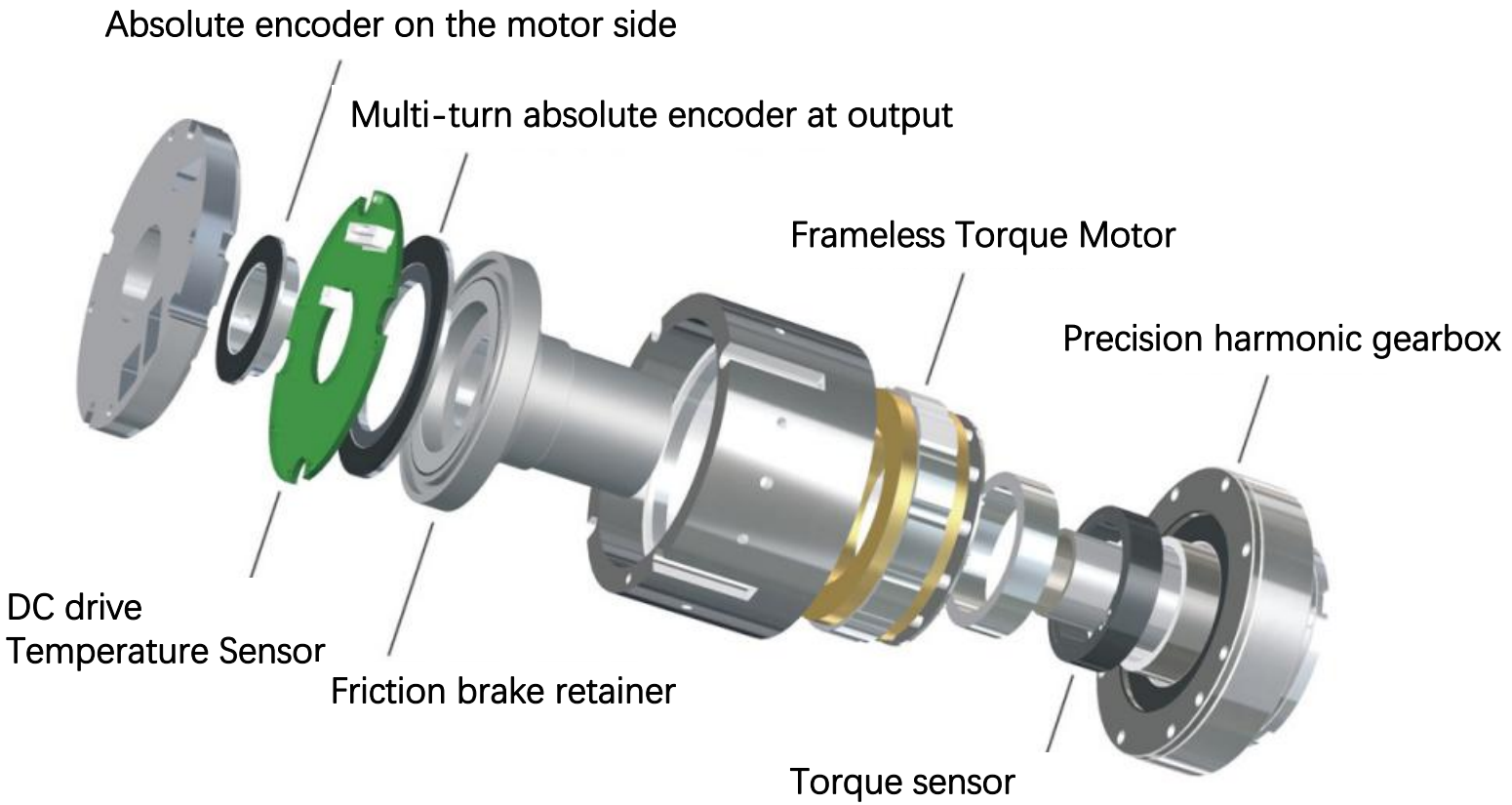
Laifual Drive

8 core components

Manufacturer Center

Robot joint

Small and precise



LFRob70I outer dimension is only 70mm, height 81mm, 18mm through hole.
980g Ultra light weight, torque to weight ratio up to 50N.m/kg.

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Robot joint

Support multiple communication protocols

EtherCAT®

CANopen®

With EtherCAT, CANopen communication, open position loop, speed loop, current loop, PID real-time adjustment, suitable for dynamic variable load and variable inertia robot applications.

Built-in servo drive

eDriver3Ring

Embedded servo driver, very small installation volume.
The outer diameter is 54mm, 18mm through hole, only 18.5mm thick.
The input voltage is 48VDC, the peak current is 80A, and the output power is up to 3KW.
Two sets of outlet plugs are convenient for series connection.
Anti-loose plug, safe and reliable.

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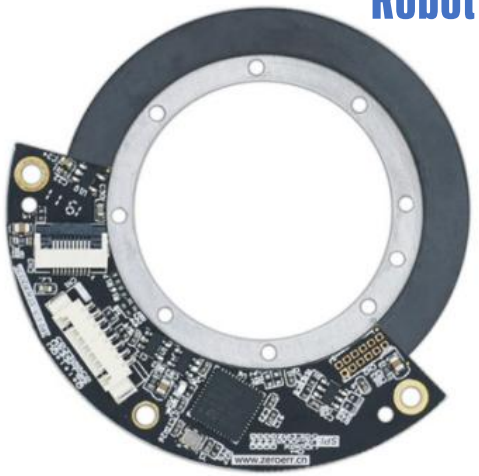
Robot joint

Built-in double absolute encoder
Fully closed loop control

Output 19-bit absolute value multi-turn encoder,
Repeat positioning accuracy up to +/-10 arc seconds,
Absolute positioning accuracy up to +/-45 arc seconds,
Can memorize single-turn and multi-turn power-off positions,
Fully closed loop control, no wear accuracy.

eCoder20


eCoder35

Friction brake

Friction brake

Adopt friction type damping brake retainer,
Stop without shaking,
No jitter at boot,
It can start at zero speed at full load.

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Parameters Table

Model No	LFRob70			LFRob80		LFRob90		LFRob110		LFRob142	
Ratio	50	80	100	80	100	80	100	100	120	100	120
Voltage(VDC)	48(±10%)										
Maximum intermittent torque(Nm)	35/46	47/61	54/70	87/113	110/143	127/165	147/191	284/369	304/395	647/841	686/892
Maximum intermittent speed(RPM)	60	37.5	30	37.5	30	37.5	30	30	25	30	25
Continuous torque(Nm)	18/23	23/30	28/36	43/56	54/70	74/96	82/107	157/204	167/217	333/433	353/459
Speed at continuous torque(RPM)	40	25	20	25	20	18	15	12	10	12	10
Output encoder resolution	19Bit										
Repeat/absolute positioning accuracy	±10/45 arcsecond										
Communication bus	EtherCAT/CANopen										
Outer diameter x length x through hole (mm)	70x75x18			80x91x18		90x102x18		110x120x18		142x160x18	
Weight (kg)	0.87			1.2		1.9		2.9		6	
Interface design	Fully differential interface design, strong anti-interference ability, two sets of loose plugs, can be connected in series.										
Brake	Friction damping brake										
IP rating	IP54										
Note: The two values of the torque parameter in this table with "/" are the corresponding values when equipped with medium rigidity/high rigidity joints.											

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LFRob series selection table

Series	Outer diameter	Load capacity	Ratio	Installation	Brake	Output encoder	Through hole diameter	Communication	Torque sensor
LFRob	80	H	100	I	- B	M	- 18	E	N

Laifual Robot joint	70	Outer dia 70mm	H	High rigidity	50	I	Straight type	B	With brake	M	Multi-turn memory	18mm	E	EtherCAT	T	Torque sensor
	80	Outer dia 80mm	N	Medium rigidity	80	T	Corner type	F	Without brake	S	No Multi-turn memory		C	CANopen	N	No torque sensor
	90	Outer dia 90mm			100											
	110	Outer dia 110mm			120											
	142	Outer dia 142mm														

Robot joint model: LFRob70H80I-BS-18E

More information, please don't hesitate to contact with us.
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