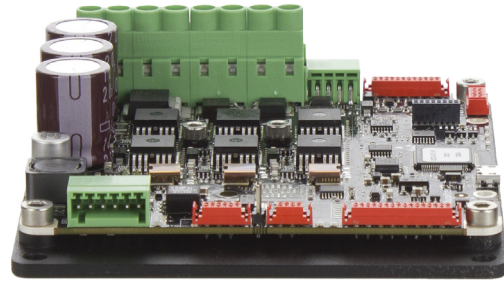


# JUPITER

## DIGITAL SERVO DRIVE

The Jupiter Servo Drive provides OEMs with the flexibility to utilize any motor technology up to 4 kW on its whole operating temperature range. Its power range can be even extended with an optional base plate or fan. The Jupiter is ready to interface EtherCAT or CANopen networks.

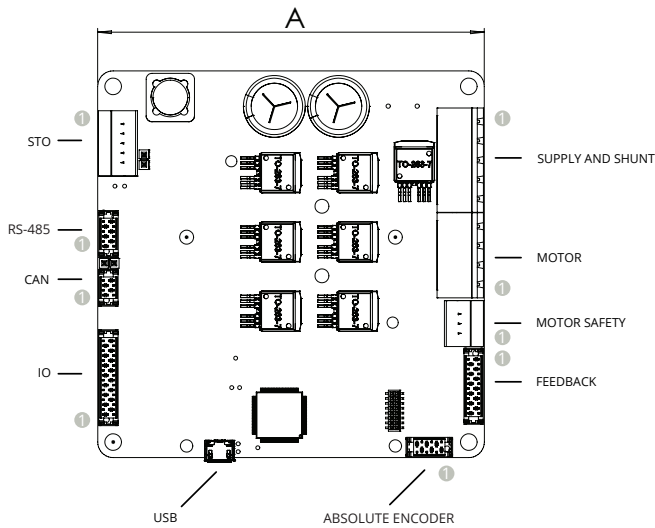


- ✓ High power density
- ✓ Multiple motors
- ✓ Multiple feedbacks
- ✓ Highly efficient
- ✓ CANopen and EtherCAT
- ✓ Ready to be integrated

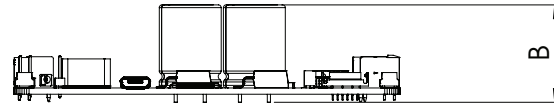
Jupiter Digital Servo Drive	Units	JUP-20/80	JUP-40/80	JUP-15/130	JUP-30/130
Supply Voltage	V <sub>DC</sub>	10 - 80	10 - 80	10 - 130	10 - 130
Maximum Phase Peak Current (2 s)	A <sub>RMS</sub>	40	80	30	60
Maximum Phase Continuous Current	A <sub>RMS</sub>	20	40	15	30
Standby Power Consumption	W	1.5			
Efficiency	%	>97			
Supported Motor Types		Brushless, Linear Brushless, Brush DC, Voice Coil			
Commutation		Sinusoidal and Trapezoidal			
Minimum Motor Inductance	μH	300			
Power Stage PWM Frequency	kHz	20, 40 (configurable)			
Current Sensing		30, ± 1% Accuracy, 10 bit			
Commutation Sensors		Digital Halls, Analog Halls, Incremental Encoder, PWM, Analog			
Supported Feedback		DC Tachometer, Digital Halls, Analog Halls, Quadrature Incremental Encoder, PWM, Analog, Sin-Cos, Absolute Encoder (SSI, BiSS)			
Torque Loop Update Rate	kHz	10			
Position and Velocity Update Rate	kHz	1			
Motion Modes		Cyclic Sync, Interpolated, Profilers (Position, Velocity, Torque), Homing, Open Loop			
Supported Command Sources		Network, USB, Serial, Analog Input, PWM, Encoder Follower/Electronic Gearing, Step and Direction, Standalone			
Motion Controller		Yes, Standalone Operation with 64 Macros of 64 Commands			
Digital Inputs		4 (TTL and PLC)			
Analog Inputs		1 (±10 V), 1 (0-5 V)			
Digital Outputs		2 (TTL and PLC)			
User Configurable Protections		Bus Overvoltage and Undervoltage, Over and Under Temperature, Over Current, Overload (I <sup>2</sup> T), Motor Temperature			
Hardware Protections		Short-Circuit Protections, ESD and EMI Protections, Inverse Polarity Supply Protection, High Power Transient Voltage Suppressor for Short Braking, Torque Off			
Software Protections		Mechanical Limits for Homing Modes, Hall Sequence/Combination Error			
USB		Yes			
Serial		RS-485, RS-232 (Option)			
CANopen		Yes (DS-301, DS-303, DS-305, DS-306, DS-402). Onboard Termination Jumper			
EtherCAT		Yes (CoE)			
Cold Plate		No	Yes	No	Yes
Ambient Air Temperature (operating)	°C	-25 to 85 (over 50 with current derating)			
Ambient Air Temperature (storage)	°C	-50 to 100			
Maximum Humidity	%	5 to 85 (non-condensing)			
Dimensions	mm (in)	100 x 100 x 26 (3.93 x 3.93 x 1.02)	120 x 101 x 28.1 (4.72 x 3.98 x 1.10)	100 x 100 x 28 (3.93 x 3.93 x 1.10)	120 x 102 x 30.1 (4.72 x 4.01 x 1.18)
Weight	g (oz)	109 (3.84)	258 (9.10)	114 (4.02)	263 (9.28)

# INGENIA JUPITER DIGITAL SERVO DRIVE

## DRAWINGS



Drawing corresponds to JUP-20/80.  
For full documentation visit  
[www.ingeniamc.com](http://www.ingeniamc.com)



Dimension (mm)	JUP-20/80	JUP-40/80	JUP-15/130	JUP-30/130
A	100	120	100	120
B	26	28.1	28	30.1

## PINOUT

MOTOR SAFETY		CAN		MOTOR		FEEDBACK		SUPPLY, SHUNT AND MOTOR*		I/O	
04	BRAKE+	04	GND	04	PE	12	HALL_3	08	PE	16	+5V_EXT
03	BRAKE-	03	CAN_H	03	PH_C	11	HALL_2	07	LOGIC_SUP	15	LS_GPI1
02	GND	02	CAN_L	02	PC_B	10	HALL_1	06	GND	14	LS_GPI2
01	EXT_TEMP	01	GND	01	PH_A	09	GND	05	POW_SUP	13	GND
<b>STO</b>		<b>RS-485</b>		<b>ABS ENCODER</b>		08	ENC_Z- / REF-	04	SHUT_OUT	12	AN_IN2+
06	GND	08	TX-	06	DATA-	07	ENC_Z+ / REF+	03	PH_C	11	AN_IN2-
05	STO_SUP	07	TX+	05	DATA+	06	ENC_B- / COS-	02	PC_B	10	AN_IN1
04	STO2-	06	RET_TX	04	CLK-	05	ENC_B+ / COS+	01	PH_A	09	GND
03	STO2+	05	GND	03	CLK+	04	ENC_A- / SIN-	<b>SUPPLY AND SHUNT</b>		08	HS_GPI1- / PULSE- / PWM-
02	STO1-	04	RX-	02	GND	03	ENC_A+ / SIN+	05	PE	07	HS_GPI1+ / PULSE+ / PWM+
01	STO1+	03	RX+	01	+5V_OUT	02	GND	04	LOGIC_SUP	06	GND
		02	GND			01	+5V_OUT	03	GND	05	GPO1
		01	RET_TX					02	POW_SUP	04	GPO2
								01	SHUT_OUT	03	GND
										02	HS_GPI2- / DIR-
										01	HS_GPI2+ / DIR+

\* Only available on JUP-40/80 and JUP-30/130

## PART NUMBERING INFORMATION

JUP XX / XX - Y

### Power model:

20/80 = 20 A cont//40 A peak @ 10-80 VDC

40/80 = 40 A cont//80 A peak @ 10-80 VDC

15/130 = 15 A cont//30 A peak @ 10-130 VDC

30/130 = 30 A cont//60 A peak @ 10-130 VDC

### Interfaces:

S = USB/RS-485

C = USB/RS-485/CANopen

E = USB/RS-485/EtherCAT

### Option

### Part Number

IO Starter Kit	A-IOKIT
Feedback Cable	C-JUP-FEED
IO Cable	C-JUP-IO
Absolute Cable	C-JUP-ABS
RS-485 Cable	C-JUP-RS485
CAN Cable	C-JUP-CAN

10-130  
V<sub>DC</sub>

40  
ARMS

3900  
W



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[www.ingeniamc.com](http://www.ingeniamc.com)