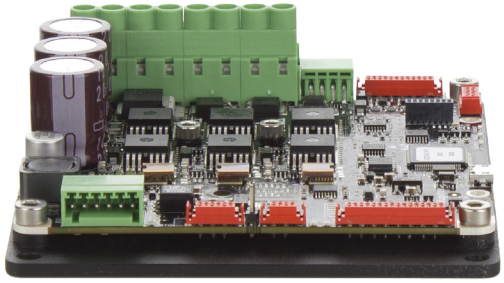
INGENIA

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

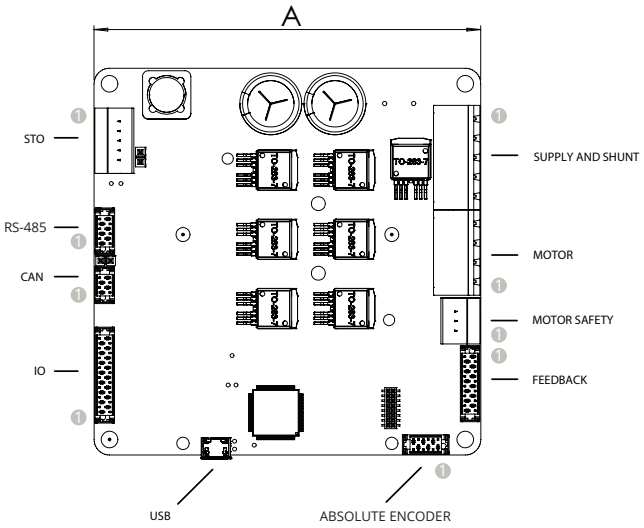
Jupiter Digital Servo Drive	Units	JUP-20/80	JUP-40/80	JUP-15/130	JUP-30/130
Supply Voltage	V_{DC}	10 - 80	10 - 80	10 - 130	10 - 130
Maximum Phase Peak Current (2 s)	A_{RMS}	40	80	30	60
Maximum Phase Continuous Current	A_{RMS}	20	40	15	30
Standby Power Consumption	W	1.5			
Efficiency	%	>97			
Supported 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		3Ø, ± 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)			
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^2T), 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)

FIND OUT MORE AT
www.ingeniamc.com

RS-485 CANopen EtherCAT

3900 W | 40 Arms | 10-130 Vdc

DRAWINGS



Drawing corresponds to JUP-20/80.
For full documentation visit
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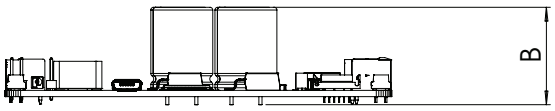

Dimension (mm)	**JUP-20/80**	**JUP-40/80**	**JUP-15/130**	**JUP-30/130**
A	100	120	100	120
B	26	28.1	28	30.1

PINOUT

MOTOR SAFETY

04	BRAKE+
03	BRAKE-
02	GND
01	EXT_TEMP

CAN

04	GND
03	CAN_H
02	CAN_L
01	GND

MOTOR

04	PE
03	PH_C
02	PC_B
01	PH_A

FEEDBACK

12	HALL_3
11	HALL_2
10	HALL_1
09	GND
08	ENC_Z- / REF-
07	ENC_Z+ / REF+
06	ENC_B- / COS-
05	ENC_B+ / COS+
04	ENC_A- / SIN-
03	ENC_A+ / SIN+
02	GND
01	+5V_OUT

SUPPLY, SHUNT AND MOTOR*

08	PE
07	LOGIC_SUP
06	GND
05	POW_SUP
04	SHUT_OUT
03	PH_C
02	PC_B
01	PH_A

I/O

16	+5V_EXT
15	LS_GPI1
14	LS_GPI2
13	GND
12	AN_IN2+
11	AN_IN2-
10	AN_IN1
09	GND
08	HS_GPI1- / PULSE- / PWM-
07	HS_GPI1+ / PULSE+ / PWM+
06	GND
05	GPO1
04	GPO2
03	GND
02	HS_GPI2- / DIR-
01	HS_GPI2+ / DIR+

STO

06	GND
05	STO_SUP
04	STO2-
03	STO2+
02	STO1-
01	STO1+

RS-485

08	TX-
07	TX+
06	RET_TX
05	GND
04	RX-
03	RX+
02	GND
01	RET_TX

ABS ENCODER

06	DATA-
05	DATA+
04	CLK-
03	CLK+
02	GND
01	+5V_OUT

SUPPLY AND SHUNT

05	PE
04	LOGIC_SUP
03	GND
02	POW_SUP
01	SHUT_OUT

* 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:
S1 = USB/RS-485
S2 = USB/RS-232
C = USB/RS-485/CANopen
E = USB/RS-485/EtherCAT

Option	**Part Number**
IO Starter Kit	A-IOKIT
Feedback Cable	C-MM-FEED
IO Cable	C-MM-IO
Absolute Cable	C-MM-ABS
RS-485 Cable	C-MM-RS485
CAN Cable	C-MM-CAN

For the most up to date information visit the support center documentation at ingeniamc.com/support