

# VENUS

## DIGITAL SERVO DRIVE

The Venus is a closed frame digital servo drive with standalone motion controller capabilities, that can drive most of motor topologies in today's market of up to 2 kW. Its design includes a wide set of external command inputs.

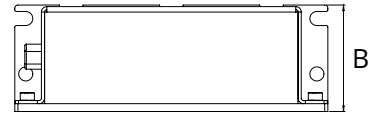
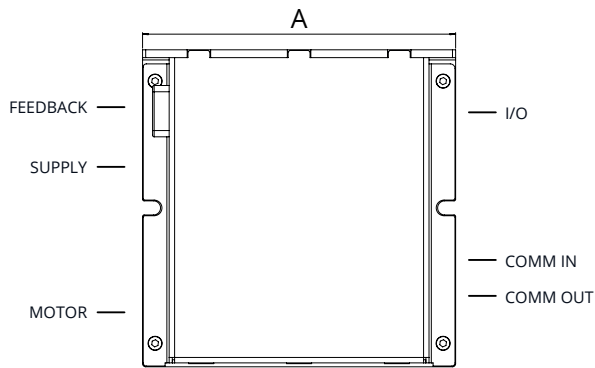


- ✓ IP20 protection
- ✓ Ready to be integrated
- ✓ Expanded IOs
- ✓ Multiple command inputs
- ✓ CANopen
- ✓ Standalone

Venus Digital Servo Drive	Units	VEN-15/60
Supply Voltage	$V_{DC}$	10 - 60
Maximum Phase Peak Current (1 s)	$A_{RMS}$	30
Maximum Phase Continuous Current	$A_{RMS}$	15
Standby Power Consumption	W	1.5
Efficiency	%	>98
Supported Motor Types		Rotary and Linear Brushless, Brush DC, Voice Coil
Commutation		Sinusoidal and Trapezoidal
Minimum Motor Inductance	$\mu H$	300
Power Stage PWM Frequency	kHz	40
Current Sensing		$3\sigma$ , $\pm 1\%$ 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
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 ( $\pm 10 V$ ), 1 (0-5 V)
Digital Outputs		2 (TTL and PLC)
Analog Outputs		1 (0-5 V)
User Configurable Protections		Bus Overvoltage and Undervoltage, Over and Under Temperature, Over Current, Overload ( $I^2T$ ), Open Load Protection
Hardware Protections		Short-Circuit Protections, ESD and EMI Protections, Inverse Polarity Supply Protection, High Power Transient Voltage Suppressor for Short Braking, Onboard Shunt Resistor
Software Protections		Mechanical Limits for Homing Modes, Hall Sequence/Combination Error
USB		No
Serial		RS-232
CANopen		Yes (DS-301, DS-303, DS-305, DS-306, DS-402)
EtherCAT		No
Ambient Air Temperature (operating)	$^{\circ}C$	-25 to 85 (over 50 with current derating)
Ambient Air Temperature (storage)	$^{\circ}C$	-40 to 125
Maximum Humidity (non-condensing)	%	5 to 85
Dimensions	mm (in)	101.3 x 100 x 34 (3.99 x 3.94 x 1.34)
Weight	g (oz)	310 (10.93)

# INGENIA VENUS DIGITAL SERVO DRIVE

## DRAWINGS



Dimension (mm)	VEN-15/60
A	100
B	34

## PINOUT

FEEDBACK		COMM IN		MOTOR		I/O	
11	GND	08	CAN_VCC	08	BRAKE-	18	GPO3_H 26
10	ENC_Z+	07	GND	07	BRAKE+	17	GP04_L 25
09	ENC_Z-	06	N.C.	06	PE	16	GP01_H 24
08	HALL_3	05	RS232_RX	05	PH_C	15	HS_GPI1- 23
07	HALL_2	04	RS232_TX	04	PH_B	14	HS_GPI2- 22
06	HALL_1	03	CAN_GND	03	PH_A	13	AN_GND 21
05	ENC_B+	02	CAN_L	02	SHUNT-	12	AN_GND 20
04	ENC_B-	01	CAN_H	01	SHUNT+	11	AN_IN2+ 19
03	ENC_A+					10	AN_IN2-
02	ENC_A-					09	GPO2_L
01	+5V_OUT					08	GPO2_H
						07	GPO1_L
						06	HS_GPI1+
						05	HS_GPI2+
						04	AN_IN3+
						03	AN_IN3-
						02	AN_IN1+
						01	AN_IN1-

### PART NUMBERING INFORMATION

**VEN XX / XX - Y**

#### Power model:

15/60 = 15 A cont//30 A peak @ 10-60 VDC

#### Interfaces:

S = RS-232

C = RS-232/CANopen

### Option

### Part Number

Comm. Cable	C-VEN-COMM
Feedback Cable	C-VEN-FEED5
IO Cable	C-VEN-IO5

10-60  
V<sub>DC</sub>

15  
ARMS

1000  
W



CANopen

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