Product Specifications

1. Product Overview

1.1 Product Name: GYHCSD HR3 Servo Drive

1.2 Product Model: HR3-CR2R8S2

1.3 Product Description:

The HR3 series servo drives are cost-effective AC servo drives, offering sub-micron level position control accuracy, significantly improving the precision, speed, efficiency, and stability of industrial automation equipment. They are widely used in laser, printing, and semiconductor industries.

- Input Voltage AC220v
- Rated current: 2.8A
- Supports 17bit~23bit single-turn/multi-turn absolute encoders
- Automatic loop parameter adjustment
- Enhanced vibration suppression function
- Speed control range: 0~12000 rpm
- Operating temperature: -40℃ to +85℃
- Supports CAN Open, RS485, EtherCAT communication
- Multiple control modes: position/speed/torque control

2. Technical Parameters

2.1 Parameter Table

Items			Specification
Basic Specification	Model		HR3-CR2R8S2
	Rated Current		2.8A
	Input Voltage		AC220v
	Size		252*270*84mm
	Control		IGBT SVPWM Control，Sinusoidal Current Drive Method 220v,380v：Single/Three-phase Full-wave Rectification
	Operation Conditions	Operation/Storage Temperature	0℃~+40℃/-20℃~+70℃
		Humidity	<90%RH [No frost]
		Vibration/Shock resistance	≤4.9G/19.6G
		Protection Grade	IP20
		Pollution level	PD2
		Operation Altitude	≤5000m,1% capacity reduction for every 100m above 1000m
Position control	Performance	Feedforward Compensation	Support speed feedforward (0~100.0%) setting to eliminate following deviation
		Command shaping	Low-pass filtering, mean filtering for Position command
	Frequency dividing output	Output	Phase A, B, Z: Differential outputs
		Frequency division range	one rotate can divide any pulse in the range of 140 to 1048576
Speed/Torque Control	Performance	Current Loop Dynamic Characteristics	Step Response: 187.5μs (0~100%) Frequency Response: Amplitude Attenuation Bandwidth at -3dB，2000Hz (Input signals: ±25%) Phase Shift Bandwidth at -90°, 3500Hz (Input signals: ±25%)
		Speed Control Range	0~12000rpm, over 6000rpm，please contact with technical support
		Speed Loop Dynamic Characteristics	Step Response: 562.5μs(0~1000rpm) Frequency Response: -3dB Amplitude Attenuation Bandwidth, 1000Hz (command signal: ±500rpm) -90 Phase Shift Bandwidth, 630Hz (command signal: ±500rpm)
		Torque Control Accuracy	±2%
Signal	DI (Digital Input)		Configurable：forward overtravel switch, reverse overtravel switch, home position switch, etc.
	DO (Digital Output)		Configurable：Servo Ready, Speed Zero, Speed Reached, Position Reached, Position Approaching, Torgue Limit Active, Warning, Servo Error, etc.
Features	Electronic Gear		Built-in two sets of electronic gear ratios, support gear ratio switching function

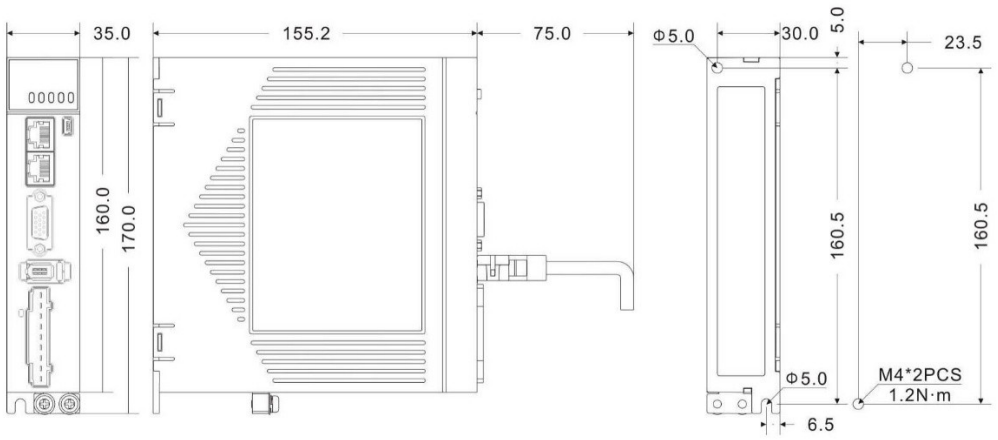
	Limit Protection	The forward overtravel limit switch and reverse overtravel limit switch will immediately stop the system when activated.
	Protection Functions	Overcurrent, Overvoltage, Undervoltage, Overload, Stall, Main Circuit Detection Abnormal, Heat Sink Overheating, Overspeed, Encoder Abnormal, Parameter Abnormal, etc.
	Display	5-digit LED Display, POWER LED CHARGE
	Wave suppression	The system is equipped with four notch filters, ranging from 50Hz to 5000Hz, all of which can be adaptively configured.
	Ease of Use	Self-tuning, speed observer, model following
	Debugging Interface	USB
	Others	Status display, alarm logging, JOG operation, etc.

2.2 Interface Information Table

Type	Interface ID	Cores Qty.	Interface Definition	Remarks
Power Supply		9	Motor Power out/AC power in	L1/L2/P/B/N/U/V/W/PE
I/O interface	CN1	44	I/O interface	
Encoder Interface	CN2	6	Encoder Interface	5v/GND/SD+/SD-
RS485/CANOPEN in	CN3	8	RS485+CAN In	RJ45
RS485/CANOPEN out	CN4	8	RS485+CAN Out	RJ45
Debugging	MINI USB	5	MINI USB interface	VBUS/D-/D+/GND

3. Overall Dimensions

3.1 Dimension Drawing



3.2 Appearance Photos