GTSD13

Overview

GTSD13 series servo driver is a kind of control and drive integrated product which combines industrial PC, motion control and servo drive. Its power covers 3 kW-45 kW. Highly integrated system architecture greatly simplifies customer electrical design and improves equipment performance and reliability. OtoStudio software development platform is based on WINCE operating system to meet the real-time, security and open requirements of industrial customers. The software platform adopts the secondary development system architecture for the mechanical manufacturer and system integrator, which can provide customized system solutions for customized process.

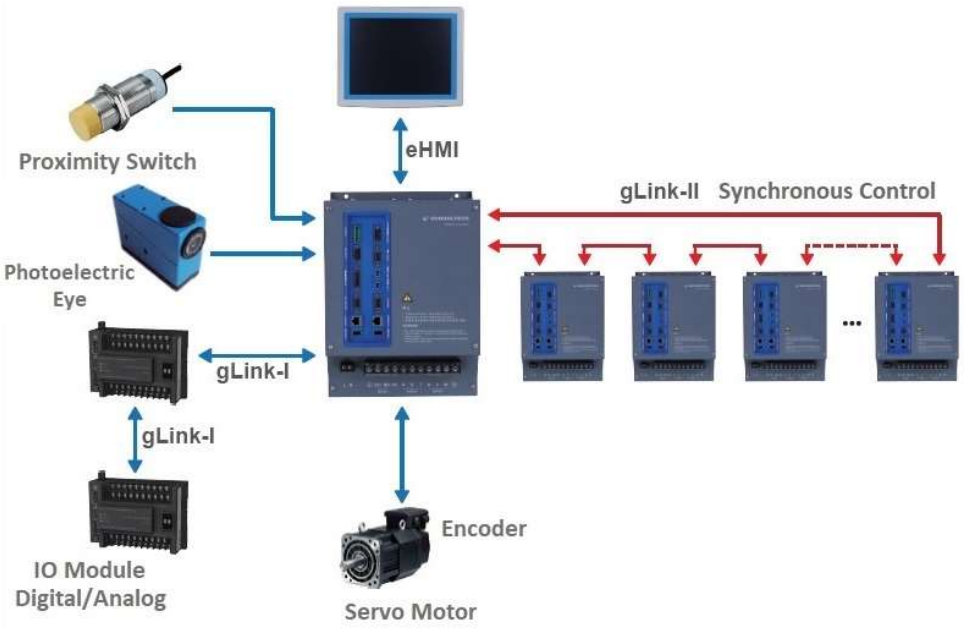
GTSD13 series implements precise multi-machine tracking and synchronization control through the gLink-II Gigabit network protocol of Googoltech's independent intellectual property rights. gLink-II Gigabit Network Protocol is based on the isocyclic network architecture. It can cascade up to 240 sites. Two protocol channels increase the reliability of the system and realize hot swapping. Because of the fast transmission speed and large amount of information, the master station of the system can debug and manage all the control information and sensor information of the slave station, which greatly facilitates the debugging and expansion of the equipment, and is very suitable for the application of digital and intelligent chemical plants.

Main Features

- The system integrates industrial PC, motion control and servo drive to realize closed-loop control of current, speed and position.
- Achieve multi axis motion control, and facilitate system configuration.
- Independent intellectual property rights gLink- II gigabit network protocol can support synchronous operation of 240 sites.
- High dynamic response, high precision current, speed and position control using multi-degree of freedom and nonlinear control algorithm.
- Support high precision cosine encoder, absolute encoder speed feedback, single ring resolution can reach 24 bits.
- Support high-speed pulse + directional or AB phase burst input.
- Support high speed local IO and remote expansion IO, high speed and high precision local analog input, resolution of 14 bits.
- Automatic identification and correction of motor parameters and loop parameter self-tuning.
- OtoStudio development platform real-time observation curve, easy debugging, firmware and software online upgrade.

All product specifications are subject to change without notice.

System Structure



gLink-II Protocol

- Gigabit network bandwidth.
- Data link redundancy and data redundancy, support for hot swapping.
- Support for cyclic and acyclic data transfers.
- The physical channel between the site and the site can be arbitrarily combined.
- Strict synchronization between sites.

Specifications

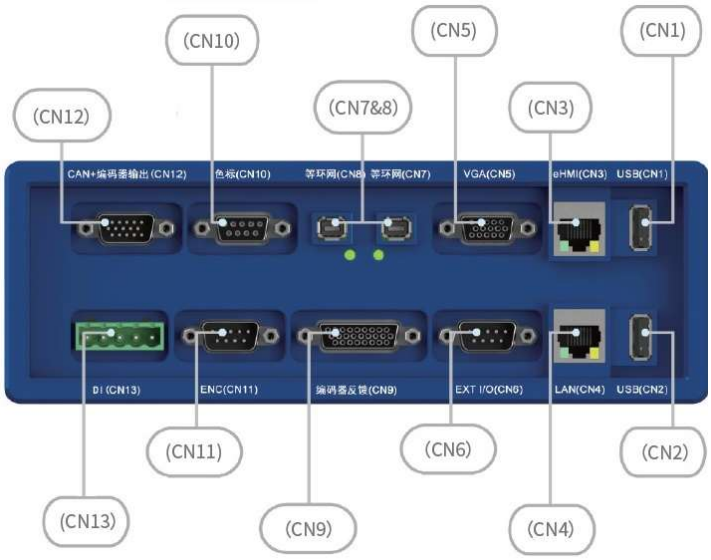
Function	Item	Description
Computer Function	CPU	800MHz
	Memory	500M
	Storage	4GB HDD
	OS	WinCE 6.0
Main Loop Power	Rated Voltage (V)	3 Phases: 380V, fluctuation range -15% ~ 10% (323V ~ 418V)
	Rated Frequency (Hz)	50Hz ~ 60Hz, Fluctuation range ±5%
Control Loop Power	Rated Voltage	Single-phase 220V/50Hz
	Input Voltage Range	AC 220V ±15%
	Input Frequency Range	47Hz ~ 53Hz
Output Features	Applicable Motor (kW)	Please refer the Ordering Guide
	Rated Output Current (A)	Please refer the Ordering Guide
	Output Voltage (V)	Output 3 phases under rated conditions, 0V ~ rated input voltage.
	Output Frequency (Hz)	0 ~ 1000Hz
	Overload Features	HD: 120% rated current for 30 seconds, 300% rated current for 0.5 seconds.
12V Power Output	Output Voltage (V)	12V, accuracy 5%, ripple <5%, current 0.4A
Color Mark Detection	Analog Input	2 Channels, measuring voltage range ±10V, sampling rate 1Msps, resolution 14 bits.

All product specifications are subject to change without notice.

Function	Item	Description
Switch Detection	Digital Input	3 Channels, optocoupler isolation, 12V level, active low, NPN type.
Encoder Output	Incremental	1 Channel, ABZ orthogonal signal, 5V long transmission line, maximum frequency 4MHz.
Encoder Interface	Support for sine and cosine encoder, absolute encoder, and Hall encoder.	
Auxiliary Encoder	Support for incremental auxiliary encoder.	
Communication Interface	gLink-II, CANopen, USB 2.0, Ethernet, gLink-I	
Protective Function	Alarm contents: overvoltage, undervoltage, overcurrent, driver overheating, encoder disconnection, and motor overheating, etc. Support motor temperature detection KTY84.	
Display Interface	eHMI: 1 channel, including LVDS, PS/2, RS232, USB, gLink-I signals. VGA: 1 channel	
Environment	Efficiency	95%
	Installation Method	Wall mount
	Protection Level	IP20
	Cooling	Fan cooling
	Use Place	Indoor, free from direct sunlight, no dust, corrosive gas, flammable gas, oil mist, water vapor, dripping or salt, etc.
	Altitude	Less than 2000 meters (Derating for use above 2000 meters, derating 1% for every 100 meters)
	Operating Temperature	-20°C ~ +55°C (Derating when the ambient temperature is higher than 55 °C)
	Storage Temperature	-40°C ~ +70°C
	Atmospheric Pressure	80kPa ~ 110kPa
	Humidity	Less than 90% Relative humidity, non-condensing.
	Installation Direction	In order to ensure the cooling effect of the drive, please be sure to install it vertically.

All product specifications are subject to change without notice.

Hardware Connection



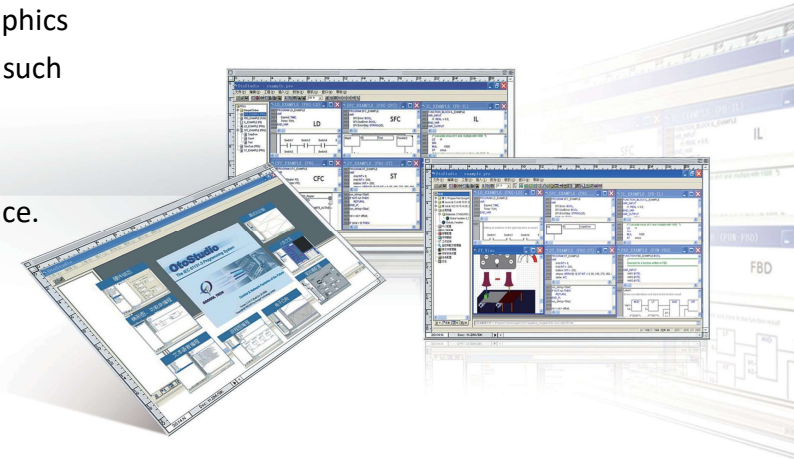
Location	Description	Connector Type
CN1	USB2.0 HOST	USB
CN2	USB2.0 HOST	USB
CN3	eHMI	RJ45
CN4	Ethernet 10/100M	RJ45
CN5	VGA	DB15 (Female)
CN6	gLink-I	DB9 (Male)
CN7	gLink-II	Mini DP
CN8	gLink-II	Mini DP
CN9	Motor Position Feedback	DB26 (Female)
CN10	Color Mark/Analog Input	DB9 (Female)
CN11	Auxiliary Encoder	DB9 (Male)
CN12	CAN + Encoder Output	DB15 (Male)
CN13	12V Power Output and Digital Input	5-Pin Terminal Block

Terminal Name	Description
L, N	220V Power Input
⏚	GND
DC+, DC-	DC Bus Output
BR, DC+	External Braking Resistor
R, S, T	Three phases AC 380V Input
U, V, W	Three phases AC Output

OtoStudio Development Platform

Development Environment Features

- Provide 6 programming languages including graphics and text, and also support high-level languages such as C or C++.
- Flexible configuration of the HMI.
- Support remote network access and maintenance.
- Multiple encryption to ensure user intellectual property rights.
- Support network variables.
- Convenient for intelligent manufacturing and production management.



All product specifications are subject to change without notice.

Selection Guide

GTSD13 – T4 – K011 – X 1 – N04 – X0

Input Voltage:

T2: Two phases 220V

T3: Three phases 220V

T4: Three phases 380V

Adapt to Maximum Motor Power:

003: 3kW

007: 7.5kW

011: 11kW

015: 15kW

018: 18kW

025: 25kW

035: 35kW

045: 45kW

Chassis Type:

F: Filter type

L: Liquid cooled type

X: Standard type

Installation Method:

1: Wall mount

Encoder Type:

01: Sine and cosine encoder + absolute encoder + incremental encoder + Hall encoder

02: Rotary encoder + absolute encoder + incremental encoder + Hall encoder

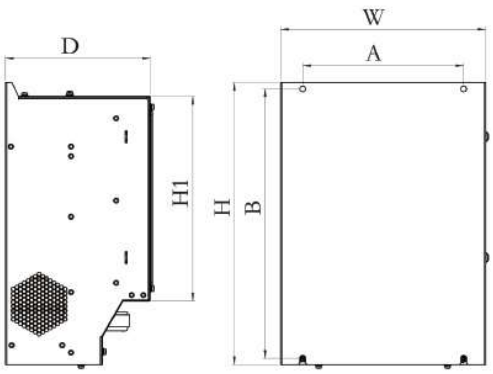
03: Rotary encoder + absolute encoder + Hall encoder

04: Sine and cosine encoder + absolute encoder + Hall encoder

05: Rotary encoder + incremental encoder + Hall encoder

06: Sine and cosine encoder + incremental encoder + Hall encoder

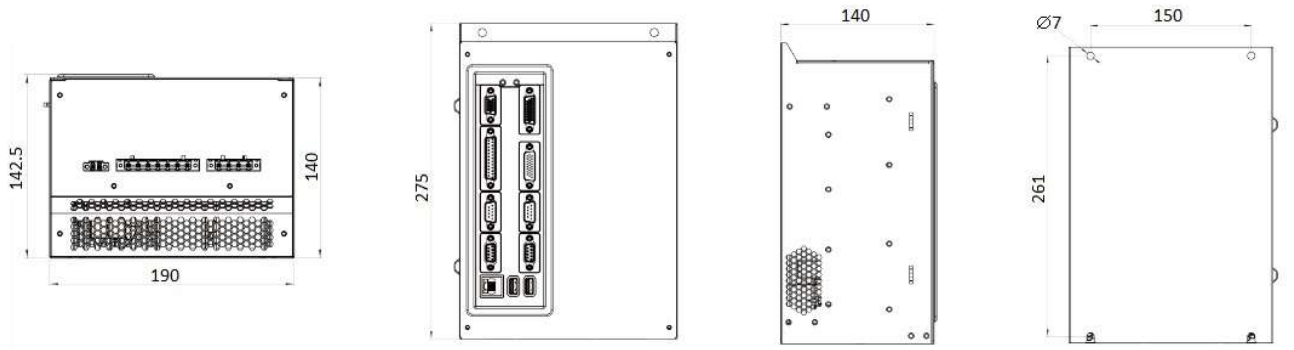
Dimension



Model	Mounting Hole Size		Dimensions			
	A	B	H	H1	W	D
GTSD13-T4-K007X1	200	334	350	253.7	255	180
GTSD13-T4-K011X1						
GTSD13-T4-K015X1						
GTSD13-T4-K018X1	195	431	450	345.4	295	190
GTSD13-T4-K025X1						
GTSD13-T4-K035X1	180	548	570	469.8	300	300
GTSD13-T4-K045X1						

All product specifications are subject to change without notice.

Dimension



GTSD13-T4-K003X1 Series

Unit: mm

Ordering Guide

Type	Ordering Number	Description
Network intelligent Servo Driver	GTSD13-T4-K003X1-N04X0	Maximum motor power: 3kW; Rated output current: 7A; Maximum output current: 30A/s
	GTSD13-T4-K007X1-N04X0	Maximum motor power: 7.5kW; Rated output current: 16A; Maximum output current: 35A/s
	GTSD13-T4-K011X1-N04X0	Maximum motor power: 11kW; Rated output current: 20A; Maximum output current: 53A/s
	GTSD13-T4-K015X1-N04X0	Maximum motor power: 15kW; Rated output current: 28A; Maximum output current: 63A/s
	GTSD13-T4-K018X1-N04X0	Maximum motor power: 18kW; Rated output current: 35A; Maximum output current: 100A/s
	GTSD13-T4-K025X1-N04X0	Maximum motor power: 25kW; Rated output current: 53A; Maximum output current: 138A/s
	GTSD13-T4-K035X1-N04X0	Maximum motor power: 35kW; Rated output current: 75A; Maximum output current: 190A/s
	GTSD13-T4-K045X1-N04X0	Maximum motor power: 45kW; Rated output current: 95A; Maximum output current: 254A/s

GOOGOLTECH

GOOGOL TECHNOLOGY (HK) LIMITED
Unit 1008-09, 10/F C-Bons International Center, 108 Wai Yip Street, Kwun Tong, Kowloon, Hong Kong
Tel.: +(852) 2358-1033
Fax:+ (852)2719-8399
E-mail: hkgoogol@gmail.com / sales@googoltech.com
Web: http://www.googoltech.com

GOOGOL TECHNOLOGY (SZ) LIMITED
Room W211, IER Building (PKU-HKUST High-tech Industrial Park, Nanshan District, Shenzhen, PRC (Postal Code: 518057)
Tel.: +(86) 755-26970817, 755-26970824,
Fax: +(86) 755- 26970821
E-mail: googol@googoltech.com
Web: www.googoltech.com.cn

GOOGOL TECHNOLOGY (TWN) LIMITED
2F., No. 22, Ln. 10, Fuzhong 2nd St., Xitun Dist., Taichung City 407, Taiwan
Tel.: +(886) 4-2358-8245
E-mail: twinfo@googoltech.com
Web: http://www.googoltech.com

www.googoltech.com

All product specifications are subject to change without notice.