ASY Electronics (Jiaxing) Co., Ltd

Business inquiries：+86 181 5734 3325

E-mail：sales@king-sen.com Website：www.asyjx.com

Address：Room 302, Building 11, No. 79 Jinsui Road, Economic and Technological Development Zone, Jiaxing , Zhejiang P.R. China

Industrial Grade HD-PLC
KS1200G Gigabit type manual1.2

Gigabit Bandwidth: Up to 480 Mbps

Independence power supply DC 12-48V

Working voltage：AC 0~380V or DC 0~560V

Working temperature -40~85℃

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Catalogue

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Product Introduction

Broadband Carrier KS1200G is a Gigabit bandwidth Power Carrier communication device based on IEEEP1901 and adopts OFDM modulation and demodulation technology, which conforms to the European Union EN-50561 standard specification. Broadband Power Carrier (HD-PLC) communication refers to the high-speed transmission of data through the existing power lines as the information transmission medium. Compared with the traditional narrow-band power line carrier communication, the advantages of broadband carrier are high communication rate, two-way real-time transmission, strong anti-interference, good stability and scalability.

Wideband Carrier KS1200G carrier rate physical layer bandwidth up to 1000Mbps, compliant with HomePlugAV and HomePlugAV2 standards, supports Ethernet data communication via power line carrier, built-in algorithms, no need to set up the master-slave, self-routing, automatic networking. Flexible and diversified networking methods, supporting bus, star, tree, and hybrid network topologies. Built-in AES-128bit encryption algorithm, fully transmissible, plug and play.

The power supply range of the carrier KS1200G is DC12-48V, and the PLC communication voltage is suitable for power line carrier communication up to 380V AC or 560V DC, and the PLC channel port does not distinguish between phase sequence or positive and negative poles.

Broadband carrier KS1200G industrial grade standard, ultra-small size, length, width and height of about 90x35x130mm, suitable for harsh environments, industrial communication scenarios, including underwater robots, mines, oilfields, warehousing, logistics, sorting, three-dimensional parking garages, railroads and subway communications, industrial automation equipment, etc., through the existing power lines or cables for bi-directional, real-time, high-speed, long-distance data Transmission.

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Technical data

Classification	Technical indicators
Power supply port	DC：12-48V
PLC Signal port	AC: 0~380V or DC:0~560V Power line、slip touch cord
Modulation type	OFDM
Carrier frequency	2～68 MHz
Ethernet bandwidth	10M/100M/1000Mbps self-adaption
Transmission distance	Power line point-to-point 800 meter
Data delay	Within 10ms
Packet loss probability	Less than 0.1‰
Overall power consumption	≤3W
Standard agreement	IEEE 1900，IEEE 1901，IEEE 1905.1， IEEE 802.3，IEEE 802.3U，IEEE 802.3ab， Home Plug 1.0，Home Plug AV，Home Plug AV2， TCP/IP，UDP，Profinet，Modbus-TCP， QAM，QPSK，BPSK，ROBO，HS-ROBO，Mini-ROBO
Way of encryption	AES-128bit
Multicast	Support IGMP multicast protocols,the maximum number of nodes is 64
Exterior dimensions	Size：90*35*130mm （L*W*H） Weight：400g Install：RAIL TS35/TS35 guide rail
Environmental requirement	Operating temperature：-40℃～85℃ Operating humidity：20%-95%（non-condensable） Storage temperature：-40℃～85℃
Working time	Industrial grade, supports 7*24 hours all-weather work

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Interface specification

Power supply port	Power supply DC:12-48V.Note: Distinguish between positive and negative poles
Indicator	Power :The red light is power indicator
Network interface indicator RJ45	E_Link:The green light is network port connection indicator
	P_Link:The yellow light is networking communication indicator
PLC channel interface	AC 0-380V or DC 0-560V both AC and DC are available
Wiring instructions	Connection method：ABC/AB/AC，Phase A is a mandatory interface； PLC channel port wiring needs to be in phase GND is ground wire
Way to install	TS35 Rail mounting

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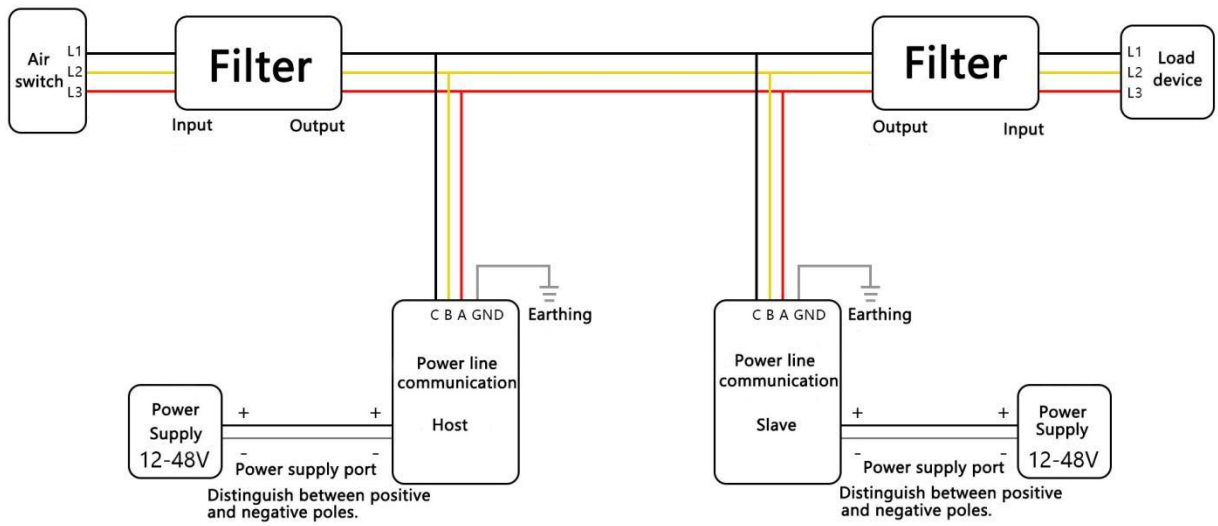
Connection schematic diagram

Gigabit Carrier KS1200G power port power supply range: DC12-48V, support AC 0-380V/DC 0-560V power line carrier communication, PLC channel port AC and DC can be, do not distinguish the phase sequence. Supports bus, star, tree, and hybrid network topologies. The power port needs to be powered separately. The wiring diagram is as follows:



Gigabit Carrier KS1200G Wiring Diagrams

Attention:

1. Carrier KS1200G does not need to configure master and slave by default, and negotiates the master-slave relationship autonomously after powering up.
2. Carrier KS1200G supports 1-to-1 and 1-to-many networking, and it is recommended that the number of nodes should not exceed 16.
3. In practice, the carrier needs to be used with a filter. The filter should be orientated so that the input side of the filter is connected to the power input or load, and the output side of the filter is directed to the carrier. Pay special attention to the load side of the filter input and output need to be reversed wiring, the output terminal connected to the power input, connected in parallel with the carrier, the input terminal connected to the power output with the load.
4. If the load has inverter or servo, it needs to use special filter for inverter. It is recommended to use shielded twisted-pair cable for the power line of the carrier, and it should not be parallel or cross-wired with the output line of the frequency converter.
5. Do not operate with electricity, do not touch the output terminals directly, and do not short the output terminals or connect them to the shell.

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Common problems troubleshooting

When installing and using a PLC，if the carrier network is disconnected or the communication is unstable， please follow these precautions， and as a reference to common problems troubleshooting，in order to minimize malfunctions and maintenance work during use.

1.Please connect correctly according to the connection diagram，the wiring should be secure.If the connection is wrong or loose, the network will be disconnected.

2.Check that the master and slave settings are correct.The master-slave dialing switch dialing to the M end is the host, and the switch dialing to the S end is the slave.Setting up the master and slave before powering up，if setting up a master-slave with power, be sure to power down and reboot the entire network.Ensure that the network has one and only one host and can have one or more slaves.

3.Check whether the power filter is correctly connected.PLC needs to be used with a special power filter，and the PLC mustn’ t be separated from each other by power filters.The power filter needs to distinguish directions，the input end is connected to the power input or load, and the output end is facing the PLC.Pay special attention to the load side filter to reverse wiring，that is, the output side is facing the PLC，the input side is connected to the load.

4.Check that the power lines for carrier communication are on the same loop.PLC must be used under the same transformer，master and slave must be connected on the same loop，and the less branches the better.Try not to pass the electric meter , through the number of air switches, contactors, etc, the less the better.

5.Check whether there are strong interference sources such as frequency converters and large capacitors on the line.In strong interference environments, it is recommended to use shielded cables for power lines and data signal lines for carrier communications,and do not parallel or cross-wire with the source of interference, as far as possible away from the source of interference.

If you encounter problems in the process of use, you can always contact the manufacturer for technical support and assistance.Manufacturers provide professional technical support, including telephone, wechat, email, online remote support and other ways.

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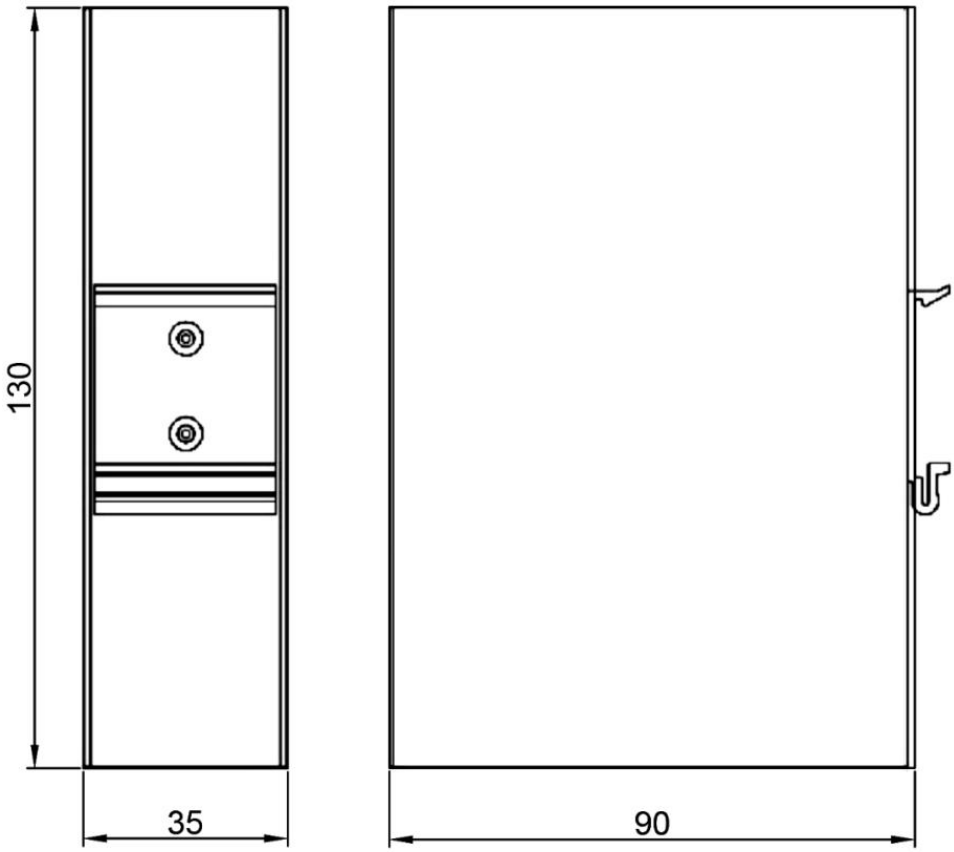
External dimension

The PLC(KS1000MS)＇s length, width and height are：90x35x130mm（Without terminals），TS35 guide rail mounting method，

The dimension are as follow：



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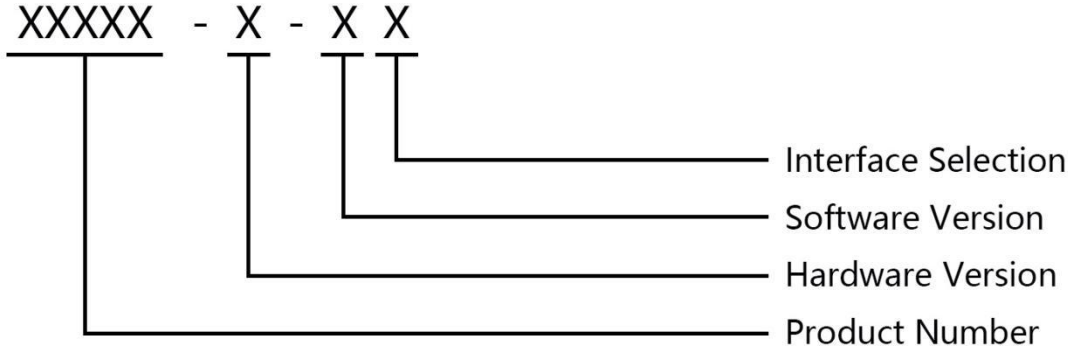
Model selection guide

Model specification description：



According to the actual application, you can refer to the following steps to select the model：

Product Type		
Gigabit type：KS1200G	Working voltage AC0~380Vor DC0~560V	
Hardware Version		
G：Gigabit module	Point-to-point 800 meters	Bandwidths：10/100/1000Mbps
Interface Selection		
1.Single network port RJ45		

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