HighTek HK-7004

RS-232 Serial Interface Photoelectric Isolator

User Manual

I. Overview

With adoption of advanced photoelectric isolation technology, HK-7004 RS-232 Serial Interface Photoelectric Isolator, also named Serial Isolator, can offer best protection for RS-232 serial interface devices with elimination of damages possibly caused up by grounding loop voltage, surge, lighting induction, hot plug, etc.

Normally RS-232 damages are hardware damages of communication devices for which more than 90% of the reasons are bad circumstances including non-grounding at both ends of the devices, various surges, lighting induction, static interference hot plug, electromagnetic interference, etc. For example, if device A is connected to device B with RS-232 interface, when there is a voltage margin of above 50V between their grounding wires, the communication will gets unstable. RS-232 Serial Interface Photoelectric Isolator can tolerate a peak voltage margin of transient 2,500 Vrms for 500VDC on a continuous base, and at the same time, it is able to absorb static and electromagnetic interference for protection of RS-232 devices.

As the electric and grounding loop between the two ends of RS-232 devices are completely blocked by the advanced isolation technology adopted by us, therefore, the electric signal from one end has been turned into optical signal for transmission to the other end, and the optical received by the other end will be converted back into electric signal again. In this way, the communication devices are well protected from the interference and damages possibly caused by power grounding loop or surge, therefore, obvious improvement of their liability and stability of the communication system are achieved.

Our HK-7004 products are now being widely used in the applications of point-to-point RS-232 communication system, UNIX multi-user system, monitor control system, program control exchanger charging terminal, satellite receiver, ATM auto teller machine etc. for the industries of electricity, insurance, telecommunications, railway, post office, financial, banking, securities, program controlling, etc.

II. Parameters

1. Advanced serial power-stealing technology, efficiency up to 90 % or more;

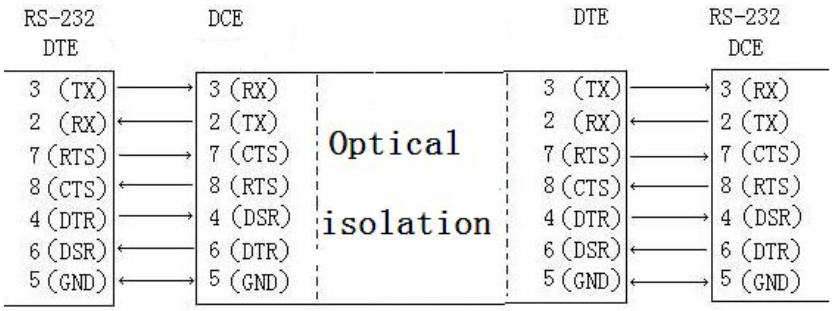
2. Unique serial protection circuit, anti-static, anti-lightning, surge suppression, support hot swap when charged;
3. Communication baud rate from 0 ~ 19.2Kbps adaptive;
4. Built-in 600W/ms anti-lightning protector and 15KV anti-static protector;
5. Industrial design, operating temperature range: -45~85 ℃, preferably imported components.

III. Product parameters

★ Interface: Conforms to EIA RS-232 and CCITT V.24 asynchronous protocols
★ Connector: DB9 connector used on both sides
★ Transfer Mode : Asynchronous, full duplex, fully transparent
★ Isolation Voltage: 2500Vrms continuous pulse or 500VDC
★ Transfer Rate: 300BPS-115200BPS
★ Use environment: -40 to 85 ℃, relative humidity 5 % to 95%

IV. Use of methods

HighTek HK-7004 is DB9/DB9 structure, DB9 hole connector definition: pin2 TX, pin3 RX, pin4 DSR, pin6 DTR, pin7 CTS, pin8 RTS, pin5 GND; when using, plug DB9 hole to DB9 needle RS232 serial, DB8 needle connects with other DB9 hole RS232 serial. Detailed connection as below:



V. Warranty

1. Products can replace within one month after sale;
2. One year warranty after sale;
3. The malfunction and damaged caused by the other barriers (man-made factors or external device) are not warranted.