20104240 USER'S MANUAL

2019 Edition

DIREKTRONIK

Contents

INTRODUCTION

20104240 is a robust, industrial-grade full speed USB isolator that provides high-voltage 3kV isolation to protect the host computer and expensive USB equipment that are connected to it. This industrial USB isolator is designed to build protective isolation barriers to the power and USB signals between a host computer and any connected USB devices. Both the computer and the connected USB device are protected from harmful voltage, power surges, transient voltage spikes, ESD shock, EMI/RFI interferences and noise that may cause damage and inaccurate measurements. The isolator is very efficient and secured to eliminate ground loop currents and protect against overvoltage.

The data transfer rate of 20104240 can be configured to either USB2.0 full speed 12Mbps or USB1.1 low speed 1.5Mbps. The isolator is bus-powered and provides up to 420mA current to downstream devices. There is no need for any driver or software installation. By plugging the cable from the USB isolator to the host USB port of the PC and connecting your USB device to the downstream port of the isolator, the host PC and USB device are immediately protected by isolation.

The USB isolator helps improve system stability and protect valuable industrial and medical equipment. When the USB host and USB devices are operating at different ground voltages, the 20104240 is an ideal protector to prevent damage.

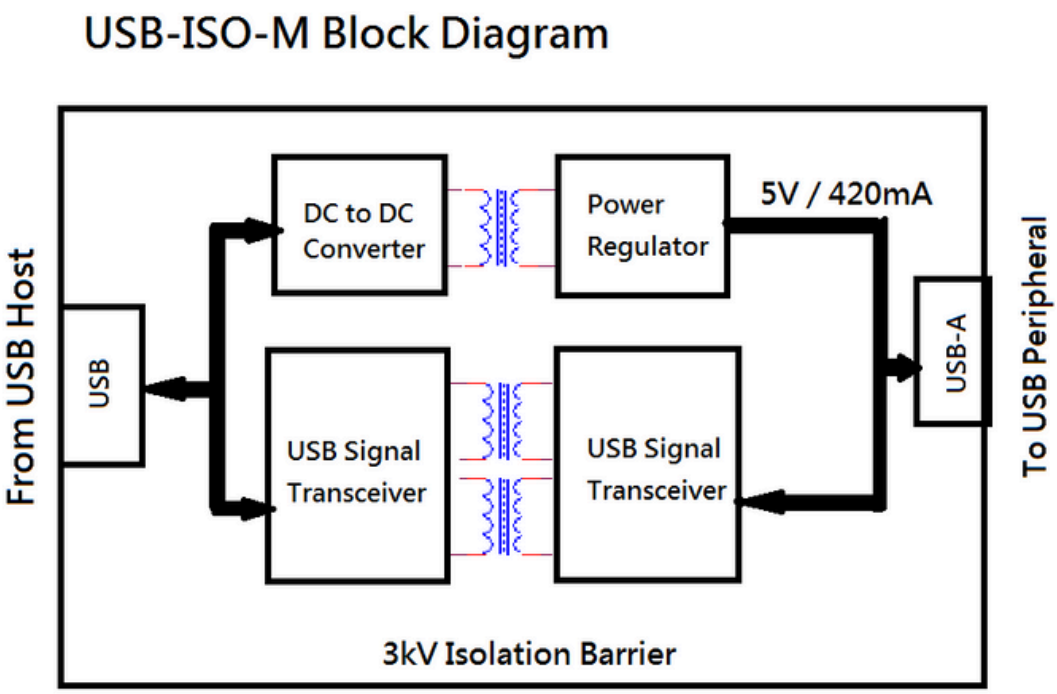
FEATURES

- Isolates and protects any USB devices from a USB host
- Electrical isolation up to 3000$VVRRRRRR$ both upstream and downstream
- Common mode filtering on all data lines
- Provides 5V 420mA isolated pass-thru power to downstream device
- Supports USB2.0 full speed 12Mbps or USB1.1 low speed 1.5Mbps data rate with jumper-selection
- No software or drivers required
- Short circuit protection
- LED for power indication
- Wide ambient temperature operation from -40 to 70°C (-40 to 158°F)
- USB bus-powered
- Robust metal case with DIN rail brackets
- USB cable securely locked to the case
- CE, FCC approval
- RoHS and RoHS2 compliant

SPECIFICATIONS

Function		Specification
Ports	*Downstream*	One One Power
	Upstream	indication
LED		
Power Mode		Self-power mode
Output Voltage (per port)		+5VDC
Output Current(per port)		420mA maximum
Operating Temperature		-40°C to 70°C
Housing		Robust metal case
Dimensions		73mm × 52mm × 25mm (L × W × H) 73mm × 75mm × 25mm (L × W × H) with DIN rail bracket
Safety Approvals		CE, FCC

DIAGRAM OF 20104240

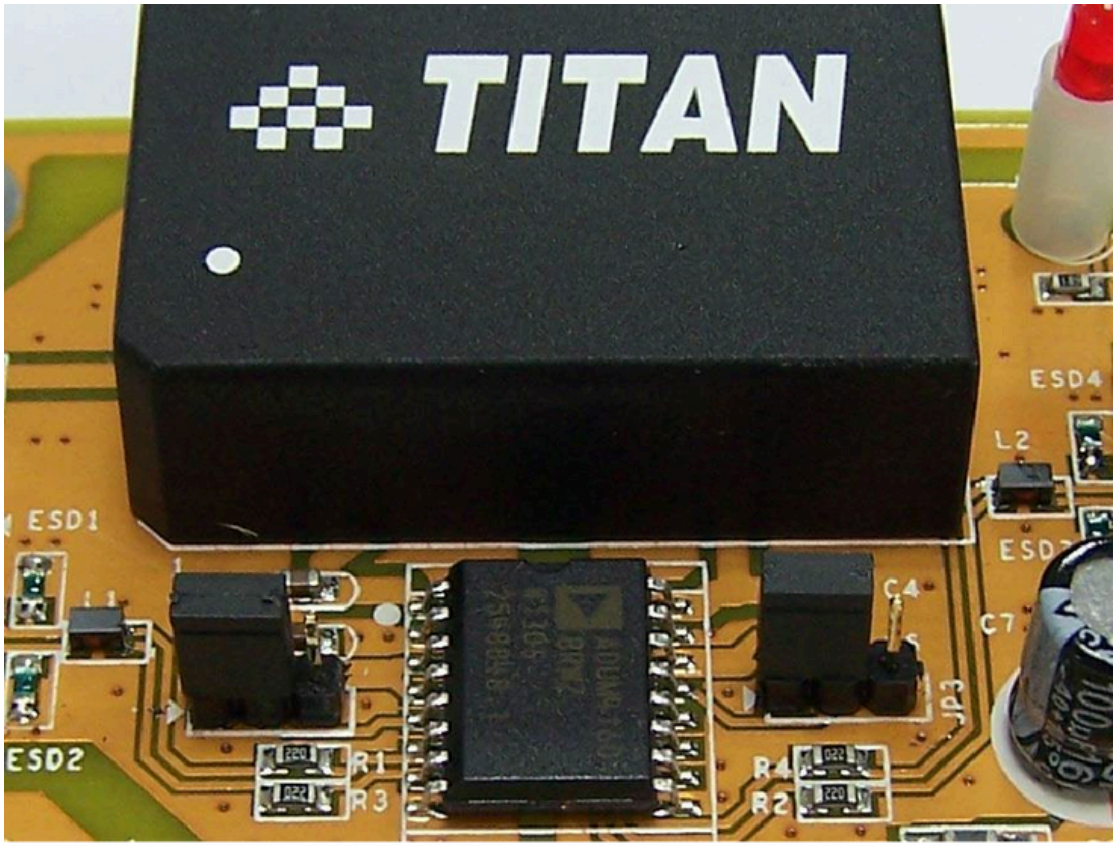


HARDWARE SETTINGS

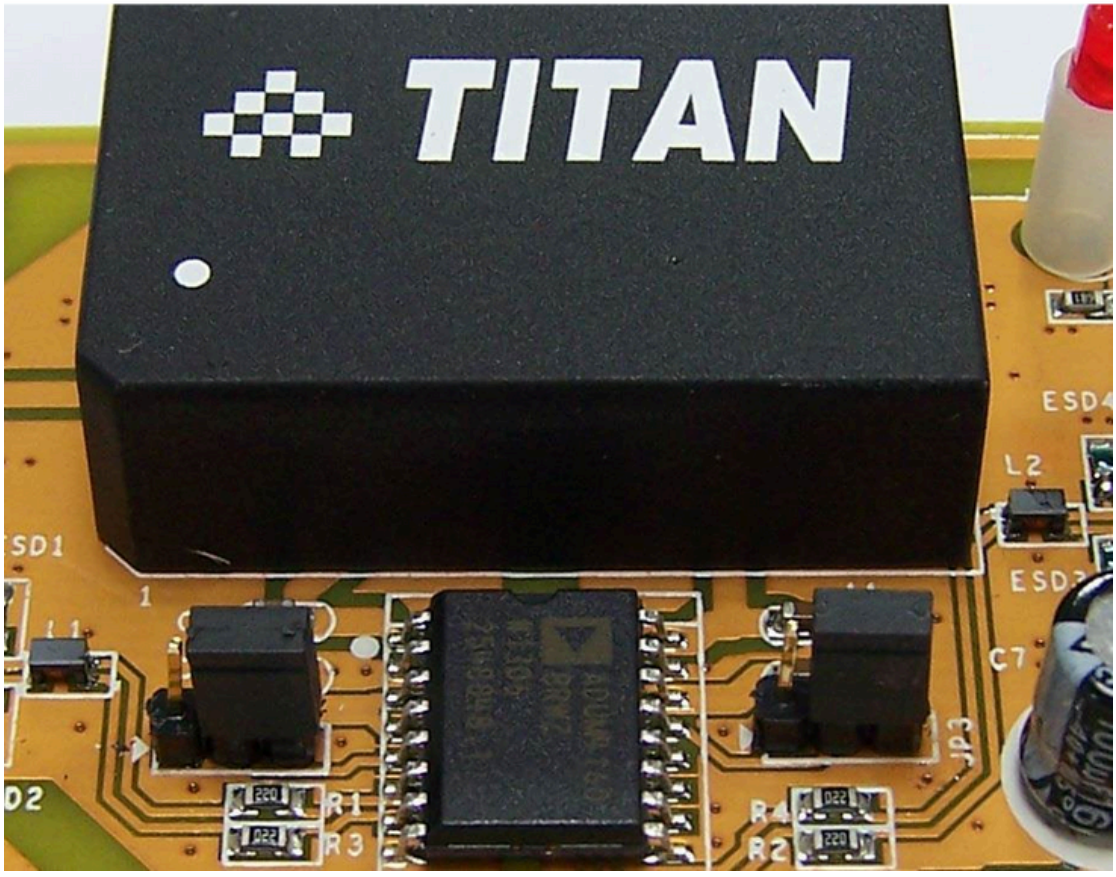
Setting USB Operation Speed

20104240 has two 1 × 3 jumper header blocks (JP2 & JP3), which are used to set the USB operation speed to USB2.0 full speed (12Mbps) or USB1.1 low speed (1.5Mbps). The data rate is set to full speed 12Mbps by default.

Jumper	Function
JP2 **1-2** **JP3** **1-2**	USB2.0 full speed 12Mbps data rate operation (default)
JP2 **2-3** **JP3** **2-3**	USB1.1 low speed 1.5Mbps data rate operation



JP2, JP3: pin 1 and pin 2 short for USB2.0full speed data rate operation (default)



JP2, JP3: pin 2 and pin 3 short for USB1.1 low speed data rate operation