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mTV-100
Application Note
Develops a new and creative HMI architecture



mTV-100 connects to ViewSonic TD2220

Introduction

Our new product, mTV-100, not only provides all high-performance features as MT8000iE series, but also reduces the cost of large size (>15") HMI. The mTV-100 is able to connect with a touchscreen monitor, ex. ViewSonic TD2220, which performs all the features of HMI. Compared with the traditional HMI, this key change leads a large size HMI more cost-effective without sacrificing the performance.

In this application note, we will outline the procedure to implement this new architecture which is composed of an mTV-100 and a and touchscreen monitor (ViewSonic TD2220). Also, we will describe the usage of HDMI and its features. For more detailed hardware specification information, please refer to the related user manual.

■ Innovative architecture of large size HMI

1. Innovative architecture

Traditionally, HMI is an All-in-One touchscreen device. Now, we separate the HMI into an mTV-100 control box and an LCD touch monitor (ex: ViewSonic TD2220) which are connected by the HDMI interface. Not only the mTV-100 can connect to a HD LCD touch monitor for interactive operations, but also it provides COM port & Ethernet I/F that are able to connect with a variety of PLCs or controllers as same as the traditional HMI does.

2. Connect to large size HDTV touchscreen monitor : ViewSonic TD2220

The 22" ViewSonic TD2220 is a HDTV LCD touchscreen monitor. Connected to an mTV-100, the TD2220 can support 1280x720 HD resolution display. It has 20,000,000:1 MEGA dynamic contrast ratio for sharp crisp images. Also, it has 8H scratch resistant surface hardness which ensures the consistent high quality touch operation.

3. HMI device SMALLER, touchscreen BIGGER

Due to no LCD and touch panel, the mTV-100 is much slimmer and able to be fitted in any control cabinet. Via HDMI I/F, it can connect to a variety of large size HDTV touchscreen monitors that provide bigger screen size to show information.

4. Reduce your expense on large size HMI

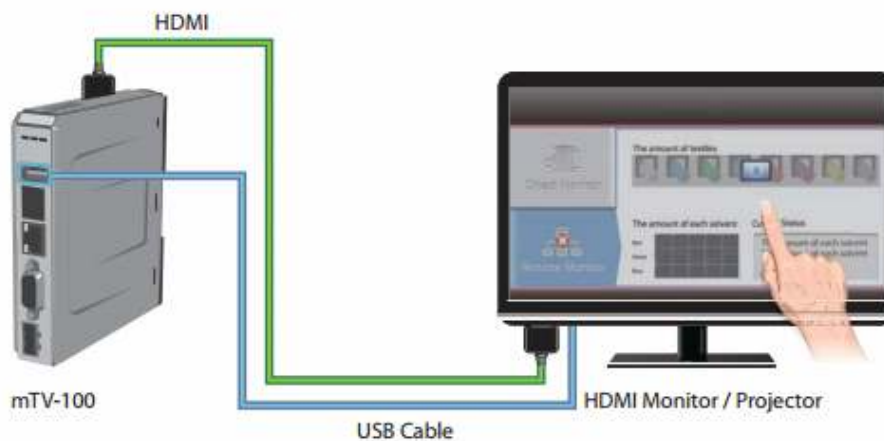
In general, the sizes of HMI screen are from 7" to 15". Some HMI manufacturers provide HMI with screen size larger than 19" but it is very expensive. However, our new and innovative architecture, combining an mTV-100 and a TD2220, greatly reduces your expenses for a large size HMI.

■ Connect to USB port for interactive operation

The USB port of an mTV-100 is able to connect with a mouse or a touch panel output of the LCD touch monitor for more interactive operations.



The mTV-100 connects to **mouse**



The mTV-100 connects to **touch panel output of touch monitor**

■ **Connect to video output via HDMI**

The mTV-100 supports 1280x720 HD resolution. Its HDMI output connects with a touchscreen monitor. Via HDMI I/F, the EB Project can be displayed on the touchscreen monitor.



There are two types of cables can be adopted by mTV-100 : **HDMI to HDMI** and **HDMI to DVI (Digital Visual Interface)**. For the mTV-100 connects with the TD2220, the HDMI to DVI cable is required.



HDMI to DVI (FLC014200)

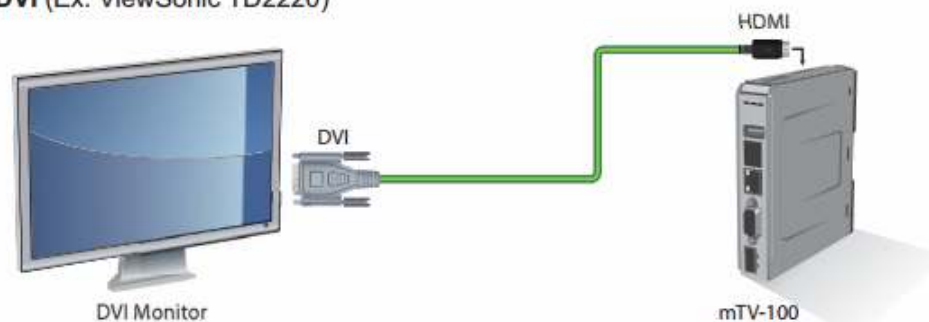


HDMI to HDMI (FLC012200)

Note: mTV-100 supports the HDMI Type A port (19 Pin) but not the Type B port (29 Pin)

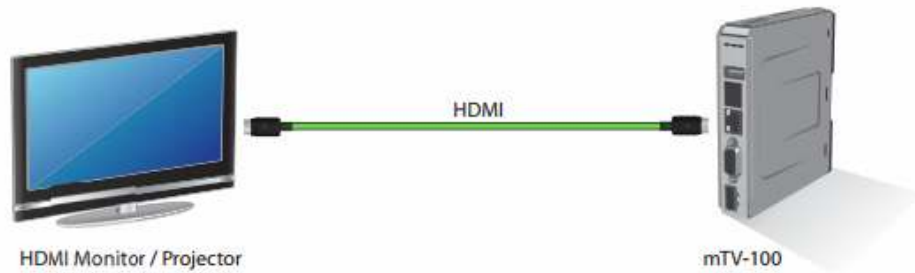
There are four different ways for the mTV-100 to connect to a touchscreen monitor :

1. HDMI to DVI (Ex. ViewSonic TD2220)



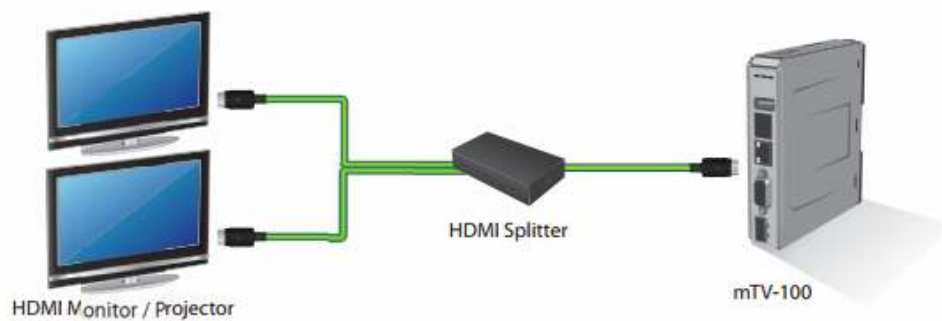


2. HDMI to HDMI



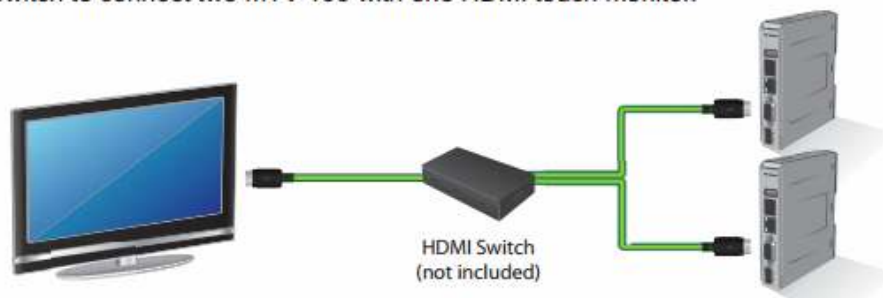
3. HDMI Splitter

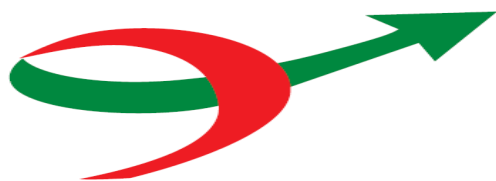
Use HDMI Splitter to connect the mTV-100 to multiple HDMI touch monitors.



4. HDMI Switch

Use HDMI Switch to connect two mTV-100 with one HDMI touch monitor.





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