

Professional 4K60@100m, 1080p@150m professional DisplayPort KVM extender using CAT 6/6A cable



## DisplayPort

The DP-825 is a flexible and cost effective solution for extending DisplayPort, USB keyboard/mouse, bi-directional IR and full duplex RS232 together with POC. By combining Digital Stream Compression native of DisplayPort, with HDBaseT technology, UHD video signals up to 21.6 Gbps can be transmitted to 100m.

### Tech Brief

- DisplayPort 1.2a
- HDCP 2.2 compliant
- VESA DSC
- USB 1.1
- 4K@60Hz, 4:4:4
- Colour 8/10/12 bits
- Wide 20K-60K Hz IR
- 150m @1080p60
- 21.6 Gbps
- HDR & HDR10
- Full duplex RS232
- 100m @4K60

### Key Features

- Keyboard/Mouse
- CEC compliant
- DP HDMI swapping
- Secure DC connection
- HDBaseT protocol
- Mounting brackets
- Slim profile 18mm
- Bi-directional POC

### Description

The DP-825 is An extender pair unit capable of accepting UHD DisplayPort signals up to 4K60 resolutions and converting them to HDBaseT protocol for subsequent transmission and distribution. The extender also provides the pass through of wide band bi-directional InfraRed signals and full duplex RS232 up to 115Kbaud. Whilst POC power (24V) can be sent by either the TX or RX through the Cat 6/6A cable to provide power to the remote end. All that is required is a single Cat 6/6A cable connection to provide all these features. Enhanced features include the extension of USB V1.1 signals allowing remote keyboard and mouse peripherals to be located up to 150m from the computer location.

Using the standard HDBaseT protocol allows other similar products to be interchanged e.g. connecting a HDMI receiver to the DP-TX825 provides both extension and signal conversion between DP and HDMI.

The DP-825 is very compact having a height of only 18mm helping to hide the units in confined spaces. Each box also has integral mounting feet for desktop use and the ability to fix right-angled brackets allowing ease of installation.

## Technical Specification

**Video - Digital**

Connectors	DisplayPort
Signal type	Micro-packet
Standards	DisplayPort 1.2.a HDCP 2.2/1.4
Maximum data rate	1.65Gbps per colour
Maximum pixel clock	297MHz
Resolution range - DTV	Max 1920x1080 @60Hz 24 bit colour depth
Resolution range - PC	Max 1920x1200 @60Hz 24 bit colour depth
Frame rate	24, 25, 30, 50 & 60 Hz
Gain	0 dB
Formats	RGB and YCrCb
Colour space	4:4:4, 4:2:2 & 4:2:0
Clock jitter	<0.15T bit
Rise time	<0.3T bit (20-80%)
Fall time	<0.3T bit (20-80%)
Maximum transmission delay	5ns (+/- 1ns)
Signal strength	TMDS +/- 0.4V pk-pk
TMDS signal level	2.9V - 3.3V
Impedance	50R
Maximum DC offset	15mV
Maximum input cable length	15m 24 AWG
Maximum output cable length	15m 24 AWG

**Audio - Digital**

Standards	Embedded within the HDMI signal
Maximum audio channels	8
Maximum sample rate per channel	192 kHz
Sample size	16-24 bits

**Power**

DC Voltage	External 24V PSU
DC connector	2.1mm jack with screw fitting
AC Voltage (External Supply)	100-230 VAC
AC frequency (External Supply)	50/60 Hz
Power consumption	9W (max)/1.2W (standby)
Operating temperature	0-40 degrees C
Storage temperature	-20-60 degrees C
Relative humidity	20-90%
Dimensions (each unit)	140x65x18mm
Product weight	0.25Kg
MTBF	30,000 hours



## Technical Specification

### Passthrough - USB

Connectors	USB (Type B) input/(Type A) output
Signal type	USB
Standards	USB 1.1.
Maximum data rate	12 Mbit/s

### Control - RS232

Connector	3pin Phoenix
Signal type	Full duplex
Signal level	+/- 5V
Baud rate	115200
Data bits	8
Stop bits	1
Parity	None
Pinout	1-RX, 2-0V, 3-TX

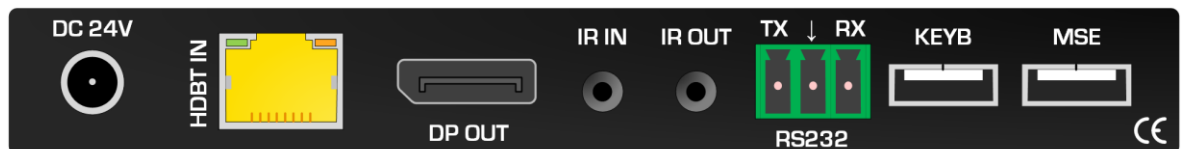
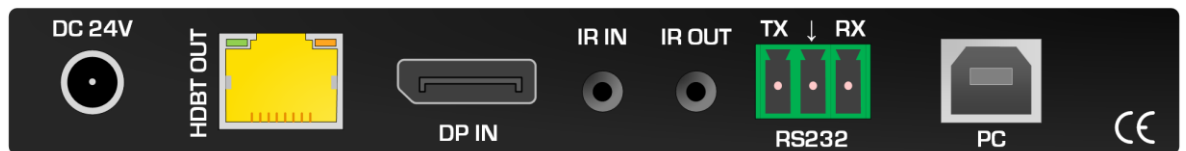
### Control - IR

Connector	3.5mm mini-jack socket
Signal type	Full duplex (via 2 connections)
Signal bandwidth	20-60KHz

### Cat cable connectivity

Number of cables	1 x Cat 6/6A screened twisted pair cables
Connectors	1 x female screened RJ45 connectors per unit
Termination standard	TIA/EIA T568B
Cable requirements	Solid conductor, 24 AWG or better
Cable recommendations	400 MHz bandwidth STP (shielded twisted pair)
Transmission distance	150m shielded twisted pair CAT 6 or CAT 6A

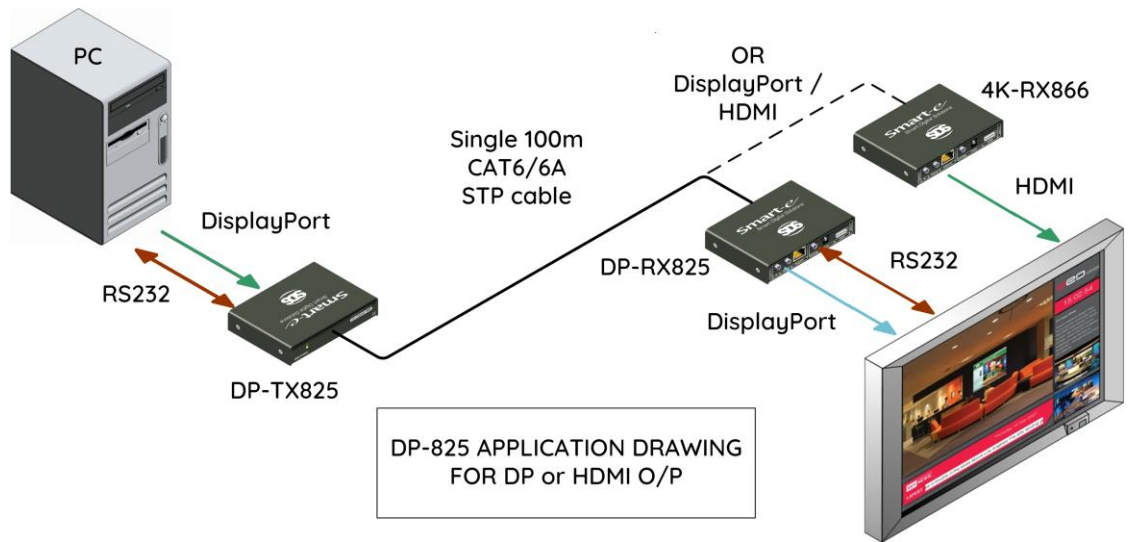
## Panel Drawings



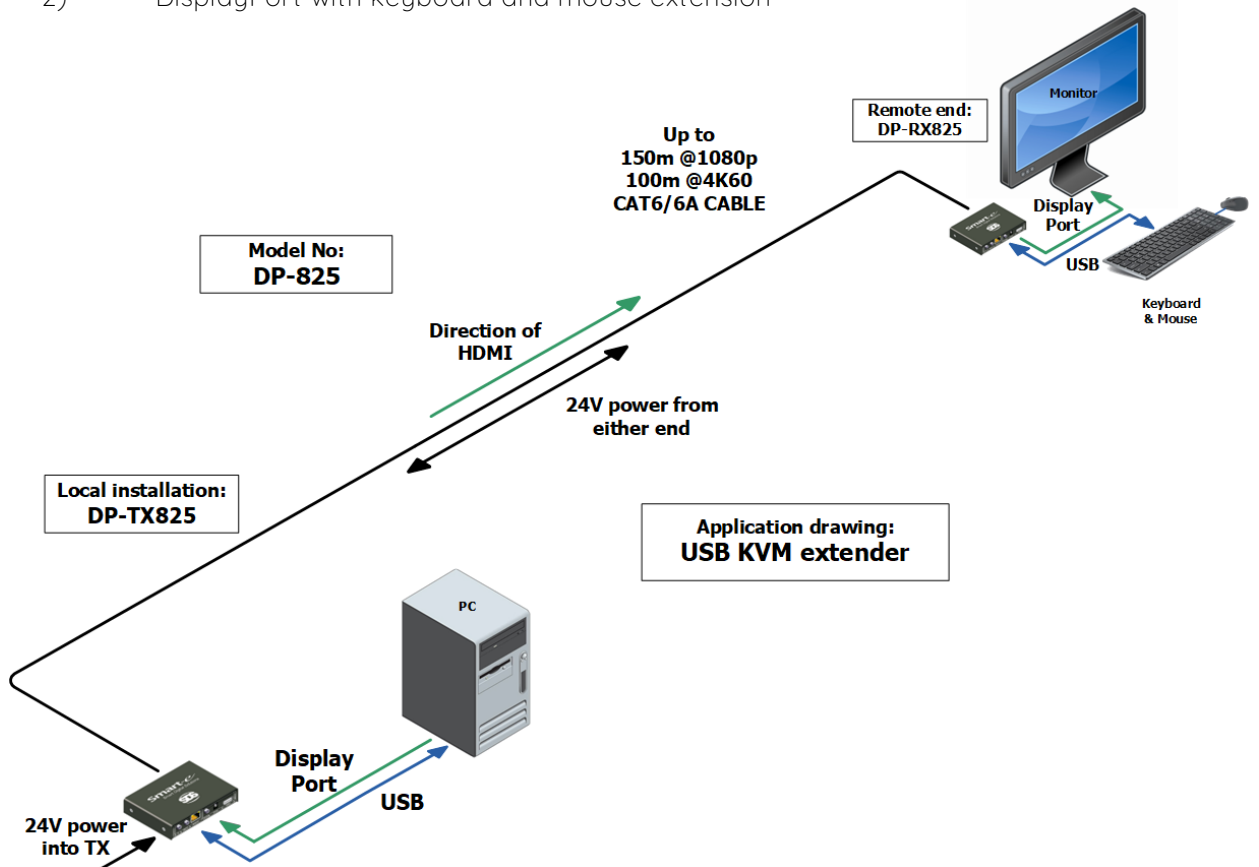
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## Application Drawings

### 1) DisplayPort extension with DP or HDMI output



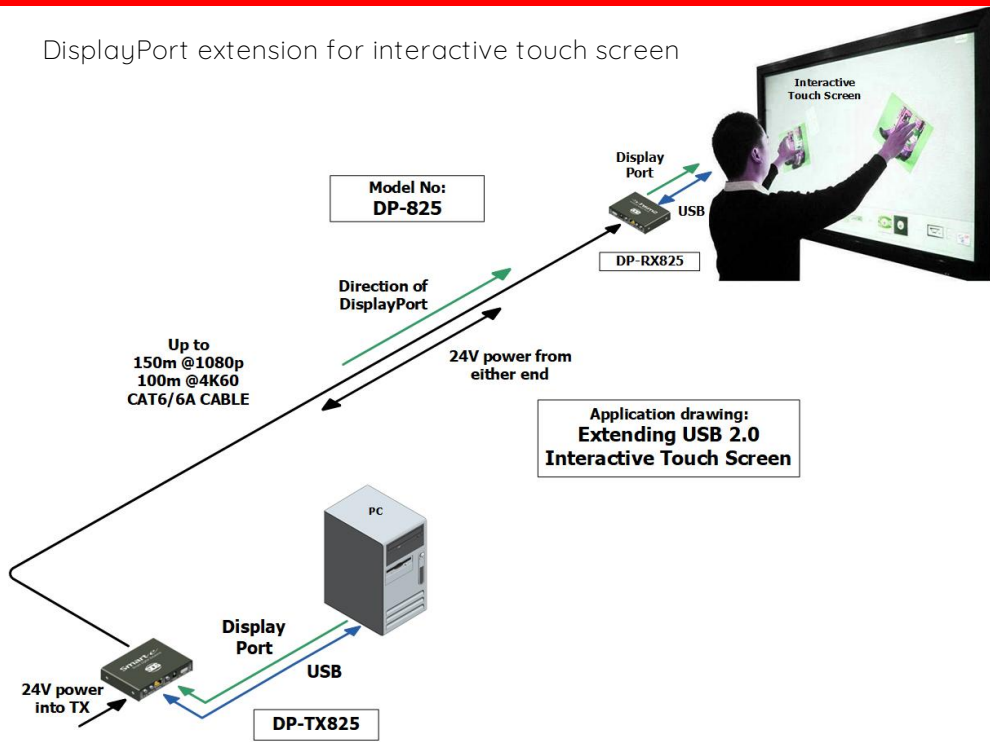
### 2) DisplayPort with keyboard and mouse extension



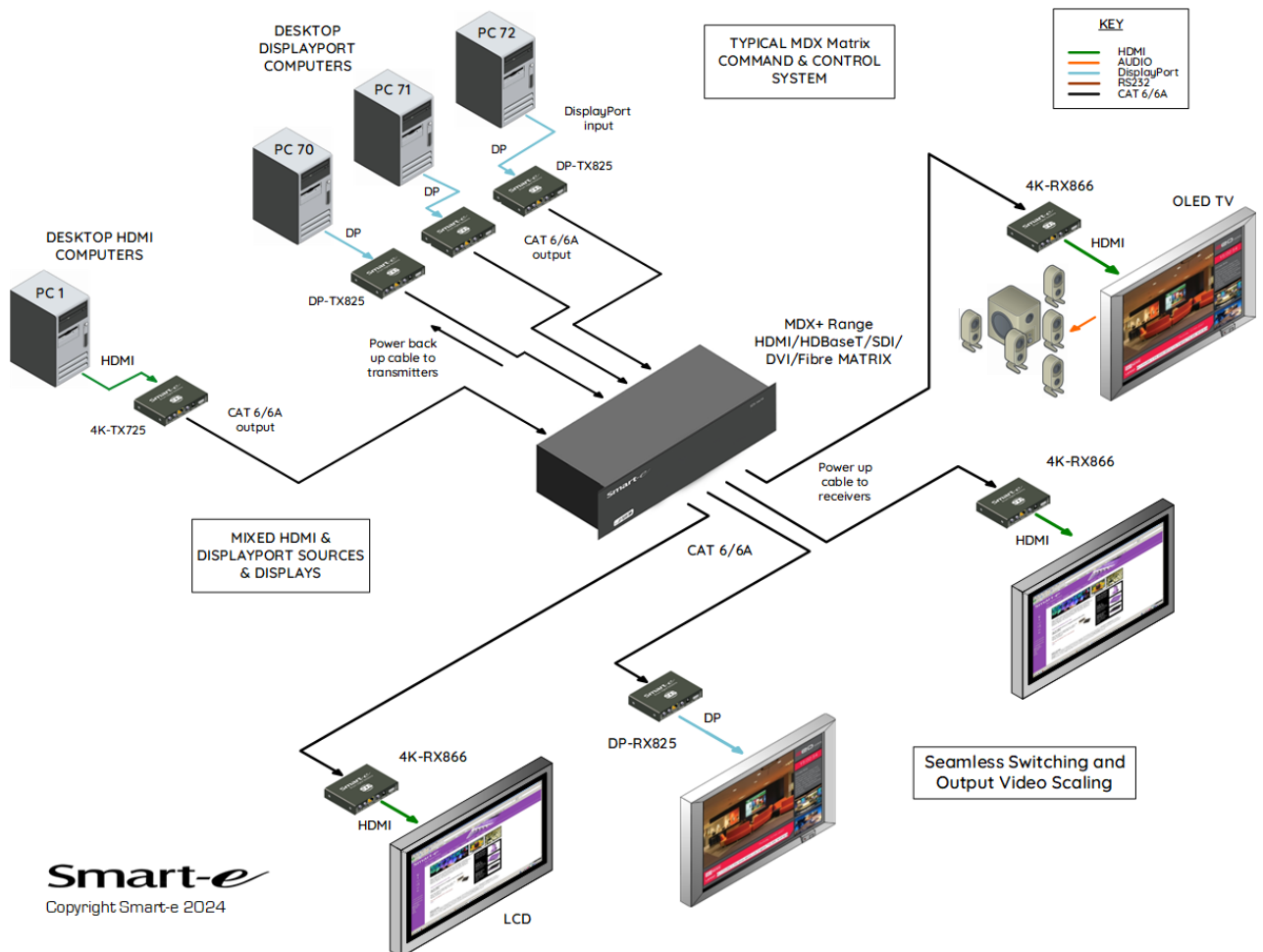
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Application Drawings

3) DisplayPort extension for interactive touch screen



4) Mixed signal matrix distribution solution



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