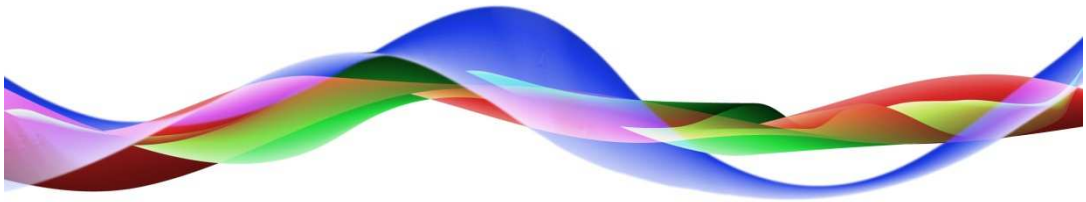
Complete Hardware Guide

vsmGear



JKU

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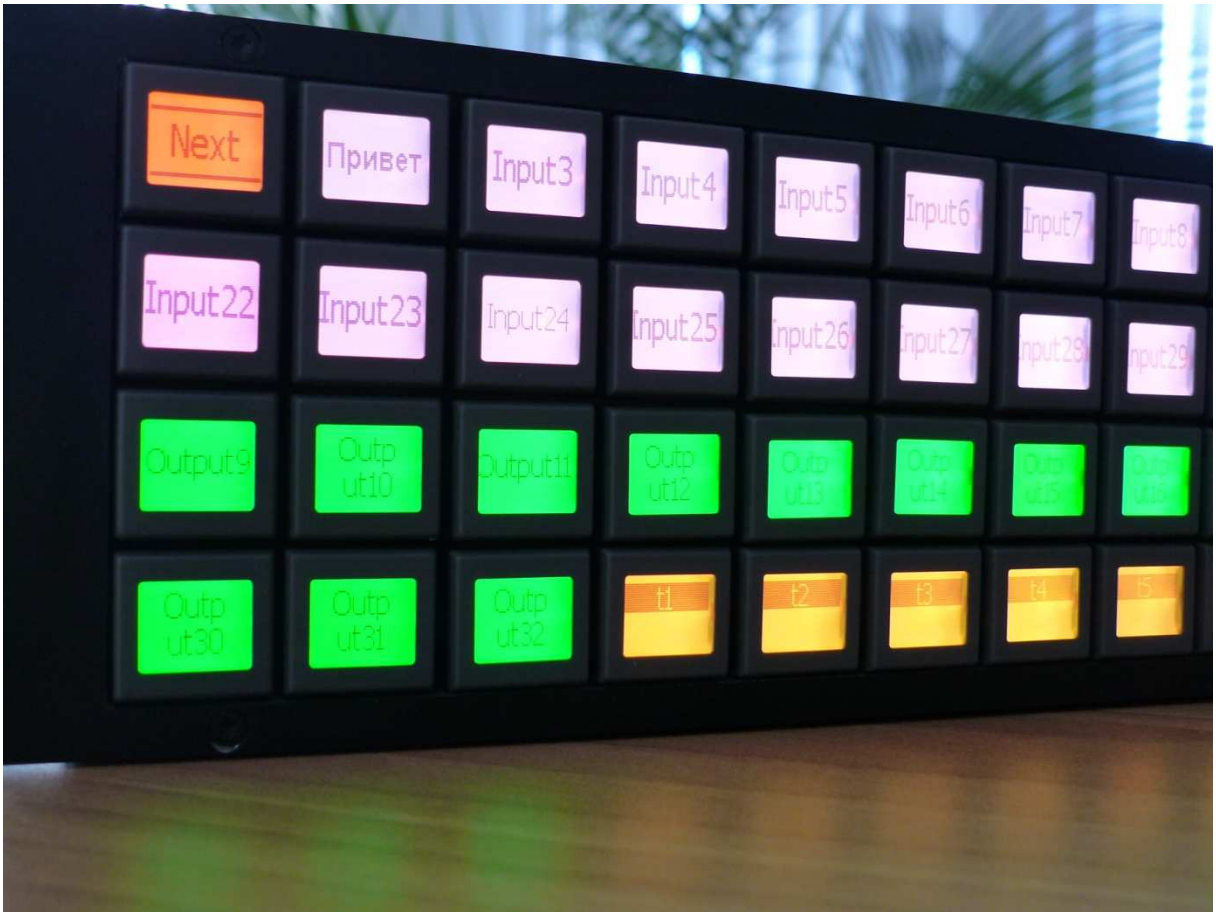
Content

Inhaltsverzeichnis

1 LBP Series



The LCD Button Panels (LBP) are remote panels specifically designed for use with the VSM. The panels with LCD pushbuttons can be configured to meet every production environment's requirement. A Single Destination, a Multiple Destination, an XY configuration or a combination of those alternatives is possible. The hardware panels provide multiple pages like the virtual panels. With the VSM panel editor they can be configured online and offline whereupon the online changes are displayed in real-time.

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The panels are connected to the VSM control system via an IP address, a MAC address, a name or an identification number. The function possibilities are manifold, for example they can perform routing, control device or signal parameters and act as a display or switch to further panel pages. Secondary functions enable the performance of multiple actions at one button push. With the aid of the panel editor of the VSM software several panels can virtually be combined to one big panel. These features allow the implementation of every operating philosophy.

Each button integrates a Liquid Crystal Display (LCD) with RGB backlight enabling the operator to arrange any possible combination of functions, sources and targets across a virtually unlimited number of different pages. In addition to the Ethernet port every LBP provides two GPIs and two GPOs and an RS-422 port. The hardware panels are mounted into a solid steel housing and can be integrated into every production environment.
The panels are available in a variety of sizes and different shapes, optionally with incremental encoders. An RFID Tag Reader can be connected to the RS-422 port. All panels are powered by an external capsulated twelve Volts DC switching power supply connected with a 4-Pin Phoenix locked with two screws.
Every LBP without an incremental encoder is also available as a vsmPanel and can be used as a standalone fall-back panel. The vsmSnap panel stores a configuration and enables router control without the need of any other controller hardware.

Features:

- Software configurable buttons
- Each button capable of performing single or multiple functions simultaneously
- Each panel can be configured as “single destination”, “multiple destinations”, “XY” panel or any combination of these variations
- Every LBP has two GPIs and two GPOs
- An optional incremental encoder can be added for e.g. parameter entry
- Every LBP is equipped with both Ethernet and RS422 interfaces
- Button functions include: select sources or targets, GPI control, parameter control, macros, go-to, take, lock, enable, escape, shift and many more
- Every LBP enables offline and online configuration. All online changes occur in ‘real-time’ which eliminates downtime
- Every LBP provides the option of being used as a “stand-alone” or “fall-back” panel to directly control a router without any router control system
- An optional RFID Tag Reader can be connected for access control
- Full colour RGB backlight allows the choice of multiple colours for button illumination.
- Special customer versions are being manufactured on request.
- The LBP’s can seamlessly be joined in both vertical and horizontal direction to create individual panels.

1.1 LBP-8

The remote panel LBP-8 provides eight pushbuttons which can be programmed as desired by the operator. They are mounted into a flat solid steel panel with an aluminium front cover. The height is one rack unit; it can be mounted side-by-side. The width of the LBP-8 is ½19 inches.

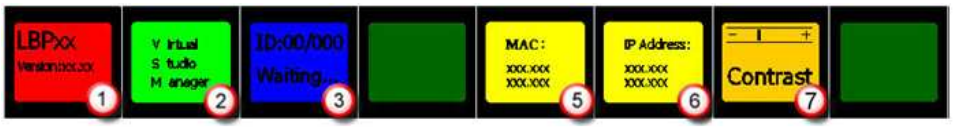
Features:

- 8 software configurable LCD buttons each with a display-resolution of 64x32 dots (by request 7 pushbuttons and 1 optical encoder)
- Each button provides many functions including: sources or targets, go-to, take, lock, enable, escape, macros, GPI control and many more
- The buttons allow a choice of tri-colour (RGB) button illumination.

Getting started:

Front view

The Panel is offline, no connection to vsmStudio.



1: Panel type and Firmware version
2: Small VSM logo
3: Panel ID in HEX/DEZ, waiting (for a connection to vsmStudio)…
5: MAC address
6: IP address or RS422 only
7: Contrast button

The Panel is online, connect to vsmStudio.

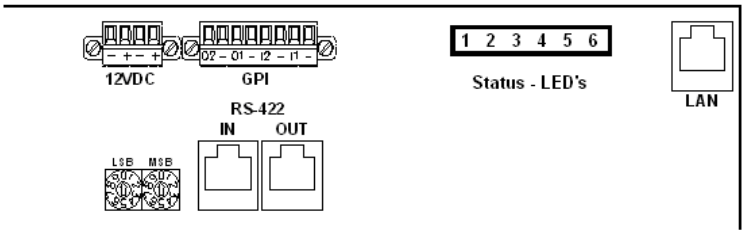
1: Panel type and Firmware version
2: Panel ID in HEX/DEZ
3: Host name
4: IP address
5: MAC address

The buttons 1 to 5 light for 15 s, after that they light up one after another for 5 s. Press any button to light them green.

Specifications:

- Weight: approx. 1.0 kg
- Dimensions: 260 mm x 44 mm x 65 mm (W x H x D)
- Recommended operating temperature of LCD pushbutton switches: 0℃ - 55℃

Rear-view

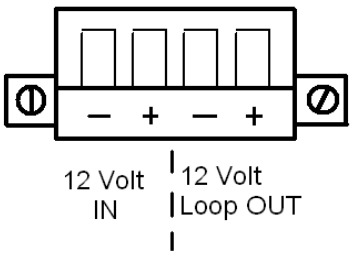


Description of the status LEDs:

Blue:	blinks, data transfer to vsmStudio
Red:	blinks, no connection to vsmStudio
Green:	light, 5 V internal voltage OK
Green:	light, 3.3 V internal voltage OK
Orange:	light, physical connection to LAN
Green:	blinks, data transfer via LAN

Power requirements:

- 12 V DC (<1.0 A), supplied by an external capsulated switching power supply (approx. 0.18 A CPU and max. 0.06 A per pushbutton depending on the backlight illumination, no backlight: approx. 0.35 A in total, all pushbuttons illuminated white 0.9 A max.).
- Connector for 12 V supply: 4-Pin Phoenix locked with two screws.

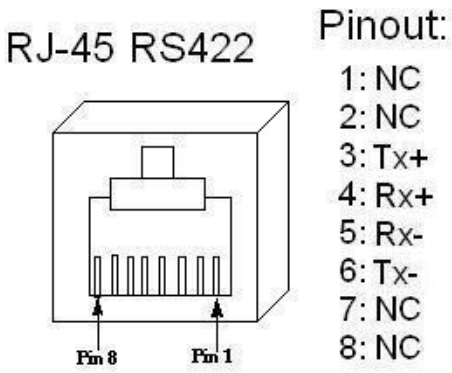


Technical data of the external power supply:

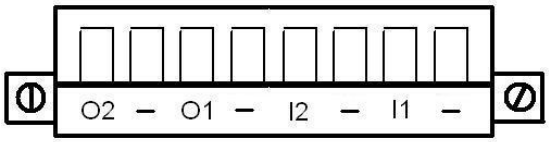
- Input: 100 – 240 V alternating current 50 – 60 Hz, 150 W max.
- Output: 12 V direct current, 5 A, 60 VA

Connectors for data drive:

- 1 x RS-422 RJ45
- 1 x RS-422 (loop through) RJ45



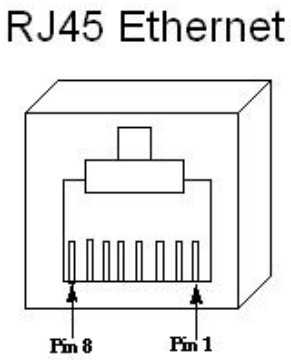
- 1 x GPI (8-Pin Phoenix locked with two screws)



GPI - Interface

- 1 x Ethernet (RJ-45)

Pin	Signal	Colour of a standard-patch cable
1	TX+	white/orange
2	TX-	orange
3	RX+	white/green
4	NC	blue
5	NC	white/blue
6	RX-	green
7	NC	white/brown
8	NC	brown



Notice for wiring:

- NC: No connect; do not connect to any signal or supply.

1.2 LBP-17 / LBP-16e

The remote panel LBP-17 provides 17 pushbuttons, which can be programmed as desired by the operator. They are mounted into a flat solid steel panel with an aluminium front cover. The height is one rack unit in a 19-inches rack; it can be mounted side-by-side.

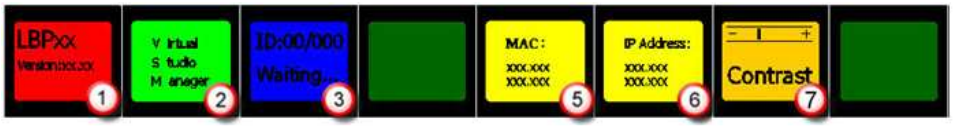
Features:

- 17 software configurable LCD buttons each with a display-resolution of 64x32 dots (by request as LBP-16e with 16 pushbuttons and 1 optical encoder)
- Each button provides many functions including: sources or targets, go-to, take, lock, enable, escape, macros, GPI control and many more
- The buttons allow a choice of tri-colour (RGB) button illumination.

Getting started:

Front view

The Panel is offline, no connection to vsmStudio.



1: Panel type and Firmware version
2: Small VSM logo
3: Panel ID in HEX/DEZ, waiting (for a connection to vsmStudio)…
5: MAC address
6: IP address or RS422 only
7: Contrast button

The Panel is online, connect to vsmStudio.

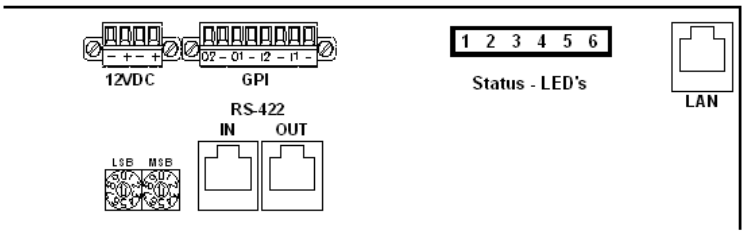
1: Panel type and Firmware version
2: Panel ID in HEX/DEZ
3: Host name
4: IP address
5: MAC address

The buttons 1 to 5 light for 15 s, after that they light up one after another for 5 s. Press any button to light them green.

Specifications:

- Weight: approx. 1.5 kg
- Dimensions: LBP-17: 483 mm x 44 mm x 65 mm (W x H x D)
  LBP-16e: 693 x 44 mm x 65 mm (W x H x D)
- Recommended operating temperature of LCD pushbutton switches: 0℃ - 55℃

Rear-view

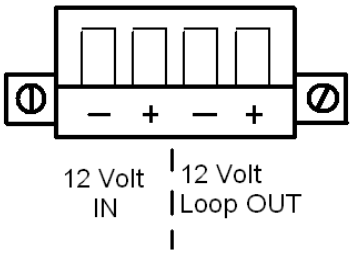


Description of the status LEDs:

Blue:	blinks, data transfer to vsmStudio
Red:	blinks, no connection to vsmStudio
Green:	light, 5 V internal voltage OK
Green:	light, 3.3 V internal voltage OK
Orange:	light, physical connection to LAN
Green:	blinks, data transfer via LAN

Power requirements:

- 12 V DC (<1.0 A), supplied by an external capsulated switching power supply (approx. 0.18 A CPU and max. 0.06 A per pushbutton depending on the backlight illumination, no backlight: approx. 0.35 A in total, all pushbuttons illuminated white 0.9 A max.).
- Connector for 12 V supply: 4-Pin Phoenix locked with two screws.

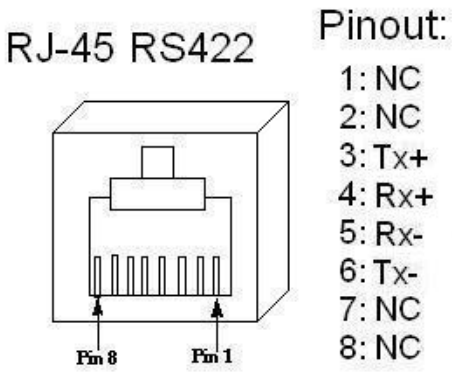


Technical data of the external power supply:

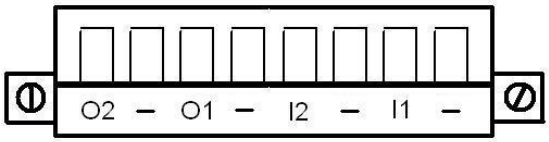
- Input: 100 – 240 V alternating current 50 – 60 Hz, 150 W max.
- Output: 12 V direct current, 5 A, 60 VA

Connectors for data drive:

- 1 x RS-422 RJ45
- 1 x RS-422 (loop through) RJ45



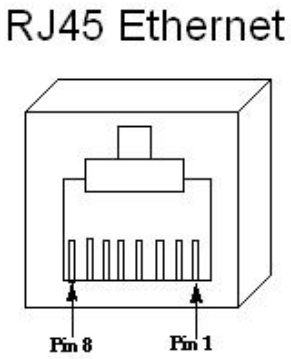
- 1 x GPI (8-Pin Phoenix locked with two screws)



GPI - Interface

- 1 x Ethernet (RJ-45)

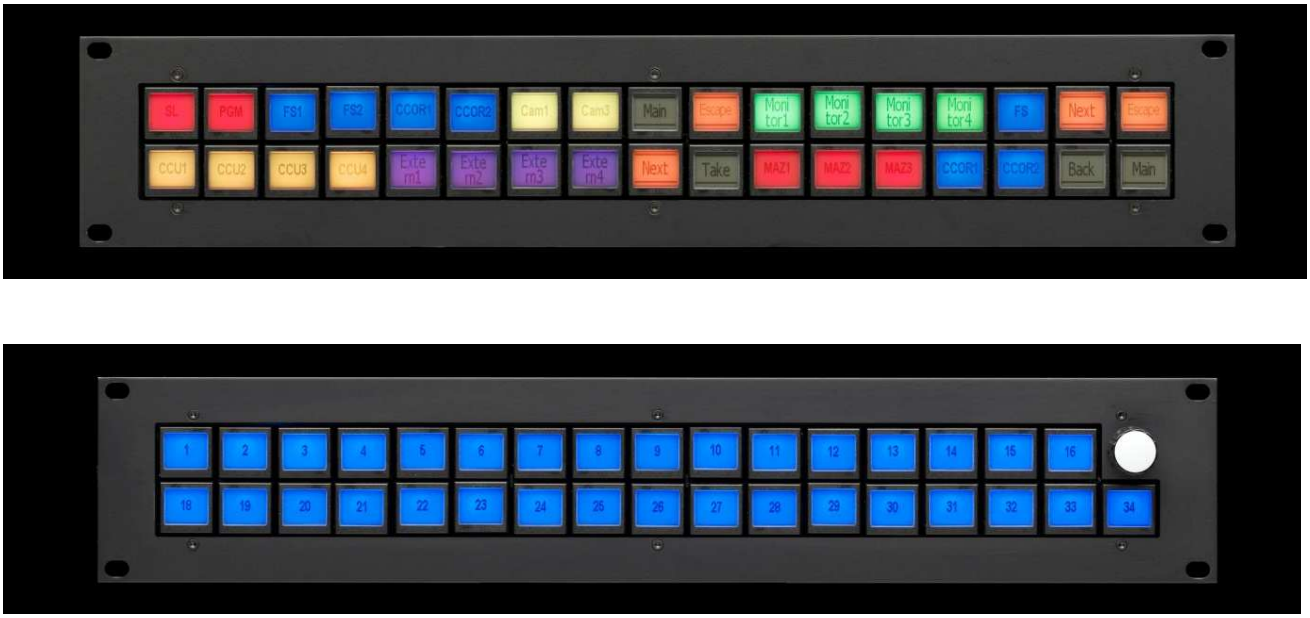
Pin	Signal	Colour of a standard-patch cable
1	TX+	white/orange
2	TX-	orange
3	RX+	white/green
4	NC	blue
5	NC	white/blue
6	RX-	green
7	NC	white/brown
8	NC	brown



Notice for wiring:

- NC: No connect; do not connect to any signal or supply.

1.3 LBP-34 / LBP-33e / LBP34V



The remote panel LBP-34 provides 34 pushbuttons, which can be programmed as desired by the operator. They are mounted into a flat solid steel panel with an aluminium front cover. It is available with a height of 1.5 units (only LBP-34) or two units in a 19-inches rack and can be mounted side-by-side.
Also a version with 33 Pushbuttons and one encoder-knob can be ordered in the 2 RU-housing.

For vertical mount, there is also a LBP34V-version available, fit in a two RU-housing.
It looks the same as the LBP34 except of the pushbuttons being flipped by 90 degrees for vertical readings.

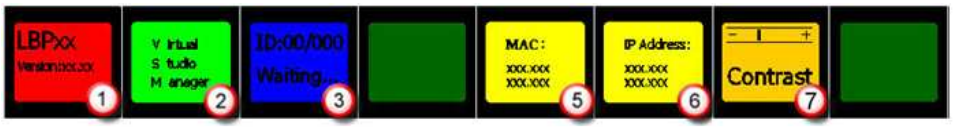
Features:

- 34 software configurable LCD buttons each with a display-resolution of 64x32 dots (by request as LBP-33e with 33 pushbuttons and 1 optical encoder)
- Each button provides many functions including: sources or targets, go-to, take, lock, enable, escape, macros, GPI control and many more
- The buttons allow a choice of tri-colour (RGB) button illumination.

Getting started:

Front view

The Panel is offline, no connection to vsmStudio.



1: Panel type and Firmware version
2: Small VSM logo
3: Panel ID in HEX/DEZ, waiting (for a connection to vsmStudio)…
5: MAC address
6: IP address or RS422 only
7: Contrast button

The Panel is online, connect to vsmStudio.

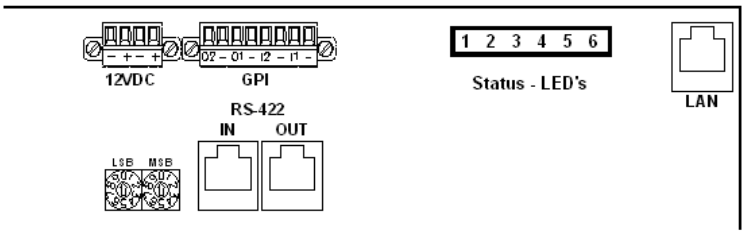
1: Panel type and Firmware version
2: Panel ID in HEX/DEZ
3: Host name
4: IP address
5: MAC address

The buttons 1 to 5 light for 15 s, after that they light up one after another for 5 s. Press any button to light them green.

Specifications:

- Weight: approx. 2.0 kg
- Dimensions: LBP-34: 483 mm x 66 mm x 65 mm (W x H x D)
  LBP-33e: 693 mm x 66 mm x 65 mm (W x H x D)
- Recommended operating temperature of LCD pushbutton switches: 0℃ - 55℃

Rear-view

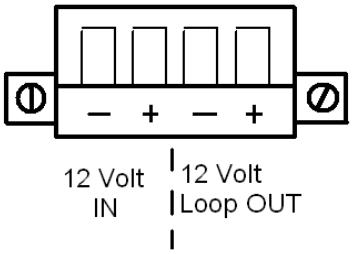


Description of the status LEDs:

Blue:	blinks, data transfer to vsmStudio
Red:	blinks, no connection to vsmStudio
Green:	light, 5 V internal voltage OK
Green:	light, 3.3 V internal voltage OK
Orange:	light, physical connection to LAN
Green:	blinks, data transfer via LAN

Power requirements:

- 12 V DC (<1.0 A), supplied by an external capsulated switching power supply (approx. 0.18 A CPU and max. 0.06 A per pushbutton depending on the backlight illumination, no backlight: approx. 0.35 A in total, all pushbuttons illuminated white 0.9 A max.).
- Connector for 12 V supply: 4-Pin Phoenix locked with two screws.

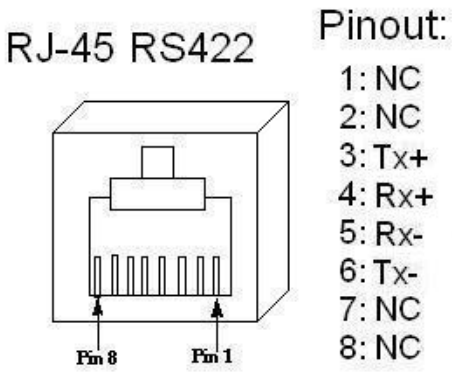


Technical data of the external power supply:

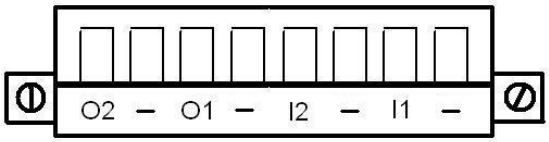
- Input: 100 – 240 V alternating current 50 – 60 Hz, 150 W max.
- Output: 12 V direct current, 5 A, 60 VA

Connectors for data drive:

- 1 x RS-422 RJ45
- 1 x RS-422 (loop through) RJ45



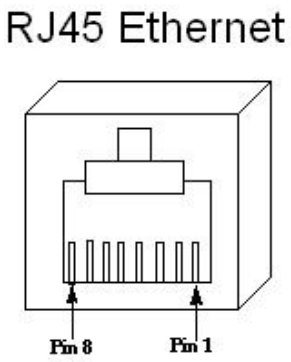
- 1 x GPI (8-Pin Phoenix locked with two screws)



GPI - Interface

- 1 x Ethernet (RJ-45)

Pin	Signal	Colour of a standard-patch cable
1	TX+	white/orange
2	TX-	orange
3	RX+	white/green
4	NC	blue
5	NC	white/blue
6	RX-	green
7	NC	white/brown
8	NC	brown



Notice for wiring:

- NC: No connect; do not connect to any signal or supply.

1.4 LBP-39V (RCP/OCP Style)

- *Picture under construction*

The remote panel LBP-39V provides 39 vertical mounted pushbuttons, which can be programmed as desired by the operator. They are mounted into a flat solid steel panel with an aluminium front cover. It is available with a “height” of about 2 RU with special mount to fit RCP/OCP-slots

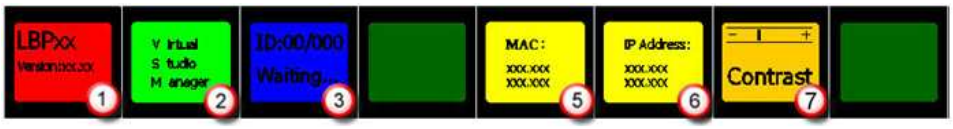
Features:

- 39 software configurable LCD buttons each with a display-resolution of 64x32 dots Each button provides many functions including: sources or targets, go-to, take, lock, enable, escape, macros, GPI control and many more
- The buttons allow a choice of tri-colour (RGB) button illumination.

Getting started:

Front view

The Panel is offline, no connection to vsmStudio.



1: Panel type and Firmware version
2: Small VSM logo
3: Panel ID in HEX/DEZ, waiting (for a connection to vsmStudio)…
5: MAC address
6: IP address or RS422 only
7: Contrast button

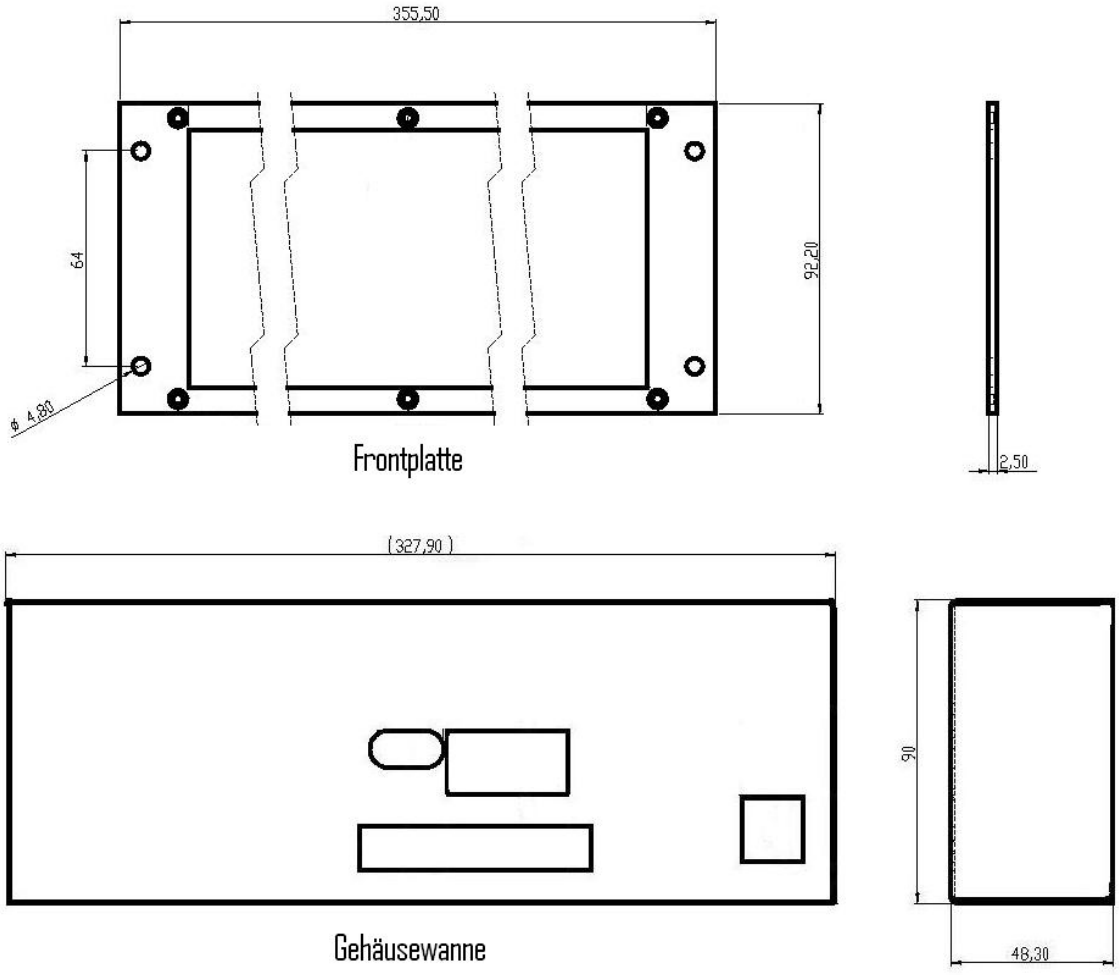
The Panel is online, connect to vsmStudio.

1: Panel type and Firmware version
2: Panel ID in HEX/DEZ
3: Host name
4: IP address
5: MAC address

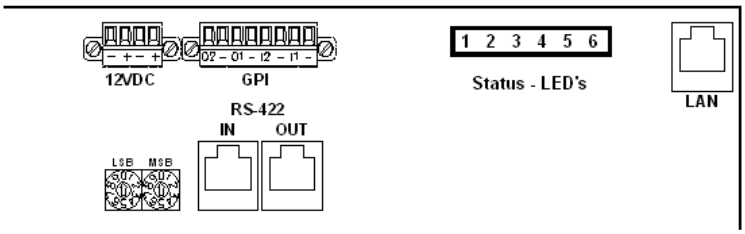
The buttons 1 to 5 light for 15 s, after that they light up one after another for 5 s. Press any button to light them green.

Specifications:

- Weight: approx. 2.0 kg
- Dimensions: LBP-39: 483 mm x 66 mm x 65 mm (W x H x D)
- Recommended operating temperature of LCD pushbutton switches: 0℃ - 55℃



Rear-view

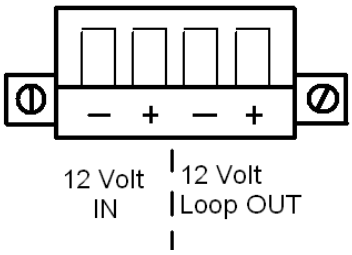


Description of the status LEDs:

Blue:	blinks, data transfer to vsmStudio
Red:	blinks, no connection to vsmStudio
Green:	light, 5 V internal voltage OK
Green:	light, 3.3 V internal voltage OK
Orange:	light, physical connection to LAN
Green:	blinks, data transfer via LAN

Power requirements:

- 12 V DC (<1.0 A), supplied by an external capsulated switching power supply (approx. 0.18 A CPU and max. 0.06 A per pushbutton depending on the backlight illumination, no backlight: approx. 0.35 A in total, all pushbuttons illuminated white 0.9 A max.).
- Connector for 12 V supply: 4-Pin Phoenix locked with two screws.

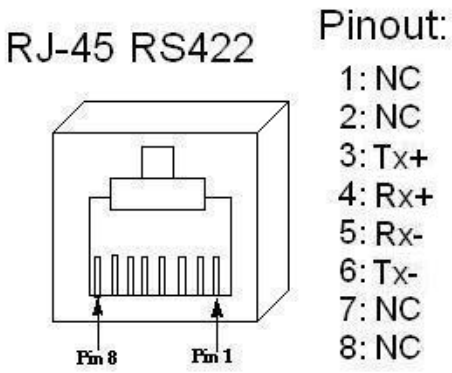


Technical data of the external power supply:

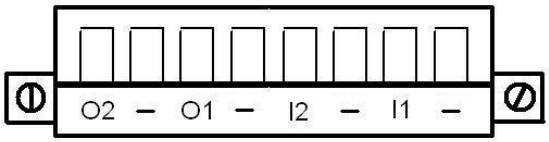
- Input: 100 – 240 V alternating current 50 – 60 Hz, 150 W max.
- Output: 12 V direct current, 5 A, 60 VA

Connectors for data drive:

- 1 x RS-422 RJ45
- 1 x RS-422 (loop through) RJ45



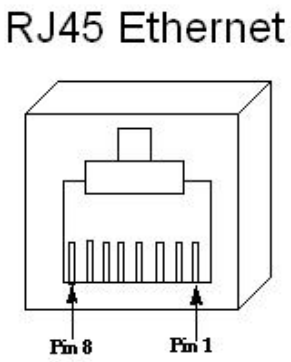
- 1 x GPI (8-Pin Phoenix locked with two screws)



GPI - Interface

- 1 x Ethernet (RJ-45)

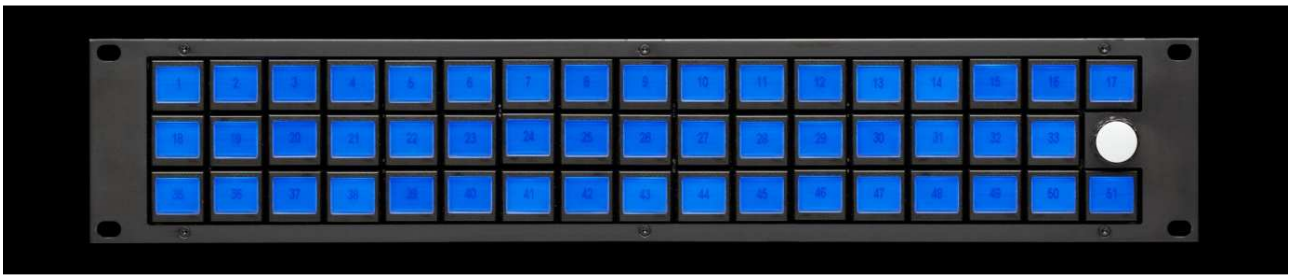
Pin	Signal	Colour of a standard-patch cable
1	TX+	white/orange
2	TX-	orange
3	RX+	white/green
4	NC	blue
5	NC	white/blue
6	RX-	green
7	NC	white/brown
8	NC	brown



Notice for wiring:

- NC: No connect; do not connect to any signal or supply.

1.5 LBP-51 / LBP-50e / LBP51V



The remote panel LBP-51 has 51 pushbuttons, which can be programmed as desired by the operator. They are mounted into a flat solid steel panel with an aluminium front cover. The height is two units in a 19-inches rack; it can be mounted side-by-side.
Also a version with 50 Pushbuttons and one encoder-knob can be ordered in the 2 RU-housing.

For vertical mount, there is also a LBP51V-version available, fit in a two RU-housing.
It looks the same as the LBP51 except of the pushbuttons being flipped by 90 degrees for vertical readings.

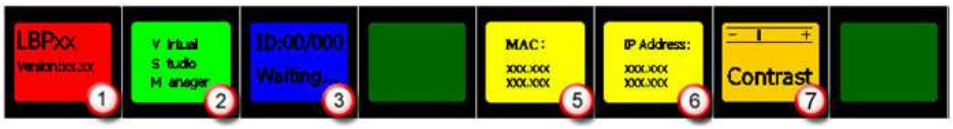
Features

- 51 software configurable LCD buttons each with a display-resolution of 64x32 dots (by request as LBP-50e with 50 pushbuttons and 1 optical encoder)
- Each button provides many functions including: sources or targets, go-to, take, lock, enable, escape, macros, GPI control and many more
- The buttons allow a choice of tri-colour (RGB) button illumination.

Getting started:

Front view

The Panel is offline, no connection to vsmStudio.



1: Panel type and Firmware version
2: Small VSM logo
3: Panel ID in HEX/DEZ, waiting (for a connection to vsmStudio)…
5: MAC address
6: IP address or RS422 only
7: Contrast button

The Panel is online, connect to vsmStudio.

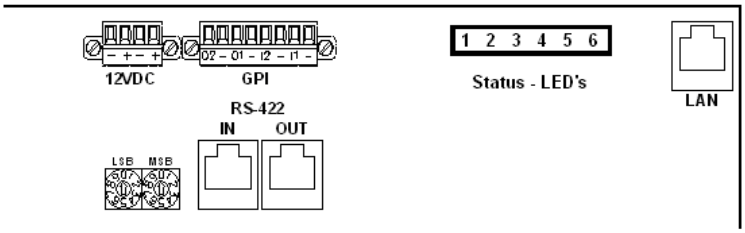
1: Panel type and Firmware version
2: Panel ID in HEX/DEZ
3: Host name
4: IP address
5: MAC address

The buttons 1 to 5 light for 15 s, after that they light up one after another for 5 s. Press any button to light them green.

Specifications:

- Weight: approx. 2.5 kg
- Dimensions: LBP-51: 483 mm x 88 mm x 65 mm (W x H x D)
  LBP-50e: 693 mm x 88 mm x 65 mm (W x H x D)
- Recommended operating temperature of LCD push-button switches: 0℃ - 55℃

Rear-view

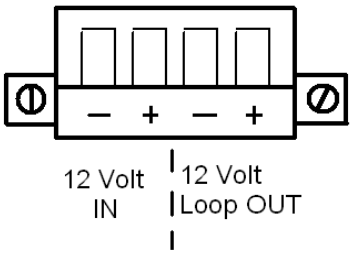


Description of the status LEDs:

Blue:	blinks, data transfer to vsmStudio
Red:	blinks, no connection to vsmStudio
Green:	light, 5 V internal voltage OK
Green:	light, 3.3 V internal voltage OK
Orange:	light, physical connection to LAN
Green:	blinks, data transfer via LAN

Power requirements:

- 12 V DC (<1.0 A), supplied by an external capsulated switching power supply (approx. 0.18 A CPU and max. 0.06 A per pushbutton depending on the backlight illumination, no backlight: approx. 0.35 A in total, all pushbuttons illuminated white 0.9 A max.).
- Connector for 12 V supply: 4-Pin Phoenix locked with two screws.

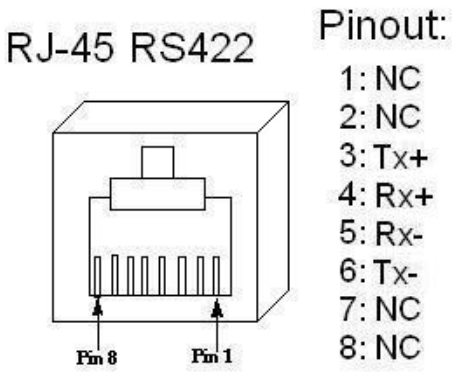


Technical data of the external power supply:

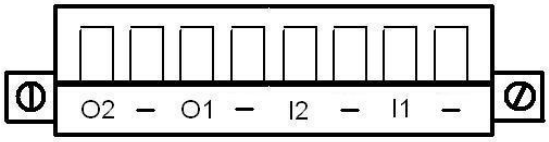
- Input: 100 – 240 V alternating current 50 – 60 Hz, 150 W max.
- Output: 12 V direct current, 5 A, 60 VA

Connectors for data drive:

- 1 x RS-422 RJ45
- 1 x RS-422 (loop through) RJ45



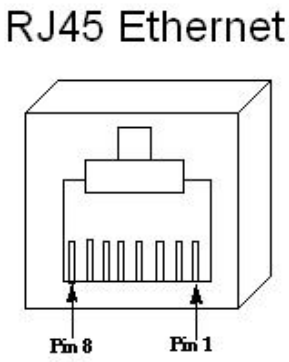
- 1 x GPI (8-Pin Phoenix locked with two screws)



GPI - Interface

- 1 x Ethernet (RJ-45)

Pin	Signal	Colour of a standard-patch cable
1	TX+	white/orange
2	TX-	orange
3	RX+	white/green
4	NC	blue
5	NC	white/blue
6	RX-	green
7	NC	white/brown
8	NC	brown



Notice for wiring:

- NC: No connect; do not connect to any signal or supply.

1.6 LBP-84

The remote panel LBP-84 has 84 pushbuttons, which can be programmed as desired by the operator. They are mounted into a flat solid steel panel with an aluminium front cover. The height is two units in a 19-inch rack; it can be mounted side-by-side.

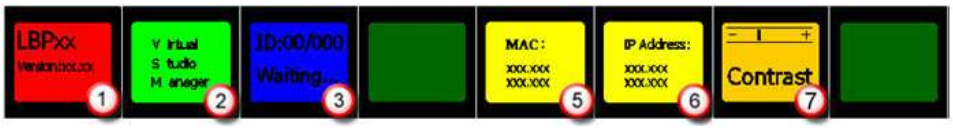
Features

- 51 software configurable LCD buttons each with a display-resolution of 64x32 dots (by request as LBP-50e with 50 pushbuttons and 1 optical encoder)
- Each button provides many functions including: sources or targets, go-to, take, lock, enable, escape, macros, GPI control and many more
- The buttons allow a choice of tri-colour (RGB) button illumination.

Getting started:

Front view

The Panel is offline, no connection to vsmStudio.



1: Panel type and Firmware version
2: Small VSM logo
3: Panel ID in HEX/DEZ, waiting (for a connection to vsmStudio)…
5: MAC address
6: IP address or RS422 only
7: Contrast button

The Panel is online, connect to vsmStudio.

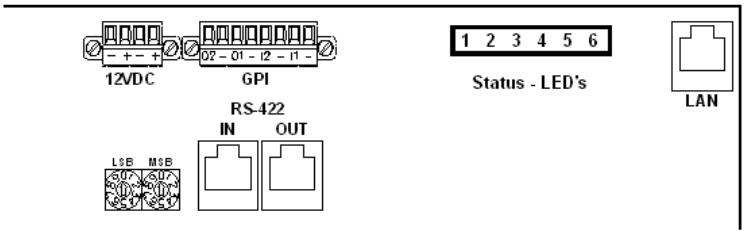
1: Panel type and Firmware version
2: Panel ID in HEX/DEZ
3: Host name
4: IP address
5: MAC address

The buttons 1 to 5 light for 15 s, after that they light up one after another for 5 s. Press any button to light them green.

Specifications:

- Weight: approx. 3.5 kg
- Dimensions: LBP-84: 483 mm x 88 mm x 65 mm (W x H x D)
- Recommended operating temperature of LCD push-button switches: 0℃ - 55℃

Rear-view

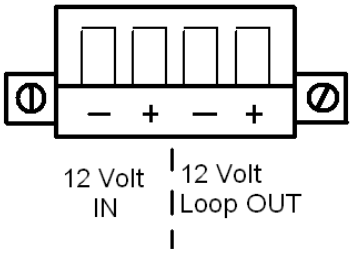


Description of the status LEDs:

Blue:	blinks, data transfer to vsmStudio
Red:	blinks, no connection to vsmStudio
Green:	light, 5 V internal voltage OK
Green:	light, 3.3 V internal voltage OK
Orange:	blinks, data transfer via LAN

Power requirements:

- 12 V DC (< 2.5 A), supplied by an external capsulated switching power supply (approx. 0.33 A CPU and max. 0.05 A per pushbutton depending on the backlight illumination, no backlight: approx. 0.35 A in total, all pushbuttons illuminated white 3,4 A max.).
- Connector for 12 V supply: 4-Pin Phoenix locked with two screws.

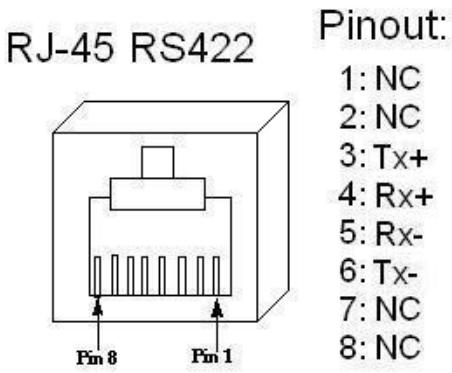


Technical data of the external power supply:

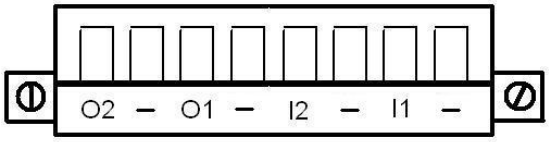
- Input: 100 – 240 V alternating current 50 – 60 Hz, 150 W max.
- Output: 12 V direct current, 5 A, 60 VA

Connectors for data drive:

- 1 x RS-422 RJ45
- 1 x RS-422 (loop through) RJ45



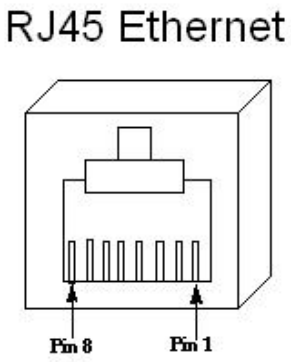
- 1 x GPI (8-Pin Phoenix locked with two screws)



GPI - Interface

- 1 x Ethernet (RJ-45)

Pin	Signal	Colour of a standard-patch cable
1	TX+	white/orange
2	TX-	orange
3	RX+	white/green
4	NC	blue
5	NC	white/blue
6	RX-	green
7	NC	white/brown
8	NC	brown



Notice for wiring:

- NC: No connect; do not connect to any signal or supply.

1.7 LBP-8e8

The remote panel LBP-8e8 has eight pushbuttons and eight incremental encoders, which can be programmed as desired by the operator. They are mounted into a flat solid steel panel with a black aluminium front cover. The height is 2 RU, the width is ½19 inches. The panel can be mounted side-by-side.

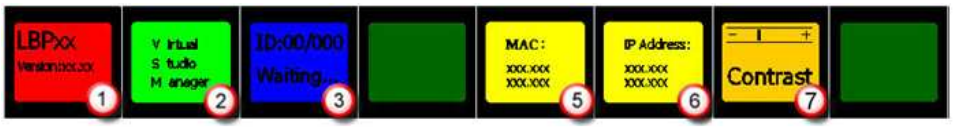
Features:

- 8 software configurable LCD buttons each with a display-resolution of 64x32 dots
- 8 software configurable optical encoders
- Each button provides many functions including: sources or targets, go-to, take, lock, enable, escape, macros, GPI control and many more
- Each encoder provides many functions including: gain settings, parameter inputs, “enter” function by pressing the encoder knob and many more.

Getting started:

Front view

The Panel is offline, no connection to vsmStudio.



1: Panel type and Firmware version
2: Small VSM logo
3: Panel ID in HEX/DEZ, waiting (for a connection to vsmStudio)…
5: MAC address
6: IP address or RS422 only
7: Contrast button

The Panel is online, connect to vsmStudio.

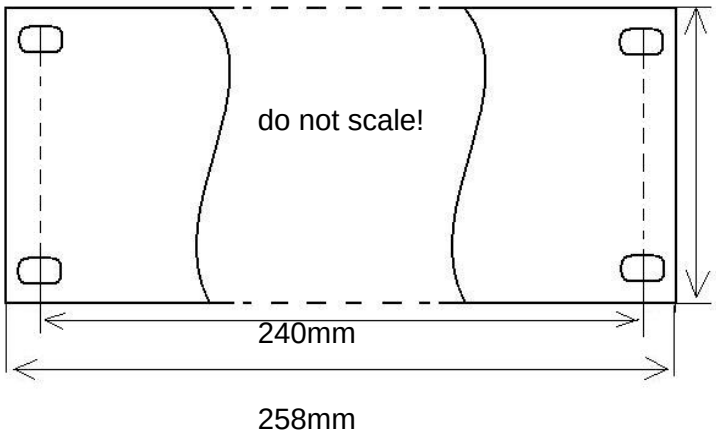
1: Panel type and Firmware version
2: Panel ID in HEX/DEZ
3: Host name
4: IP address
5: MAC address

The buttons 1 to 5 light for 15 s, after that they light up one after another for 5 s. Press any button to light them green.

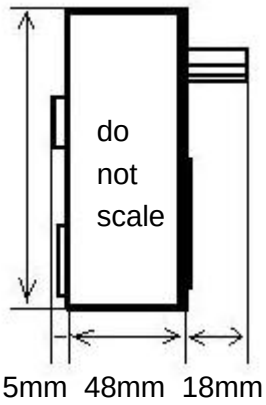
Specifications:

- Weight: approx. 1.0 kg
- Dimensions: 258 mm x 88 mm x 65 mm (W x H x D)
- Recommended operating temperature of LCD push-button switches: 0℃ - 55℃.

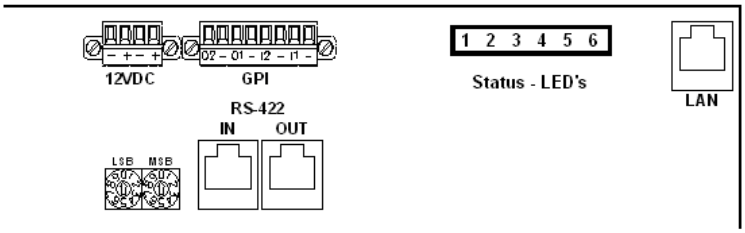
Mounting size



Side view



Rear-view



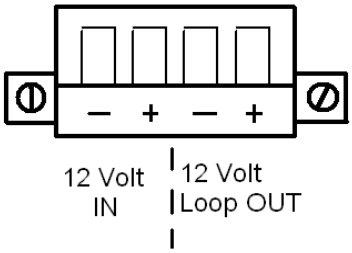
Description of the status LEDs:

Blue:	blinks, data transfer to vsmStudio
Red:	blinks, no connection to vsmStudio
Green:	light, 5 V internal voltage OK
Green:	light, 3.3 V internal voltage OK
Orange:	light, physical connection to LAN
Green:	blinks, Data transfer via LAN

Power requirements:

- 12 V DC (<1.0 A), supplied by an external capsulated switching power supply (approx. 0.18 A CPU and max. 0.06 A per pushbutton depending on the backlight illumination, no backlight: approx. 0.35 A in total, all pushbuttons illuminated white 0.9 A max.).

- Connector for 12 V supply: 4-Pin Phoenix locked with two screws.

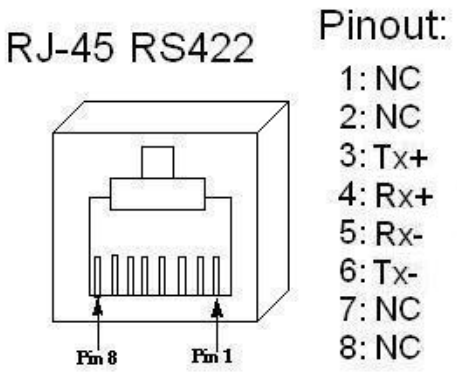


Technical data of the external power supply:

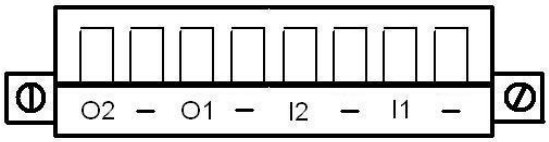
- Input: 100 – 240 V alternating current 50 – 60 Hz, 150 W max.
- Output: 12 V direct current, 5 A, 60 VA

Connectors for data drive:

- 1 x RS-422 RJ45
- 1 x RS-422 (loop through) RJ45



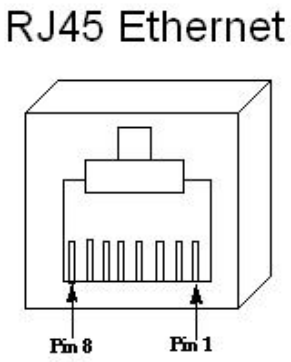
- 1 x GPI (8-Pin Phoenix locked with two screws)



GPI - Interface

- 1 x Ethernet (RJ-45)

Pin	Signal	Colour of a standard-patch cable
1	TX+	white/orange
2	TX-	orange
3	RX+	white/green
4	NC	blue
5	NC	white/blue
6	RX-	green
7	NC	white/brown
8	NC	brown



Notice for wiring:

- NC: No connect; do not connect to any signal or supply.

1.8 LBP-16e16

The remote panel LBP-16e16 is a redundant double LBP-8e8. It provides 16 pushbuttons and 16 incremental encoders, which can be programmed as desired by the operator. They are mounted into a flat solid steel panel 19” with 2 RU with a black aluminium front cover. They can be mounted side-by-side.

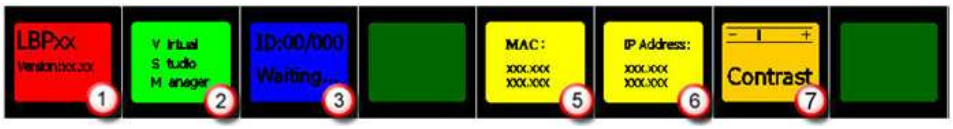
Features:

- 16 software configurable LCD buttons each with a display-resolution of 64x32 dots
- 16 software configurable optical encoders
- separate CPUs, 2 separate power supplies, 2 separate network Ethernet connectors (the panel can also be used as double LBP-8e8 redundant)
- Each button provides many functions including: sources or targets, go-to, take, lock, enable, escape, macros, GPI control and many more
- Each encoder provides many functions including: gain settings, parameter inputs, “enter” function by pressing the encoder knob and many more

Getting started:

Front view

The Panel is offline, no connection to vsmStudio.



1: Panel type and Firmware version
2: Small VSM logo
3: Panel ID in HEX/DEZ, waiting (for a connection to vsmStudio)…
5: MAC address
6: IP address or RS422 only
7: Contrast button

The Panel is online, connect to vsmStudio.

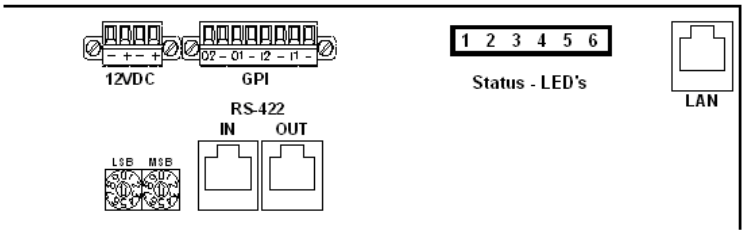
1: Panel type and Firmware version
2: Panel ID in HEX/DEZ
3: Host name
4: IP address
5: MAC address

The buttons 1 to 5 light for 15 s, after that they light up one after another for 5 s. Press any button to light them green.

Specifications:

- Weight: approx. 2.0 kg
- Dimensions: 483 mm x 88 mm x 65 mm (W x H x D)
- Recommended operating temperature of LCD push-button switches: 0℃ - 55℃

Rear-view

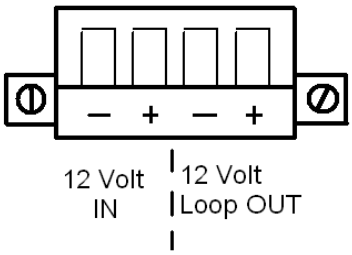


Description of the status LEDs:

Blue:	blinks, data transfer to vsmStudio
Red:	blinks, no connection to vsmStudio
Green:	light, 5 V internal voltage OK
Green:	light, 3.3 V internal voltage OK
Orange:	light, physical connection to LAN
Green:	blinks, data transfer via LAN

Power requirements:

- 12 V DC (<1.0 A), supplied by an external capsulated switching power supply (approx. 0.18 A CPU and max. 0.06 A per pushbutton depending on the backlight illumination, no backlight: approx. 0.35 A in total, all pushbuttons illuminated white 0.9 A max.).
- Connector for 12 V supply: 4-Pin Phoenix locked with two screws.

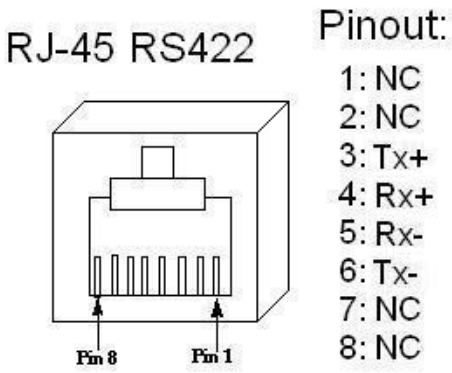


Technical data of the external power supply:

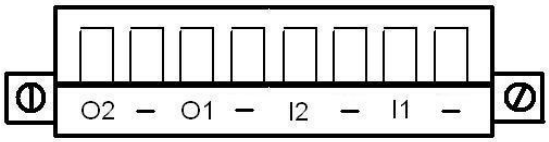
- Input: 100 – 240 V alternating current 50 – 60 Hz, 150 W max.
- Output: 12 V direct current, 5 A, 60 VA

Connectors for data drive:

- 1 x RS-422 RJ45
- 1 x RS-422 (loop through) RJ45



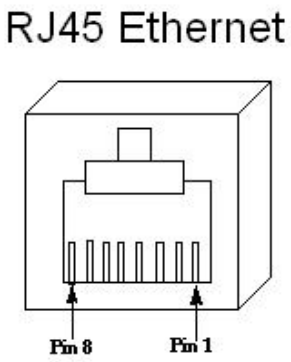
- 1 x GPI (8-Pin Phoenix locked with two screws)



GPI - Interface

- 1 x Ethernet (RJ-45)

Pin	Signal	Colour of a standard-patch cable
1	TX+	white/orange
2	TX-	orange
3	RX+	white/green
4	NC	blue
5	NC	white/blue
6	RX-	green
7	NC	white/brown
8	NC	brown



Notice for wiring:

- NC: No connect; do not connect to any signal or supply.

1.9 LBP-24e8

The remote panel LBP-24e8 has 24 pushbuttons and eight incremental encoders, which can be programmed as desired by the operator. They are mounted into a flat solid steel panel with a black aluminium front cover. They can be mounted side-by-side.

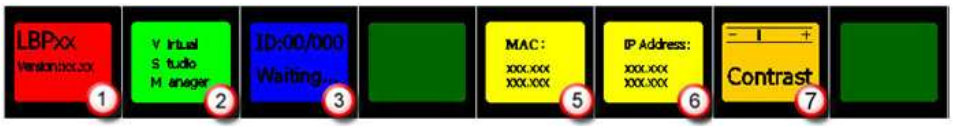
Features:

- 24 software configurable LCD buttons each with a display-resolution of 64x32 dots
- 8 software configurable optical encoders
- Each button provides many functions including: sources or targets, go-to, take, lock, enable, escape, macros, GPI control and many more
- Each encoder provides many functions including: gain settings, parameter inputs, “enter” function by pressing the encoder knob and many more

Getting started:

Front view

The Panel is offline, no connection to vsmStudio.



1: Panel type and Firmware version
2: Small VSM logo
3: Panel ID in HEX/DEZ, waiting (for a connection to vsmStudio)…
5: MAC address
6: IP address or RS422 only
7: Contrast button

The Panel is online, connect to vsmStudio.

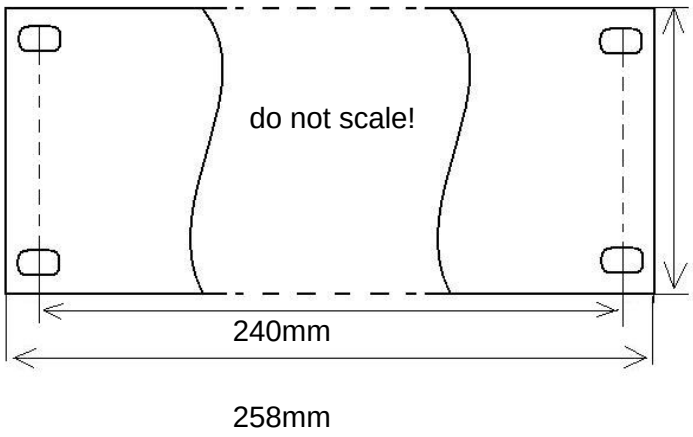
1: Panel type and Firmware version
2: Panel ID in HEX/DEZ
3: Host name
4: IP address
5: MAC address

The buttons 1 to 5 light for 15 s, after that they light up one after another for 5 s. Press any button to light them green.

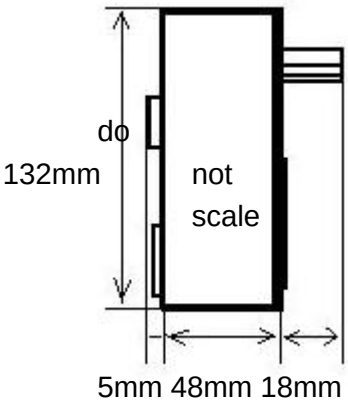
Specifications:

- Weight: approx. 1.8 kg
- Dimensions: 258 mm x 132 mm x 65 mm (W x H x D)
- Recommended operating temperature of LCD push-button switches: 0℃ - 55℃

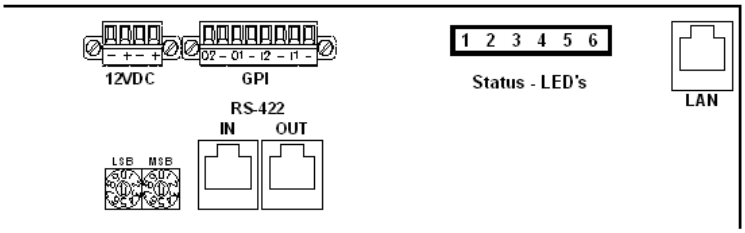
Mounting size:



Side view:



Rear-view



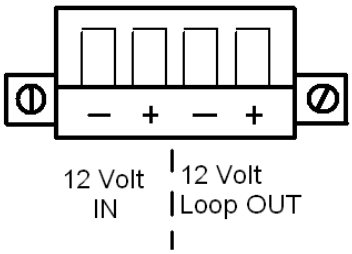
Description of the status LEDs:

Blue:	blinks, data transfer to vsmStudio
Red:	blinks, no connection to vsmStudio
Green:	light, 5 V internal voltage OK
Green:	light, 3.3 V internal voltage OK
Orange:	light, physical connection to LAN
Green:	blinks, data transfer via LAN

Power requirements:

- 12 V DC (<1.0 A), supplied by an external capsulated switching power supply (approx. 0.18 A CPU and max. 0.06 A per pushbutton depending on the backlight illumination, no backlight: approx. 0.35 A in total, all pushbuttons illuminated white 0.9 A max.).

- Connector for 12 V supply: 4-Pin Phoenix locked with two screws.

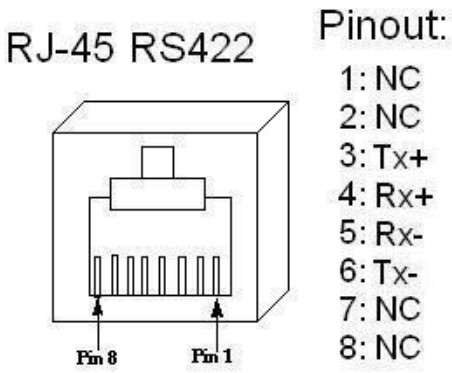


Technical data of the external power supply:

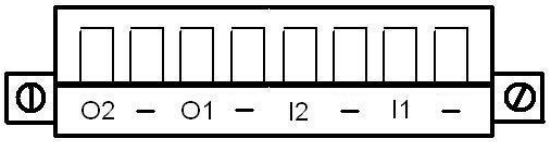
- Input: 100 – 240 V alternating current 50 – 60 Hz, 150 W max.
- Output: 12 V direct current, 5 A, 60 VA

Connectors for data drive:

- 1 x RS-422 RJ45
- 1 x RS-422 (loop through) RJ45



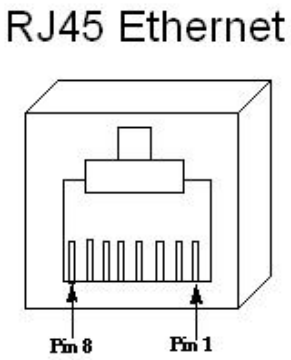
- 1 x GPI (8-Pin Phoenix locked with two screws)



GPI - Interface

- 1 x Ethernet (RJ-45)

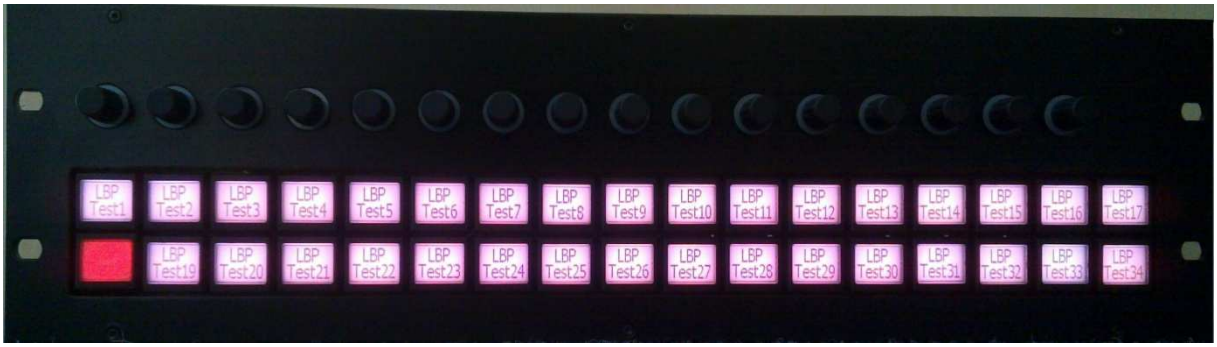
Pin	Signal	Colour of a standard-patch cable
1	TX+	white/orange
2	TX-	orange
3	RX+	white/green
4	NC	blue
5	NC	white/blue
6	RX-	green
7	NC	white/brown
8	NC	brown



Notice for wiring:

- NC: No connect; do not connect to any signal or supply.

1.10 LBP-34e16



The remote panel LBP-34e16 has 34 pushbuttons and 16 incremental encoders, which can be programmed as desired by the operator. They are mounted into a flat solid steel panel with a black aluminium front cover. They can be mounted side-by-side.

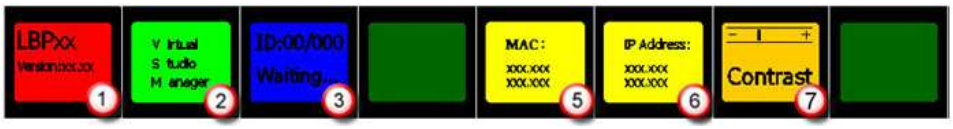
Features:

- 34 software configurable LCD buttons each with a display-resolution of 64x32 dots
- 16 software configurable optical encoders
- Each button provides many functions including: sources or targets, go-to, take, lock, enable, escape, macros, GPI control and many more
- Each encoder provides many functions including: gain settings, parameter inputs, “enter” function by pressing the encoder knob and many more

Getting started:

Front view

The Panel is offline, no connection to vsmStudio.



1: Panel type and Firmware version
2: Small VSM logo
3: Panel ID in HEX/DEZ, waiting (for a connection to vsmStudio)…
5: MAC address
6: IP address or RS422 only
7: Contrast button

The Panel is online, connect to vsmStudio.

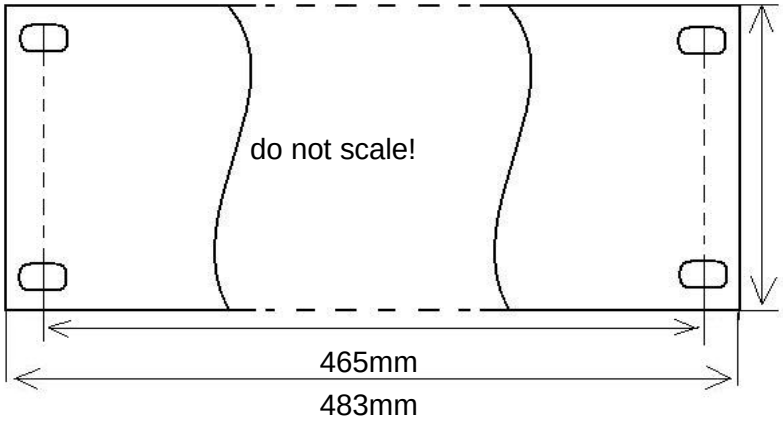
1: Panel type and Firmware version
2: Panel ID in HEX/DEZ
3: Host name
4: IP address
5: MAC address

The buttons 1 to 5 light for 15 s, after that they light up one after another for 5 s. Press any button to light them green.

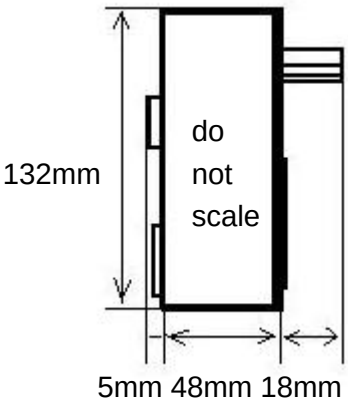
Specifications:

- Weight: approx. 2.6 kg
- Dimensions: 483 mm x 132 mm x 65 mm (W x H x D)
- Recommended operating temperature of LCD push-button switches: 0℃ - 55℃.

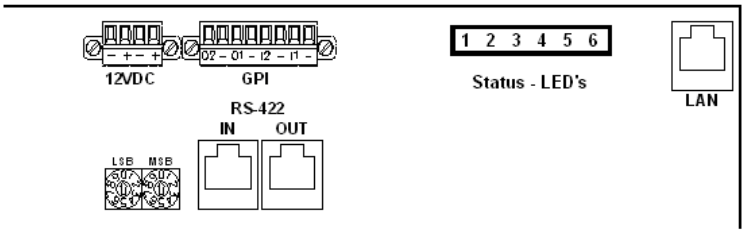
Mounting size:



Side view:



Rear-view

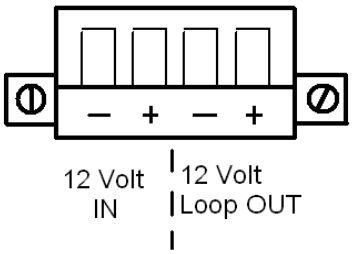


Description of the status LEDs:

Blue:	blinks, data transfer to vsmStudio
Red:	blinks, no connection to vsmStudio
Green:	light, 5 V internal voltage OK
Green:	light, 3.3 V internal voltage OK
Orange:	light, physical connection to LAN
Green:	blinks, data transfer via LAN

Power requirements:

- 12 V DC (<1.0 A), supplied by an external capsulated switching power supply (approx. 0.18 A CPU and max. 0.06 A per pushbutton depending on the backlight illumination, no backlight: approx. 0.35 A in total, all pushbuttons illuminated white 0.9 A max.).
- Connector for 12 V supply: 4-Pin Phoenix locked with two screws.

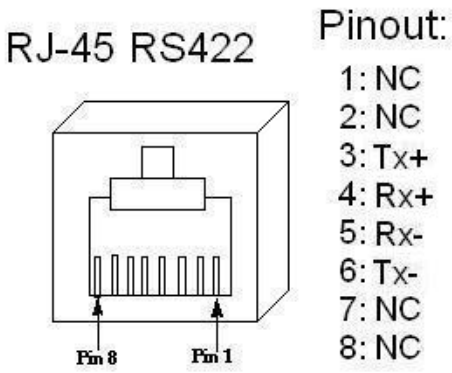


Technical data of the external power supply:

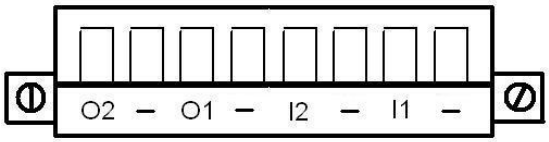
- Input: 100 – 240 V alternating current 50 – 60 Hz, 150 W max.
- Output: 12 V direct current, 5 A, 60 VA

Connectors for data drive:

- 1 x RS-422 RJ45
- 1 x RS-422 (loop through) RJ45



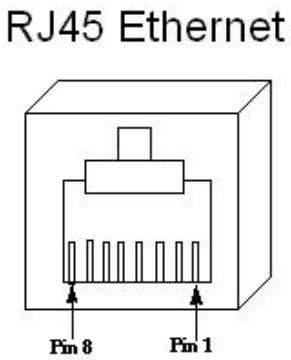
- 1 x GPI (8-Pin Phoenix locked with two screws)



GPI - Interface

- 1 x Ethernet (RJ-45)

Pin	Signal	Colour of a standard-patch cable
1	TX+	white/orange
2	TX-	orange
3	RX+	white/green
4	NC	blue
5	NC	white/blue
6	RX-	green
7	NC	white/brown
8	NC	brown



Notice for wiring:

- NC: No connect; do not connect to any signal or supply

1.11 LBP-32 Desktop / LBP-31e Desktop

The remote panel LBP-32 Desktop provides 32 pushbuttons, which can be programmed as desired by the operator. They are mounted into an attractive, robust stainless steel desktop panel.

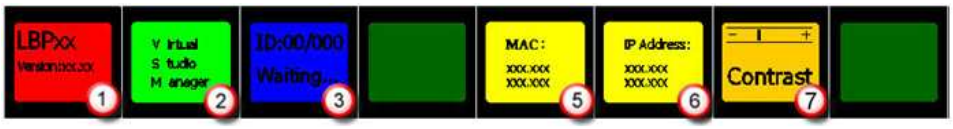
Features:

- 32 software configurable LCD buttons each with a display-resolution of 64x32 dots (by request as LBP-31e Desktop with 31 pushbuttons and 1 optical encoder)
- Each button provides many functions including: sources or targets, go-to, take, lock, enable, escape, macros, GPI control and many more
- The buttons allow a choice of tri-colour (RGB) button illumination.

Getting started:

Front view

The Panel is offline, no connection to vsmStudio.



1: Panel type and Firmware version
2: Small VSM logo
3: Panel ID in HEX/DEZ, waiting (for a connection to vsmStudio)…
5: MAC address
6: IP address or RS422 only
7: Contrast button

The Panel is online, connect to vsmStudio.

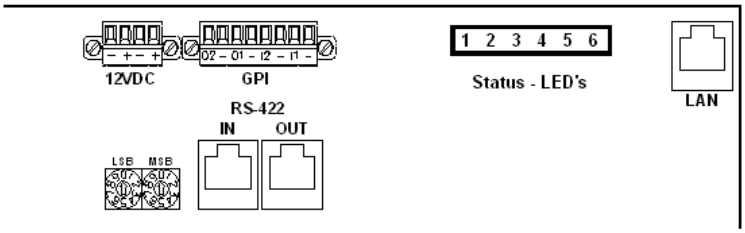
1: Panel type and Firmware version
2: Panel ID in HEX/DEZ
3: Host name
4: IP address
5: MAC address

The buttons 1 to 5 light for 15 s, after that they light up one after another for 5 s. Press any button to light them green.

Specifications:

- Weight: approx. 2.2 kg
- Dimensions: LBP-32 Desktop: 280 mm x 105 mm x 135 mm (W x H x D)
  LBP-31e Desktop: 490 mm x 105 mm x 135 mm (W x H x D)
- Recommended operating temperature of LCD pushbutton switches: 0℃ - 55℃

Rear-view

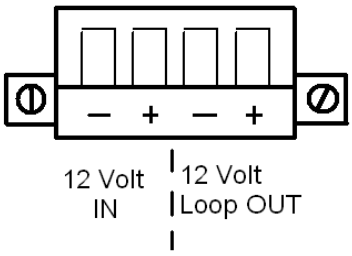


Description of the status LEDs:

Blue:	blinks, data transfer to vsmStudio
Red:	blinks, no connection to vsmStudio
Green:	light, 5 V internal voltage OK
Green:	light, 3.3 V internal voltage OK
Orange:	light, physical connection to LAN
Green:	blinks, data transfer via LAN

Power requirements:

- 12 V DC (<1.0 A), supplied by an external capsulated switching power supply (approx. 0.18 A CPU and max. 0.06 A per pushbutton depending on the backlight illumination, no backlight: approx. 0.35 A in total, all pushbuttons illuminated white 0.9 A max.).
- Connector for 12 V supply: 4-Pin Phoenix locked with two screws.

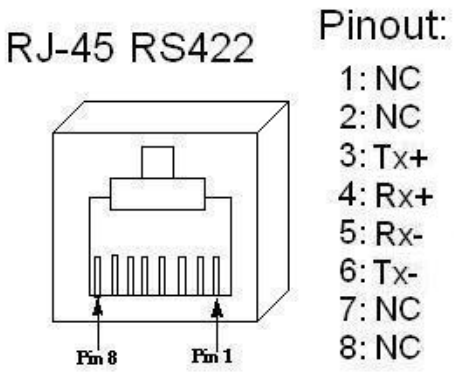


Technical data of the external power supply:

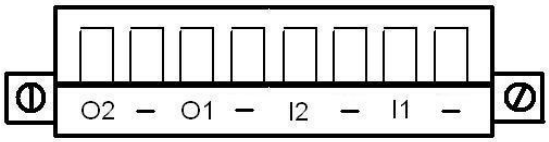
- Input: 100 – 240 V alternating current 50 – 60 Hz, 150 W max.
- Output: 12 V direct current, 5 A, 60 VA

Connectors for data drive:

- 1 x RS-422 RJ45
- 1 x RS-422 (loop through) RJ45



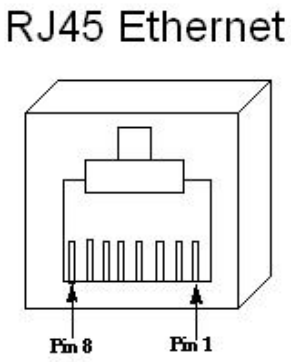
- 1 x GPI (8-Pin Phoenix locked with two screws)



GPI - Interface

- 1 x Ethernet (RJ-45)

Pin	Signal	Colour of a standard-patch cable
1	TX+	white/orange
2	TX-	orange
3	RX+	white/green
4	NC	blue
5	NC	white/blue
6	RX-	green
7	NC	white/brown
8	NC	brown



Notice for wiring:

- NC: No connect; do not connect to any signal or supply.

2 LPBP-24

LCD Push-Button Panels (LPBP) are backup panels designed specifically for use with the VSM. Taking the operation concept and design from vision mixers they have separate displays above the pushbuttons, unlike the LBP series. This feature allows reading the LCDs while pushing a button. The freely configurable buttons and displays are mounted into a flat solid stainless steel panel.
The remote panel LPBP-24 has 24 pushbuttons, which can be programmed as desired by the operator. They are mounted into a flat solid stainless steel panel. The height is 1 rack unit with the length of approx. 498 mm.

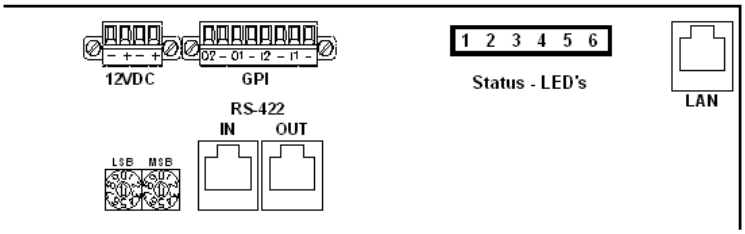
Features

- 24 software configurable LCD displays and buttons each with a display-resolution of 36x24 dots
- Each button provides many functions including: sources or targets, go-to, take, lock, enable, escape, macros, GPI control and many more
- The panel allows a choice of bi color (R/G) button and display illumination.

Specifications:

- Weight: approx. 1.0 kg
- Dimensions: 498 mm x 44 mm x 55 mm (W x H x D)
- Recommended operating temperature of LCD push-button switches: 0℃ - 65℃

Rear-view

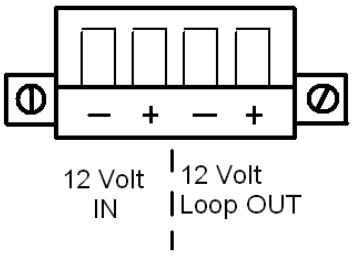


Description of the status LEDs:

Blue:	blinks, data transfer to vsmStudio
Red:	blinks, no connection to vsmStudio
Green:	light, 5 V internal voltage OK
Green:	light, 3.3 V internal voltage OK
Orange:	light, physical connection to LAN
Green:	blinks, data transfer via LAN

Power requirements:

- 12 V DC (<1.0 A), supplied by an external capsulated switching power supply (approx. 0.18 A CPU and max. 0.06 A per pushbutton depending on the backlight illumination, no backlight: approx. 0.35 A in total, all pushbuttons illuminated white 0.9 A max.).
- Connector for 12 V supply: 4-Pin Phoenix locked with two screws.

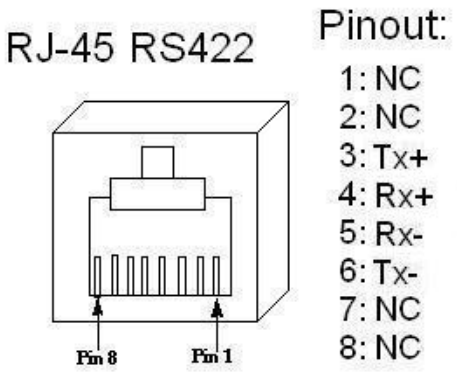


Technical data of the external power supply:

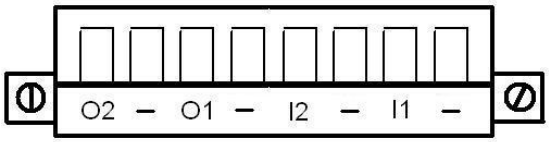
- Input: 100 – 240 V alternating current 50 – 60 Hz, 150 W max.
- Output: 12 V direct current, 5 A, 60 VA

Connectors for data drive:

- 1 x RS-422 RJ45
- 1 x RS-422 (loop through) RJ45



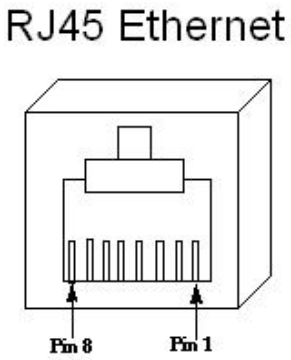
- 1 x GPI (8-Pin Phoenix locked with two screws)



GPI - Interface

- 1 x Ethernet (RJ-45)

Pin	Signal	Colour of a standard-patch cable
1	TX+	white/orange
2	TX-	orange
3	RX+	white/green
4	NC	blue
5	NC	white/blue
6	RX-	green
7	NC	white/brown
8	NC	brown



Notice for wiring:

- NC: No connect; do not connect to any signal or supply.

2.1 LPBP-32

The remote panel LPBP-32 provides 32 pushbuttons, which can be programmed as desired by the operator. They are mounted into a flat solid stainless steel panel. The height is 1 rack unit with the length of approx. 650 mm.

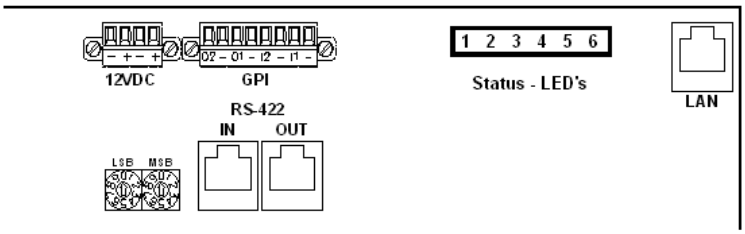
Features

- 32 software configurable LCD displays and buttons each with a display-resolution of 36x24 dots
- Each button provides many functions including: sources or targets, go-to, take, lock, enable, escape, macros, GPI control and many more
- The panel allows a choice of bi color (R/G) button and display illumination.

Specifications:

- Weight: approx. 1.15 kg
- Dimensions: 650mm x 44mm x 55mm (W x H x D)
- Recommended operating temperature of LCD push-button switches: 0℃ - 65℃

Rear-view

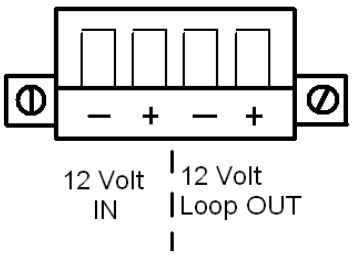


Description of the status LEDs:

Blue:	blinks, data transfer to vsmStudio
Red:	blinks, no connection to vsmStudio
Green:	light, 5 V internal voltage OK
Green:	light, 3.3 V internal voltage OK
Orange:	light, physical connection to LAN
Green:	blinks, data transfer via LAN

Power requirements:

- 12 V DC (<1.0 A), supplied by an external capsulated switching power supply (approx. 0.18 A CPU and max. 0.06 A per pushbutton depending on the backlight illumination, no backlight: approx. 0.35 A in total, all pushbuttons illuminated white 0.9 A max.).
- Connector for 12 V supply: 4-Pin Phoenix locked with two screws.

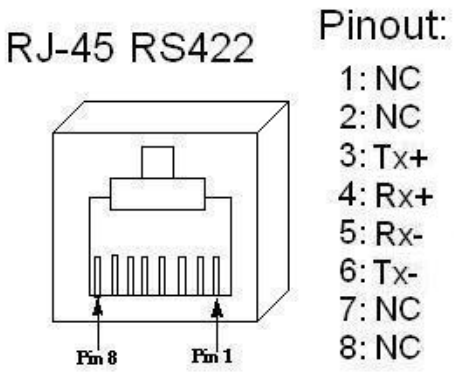


Technical data of the external power supply:

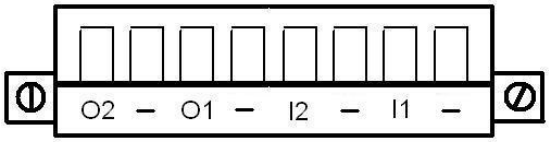
- Input: 100 – 240 V alternating current 50 – 60 Hz, 150 W max.
- Output: 12 V direct current, 5 A, 60 VA

Connectors for data drive:

- 1 x RS-422 RJ45
- 1 x RS-422 (loop through) RJ45



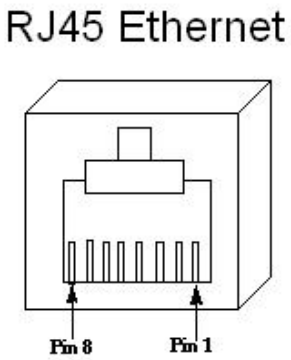
- 1 x GPI (8-Pin Phoenix locked with two screws)



GPI - Interface

- 1 x Ethernet (RJ-45)

Pin	Signal	Colour of a standard-patch cable
1	TX+	white/orange
2	TX-	orange
3	RX+	white/green
4	NC	blue
5	NC	white/blue
6	RX-	green
7	NC	white/brown
8	NC	brown



Notice for wiring:

- NC: No connect; do not connect to any signal or supply.

3 LTP 19

The user interface of the LTP 19 Touch Panel appears on an innovative TFT monitor with 1000 cd/m^2 LED backlit colour display. Thanks to the capacitive touch-screen it can be operated intuitively and provides many more graphical possibilities such as faders, for example. The concept behind the design of the panel was flexible usage: as an alternative to the LBP-button-series, but also for meter-monitoring and the freedom of using virtual faders.

The touch panel has been developed specifically for use with VSM-Studio in OB vans and studios. The use of embedded components and an adapted embedded operating system guarantee a robust, maintenance-free and long-living system that meets the high requirements of mobile and stationary applications. High-quality materials and the innovative design of the panel give it both a robust and sophisticated appearance.

3.1 LTP-19 at a Glance:

- Embedded system platform with adapted baseboard
- Atom N450 processor
- Capacitive touch behind a solid glass-surface
- IP54 frontally
- 12V supply via truck net
- Small and comfortable 19 inch 2,5 RU-housing

3.2 Touch-Screen Display

- 376 x 71 mm (15'' wide) TFT Colour Display
- 1280 x 242 dots display resolution
- Reading angle [le/ri/top/bo] 80°/80°/85°/85°
- LED backlight
- 1000 cd/m^2 max. brightness
- Capacitive touch-screen

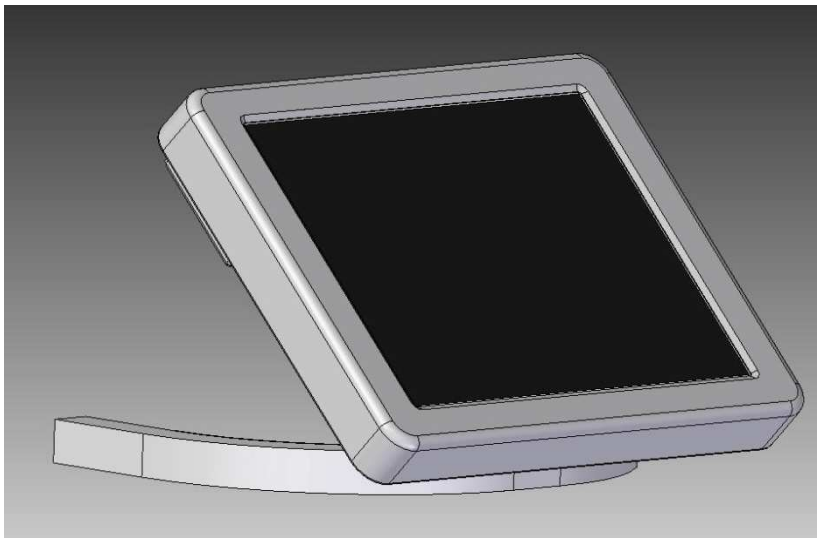
3.3 PC

- CPU platform: Atom N450 processor
- Interface: 1 x Ethernet 10/100/1000 Mbps
- Power supply: 12 V DC via Phoenix connector or alternatively Hirose HR10A
- Received power: approx. 29 W

3.4 Housing

- Front side: optically attractive shapely aluminium elox cover
- Rear side : 1 mm steel housing with aluminium sheet for the seating of the CPU board
- Accessories: dummy plate for 3 RU-extension
- Dimensions [l x w x d]: approx.480 x 110 x 80 mm
- Protection category: IP54 front side, IP20 back side
- Environment temperature: 0 ℃ - 50 ℃
- Accreditation: CE (for series production devices)

4 TTP-10



The user interface of the LTP 19 Touch Panel appears on an innovative TFT monitor with 500 cd/m^2 LED backlit colour display. Thanks to the capacitive touch-screen it can be operated intuitively and provides many more graphical possibilities such as faders, for example. The concept behind the design of the panel was flexible usage: as an alternative to the LBP-button-series, but also for meter-monitoring and the freedom of using virtual faders.

The touch panel has been developed specifically for use with VSM-Studio in OB vans and studios. The use of embedded components and an adapted embedded operating system guarantee a robust, maintenance-free and long-living system that meets the high requirements of mobile and stationary applications. High-quality materials and the innovative design of the panel give it both a robust and sophisticated appearance.

4.1 TTP10 at a Glance:

- Embedded system platform with adapted baseboard
- Atom N450 processor
- Capacitive touch behind a solid glass-surface
- IP54 frontally
- 12V supply via truck net
- Small and comfortable aluminum-housing
- Foot and VESA 75 installation

4.2 Touch-Screen Display

- 264 mm (10,4'') TFT Colour Display
- 1024 x 768 dots display resolution
- Reading angle [le/ri/top/bo] 85°85°85°85°
- LED backlight
- 500 cd/m^2 max. brightness
- Capacitive touch-screen

4.3 PC

- CPU platform: Atom N450 processor
- Interface: 1 x Ethernet 10/100/1000 Mbps
- Power supply: 12 V DC via Hirose HR10A connector
- Received power: approx. 25 W

4.4 Housing

- Front side: optically attractive shapely aluminium frame
- Rear side : steel CPU-housing with aluminium sheet for the seating of the CPU board
- Adaptor for VESA support arm (VESA 75)
- Dimensions [l x w x d]: approx.260 x 210 x 65 mm when folded down to 0 degrees including pedestal
- Protection category: IP54 front side, IP20 back side
- Environment temperature: 0 °C - 50 °C
- Accreditation: CE (for series production devices)

5 Under Monitor Displays (UMDs)

The UMDs display information such as labels and tally quickly, clearly and precisely. The content shown by the UMDs can be configured with the vsmStudio software assigned via IDs. A special glass surface avoids finger prints and reflection. Text can be displayed in variable sizes, character sets, centred, flashing, inverse and dimmed. The UMD layout can also freely be configured. Four external Tally hardware inputs can be used for individually customised messages to be displayed during stand-alone use. All display information is retained in non-volatile memory while the display is powered off.

There are three different UMD types available: a 19-inch UMD-SD, a ½19-inch UMD-SD and a 19-inch UMD-HD. The 19-inch UMD-SD has a resolution of 170*7 pixels. It consists of a graphical matrix, which can be divided in up to 16 freely definable segments. Each of these segments can be labelled and also display red, green and yellow Tally. The ½19-inch UMD-SD has a resolution of 80*7 pixels. The HD version has a resolution of 160x16 pixels and therefore provides many more possibilities. It can also display Arabic and Asian characters as well as time-code information and gain parameters. Furthermore the two Tally colours red, green and a mixture of the colours (yellow) are available for text information. This enables Tally to be displayed not only on the Tally bar at the top of the UMD but also to be reflected in the colour of the displayed text. The UMD-HD is able to display peak-meter, processing and timer information in two text lines.

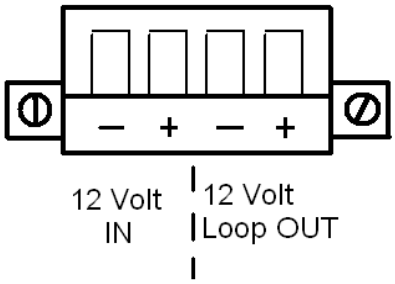
Specifications:

- Weight: 0.5 kg (½ 19")
  0.75 kg (19")
- Dimensions: 274 mm x 44 mm x 35 mm (½ 19")
  483 mm x 44 mm x 35 mm (19")
- Resolution: 7 x 80 dots (½ 19")
  7 x 170 dots (19")
- Recommended operating temperature: -10℃ - 75℃

Power requirements:

12 V DC (< 1 A), supplied by an external capsulated switching power supply (approx. 0.05 A CPU and approx. 0.8 A respectively, depending on the pre-set intensity of the UMD, no information displayed on the UMD: approx. 0.1 A in total, full information displayed with all LED lights up 1.0 A maximum).

Connector for 12 V supply: 4-Pin Phoenix locked with two screws

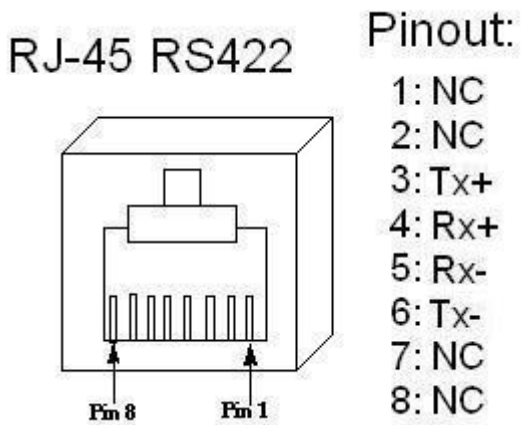


Technical data of the external power supply:

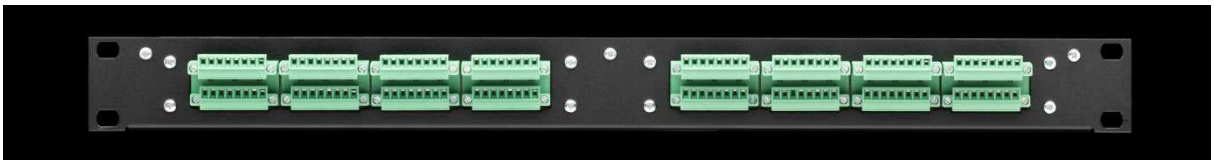
- Input: 100 – 240 V alternating current 50 – 60 Hz, 150 W max.
- Output: 12 V direct current, 5 A, 60 VA

Connectors for data drive:

- 1 x RS-422 RJ45
- 1 x RS-422 (loop through) RJ45



6 General Purpose Interfaces (GPI)



The General Purpose Interface (GPI) is available either with 64 optoelectronic inputs, with 64 relay outputs, or with 32 optoelectronic inputs and 32 relay outputs in combination. It provides a RS-422 and (the models produced after May 2005) a 10/100 Mbit Ethernet port.

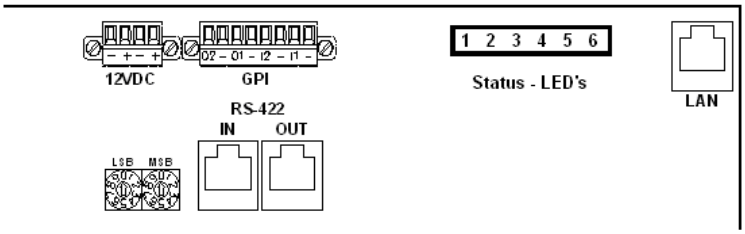
The relay-outputs are “dry contact-outputs”, meaning there is no output-power supplied by the GPI-outputs. For further details please refer to the technical specifications below.

The optoelectronic inputs are set by either shorting the inputs, or by supplying a DC voltage up to 12VDC. For further details please refer to the technical specifications below.

Specifications:

- Weight: approx. 2.1 kg
- Dimensions: 483 mm x 44 mm x 110 mm (W x H x D)

Rear-view



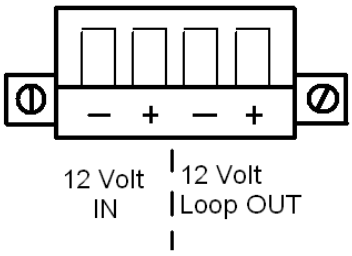
Description of the status LEDs:

Blue:	blinks, data transfer to vsmStudio
Red:	blinks, no connection to vsmStudio
Green:	light, 5 V internal voltage OK
Green:	light, 3.3 V internal voltage OK
Orange:	light, physical connection to LAN
Green:	blinks, data transfer via LAN

Power requirements:

- 12 V DC (< 3.5 A), supplied by an external capsulated switching power supply (approx. 0.18 A CPU and max. 0.06 A per relais-output depending on the amount of relays being “set”)

- Connector for 12 V supply: 4-Pin Phoenix locked with two screws.

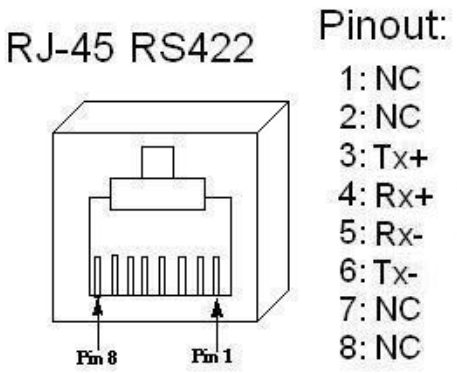


Technical data of the external power supply:

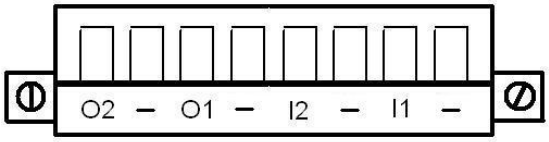
- Input: 100 – 240 V alternating current 50 – 60 Hz, 150 W max.
- Output: 12 V direct current, 5 A, 60 VA

Connectors for data drive:

- 1 x RS-422 RJ45
- 1 x RS-422 (loop through) RJ45



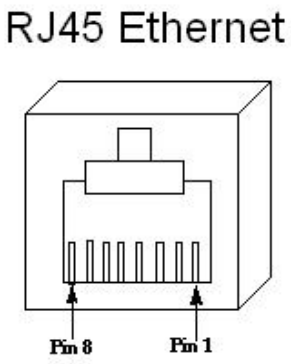
- 1 x GPI (8-Pin Phoenix locked with two screws)



GPI - Interface

- 1 x Ethernet (RJ-45)

Pin	Signal	Colour of a standard-patch cable
1	TX+	white/orange
2	TX-	orange
3	RX+	white/green
4	NC	blue
5	NC	white/blue
6	RX-	green
7	NC	white/brown
8	NC	brown

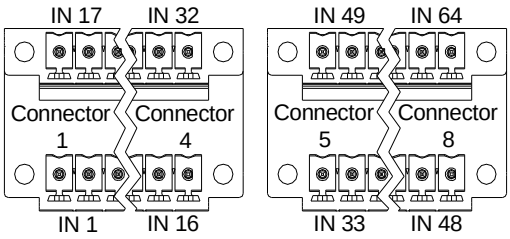


Notice for wiring:

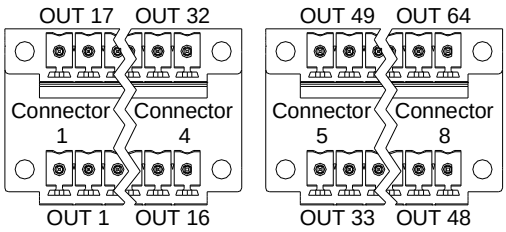
- NC: No connect; do not connect to any signal or supply

Pinning at the Modules front side, 3 various assembly types available

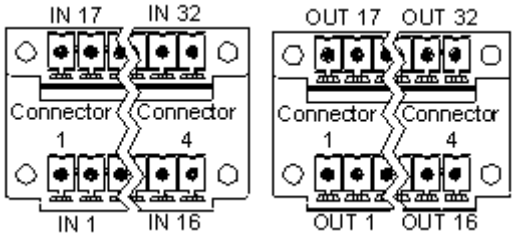
64 optoelectronic inputs



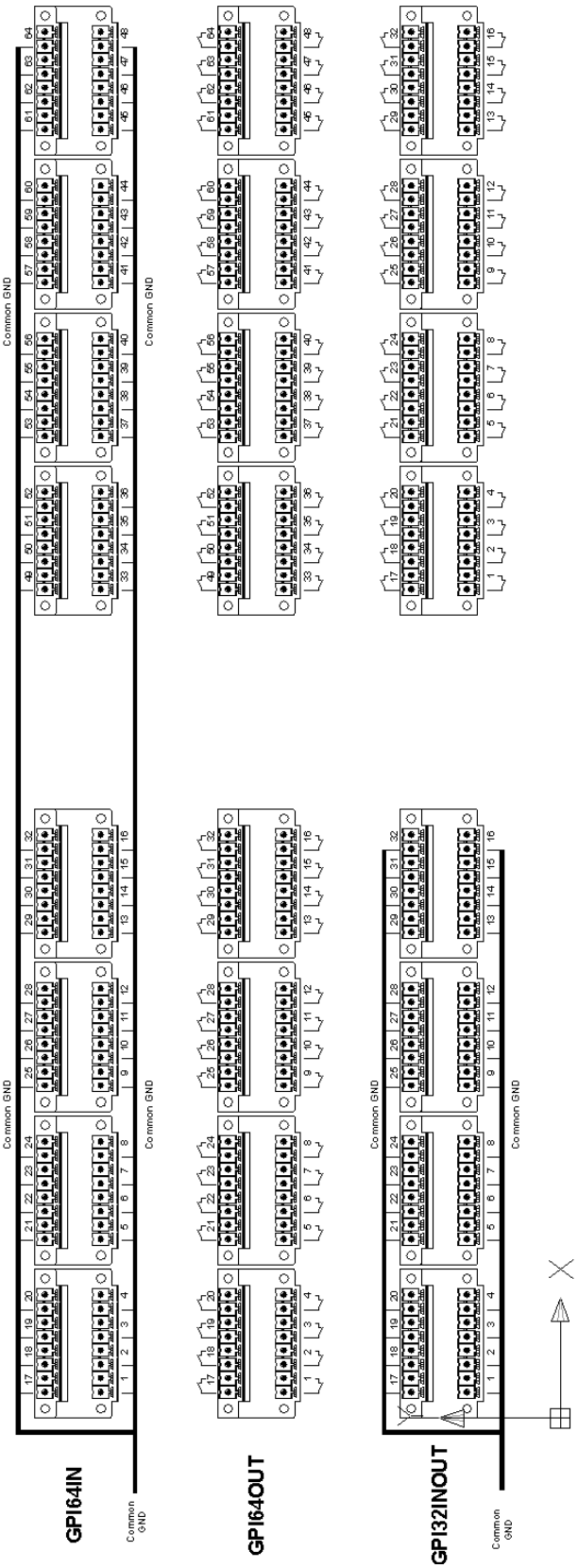
64 relays outputs



32 optoelectronic inputs and 32 relay outputs



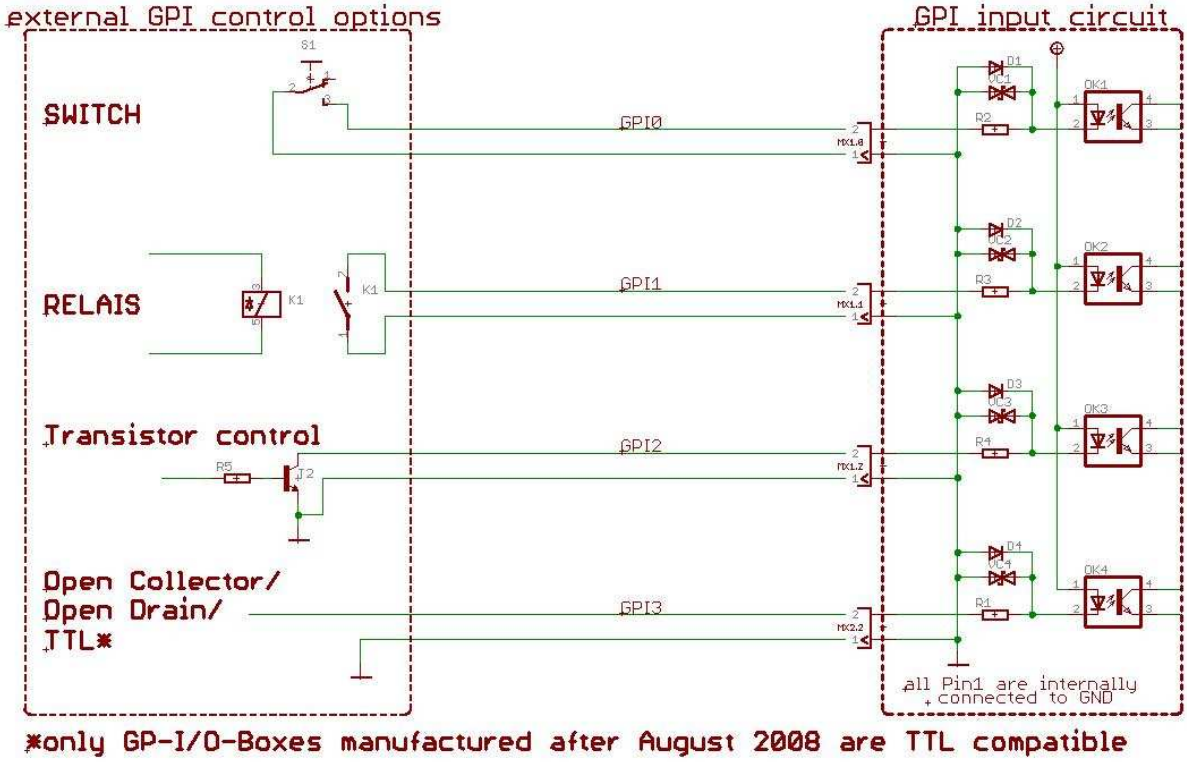
Pin out of the IN- and OUTputs:



Signal-Inputs:

- The Inputs will be ‘set’ by shorting the two pins or by providing any same-ground potential DC-voltage of approx. 12 V*. The supplied DC-voltage should not exceed 14 V.

  *(GPI’s manufactured after 08.2008 are TTL compatible. Grounding the input pin will ‘set’ the device. Supplying a DC voltage, it needs to be lower than 2.5 V DC to ‘set’ the device)
- All inputs are optically separated.

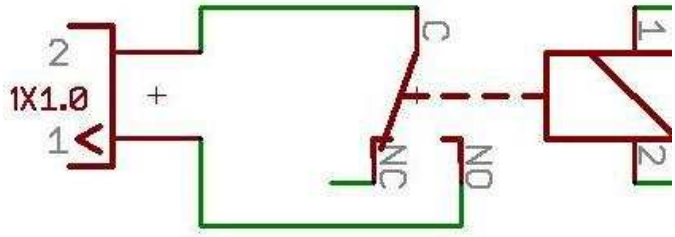


Relays-Outputs:

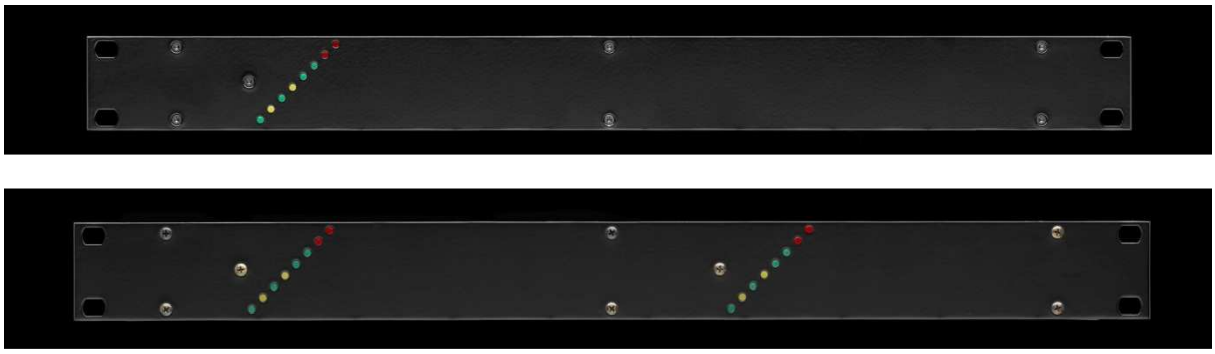
- The relay outputs are primarily designed for low level voltage (up to 48 V) that meet the small signal safety rules following DIN VDE 0100, Part 410.
- Nevertheless, the relay outputs are designed for a voltage of up to 250 V AC, are rated 7 Amps constant current and 1750 VA breaking capacity with non inductive load.
- For safety reasons while using „higher voltage“ (e.g. 240 V AC) is has to be made sure the current does not exceed the maximum current permitted for each relay (maximum 7 A per relay).
- High level signals and low level signals should not be run together on the same GP-I/O.
- We advise that if using signals with 240 V not to power the GPI’s with more than 1 A per relay.
- Professional broadcast equipment mostly uses 5 V up to 24 V DC with a maximum current of 500 mA.

  Important: Due to physically properties the usage of higher voltage and higher current relates to a stronger abrasion within the relays. This may result higher transient resistance between the switching contacts.

  Once used for more than 50 V with a couple of amps per relay, the GPI output should not be used later on in another application with small signal voltage, because this might lead to interpreting some switching conditions not correctly.



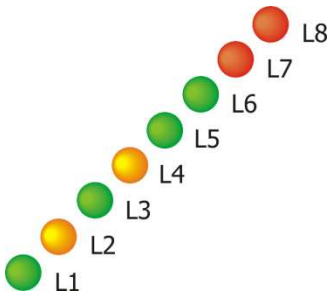
7 CommServer Single/Dual



A CommServer is the interface between Ethernet and a serial RS-422 or RS-232 port. That means any device that needs to be controlled by an Ethernet network, but only having serial interfaces, can be connected through a CommServer. There are eight LEDs for each CommServer mounted in the front panel indicating the status (internal voltage, connection to VSM software, data transfer etc.). An optional two CommServers can be ordered in one 19-inch 1U housing with the possibility to transmit TCP/IP to two RS-422 or RS-232 ports. A special feature of the VSM CommServers is that they provide control logics for redundancy. This means that they are connected to the VSM server cluster and automatically determine which server they communicate with.

CommServer:

- L1: Power / Ready
- L2: Physical Network Link
- L3: Link to vsmStudio Established
- L4: Inbound Link Established
- L5: Tx Data
- L6: Rx Data
- L7: -
- L8: -



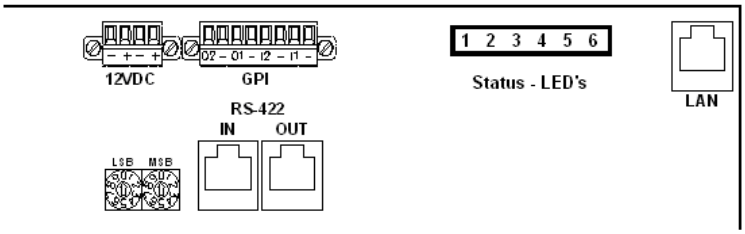
Features:

- 8 LEDs mounted in the front panel
- By request 2 CommServer in one 19” 1U
- Ethernet ←→ RS422
- Ethernet ←→ RS232

Specifications:

- Weight: approx. 1 kg
- Dimensions: 483 mm x 44 mm x 65 mm (W x H x D)

Rear-view

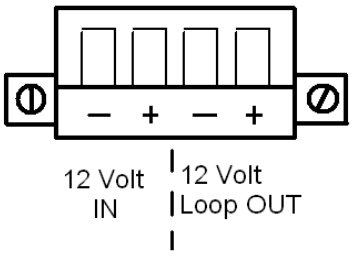


Description of the status LEDs:

Blue:	blinks, data transfer to vsmStudio
Red:	blinks, no connection to vsmStudio
Green:	light, 5 V internal voltage OK
Green:	light, 3.3 V internal voltage OK
Orange:	light, physical connection to LAN
Green:	blinks, data transfer via LAN

Power requirements:

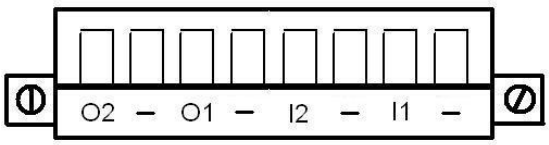
- 12 V DC (<1.0 A), supplied by an external capsulated switching power supply (approx. 0.18 A CPU and max. 0.06 A per pushbutton depending on the backlight illumination, no backlight: approx. 0.35 A in total, all pushbuttons illuminated white 0.9 A max.).
- Connector for 12 V supply: 4-Pin Phoenix locked with two screws.



Technical data of the external power supply:

- Input: 100 – 240 V alternating current 50 – 60 Hz, 150 W max.
- Output: 12 V direct current, 5 A, 60 VA

- 1 x GPI (8-Pin Phoenix locked with two screws)

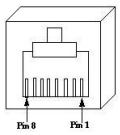


GPI - Interface

Connectors for data drive:

- 1 x RS-422 via RJ45 (Standard: EIA-422) RX/TX – pin swap can be done by vsmDiscover

RJ 45 RS-422



Pin	Signal description	Comments
1	NC	Internally not connected
2	NC	Internally not connected
3	Rx+	Receive Data input
4	Tx+	Transmit Data output
5	Tx-	Transmit Data output
6	Rx-	Receive Data input
7	NC	Internally not connected
8	NC	Internally not connected

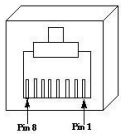
- 1 x RS-232 via Sub-D9 male (Standard: EIA RS-232D 2.1.7)

Sub-D9 male RS232

Pin	Signal description	Comments
1	DCD	Data Carrier Detect
2	RxD	Receive Data input
3	TxD	Transmit Data output
4	DTR	Data Terminal Ready
5	GND	Ground (shield)
6	DSR	Dataset Ready
7	RTS	Request to send
8	CTS	Clear to send
9	RI	Internally not connected

- 1 x Ethernet via RJ-45 TIA 568A Standard

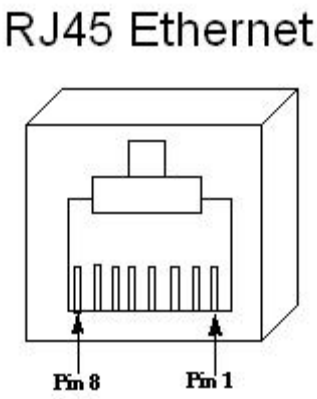
RJ 45 Ethernet



Pin	Signal description	Comments
1	TX+	Transmit Data output
2	TX-	Transmit Data output
3	RX+	Receive Data input
4	NC	Internally not connected
5	NC	Internally not connected
6	RX-	Receive Data input
7	NC	Internally not connected
8	NC	Internally not connected

- 1 x Ethernet (RJ-45)

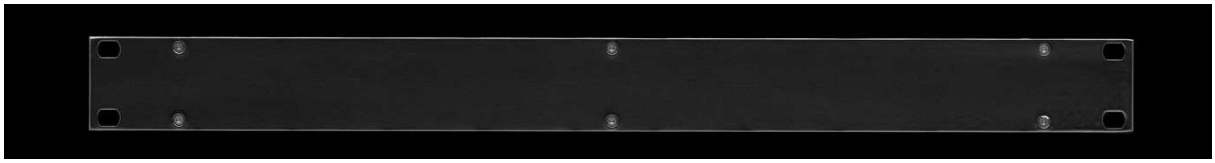
Pin	Signal	Colour of a standard-patch cable
1	TX+	white/orange
2	TX-	orange
3	RX+	white/green
4	NC	blue
5	NC	white/blue
6	RX-	green
7	NC	white/brown
8	NC	brown



Notice for wiring:

- NC: No connect; do not connect to any signal or supply.

7.1 MultiSerial Interface (CommServer 8+2)



The MultiSerial Interface (CommServer 8+2) is a CommServer that transmits Ethernet to several RS-442 and RS-232 ports. There are two LEDs for each RS-422 port mounted in the rear panel, to show the data-transaction (RX and TX) on those ports.

Features:

- 8 Serial RS-422 ports with incoming and outgoing data control
- 2 Serial RS-232 ports
- 1 Ethernet connection

Technical data of the serial interfaces:

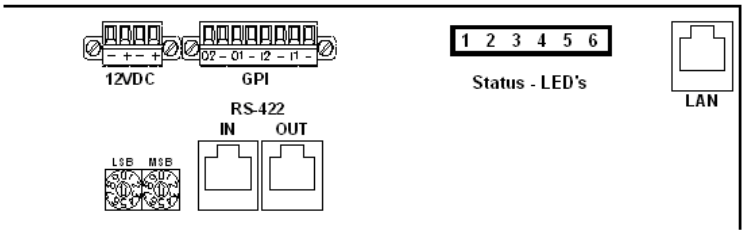
- **RS-422** (port 1 through 8)
  (Standard: EIA-422)
  - Baudrate: 9.600…..230.400
  - Databits: 7/8
  - Parity: odd/even/none
  - RX/TX – pin swap can be done by vsmDiscover

- **RS-232** (port A & B)
  (Standard: EIA RS-232D 2.1.7)
  - Baudrate: 9.600…..230.400
  - Databits: 7/8
  - Parity: odd/even/none

Specifications:

- Weight: approx. 1.5 kg
- Dimensions: 443 mm x 44 mm x 100 mm (W x H x D)

Rear-view



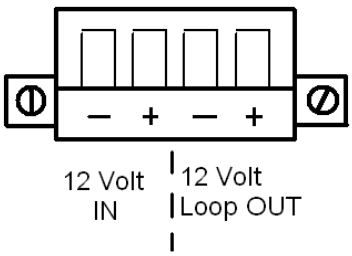
Description of the status LEDs:

Blue:	blinks, data transfer to vsmStudio
Red:	blinks, no connection to vsmStudio
Green:	light, 5 V internal voltage OK
Green:	light, 3.3 V internal voltage OK
Orange:	light, physical connection to LAN
Green:	blinks, data transfer via LAN

Power requirements:

- 12 V DC (<1.0 A), supplied by an external capsulated switching power supply (approx. 0.18 A CPU and max. 0.06 A per pushbutton depending on the backlight illumination, no backlight: approx. 0.35 A in total, all pushbuttons illuminated white 0.9 A max.).

- Connector for 12 V supply: 4-Pin Phoenix locked with two screws.



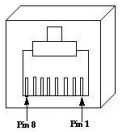
Technical data of the external power supply:

- Input: 100 – 240 V alternating current 50 – 60 Hz, 150 W max.
- Output: 12 V direct current, 5 A, 60 VA

Connectors for data drive:

- 1 x RS-422 via RJ45 (Standard: EIA-422) RX/TX – pin swap can be done by vsmDiscover

RJ 45 RS-422



Pin	Signal description	Comments
1	NC	Internally not connected
2	NC	Internally not connected
3	Rx+	Receive Data input
4	Tx+	Transmit Data output
5	Tx-	Transmit Data output
6	Rx-	Receive Data input
7	NC	Internally not connected
8	NC	Internally not connected

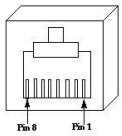
- 1 x RS-232 via Sub-D9 male (Standard: EIA RS-232D 2.1.7)

Sub-D9 male RS232

Pin	Signal description	Comments
1	DCD	Data Carrier Detect
2	RxD	Receive Data input
3	TxD	Transmit Data output
4	DTR	Data Terminal Ready
5	GND	Ground (shield)
6	DSR	Dataset Ready
7	RTS	Request to send
8	CTS	Clear to send
9	RI	Internally not connected

- 1 x Ethernet via RJ-45 TIA 568A Standard

RJ 45 Ethernet

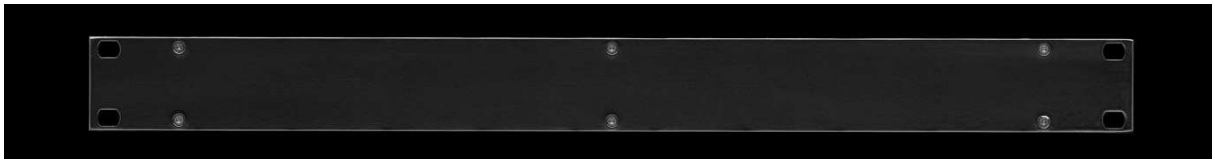


Pin	Signal description	Comments
1	TX+	Transmit Data output
2	TX-	Transmit Data output
3	RX+	Receive Data input
4	NC	Internally not connected
5	NC	Internally not connected
6	RX-	Receive Data input
7	NC	Internally not connected
8	NC	Internally not connected

Notice for wiring:

- NC: No connect; do not connect to any signal or supply.

7.2 MultiSerial Interface (CommServer 0+10)



The MultiSerial Interface (CommServer 0+10) is a CommServer that transmits Ethernet to several RS-232 ports.

Features:

- 10 Serial RS-232 ports
- variable baud rates for each individual port from 1.200 baud up to 230.400 baud
- odd/even/none – parity-selection for each port
- user-selectable 7 or 8 data bits
- 1 Ethernet connection

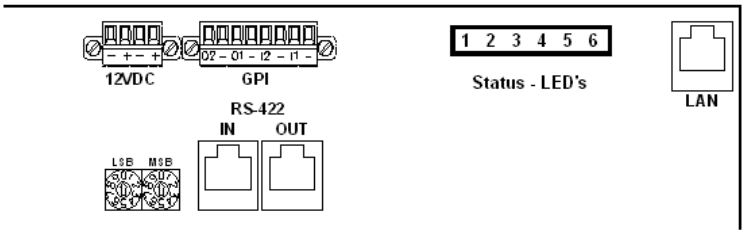
Technical data of the serial interfaces:

- **RS-232** (port A through J)
  (Standard: EIA RS-232D 2.1.7)
  - Baudrate: 1.200…..230.400
  - Databits: 7/8
  - Parity: odd/even/none

Specifications:

- Weight: approx. 1.5 kg
- Dimensions: 443 mm x 44 mm x 100 mm (W x H x D)

Rear-view

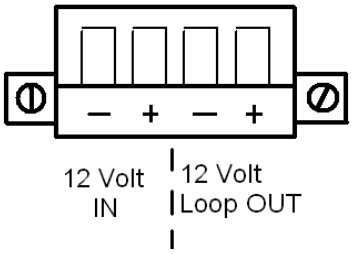


Description of the status LEDs:

Blue:	blinks, data transfer to vsmStudio
Red:	blinks, no connection to vsmStudio
Green:	light, 5 V internal voltage OK
Green:	light, 3.3 V internal voltage OK
Orange:	light, physical connection to LAN
Green:	blinks, data transfer via LAN

Power requirements:

- 12 V DC (<1.0 A), supplied by an external capsulated switching power supply
- Connector for 12 V supply: 4-Pin Phoenix locked with two screws.



Technical data of the external power supply:

- Input: 100 – 240 V alternating current 50 – 60 Hz, 150 W max.
- Output: 12 V direct current, 5 A, 60 VA

Connectors for data drive:

- 10 x RS-232 via Sub-D9 male (Standard EIA RS-232D 2.1.7)

Sub-D9 male RS232

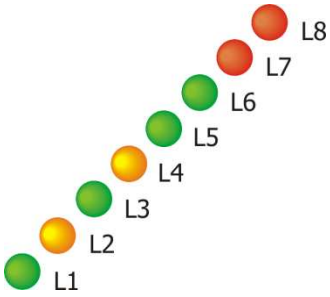
Pin	Signal description	Comments
1	DCD	Data Carrier Detect
2	RxD	Receive Data input
3	TxD	Transmit Data output
4	DTR	Data Terminal Ready
5	GND	Ground (shield)
6	DSR	Dataset Ready
7	RTS	Request to send
8	CTS	Clear to send
9	RI	Internally not connected

8 UMD-Proxy

UMDs are interfaced to the network via RS-422 through a UMD-Proxy. There are eight LEDs mounted in the front panel that indicate the status of the UMD-Proxy. By request, two spate UMD-Proxies or a redundant UMD-Proxy can be ordered in one 19-inch 1U housing.

UMD-Proxy:

- L1: Power / Ready
- L2: Physical Network Link
- L3: Link to vsmStudio Established
- L4: Tandem Board Detected
- L5: Receiving data from vsmStudio
- L6: Sending data from vsmStudio
- L7: Sending data to UMDs
- L8: Collision Detect



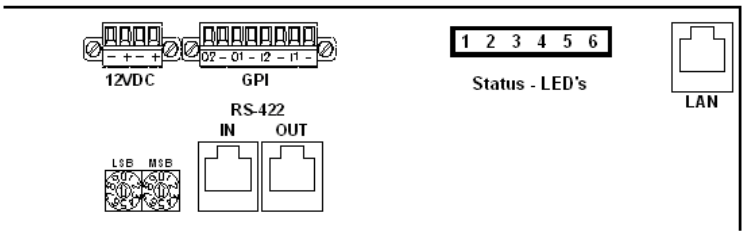
Features:

- LEDs mounted in the front Panel
- By request 2 UMD-Proxys in one 19” 1U

Specifications:

- Weight: approx. 1 kg
- Dimensions: 483 mm x 44 mm x 65 mm (W x H x D)

Rear-view

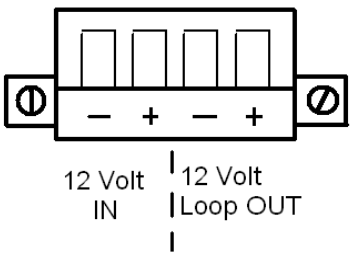


Description of the status LEDs:

Blue:	blinks, data transfer to vsmStudio
Red:	blinks, no connection to vsmStudio
Green:	light, 5 V internal voltage OK
Green:	light, 3.3 V internal voltage OK
Orange:	light, physical connection to LAN
Green:	blinks, data transfer via LAN

Power requirements:

- 12 V DC (<1.0 A), supplied by an external capsulated switching power supply (approx. 0.18 A CPU and max. 0.06 A per pushbutton depending on the backlight illumination, no backlight: approx. 0.35 A in total, all pushbuttons illuminated white 0.9 A max.).
- Connector for 12 V supply: 4-Pin Phoenix locked with two screws.

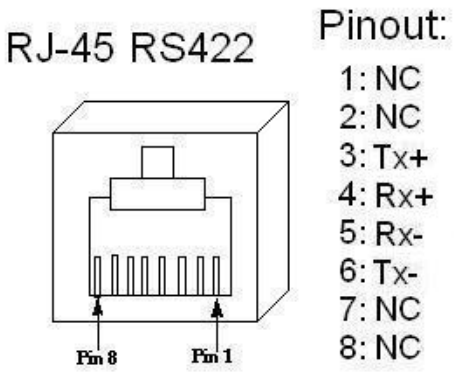


Technical data of the external power supply:

- Input: 100 – 240 V alternating current 50 – 60 Hz, 150 W max.
- Output: 12 V direct current, 5 A, 60 VA

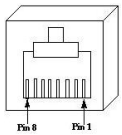
Connectors for data drive:

- 1 x RS-422 RJ45
- 1 x RS-422 (loop through) RJ45



- 1 x Ethernet via RJ-45 TIA 568A Standard

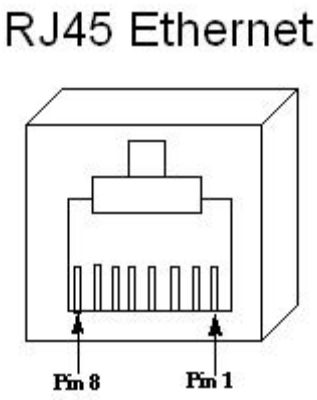
RJ 45 Ethernet



Pin	Signal description	Comments
1	TX+	Transmit Data output
2	TX-	Transmit Data output
3	RX+	Receive Data input
4	NC	Internally not connected
5	NC	Internally not connected
6	RX-	Receive Data input
7	NC	Internally not connected
8	NC	Internally not connected

- 1 x Ethernet (RJ-45)

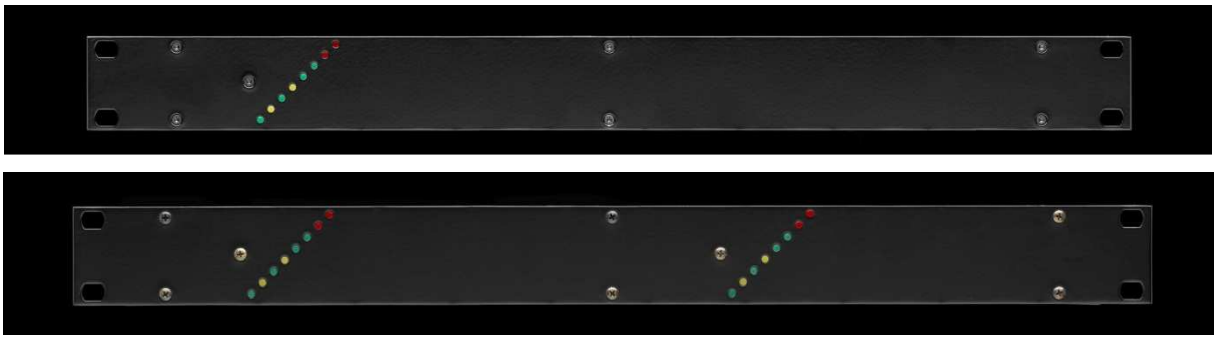
Pin	Signal	Colour of a standard-patch cable
1	TX+	white/orange
2	TX-	orange
3	RX+	white/green
4	NC	blue
5	NC	white/blue
6	RX-	green
7	NC	white/brown
8	NC	brown



Notice for wiring:

- NC: No connect; do not connect to any signal or supply.

9 LTC Interface Single/Dual



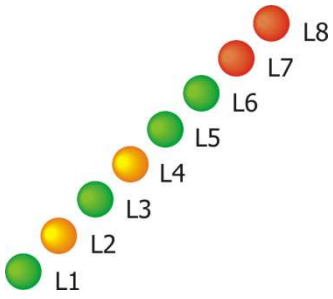
The LTC-VS-Proxy is an interface between a longitudinal time code signal and a USB port. The LTC signal can be used to provide a PC or server with timecode synchronisation through the LTC-Proxy. The LTC- Proxy comes with an additional video-sync input. There are LEDs for each port mounted in the rear panel, to show the data-transaction and the actual status of the unit as well as “power good”. Thus valid signals can be recognised immediately. Status-information will also be shown on the front panel via LED bars. The interface supports PAL/NTCS-Standard, but **no NTSC-Drop-Frame-Mode.**

Features:

- 1 LTC time code input via SUB-D15 female for PAL/NTSC-Standard **(Drop-Frame Mode not allowed!!!)**
- 1 video sync input (black burst) 75 Ohm via BNC (fallback-synchronisation)
- 1 Serial RS-232 port “output” via SUB-D9 female for redundancy application
- 1 USB port via USB device connector for Interface with VSM-Server

Legend for the status – LED’s in the front:
(starting from the lower left to the upper right)

Green (L1): Power / Ready
Yellow (L2): Physical connection to PC established
Green (L3): RTC available
Yellow(L4): Backup source operation
Green (L5): V-Sync online
Green (L6): LTC online
Red (L7): V-Sync error
Red (L8): LTC error



Technical data of the serial interfaces:

- **RS-232** (Standard: EIA RS-232D 2.1.7)
  - Baud rate: 115200 baud
  - Databits: 8
  - Parity: none
  - Stop Bit: 1

- **USB (universal serial bus)**
  - Baud rate: 1.5 Mbit/s up to 12 Mbit/s
  - Databits: 7

Specifications:

- Weight: approx. 1.1 kg
- Dimensions: 443 mm x 44 mm x 125 mm (W x H x D)

Rear-view (both units fitted)

Legend for the status – LED's (rear) next to the connectors:

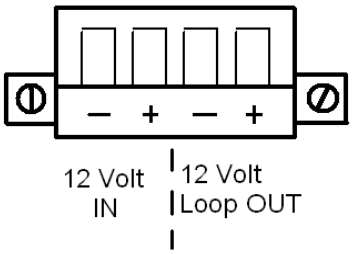
(starting from the left (power supply) to the right (input LTC))

Green/Green	(1+2):	Power good (internal regulator)
Red/Green	(3+4):	RX/TX indicator for USB port
Red/Green	(5+6):	RX/TX indicator for RS-232 port
Red/Green	(7+8):	Video sync reference status, red: fail; green: ok
Red/Green	(9+10):	LTC status information, red: fail; green: ok

Power requirements:

- 12 V DC (<1.0 A), supplied by an external capsulated switching power supply

Connector for 12 V supply: 4-Pin Phoenix locked with two screws.



Technical data of the external power supply:

- Input: 100 – 240 V alternating current 50 – 60 Hz, 150 W max.
- Output: 12 V direct current, 5 A, 60 VA

1 x RS-232 via Sub-D9 male (Standard: EIA RS-232D 2.1.7)

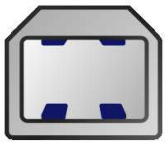
Sub-D9 male RS232

- For interconnection with PC use standard 1:1 male/female RS232-extension

Pin	Signal description	Comments
1	DCD	Data Carrier Detect
2	RxD	Receive Data input
3	TxD	Transmit Data output
4	DTR	Data Terminal Ready
5	GND	Ground (shield)
6	DSR	Dataset Ready
7	RTS	Request to send
8	CTS	Clear to send
9	RI	Internally not connected

1 x USB via device connector

USB device



Pin	Signal description	Comments
1	VCC	+ 5V
2	D-	Data -
3	D+	Data +
4	GND	GND

For interconnection with PC use standard “A” to “B” type USB cord.
Refer to driver installation on the last page of this document.

1 x LTC input via Sub-D15 female (Standard: EIA RS-232D 2.1.7)

Sub-D15 female RS232

For LTC-input with standard PAL/NTSC time code. Drop-Frame-Mode <u>not</u> supported!!!

Pin	Signal description	Comments
1	NC	Internally not connected
2	NC	Internally not connected
3	LTC-A	LTC data +
4	LTC-B	LTC data -
5	GND*	AC-coupled ground
6	NC	Internally not connected
7	NC	Internally not connected
8	NC	Internally not connected
9	NC	Internally not connected
10	NC	Internally not connected
11	NC	Internally not connected
12	NC	Internally not connected
13	NC	Internally not connected
14	NC	Internally not connected
15	NC	Internally not connected

1 x Video sync input via BNC 75 Ohm composite (Standard: PAL/NTSC/SECAM)

BNC 75 Ohm

Pin	Signal description	Comments
1	Composite	Positive video signal
2	Drain	Shield (GND)

Driver-installation for the use of USB-Port:

- ➔ Use the FTDI-driver supplied by the L-S-B GmbH only. Select device **"FT232R"**
- ➔ plug in the USB-device
- ➔ your operating system will now show the new device and ask for a driver
- ➔ choose the path where you dropped the downloaded driver-file and install the driver

- ➔ You are now ready to use your "Virtual Com Port"; a new com port is available on your PC for the data-exchange with the LTC.