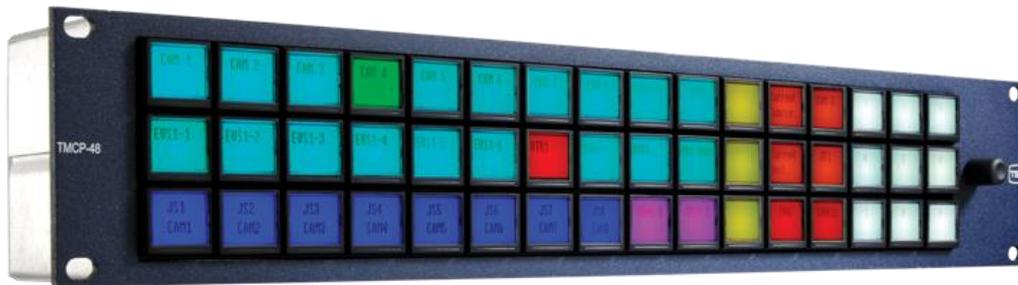# TMCP 16/32/48
Installation Manual
Issue 1

Version History

Issue	Date	Change Details
1	06/11/17	First Issue

Contents

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Introduction

This manual provides installation and operation information for the 16, 32 and 48 button TallyMan Control Panels hereafter referred to as TMCP-16, TMCP-32 and TMCP-48 respectively and TMCP collectively.

All operational set-up such as routing assignments, mnemonics and tally management are programmed via a TallyMan controller, currently this includes the models TM1,TM2, TM2+ and TMC-1 (as of June 2013).

The TMCP is compatible with TallyMan controller software versions 1.83 onwards.

Instructions regarding operational setup can be found in the Control Panel section of the TallyMan Manual.

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Adding a TMCP in the TallyMan controller

To add a TMCP in the TallyMan controller click Add New Component on the System properties pane and select "Control Panel" from the list of devices.
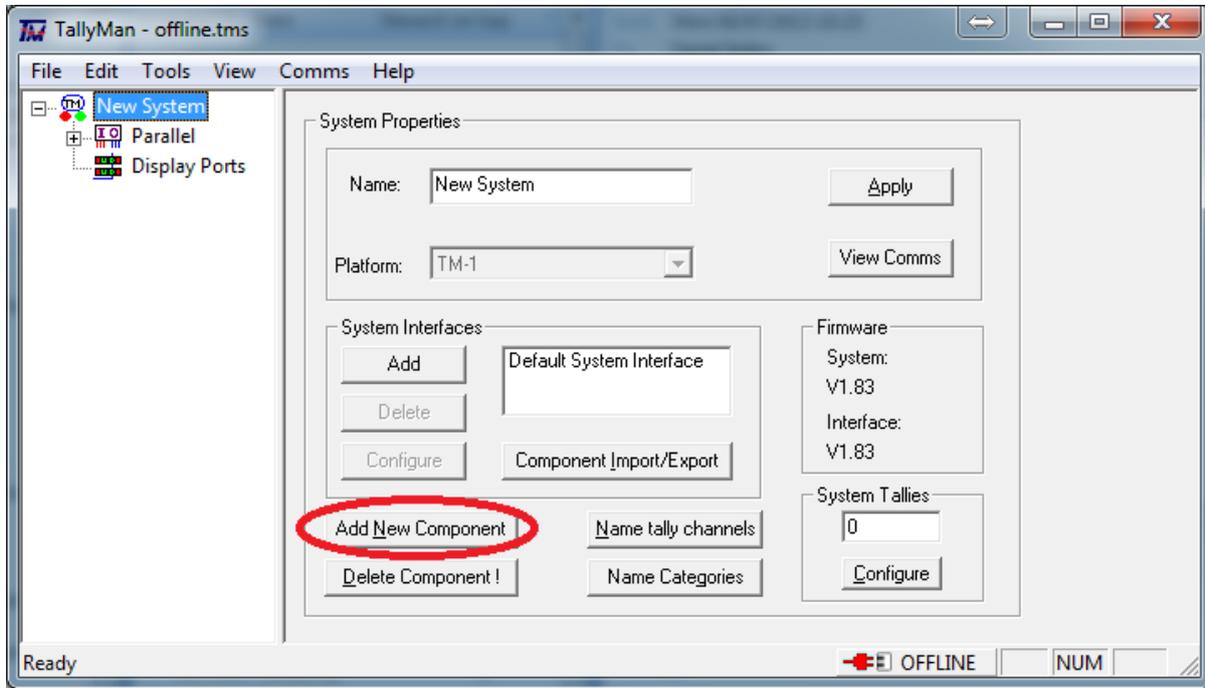
Figure 1

On the control panel properties pane under UCP type, select "TSL Control Panel"

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Figure 2

Set the address, size (number of buttons) and the number of pages you wish to be able to display and click Apply.

Click Edit Comms parameters and set the comms settings.
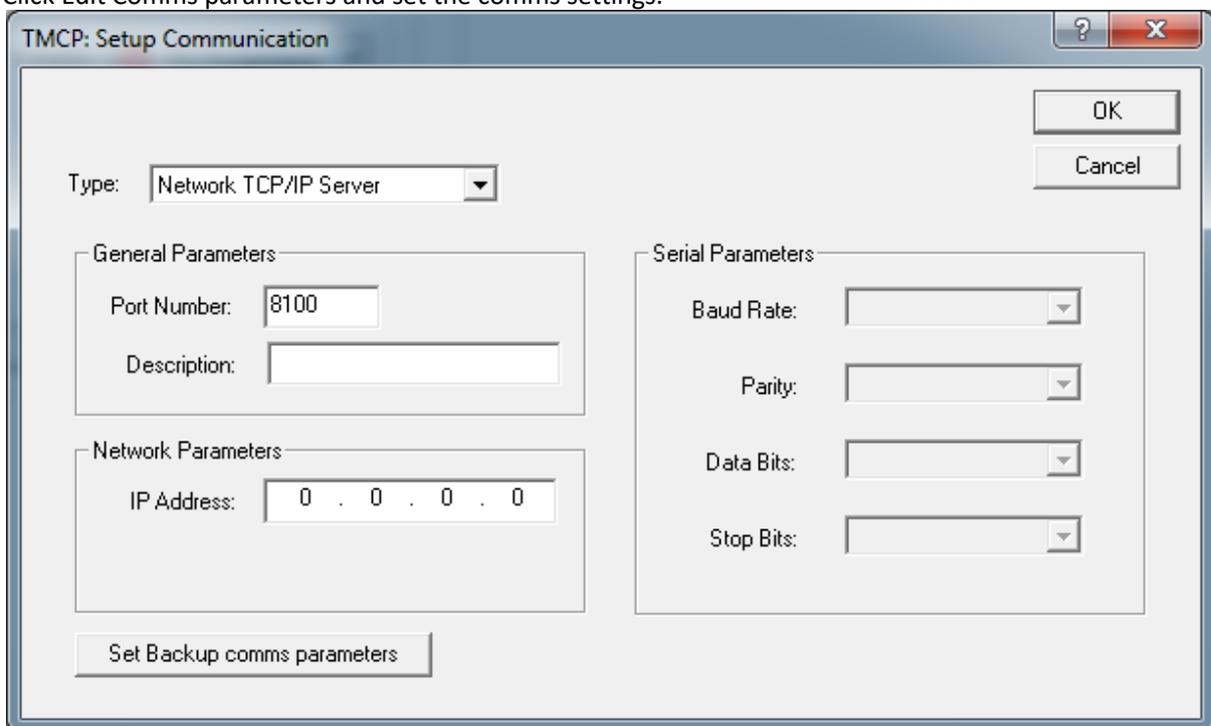
Figure 3

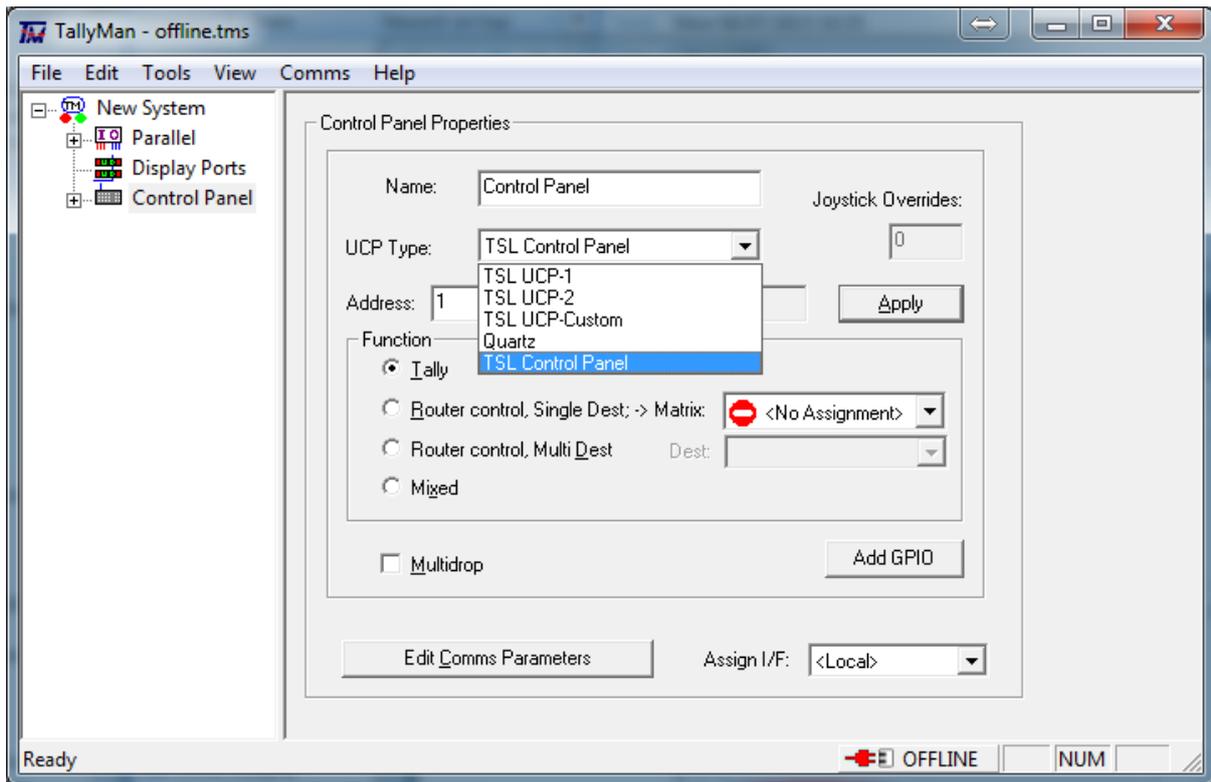The TallyMan controller connects to the TMCP either serially or via TCP/IP. When connected via TCP/IP the units act as server and client, the TallyMan Controller acting as a server and the TMCP acting as a client.

The IP in the "Control Panel: Setup Communication" window must be left blank at 0.0.0.0 or **match** the IP of the TallyMan Controller <u>NOT</u> the TMCP.

Figure 4

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First time startup

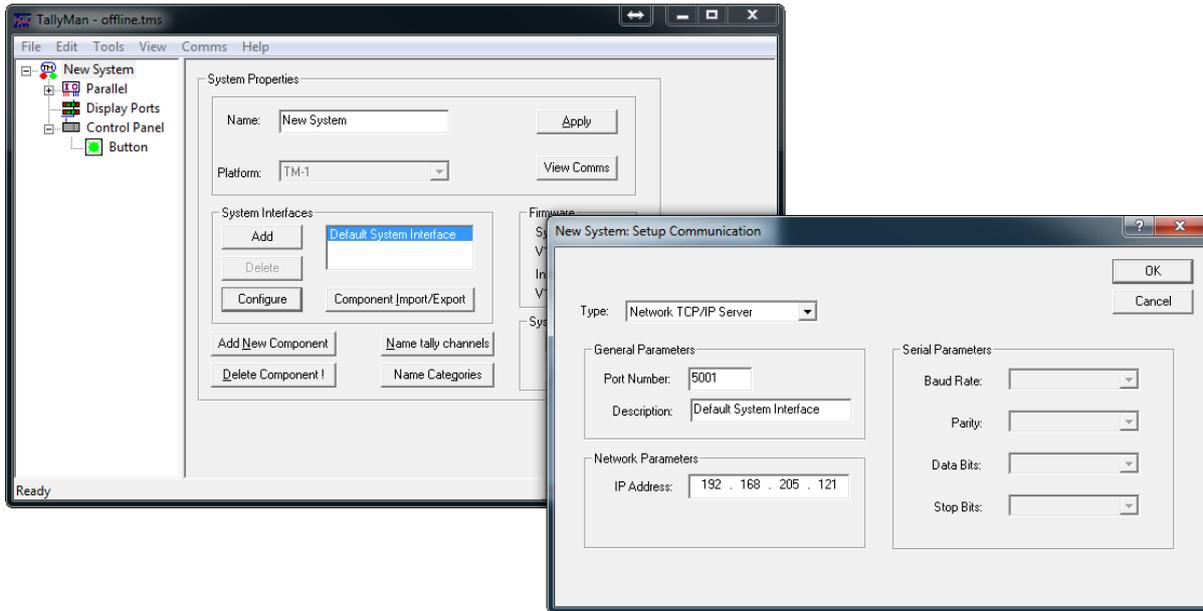On first time startup the TMCP will attempt to connect to a system controller with the default IP settings. The default settings are available in the "Default IP Settings" section of this manual under "Connections".

If the TMCP fails to establish comms with a system controller the "No Comms" menu will be presented.
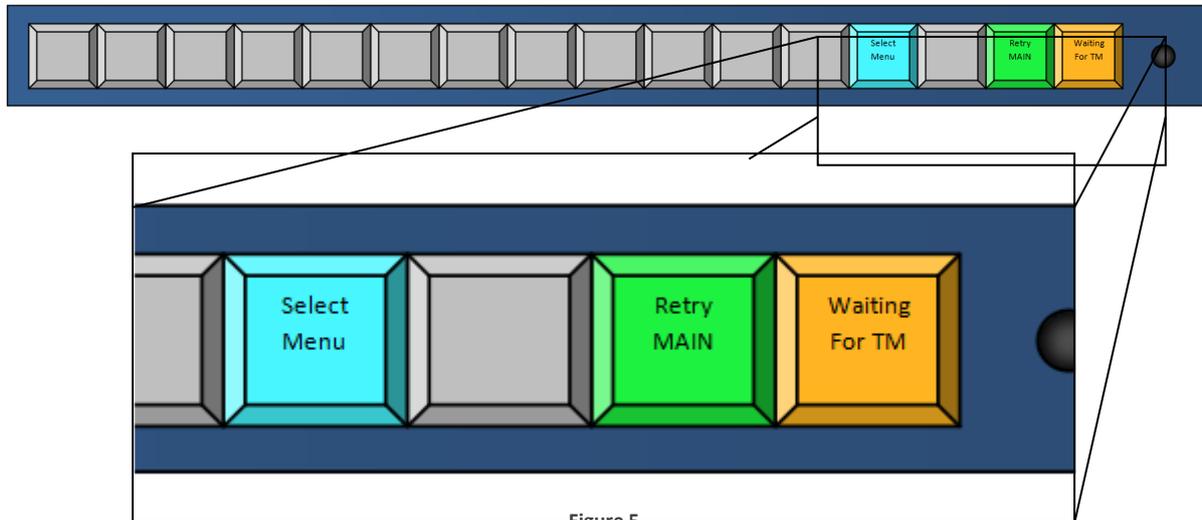
Figure 5

To change the TMCP settings enter the "Engineering Menu" (next page).

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Engineering menu

To access the engineering menu press the "Select Menu" button in the "No Comms" menu or push and hold the rotary encoder knob for 5 seconds until the menu is presented.

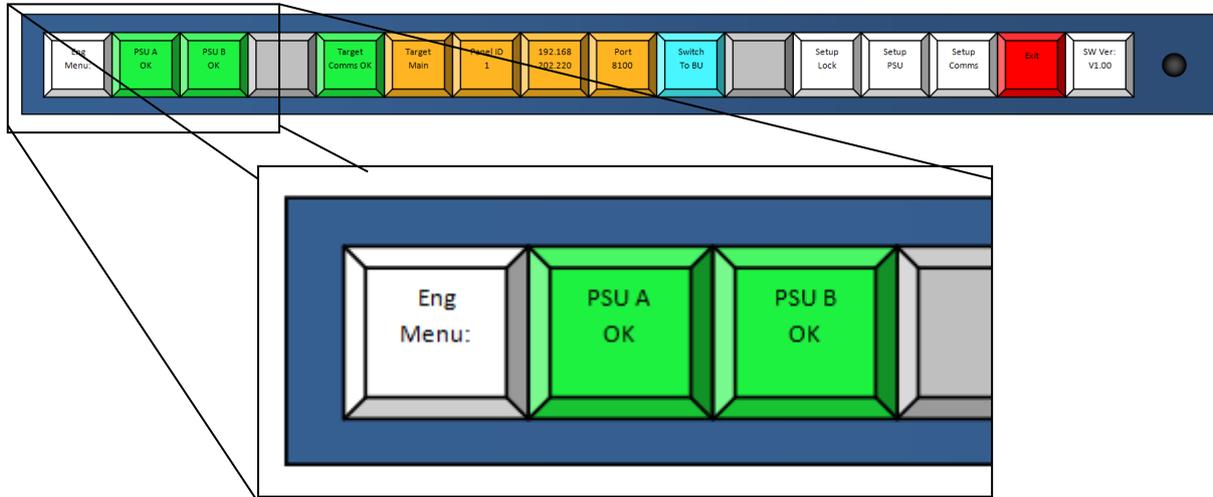The engineering menu is divided into 3 sections.

PSU status:

Figure 6

These buttons indicate the status of the PSUs, only PSUs enabled in the "Setup PSU" menu are displayed here.

Comms Status:
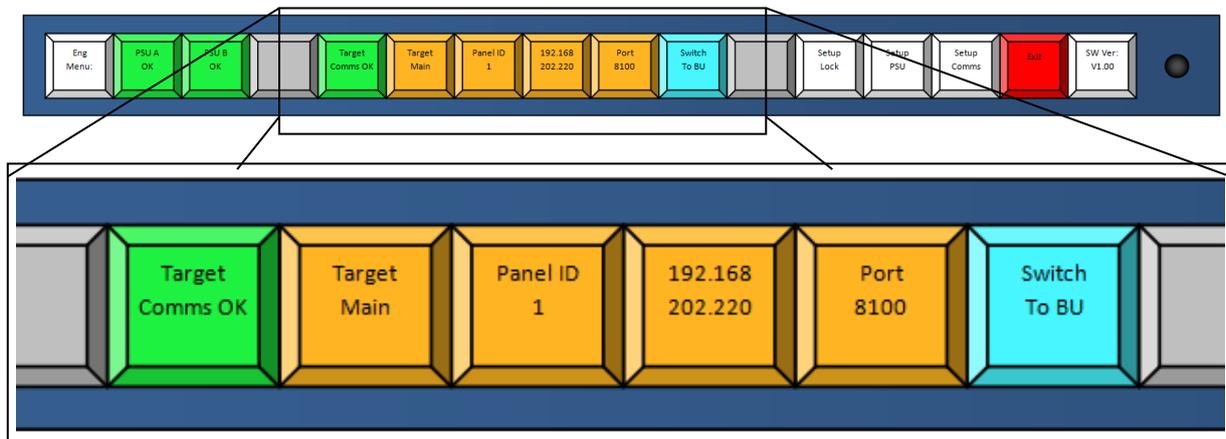
Figure 7

These buttons indicate the comms status. The left button is illuminated green when the TallyMan controller has responded correctly to poll requests. The orange buttons display the details of the TallyMan controller that the panel is connected to. The right button is illuminated blue and when pressed toggles the current comms between main and backup settings if backup comms are enabled. The Target will switch to "Target Backup" and the new settings will be displayed if backup comms are selected.

Active buttons:

Figure 8

These buttons are covered individually in the following sections.

Panel lock

Pushing the "setup lock" button in the engineering menu presents the user with 3 options:

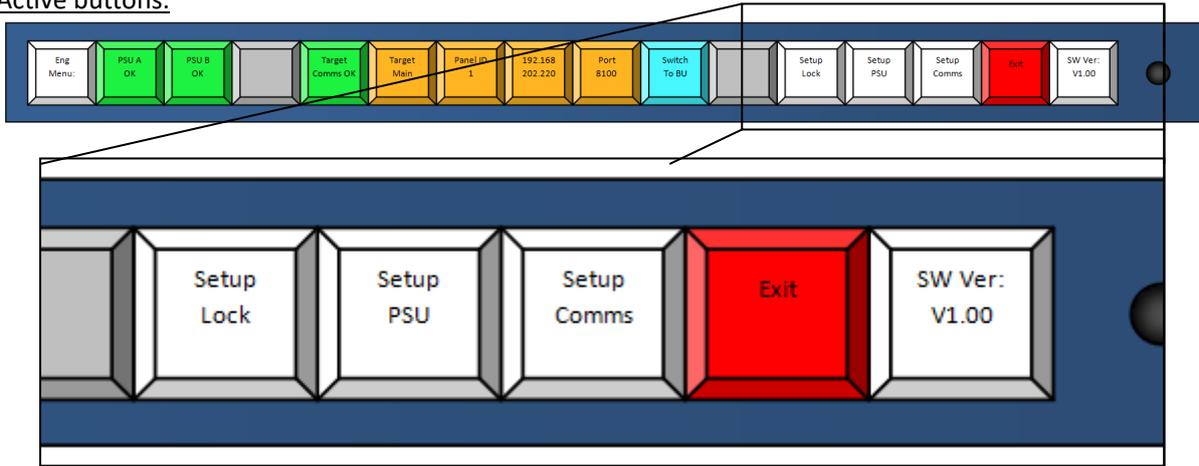|	
Off	The panel lock is disabled
Manual	The panel lock can be enabled by holding the encoder for 3 seconds until a padlock icon appears in the right hand side of the of the rightmost button.
Timed	If no buttons are pressed for the specified time the Panel Lock will be activated. The timeout may be adjusted in 30 second increments using the rotary encoder knob, up to a maximum of 30 minutes.

The currently selected mode is illuminated green.

Panel lock mode is indicated by the presence of a padlock icon in the right hand edge of the rightmost button.

Figure 9

Panel lock may be deactivated by pressing and holding the rotary encoder knob until the padlock icon on the rightmost edge disappears.

PSU

Pushing the "setup PSU" button in the engineering menu presents the user with four options

- PSU A Fitted
- PSU A Not Fitted

- PSU B Fitted
- PSU B Not Fitted

When a PSU is set as fitted the current status will be displayed on the engineering menu and transmitted via the current comms settings.

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Comms

Pushing the "setup comms" button in the engineering menu presents the user with the following options.

- Ping Main
- Ping Backup
- Panel IP
- Panel Subnet
- Panel Gateway
- Target IP
- Target Port
- Comms Mode

Panel comms settings

To set the Panel IP, Panel Subnet and Panel Gateway press the corresponding button to access the below menu.
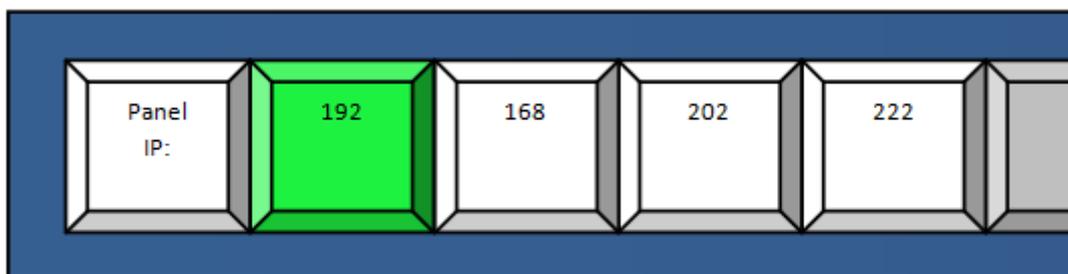

Figure 10

To change a value, press the octet to be changed, it will be highlighted in green. The value may now be adjusted by turning the rotary encoder knob.

Panel controller comms settings

To set the TallyMan controller IP address press the "Target IP" button to access the below menu.
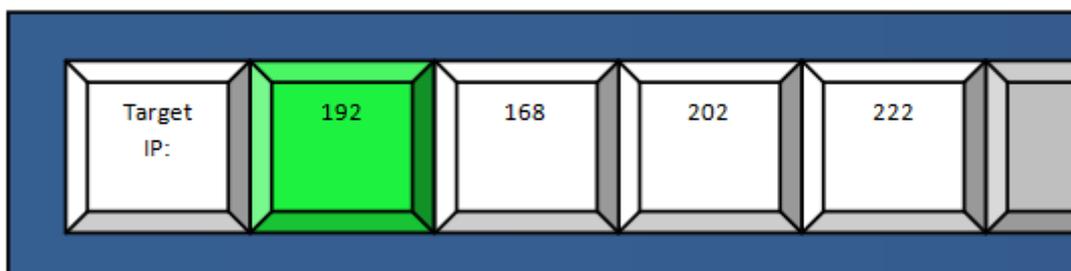
Figure 11

Target IP allows the user to set the IP of the TallyMan controller. If the backup comms are set to IP, the option to set the backup address will be available here.

To change a value, press the octet to be changed, it will be highlighted in green. The value may now be adjusted by turning the rotary encoder knob.

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Main/backup modes

"Comms Mode" allows the user to set:

- Main comms
  - o   TCP/IP
  - o   Serial RS422

- Backup Comms
  - o   TCP/IP
  - o   Serial RS422
  - o   "No Backup".

The currently selected option is shown in green.

Testing comms

"Ping Main" and "Ping Backup" buttons are available in the comms menu, pressing these buttons will initiate a ping to the target IP address.

The result of the latest poll is shown in the engineering menu. This is a poll to the TallyMan controller using the TMCP protocol as opposed to a simple ping.

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Startup

On startup the TMCP will attempt to connect to the TallyMan controller with the main comms settings. Should this fail the TMCP will present the "No Comms" screen (Fig.8)

Main/backup comms

In the event that the main communications should fail, the user will be presented with the "No Comms" menu.
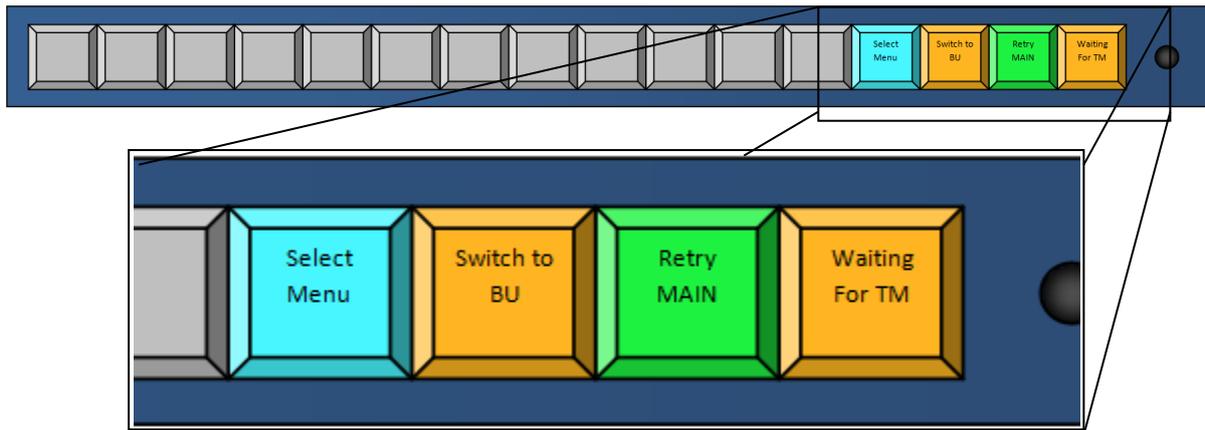

Figure 12

Here the user may opt to attempt to re-establish the main comms or switch to backup comms (if enabled in the comms menu).

Comms may be switched to backup via an external GPI or manually via the engineering menu for testing and maintenance or to force failover to a backup system in emergencies that do not meet the automatic failover criteria, i.e non response of the main controller to successive polls.

PSU failure

Should a PSU that is set as fitted in the setup PSU menu fail, a PSU failure notification will be reported via the TMCP protocol to the TallyMan system controller.

Panel lock

Panel lock mode is indicated by the presence of a padlock icon in the right hand edge of the rightmost button.

Figure 13

Panel lock functionality is determined via the Setup lock menu.

Panel lock may be deactivated by pressing and holding the rotary encoder knob until the padlock disappears.

Connections

Signal	Connector on rear panel	Description
-Ethernet TCP/IP	RJ45 Socket	Network comms with TallyMan controller, TallyMan set as Network TCP/IP server
-USB	USB Socket	Future use
-Serial RS422	DB9 Female	Serial Comms with TallyMan controller
-GPI Input 1-16	DB25 Female	Configurable as inputs or outputs. Configured viaTallyMan controller
-GPI Output 1-4	DB9 Female	4 Isolated relay outputs

Default IP settings

The default settings of the TMCP are:

Network TCP/IP Client
IP Address: 192.168.205.123
Subnet Mask: 255.255.255.0
Default Gateway: 192.168.205.254

The default Tallyman Controller settings that the TMCP will attempt to connect to are:

Network TCP/IP Server
IP Address: 192.168.205.121
Port: 8100
Panel ID: 1

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Pin out details

Ethernet

Signal Name	RJ-45 Pin
TX +	1
TX -	2
RX +	3
EPWR + Power	4
EPWR + Power	5
RX -	6
EPWR - Power	7
EPWR - Power	8

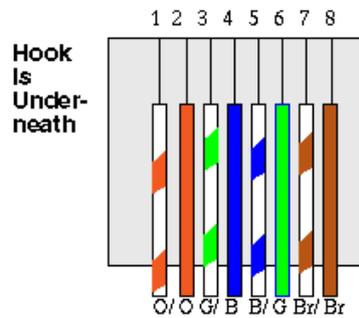**Figure 14**

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Serial RS422

(D9 Female connector on rear panel)

Port settings:
- Baud Rate: 38,400
- Parity: None
- Data Bits: 8
- Stop Bits: 1

Pin Numbers	Signal	Pin Numbers	Signal
1	0v/Chassis	6	0v
2	TX-	7	TX+
3	RX+	8	RX-
4	0v	9	0v
5	-		

To connect serially to a TallyMan controller a crossover cable will be required

RS422 crossover cable:

Signal	TMCP	TallyMan	Signal
0v/Chassis	1	1	0v
TX-	2	8	RX-
RX+	3	7	TX+
0v	4	4	0v
-	5	-	-
0v	6	6	0v
TX+	7	3	RX+
RX-	8	2	TX-
0v	9	9	0v

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GPI 1-16

(D25 Female connector on rear panel)

Pin	Function	Pin	Function
1	GPI 1	14	GPI 9
2	GPI 2	15	GPI 10
3	GPI 3	16	GPI 11
4	GPI 4	17	GPI 12
5	GPI 5	18	GPI 13
6	GPI 6	19	GPI 14
7	GPI 7	20	GPI 15
8	GPI 8	21	GPI 16
9	-	22	-
10	-	23	-
11	Backup force-over	24	Ext Voltage ref
12	+5v	25	0v
13	0v		

To activate a GPI input the pin must be pulled to ground.

These GPI may be configured as inputs or outputs by the TallyMan controller. GPI inputs will occupy the lowest numbered pins on the connector.

GPI outputs are open collector driver circuits (10K pull-up to +5V). Common (ground) appears on Pins 13 and 25. The circuit is capable of sinking approx. 150mA to ground to activate relays etc.

An example of the open collector circuit used with GPI configured as outputs on the D25 connector is shown below.
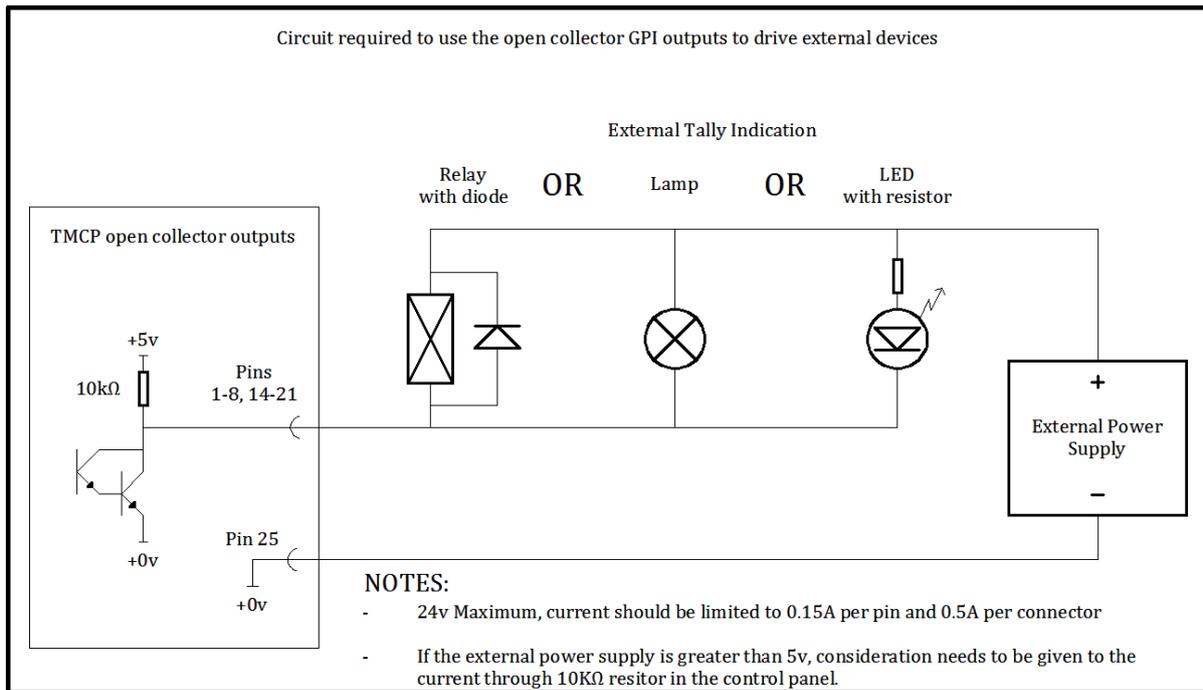
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Figure 15

GPI output 1-4

(D9 Female connector on rear panel)

Pin Numbers	Signal	Pin Numbers	Signal
1	Relay 1	6	Relay 3
2	Relay 1	7	Relay 4
3	Relay 2	8	Relay 4
4	Relay 2	9	0v
5	Relay 3		

These GPI outputs consist of isolated relay contact pairs. Current loading is rated at 0.5A at 125 VAC, 1A at 24 VDC, non-inductive. Common (ground) appears on Pin 9.

The example below demonstrates the circuit required for GPI 1 on the GPI output 1-4 connector. Output 2 uses pins 3+4, output 3 uses pins 5+6 and output 4 uses pins 7+8.
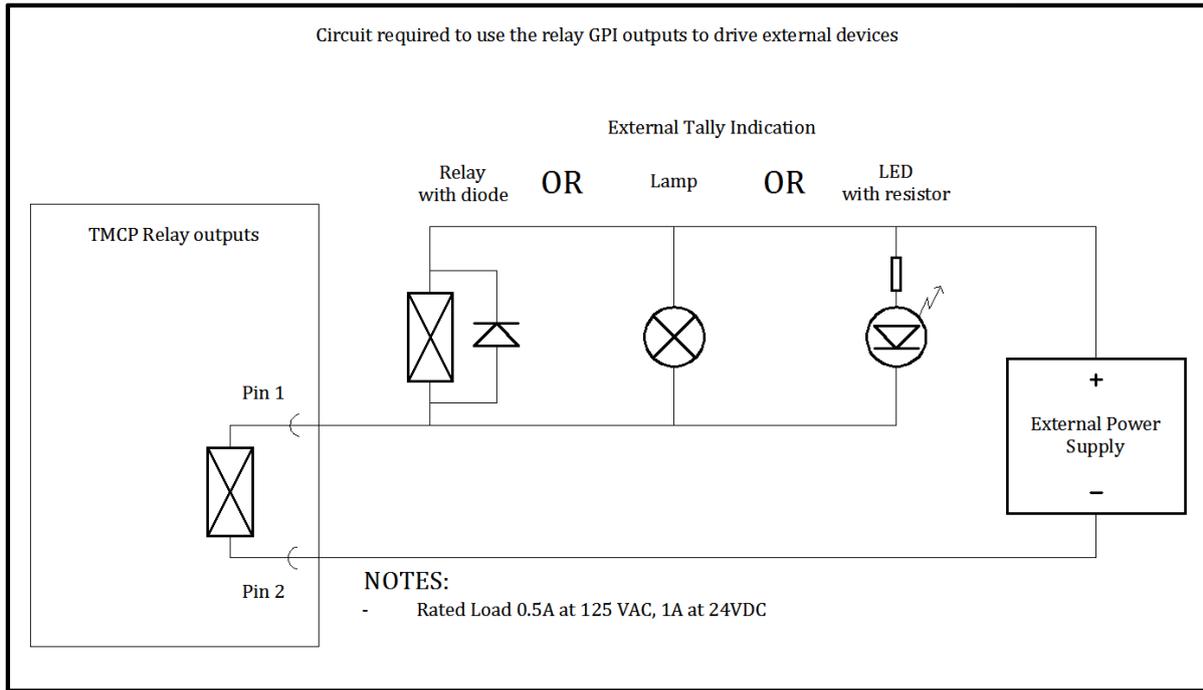
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Figure 16

Weight and dimensions

TMCP-16

Height: 1 RU - Weight: 1.12Kg

RACKHOLE DETAIL

10,00

7,00 R3,50

445.00

80,00

Top

482.60

3.00

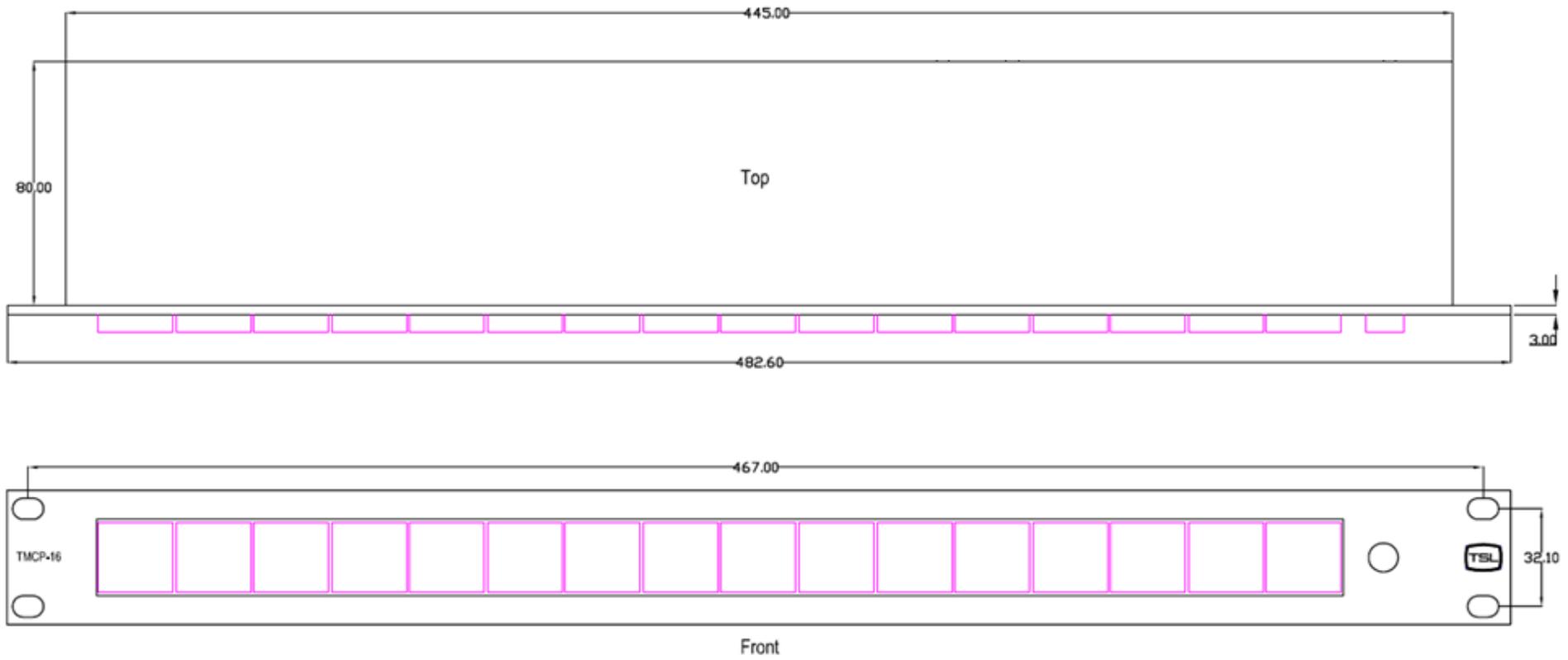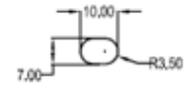467.00
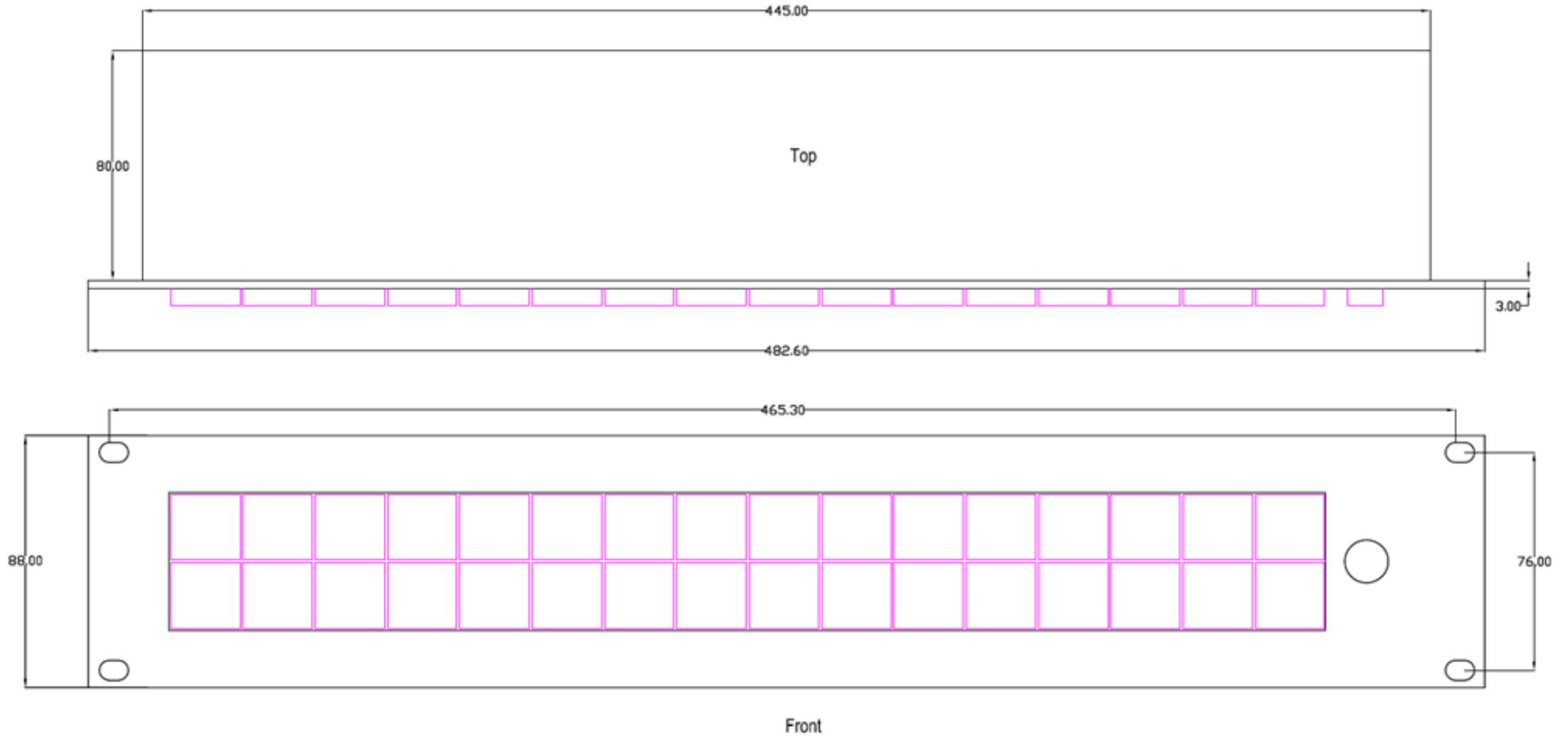
TMCP-16

TSL 32.10

Front

Figure 17

All measurements in mm.

TMCP-32

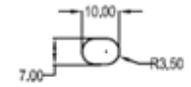Height: 2 RU - Weight: 1.66 Kg

RACKHOLE DETAIL

10,00
7,00
R3,50

445.00

80,00

Top

482.60
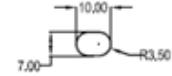
3.00

465.30

88,00

76,00

Front

Figure 18

All measurements in mm.

TMCP-48

RACKHOLE DETAIL

10,00

7,00   R3,50

445.00

80,00

Top

482.66

3.00

465.30

88,00

76,00
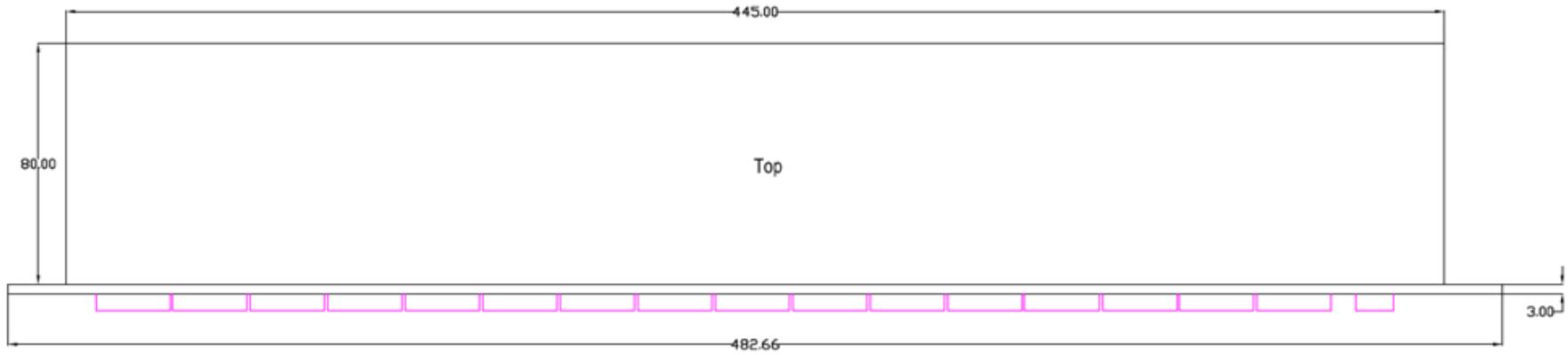
Front

Figure 19

All measurements in mm.

Safety

Installation

Unless otherwise stated TSL equipment may be installed at any angle or position within an operating temperature range of 5 ~ 25 degrees C.

Earthing/grounding

In all cases, the frame of the equipment should be earthed on installation. Connection to an earthed strip running the length of the frame is ideal.

Mounting

Careful consideration of the equipment location and mounting in racks must be made. In particular, consideration must be given to the stability of free-standing racks by mounting heavy equipment low in the rack. The rear of the unit should be supported in the rack.

Power

For pluggable equipment, the socket outlet shall be installed near the equipment and shall be easily accessible.

Consideration must be given to the supply circuit loading and switch on/fault surges that will affect over current protection trips and switches etc.

Check that the fuse rating is correct for the local power (mains) supply. Replacement fuses must be of the same rating and type for continued protection against fire risk.

No power supply cord is provided with this equipment.

The external power supply provided with this product is a Class or Level 3 type with an IEC mains input connector. This type offers a functional earth and **NOT A SAFETY EARTH** via the earth pin of the IEC mains input connector to the outer of the of the co axial power connector.

Do not switch on until all connections are made.

Ventilation

Due consideration for cooling requirements must be given when mounting the equipment.

If the equipment is installed in a closed unit, consideration must be given to providing forced air cooling in order that the maximum recommended temperature is not exceeded.

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Warranty, maintenance and repair

All TSL equipment is guaranteed for one year from the date of delivery to the customer's premises. If the equipment is to be stored for a significant period, please contact TSL concerning a possible extended warranty period.

Failure during warranty

If any TSL product should fail or become faulty within the warranty period, first please check the PSU fuses.

All maintenance work must be carried out by trained and competent personnel.

Technical support information

E-Mail address: support@tsl.co.uk

Telephone Support Number: +44 (0) 1628 564610

If equipment has to be returned to TSL for repair or re-alignment, please observe the following:

TSL returns procedure

Please email Support@tsl.co.uk or telephone +44 (0)1628 564610 and ask for technical support who assist in diagnosing the fault and will provide a returns number (RMA). This will enable us to track the unit effectively and will provide some information prior to the unit arriving.

For each item, this unique returns number must be included with the fault report sent with the unit.

A contact name and telephone number are also required with the fault report sent with the unit.

Fault report details required

- Company:
- Name:
- Address:
- Contact name:
- Telephone No:
- Returns number:
- Symptoms of the fault (to include switch setting positions, input signals etc):

Packing

Please ensure that the unit is well packed as all mechanical damage is chargeable. TSL recommends that you insure your equipment for transit damage.

The original packaging, when available, should always be used when returning equipment.

If returned equipment is received in a damaged condition, the damage should be reported both to TSL and the carrier immediately.

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