Installation Manual

TM1-Mk2
TM1-Tally
TM1-Mk2+
TM1-Mk3+

Notes:
Serial Number 68983 onward

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Issue 2

Version History

Issue	Date	Change Details
1	06/11/17	First Issue
2	11/12/23	Added TM1-Tally and TM1-Mk3+

Contents

Introduction

The following document covers installation of the TSL Tallyman controllers TM1-Mk, TM1-Tally, TM1-Mk2+ and TM1-Mk3+.
All operational set-ups such as the router assignments, mnemonics and tally routing are programmed with a set-up computer running another the TallyMan configuration software normally connected to the Ethernet Port on the TallyMan Controller.

Installation

TM1-Mk2 and TM1-Tally

The TallyMan controller should be installed in a standard 19" rack with good ventilation, no other special precautions need be taken, further information regarding earthing, mounting, power etc may be found in the Safety section.

Connections

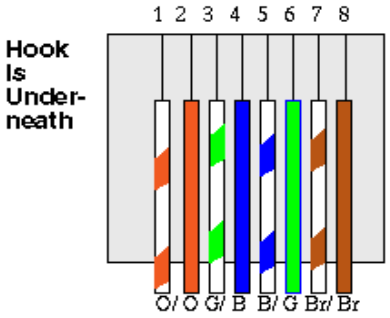
GPIO 1-32	This is for the parallel tallies.	1 – 32
GPIO 33-64	This is for the parallel tallies	33 – 64
COM1	RS422 – User Assignable. Used for Mixer/Router/Multiviewer and other serial controlled device connection	
COM2	RS422 – User Assignable. Used for Mixer/Router/Multiviewer and other serial controlled device connection	
COM3	RS422 – User Assignable. Used for Mixer/Router/Multiviewer and other serial controlled device connection	
COM4	RS422 – User Assignable. Used for Mixer/Router/Multiviewer and other serial controlled device connection	
Ethernet 1	System configuration and network comms with IP capable devices.	
Ethernet 2	Network comms with IP capable devices.	
Power	The unit is powered via an IEC 60320 C14 coupler. The inlet is auto ranging 100-240V. No cable is supplied with this device.	

Pin out details

Ethernet

The cable required to connect the TM1 controller with the configuring computer is as follows:

Signal Name	RJ-45 Ethernet Pin Numbers	Crossover Cable Pinouts
TX +	1	3
TX -	2	6
RX +	3	1
EPWR + Power	4	4
EPWR + Power	5	5
RX -	6	2
EPWR - Power	7	7
EPWR - Power	8	8



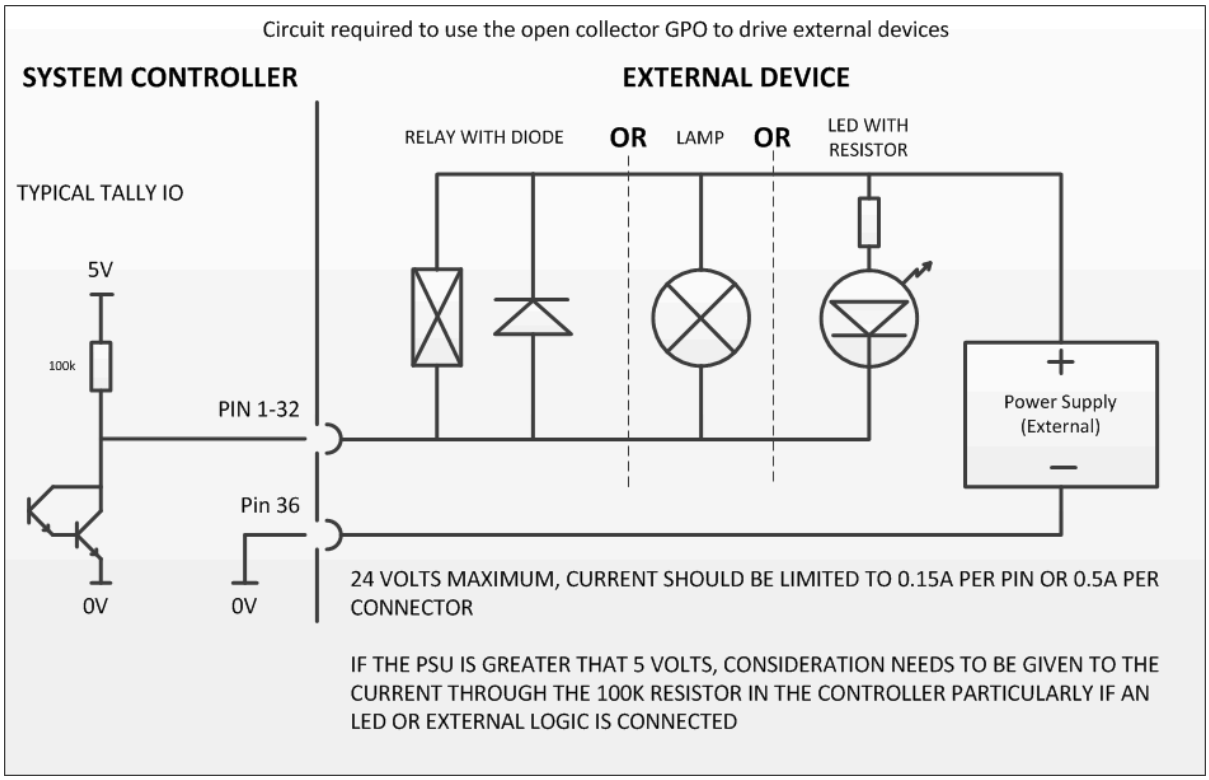
Comm Ports

Comm ports 1, 2, 3 and 4 – Serial RS422

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

GPIO

GPIO INPUT/OUTPUT CONNECTORS D37 SOCKET			
1	TALLY 1	20	TALLY 20
2	TALLY 2	21	TALLY 21
3	TALLY 3	22	TALLY 22
4	TALLY 4	23	TALLY 23
5	TALLY 5	24	TALLY 24
6	TALLY 6	25	TALLY 25
7	TALLY 7	26	TALLY 26
8	TALLY 8	27	TALLY 27
9	TALLY 9	28	TALLY 28
10	TALLY 10	29	TALLY 29
11	TALLY 11	30	TALLY 30
12	TALLY 12	31	TALLY 31
13	TALLY 13	32	TALLY 32
14	TALLY 14	33	0v/Chassis
15	TALLY 15	34	+12v @ 500mA max
16	TALLY 16	35	Ext Voltage Ref
17	TALLY 17	36	0v/Chassis
18	TALLY 18	37	+5v @ 100mA max
19	TALLY 19		



Parallel (GPI) tallies are connected directly to the GPIO 1-32 and GPIO 33-64 connectors on the TM1 controller.

These are freely assignable as inputs or outputs. Tally inputs will occupy the lowest numbered pins starting with the Tally 1 connector. The output parallel tallies (if any are assigned) will start from the next available pin on the D37 connector.

Examples:

Inputs = 32
Outputs = 32

	GPIO Connector 1		GPIO Connector 2	
	Pins	Tally No (in config)	Pins	Tally No (in config)
Inputs	1 – 32	1-32		
Outputs			1 - 32	1 -32

Inputs = 12
Outputs = 52

	GPIO Connector 1		GPIO Connector 2	
	Pins	Tally No (in config)	Pins	Tally No (in config)
Inputs	1 – 12	1 – 12		
Outputs	13 -32	1 - 20	1 -32	21 - 52

Inputs = 48
Outputs = 16

	GPIO Connector 1		GPIO Connector 2	
	Pins	Tally No (in config)	Pins	Tally No (in config)
Inputs	1 – 32	1 – 32	1 – 16	33 – 48
Outputs			17 - 32	1 - 16

GPIO inputs

A ground or 0V to the pin is required to activate a tally input. The common or ground connection is connected to pin 36.

GPIO outputs

Tally outputs consist of open collector driver circuits. Common (ground) appears on pin 36. The circuit can sink approximately 150mAto ground to activate relays etc.

Default IP

The default IP parameters of TSL Tallyman controllers are:

Ethernet 1

IP Address: 192.168.205.124

Subnet Mask: 255.255.255.0

Ethernet 2

IP Address: 192.168.205.125

Subnet Mask: 255.255.255.0

Connection for configuration purposes is via a PC running TallyMan, available for download from the TSL website www.tslproducts.com

Initial setup

To setup the TM1-Mk2 and TM1-Tally press the encoder on the front panel once to display the current setup, press a second time to enter the IP settings and follow the on-screen instructions.

Configuration may be performed by following the instructions in the quick start guide.

To make use of the second Ethernet interface enter a second interface with the IP set on the front panel when configuring the default system interface (port 5001).

TM1-Mk2+ and TM1-Mk3+

The TallyMan controller should be installed in a standard 19" rack with good ventilation, no other special precautions need be taken, further information regarding earthing, mounting, power etc may be found in the Safety section.

Connections

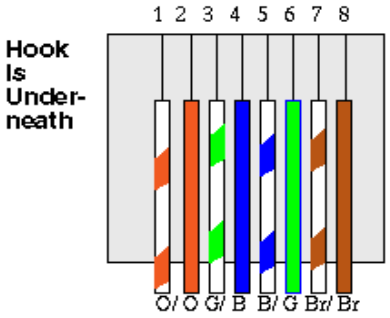
GPIO 1-32	This is for the parallel tallies.	1 – 32
GPIO 33-64	This is for the parallel tallies	33 – 64
Relays 1-16	Contact closures to external devices	
Relays 17-32	Contact closures to external devices	
COM1	RS422 – User Assignable. Used for Mixer/Router/Multiviewer and other serial controlled device connection	
COM2	RS422 – User Assignable. Used for Mixer/Router/Multiviewer and other serial controlled device connection	
COM3	RS422 – User Assignable. Used for Mixer/Router/Multiviewer and other serial controlled device connection	
COM4	RS422 – User Assignable. Used for Mixer/Router/Multiviewer and other serial controlled device connection	
Ethernet 1	System configuration and network comms with IP capable devices.	
Ethernet 2	Network comms with IP capable devices.	
Power	The unit is powered via 2 hot-swappable IEC 60320 C14 modules. The inlets are auto ranging 100-240V. No cable is supplied with this device.	

Pin out details

Ethernet

The cable required to connect the TM1 controller with the configuring computer is as follows:

Signal Name	RJ-45 Ethernet Pin Numbers	Crossover Cable Pinouts
TX +	1	3
TX -	2	6
RX +	3	1
EPWR + Power	4	4
EPWR + Power	5	5
RX -	6	2
EPWR - Power	7	7
EPWR - Power	8	8



Comm Ports

Comm ports 1, 2, 3 and 4 – Serial RS422

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

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GPIO

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6	TALLY 6	25	TALLY 25
7	TALLY 7	26	TALLY 26
8	TALLY 8	27	TALLY 27
9	TALLY 9	28	TALLY 28
10	TALLY 10	29	TALLY 29
11	TALLY 11	30	TALLY 30
12	TALLY 12	31	TALLY 31
13	TALLY 13	32	TALLY 32
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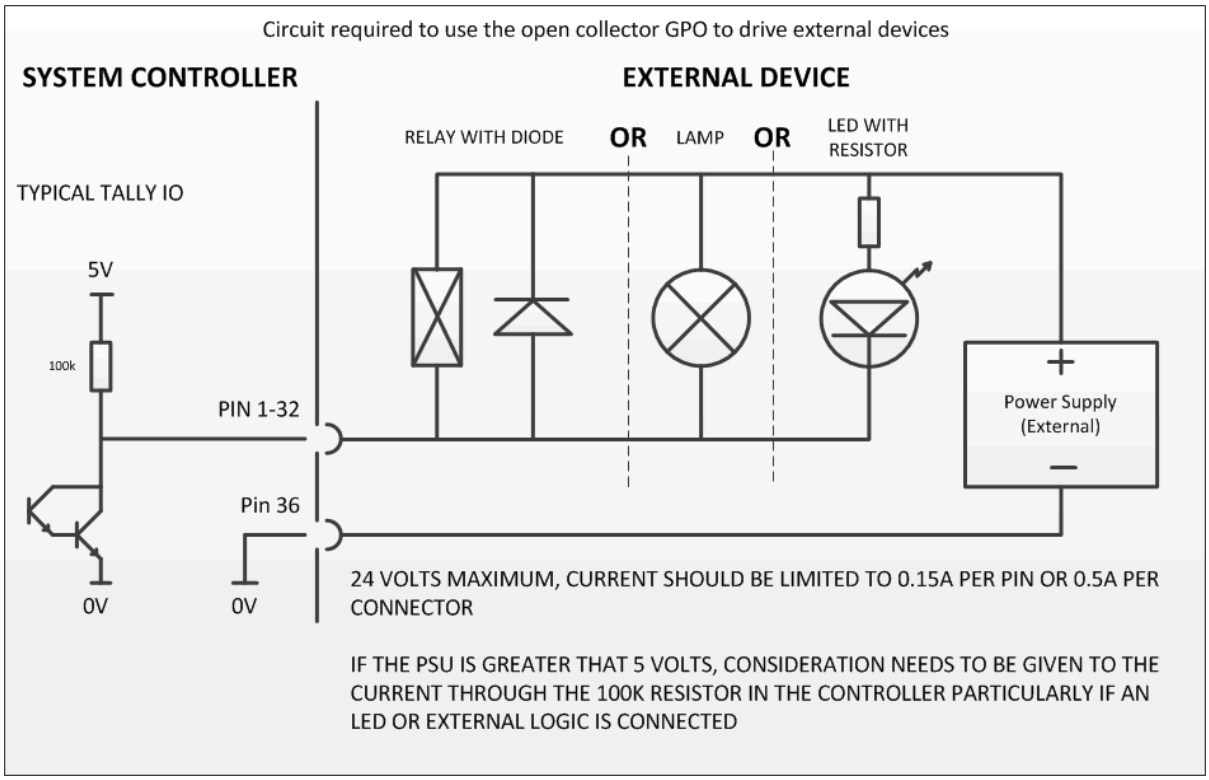


Parallel (GPI) tallies are connected directly to the GPIO 1-32 and GPIO 33-64 connectors on the TM1 controller.

These are configurable as inputs or outputs in the TallyMan configuration software. Tally inputs will occupy the lowest numbered pins starting with the Tally 1 connector. The output parallel tallies (if any are assigned) will start from the next available pin on the D37 connector. In the TallyMan configuration software, **the Relays will always occupy the first 32 Outputs**

Examples:

Inputs = 32
Outputs = 32

	GPIO Connector 1		GPIO Connector 2	
	Pins	Tally No (in config)	Pins	Tally No (in config)
Inputs	1 – 32	1-32		
Outputs			1 - 32	33 - 64

Inputs = 12
Outputs = 52

	GPIO Connector 1		GPIO Connector 2	
	Pins	Tally No (in config)	Pins	Tally No (in config)
Inputs	1 – 12	1 – 12		
Outputs	13 -32	33 - 42	1 -32	43 - 74

Inputs = 48
Outputs = 16

	GPIO Connector 1		GPIO Connector 2	
	Pins	Tally No (in config)	Pins	Tally No (in config)
Inputs	1 – 32	1 – 32	1 – 16	33 – 48
Outputs			17 - 32	33 - 48

GPIO inputs

A ground or 0V to the pin is required to activate a tally input. The common or ground connection is connected to pin 36.

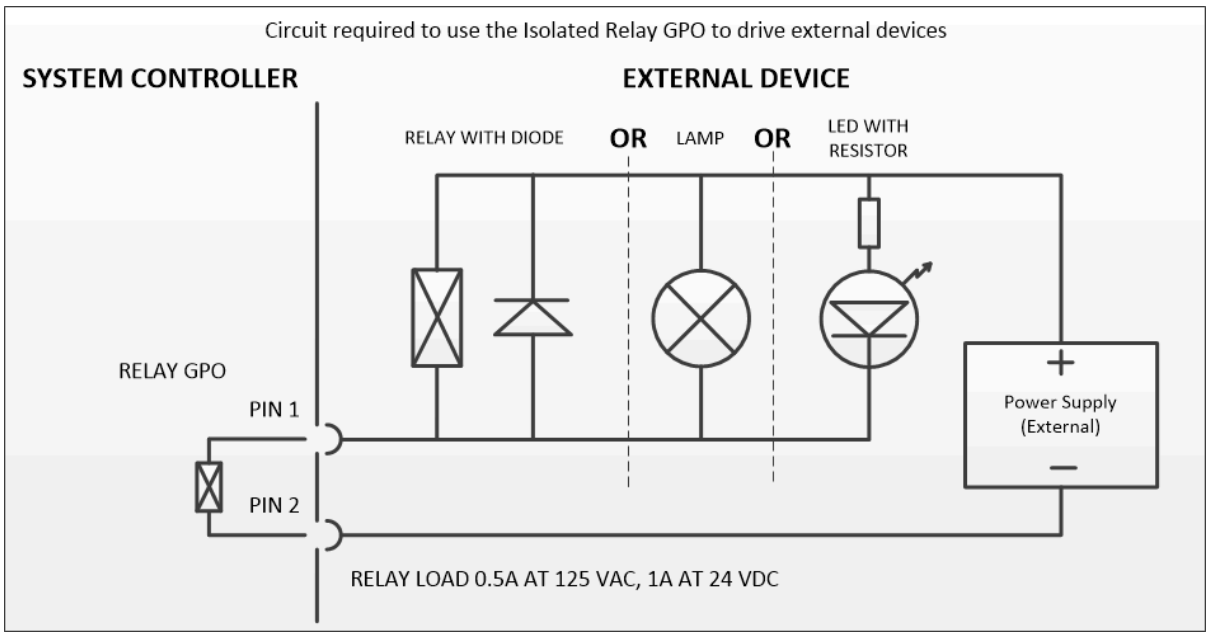
GPIO outputs

Tally outputs consist of open collector driver circuits. Common (ground) appears on pin 36. The circuit can sink approximately 150mAto ground to activate relays etc.

Relay outputs

The Relay Outputs consist of isolated relay contact pairs. Current loading is rated at 0.5A at 125 VAC, 1A at 24 VDC, non-inductive.

RELAY OUTPUT CONNECTOR D37 SOCKET			
1	Relay 1a	20	Relay 10b
2	Relay 1b	21	Relay 11a
3	Relay 2a	22	Relay 11b
4	Relay 2b	23	Relay 12a
5	Relay 3a	24	Relay 12b
6	Relay 3b	25	Relay 13a
7	Relay 4a	26	Relay 13b
8	Relay 4b	27	Relay 14a
9	Relay 5a	28	Relay 14b
10	Relay 5b	29	Relay 15a
11	Relay 6a	30	Relay 15b
12	Relay 6b	31	Relay 16a
13	Relay 7a	32	Relay 16b
14	Relay 7b	33	0v/Chassis
15	Relay 8a	34	+12v @ 500mA max
16	Relay 8b	35	+12v @ 500mA max
17	Relay 9a	36	0v/Chassis
18	Relay 9b	37	0v/Chassis
19	Relay 10a		

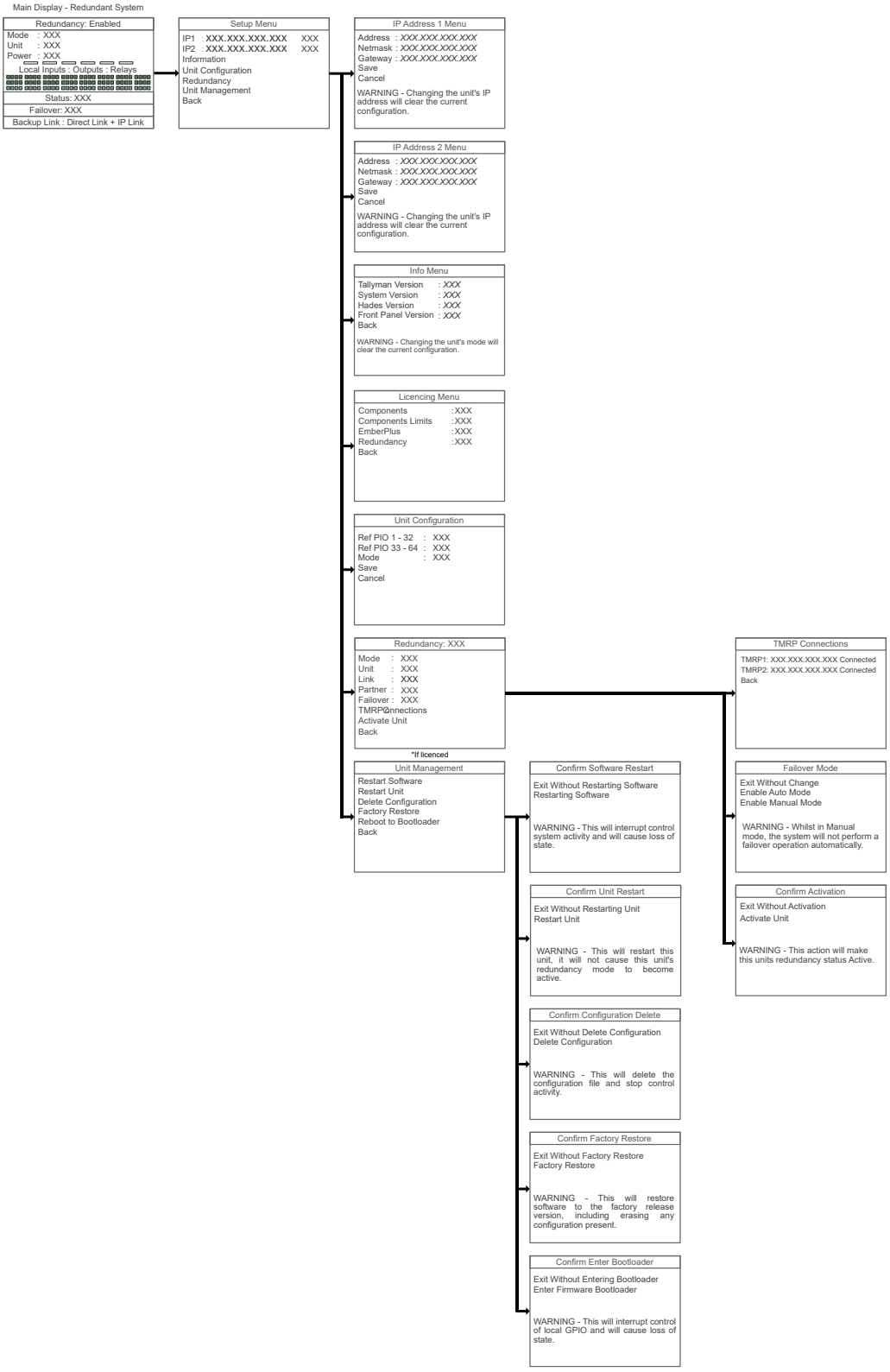


Initial setup

Connection for configuration purposes is via a PC running TallyMan Configuration Software, available for download from the TSL website www.tslproducts.com

Front Panel Setup

To setup the TM1-MK2+ or TM1-Mk3+, press the encoder on the front panel once enter the menu (V3.XXX onward):



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.

All TSL equipment conforms to the EC Low Voltage Directive:
EC Low Voltage Directive (73/23/EEC) (OJ L76 26.3.73) (LVD).
Amendment: (93/68/EEC) (OJ L220 30.8.93).

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.

The earth pin on the IEC mains inlet connector is connected to the metal frame of the equipment, to 0 volts on the internal DC PSU and to signal ground, unless otherwise stated. All metal panels are bonded together. Rack mounted equipment must be earthed (grounded).

Mounting

Careful consideration of the equipment location and mounting in racks must be made. 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 plug-able 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. The equipment rating is shown on the rear panel. No power supply cord is provided with this equipment. **Do not switch on until all connections are made.**

Input AC: 100-240v 47-63Hz 2-1A
DC Output: 60W (Max) +12v 5A
G1X-1060V12
1U Module Form
Input Type Power Factor Correction
(DxWxH) 135/5.31 (mm/inch) x 50.5/1.99 (mm/inch) x 38/1.5 (mm/inch),
High Efficiency Series 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. Introduction 9 TallyMan V 1.7.1b on

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@tslproducts.com

Telephone Support Number: +44 (0) 1628 564610

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

TSL Returns Procedure

Please email support@tslproducts.com or telephone +44 (0)1628 564610 and ask for Technical Support who will 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.