

ELECTRICAL	
Supply Voltage:	Nominal: 12Vdc Operating Range: 10.5V to 15V
Power Consumption:	At 12V Nominal 0.3W off load & 1.7W when stalled
INTERFACES	
Enable Input:	10.3 to 15V dc open cct. & 2 to 3mA short cct.
Isolated Fault Output:	Will sink up to 50mA and withstand up to 75V dc
MECHANICAL	
Rotation Speed (0 to 0.06 Nm torque):	60 rpm \pm 20%
Stopping Torque:	Less than 0.08 Nm
Unpowered Spin Torque:	Less than 0.02 Nm
ENVIRONMENTAL	
Operating Temperature Range:	-15°C to +70°C
Storage Temperature Range:	-20°C to +80°C
PHYSICAL	
	Size: 59mm x 43mm x 113mm incl. cone
	Weight: 0.4kg

INTEGRATED TACTILE EQUIPMENT ITE221 12 Volt DC

INSTRUCTION MANUAL

Incorporating Type Approval Maintenance Provisions

APPLICATION

Integrated Tactile Equipment for use at temporary/portable crossing sites, which employ 12V DC signals.

CONTENTS

1	DESCRIPTION
2	SPECIFICATIONS & EU DIRECTIVES
3	MODIFICATIONS
4	GREEN MAN LAMP MONITORING
5	REPAIRS
6	WARNING
7	INSTALLATION
8	TESTING
9	DECLARATION OF INCORPORATION
10	TECHNICAL DATA

Document No:	Tampite221_1.pdf	Written:	RKD
Issue:	1	Checked:	BPC
Date:	2 November 2011	Approved:	RKD

1

DESCRIPTION

The ITE221 is a 12V DC variant of the ITE220 Integrated Tactile Crossing Indicator for the visually impaired and is specifically designed for use at temporary/portable traffic light controlled pedestrian crossings running at 12V DC, such as Junction Controllers, and Pelican, Puffin & Toucan installations. **The Enable Input must be used to ensure rotation during the steady Green Man period only at crossings employing a flashing green man period.**

The ITE221 also incorporates an isolated Fault Monitor facility that is only in the conducting state whilst the cone is being driven and is able to rotate.

It is exceptionally easy and quick to fit, either on site, or prior to installation. The whole assembly, motor, drive mechanism and control electronics, fits into any approved near side signal/push button box on a universal bracket. Its power input is then wired in parallel with the 12V DC driving the (undimmed) Green Man. See later wiring instructions for Fault Monitor and/or Remote Enable connections.

The patented electronic control circuit requires very low power, operating over the undimmed voltage range, with full safety interlocks against accidental operation, precisely controlling the speed and torque of the Tactile Cone.

- Patent No: GB 2379287.B

2

SPECIFICATIONS & EU DIRECTIVES

This Equipment has been designed to conform to the requirements of:
 Electromagnetic Compatibility Directive 2004/108/EC
 HD 638 S1:2001/A1:2006
 BS 7671: 2008
 BS EN 50293: 2001

TR 2508A (as applicable to 12V DC equipment)
 TRG 0600A

3

MODIFICATIONS

There are no approved modifications.

4

GREEN MAN LAMP MONITORING

Each Tactile Control Unit is connected in parallel with an (undimmed) green man lamp drive and at 12V will consume a nominal 0.3W when free running and 1.7W when stalled. If a Green Man Monitoring Facility is fitted, please contact Radix Traffic Limited should further information be required.

9

DECLARATION OF INCORPORATION



DECLARATION OF INCORPORATION

Manufacturer (Responsible Person):

Address: Radix Traffic Limited
 D3 Premier Centre
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Telephone: +44 (0)1794 511388
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Product: INTEGRATED TACTILE EQUIPMENT

Function: Tactile Cross Indicator for Visually Impaired Pedestrians.

Model: ITE221 (12Vdc)

Serial Number: 221-ddd-nnnn

T. F. Reference: See ITE221 Integrated Tactile Equipment Technical File

THIS PRODUCT CONFORMS TO THE ESSENTIAL REQUIREMENTS OF:

Electromagnetic Compatibility Directive 2004/108/EC

Harmonisation Document HD 638 S1:2001/A1:2006

WE CERTIFY THAT THE GOODS ARE OF EU (UK) ORIGIN

Signed: _____

Date: _____

Name: Mr. R. K. Duley

Position: Director

Authorised signatory on behalf of the Manufacturer (Responsible Person)

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Issue 1

31/10/2011

7.4 WIRING (continued)

Fault Monitor Output

The Fault Monitor Output is solid state and electrically isolated. It will be in the conducting state only whilst the cone is being driven and is able to rotate. It will thus report power failure, open/short circuit, stall and "no enable" conditions as a fault.

IMPORTANT NOTE: Since this is a solid state output it essential that the polarity of the connections to it are correct.

8 TESTING

8.1 Check that the Tactile Cone is free to be rotated manually at all times except during the steady green man period and when the "Enable" input is conducting. The Tactile Cone must not rotate by itself at any time other than during the steady green man period.

8.2 Check that during the steady green man period:

- the Tactile Cone rotates at approximately 60 rpm;
- the Tactile Cone continues to rotate at approximately 60 rpm when lightly gripped between finger and thumb;
- the Tactile Cone stops when firmly gripped but still tries to turn in the same direction. It should be very difficult to rotate in the opposite direction.

8.3 Check that the "Fault" output is only in the conducting state when none of the fault conditions listed in 7.4 above are present.

5 REPAIRS

The ITE221 Integrated Tactile Equipment is entirely self contained and is mounted in or adjacent to the near side signal from which it is powered. Should it prove faulty, no repair shall be attempted but it shall be replaced by another of **the same type**. All suspect or faulty equipment shall be returned to the supplier for repair.

6 WARNING

Use of components other than those permitted herein, or modifications or enhancements that have not been authorised by Radix Traffic Limited, may invalidate the Type Approval and Warranty of this product.

If this equipment is used in conjunction with a controller that incorporates a Flashing Green Man period (e.g. Pelican), then the remote enable facility must be used to ensure that the cone rotates during the steady green man period only.

This equipment may only be used in conjunction with controllers that include an approved road red lamp failure monitoring facility.

7 INSTALLATION

CAUTION Only staff with Sector 8 qualification for this type of equipment may carry out this procedure. The controller must be switched off whilst working on any street furniture, and provisions must be made to ensure safe operation of the crossing/junction at all times.

Make certain that the controller includes an approved road red lamp failure monitoring facility which will extinguish the (undimmed) "Green Man" Signal for the duration of the red lamp failure.

7.1 PREPARATION AND INSTALLATION (see figure 1)

Push Button and Signal enclosures designed for use in near side signal applications are already capable of housing traditional Tactile Units. The ITE221 will fit into the same space but it is necessary to ensure that the position of the control electronics box is such that it will not foul the front of the enclosure when closed. For this reason, the ITE221 control electronics box can be swivelled on its mounting clip.

7.2 Remove any blanking plate and gasket or audible device and fixings that are present in the position where the Tactile Equipment is to be fitted. Ensure that the hole into which the cone is to be inserted is clear and free from obstructions. Discard any wiring associated with any audible device that has been removed.

- 7.3 Fit the ITE221 with the cone projecting through the existing hole, and the motor body away from you, using the two M6 x 10 socket head screws, two plain washers and two shakeproof washers provided. The sealing grommet must be positioned around the cone so as to form a seal between the mounting plate and the inner face of the box.

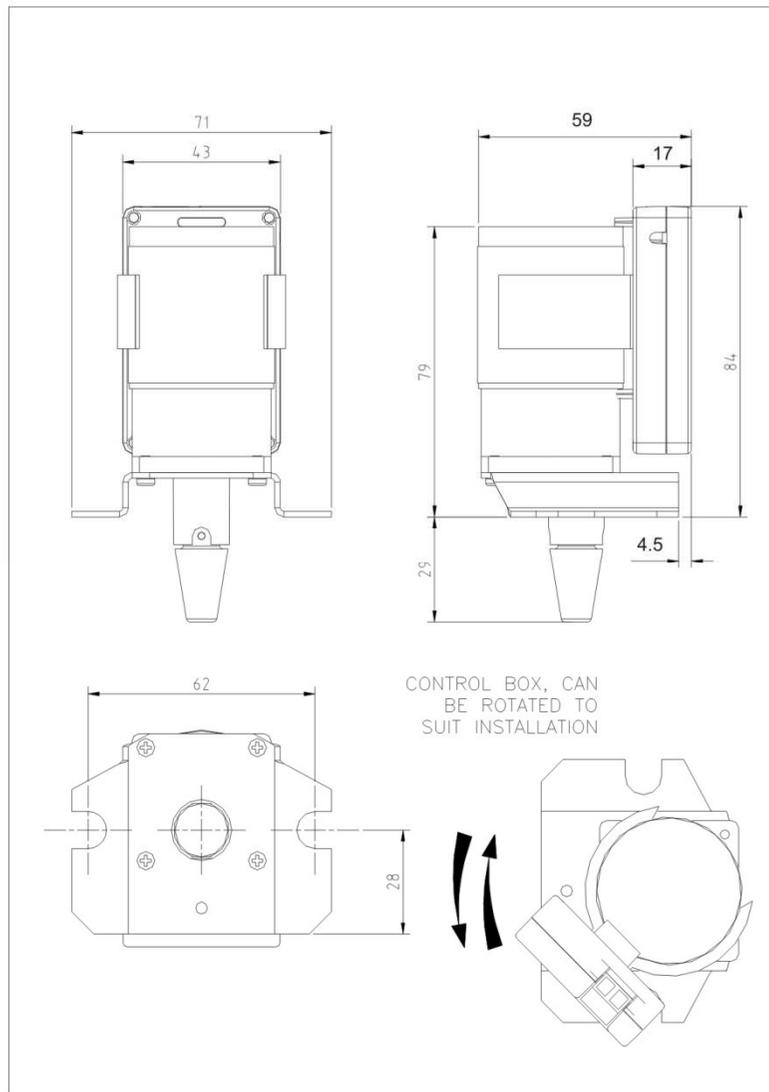


FIGURE 1

7.4 WIRING

REMINDER: Make absolutely certain that the power is off before commencing any wiring. See the CAUTION section at the beginning of the installation instructions.

It is essential for the safety integrity of the crossing that the installer must ensure both the 12V negative and positive connections of the Tactile Equipment are connected either:

i) **directly to the 12V negative and positive connections of the (undimmed) Green Man! Under no circumstances may other connections be made!**

or;

ii) **to the 12V positive and negative outputs of the Traffic Controller dedicated, fully interlocked, Tactile Drive outputs if present.**

Power

Connect the 12V positive and negative inputs on the ITE221 control box to the relevant 12V positive and negative outputs of the Traffic Controller as indicated in either 7.4 i) or 7.4 ii) above, using suitable wire and allowing for the control box to be swivelled into a position where it will not foul the front of the enclosure when in the closed position. Swivel the control box into that position.

Enable Input

IMPORTANT NOTE: Since this is a 12V DC Unit there is no isolation between the power input and the enable input. Ensure that your connection polarities will not clash!

(a) **For controllers with a flashing green man period (e.g. Pelicans).**

NB The Enable Input must be inhibited during the flashing green man period as well as in the event of road red lamp failure. The controller output used for this purpose must be fully safety interlocked, isolated and close to enable cone rotation.

Connect the "Enable +" terminal to the appropriate side of the volt free contact in the controller. Connect the "Enable -" terminal to the other side of the volt free contact. **NB If more than one ITE221 is connected to the same volt free contact it is essential that all use the same polarity, otherwise the enable function will not work and the Tactile Cone will rotate whenever power is applied to the green man aspect!**

(b) **For crossings where the Tactile Cone is intended to rotate whenever the green man is on:** simply add a short wire between the "Enable +" and "Enable -" terminals.