

**Technical Specification**

**Transport and Main Roads Specifications  
MRTS211 Pedestrian Push Buttons and Audio Tactile  
Drivers**

**October 2017**

## Copyright



<http://creativecommons.org/licenses/by/3.0/au/>

© State of Queensland (Department of Transport and Main Roads) 2017

**Feedback:** Please send your feedback regarding this document to: [tmr.techdocs@tmr.qld.gov.au](mailto:tmr.techdocs@tmr.qld.gov.au)

**Contents**

- 1 Introduction .....1**
- 2 Definition of Terms.....1**
- 3 Reference Documents.....1**
- 4 Quality System Requirements .....1**
  - 4.1 General .....1
  - 4.2 Quality Documentation .....1
  - 4.3 Language.....1
  - 4.4 Samples Submitted For Evaluation .....2
- 5 Type Tests .....2**
- 6 Technical Requirements .....2**
  - 6.1 General .....2
  - 6.2 Demand Indicator .....2
  - 6.3 Driver Unit .....3
  - 6.4 Directional Arrows .....3
  - 6.5 Audible Crossing Signal.....3
  - 6.6 Push Button Actuator.....3
- 7 Testing and commissioning.....3**
- 8 Documentation .....4**
  - 8.1 Design and Manufacturing Certifications .....4
  - 8.2 Exceptions to the Specification .....4
- 9 Training.....4**
- 10 Maintenance.....4**
- 11 Handover.....4**

## 1 Introduction

This Technical Specification defines the design and manufacture requirements for pedestrian push-button assemblies.

Pedestrian push-button assemblies are to be used in traffic signal installation for the purpose of registering a pedestrians' demand.

This Technical Specification shall be read in conjunction with MRTS01 *Introduction to Technical Specifications*, MRTS50 *Specific Quality System Requirements* and other Technical Specification as appropriate.

This Technical Specification forms part of the Transport and Main Roads Specifications Manual.

## 2 Definition of Terms

The terms defined in MRTS201 *General Equipment Requirements* apply to this Technical Specification.

## 3 Reference Documents

The requirements of the referenced documents listed in Table 3 of MRTS201 *General Equipment Requirements* and Table 1 below apply to this Technical Specification. Where there are inconsistencies between this Technical Specification and the referenced MRTS (including those referenced in MRTS201), the requirements specified in this Technical Specification shall take precedence.

**Table 3 – Referenced Documents**

| Reference       | Title  |
|-----------------|--|
| AS 2353         | <i>Pedestrian push-button assemblies</i>   |
| AS/NZS 3100     | <i>Approval and test specification – General requirements for electrical equipment</i> |
| AS/NZS ISO 9000 | <i>Quality Management Systems – Fundamentals and vocabulary</i>                        |

## 4 Quality System Requirements

### 4.1 General

The quality system requirements defined in MRTS201 *General Equipment Requirements* apply to this Technical Specification.

### 4.2 Quality Documentation

The offeror must submit information regarding the life and quality of the products offered. All claims in relation to life, reliability, maintainability etc. must be in accordance with the terms and definitions of AS/NZS ISO 9000 *Quality management systems - Fundamentals and vocabulary*.

The offeror must demonstrate conformance to the Queensland *Work Health and Safety Act 2011* for the manufacturing facility.

### 4.3 Language

All information provided must be written in plain English.

#### **4.4 Samples Submitted For Evaluation**

Unless the offeror has a current certificate of acceptance, samples of each type of lantern on offer will be supplied to and become the property of the department for acceptance.

Delivered to:

Road Operations, Engineering & Technology  
Attention: Mr. David Jones, Principal Advisor (Traffic Systems), ITS & E  
Floor 6, 313 Adelaide Street  
Brisbane Qld 4000

The sample must be representative of the product which will be supplied in the event of the offer being awarded.

Each sample must be marked with the following information:

- a) Supplier's name
- b) Supplier's product reference code
- c) Date of manufacture
- d) Reference to this specification (MRTS211)
- e) Standing offer number, and
- f) Closing date for submission.

## **5 Type Tests**

Certified test results from an independent testing laboratory, registered by the National Association of Testing Authorities Australia (NATA), must be provided to demonstrate that the performance characteristics of the unit meet or exceed the standards defined in AS 2353.

## **6 Technical Requirements**

The operational requirements defined in MRTS201 *General Equipment Requirements* apply to this Technical Specification. Additional electrical requirements for equipment provided under this Technical Specification are given in the clauses below.

### **6.1 General**

Pedestrian push-button assemblies must comply with the requirements of AS 2353, except where specified otherwise in this Technical Specification.

The equipment must comply with the requirements of AS 3100.

Where the Specification calls for an Australian Standard, the offeror must provide independent certification that the component complies with the relevant standard.

Where components are required to comply with Australian Standards, a label stating this and the compliance number must be fixed adjacent to the component.

### **6.2 Demand Indicator**

A demand indicator with the operational criteria as set out in AS 2353 shall be included.

However, the indicator light shall be made to operate within a nominal range of 28V-42V a.c. of the supply voltage.

Demand indicators shall not be implemented at every signalised pedestrian crossing.

A “smart” pedestrian crossing requires the use of the demand indicator as it serves to notify the pedestrian if the phase has been “called” by pressing on the push button. In addition, if the sensor detects that there are no pedestrian waiting to cross the road, the phase can be called off and the demand indicator will show this by turning the light off.

On the other hand, for pedestrian crossings that requires special conditions (modifying the vehicular late start times in a phase for filtered right turns based on where the pedestrian is trying to cross to), having the demand indicator cannot be implemented due to hardware limitations.

Therefore, the traffic engineer has to determine if it is beneficial for the pedestrians through implementing demand indicators at the crossing.

### **6.3 Driver Unit**

Both standard and audio tactile (Section 3 of AS 2353) driver units are required. The audio tactile driver unit must form a separate offer item.

### **6.4 Directional Arrows**

Audio-tactile or standard push-button assemblies are to be supplied with faceplate with a single end arrow (Clause 2.5 of AS 2353) as part of the unit. Double end arrow faceplates are also required, for both standard and audio-tactile units, as separate retrofit items. These must be provided in a form to permit fitting by Transport and Main Roads to a supplied single end arrow standard or audio-tactile push-button unit.

### **6.5 Audible Crossing Signal**

There must be an option to change the audible crossing signal duration from the full duration of the walk signal to a duration limited to eight seconds. This is to be provided in the form of a switch or other easily reversible means as specified in Clause 3.5.1 of AS 2353.

Detail of the maximum duration available and any possible variations to this maximum time must be provided.

### **6.6 Push Button Actuator**

The push button and its plunger must be homogeneous. Push-button assemblies with no moving parts that can be activated by a gloved hand are required.

## **7 Testing and commissioning**

The testing and commissioning requirements defined in MRTS201 *General Equipment Requirements* apply to this Technical Specification.

## **8 Documentation**

### **8.1 Design and Manufacturing Certifications**

The documentation requirements defined in MRTS201 *General Equipment Requirements* apply to this Technical Specification. Certified test results from an independent testing laboratory, registered by the National Association of Testing Authorities Australia (NATA), must be provided to demonstrate that the performance characteristics of the unit meet or exceed the standards defined in AS 2353.

### **8.2 Exceptions to the Specification**

The offeror must include in the covering letter all details of the equipment offered that do not comply with the relevant clauses of this Technical Specification, and any standards referenced by this Technical Specification.

## **9 Training**

The training requirements defined in MRTS201 *General Equipment Requirements* apply to this Technical Specification.

## **10 Maintenance**

The maintenance requirements defined in MRTS201 *General Equipment Requirements* apply to this Technical Specification. Availability of spare parts must be maintained for at least seven years following the last purchase date of the equipment.

## **11 Handover**

The handover requirements defined in MRTS201 *General Equipment Requirements* apply to this Technical Specification.

