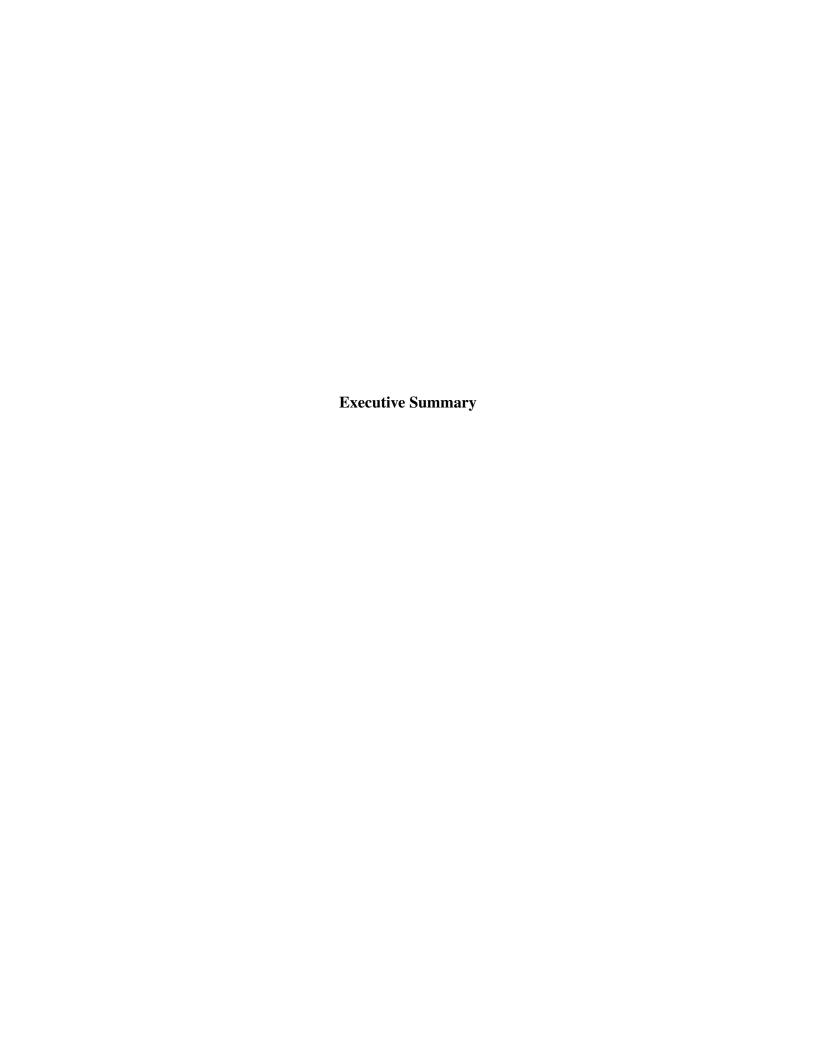
### **METR3100 Sensors and Actuators**

Actuators Practical Aligned Assignment

### Rebecca Green, Liam McMahon, Rider Stubley

(Bec's Student #, 43186022, Rider's Student #)

METR3100 University of Queensland Australia 27/04/2015



## **Contents**

1	Introduction	1
	1.1 Aims	1
	1.2 Scope	1
	1.3 Contents of Report	1
	1.4 Contributions	1
	1.5 Background	1
2	Equipment and Procedure	2
	2.1 Equipment	2
	2.1.1 Practical Equipment	2
	2.1.2 Safety Equipment	2
	2.2 Procedure	2
3	Results	4
4	Analysis and Discussion	5
5	Conclusions	6
6	Recommendations	7
7	References	8
8	Appendices	9

## 1. Introduction

- 1.1 Aims
- 1.2 Scope
- 1.3 Contents of Report
- 1.4 Contributions
- 1.5 Background

## 2. Equipment and Procedure

### 2.1 Equipment

#### 2.1.1 Practical Equipment

The equipment used in the practical were:

- AC motor
- Brake
- Cooling fan
- ABB drives
- PC with drivewindows; and
- DSP7000

#### 2.1.2 Safety Equipment

The safety equipment used in the practical were:

- Enclosed shoes; and
- Hearing protection

#### 2.2 Procedure

The procedure followed for this practical was:

- 1. The ABB motor drives were turned on.
- 2. Drivewindows was started on the PC connected to the ABB motor drive.
- 3. Remote control was taken over the motor.
- 4. The control mode of the motor was switched to scalar.
- 5. The frequency of the motor was set to 50 Hz.
- 6. The cooling fan was started for the brake.

- 7. The DSP7000 was started and set to open loop mode.
- 8. The brake was turned on.
- 9. The torque and speed displayed on the DSP7000 and the torque, speed, and motor current on *drivewindows* and the information panel on the ABB drive were noted.
- 10. The brake percentage was increased incrementally and the torque, speed, and motor current were noted for all brake percentages examined.

## 3. Results

# 4. Analysis and Discussion

## **5. Conclusions**

# 6. Recommendations

## 7. References

# 8. Appendices