Contents

LIST OF USED ABBREVIATIONS

I2C – Inter-Integrated Circuit

PWM – Pulse-Width Modulation

INTRODUCTION

Nowadays, the problem of handling small parts is very important. In many areas, the improvement of the technological process favours the reduction of parts of the system and components. Thus it is necessary to manipulate small parts during production, to place them in the right places at the right angle.

For tasks that require the automation of movement, robot arms are perfectly suited, but it is more logical to use mini robot arms, which take up little space and workspace.

1. ACTUALITY OF DEVELOPING A CONTROL SYSTEM FOR A MINI-ROBOT

1.1. Purpose and classification of robot arms

Robot manipulators are used to automate welding, milling, painting, cutting, grinding, machine tool maintenance and other production tasks.

2. TECHNICAL PARAMETERS OF MINIROBOT

2.1. Industrial minirobot arm functions

2.2. Industrial minirobot arm modes

3. MECHANICAL DESIGNS OF MINIROBOT ARM

4. FUNCTIONS AND MODES OF OPERATION OF THE MINIROBOT CONTROL SYSTEM

5. DEVELOPMENT OF THE STRUCTURAL SCHEME OF THE MINIROBOT CONTROL SYSTEM

6. DEVELOPMENT OF FUNCTIONAL AND CIRCUIT DIAGRAMS OF THE MINIROBOT CONTROL SYSTEM

7. DEVELOPMENT OF ALGORITHMS AND CONTROL PROGRAMMES FOR THE MINIROBOT CONTROL SYSTEM

8. TESTING OF THE MINIROBOT CONTROL SYSTEM