



## DAFTAR ISI

|  |           |
|--|-----------|
|  | hal.      |
| HALAMAN JUDUL.....                                   | i         |
| LEMBAR NOMOR PERSOALAN.....                          | ii        |
| LEMBAR PENGESAHAN .....                              | iii       |
| LEMBAR PERNYATAAN .....                              | iv        |
| LEMBAR PERSEMBAHAN .....                             | v         |
| KATA PENGANTAR .....                                 | vi        |
| <i>ABSTRACT</i> .....                                | viii      |
| INTISARI.....  | ix        |
| DAFTAR ISI.....                                      | x         |
| DAFTAR GAMBAR .....                                  | xii       |
| DAFTAR TABEL.....                                    | xiv       |
| DAFTAR LAMPIRAN.....                                 | xv        |
| <br>   |           |
| <b>BAB I PENDAHULUAN.....</b>                        | <b>1</b>  |
| 1.1 Latar Belakang.....                              | 1         |
| 1.2 Tujuan.....                                      | 1         |
| 1.3 Batasan Masalah .....                            | 2         |
| 1.4 Metode Pengambilan Data.....                     | 2         |
| 1.5 Sistematika Penulisan .....                      | 2         |
| <b>BAB II LANDASAN TEORI.....</b>                    | <b>4</b>  |
| 2.1 <i>Water Sampling System</i> .....               | 4         |
| 2.2 <i>Programmable Logic Controller (PLC)</i> ..... | 4         |
| 2.2.1 Pengertian PLC.....                            | 4         |
| 2.2.2 Keunggulan PLC .....                           | 6         |
| 2.2.3 Komponen PLC.....                              | 6         |
| 2.2.4 Pengenalan PLC Omron CP1E-E30DR-A.....         | 7         |
| 2.2.5 Bagian-Bagian Utama PLC Omron CP1E .....       | 8         |
| <b>BAB III PEMBUATAN PROGRAM DAN KOMPONEN.....</b>   | <b>10</b> |
| 3.1 Pemrograman PLC .....                            | 10        |



|               |  |    |
|---------------|--|----|
| 3.1.1         | Pembuatan Program.....   | 10 |
| 3.1.2         | <i>Communication Setting</i> .....                                     | 13 |
| 3.1.3         | <i>Transfer Program ke PLC</i> .....                                   | 14 |
| 3.2           | <i>Ladder Diagram</i> .....  | 15 |
| 3.3           | Komponen <i>Input dan Output Simulator Water Sampling System</i> ..... | 17 |
| 3.3.1         | Komponen <i>Input</i> .....  | 17 |
| 3.3.2         | Komponen <i>Output</i> .....   | 18 |
| 3.4           | <i>Training Kit PLC</i> .....  | 20 |
| 3.5           | <i>Wiring Diagram Water Sampling System Simulator</i> .....            | 21 |
| <b>BAB IV</b> | <b>PEMBAHASAN PROGRAM</b> .....  | 22 |
| 4.1           | <i>Water Sampling System Simulator</i> .....                           | 22 |
| 4.2           | <i>Input dan Output Address</i> .....                                  | 23 |
| 4.2.1         | <i>Input Address</i> .....   | 23 |
| 4.2.2         | <i>Output Address</i> .....  | 23 |
| 4.3           | Pembahasan Program.....  | 24 |
| <b>BAB V</b>  | <b>KESIMPULAN DAN SARAN</b> .....                                      | 33 |
| 5.1           | Kesimpulan.....  | 33 |
| 5.2           | Saran .....  | 33 |
|               | <b>DAFTAR PUSTAKA</b> .....  | 34 |
|               | <b>LAMPIRAN</b>  |    |