



| Model  |                           | LHA100F-15  | Temperature 25°C<br>Testing Circuitry Figure A |                           |  |                         |                         |      |   |   |      |    |    |      |    |    |      |    |    |      |    |    |      |    |     |      |    |    |      |    |    |      |    |    |      |    |    |      |    |    |   |                  |                           |  |                         |                         |      |   |   |      |    |    |      |    |    |      |    |    |      |    |    |      |    |     |      |    |    |      |    |    |      |    |    |      |    |    |      |    |    |
|--|---------------------------|---|--|---------------------------|--|-------------------------|-------------------------|------|---|---|------|----|----|------|----|----|------|----|----|------|----|----|------|----|-----|------|----|----|------|----|----|------|----|----|------|----|----|------|----|----|---|------------------|---------------------------|--|-------------------------|-------------------------|------|---|---|------|----|----|------|----|----|------|----|----|------|----|----|------|----|-----|------|----|----|------|----|----|------|----|----|------|----|----|------|----|----|
| Item   |                           | Switching Frequency   |  |                           |  |                         |                         |      |   |   |      |    |    |      |    |    |      |    |    |      |    |    |      |    |     |      |    |    |      |    |    |      |    |    |      |    |    |      |    |    |   |                  |                           |  |                         |                         |      |   |   |      |    |    |      |    |    |      |    |    |      |    |    |      |    |     |      |    |    |      |    |    |      |    |    |      |    |    |      |    |    |
| Object   |                           |   |  |                           |  |                         |                         |      |   |   |      |    |    |      |    |    |      |    |    |      |    |    |      |    |     |      |    |    |      |    |    |      |    |    |      |    |    |      |    |    |   |                  |                           |  |                         |                         |      |   |   |      |    |    |      |    |    |      |    |    |      |    |    |      |    |     |      |    |    |      |    |    |      |    |    |      |    |    |      |    |    |
| 1.Graph  |                           | <div><div></div>Load Increase</div> <div><div></div>Load Decrease</div> <p>Input Voltage: AC100V</p> <p>Input Voltage: AC230V</p>   | 2.Values                                       |                           |  |                         |                         |      |   |   |      |    |    |      |    |    |      |    |    |      |    |    |      |    |     |      |    |    |      |    |    |      |    |    |      |    |    |      |    |    |   |                  |                           |  |                         |                         |      |   |   |      |    |    |      |    |    |      |    |    |      |    |    |      |    |     |      |    |    |      |    |    |      |    |    |      |    |    |      |    |    |
|  |                           | <table><tr><th rowspan="2">Load Current [A]</th><th colspan="2">Switching Frequency [kHz]</th></tr><tr><th>Load Increase (0%→100%)</th><th>Load Decrease (100%→0%)</th></tr><tr><td>0.00</td><td>-</td><td>-</td></tr><tr><td>0.67</td><td>50</td><td>50</td></tr><tr><td>1.34</td><td>45</td><td>59</td></tr><tr><td>2.01</td><td>54</td><td>77</td></tr><tr><td>2.68</td><td>50</td><td>70</td></tr><tr><td>3.35</td><td>64</td><td>104</td></tr><tr><td>4.02</td><td>59</td><td>94</td></tr><tr><td>4.69</td><td>55</td><td>85</td></tr><tr><td>5.36</td><td>78</td><td>78</td></tr><tr><td>6.03</td><td>73</td><td>73</td></tr><tr><td>6.70</td><td>68</td><td>68</td></tr></table> | Load Current [A]                               | Switching Frequency [kHz] |  | Load Increase (0%→100%) | Load Decrease (100%→0%) | 0.00 | - | - | 0.67 | 50 | 50 | 1.34 | 45 | 59 | 2.01 | 54 | 77 | 2.68 | 50 | 70 | 3.35 | 64 | 104 | 4.02 | 59 | 94 | 4.69 | 55 | 85 | 5.36 | 78 | 78 | 6.03 | 73 | 73 | 6.70 | 68 | 68 | <table><tr><th rowspan="2">Load Current [A]</th><th colspan="2">Switching Frequency [kHz]</th></tr><tr><th>Load Increase (0%→100%)</th><th>Load Decrease (100%→0%)</th></tr><tr><td>0.00</td><td>-</td><td>-</td></tr><tr><td>0.67</td><td>50</td><td>50</td></tr><tr><td>1.34</td><td>45</td><td>59</td></tr><tr><td>2.01</td><td>54</td><td>77</td></tr><tr><td>2.68</td><td>50</td><td>70</td></tr><tr><td>3.35</td><td>64</td><td>104</td></tr><tr><td>4.02</td><td>59</td><td>94</td></tr><tr><td>4.69</td><td>55</td><td>85</td></tr><tr><td>5.36</td><td>78</td><td>78</td></tr><tr><td>6.03</td><td>73</td><td>73</td></tr><tr><td>6.70</td><td>68</td><td>68</td></tr></table> | Load Current [A] | Switching Frequency [kHz] |  | Load Increase (0%→100%) | Load Decrease (100%→0%) | 0.00 | - | - | 0.67 | 50 | 50 | 1.34 | 45 | 59 | 2.01 | 54 | 77 | 2.68 | 50 | 70 | 3.35 | 64 | 104 | 4.02 | 59 | 94 | 4.69 | 55 | 85 | 5.36 | 78 | 78 | 6.03 | 73 | 73 | 6.70 | 68 | 68 |
| Load Current [A]   | Switching Frequency [kHz] |   |  |                           |  |                         |                         |      |   |   |      |    |    |      |    |    |      |    |    |      |    |    |      |    |     |      |    |    |      |    |    |      |    |    |      |    |    |      |    |    |   |                  |                           |  |                         |                         |      |   |   |      |    |    |      |    |    |      |    |    |      |    |    |      |    |     |      |    |    |      |    |    |      |    |    |      |    |    |      |    |    |
|  | Load Increase (0%→100%)   | Load Decrease (100%→0%)   |  |                           |  |                         |                         |      |   |   |      |    |    |      |    |    |      |    |    |      |    |    |      |    |     |      |    |    |      |    |    |      |    |    |      |    |    |      |    |    |   |                  |                           |  |                         |                         |      |   |   |      |    |    |      |    |    |      |    |    |      |    |    |      |    |     |      |    |    |      |    |    |      |    |    |      |    |    |      |    |    |
| 0.00   | -                         | -   |  |                           |  |                         |                         |      |   |   |      |    |    |      |    |    |      |    |    |      |    |    |      |    |     |      |    |    |      |    |    |      |    |    |      |    |    |      |    |    |   |                  |                           |  |                         |                         |      |   |   |      |    |    |      |    |    |      |    |    |      |    |    |      |    |     |      |    |    |      |    |    |      |    |    |      |    |    |      |    |    |
| 0.67   | 50                        | 50  |  |                           |  |                         |                         |      |   |   |      |    |    |      |    |    |      |    |    |      |    |    |      |    |     |      |    |    |      |    |    |      |    |    |      |    |    |      |    |    |   |                  |                           |  |                         |                         |      |   |   |      |    |    |      |    |    |      |    |    |      |    |    |      |    |     |      |    |    |      |    |    |      |    |    |      |    |    |      |    |    |
| 1.34   | 45                        | 59  |  |                           |  |                         |                         |      |   |   |      |    |    |      |    |    |      |    |    |      |    |    |      |    |     |      |    |    |      |    |    |      |    |    |      |    |    |      |    |    |   |                  |                           |  |                         |                         |      |   |   |      |    |    |      |    |    |      |    |    |      |    |    |      |    |     |      |    |    |      |    |    |      |    |    |      |    |    |      |    |    |
| 2.01   | 54                        | 77  |  |                           |  |                         |                         |      |   |   |      |    |    |      |    |    |      |    |    |      |    |    |      |    |     |      |    |    |      |    |    |      |    |    |      |    |    |      |    |    |   |                  |                           |  |                         |                         |      |   |   |      |    |    |      |    |    |      |    |    |      |    |    |      |    |     |      |    |    |      |    |    |      |    |    |      |    |    |      |    |    |
| 2.68   | 50                        | 70  |  |                           |  |                         |                         |      |   |   |      |    |    |      |    |    |      |    |    |      |    |    |      |    |     |      |    |    |      |    |    |      |    |    |      |    |    |      |    |    |   |                  |                           |  |                         |                         |      |   |   |      |    |    |      |    |    |      |    |    |      |    |    |      |    |     |      |    |    |      |    |    |      |    |    |      |    |    |      |    |    |
| 3.35   | 64                        | 104   |  |                           |  |                         |                         |      |   |   |      |    |    |      |    |    |      |    |    |      |    |    |      |    |     |      |    |    |      |    |    |      |    |    |      |    |    |      |    |    |   |                  |                           |  |                         |                         |      |   |   |      |    |    |      |    |    |      |    |    |      |    |    |      |    |     |      |    |    |      |    |    |      |    |    |      |    |    |      |    |    |
| 4.02   | 59                        | 94  |  |                           |  |                         |                         |      |   |   |      |    |    |      |    |    |      |    |    |      |    |    |      |    |     |      |    |    |      |    |    |      |    |    |      |    |    |      |    |    |   |                  |                           |  |                         |                         |      |   |   |      |    |    |      |    |    |      |    |    |      |    |    |      |    |     |      |    |    |      |    |    |      |    |    |      |    |    |      |    |    |
| 4.69   | 55                        | 85  |  |                           |  |                         |                         |      |   |   |      |    |    |      |    |    |      |    |    |      |    |    |      |    |     |      |    |    |      |    |    |      |    |    |      |    |    |      |    |    |   |                  |                           |  |                         |                         |      |   |   |      |    |    |      |    |    |      |    |    |      |    |    |      |    |     |      |    |    |      |    |    |      |    |    |      |    |    |      |    |    |
| 5.36   | 78                        | 78  |  |                           |  |                         |                         |      |   |   |      |    |    |      |    |    |      |    |    |      |    |    |      |    |     |      |    |    |      |    |    |      |    |    |      |    |    |      |    |    |   |                  |                           |  |                         |                         |      |   |   |      |    |    |      |    |    |      |    |    |      |    |    |      |    |     |      |    |    |      |    |    |      |    |    |      |    |    |      |    |    |
| 6.03   | 73                        | 73  |  |                           |  |                         |                         |      |   |   |      |    |    |      |    |    |      |    |    |      |    |    |      |    |     |      |    |    |      |    |    |      |    |    |      |    |    |      |    |    |   |                  |                           |  |                         |                         |      |   |   |      |    |    |      |    |    |      |    |    |      |    |    |      |    |     |      |    |    |      |    |    |      |    |    |      |    |    |      |    |    |
| 6.70   | 68                        | 68  |  |                           |  |                         |                         |      |   |   |      |    |    |      |    |    |      |    |    |      |    |    |      |    |     |      |    |    |      |    |    |      |    |    |      |    |    |      |    |    |   |                  |                           |  |                         |                         |      |   |   |      |    |    |      |    |    |      |    |    |      |    |    |      |    |     |      |    |    |      |    |    |      |    |    |      |    |    |      |    |    |
| Load Current [A]   | Switching Frequency [kHz] |   |  |                           |  |                         |                         |      |   |   |      |    |    |      |    |    |      |    |    |      |    |    |      |    |     |      |    |    |      |    |    |      |    |    |      |    |    |      |    |    |   |                  |                           |  |                         |                         |      |   |   |      |    |    |      |    |    |      |    |    |      |    |    |      |    |     |      |    |    |      |    |    |      |    |    |      |    |    |      |    |    |
|  | Load Increase (0%→100%)   | Load Decrease (100%→0%)   |  |                           |  |                         |                         |      |   |   |      |    |    |      |    |    |      |    |    |      |    |    |      |    |     |      |    |    |      |    |    |      |    |    |      |    |    |      |    |    |   |                  |                           |  |                         |                         |      |   |   |      |    |    |      |    |    |      |    |    |      |    |    |      |    |     |      |    |    |      |    |    |      |    |    |      |    |    |      |    |    |
| 0.00   | -                         | -   |  |                           |  |                         |                         |      |   |   |      |    |    |      |    |    |      |    |    |      |    |    |      |    |     |      |    |    |      |    |    |      |    |    |      |    |    |      |    |    |   |                  |                           |  |                         |                         |      |   |   |      |    |    |      |    |    |      |    |    |      |    |    |      |    |     |      |    |    |      |    |    |      |    |    |      |    |    |      |    |    |
| 0.67   | 50                        | 50  |  |                           |  |                         |                         |      |   |   |      |    |    |      |    |    |      |    |    |      |    |    |      |    |     |      |    |    |      |    |    |      |    |    |      |    |    |      |    |    |   |                  |                           |  |                         |                         |      |   |   |      |    |    |      |    |    |      |    |    |      |    |    |      |    |     |      |    |    |      |    |    |      |    |    |      |    |    |      |    |    |
| 1.34   | 45                        | 59  |  |                           |  |                         |                         |      |   |   |      |    |    |      |    |    |      |    |    |      |    |    |      |    |     |      |    |    |      |    |    |      |    |    |      |    |    |      |    |    |   |                  |                           |  |                         |                         |      |   |   |      |    |    |      |    |    |      |    |    |      |    |    |      |    |     |      |    |    |      |    |    |      |    |    |      |    |    |      |    |    |
| 2.01   | 54                        | 77  |  |                           |  |                         |                         |      |   |   |      |    |    |      |    |    |      |    |    |      |    |    |      |    |     |      |    |    |      |    |    |      |    |    |      |    |    |      |    |    |   |                  |                           |  |                         |                         |      |   |   |      |    |    |      |    |    |      |    |    |      |    |    |      |    |     |      |    |    |      |    |    |      |    |    |      |    |    |      |    |    |
| 2.68   | 50                        | 70  |  |                           |  |                         |                         |      |   |   |      |    |    |      |    |    |      |    |    |      |    |    |      |    |     |      |    |    |      |    |    |      |    |    |      |    |    |      |    |    |   |                  |                           |  |                         |                         |      |   |   |      |    |    |      |    |    |      |    |    |      |    |    |      |    |     |      |    |    |      |    |    |      |    |    |      |    |    |      |    |    |
| 3.35   | 64                        | 104   |  |                           |  |                         |                         |      |   |   |      |    |    |      |    |    |      |    |    |      |    |    |      |    |     |      |    |    |      |    |    |      |    |    |      |    |    |      |    |    |   |                  |                           |  |                         |                         |      |   |   |      |    |    |      |    |    |      |    |    |      |    |    |      |    |     |      |    |    |      |    |    |      |    |    |      |    |    |      |    |    |
| 4.02   | 59                        | 94  |  |                           |  |                         |                         |      |   |   |      |    |    |      |    |    |      |    |    |      |    |    |      |    |     |      |    |    |      |    |    |      |    |    |      |    |    |      |    |    |   |                  |                           |  |                         |                         |      |   |   |      |    |    |      |    |    |      |    |    |      |    |    |      |    |     |      |    |    |      |    |    |      |    |    |      |    |    |      |    |    |
| 4.69   | 55                        | 85  |  |                           |  |                         |                         |      |   |   |      |    |    |      |    |    |      |    |    |      |    |    |      |    |     |      |    |    |      |    |    |      |    |    |      |    |    |      |    |    |   |                  |                           |  |                         |                         |      |   |   |      |    |    |      |    |    |      |    |    |      |    |    |      |    |     |      |    |    |      |    |    |      |    |    |      |    |    |      |    |    |
| 5.36   | 78                        | 78  |  |                           |  |                         |                         |      |   |   |      |    |    |      |    |    |      |    |    |      |    |    |      |    |     |      |    |    |      |    |    |      |    |    |      |    |    |      |    |    |   |                  |                           |  |                         |                         |      |   |   |      |    |    |      |    |    |      |    |    |      |    |    |      |    |     |      |    |    |      |    |    |      |    |    |      |    |    |      |    |    |
| 6.03   | 73                        | 73  |  |                           |  |                         |                         |      |   |   |      |    |    |      |    |    |      |    |    |      |    |    |      |    |     |      |    |    |      |    |    |      |    |    |      |    |    |      |    |    |   |                  |                           |  |                         |                         |      |   |   |      |    |    |      |    |    |      |    |    |      |    |    |      |    |     |      |    |    |      |    |    |      |    |    |      |    |    |      |    |    |
| 6.70   | 68                        | 68  |  |                           |  |                         |                         |      |   |   |      |    |    |      |    |    |      |    |    |      |    |    |      |    |     |      |    |    |      |    |    |      |    |    |      |    |    |      |    |    |   |                  |                           |  |                         |                         |      |   |   |      |    |    |      |    |    |      |    |    |      |    |    |      |    |     |      |    |    |      |    |    |      |    |    |      |    |    |      |    |    |
| <p>-Switching frequency of LHA changes depending on load current and input voltage.<br/>When load current is low, switching frequency becomes high and step down to low frequency at certain point.<br/>There is hysteresis, so characteristic is different between load increase (sweep from 0% to 100%) and load decrease (sweep from 100% to 0%).</p> <p>-When load current is low, LHA operates intermittently, so switching frequency would not become constant.<br/>Therefore it is shown as "-" in the table.</p> |                           |   |  |                           |  |                         |                         |      |   |   |      |    |    |      |    |    |      |    |    |      |    |    |      |    |     |      |    |    |      |    |    |      |    |    |      |    |    |      |    |    |   |                  |                           |  |                         |                         |      |   |   |      |    |    |      |    |    |      |    |    |      |    |    |      |    |     |      |    |    |      |    |    |      |    |    |      |    |    |      |    |    |