

|                |   |             |         |
|----------------|---|-------------|---------|
| <b>Title</b>   | UPS PERFORMANCE TYPE TEST REPORT                              |             |         |
| <b>Date</b>    | 06/02/2015  | Approved by | J Yates |
| <b>Subject</b> | UPS Input/Output characteristics - static conditions          |             |         |
| <b>Test</b>    | Input-Output characteristics, losses, efficiency (EN 62040-3) |             |         |



**Purpose** To measure the input and output UPS performance at differing load levels (0-25%-50%-75%-100%) in order to verify

- 1 Efficiency and losses
- 2 THDv
- 3 Output static stability
- 4 THDi and input pf

| <b>MHE 600 PERFORMANCE</b> |                    |                      |                  |               |       |       |       |              |                 |        |       |       |          |          |          |              |  |
|----------------------------|--------------------|----------------------|------------------|---------------|-------|-------|-------|--------------|-----------------|--------|-------|-------|----------|----------|----------|--------------|--|
| UPS kVA rating             |                    | 600                  |                  | UPS kW rating |       | 600   |       |              |                 |        |       |       |          |          |          |              |  |
| System                     |                    |                      | Input            |               |       |       |       |              |                 | Output |       |       |          |          |          |              |  |
| UPS Load %                 | System Losses (kW) | Overall Efficiency % | Volts ac (Ph/Ph) | Amps          | kVA   | kW    | THDi  | Power Factor | Volts ac (Ph/N) | Amps   | kVA   | kW    | THDv 1 % | THDv 2 % | THDv 3 % | Power Factor |  |
| 0                          | 6.0                |                      | 400.5            | 34            | 23.6  | 6.0   | 26.10 | 0.256        | 230.9           | 0.0    | 0.0   | 0.0   | 0.80     | 0.70     | 0.90     | 1.0          |  |
| 12.8                       | 7.5                | 91.1                 | 400.4            | 125.7         | 87.2  | 84.4  | 8.50  | 0.967        | 231.0           | 111.0  | 76.9  | 76.9  | 1.00     | 0.80     | 0.90     | 1.0          |  |
| 24.9                       | 9.6                | 94.0                 | 399.9            | 231.5         | 160.3 | 159.1 | 4.00  | 0.992        | 230.9           | 215.8  | 149.5 | 149.5 | 1.20     | 1.00     | 1.10     | 1.0          |  |
| 37.4                       | 12.2               | 94.8                 | 400.0            | 342.2         | 237.1 | 236.5 | 3.00  | 0.997        | 231.1           | 323.6  | 224.3 | 224.3 | 1.50     | 1.30     | 1.30     | 1.0          |  |
| 50.2                       | 15.5               | 95.1                 | 400.0            | 458.6         | 317.7 | 316.9 | 2.10  | 0.997        | 231.2           | 434.5  | 301.4 | 301.4 | 1.40     | 1.40     | 1.50     | 1.0          |  |
| 62.4                       | 19.2               | 95.1                 | 399.9            | 569.2         | 394.3 | 393.5 | 2.20  | 0.998        | 231.2           | 539.6  | 374.3 | 374.3 | 1.20     | 1.20     | 1.20     | 1.0          |  |
| 74.9                       | 23.6               | 95.0                 | 399.8            | 684.3         | 473.9 | 473.2 | 1.80  | 0.999        | 231.2           | 648.2  | 449.6 | 449.6 | 1.00     | 1.10     | 1.00     | 1.0          |  |
| 88                         | 29.0               | 94.8                 | 399.6            | 805.1         | 557.3 | 556.8 | 1.30  | 0.999        | 231.2           | 761.1  | 527.9 | 527.9 | 1.00     | 1.10     | 1.10     | 1.0          |  |
| 99.9                       | 34.4               | 94.6                 | 399.8            | 916.8         | 634.8 | 633.8 | 1.20  | 0.998        | 231.1           | 864.6  | 599.4 | 599.4 | 0.90     | 0.90     | 0.90     | 1.0          |  |

