# Appendix A-5
# Modbus Registers

The following table list Modbus registers available for read only access. Floating point numbers require reading two (2) registers. This table only applies to Source 1. For information stored in arrays indexed by source, simply add 1000 for the additional source (e.g., 2xxx for Source 2 and 3xxx for Source 3).

**APPENDIX TABLE A-5-1**
**Registers Table (Ref. Section 4.8.3.4)**

| Register Number | Data Type | Description |
|---|---|---|
| 1001 | int16 array | Source voltage L-L phase A |
| 1002 | int16 array | Source current phase A |
| 1003 | int16 array | Source voltage L-L phase B |
| 1004 | int16 array | Source current phase B |
| 1005 | int16 array | Source voltage L-L phase C |
| 1006 | int16 array | Source current phase C |
| 1007 | float array | Source frequency |
| 1009 | int16 | Source phase angle between source & next |
| 1010 | int16 | Output voltage phase A |
| 1011 | int16 | Output voltage phase B |
| 1012 | int16 | Output voltage phase C |
| 1019 | float array | Source kVA phase A |
| 1021 | float array | Source kVA phase B |
| 1023 | float array | Source kVA phase C |
| 1025 | int16 array | Source IPeak phase A |
| 1027 | int16 array | Source IPeak phase B |
| 1029 | int16 array | Source IPeak phase C |
| 1035 | float array | Source kW phase A |
| 1037 | float array | Source kW phase B |
| 1039 | float array | Source kW phase C |
| 1041 | int16 | Cabinet temperature indicator<br>(0=normal, 1=over) |
| 1042 | int16 array | Heatsink temperature indicator<br>(0=normal, 1=over) |
| 1043 | int16 array | Input circuit breaker state<br>(0=open, 1=closed, 2=failed) |
| 1044 | int16 | Load A circuit breaker state<br>(0=open, 1=closed, 2=failed) |
| 1045 | int16 | Load B circuit breaker state<br>(0=open, 1=closed, 2=failed) |
| 1046 | int16 array | Bypass circuit breaker state<br>(0=open, 1=closed, 2=failed) |
| 1047 | int16 | Current source<br>Bits 0-1: (0=source 1, 1=source 2, 2=source 3)<br>Bit 4: (Set = Gate Lock)<br>Bit 5: (Set = Gate Hold) |
| 1048 | int16 | Output state<br>(0 = red, 1 = green) |

**APPENDIX TABLE A-5-1**
**Registers Table (Ref. Section 4.8.3.4)**

| Register Number | Data Type | Description |
|---|---|---|
| 1049 | float | Display unit temperature |
| 1051 | int16 array | Fan state (0=on, 1=failed) |
| 1052 | int16 array | SCR state (0=off, 1=on, 2=open, 3=short) |
| 1053 | int16 array | Source available (0=red, 1=amber, 2=green) |
| 1054 | int16 | Source sync (0=out of sync, 1=in sync) |
| 1055 | int16 | Door state (0=open, 1=closed) |
| 1063 | float array | Source power factor phase A |
| 1065 | float array | Source power factor phase B |
| 1067 | float array | Source power factor phase C |
| 1069 | int16 array | Source voltage L-N phase A |
| 1070 | int16 array | Source voltage L-N phase B |
| 1071 | int16 array | Source voltage L-N phase C |
| 1101 | float array | Source voltage THD phase A-B |
| 1103 | float array | Source voltage 3rd Harmonic phase A-B |
| 1105 | float array | Source voltage 5th harmonic phase A-B |
| 1107 | float array | Source voltage 7th harmonic phase A-B |
| 1109 | float array | Source voltage 9th harmonic phase A-B |
| 1111 | float array | Source voltage 11th harmonic phase A-B |
| 1113 | float array | Source voltage 13th harmonic phase A-B |
| 1115 | float array | Source voltage THD phase B-C |
| 1117 | float array | Source voltage 3rd harmonic phase B-C |
| 1119 | float array | Source voltage 5th harmonic phase B-C |
| 1121 | float array | Source voltage 7th harmonic phase B-C |
| 1123 | float array | Source voltage 9th harmonic phase B-C |
| 1125 | float array | Source voltage 11th harmonic phase B-C |
| 1127 | float array | Source voltage 13th harmonic phase B-C |
| 1129 | float array | Source voltage THD phase C-A |
| 1131 | float array | Source voltage 3rd harmonic phase C-A |
| 1133 | float array | Source voltage 5th harmonic phase C-A |
| 1135 | float array | Source voltage 7th harmonic phase C-A |
| 1137 | float array | Source voltage 9th harmonic phase C-A |
| 1139 | float array | Source voltage 11th harmonic phase C-A |
| 1141 | float array | Source voltage 13th harmonic phase C-A |
| 1143 | float array | Source current THD phase A |
| 1145 | float array | Source current 3rd harmonic phase A |
| 1147 | float array | Source current 5th harmonic phase A |
| 1149 | float array | Source current 7th harmonic phase A |
| 1151 | float array | Source current 9th harmonic phase A |
| 1153 | float array | Source current 11th harmonic phase A |
| 1155 | float array | Source current 13th harmonic phase A |
| 1157 | float array | Source current THD phase B |

| APPENDIX TABLE A-5-1<br>Registers Table (Ref. Section 4.8.3.4) | | |
|---|---|---|
| **Register Number** | **Data Type** | **Description** |
| 1159 | float array | Source current 3rd harmonic phase B |
| 1161 | float array | Source current 5th harmonic phase B |
| 1163 | float array | Source current 7th harmonic phase B |
| 1165 | float array | Source current 9th harmonic phase B |
| 1167 | float array | Source current 11th harmonic phase B |
| 1169 | float array | Source current 13th harmonic phase B |
| 1171 | float array | Source current THD phase C |
| 1173 | float array | Source current 3rd harmonic phase C |
| 1175 | float array | Source current 5th harmonic phase C |
| 1177 | float array | Source current 7th harmonic phase C |
| 1179 | float array | Source current 9th harmonic phase C |
| 1181 | float array | Source current 11th harmonic phase C |
| 1183 | float array | Source current $13^{th}$ harmonic phase C |

The following table list Modbus registers available for read write access. Floating point numbers require reading and writing two (2) registers. There is no security on these parameters.

| APPENDIX TABLE A-5-2<br>Registers Table (Ref. Section 4.8.3.4) | | | |
|---|---|---|---|
| **Register Number** | **Data Type** | **Description** | **Range** |
| 1301 | int16 | Voltage rating of the unit | 120-600 |
| 1302 | int16 | Current rating of the unit | 0-10000 |
| 1303 | float | Frequency rating of the unit | 50-60 |
| 1305 | int16 | Preferred source | 0 for source 1<br>1 for source 2 |
| 1306 | int16 | Automatic transfer | 0 for disable<br>1 for disable |
| 1307 | int16 | Retransfer | 0 for disable<br>1 for disable |
| 1308 | int16 | System status | Bit 0: (Set = Summary Alarm)<br>Bit 1: (Set = Unacked. Events) |