| Name | $\begin{aligned} & \text { 苟 } \\ & \frac{4}{0} \end{aligned}$ | $\begin{aligned} & \frac{4}{8} \\ & \frac{4}{0} \\ & \frac{0}{4} \end{aligned}$ | $\stackrel{N}{N}$ | $\stackrel{\text { ® }}{2}$ | $3$ | 0 <br> 0 <br> 0 | Description |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Device ID | 0x00 | 40001 | 16 | S | R | 10 | Returns an identifier indicating the model of this device |
| Voltage A | 0x01 | 40002 | 16 | S | R | 10 | Instantaneous voltages, as 16-bit integers |
| Voltage B | 0x02 | 40003 | 16 | S | R | 10 |  |
| Voltage C | $0 \times 03$ | 40004 | 16 | S | R | 10 |  |
| Voltage Avg. | 0x04 | 40005 | 16 | S | R | 10 | Average of the instantaneous voltages, as 16-bit integers |
| Voltage AB | 0x05 | 40006 | 16 | S | R | 10 | Line-to-line voltages, as 16-bit integers |
| Voltage BC | 0x06 | 40007 | 16 | S | R | 10 |  |
| Voltage CA | $0 \times 07$ | 40008 | 16 | S | R | 10 |  |
| Voltage Line-to-Line Avg. | 0x08 | 40009 | 16 | S | R | 10 | Average of the line-to-line voltages, as a 16-bit integer |
| Voltage Angle AB | 0x09 | 40010 | 16 | S | R | 10 | Phase angle between voltage A and voltage B |
| Voltage Angle BC | 0x0A | 40011 | 16 | S | R | 10 | Phase angle between voltage B and voltage C |
| Voltage Angle AC | 0x0B | 40012 | 16 | S | R | 10 | Phase angle between voltage A and voltage C |
| Frequency | 0x0C | 40013 | 16 | U | R | 100 | Frequency, as a 16-bit integer |
| Overflow | 0x0D | 40014 | 16 | U | R | - | Set to a non-zero value when any of the above registers is out of range. The position of the set bits indicate which register(s) have overflowed (i.e., the $1^{\text {st }}$ bit indicates Voltage $A$, the $4^{\text {th }}$ indicates Voltage Avg., etc.). |
| Reserved | $\begin{aligned} & \text { OXOE- } \\ & \text { OXOF } \end{aligned}$ | $\begin{aligned} & 40015- \\ & 40016 \end{aligned}$ |  |  |  |  |  |
| Voltage A | $0 \times 10$ | 40017 | 32 | F | R | 1 | Instantaneous voltages, as floating-point numbers |
| Voltage B | $0 \times 12$ | 40019 | 32 | F | R | 1 |  |
| Voltage C | $0 \times 14$ | 40021 | 32 | F | R | 1 |  |
| Voltage Avg. | 0x16 | 40023 | 32 | F | R | 1 | Average of the instantaneous voltages, as a floating-point number |
| Voltage AB | $0 \times 18$ | 40025 | 32 | F | R | 1 | Line-to-line Voltages, as floating-point numbers |
| Voltage BC | 0x1A | 40027 | 32 | F | R | 1 |  |
| Voltage CA | $0 \times 1 \mathrm{C}$ | 40029 | 32 | F | R | 1 |  |
| Voltage Line-to-Line Avg. | 0x1E | 40037 | 32 | F | R | 1 | Average of the line-to-line voltages, as a floating-point number |
| Voltage Angle AB | 0x20 | 40031 | 32 | F | R | 1 | Phase angle between voltage $A$ and voltage $B$ |
| Voltage Angle BC | 0x22 | 40033 | 32 | F | R | 1 | Phase angle between voltage B and voltage C |
| Voltage Angle AC | 0x24 | 40035 | 32 | F | R | 1 | Phase angle between voltage A and voltage C |
| Frequency | 0x26 | 40039 | 32 | F | R | 1 | Frequency, as a floating-point number |
| Reserved | $\begin{gathered} 0 \times 28- \\ 0 \times 2 F \end{gathered}$ | $\begin{aligned} & 40041- \\ & 40048 \end{aligned}$ |  |  |  |  |  |
| Primary PT Ratio (All) | $0 \times 30$ | 40049 | 16 | U | RW | - | Used for setting the PT ratios for each phase. Writing to the "All" registers globally sets the PT ratios for all of the phases simultaneously. If the PT ratios are not identical in all three channels, the "All" values are read as " 0 ". |
| Secondary PT Ratio (All) | $0 \times 31$ | 40050 | 16 | U | RW | - |  |
| Primary PT Ratio A | 0x32 | 40051 | 16 | U | RW | - |  |
| Secondary PT Ratio A | $0 \times 33$ | 40052 | 16 | U | RW | - |  |
| Primary PT Ratio B | $0 \times 34$ | 40053 | 16 | U | RW | - |  |
| Secondary PT Ratio B | $0 \times 35$ | 40054 | 16 | U | RW | - |  |
| Primary PT Ratio C | $0 \times 36$ | 40055 | 16 | U | RW | - |  |
| Secondary PT Ratio C | $0 \times 37$ | 40056 | 16 | U | RW | - |  |
| Debug 16-bit | $0 \times 38$ | 40057 | 16 | S | R | - | These registers always output known values. They are useful for debugging communication with the device. Values: 16-bit: 12345; 32-bit: 1234567; Floating-point: 1234.567 |
| Debug 32-bit | $0 \times 39$ | 40058 | 32 | S | R | - |  |
| Debug Floating-Point | 0x3B | 40060 | 32 | F | R | - |  |
| Uptime | 0x3D | 40062 | 32 | U | RW | - | Seconds since the device was last powered on or reset. |
| 32-bit Little Endian Mode | 0x3F | 40064 | 16 | B | RW | - | If enabled, 32b values are sent least significant word first. (default: false) |
| Voltage LED Threshold | 0x40 | 40065 | 16 | S | RW | - | Expressed as a percentage of full-scale voltage. (default: 5\%) |
| Serial Number | 0x41 | 40066 | 32 | U | RW | - | Factory programmed serial number of the unit. |
| Hardware Version | 0x43 | 40068 | 16 | U | R | - | Version numbers of different hardware and software components of this device. Divide by 100 to get the version number; for example, a value of " 100 " indicates version 1.00 . |
| Firmware Version | 0x44 | 40069 | 16 | U | R | - |  |
| Bootloader Version | 0x45 | 40070 | 16 | U | R | - |  |
| Model Number | 0x46 | 40071 | 16 | U | R | - | The model number of the device. This is expressed as a two-byte ASCII string. 19832 indicates the " Mx " model. |
| Input Configuration | 0x47 | 40072 | 16 | U | R | - | Always reads "6", indicating voltage input. |
| Passcode | 0x48 | 40073 | 32 | U | RW | - | Used for entering a passcode when locking or unlocking the device. |
| Lock | 0x4A | 40075 | 16 | U | RW | - | " 0 " indicates unlocked, " 1 " indicates locked. With a passcode entered above, write " 0 " to unlock, " 1 " to lock, or " 2 " to change the passcode. |
| Auto Frequency Channel | 0x4B | 40076 | 16 | B | RW | - | Auto-select a valid channel for frequency measurement. (default: true) |
| Frequency Active Channel | 0x4C | 40077 | 16 | U | RW | - | Channel used to measure frequency. 0, 1, 2 for A, B, C. (default: 0) |

