

Nv-8s Register Map Ver 1.00

| |
|------------------------|
| 1 reg = 2bytes (16bit) |
| short int = 16 bit |
| int = 32 bit |
| long int = 64 bit |
| neg P = export |
| neg Q = capacitive |

| Instantaneous Parameter | | | | | | | | |
|-------------------------|----------------|-------|------|------------|--------------------|-------------------|----------------|----------------|
| Reg Addr (Hex) | Register | (R/W) | Unit | Multiplier | Format | Comment | Reg Byte Count | Reg Addr (Dec) |
| 0000 | Reserved | | - | | unsigned short int | | 2 | 0 |
| 0001 | Voltage | R | V | 0.1 | unsigned short int | | 2 | 1 |
| 0002 | Ampere | R | A | 0.01 | unsigned short int | | 2 | 2 |
| 0003 | Frequency | R | Hz | 0.01 | unsigned short int | | 2 | 3 |
| 0004 | Thd-V | R | % | 0.1 | unsigned short int | | 2 | 4 |
| 0005 | Thd-I | R | % | 0.1 | unsigned short int | | 2 | 5 |
| 0006 | Cos | R | | 0.01 | short int | neg => capacitive | 2 | 6 |
| 0007 | PF | R | | 0.01 | short int | neg => export | 2 | 7 |
| 0008 | Active Power | R | W | 0.1 | short int | neg => capacitive | 2 | 8 |
| 0009 | Reactive Power | R | VAr | 0.1 | short int | neg => capacitive | 2 | 9 |
| Total Registers = 10 | | | | | | | | |

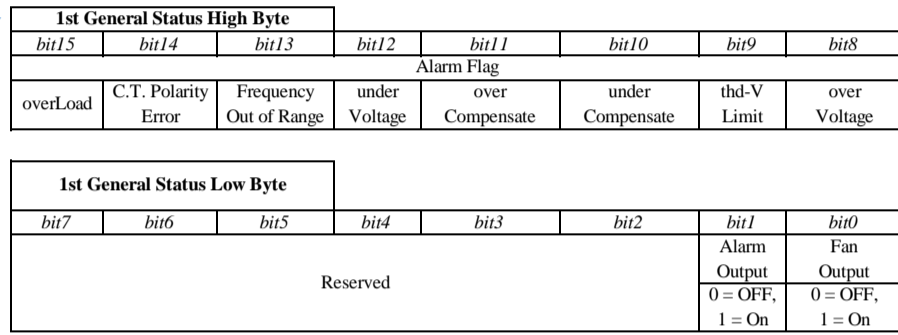
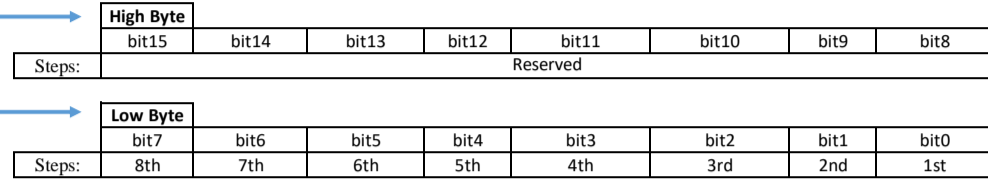
| Cap Bank Status | | | | | | | | |
|---------------------|---------------------------------------|-------|------|------------|--------------------|----------|----------------|----------------|
| Reg Addr (Hex) | Register | (R/W) | Unit | Multiplier | Format | Comment | Reg Byte Count | Reg Addr (Dec) |
| 000A | cap in use status | R | | 1 | unsigned short int | | 2 | 10 |
| 000B | faulty cap status | R | | 1 | unsigned short int | | 2 | 11 |
| 000C | cap operated more than 35k hrs status | R | | 1 | unsigned short int | | 2 | 12 |
| 000D | 1st general status | R | | 1 | unsigned short int | | 2 | 13 |
| 000E | 2nd general status | R | | 1 | unsigned short int | Reserved | 2 | 14 |
| 000F | 3rd general status | R | | 1 | unsigned short int | | 2 | 15 |
| Total Registers = 6 | | | | | | | | |

| Voltage Harmonic Spectrum Parameter | | | | | | | | |
|-------------------------------------|-----------------------|-------|------|------------|--------------------|---------|----------------|----------------|
| Reg Addr (Hex) | Register | (R/W) | Unit | Multiplier | Format | Comment | Reg Byte Count | Reg Addr (Dec) |
| 0010 | Reserved | R | | | unsigned short int | | 2 | 16 |
| 0011 | V Spectrum H-order 1 | R | V | | unsigned short int | | 2 | 17 |
| 0012 | V Spectrum H-order 2 | R | V | | unsigned short int | | 2 | 18 |
| 0013 | V Spectrum H-order 3 | R | V | | unsigned short int | | 2 | 19 |
| 0014 | V Spectrum H-order 4 | R | V | | unsigned short int | | 2 | 20 |
| 0015 | V Spectrum H-order 5 | R | V | | unsigned short int | | 2 | 21 |
| 0016 | V Spectrum H-order 6 | R | V | | unsigned short int | | 2 | 22 |
| 0017 | V Spectrum H-order 7 | R | V | | unsigned short int | | 2 | 23 |
| 0018 | V Spectrum H-order 8 | R | V | 0.1 | unsigned short int | | 2 | 24 |
| 0019 | V Spectrum H-order 9 | R | V | | unsigned short int | | 2 | 25 |
| 001A | V Spectrum H-order 10 | R | V | | unsigned short int | | 2 | 26 |
| 001B | V Spectrum H-order 11 | R | V | | unsigned short int | | 2 | 27 |
| 001C | V Spectrum H-order 12 | R | V | | unsigned short int | | 2 | 28 |
| 001D | V Spectrum H-order 13 | R | V | | unsigned short int | | 2 | 29 |
| 001E | V Spectrum H-order 14 | R | V | | unsigned short int | | 2 | 30 |
| 001F | V Spectrum H-order 15 | R | V | | unsigned short int | | 2 | 31 |
| Total Registers = 16 | | | | | | | | |

| Ampere Harmonic Spectrum Parameter (Secondary Value) | | | | | | | | |
|--|-----------------------|-------|------|------------|--------------------|---------|----------------|----------------|
| Reg Addr (Hex) | Register | (R/W) | Unit | Multiplier | Format | Comment | Reg Byte Count | Reg Addr (Dec) |
| 0020 | Reserved | R | | | unsigned short int | | 2 | 32 |
| 0021 | I Spectrum H-order 1 | R | A | | unsigned short int | | 2 | 33 |
| 0022 | I Spectrum H-order 2 | R | A | | unsigned short int | | 2 | 34 |
| 0023 | I Spectrum H-order 3 | R | A | | unsigned short int | | 2 | 35 |
| 0024 | I Spectrum H-order 4 | R | A | | unsigned short int | | 2 | 36 |
| 0025 | I Spectrum H-order 5 | R | A | | unsigned short int | | 2 | 37 |
| 0026 | I Spectrum H-order 6 | R | A | | unsigned short int | | 2 | 38 |
| 0027 | I Spectrum H-order 7 | R | A | | unsigned short int | | 2 | 39 |
| 0028 | I Spectrum H-order 8 | R | A | 0.01 | unsigned short int | | 2 | 40 |
| 0029 | I Spectrum H-order 9 | R | A | | unsigned short int | | 2 | 41 |
| 002A | I Spectrum H-order 10 | R | A | | unsigned short int | | 2 | 42 |
| 002B | I Spectrum H-order 11 | R | A | | unsigned short int | | 2 | 43 |
| 002C | I Spectrum H-order 12 | R | A | | unsigned short int | | 2 | 44 |
| 002D | I Spectrum H-order 13 | R | A | | unsigned short int | | 2 | 45 |
| 002E | I Spectrum H-order 14 | R | A | | unsigned short int | | 2 | 46 |
| 002F | I Spectrum H-order 15 | R | A | | unsigned short int | | 2 | 47 |
| Total Registers = 16 | | | | | | | | |

| Cap Bank Utilization Hours | | | | | | | | |
|----------------------------|--------------|-------|------|------------|--------------------|---------|----------------|----------------|
| Reg Addr (Hex) | Register | (R/W) | Unit | Multiplier | Format | Comment | Reg Byte Count | Reg Addr (Dec) |
| 0030 | k1 cap hours | R/W | sec | | unsigned short int | | 4 | 48 |
| 0032 | k2 cap hours | R/W | sec | | unsigned short int | | 4 | 50 |
| 0034 | k3 cap hours | R/W | sec | | unsigned short int | | 4 | 52 |
| 0036 | k4 cap hours | R/W | sec | 8 | unsigned short int | | 4 | 54 |
| 0038 | k5 cap hours | R/W | sec | | unsigned short int | | 4 | 56 |
| 003A | k6 cap hours | R/W | sec | | unsigned short int | | 4 | 58 |
| 003C | k7 cap hours | R/W | sec | | unsigned short int | | 4 | 60 |
| 003E | k8 cap hours | R/W | sec | | unsigned short int | | 4 | 62 |
| 0040 | Reserved | R/W | | | unsigned short int | | 4 | 64 |
| 0042 | | R/W | | | unsigned short int | | 4 | 66 |
| 0044 | | R/W | | | unsigned short int | | 4 | 68 |
| 0046 | | R/W | | | unsigned short int | | 4 | 70 |
| 0048 | | R/W | | | unsigned short int | | 4 | 72 |
| 004A | | R/W | | | unsigned short int | | 4 | 74 |
| Total Registers = 28 | | | | | | | | |

| Cap Bank Switching Count | | | | | | | | |
|--------------------------|-----------------------|-------|------|------------|--------------------|---------|----------------|----------------|
| Reg Addr (Hex) | Register | (R/W) | Unit | Multiplier | Format | Comment | Reg Byte Count | Reg Addr (Dec) |
| 004C | k1 cap switched count | R/W | | | unsigned short int | | 2 | 76 |
| 004D | k2 cap switched count | R/W | | | unsigned short int | | 2 | 77 |
| 004E | k3 cap switched count | R/W | | | unsigned short int | | 2 | 78 |
| 004F | k4 cap switched count | R/W | | | unsigned short int | | 2 | 79 |
| 0050 | k5 cap switched count | R/W | | | unsigned short int | | 2 | 80 |
| 0051 | k6 cap switched count | R/W | | | unsigned short int | | 2 | 81 |
| 0052 | k7 cap switched count | R/W | | | unsigned short int | | 2 | 82 |
| 0053 | k8 cap switched count | R/W | | | unsigned short int | | 2 | 83 |
| 0054 | Reserved | R/W | | | unsigned short int | | 2 | 84 |
| 0055 | | R/W | | | unsigned short int | | 2 | 85 |
| 0056 | | R/W | | | unsigned short int | | 2 | 86 |
| 0057 | | R/W | | | unsigned short int | | 2 | 87 |
| 0058 | | R/W | | | unsigned short int | | 2 | 88 |
| 0059 | | R/W | | | unsigned short int | | 2 | 89 |
| Total Registers = 14 | | | | | | | | |



overLoad, C.T. Polarity Error, Frequency Out of Range, under Voltage, Alarm Flag over Compensate, under Compensate, thd-V Limit, over Voltage

Alarm Output, Fan Output, 0 = OFF, 1 = On, 0 = OFF, 1 = On

| Cap Bank Iph Secondary Value | | | | | | | | |
|------------------------------|----------------------|--------------------|------|------------|--------------------|---------|----------------|----------------|
| Reg Addr (Hex) | Register | (R/W) | Unit | Multiplier | Format | Comment | Reg Byte Count | Reg Addr (Dec) |
| 005A | k1 cap secondary Var | R | VAr | 0.1 | unsigned short int | | 2 | 90 |
| 005B | k2 cap secondary Var | R | VAr | | unsigned short int | | 2 | 91 |
| 005C | k3 cap secondary Var | R | VAr | | unsigned short int | | 2 | 92 |
| 005D | k4 cap secondary Var | R | VAr | | unsigned short int | | 2 | 93 |
| 005E | k5 cap secondary Var | R | VAr | | unsigned short int | | 2 | 94 |
| 005F | k6 cap secondary Var | R | VAr | | unsigned short int | | 2 | 95 |
| 0060 | k7 cap secondary Var | R | VAr | | unsigned short int | | 2 | 96 |
| 0061 | k8 cap secondary Var | R | VAr | | unsigned short int | | 2 | 97 |
| 0062 | Reserved | R | | | unsigned short int | 2 | 98 | |
| 0063 | | unsigned short int | | | 2 | 99 | | |
| 0064 | | unsigned short int | | | 2 | 100 | | |
| 0065 | | unsigned short int | | | 2 | 101 | | |
| 0066 | | unsigned short int | | | 2 | 102 | | |
| 0067 | | unsigned short int | | | 2 | 103 | | |
| Total Registers = 14 | | | | | | | | |

| Cap Bank C/K ratio | | | | | | | | |
|----------------------|------------------|--------------------|------|------------|--------------------|---------|----------------|----------------|
| Reg Addr (Hex) | Register | (R/W) | Unit | Multiplier | Format | Comment | Reg Byte Count | Reg Addr (Dec) |
| 0068 | k1 cap c/k ratio | R | | 0.1 | unsigned short int | | 2 | 104 |
| 0069 | k2 cap c/k ratio | R | | | unsigned short int | | 2 | 105 |
| 006A | k3 cap c/k ratio | R | | | unsigned short int | | 2 | 106 |
| 006B | k4 cap c/k ratio | R | | | unsigned short int | | 2 | 107 |
| 006C | k5 cap c/k ratio | R | | | unsigned short int | | 2 | 108 |
| 006D | k6 cap c/k ratio | R | | | unsigned short int | | 2 | 109 |
| 006E | k7 cap c/k ratio | R | | | unsigned short int | | 2 | 110 |
| 006F | k8 cap c/k ratio | R | | | unsigned short int | | 2 | 111 |
| 0070 | Reserved | R | | | unsigned short int | 2 | 112 | |
| 0071 | | unsigned short int | | | 2 | 113 | | |
| 0072 | | unsigned short int | | | 2 | 114 | | |
| 0073 | | unsigned short int | | | 2 | 115 | | |
| 0074 | | unsigned short int | | | 2 | 116 | | |
| 0075 | | unsigned short int | | | 2 | 117 | | |
| Total Registers = 14 | | | | | | | | |

| Setting Parameter | | | | | | | | |
|----------------------|-----------------------|-------|------|------------|--------------------|--|----------------|----------------|
| Reg Addr (Hex) | Register | (R/W) | Unit | Multiplier | Format | Data Value | Reg Byte Count | Reg Addr (Dec) |
| 0F00 | model | R | - | - | unsigned short int | fixed 0x2008 | 2 | 3840 |
| 0F01 | firmware Ver, Map Ver | R | - | 0.01 | unsigned short int | 100, 100 | 2 | 3841 |
| 0F02 | C/K | R | - | 0.01 | unsigned short int | Auto = 0 or 1 ~ 80 | 2 | 3842 |
| 0F03 | target cos | R | - | 0.01 | short int | 85 ~ 99 ind, 100, 99 ~ 90 cap (neg) | 2 | 3843 |
| 0F04 | no.connected steps | R | - | 1 | unsigned short int | 1 ~ 8 | 2 | 3844 |
| 0F05 | switching program | R | - | 1 | unsigned short int | Auto = 0, P-0 = 1, P-1 = 2, ..., P-7 = 8 | 2 | 3845 |
| 0F06 | switching on time | R | sec | 1 | unsigned short int | 1 ~ 250 | 2 | 3846 |
| 0F07 | switching off time | R | sec | 1 | unsigned short int | 1 ~ 250 | 2 | 3847 |
| 0F08 | reconnection time | R | sec | 5 | unsigned short int | OFF = 0 or 1 ~ 180 | 2 | 3848 |
| 0F09 | over voltage setting | R | V | 1 | unsigned short int | OFF = 0 or 200 ~ 260 | 2 | 3849 |
| 0F0A | thd-V setting | R | % | 1 | unsigned short int | OFF = 0 or 3 ~ 10 | 2 | 3850 |
| 0F0B | operation hour | R | min | 1 | unsigned int | | 4 | 3851 |
| 0F0D | 1st general setting | R | - | 1 | unsigned short int | | 2 | 3853 |
| 0F0E | 2nd general setting | R | - | 1 | unsigned short int | | 2 | 3854 |
| Total Registers = 15 | | | | | | | | |

| 2nd General Setting High Byte | | | | | | | |
|-------------------------------|-------|-------|-------|-------|-------|------|------|
| bit15 | bit14 | bit13 | bit12 | bit11 | bit10 | bit9 | bit8 |
| Empty | | | | | | | |

| 2nd General Setting Low Byte | | | | | | | |
|------------------------------|------|--|------|--------------------------------|------|-------------------|------|
| bit7 | bit6 | bit5 | bit4 | bit3 | bit2 | bit1 | bit0 |
| Empty | | Baud Rate | | Parity | | Communication | |
| | | 000 = 300, 001 = 600 010 = 1200, 011 = 2400 100 = 4800, 101 = 9600 110 = 19200, 111 = 28800 | | 00 = none, 01 = odd, 10 = even | | 00 = Off, 01 = On | |

| 1st General Setting High Byte | | | | | | | |
|-------------------------------|-------|-------|-----------------|------------------|---|------|------|
| bit15 | bit14 | bit13 | bit12 | bit11 | bit10 | bit9 | bit8 |
| Empty | | | Fan Duty | Network Type | Static Duty Interval | | |
| | | | 0 = On, 1 = Off | 0 = P-n, 1 = P-P | 000 = OFF, 001 = 10 mins, 010 = 15mins 011 = 20mins, 100 = 30mins 101 = 60mins, 110 = 90mins, 111 = 120mins | | |

| 1st General Setting Low Byte | | | | | | | |
|------------------------------|----------|---------------------------------------|------|---------------------------------|------|--|------|
| bit7 | bit6 | bit5 | bit4 | bit3 | bit2 | bit1 | bit0 |
| Keypad Lock | Reserved | C.T. Polarity Selection | | Frequency Selection | | Cap Bank Protection | |
| 0 = OFF, 1 = On | - | 00 = Auto, 01 = Forward, 10 = Reverse | | 00 = Auto, 01 = 50Hz, 10 = 60Hz | | 00 = OFF, 01 = overVoltage, 10 = thd-V, 11 = ALL | |

| Voltage Waveform | | | | | | | | |
|----------------------|-------------------|-------|------|------------|-----------|------------|----------------|----------------|
| Reg Addr (Hex) | Register | (R/W) | Unit | Multiplier | Format | Data Value | Reg Byte Count | Reg Addr (Dec) |
| 0100 | V data pt <1:0> | R | - | 1 | short int | | 2 | 256 |
| ... | ... (up to) | R | - | 1 | short int | | ... | ... |
| 011F | V data pt <64:63> | R | - | 1 | short int | | 2 | 287 |
| Total Registers = 32 | | | | | | | | |

| Ampere Waveform | | | | | | | | |
|----------------------|-------------------|-------|------|------------|-----------|------------|----------------|----------------|
| Reg Addr (Hex) | Register | (R/W) | Unit | Multiplier | Format | Data Value | Reg Byte Count | Reg Addr (Dec) |
| 0200 | I data pt <1:0> | R | - | 1 | short int | | 2 | 512 |
| ... | ... (up to) | R | - | 1 | short int | | ... | ... |
| 021F | I data pt <64:63> | R | - | 1 | short int | | 2 | 543 |
| Total Registers = 32 | | | | | | | | |

