

Device: **Modbus**

Make: **PowerCom**

Model: **2**

Procedure:

Overview

Procedure Nr: **P4.1.1.1**

Version: **1.00**

Date: **2013/04/02**

Pages: **1**



Description:

Serial to Modbus Converter

Used on:

- A1700
- A1140/A1160
- AS230
- A220

Additional Devices:

- USB to RS485 Converter

Cables:

- A1700 to Module (Supplied)
- A1140/A1160 to Module (Supplied)
- AS230 to Module (Supplied)
- A220 to Module (Supplied)

Communication:

- RS485
- 8,N,1

Software:

- None

Setup Methods:

- PowerServe
- Modbus Scanner Software
- Address setting

Related procedures:

- P4.1.1.1 to P4.1.1.9

Device: **Modbus**

Make: **PowerCom**

Model: **2**

Procedure:

Connection to A1700

Procedure Nr: **P4.1.1.2**

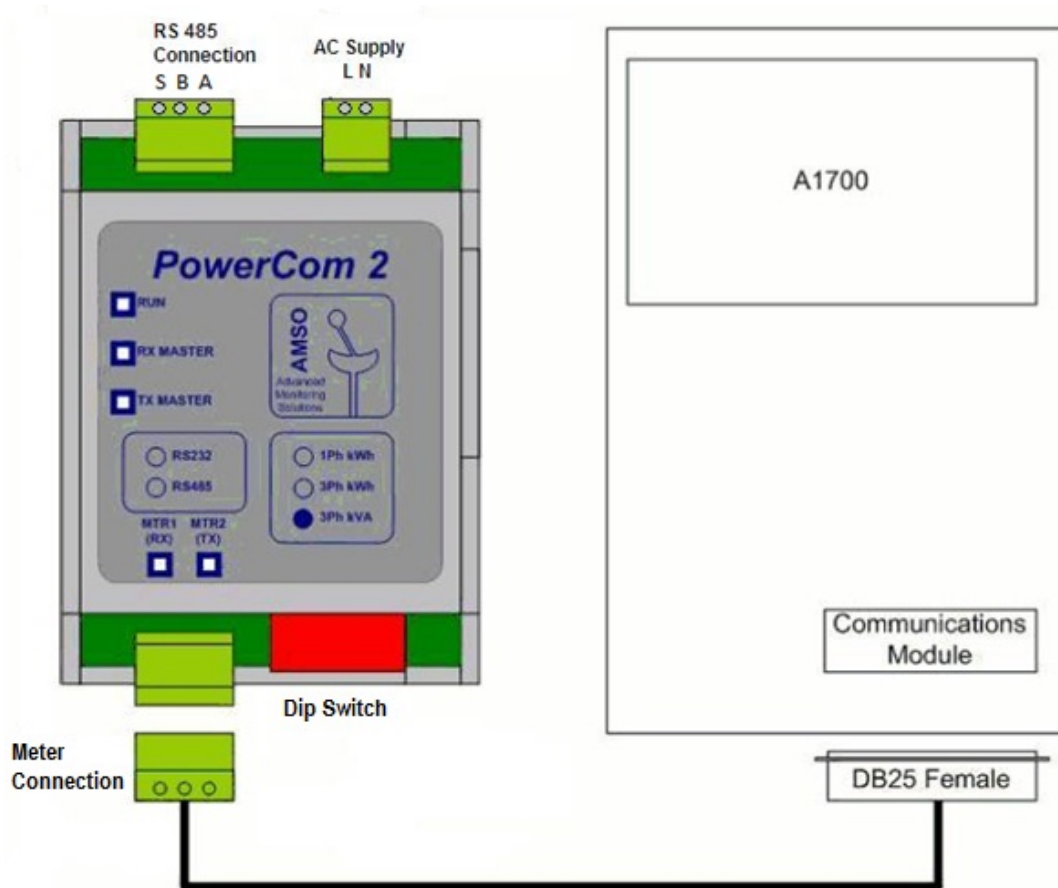
Version: **1.00**

Date: **2013/04/10**

Pages: **1**

Note:

- The PowerCom2 3Ph KVA is used for an A1700.
- Only one A1700 meter can be connected to one PowerCom2 modbus module.
- The A1700 meters must have a communications module.



Device: **Modbus**

Make: **PowerCom**

Model: **2**

Procedure:

Connection to A1140

Procedure Nr: **P4.1.1.3**

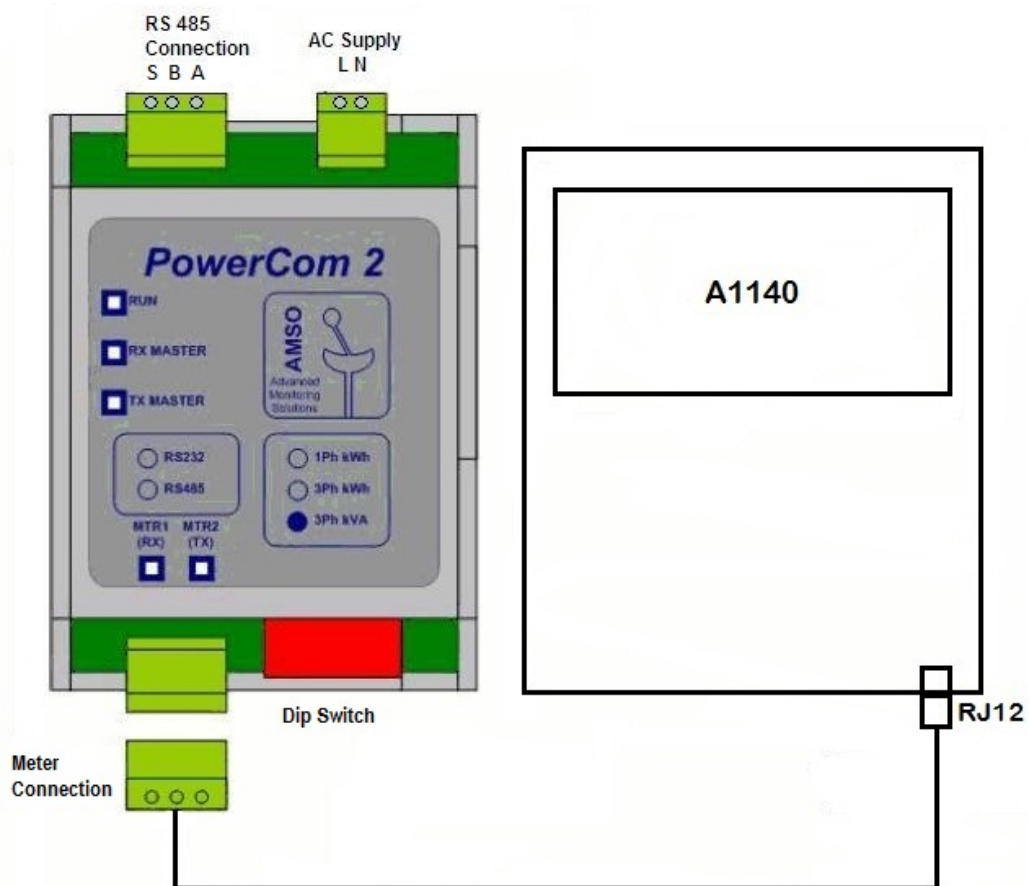
Version: **1.00**

Date: **2013/04/10**

Pages: **1**

Note:

- The PowerCom2 3Ph KVA is used for an A1140.
- Only one A1140 meter can be connected to one PowerCom2 modbus module.



Device: **Modbus**

Make: **PowerCom**

Model: **2**

Procedure:

Connection to A1100

Procedure Nr: **P4.1.1.4**

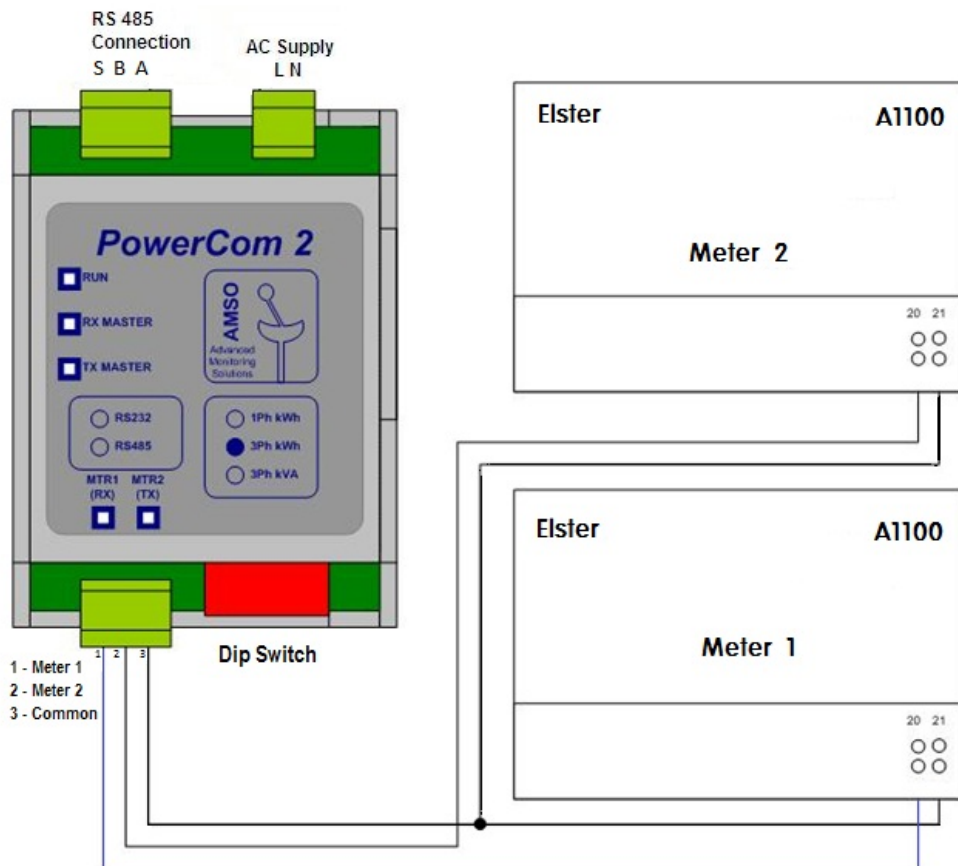
Version: **1.00**

Date: **2013/04/10**

Pages: **1**

Note:

- The PowerCom2 3Ph Kwh is used for an A1100.
- Two A1100 meters can be connected to one PowerCom2 modbus module.
- The A1100 meters must be IrDA meters not Pulse.



Device: **Modbus**

Make: **PowerCom**

Model: **2**

Procedure:

Connection to AS230

Procedure Nr: **P4.1.1.5**

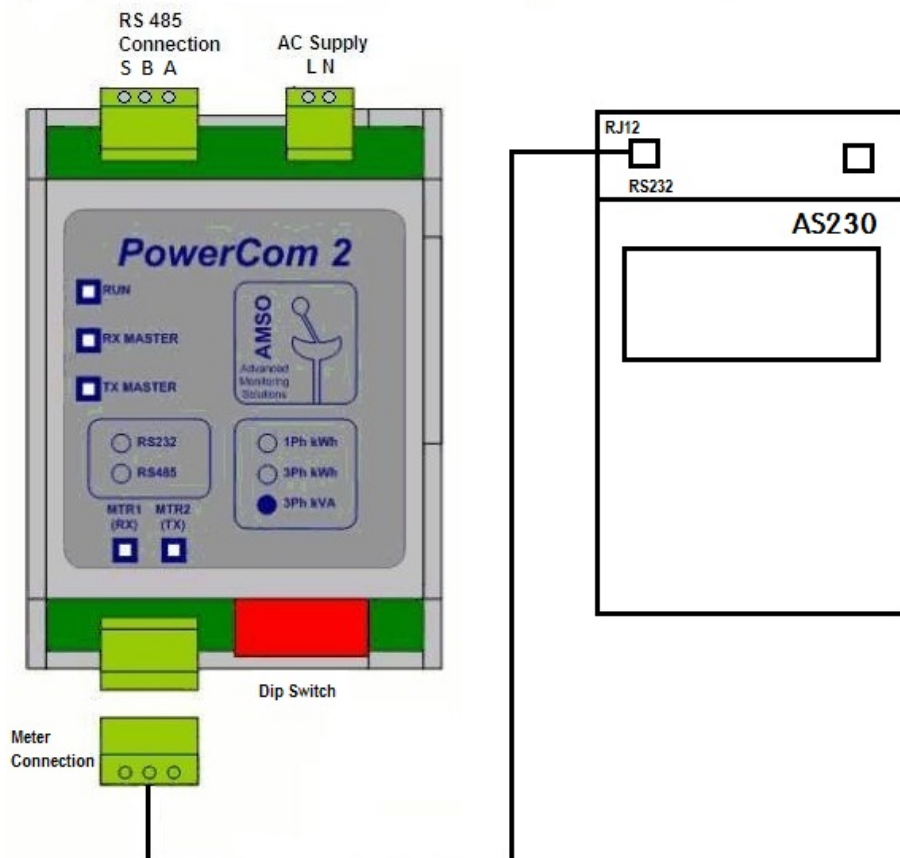
Version: **1.00**

Date: **2013/04/10**

Pages: **1**

Note:

- The PowerCom2 3Ph KVA is used for an AS230.
- Only one AS230 meter can be connected to one PowerCom2 modbus module.
- The AS230 meters must have a communications module.



Device: **Modbus**

Make: **PowerCom**

Model: **2**

Procedure:

Connection to A100C

Procedure Nr: **P4.1.1.6**

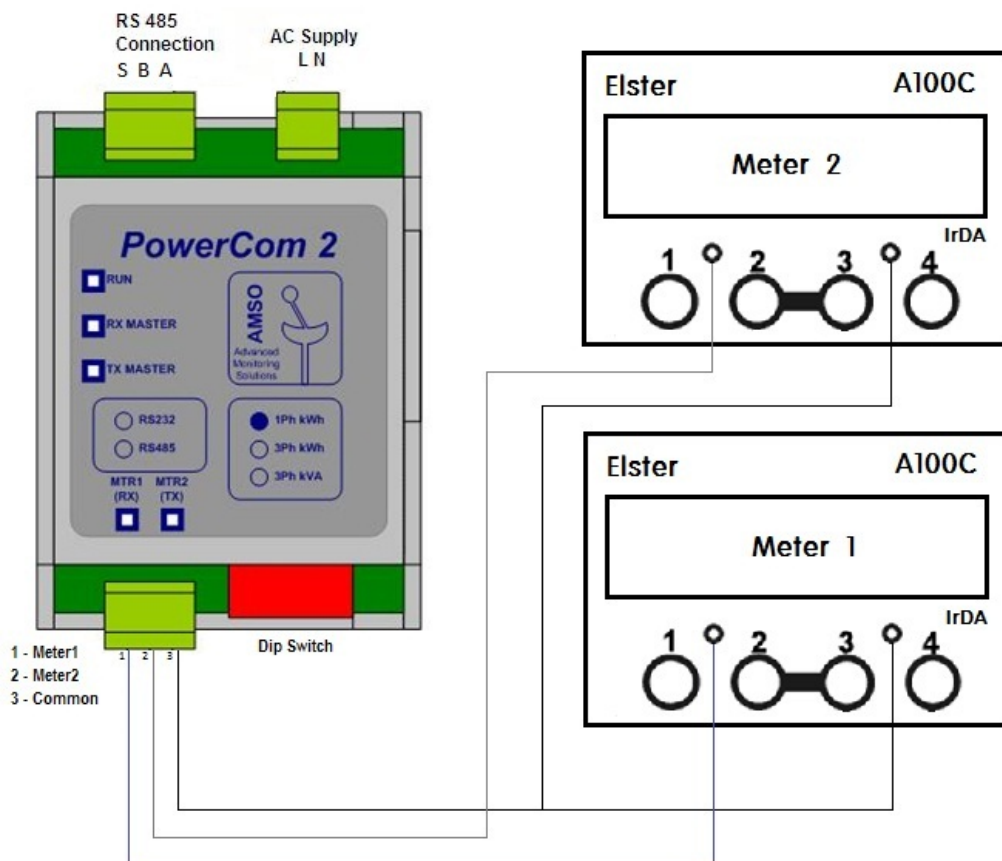
Version: **1.00**

Date: **2013/04/10**

Pages: **1**

Note:

- The Powercom2 1Ph Kwh is used for an A100C.
- Two A100C meters can be connected to one PowerCom2 modbus module.
- The A100C meters must be IrDA meters not Pulse.



Device: **Modbus**

Make: **PowerCom**

Model: **2**

Procedure:

A1700 and A1140 Modbus Registers

Ver. 1007

Procedure Nr: **P4.1.1.7**

Version: **1.00**

Date: **2013/04/10**

Pages: **3**

| Instrumentation Values | Type | No Of | Start | End | |
|------------------------|------|-------|-------|-----|---------------|
| Va | R | 1 | 1 | 2 | Va : real; |
| Vb | R | 1 | 3 | 4 | Vb : real; |
| Vc | R | 1 | 5 | 6 | Vc : real; |
| Ia | R | 1 | 7 | 8 | Ia : real; |
| Ib | R | 1 | 9 | 10 | Ib : real; |
| Ic | R | 1 | 11 | 12 | Ic : real; |
| Pa | R | 1 | 13 | 14 | Pa : real; |
| Pb | R | 1 | 15 | 16 | Pb : real; |
| Pc | R | 1 | 17 | 18 | Pc : real; |
| Qa | R | 1 | 19 | 20 | Qa : real; |
| Qb | R | 1 | 21 | 22 | Qb : real; |
| Qc | R | 1 | 23 | 24 | Qc : real; |
| Sa | R | 1 | 25 | 26 | Sa : real; |
| Sb | R | 1 | 27 | 28 | Sb : real; |
| Sc | R | 1 | 29 | 30 | Sc : real; |
| pfa | R | 1 | 31 | 32 | pfa : real; |
| pfb | R | 1 | 33 | 34 | pfb : real; |
| pfc | R | 1 | 35 | 36 | pfc : real; |
| Psum | R | 1 | 37 | 38 | Psum : real; |
| Qsum | R | 1 | 39 | 40 | Qsum : real; |
| SSum | R | 1 | 41 | 42 | SSum : real; |
| pfsum | R | 1 | 43 | 44 | pfsum : real; |
| Freqa | R | 1 | 45 | 46 | Freqa : real; |
| Freqb | R | 1 | 47 | 48 | Freqb : real; |
| Freqc | R | 1 | 49 | 50 | Freqc : real; |

| Consumption Values | Type | No Of | Start | End | |
|--------------------|------|-------|-------|-----|----------------------------|
| kWhTotalImport | L | 1 | 51 | 52 | kWhTotalImport : longint; |
| kWhTotalExport | L | 1 | 53 | 54 | kWhTotalExport : longint; |
| kVarhImportLag | L | 1 | 55 | 56 | kVarhImportLag : longint; |
| kVarhImportLead | L | 1 | 57 | 58 | kVarhImportLead : longint; |
| kVarhExportLag | L | 1 | 59 | 60 | kVarhExportLag : longint; |
| kVarhExportLead | L | 1 | 61 | 62 | kVarhExportLead : longint; |
| VAhTotal | L | 1 | 63 | 64 | VAhTotal : longint; |
| Cust1 | L | 1 | 65 | 66 | Cust1 : longint; |
| Cust2 | L | 1 | 67 | 68 | Cust2 : longint; |
| Cust3 | L | 1 | 69 | 70 | Cust3 : longint; |
| TOU1 | L | 1 | 71 | 72 | TOU1 : longint; |
| TOU2 | L | 1 | 73 | 74 | TOU2 : longint; |
| TOU3 | L | 1 | 75 | 76 | TOU3 : longint; |
| TOU4 | L | 1 | 77 | 78 | TOU4 : longint; |
| HistTOU1 | L | 1 | 79 | 80 | HistTOU1 : longint; |
| HistTOU2 | L | 1 | 81 | 82 | HistTOU2 : longint; |
| HistTOU3 | L | 1 | 83 | 84 | HistTOU3 : longint; |
| HistTOU4 | L | 1 | 85 | 86 | HistTOU4 : longint; |

| Maximum Demand Values | Type | No Of | Start | End | |
|-----------------------|------|-------|-------|-----|------------------------|
| Dem1 | W | 1 | 87 | 87 | |
| Dem2 | W | 1 | 88 | 88 | |
| Dem3 | W | 1 | 89 | 89 | |
| Dem4 | W | 1 | 90 | 90 | |
| HistDem1 | W | 1 | 91 | 91 | |
| HistDem2 | W | 1 | 92 | 92 | |
| HistDem3 | W | 1 | 93 | 93 | |
| HistDem4 | W | 1 | 94 | 94 | |
| LastEnergyRead | W | 1 | 95 | 95 | LastEnergyRead : word; |
| LastInstRead | W | 1 | 96 | 96 | LastInstRead : word; |

| Historical Values | Type | No Of | Start | End | |
|------------------------|------|-------|-------|-----|---------------------------------|
| HIST kWhTotalImport | L | 1 | 97 | 98 | HIST kWhTotalImport : longint; |
| HIST kWhTotalExport | L | 1 | 99 | 100 | HIST kWhTotalExport : longint; |
| HIST kVarhImportLag | L | 1 | 101 | 102 | HIST kVarhImportLag : longint; |
| HIST kVarhImportLead | L | 1 | 103 | 104 | HIST kVarhImportLead : longint; |
| HIST kVarhExportLag | L | 1 | 105 | 106 | HIST kVarhExportLag : longint; |
| HIST kVarhExportLead | L | 1 | 107 | 108 | HIST kVarhExportLead : longint; |
| HIST VAhTotal | L | 1 | 109 | 110 | HIST VAhTotal : longint; |
| HIST Cust1 | L | 1 | 111 | 112 | HIST Cust1 : longint; |
| HIST Cust2 | L | 1 | 113 | 114 | HIST Cust2 : longint; |
| HIST Cust3 | L | 1 | 115 | 116 | HIST Cust3 : longint; |
| LP Year | W | 1 | 117 | 117 | LP Year : word; |
| LP Month | W | 1 | 118 | 118 | LP Month : word; |
| LP Day | W | 1 | 119 | 119 | LP Day : word; |
| LP Hour | W | 1 | 120 | 120 | LP Hour : word; |
| LP Min | W | 1 | 121 | 121 | LP Min : word; |
| HalfHourSampl KWH | R | 1 | 122 | 124 | HalfHourSampl KWH : real; |
| HalfHourSampl Q1 varh | R | 1 | 125 | 126 | HalfHourSampl Q1 varh : real; |
| HalfHourSampl Q2 varh | R | 1 | 127 | 128 | HalfHourSampl Q2 varh : real; |
| HalfHourSampl AE 1 Vah | R | 1 | 129 | 130 | HalfHourSampl AE 1 Vah : real; |

Device: **Modbus**

Make: **PowerCom**

Model: **2**

Procedure:

A1100 and A100C Modbus Registers

Procedure Nr: **P4.1.1.8**

Version: **1.00**

Date: **2013/04/10**

Pages: **1**

| Location | Type | Description |
|----------|----------|-------------------------|
| 1 | int 32 | Meter1 Import kWh Rate1 |
| 3 | int 32 | Meter1 Export kWh Rate1 |
| 5 | int 32 | Meter1 Import kWh Rate2 |
| 7 | int 32 | Meter1 Export kWh Rate2 |
| 9 | int 32 | Meter2 Import kWh Rate1 |
| 11 | int 32 | Meter2 Export kWh Rate1 |
| 13 | int 32 | Meter2 Import kWh Rate2 |
| 15 | int 32 | Meter2 Export kWh Rate2 |
| 17 | float 32 | Meter1 Import kWh Rate1 |
| 19 | float 32 | Meter1 Export kWh Rate1 |
| 21 | float 32 | Meter1 Import kWh Rate2 |
| 23 | float 32 | Meter1 Export kWh Rate1 |
| 25 | float 32 | Meter2 Import kWh Rate1 |
| 27 | float 32 | Meter2 Export kWh Rate1 |
| 29 | float 32 | Meter2 Import kWh Rate2 |
| 31 | float 32 | Meter2 Export kWh Rate2 |

Additional in formation

Depending if you want to work with integers or floating point numbers use either the first 8 32bit integer registers or the last 8 floating point registers.

If you use the integer registers the maximum number you will read before the meter wraps is 99999999

For a WC meter you must divide it by 10 and for a CT meter by 100

If you use the floating point registers the comma will be at the correct place regardless whether it is a WC or CT meter

WC Meters will wrap at 9999999.9 and CT meters at 999999.99

Remember to multiply CT meters with the CT ratio.

Rate2 is only applicable if it is dual rate meters.

Normally you should not get any values in the export registers, except if the CT's polarity is not correct.

Device: **Modbus**

Make: **PowerCom**

Model: **2**

Procedure:

Dip Switch Settings

Procedure Nr: **P4.1.1.9**

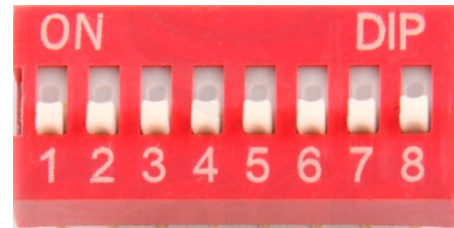
Version: **1.00**

Date: **2013/04/10**

Pages: **3**

Note:

- Dip switches are set in binary.
- Up is On and down is Off.

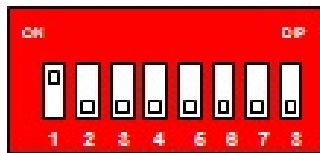


| Dip switch number | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|-------------------|---|---|---|---|----|----|----|-----|
| Binary number | 1 | 2 | 4 | 8 | 16 | 32 | 64 | 128 |
| 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 5 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 6 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 7 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 8 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 9 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 10 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
| 11 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
| 12 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| 13 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| 14 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 |
| 15 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 |
| 16 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 17 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 18 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 |

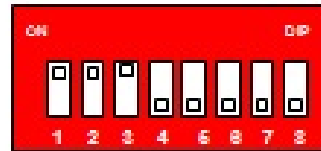
| Dip switch number | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|-------------------|---|---|---|---|----|----|----|-----|
| Binary number | 1 | 2 | 4 | 8 | 16 | 32 | 64 | 128 |
| 19 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 |
| 20 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 |
| 21 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 |
| 22 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 0 |
| 23 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 0 |
| 24 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 |
| 25 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 |
| 26 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 0 |
| 27 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 0 |
| 28 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 |
| 29 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 0 |
| 30 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 |
| 31 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 |
| 32 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 33 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 34 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 |
| 35 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 |
| 36 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 |
| 37 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 0 |
| 38 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 0 |
| 39 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 0 |
| 40 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 |
| 41 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 |
| 42 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 |
| 43 | 1 | 1 | 0 | 1 | 0 | 1 | 0 | 0 |
| 44 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 |
| 45 | 1 | 0 | 1 | 1 | 0 | 1 | 0 | 0 |
| 46 | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 0 |
| 47 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 0 |
| 48 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 |
| 49 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 |
| 255 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |

Examples

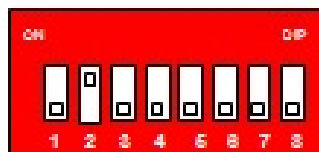
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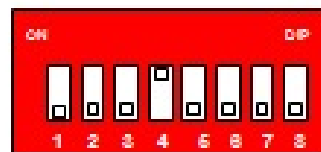
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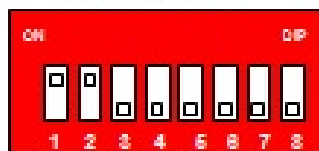
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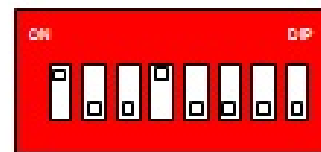
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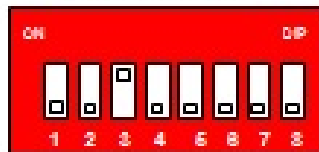
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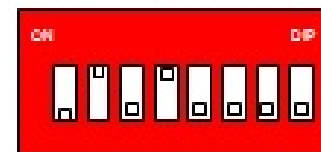
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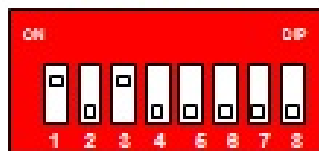
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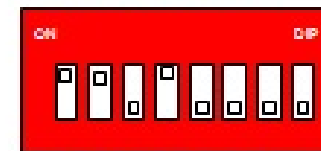
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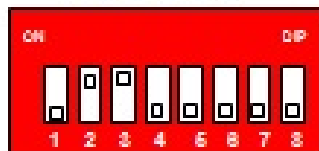
Address: 5



Address: 11



Address: 6



Address: 12

