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

elster
Kent Metering (Pty) Ltd

Device: **Modbus** Make: **PowerCom** Model: **2**

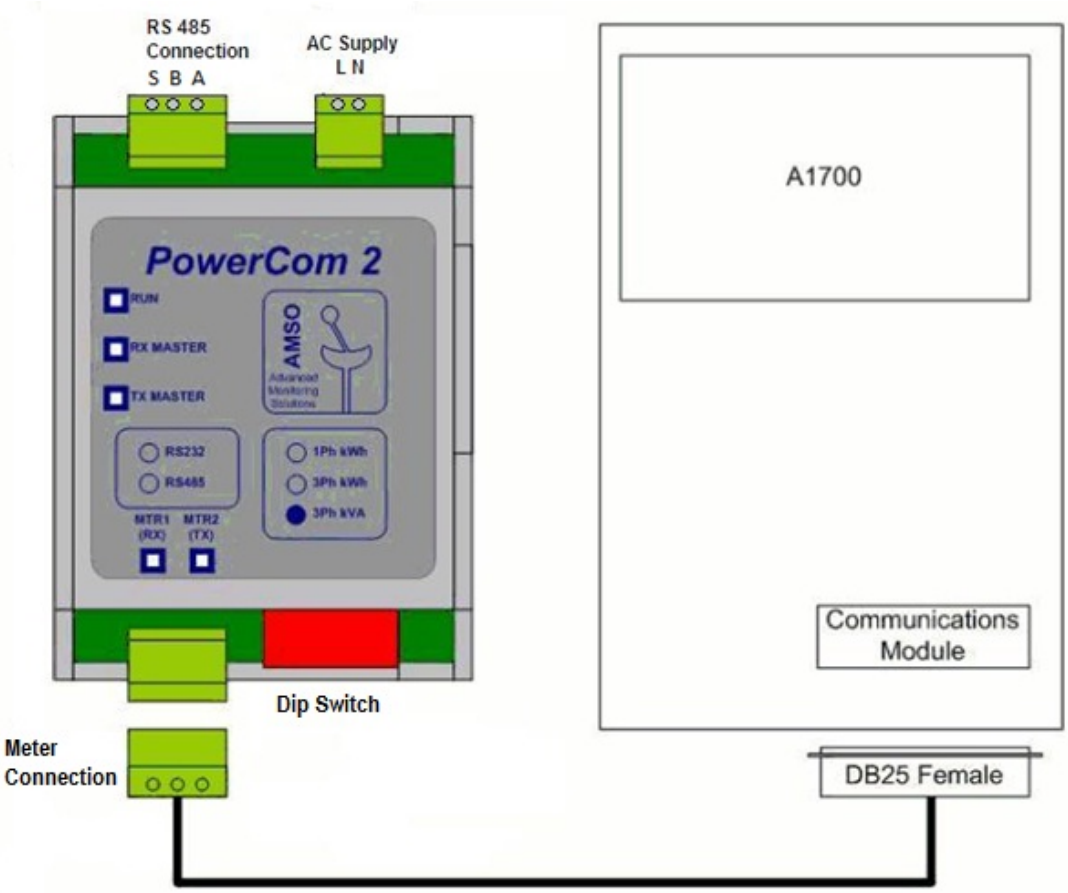
Procedure:

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**

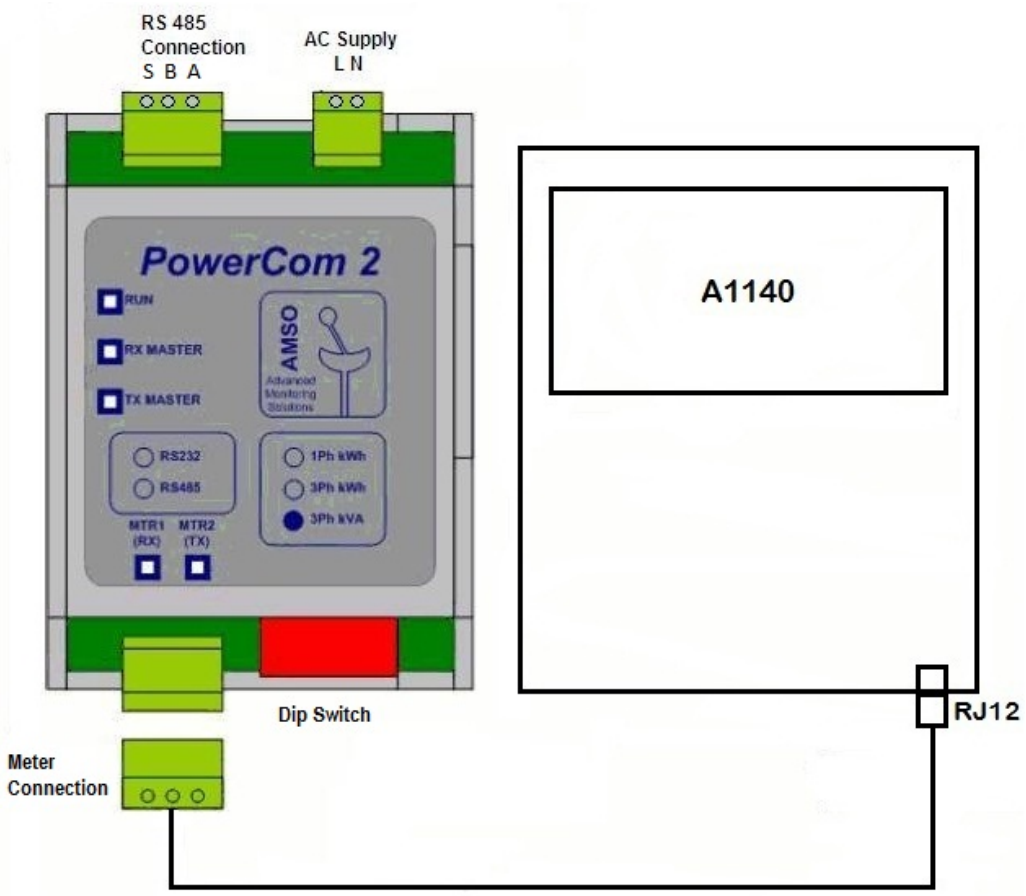
Procedure:

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**

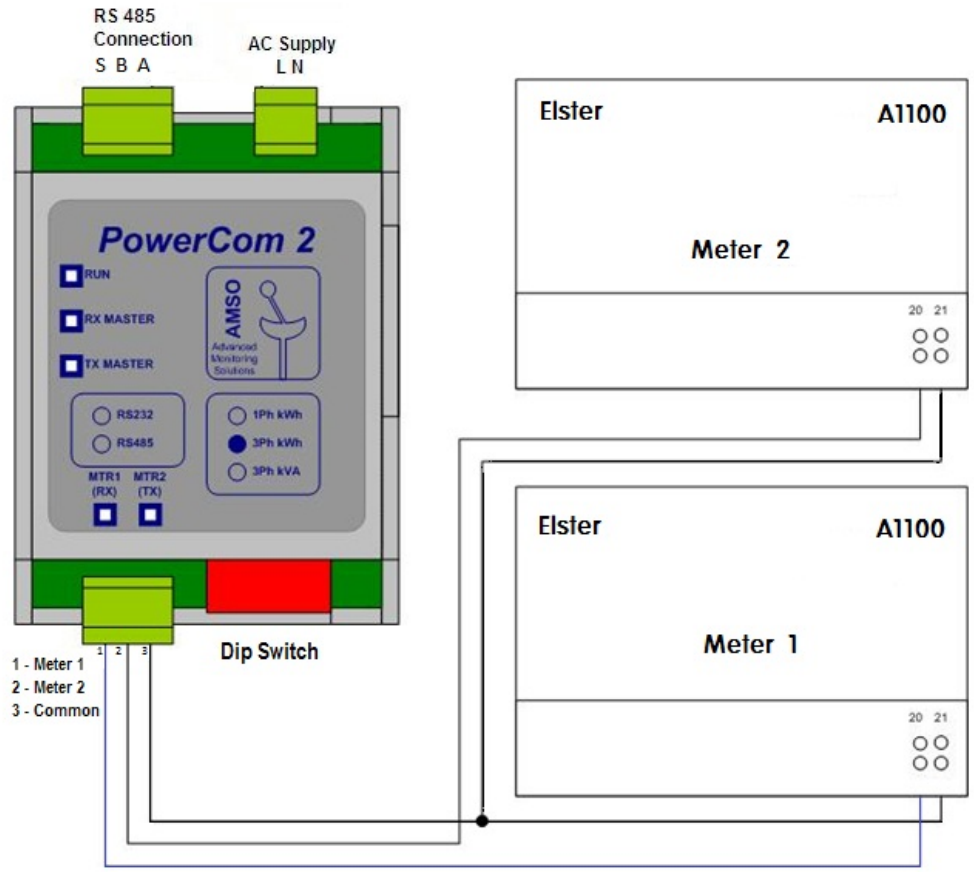
Procedure:

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**

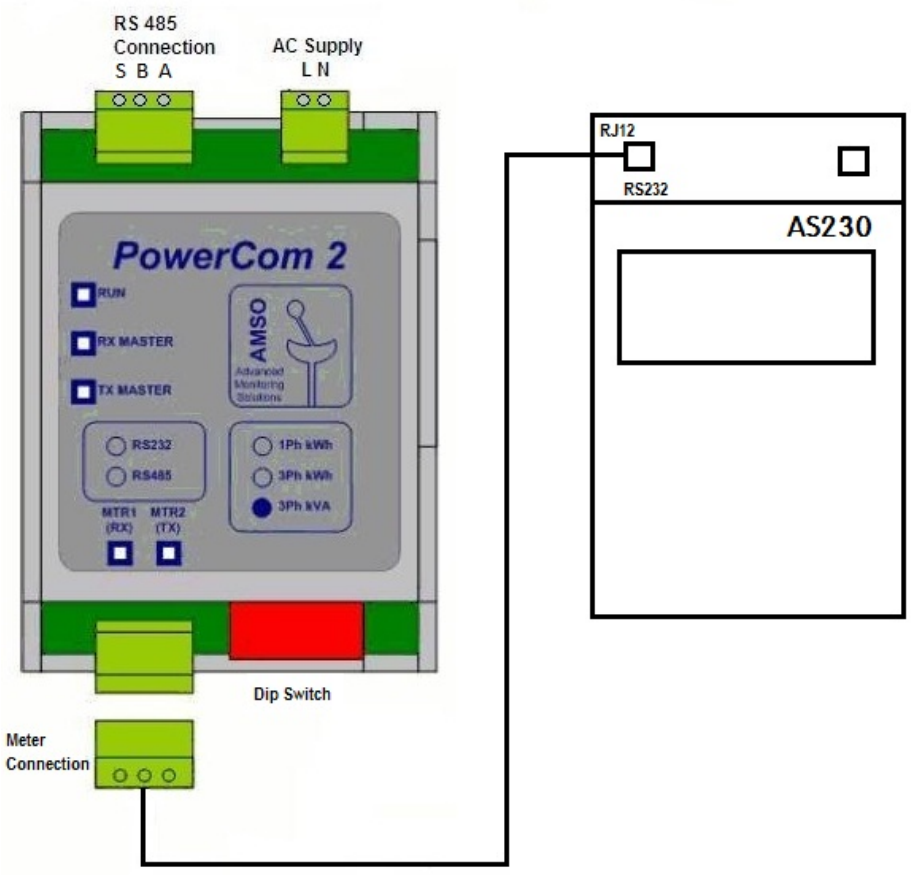
Procedure:

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**

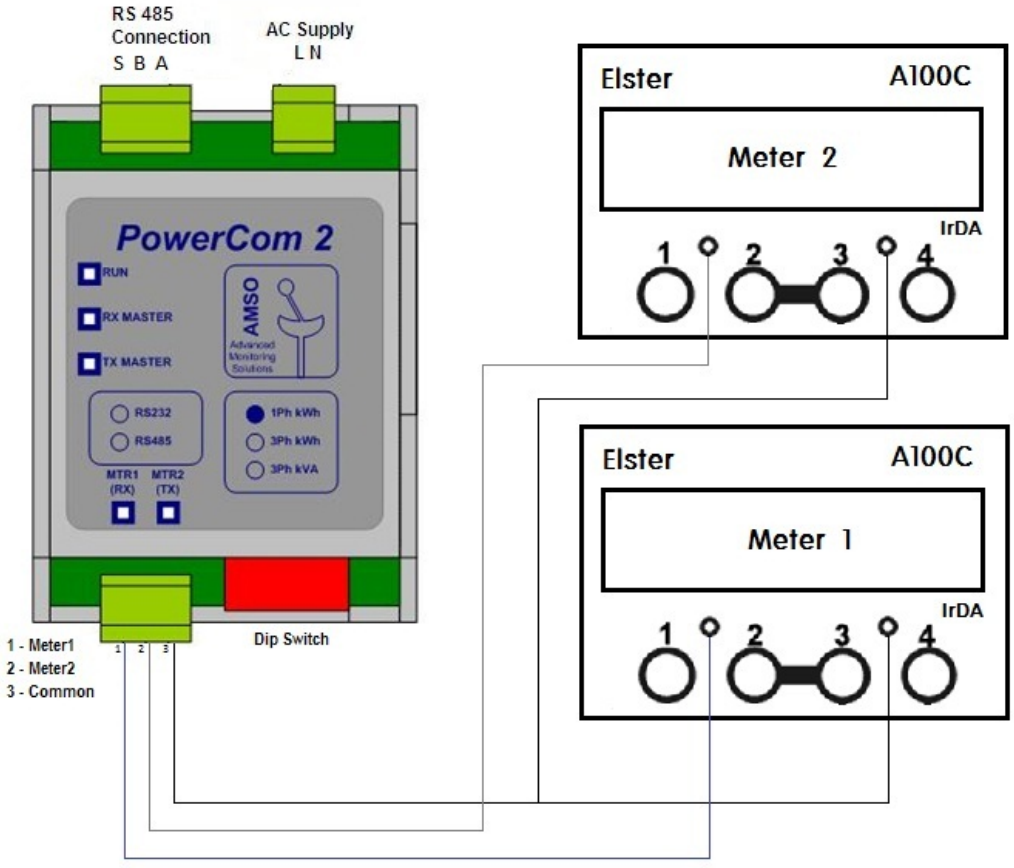
Procedure:

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.

elster
Kent Metering (Pty) Ltd

Device: **Modbus** Make: **PowerCom** Model: **2**

Procedure:

Dip Switch Settings

Procedure Nr: **P4.1.1.9**

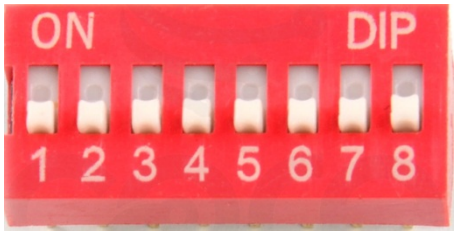
Version: **1.00**

Date: **2013/04/10**

Pages: **3**

Note:

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

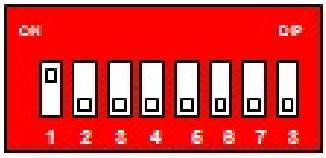


Dip switch number	1	2	3	4	5	6	7	8
Binary number	1	2	4	8	16	32	64	128
1	1	0	0	0	0	0	0	0
2	0	1	0	0	0	0	0	0
3	1	1	0	0	0	0	0	0
4	0	0	1	0	0	0	0	0
5	1	0	1	0	0	0	0	0
6	0	1	1	0	0	0	0	0
7	1	1	1	0	0	0	0	0
8	0	0	0	1	0	0	0	0
9	1	0	0	1	0	0	0	0
10	0	1	0	1	0	0	0	0
11	1	1	0	1	0	0	0	0
12	0	0	1	1	0	0	0	0
13	1	0	1	1	0	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

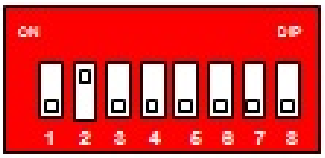
Dip switch number	1	2	3	4	5	6	7	8
Binary number	1	2	4	8	16	32	64	128
19	1	1	0	0	1	0	0	0
20	0	0	1	0	1	0	0	0
21	1	0	1	0	1	0	0	0
22	0	1	1	0	1	0	0	0
23	1	1	1	0	1	0	0	0
24	0	0	0	1	1	0	0	0
25	1	0	0	1	1	0	0	0
26	0	1	0	1	1	0	0	0
27	1	1	0	1	1	0	0	0
28	0	0	1	1	1	0	0	0
29	1	0	1	1	1	0	0	0
30	0	1	1	1	1	0	0	0
31	1	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

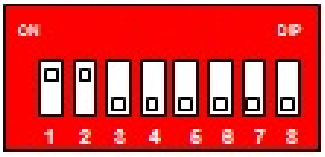
Address: 1



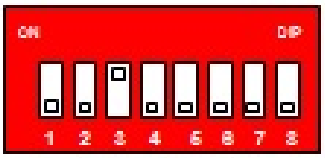
Address: 2



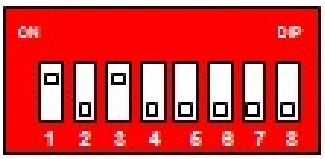
Address: 3



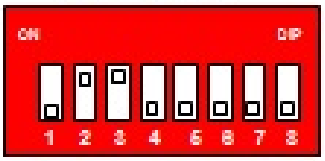
Address: 4



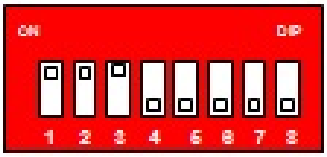
Address: 5



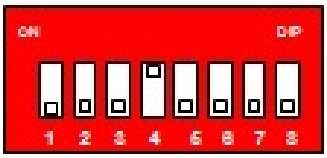
Address: 6



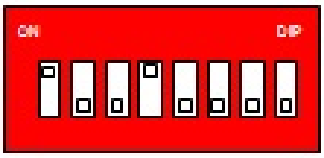
Address: 7



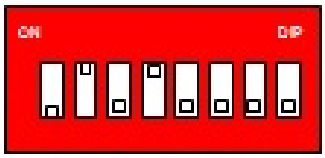
Address: 8



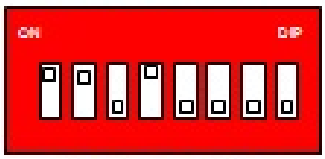
Address: 9



Address: 10



Address: 11



Address: 12