

# Industrial communication solutions for Windows

## XPOW3300 Driver Manual

*Power Measurement 3300 ACM Protocol Driver*

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## XPOW3300 technical specifications

### General information

XPOW3300 driver allows you to connect with POWER MEASUREMENT 3300 ACM Power Meter Series.

To be able to communicate with this device, the user must know the correct device's PASSWORD since it is used by the driver when it builds the communication messages. The default password is 0.

*The typical communication settings are:*

- 8 Data bits
- No parity
- 1 stop bit
- Baudrate configurable

### Command list

#### Commands

##### *Read Real Time Metering Data*

**Description of this command:**

This command retrieves all available registers from the real time data table (Page 0). Those registers that are optional or not available will be returned as 0.

**Methods used to run this command:**

Analog Input

**Number of points accepted by this command:**

1-184

**Meaning of the DriverP0 parameter:**

Unit Address (0-99).

**Meaning of the DriverP1 parameter:**

Password (0-99). Usually 0 by default but may be different.

**Meaning of the DriverP2 parameter:**

0

**Meaning of the DriverP3 parameter:**

0

**Meaning of the DriverP4 parameter:**

0

**Values that are returned:**

- PointValue(1) = Milliseconds internal clock
- PointValue(2) = Minutes internal clock
- PointValue(10) = Van
- PointValue(11) = Vbn
- PointValue(12) = Vcn
- PointValue(13) = Vln Average
- PointValue(14) = Vab
- PointValue(15) = Vbc
- PointValue(16) = Vca
- PointValue(17) = Vaver (I-I)
- PointValue(20) = Ia
- PointValue(21) = Ib
- PointValue(22) = Ic
- PointValue(23) = Iaver
- PointValue(24) = I4 Neutral current
- PointValue(30) = KW Phase A
- PointValue(31) = KW Phase B
- PointValue(32) = KW Phase C

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- PointValue(33) = KW TOTAL
- PointValue(34) = KVAR Phase A
- PointValue(35) = KVAR Phase B
- PointValue(36) = KVAR Phase C
- PointValue(37) = KVAR TOTAL
- PointValue(38) = Power Factor A
- PointValue(39) = Power Factor B
- PointValue(40) = Power Factor C
- PointValue(41) = Power Total
- PointValue(42) = KVA Phase A
- PointValue(43) = KVA Phase B
- PointValue(44) = KVA Phase C
- PointValue(45) = KVA Total
- PointValue(46) = Auxiliary Voltage I/P
- PointValue(47) = Freq on V1
- PointValue(50) = KWH Import
- PointValue(51) = GWH Import
- PointValue(52) = KWH Export
- PointValue(53) = GWH Export
- PointValue(54) = KWH Total (kWH imp+exp)
- PointValue(55) = GWH Total
- PointValue(60) = KVARH Import
- PointValue(61) = GVARH Import
- PointValue(62) = KVARH Export
- PointValue(63) = GVARH Export
- PointValue(64) = KVARH Total
- PointValue(65) = GVARH Total
- PointValue(70) = KVAH
- PointValue(71) = GVAH
- PointValue(110) = Van Dmd
- PointValue(111) = Vbn Dmd
- PointValue(112) = Vcn Dmd
- PointValue(113) = Vln aver Dmd
- PointValue(114) = Vab Dmd
- PointValue(115) = Vbc Dmd
- PointValue(116) = Vca Dmd
- PointValue(117) = Vaver (I-I) Dmd
- PointValue(120) = Ia Dmd
- PointValue(121) = Ib Dmd
- PointValue(122) = Ic Dmd
- PointValue(123) = Iaver Dmd
- PointValue(124) = Ineutral Dmd
- PointValue(130) = KW a Dmd
- PointValue(131) = KW b Dmd
- PointValue(132) = KW c Dmd
- PointValue(133) = KW total Dmd
- PointValue(134) = KVAR a Dmd
- PointValue(135) = KVAR b Dmd
- PointValue(136) = KVAR c Dmd
- PointValue(137) = KVAR total Dmd
- PointValue(138) = PF a Dmd
- PointValue(139) = PF b Dmd
- PointValue(140) = PF c Dmd
- PointValue(141) = PF total Dmd
- PointValue(142) = KVA a Dmd
- PointValue(143) = KVA b Dmd
- PointValue(144) = KVA c Dmd
- PointValue(145) = KVA total Dmd
- PointValue(146) = Vaux Dmd
- PointValue(147) = Freq Dmd
- PointValue(180) = Sliding Window Amps Demand Average
- PointValue(181) = Sliding Window KW Demand Total

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- PointValue(182) = Sliding Window KVAR Demand Total
- PointValue(183) = Sliding Window KVA Demand Total

## *Write Meter Setup Parameters*

### **Description of this command:**

This command sets one setup parameter in the meter.  
DataType=A0

### **Number of points accepted by this command:**

1

### **Meaning of the DriverP0 parameter:**

Unit Address (0-99).

### **Meaning of the DriverP1 parameter:**

Password (0-99). Usually 0 by default but may be different.

### **Meaning of the DriverP2 parameter:**

1

### **Meaning of the DriverP3 parameter:**

10

### **Meaning of the DriverP4 parameter:**

Setup parameter to be affected:

- 1 = PT primary voltage
- 2 = PT secondary voltage
- 3 = CT primary voltage
- 4 = Voltage input mode (0,1,2 or 3)
- 5 = Unit ID Number
- 6 = Baud Rate (300,1200,2400,4800,9600,19200)
- 7 = Demand Period Time Constant
- 8 = Contrast/viewing angle adjustment
- 9 = Password
- 10 = Reset all min/max values
- 11 = Reset all hour counters
- 12 = Firmware revision number
- 13 = Date the last firmware revision was performed
- 14 = Feature code
- 15 = Device Type
- 16 = Allow protected reads only
- 17 = Number of demand periods

## *General Read Registers*

### **Description of this command:**

This command retrieves all valid registers requested. Valid registers are those listed in the Register Tables. When asking for registers not listed in the tables, a 0 value is returned.

### **Methods used to run this command:**

Analog Input / Digital Input

### **Number of points accepted by this command:**

1-25

### **Meaning of the DriverP0 parameter:**

Unit Address (0-99).

### **Meaning of the DriverP1 parameter:**

Password (0-99). Usually 0 by default but may be different.

### **Meaning of the DriverP2 parameter:**

0

### **Meaning of the DriverP3 parameter:**

Page to read (See Register Tables).

- 0 = Real Time Parameters Page.
- 1 = Minimum Values Page.
- 2 = Maximum Values Page.
- 10 = Miscellaneous Page.

### **Meaning of the DriverP4 parameter:**

Start register number (See Register Tables).

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## General Write Registers

### Description of this command:

This command sets one valid register in the meter.  
DataType=A0/D0

### Number of points accepted by this command:

1

### Meaning of the DriverP0 parameter:

Unit Address (0-99). HMITalk1.DrivrP1 = Password (0-99). Usually 0 by default but may be different.

### Meaning of the DriverP2 parameter:

1

### Meaning of the DriverP3 parameter:

Page to write (See Register Tables).  
- 0 = Real Time Parameters Page.  
- 1 = Minimum Values Page.  
- 2 = Maximum Values Page.  
- 10 = Miscellaneous Page.

### Meaning of the DriverP4 parameter:

Start register number (See Register Tables).  
[Register Tables]

## Register Tables

### Page 0 Table: Real Time Metering Data

REG	Type	Description
1	RO	Milliseconds internal clock
2	RO	Minutes internal clock
10	RO	Van
11	RO	Vbn
12	RO	Vcn
13	RO	VIn Average
14	RO	Vab
15	RO	Vbc
16	RO	Vca
17	RO	Vaver (I-I)
20	RO	Ia
21	RO	Ib
22	RO	Ic
23	RO	Iaver
24	RO	I4 Neutral current
30	RO	KW Phase A
31	RO	KW Phase B
32	RO	KW Phase C
33	RO	KW TOTAL
34	RO	KVAR Phase A
35	RO	KVAR Phase B
36	RO	KVAR Phase C
37	RO	KVAR TOTAL
38	RO	Power Factor A
39	RO	Power Factor B
40	RO	Power Factor C
41	RO	Power Total
42	RO	KVA Phase A
43	RO	KVA Phase B
44	RO	KVA Phase C
45	RO	KVA Total
46	RO	Auxiliary Voltage I/P
47	RO	Freq on V1
50	RO	KWH Import
51	RO	GWH Import
52	RO	KWH Export

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53	RO	GWH Export
54	RO	KWH Total (kWH imp+exp)
55	RO	GWH Total
60	RO	KVARH Import
61	RO	GVARH Import
62	RO	KVARH Export
63	RO	GVARH Export
64	RO	KVARH Total
65	RO	GVARH Total
70	RO	KVAH
71	RO	GVAH
110	RO	Van Dmd
111	RO	Vbn Dmd
112	RO	Vcn Dmd
113	RO	VIn aver Dmd
114	RO	Vab Dmd
115	RO	Vbc Dmd
116	RO	Vca Dmd
117	RO	Vaver (I-I) Dmd
120	RO	Ia Dmd
121	RO	Ib Dmd
122	RO	Ic Dmd
123	RO	Iaver Dmd
124	RO	Ineutral Dmd
130	RO	KW a Dmd
131	RO	KW b Dmd
132	RO	KW c Dmd
133	RO	KW total Dmd
134	RO	KVAR a Dmd
135	RO	KVAR b Dmd
136	RO	KVAR c Dmd
137	RO	KVAR total Dmd
138	RO	PF a Dmd
139	RO	PF b Dmd
140	RO	PF c Dmd
141	RO	PF total Dmd
142	RO	KVA a Dmd
143	RO	KVA b Dmd
144	RO	KVA c Dmd
145	RO	KVA total Dmd
146	RO	Vaux Dmd
147	RO	Freq Dmd
180	RO	Sliding Window Amps Demand Average
181	RO	Sliding Window KW Demand Total
182	RO	Sliding Window KVAR Demand Total
183	RO	Sliding Window KVA Demand Total

Page 1 Table: Minimum Values

REG	Type	Description
1	RO	Milliseconds internal clock Minimum Value
2	RO	Minutes internal clock Minimum Value
10	RO	Van Minimum Value
11	RO	Vbn Minimum Value
12	RO	Vcn Minimum Value
13	RO	VIn Average Minimum Value
14	RO	Vab Minimum Value
15	RO	Vbc Minimum Value
16	RO	Vca Minimum Value
17	RO	Vaver (I-I) Minimum Value
20	RO	Ia Minimum Value
21	RO	Ib Minimum Value
22	RO	Ic Minimum Value

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23	RO	Iaver Minimum Value
24	RO	I Neutral Minimum Value
30	RO	KW A Minimum Value
31	RO	KW B Minimum Value
32	RO	KW C Minimum Value
33	RO	KW TOTAL Minimum Value
34	RO	KVAR A Minimum Value
35	RO	KVAR B Minimum Value
36	RO	KVAR C Minimum Value
37	RO	KVAR TOTAL Minimum Value
38	RO	PF A Minimum Value
39	RO	PF B Minimum Value
40	RO	PF C Minimum Value
41	RO	PF Total Minimum Value
42	RO	KVA A Minimum Value
43	RO	KVA B Minimum Value
44	RO	KVA C Minimum Value
45	RO	KVA Total Minimum Value
46	RO	VAux Minimum Value
47	RO	Freq Minimum Value
110	RO	Van Dmd Minimum Value
111	RO	Vbn Dmd Minimum Value
112	RO	Vcn Dmd Minimum Value
113	RO	VIn aver Dmd Minimum Value
114	RO	Vab Dmd Minimum Value
115	RO	Vbc Dmd Minimum Value
116	RO	Vca Dmd Minimum Value
117	RO	Vaver (I-I) Dmd Minimum Value
120	RO	Ia Dmd Minimum Value
121	RO	Ib Dmd Minimum Value
122	RO	Ic Dmd Minimum Value
123	RO	Iaver Dmd Minimum Value
124	RO	Ineutral Dmd Minimum Value
130	RO	KW a Dmd Minimum Value
131	RO	KW b Dmd Minimum Value
132	RO	KW c Dmd Minimum Value
133	RO	KW total Dmd Minimum Value
134	RO	KVAR a Dmd Minimum Value
135	RO	KVAR b Dmd Minimum Value
136	RO	KVAR c Dmd Minimum Value
137	RO	KVAR total Dmd Minimum Value
138	RO	PF a Dmd Minimum Value
139	RO	PF b Dmd Minimum Value
140	RO	PF c Dmd Minimum Value
141	RO	PF total Dmd Minimum Value
142	RO	KVA a Dmd Minimum Value
143	RO	KVA b Dmd Minimum Value
144	RO	KVA c Dmd Minimum Value
145	RO	KVA total Dmd Minimum Value
146	RO	Vaux Dmd Minimum Value
147	RO	Freq Dmd Minimum Value
180	RO	Sliding Window Amps Demand Average Minimum Value
181	RO	Sliding Window KW Demand Total Minimum Value
182	RO	Sliding Window KVAR Demand Total Minimum Value
183	RO	Sliding Window KVA Demand Total Minimum Value

Page 2 Table: Maximum Values

REG	Type	Description
1	RO	Milliseconds internal clock Maximum Value
2	RO	Minutes internal clock Maximum Value
10	RO	Van Maximum Value
11	RO	Vbn Maximum Value

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12	RO	Vcn Maximum Value
13	RO	VIn Average Maximum Value
14	RO	Vab Maximum Value
15	RO	Vbc Maximum Value
16	RO	Vca Maximum Value
17	RO	Vaver (I-I) Maximum Value
20	RO	Ia Maximum Value
21	RO	Ib Maximum Value
22	RO	Ic Maximum Value
23	RO	Iaver Maximum Value
24	RO	I Neutral Maximum Value
30	RO	KW A Maximum Value
31	RO	KW B Maximum Value
32	RO	KW C Maximum Value
33	RO	KW TOTAL Maximum Value
34	RO	KVAR A Maximum Value
35	RO	KVAR B Maximum Value
36	RO	KVAR C Maximum Value
37	RO	KVAR TOTAL Maximum Value
38	RO	PF A Maximum Value
39	RO	PF B Maximum Value
40	RO	PF C Maximum Value
41	RO	PF Total Maximum Value
42	RO	KVA A Maximum Value
43	RO	KVA B Maximum Value
44	RO	KVA C Maximum Value
45	RO	KVA Total Maximum Value
46	RO	VAux Maximum Value
47	RO	Freq Maximum Value
110	RO	Van Dmd Maximum Value
111	RO	Vbn Dmd Maximum Value
112	RO	Vcn Dmd Maximum Value
113	RO	VIn aver Dmd Maximum Value
114	RO	Vab Dmd Maximum Value
115	RO	Vbc Dmd Maximum Value
116	RO	Vca Dmd Maximum Value
117	RO	Vaver (I-I) Dmd Maximum Value
120	RO	Ia Dmd Maximum Value
121	RO	Ib Dmd Maximum Value
122	RO	Ic Dmd Maximum Value
123	RO	Iaver Dmd Maximum Value
124	RO	Ineutral Dmd Maximum Value
130	RO	KW a Dmd Maximum Value
131	RO	KW b Dmd Maximum Value
132	RO	KW c Dmd Maximum Value
133	RO	KW total Dmd Maximum Value
134	RO	KVAR a Dmd Maximum Value
135	RO	KVAR b Dmd Maximum Value
136	RO	KVAR c Dmd Maximum Value
137	RO	KVAR total Dmd Maximum Value
138	RO	PF a Dmd Maximum Value
139	RO	PF b Dmd Maximum Value
140	RO	PF c Dmd Maximum Value
141	RO	PF total Dmd Maximum Value
142	RO	KVA a Dmd Maximum Value
143	RO	KVA b Dmd Maximum Value
144	RO	KVA c Dmd Maximum Value
145	RO	KVA total Dmd Maximum Value
146	RO	Vaux Dmd Maximum Value
147	RO	Freq Dmd Maximum Value
180	RO	Sliding Window Amps Demand Average Maximum Value
181	RO	Sliding Window KW Demand Total Maximum Value

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182	RO	Sliding Window KVAR Demand Total Maximum Value
183	RO	Sliding Window KVA Demand Total Maximum Value

Page 10 Table: Meter Setup Parameters

REG	Type	Description
1	RW	PT primary voltage
2	RW	PT secondary voltage
3	RW	CT primary voltage
4	RW	Voltage input mode (0,1,2 o 3)
5	RW	Unit ID Number
6	RW	Baud Rate (300,1200,2400,4800,9600,19200)
7	RW	Demand Period Time Constant
8	RW	Contrast/viewing angle adjustment
9	RW	Password
10	WO	Reset all min/max values
11	WO	Reset all hour counters
12	RO	Firmware revision number
13	RO	Date the last firmware revision was performed
14	RO	Feature code
15	RO	Device Type
16	RW	Allow protected reads only
17	RW	Number of demand periods

## Error messages

---

The following list shows the possible error messages that can be returned by the driver during a failed communication in the 'Status' property.

[1005] DRIVER (Internal): Invalid driver stage  
[1300] PROTOCOL (Timeout): No answer  
[1401] PROTOCOL (Format): Acknowledge was not received from device  
[1433] PROTOCOL (Format): Validation error in device response  
[2147] CONFIG (NumValues): Only one value can be read or written  
[2202] CONFIG (NumValues): Too many values (max=25)  
[3007] CONFIG (P0): Invalid device address  
[3563] CONFIG (P1): Invalid password  
[4030] CONFIG (P2): Invalid command  
[4552] CONFIG (P3): Invalid page

## Supported devices

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This driver can communicate with these devices, but is not necessarily limited to this list:

POWER MEASUREMENT 3300 ACM Economical Digital Power Meter/Transducer

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