AARLON. SETUP GUIDE

Version 3-20-2010



This a brief setup guide for Aarlon

Before you start you will need to know

- Is Aarlon to be used through a router, if so, you need the router's Local IP address and Subnet Mask.
- Otherwise, you will need the ISP provided IP address, Subnet Mask, and Default Gateway.

• For IP access to Aarlon go to Section 2.0.1

1.0

Back Plane Connections

1.1

Voltage inputs

There are 16 channels of +/- 10 Volt DC inputs labeled V1-V16 on the back plane



Fig.1

When making connection to the inputs, please be mindful of the polarity and use the + and – for each channel. Do not use chassis ground as a voltage reference.

1.2

Switch (or Status) inputs

The Aarlon Back Panel has 24 <u>DRY</u> (apply no voltage - contact closure only) contact Status inputs. Labeled SW1 - SW24

Each input can except N.O or N.C. switch types (See 2.2.4 Fig. 31 how to configure switch types on the Aarlon web page)



Each monitored switch (Status input) must have both leads, + and - used

1.3

Relay outputs

Aarlon has 32 form "C" relays

Each relay is rated @ 2 Amps Max Restive load

They are labeled K1 - K32

The first 16, K1 - K16 are paired and are timed momentary. The closure time of these momentary relays is settable using the delay setup page. See 2.2.3 Fig. 29

The last 16, K17 - K32 are individual latching on-off relays



Fig. 3

1.4

Remote Temperatures input.

Sensor Span -50 °F to +220 °F

Up to 7 remote Temperatures can be connected to the Back Plane.

Each Aarlon comes with 1 remote temperature sensor, and 20' of cable.

Up to six more optional temperature sensors may be added.



Fig. 4

1.5

17 Volt AC In, Aux Power Out, WAN Port, Phone

(Note – the 17vac input is used to measure power line voltage and frequency, so a DC supply cannot be used)



Fig. 5

1.6

Optional Wind Speed Wind Direction





1.7

Optional Wind Speed Wind Direction and Audio, Video



Fig. 7

2.0.0

WEB interface

2.0.1

Setting up the Aarlon unit

It is recommended that a Laptop computer be used for initial setup of the Aarlon unit. A cross over cable is necessary if you are connecting directly from the laptop to the Aarlon unit. The crossover cable in not needed if you are connecting through a router.

The factory default IP address is 192.168.1.25 Subnet mask 255.255.255.0 Web Page Address: <u>http://192.168.1.25:10103</u> User Name: AarlonAdmin Password: AarlonAdmin

Authenticat	ion Required	×
8	A username and password are being requested by http://98.196.186.248:10103. The site says: "'Secure-Area'"	
User Name:	AarlonAdmin	
Password:	••••••	
	OK Cancel	

Fig. 8

Aarlon Web Interface



Fig. 9

2.0.2

Entering Labels

Navigate to the Admin tab, click on Web Page Setup



KMAT FM 105.7 Port Lavaca Tx. The Ultimate in Remote Control Save Reset Meters: • Units • Output Divisors • Guage Scales Plate Current Plate Vol Meter-8 V V Matare Meter-11 Meter-12 Meter-14 Meter-15 Meter-10 Meter-13 Meter-16 V V V V V V V V Status: • OK • Alarms 0 ine Pressure O Door Closed Status 6 OK Status 8 OK Commercial Power OK Status 7 OK Status 14 OK Status 16 OK Status 10 OK Status 11 OK Status 12 OK Status 13 OK Status 15 OK Status tatus 9 OK Status 19 OK Status 20 OK Status 22 OK Status 24 OK Status 17 OK Status 18 OK Status 21 OK Status 23 OK Commands: • Off • On 0 ds Δ Δ Δ Δ nd-12 1d-13 Соп nd-14 nd-15 Relay 3 Off Relay 6 Off Relay 7 Off 5 Соп rd_21 d.19 nd 22 nd_23 Con Relay 10 Off Relay 11 Off Relay 12 Off Relay 14 Off Relay 9 Off Relay 13 Off Relay 15 Off Relay 16 Off Temperatures: • °F • °C 0 66 Temperature-4 Line Voltage 0 VAC entals 0°F 0°F 0°F 0°F 0 Hz Temperature-7 rature-8 ery Vo ature-f 0 V Env 0°F 0°F 0°F 0°F tery Cur 0 mA

Fig. 11

2.0.3

Setting up the page, Select the Units button This sets the Text entry feature



Site Label

In the upper right corner you may place the site label (57 char max including spaces)



Meter Labeling

Highlight the Label Meter * type in the name for that Meter



Name for meter (27 char max)
 Representation (3 char max)
 V, A, Kv, %, mA

2.0.4

Status OK Labels

Highlight the text in the status box and enter the name for that status (51 char max including spaces)



2.0.4

Click the Status Alarms button

Status: OK O Alarms Status 4 Alarm Fig. 16

Status Alarmed Labels

Highlight the text in the status box and enter the name for that status (51 char max including spaces)

				Status: •	OK 🝳 Alarms				
	Your Label Here	Status 2 Alarm	Status 3 Alarm	Status 4 Alarm	Status 5 Alarm	Status 6 Alarm	Status 7 Alarm	Status 8 Alarm	
Status	Status 9 Alarm	Status 10 Alarm	Status 11 Alarm	Status 12 Alarm	Status 13 Alarm	Status 14 Alarm	Status 15 Alarm	Status 16 Alarm	
<i>(</i> 1)	Status 17 Alarm	Status 18 Alarm	Status 19 Alarm	Status 20 Alarm	Status 21 Alarm	Status 22 Alarm	Status 23 Alarm	Status 24 Alarm	_
	4 7								

Fig.17

2.0.5

Relay Labels OFF

Highlight the text in the relay box and enter the name for that relay (17 char max including spaces)

-				Command	S: O Off O On			
	Your Lable Here	Command-2	Command-3	Command-4	Command-5	Command-6	Command-7	Command-8
ds								
nan	Command-9	Command-10	Command-11	Command-12	Command-13	Command-14	Command-15	Command-16
m	Relay 1 Off	Relay 2 Off	Relay 3 Off	Relay 4 Off	Relay 5 Off	Relay 6 Off	Relay 7 Off	Relay 8 Off
ő	Command-17	Command-18	Command-19	Command-20	Command-21	Command-22	Command-23	Command-24
	Relay 9 Off	Relay 10 Off	Relay 11 Off	Relay 12 Off	Relay 13 Off	Relay 14 Off	Relay 15 Off	Relay 16 Off
Fig.	18							

2.0.5

Relay Labels ON

Highlight the text in the relay box, and enter the name for that relay (17 char max including spaces)

				Command	S: Off O On			
	Your Label Here	Command-2	Command-3	Command-4	Command-5	Command-6	Command-7	Command-8
ds				9 V A 9				9 V A 9
nan	Your Label Here	Command-10	Command-11	Command-12	Command-13	Command-14	Command-15	Command-16
L L	Your Label Here	Relay 2 On	Relay 3 On	Relay 4 On	Relay 5 On	Relay 6 On	Relay 7 On	Relay 8 On
ů	Command-17	Command-18	Command-19	Command-20	Command-21	Command-22	Command-23	Command-24
	Relay 9 On	Relay 10 On	Relay 11 On	Relay 12 On	Relay 13 On	Relay 14 On	Relay 15 On	Relay 16 On
Fig.	19							

2.06

Temperatures Labels

Highlight the text in the temperature box and enter the name for that temperature reading (17 char max including spaces)

Temperatures: °F or ℃, select the way you need to display

(1)		Temperatur	'es: 🔍 °F 🌒 °C				(1)
	Your Label Here	Temperature-2	Temperature-3	Temperature-4	Line Voltage	Wind N	
mentals	0°F	0°F	0°F	0°F	0 VAC Line Frequency 0 Hz		
iviron	Temperature-5	Temperature-6	Temperature-7	Temperature-8	Battery Voltage 0 V	1, 5	
En	0°F Copyright © 2008-2010 by Ma	off artin Banky. All rights reserved. A	0°F Aarlon US Patent Pending	0°F	Battery Current 0 mA	Wind Speed 0 mph	•
Fig.	20						

After all entries have been made click **<u>SAVE</u>** at the top right of the page.

2.1.0

Calibrating the meter channels

Navigate to the Admin tab in the upper top right corner on the Aarlon web page Click on <u>Calibrations</u>.



			Calibr	ations		Setti	ngs
Meter 1 offset +00.040 READING 4.615	Meter 2 offset +00.000 Reading 4.768	Meter 3 offset +00,000 Reading 3.941	Meter 4 offset +00.000 READING -0.003	Meter 5 offset +00.000 Reading -0.004	Meter 6 OFFSET +00.000 READING -0.003	Meter 7 offset +00.000 READING -0.001	Meter 8 OFFSET +00.000 READING -0.002
Meter 9 OFFSET +00.000 READING 0.000	Meter 10 offset +00.000 READING -0.005	Meter 11 OFFSET +00.000 READING -0.003	Meter 12 OFFSET +00.000 READING -0.002	Meter 13 offset +00.000 READING 0.000	Meter 14 OFFSET +00.000 READING -0.002	Meter 15 OFFSET +00.000 READING -0.002	Meter 16 OFFSET +00.000 READING -0.003
Temps o •⊧ ● •c		AC Volts OFFSET +0.000 SCALE +49.00 READING 118 VAC	DC Volts OFFSET +0.000 SCALE +5.900 READING 13.1 ∨	DC Amps OFFSET +1.250 SCALE +1.900 READING -0.00 A			
						Set	Reset



2.1.1

Meter Calibration

Offset: This allows the channel to be zeroed As you enter a new value you can check your effect on the meter READING by

Clicking clicking on the Calibration page

Final calibration is completed on the Web Page Setup page using the divisors Setup See section 2.3.0



2.0.3

AC voltage, Battery voltage, Battery current

These are set at the factory and should not need to be adjusted.

Temps: The display of temperature can be in $\ensuremath{\,^\circ\!\!\mathsf{F}}$ or $\ensuremath{\,^\circ\!\!\mathsf{C}}$



Fig. 24

2.2.0

Alarm Settings



			Alarm S	Settings		Setti	ngs
Meter 1	Meter 2	Meter 3	Meter 4	Meter 5	Meter 6	Meter 7	Meter 8
ALARM HI	ALARM HI	ALARM HI	ALARM HI	ALARM HI	ALARM HI	ALARM HI	ALARM HI
+10.000	+10.000	+10.000	+10.000	+10.000	+10.000	+10.000	+10.000
ALARM LO	ALARM LO	ALARM LO	ALARM LO	ALARM LO	ALARM LO	ALARM LO	ALARM LO
-9.0000	-9.0000	-9.0000	-9.0000	-9.0000	-9.0000	-9.0000	-9.0000
READING	READING	READING	READING	READING	READING	READING	READING
4.615	4.768	3.942	-0.003	-0.004	-0.003	-0.002	-0.002
Meter 9	Meter 10	Meter 11	Meter 12	Meter 13	Meter 14	Meter 15	Meter 16
ALARM HI	ALARM HI	ALARM HI	ALARM HI	ALARM HI	ALARM HI	ALARM HI	ALARM HI
+10.000	+10.000	+10.000	+10.000	+10.000	+10.000	+10.000	+09.000
ALARM LO	ALARM LO	ALARM LO	ALARM LO	ALARM LO	ALARM LO	ALARM LO	ALARM LO
-9.0000	-9.0000	-9.0000	-9.0000	-9.0000	-9.0000	-9.0000	-9.0000
READING	READING	READING	READING	READING	READING	READING	READING
0.000	-0.006	-0.002	-0.003	-0.001	-0.002	-0.002	-0.003
	- 35			- 20 <u>.</u> - 20			
Temp 1	Temp 2	Temp 3	Temp 4	Temp 5	Temp 6	Temp 7	Temp 8
ALARM HI	ALARM HI	ALARM HI	ALARM HI	ALARM HI	ALARM HI	ALARM HI	ALARM HI
+150	+150	+150	+150	+150	+150	+150	+150
ALARM LO	ALARM LO	ALARM LO	ALARM LO	ALARM LO	ALARM LO	ALARM LO	ALARM LO
+000	+000	+000	+000	+000	+000	+000	+000
			Notes and A				
AC Volts	AC Freq	DC Volts	DC Amps	Wind Spd			
ALARM HI	ALARM HI	ALARM HI	ALARM HI	ALARM HI			
130	64	14.7	+0.90	030			
ALARM LO	ALARM LO	ALARM LO	ALARM LO				
100	54	10.0	-1.90				
			and and an				

Fig.26

2.2.1

Enter in the boxes the High and Low Alarm points you need



2.2.3

Delay Settings

Met Off -00.s	Settings Calibrations Alarm Settings Delay Settings Status Settings	
SCALE -1.0000	SCALE	
Fig. 28	e pranine	

Enter a desired delay time for the Alarm channel as needed Min delay is 0.25. Max is 249.75 seconds.

Relay Delay is also set on this page.



When finished, press Set to save your entrees

2.2.4

Status Settings



Select switch type N.O. or N.C. Using the Radio Buttons

Switch 7 • N.O.	Switch 8
● N.O.	A N O
ONC	• N.U.
- II.C.	• N.C.
Switch 15	Switch 16
N.O.	N.O.
• N.C.	• N.C.
Switch 23	Switch 24
N.O.	N.O.
• N.C.	• N.C.
Set	Reset
	Switch 15 • N.O. • N.C. Switch 23 • N.O. • N.C. Set

When finished, press Set to save your entrees

2.2.5

Setting Divisors

Final calibration of the meter channels is done here

On the web page setup in the Meters menu select the radio button: Output Divisors

Meters: •	Units 💿 Outp	ut Divisors 🌒 Gi	uage Scales
Power Out	Meter-4	Meter-5	Meter-6
40	1000	1000	1000
ia 22			

Fig. 32

By placing a value in the blue text area, the divisor or scaling of the front panel is set. You may use decimal points Example: **1.54**, to get the desired reading.

Plate Voltage	
100	
	J
Fig. 33	

After entries have been made click <u>SAVE</u> at the top right of the page or to see the changes.

2.2.6

Bar graph display is set in the Gauge Scales.



Fig. 34

By placing a value in the blue text area, the scaling of the front panel green bar is set. You may use decimal points Example: **1.25**, to get the desired reading

2.2.7

Alarm Priorities

			Alarm P	riorities		Setting	js
Meter 1	Meter 2	Meter 3	Meter 4	Meter 5	Meter 6	Meter 7	Meter 8
Log	Log	Log	Log	Log	Log	Log	Log
💿 EMail	EMail	EMail	📀 EMail	💿 EMail	💿 EMail	💿 EMail	EMail
Call	Call	Call	Call	Call	Call	Call	Call
Meter 9	Meter 10	Meter 11	Meter 12	Meter 13	Meter 14	Meter 15	Meter 16
Log	Log	Log	Log	Log	Log	Log	Log
💿 EMail	EMail	EMail	💿 EMail	📀 EMail	📀 EMail	💿 EMail	EMail
• Call	Call	Call	Call	Call	Call	Call	• Call
Switch 1	Switch 2	Switch 3	Switch 4	Switch 5	Switch 6	Switch 7	Switch 8
● Log	● Log	● Log	● Log	● Log	● Log	● Log	● Log
EMail	EMail	EMail	EMail	EMail	EMail	EMail	EMail
Call	Call	Call	Call	Call	 Call 	Call	Call
Switch 9	Switch 10	Switch 11	Switch 12	Switch 13	Switch 14	Switch 15	Switch 16
Log	Log	Log	Log	Log	Log	Log	Log
EMail	EMail	EMail	EMail	EMail	EMail	EMail	EMail
Call	Call	Call	Call	Call	Call	Call	Call
Switch 17	Switch 18	Switch 19	Switch 20	Switch 21	Switch 22	Switch 23	Switch 24
Log	Log	Log	Log	Log	Log	Log	Log
EMail	EMail	EMail	EMail	EMail	EMail	EMail	EMail
• Call	Call	Call	Call	Call	Call	Call	• Call
Temp 1	Temp 2	Temp 3	Temp 4		AC Volts	DC Volts	Wind Spd
● Log	● Log	● Log	● Log		● Log	● Log	● Log
• EMail	EMail	• EMail	• EMail		• EMail	• EMail	EMail
 Call 	 Call 	Call	 Call 		 Call 	 Call 	Ocall
Temp 5	Temp 6	Temp 7	Temp 8		AC Freq	DC Amps	
Log	Log	Log	Log		Log	Log	
EMail	EMail	EMail	EMail		EMail	EMail	
Call	Call	Call	Call		Call	Call	
						Set	Reset

Fig. 35

The alarm output may be set here.

Log: Wrights the alarm to the log files only.

Email: Notes the alarm in the log e-mails and sends text message.

Call: Notes the alarm in the log sends e-mails, text message, calls out on the POTS line.

2.2.8

FCC Log Settings

			FCC Log Settings			Settings	
Meter 1	Meter 2	Meter 3	Meter 4	Meter 5	Meter 6	Meter 7	Meter 8
Meter 9	Meter 10	Meter 11	Meter 12	Meter 13	Meter 14	Meter 15	Meter 16 Log
Switch 1	Switch 2	Switch 3	Switch 4	Switch 5	Switch 6	Switch 7	Switch 8
Switch 9	Switch 10	Switch 11	Switch 12	Switch 13	Switch 14	Switch 15 Log	Switch 16
Switch 17 Log	Switch 18 Log	Switch 19 Log	Switch 20 Log	Switch 21	Switch 22	Switch 23 Log	Switch 24
Temp 1	Temp 2	Temp 3	Temp 4		AC Volts	DC Volts Log	Wind Spd
Temp 5	Temp 6	Temp 7	Temp 8		AC Freq	DC Amps Log	
						Set	Reset

Fig. 36

For those that need to keep a separate log for the FCC requirements you may chose which alarms need to be noted in a separate FCC file here.

Network Settings Here you configure the unit on the network

	_
Network Settings	
IP Address	192.168.1.25
Network Mask	255.255.255.0
Default Gateway	192.168.1.1
DNS Server 1	4.2.2.2
DNS Server 2	4.2.2.4
DNS Server 3	4.2.2.6
TrcCom Server Port	10101
TrcStream Server Port	10102
Web Server Port	10103
Video Server Port	10104
Audio Server Port	10105



IP Address, Subnet Mask, Default Gateway

If using Aarlon through a router, you must first get the router's local IP address and subnet mask.

If the router's network scheme is different than the factory defaults, you will need to change the Aarlon settings to match this.

Example:

Router Local IP Address: 192.168.0.1 Router Subnet Mask: 255.255.0.0 Aarlon IP Address: 192.168.0.25 Aarlon Subnet Mask: 255.255.0.0 Aarlon Default Gateway: 192.168.0.1 (Router Local IP Address)

If a router is not being used, you need to change the Aarlon IP address, subnet mask, and default gateway to the ones provided by your ISP.

DNS Servers

Aarlon is setup to use AT&T's DNS servers. There should be no reason to change this, but you may, if you so wish.

Port Settings

There are five ports that Aarlon uses for the different services. The main one to be concerned with is the Web Server Port. This port controls what the Aarlon web page address is.

Example:

Web Server Port: 10113 Web Page Address: <u>http://192.168.1.25:10113</u>

If using Aarlon through a router, you will need to setup port forwarding in the router to allow access to these ports. If you need help setting up port forwarding, you can go to <u>PortForward.com</u> for more information. (NOTE – Aarlon has no association with Port Forward)

Time Settings





Time Zone

Set the Time Zone were Aarlon is located.

Time Servers

Aarlon automatically updates the time from the listed time servers. There should be no reason to change the time servers, if Aarlon is located in North America. If you need a list of other time servers, you can go to <u>www.pool.ntp.org</u>.

System Utilities

System Utilities	
Aarlon Server	
Restart	
Export Aarlon Settings	
Export Settings	
Import Aarlon Settings	
Browse	
Factory Settings	
Restore Factory Defaults	
Save Reset	

Fig 38

Aarlon Server Restart

This will restart Aarlon. It takes ~35s for a restart, after which, you will be redirected back to the main page.

Export Aarlon Settings

This will save all user settings, including User Accounts and Calibrations. This file can then be used to setup other Aarlon units or to restore the original unit back to the saved settings.

Import Aarlon Settings This will restore the saved settings.

Restore Factory Defaults This will reset Aarlon to the factory defaults.

User Accounts

Username	Group	Password	Confirm
	Aarlon Administrators	×	
AarlonAdmin AarlonPowerUser AarlonUser	AarlonAdmins AarlonPowerUsers AarlonUsers		
	<u>×</u>		<u> </u>
			Add Edit Delete Clear

Fig. 39

This page allows you to setup and delete the various User Accounts. You can change group affiliation and user passwords. To change user names, you would need to delete the account and create a new one, with the desired user name.

Aarlon Administrators Group

The Aarlon Administrators group has <u>full control</u> of Aarlon. (NOTE – There must be at least one Aarlon Admin.)

Aarlon Power Users Group

The Aarlon Power Users group has access to everything under Menu, and can control the relays.

Aarlon Users Group

The Aarlon Users group has access to everything under Menu and can <u>only view</u> the main page.

Help or Questions:

Please contact us at the following:

Email: <u>Aarlon@Aarlon.com</u>

- Telephone: 713 722 0169 Bill Cordell 520 405 8303 Phil Pajalich
- Address: 866 N Wilcrest Houston, TX 77079

Web site: www.Aarlon.com

GENERAL INFORMATION

WHAT IS AARLON?

A remote control and data acquisition system, accessed by a web browser, the telephone and/or the GUI client application.

WHAT CAN AARLON DO?

- Check an individual meter
- Inspect status indications
- Test temperature channels
- Ensure power line conditions
- Verify backup battery
- Confirm wind condition
- Control up to 32 form "C" relays

EASY ACCESS

- Assign Aarlon a static IP address and then via a web browser or the separate application, manage an entire broadcasting site.
- Simply click any of the assigned eight (8) up/down command channels or any of the assigned 16 on/off command channels for easy control.
- All access is password controlled for security.

USER FRIENDLY

- Simple and intuitive graphic based user interface.
- Video and real time audio available via a web browser.
- Remote messaging
- Minimal setup time

PRODUCT FEATURES

- 16 voltage inputs -10/+10 volts DC with 16 bit resolution (for the instrumentation industry, Aarlon can easily be configured to 0-5 vdc or 4-20 ma inputs).
- 32 relay commands N.O. or N.C. (16 paired, 16 individual) contact rating: one amp at 24 volts DC max.
- Power line voltage and frequency monitoring.
- Backup battery voltage and amperage monitoring.
- Wind speed and direction indicators.
- CCTV video server. Video input NTSC or PAL with Pelco PTZ RS 485 control.
- Streaming audio listen to station output in real time. Two balanced audio inputs, high level.
- Two-way POTS communication (similar to the older Gentner* VRC series of remote controls).
- T base 10/100 Ethernet interface.
- Intuitive dynamic web interface package. Internet enabled.
- One hour minimum battery backup.
- One internal and up to seven external temperature inputs from -50 to +244F, resolution +/- 0.5 degree.
- Zig-Bee 802.15.4 on-board wireless network (optional and separate Zig-Bee units).
- One internal and two external humidity sensors 1% to 99% Rh (optional).
- 24 status inputs, consisting of N.O. or N.C. dry contacts.
- Composite video camera with PZT (optional)
- Anemometer / wind vane (Peet Brothers separate unit optional)





Aarlon™: The Ultimate in Remote Control c/o Cordell Communications, Inc. 866 N. Wilcrest, Houston, TX 77079 713-722-0169 aarlon @ aarlon.com

• Gentner is a registered trademark of Burk Technology, Inc.

Aarlon Telephone access information and menu

Default access number for Aarlon: **123#** (the "#" sign is expected to enter the access number, therefore the Aarlon telephone access number is really **123**

Incoming Call Menu					
	Level 0	Level 1	Level 2		
Greeting w/System Status and Dump Straight to Listening for Commands					
		Options			
	0#	Help			
	1#	Hear System Status			
	2#	Hear Relay Label			
	3#	Turn On/Off Relay L	abels		
	4#	Turn On/Off Acknow	ledgments		
		Relays			
	11#	Command 0			
			* Up		
			# Down		
	12#	Command 1			
			* Up		
			# Down		
	13#	Command 2			
			* Up		
			# Down		
	14#	Command 3			
			* Up		
			# Down		
	15#	Command 4			
			* Up		
			# Down		
	16#	Command 5			
			* Up		
			# Down		
	17#	Command 6			
			* Up		
			# Down		
	18#	Command 7			
			* Up		
			# Down		
	19#	Command 8			
			* On		
			# Off		
	110#	Command 9			
			* On		
			# Off		

111#	Command 10	
		* On
		# Off
112#	Command 11	
		* On
		# Off
113#	Command 12	
		* On
		# Off
114#	Command 13	
		* On
		# Off
115#	Command 14	
		* On
		# Off
116#	Command 15	# OII
		* On
		# Off
117#	Command 16	<i>"</i> 011
	Command To	* On
		# Off
118#	Command 17	# 011
110#		* On
		# Off
110#	Command 18	# 011
115#		* On
120#	Command 19	# 011
120#	Oommand 19	* On
121#	Command 20	# 011
121π	Command 20	* On
		# Off
102#	Command 21	# 011
	Oommand 21	* On
		# Off
122#	Command 22	
120		* On
		# Off
194#	Command 23	
		* On
	Matara	
21#	Meter 0	
22#	Meter 1	
23#	Meter 2	
24#	Meter 3	
25#	Meter 4	
25# 26#	Meter 4 Meter 5	

28#	Meter 7		
29#	Meter 8		
210#	Meter 9		
211#	Meter 10		
212#	Meter 11		
213#	Meter 12		
214#	Meter 13		
215#	Meter 14		
216#	Meter 15		
Temperatures			
31#	Temp 0		
32#	Temp 1		
33#	Temp 2		
34#	Temp 3		
35#	Temp 4		
36#	Temp 5		
37#	Temp 6		
38#	Temp 7		
Environmentals			
41#	Line Voltage		
42#	Line Frequency		
43#	Battery Voltage		
44#	Battery Current		
45#	Wind Speed / Wind Dir	ection	
Alarms On/Off			
500#	Alarms Off		
501#	Alarms On		