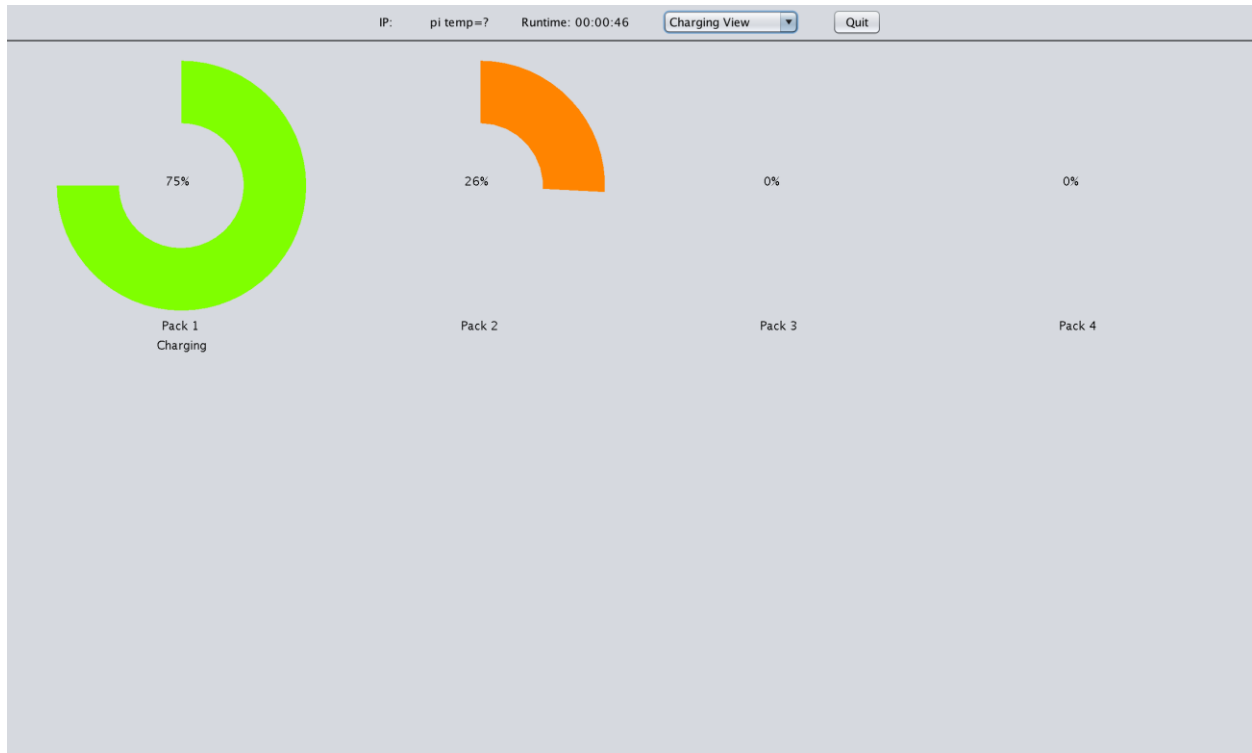


## Charging View

This is a sample of what the pack charging cycles will show. It can be seen in the image that packs 1 and 2 are connected in this “demo” and 3 and 4 are disconnected.



## Configuration View

This is where a user will go to edit the backend DB without touching the code or needing to know any SQL. All changes can be made through this page.

IP: pi temp=? Runtime: 00:01:32 Configuration View Quit

Tag Lookup  
OFT Search

Tag	Name
BI	Brake Input
BRK	Brake
CFP	Controller Fault Primary
CFS	Controller Fault Secondary
CS	Cooling state
CT	Controller Temp
CV	Capacitor Voltage
FFR	Fluid Flow Rate
IFT	Inlet Fluid Temp
IMD	IMD
MRPM	Motor RPM
MT	Motor Temp
OFT	Outlet Fluid Temp
PA1	Pack 1 current
PA2	Pack 2 current
PA3	Pack 3 current
PA4	Pack 4 current
PCOUL1	Pack 1 Coulombs
PCOUL2	Pack 2 Coulombs
PCOUL3	Pack 3 Coulombs
PCOUL4	Pack 4 Coulombs
PCS11	Pack 1 cell status 1
PCS12	Pack 1 cell status 2
PCS13	Pack 1 cell status 3
PCS14	Pack 1 cell status 4

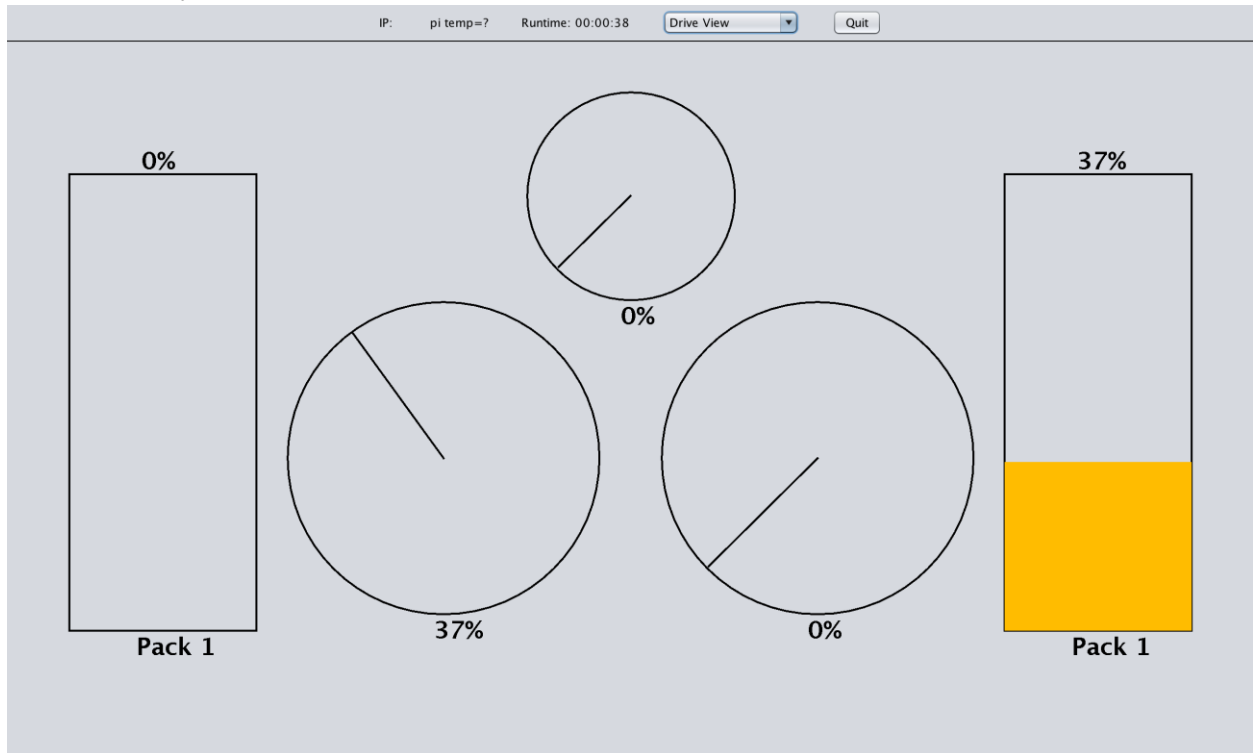
Tag	Address	Offset
OFT	240	2
Bytes	Description	Units
4	Outlet Fluid Temp	C
Correction	Store	System
1.0	true	COOLING

Duplicate Record

New Item Update Record Delete

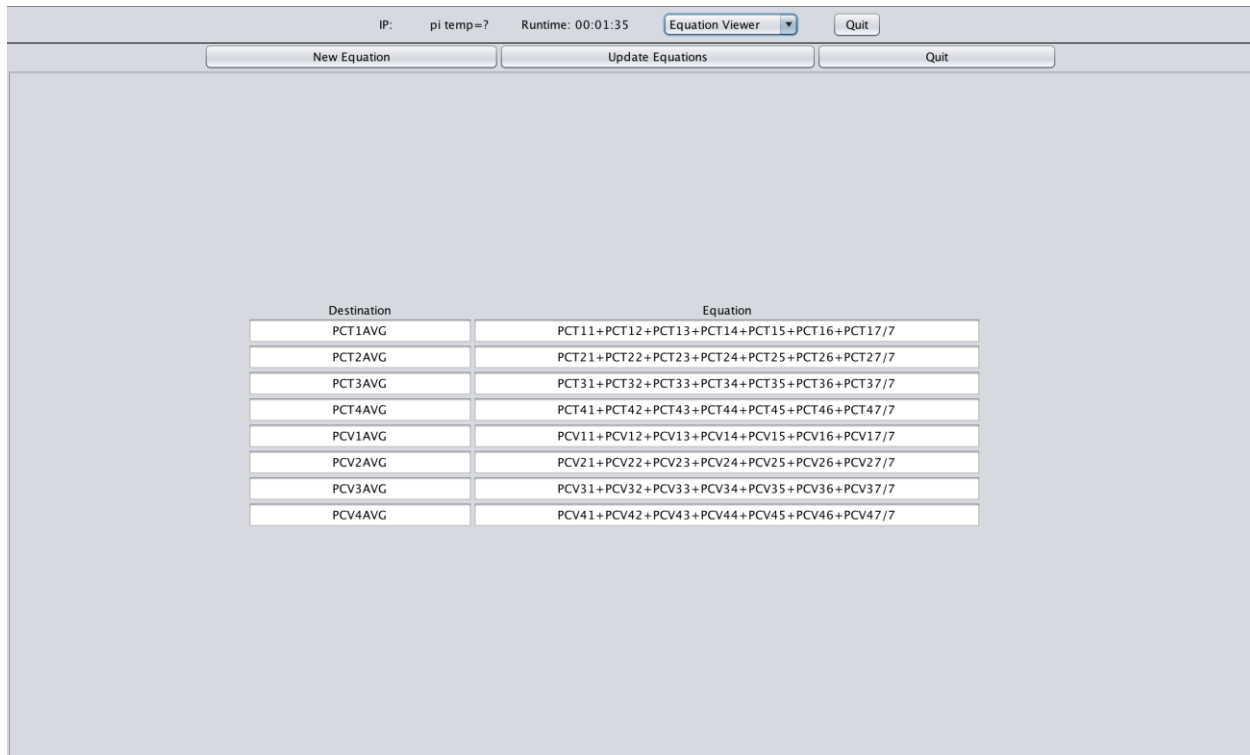
## Drive View

This is what the cockpit will look like, the dials are not labeled as they are designed to be customized by the user.



## Equation View

This view allows users to enter in custom equations which will be evaluated from Left to Right *NOT* with PEMDAS. Equations can consist of tags and numbers and support the basic math functions of + - \* /



The screenshot shows the 'Equation Viewer' window. At the top, it displays 'IP: pi temp=7', 'Runtime: 00:01:35', and a dropdown menu set to 'Equation Viewer'. Below this are three buttons: 'New Equation', 'Update Equations', and 'Quit'. The main area contains a table with two columns: 'Destination' and 'Equation'.

Destination	Equation
PCT1AVG	$PCT11+PCT12+PCT13+PCT14+PCT15+PCT16+PCT17/7$
PCT2AVG	$PCT21+PCT22+PCT23+PCT24+PCT25+PCT26+PCT27/7$
PCT3AVG	$PCT31+PCT32+PCT33+PCT34+PCT35+PCT36+PCT37/7$
PCT4AVG	$PCT41+PCT42+PCT43+PCT44+PCT45+PCT46+PCT47/7$
PCV1AVG	$PCV11+PCV12+PCV13+PCV14+PCV15+PCV16+PCV17/7$
PCV2AVG	$PCV21+PCV22+PCV23+PCV24+PCV25+PCV26+PCV27/7$
PCV3AVG	$PCV31+PCV32+PCV33+PCV34+PCV35+PCV36+PCV37/7$
PCV4AVG	$PCV41+PCV42+PCV43+PCV44+PCV45+PCV46+PCV47/7$

## Maintenance View

This is the single column view for the Maintenance View. The cockpit has a single column view while the desktop application has two.

SCADA Viewer							
IP: pi temp=?		Runtime: 00:00:22		Maintenance View	Saving Data: true		Quit
Sensor Tag	Sensor Desc	Sensor Value	Sensor Units	Sensor Tag	Sensor Desc	Sensor Value	Sensor Units
BI	Brake Input	NaN?	%	PCT32	Pack 3 cell temp 2	NaN?	C
BRK	Brake	NaN?		PCT33	Pack 3 cell temp 3	NaN?	C
CFP	Controller Fault Primary	NaN?		PCT34	Pack 3 cell temp 4	NaN?	C
CFS	Controller Fault Secondary	NaN?		PCT35	Pack 3 cell temp 5	NaN?	C
CS	Cooling state	NaN?		PCT36	Pack 3 cell temp 6	NaN?	C
CT	Controller Temp	NaN?	C	PCT37	Pack 3 cell temp 7	NaN?	C
CV	Capacitor Voltage	NaN?	V	PCT3AVG	Pack 3 Average Cell Temp	NaN?	C
FFR	Fluid Flow Rate	NaN?		PCT41	Pack 4 cell temp 1	NaN?	C
IFT	Inlet Fluid Temp	NaN?	C	PCT42	Pack 4 cell temp 2	NaN?	C
IMD	IMD	NaN?		PCT43	Pack 4 cell temp 3	NaN?	C
MRPM	Motor RPM	NaN?	RPM	PCT44	Pack 4 cell temp 4	NaN?	C
MT	Motor Temp	NaN?	C	PCT45	Pack 4 cell temp 5	NaN?	C
OFT	Outlet Fluid Temp	NaN?	C	PCT46	Pack 4 cell temp 6	NaN?	C
PA1	Pack 1 current	0.00	A	PCT47	Pack 4 cell temp 7	NaN?	C
PA2	Pack 2 current	0.00	A	PCT4AVG	Pack 4 Average Cell Temp	NaN?	C
PA3	Pack 3 current	NaN?	A	PCV11	Pack 1 cell voltage 1	NaN?	V
PA4	Pack 4 current	NaN?	A	PCV12	Pack 1 cell voltage 2	NaN?	V
PCOUL1	Pack 1 Coulombs	62.00		PCV13	Pack 1 cell voltage 3	NaN?	V
PCOUL2	Pack 2 Coulombs	39.00		PCV14	Pack 1 cell voltage 4	NaN?	V
PCOUL3	Pack 3 Coulombs	NaN?		PCV15	Pack 1 cell voltage 5	NaN?	V
PCOUL4	Pack 4 Coulombs	NaN?		PCV16	Pack 1 cell voltage 6	NaN?	V
PCS11	Pack 1 cell status 1	0.00		PCV17	Pack 1 cell voltage 7	NaN?	V
PCS12	Pack 1 cell status 2	0.00		PCV1AVG	Pack 1 Average Cell Voltage	NaN?	V
PCS13	Pack 1 cell status 3	0.00		PCV21	Pack 2 cell voltage 1	NaN?	V
PCS14	Pack 1 cell status 4	0.00		PCV22	Pack 2 cell voltage 2	NaN?	V
PCS15	Pack 1 cell status 5	NaN?		PCV23	Pack 2 cell voltage 3	NaN?	V
PCS16	Pack 1 cell status 6	NaN?		PCV24	Pack 2 cell voltage 4	NaN?	V
PCS17	Pack 1 cell status 7	NaN?		PCV25	Pack 2 cell voltage 5	NaN?	V
PCS21	Pack 2 cell status 1	0.00		PCV26	Pack 2 cell voltage 6	NaN?	V
PCS22	Pack 2 cell status 2	0.00		PCV27	Pack 2 cell voltage 7	NaN?	V
PCS23	Pack 2 cell status 3	0.00		PCV2AVG	Pack 2 Average Cell Voltage	NaN?	V
PCS24	Pack 2 cell status 4	0.00		PCV31	Pack 3 cell voltage 1	NaN?	V
PCS25	Pack 2 cell status 5	NaN?		PCV32	Pack 3 cell voltage 2	NaN?	V
PCS26	Pack 2 cell status 6	NaN?		PCV33	Pack 3 cell voltage 3	NaN?	V
PCS27	Pack 2 cell status 7	NaN?		PCV34	Pack 3 cell voltage 4	NaN?	V
PCS31	Pack 3 cell status 1	NaN?		PCV35	Pack 3 cell voltage 5	NaN?	V
PCS32	Pack 3 cell status 2	NaN?		PCV36	Pack 3 cell voltage 6	NaN?	V
PCS33	Pack 3 cell status 3	NaN?		PCV37	Pack 3 cell voltage 7	NaN?	V
PCS34	Pack 3 cell status 4	NaN?		PCV3AVG	Pack 3 Average Cell Voltage	NaN?	V
PCS35	Pack 3 cell status 5	NaN?		PCV41	Pack 4 cell voltage 1	NaN?	V
PCS36	Pack 3 cell status 6	NaN?		PCV42	Pack 4 cell voltage 2	NaN?	V
PCS37	Pack 3 cell status 7	NaN?		PCV43	Pack 4 cell voltage 3	NaN?	V
PCS41	Pack 4 cell status 1	NaN?		PCV44	Pack 4 cell voltage 4	NaN?	V

SCADA Viewer			
IP: pi temp=?		Runtime: 00:01:19	
		Maintenance View	Quit
Sensor Tag	Sensor Desc	Sensor Value	Sensor Units
BI	Brake Input	NaN?	%
BRK	Brake	NaN?	
CFP	Controller Fault Primary	NaN?	
CFS	Controller Fault Secondary	NaN?	
CS	Cooling state	NaN?	
CT	Controller Temp	NaN?	C
CV	Capacitor Voltage	NaN?	V
FFR	Fluid Flow Rate	NaN?	
IFT	Inlet Fluid Temp	NaN?	C
IMD	IMD	NaN?	
MRPM	Motor RPM	NaN?	RPM
MT	Motor Temp	NaN?	C
OFT	Outlet Fluid Temp	NaN?	C
PA1	Pack 1 current	117575.43	A
PA2	Pack 2 current	0.00	A
PA3	Pack 3 current	NaN?	A
PA4	Pack 4 current	NaN?	A
PCOUL1	Pack 1 Coulombs	67178249.00	
PCOUL2	Pack 2 Coulombs	73.00	
PCOUL3	Pack 3 Coulombs	NaN?	
PCOUL4	Pack 4 Coulombs	NaN?	
PCS11	Pack 1 cell status 1	8.00	
PCS12	Pack 1 cell status 2	6.00	
PCS13	Pack 1 cell status 3	11.00	
PCS14	Pack 1 cell status 4	6.00	
PCS15	Pack 1 cell status 5	13.00	
PCS16	Pack 1 cell status 6	4.00	
PCS17	Pack 1 cell status 7	14.00	
PCS21	Pack 2 cell status 1	0.00	
PCS22	Pack 2 cell status 2	0.00	
PCS23	Pack 2 cell status 3	0.00	
PCS24	Pack 2 cell status 4	0.00	
PCS25	Pack 2 cell status 5	NaN?	
PCS26	Pack 2 cell status 6	NaN?	
PCS27	Pack 2 cell status 7	NaN?	
PCS31	Pack 3 cell status 1	NaN?	
PCS32	Pack 3 cell status 2	NaN?	
PCS33	Pack 3 cell status 3	NaN?	
PCS34	Pack 3 cell status 4	NaN?	
PCS35	Pack 3 cell status 5	NaN?	
PCS36	Pack 3 cell status 6	NaN?	
PCS37	Pack 3 cell status 7	NaN?	
PCS41	Pack 4 cell status 1	NaN?	
PCS42	Pack 4 cell status 2	NaN?	
PCS43	Pack 4 cell status 3	NaN?	
PCS44	Pack 4 cell status 4	NaN?	
PCS45	Pack 4 cell status 5	NaN?	
PCS46	Pack 4 cell status 6	NaN?	

## Query View

The Query view is where a user may go and get data collected by the SCADA system without any need for knowledge of the database.

IP: pi temp=?    Runtime: 00:01:23    Query View    Quit			
ID(s)	System(s)	Start Time	End Time
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Clean Screen	Execute Query	Export Data	