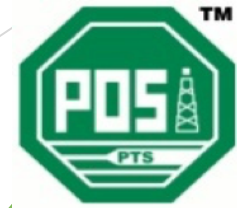




RigsEyeTM

Service Summary

PTS Inc.



RigsEye Service Summary

RigsEye is a data collection, transmission and display system specifically designed for the oil & gas well equipment (Rigs, Pumps and Swivels) with the following features:

- ▶ Durable fixed inputs with minimal setup and maintenance
- ▶ Utilize low cost cellular data transmission where available but has option for satellite transfer
- ▶ Built-in Data Storage allows for later retrieval if connection to internet is lost
- ▶ Easy to install, setup and stow when moving the equipment
- ▶ Minimizes manual inputs



Web Service Features

- ▶ Detailed Dashboards for Rigs, Pumps and Swivels displaying key measurements in line graph and gauge graphics
- ▶ Detail Dashboard of Engine Data (if connected to the ECM)
- ▶ Allows creating Projects that groups a rig, pump(s) and swivel together to display key measurements in one screen.
- ▶ Provides SMS or email alerts when set conditions are met such as “Blocks moving Posi-Stop Not Set”
- ▶ Easy to install, setup and stow for equipment moves
- ▶ Minimizes manual inputs from the operator to gather the information
- ▶ Provides local WIFI access to wirelessly retrieve files if in an area with no internet connection to later upload to the server

Home Page – List View

Below is a list of available equipment to view. Click on the appropriate tab for the information required.

[List View](#) | [Map View](#) | [Multi-Equipment View](#)

Change View To: | Filter By: All Equipment

REGION ONE REG1

GREENVILLE

Equipment ID	Status		Type	Carrier	Posi-Stop	Activity	Camera	Last Calibration Info		Weather		Latest Message Today
	Connection							Date/Time	Count	Wind Speed	Temp	
DA0001	EXCELENT (39)	R	Stationary	On & Calibrated	Yes	Online	11/13/2020 14:15:23	2095	N/A	N/A	No messages today	
DA0002	OFFLINE (0) 02/16/2021 13:55:28	R	N/A	N/A	No		01/13/2021 08:03:16	1989	N/A	N/A	-	
DA0003	OFFLINE (45) 11/22/2020 10:30:07	R	N/A	N/A	No		11/11/2020 04:19:33	240	N/A	N/A	-	
DAP001	VERY GOOD (45)	P	Stationary	N/A	No		N/A	-	N/A	N/A	No messages today	
DAP002	OFFLINE (0) 01/13/2021 07:57:38	P	N/A	N/A	No		-	-	N/A	N/A	-	
DAS001	EXCELENT (39)	S	Stationary	N/A	No		N/A	-	N/A	N/A	No messages today	

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Home Page – Map View

Map

Below is a map of available equipments to view. Hover the marker to see rig information and click on rig number to view the detail.

List View | Map View | Multi-Equipment View



Filter By: All Equipments All Yards All Types

Rig 188702
Status: Offline (O)
Lat: 40.0938476
Long: -79.2509849
Altitude: 1110.89 feet

Home Page

- ▶ List View of all equipment (rigs, pumps and swivels) the user has permission to view
- ▶ Provides quick status of the cellular connection, equipment engine, Posi-Stop calibration (for rigs only), weather and if the equipment is active (pump shaft is rotating, swivel is rotating and block is moving)
- ▶ When user clicks on the equipment Id the detail page for that equipment is opened.
- ▶ When Map View is selected the view display on a Map all the equipment, each type with a different icon, and color coded based upon its status.

Rig Standard Dashboard

HOME
EQUIP DETAIL
ENGINE DETAIL
ACTIVITY
CAMERA FEED

Edit profile


RIG INFORMATION	RIG NUMBER DA0001	YARD NUMBER 100	OPERATOR Demo Demo	LAST CALIBRATION TIME 11/13/2020 15:15:23	WIND DIRECTION No Data	TEMPERATURE No Data	DATE 16-Apr-2021	DATA SYSTEM VOLTAGE 10.7 V
	ENGINE N/C	YARD NAME Greenville	SUPERVISOR Demo Demo	ENCODER COUNT 2095	WIND SPEED No Data	RIG SPEED 0 mph	TIME 2:56:15 PM EDT	CONNECTION Excelent (39)

POS STOP DISPLAY

BLOCK LIMIT CONTROL SYSTEM

BLOCK POSITION: 15


PERCENT OF TRAVEL: 15

DRAWWORKS RPM: 

WARNING: ● LIMIT: ● OFF: ● ON: ● SET: ●

1 - SLIPS
2 - INTERLOCK
3 - ROD MANUAL HANDLER
4 - ROD LOCKOUT HANDLER

RIG LOCATION - TRAVEL TO SITE



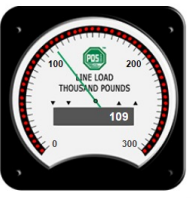
TODAY'S RIG EVENTS PRINT

08:22:25am Low Voltage. (0.0v)

TODAY'S MESSAGES PRINT

No message received today

WEIGHT ON HOOK



DRAW WORKS ACTIVITY TABLE Set to 15 minutes | VIEW CAMERA

Category	UOM	14:00	13:00	12:00	11:00	10:00	09:00	08:00	07:00	06:00	05:00
Cycles	ea	38	40	65	66	44	67	65	69	68	63
Cycles/Min	ea/min	0.63	0.66	1.07	1.09	0.73	1.11	1.07	1.14	1.13	1.04
Block Travel	ft	6,700	6,915	11,229	11,335	8,062	11,285	11,631	11,649	11,178	
Avg Block Speed	ft/min	112	115	187	189	134	188	194	197	194	186
Max Block Speed	ft/min	105	125	125	100	120	120	125	120	100	110
Avg RPM	RPM	100	100	100	100	100	100	100	100	100	100
Max RPM	RPM	105	125	125	100	120	120	125	120	100	110
Avg Weight	lbs x 1000	110	0	160	160	160	151	151	152	151	151
Max Weight	lbs x 1000	0	0	162	162	162	163	164	163	164	163

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Rig Dashboard with Camera

The dashboard features a top navigation bar with a menu icon and the RigsEye logo. Below it are tabs for HOME, EQUIP DETAIL, ENGINE DETAIL, ACTIVITY, and CAMERA FEED. The main content area is divided into several sections:

- RIG INFORMATION:** A table displaying key data points:

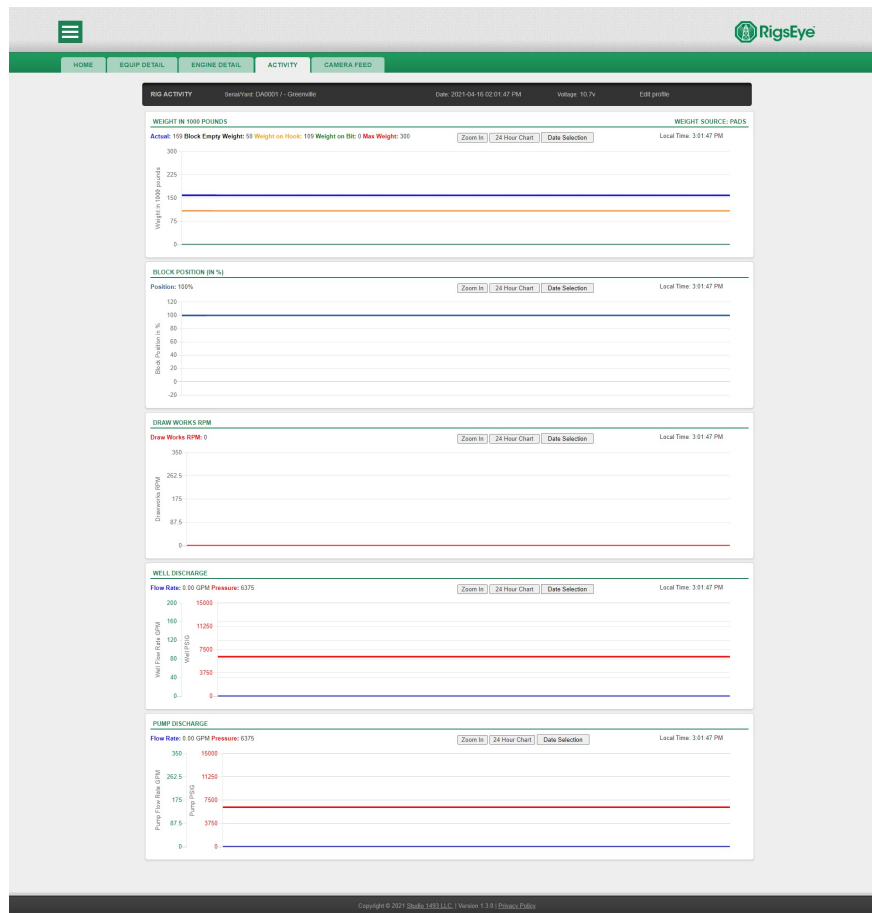
RIG NUMBER TEST01	YARD NUMBER 100	OPERATOR Demo Demo	LAST CALIBRATION TIME 5/3/2021 22:28:39	WIND DIRECTION No Data	TEMPERATURE No Data	DATE 13-May-2021	DATA SYSTEM VOLTAGE 0.0 V
ENGINE N/C	YARD NAME Greenville	SUPERVISOR Demo Demo	ENCODER COUNT 3054 TOP	WIND SPEED No Data	RIG SPEED 0 mph	TIME 2:51:59 PM EDT	CONNECTION Excelent (39)
- POSI STOP DISPLAY:** A control panel for the BLOCK LIMIT CONTROL SYSTEM. It includes a vertical slider for BLOCK POSITION, a gauge for PERCENT OF TRAVEL (set at 50), and a gauge for DRAWWORKS RPM. Below these are status indicators for WARNING, LIMIT, and control buttons for OFF, ON, and SET. At the bottom, there are four indicator lights for SLIPS, INTERLOCK, ROD MANUAL, and ROD AUTO.
- RIG LOCATION - TRAVEL TO SITE:** A map view showing the current location of the rig, labeled 'Hybrid', with navigation controls.
- TODAY'S RIG EVENTS:** A list of events, currently showing '12:07:05am Posi-Stop On'.
- TODAY'S MESSAGES:** A section for messages, currently showing 'No message received today'.
- WEIGHT ON HOOK:** A gauge showing the current weight on the hook in THOUSAND POUNDS, with a reading of 183.
- DRAW WORKS ACTIVITY TABLE:** A table with a 'Set to 15 minutes' refresh button and a 'BACK TO TABLE' link. It lists four cameras (Camera 1 to Camera 4) with green status indicators.
- Camera Feed:** A live video feed from one of the cameras, showing the interior of the rig's drawworks.

At the bottom of the dashboard, there is a copyright notice: Copyright © 2021 Studio 1493 LLC | Version 1.3.0 | Privacy Policy

Rig Dashboard

- ▶ Provides GPS Information
- ▶ Weather Information
- ▶ Block Position and Speed
- ▶ Weight on Hook, Bit or Total
- ▶ Map View that also can provide directions to the rig
- ▶ Activity Table that can cycle between 15 minute and 1 hour increments
- ▶ Message Board System allows users to text to the server to display their message in the dashboard (and saved to create a digital diary)
- ▶ Events such as Posi-Stop Calibrated, Turned Off, RPM > 700, etc...
- ▶ When Equipped with Camera(s) activity table can be released with Camera Feed
- ▶ When Equipped with Interlock or Rod Transfer Safety System Indicators will illuminate when in use (see slides ??)

Rig Activity View



Since Rigs Provide so many data inputs are available an additional page is available to view these inputs in line graph format:

- ▶ Weight (On hook, on Bit and total)
- ▶ Block Position & RPM
- ▶ Well Fluid Data (Pressure and Flow Rate)

Rig Camera View

☰

RigsEye

HOME EQUIP DETAIL ENGINE DETAIL ACTIVITY CAMERA FEED

Equipment: TEST01

02/21/2020 09:37:50 Camera 1

02/21/2020 09:37:49 Camera 2

02/21/2020 09:36:33 Camera 3

09/18/2018 14:42:06 Camera 4

Deputy 2.0


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Rig Camera View

- ▶ When the Rig is Equipped with Camera System up to 4 cameras can be displayed in this view
- ▶ Camera System works independent of the RigsEye data transfer system and can be a standalone service.
- ▶ Has Infrared capabilities
- ▶ Cameras have built-in motion sensors and can provide SMS or email alerts when motion is detected during off work hours.
- ▶ Local NVR hardware stores recorded video for around 1 week for later review.

Pump Dashboard

☰



HOME
EQUIP DETAIL
ENGINE DETAIL
CAMERA FEED

PUMP INFORMATION: Serial/Yard: DAP001 / 100 - Greenville


Date: 16-Apr-2021 3:02:13 PM EDT

Voltage: 11.8 V

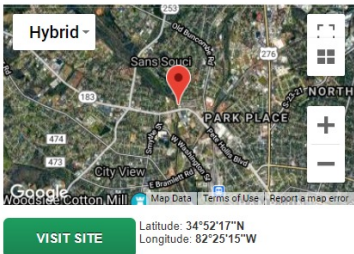
Connection: Offline (45)

Edit profile

Pump Suction: 44.1 PSI Zoom In | 24 Hour Chart | Date Selection | Local Time: 3:05:02 PM



EQUIPMENT LOCATION - TRAVEL TO SITE




Latitude: 34°52'17"N
Longitude: 82°25'15"W

MESSAGE BOARD

No message Available

Pump: Flow Rate GPM: 0.00 GPM Pressure: 918 PSI Zoom In | 24 Hour Chart | Date Selection | Local Time: 3:05:03 PM



ACTIVITY TABLE Set to 15 minutes



Category	UOM	14:00	13:00	12:00	11:00	10:00	09:00	08:00	07:00	06:00	05:00	04:00	03:00	02:00	01:00	00:00
Total Strokes		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ave Pump Discharge	GPM	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Max Pump Discharge	GPM	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ave Pump Discharge	PSI	921.7	921.6	921.5	920.1	918.9	919.8	921.9	924.5	925.8	925.7	925.5	924.9	924.3	923.8	923.5
Max Pump Discharge	PSI	927.0	930.0	927.0	930.0	927.0	927.0	930.0	930.0	930.0	930.0	930.0	930.0	930.0	930.0	930.0
Ave Suction	PSIG	44.0	44.1	44.2	44.1	44.0	44.0	44.2	44.3	44.3	44.3	44.3	44.3	44.3	44.2	44.2
Max Suction	PSIG	44.4	45.0	45.0	45.0	45.0	45.0	45.0	45.3	45.3	45.0	45.3	45.3	45.3	45.3	45.0

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Pump Dashboard

- ▶ Provides the following inputs:
 - ▶ Flow Rate (measured from strokes)
 - ▶ Fluid Discharge Pressure
 - ▶ Pump Suction Pressure
 - ▶ Fluid Temperature
- ▶ Message Board
- ▶ Map View
- ▶ Activity Summary Table


Swivel Dashboard


HOME
EQUIP DETAIL
ENGINE DETAIL
CAMERA FEED

SWIVEL INFORMATION: Serial/Yard: DAS001 / 100 - Greenville
Date: 16-Apr-2021 3:02:26 PM EDT
Voltage: 10.5 V
Connection: Offline (39)
Edit profile


RPM: 50 RPM Zoom In 24 Hour Chart Date Selection Local Time: 3:04:16 PM




Torque: 3233 ft-lbs Zoom In 24 Hour Chart Date Selection Local Time: 3:04:17 PM



Pressure: 2155 PSI Zoom In 24 Hour Chart Date Selection Local Time: 3:04:17 PM



EQUIPMENT LOCATION



Latitude: 34°52'17"N
Longitude: 82°25'14"W

[VISIT SITE](#)

MESSAGE BOARD

No message Available

ACTIVITY TABLE Set to 15 minutes


Category	UOM	14:00	13:00	12:00	11:00	10:00	09:00	08:00	07:00	06:00	05:00	04:00	03:00	02:00	01:00
Avg RPM	RPM	50	50	50	51	50	50	50	49	49	49	49	49	49	49
Max RPM	RPM	51	51	50	51	51	51	50	50	50	50	50	50	50	50
Torque Avg	FT-LBS	324	325	326	325	325	326	326	326	325	325	326	326	327	326
Torque Max	FT-LBS	334	334	335	334	334	335	337	337	337	338	337	337	337	337
Pressure Avg	PSI	2159	2167	2172	2170	2164	2170	2175	2171	2168	2166	2172	2175	2177	217
Pressure Max	PSI	2225	2225	2230	2225	2225	2230	2245	2245	2245	2250	2245	2245	2245	224


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Swivel Dashboard

- ▶ Provides the following inputs:
 - ▶ RPM
 - ▶ Torque
 - ▶ Hydraulic Pressure
- ▶ Message Board
- ▶ Map View
- ▶ Activity Summary Table

Project View





HOME EQUIP DETAIL ENGINE DETAIL CAMERA FEED

Customer: Demo Customer
Pad: testing

Project Site View in Fullscreen 24 Hour Chart mm/dd/yyyy Download Data View Images

Project: DEV000001
Start Date: 2021-03-22
Well ID: Not provided

Local Time: 3:12:05 PM

PROJECT MESSAGES [View messages](#) [Upload images](#)

DATE/TIME SENT	MESSAGE	ATTACHMENT
22-03-2021 2:55:15 PM	Testing message board	


Showing 1 to 1 of 1 entries

PIPE TALLY DATA [Zoom In](#) [Add joint entry](#) TJIH: 0 TJOH: 0 TJP: 0 CD: 0.00 FT.

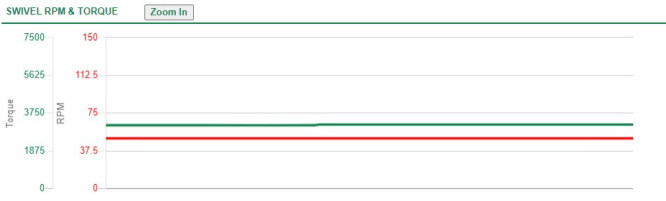
USER	DATE/TIME	IN	OUT	LENGTH	DAMAGE CODE
No pipe data found.					

Showing 0 to 0 of 0 entries


WEIGHT & BLOCK POSITION [Zoom In](#) WEIGHT SOURCE: PADS




SWIVEL RPM & TORQUE [Zoom In](#)



PUMP DISCHARGE [Zoom In](#)



WELL DISCHARGE [Zoom In](#)





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Project View


- ▶ Projects are defined by the user as follows:
 - ▶ Start and End Date of Project
 - ▶ Well information can be added
 - ▶ Equipment to be Used, e.g., a rig, pump(s) and swivel
- ▶ Provides Pipe Tally Information - manually input
- ▶ Collects all messages from project identified equipment and displays in the Project View
- ▶ Provides data grouping for project for later export in a “flat file”

Engine Dashboard



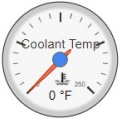
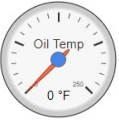






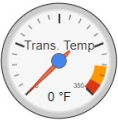

HOME
EQUIP DETAIL
ENGINE DETAIL
ACTIVITY
CAMERA FEED

EQUIPMENT INFORMATION

EQUIP NUMBER DA0001	YARD NUMBER 100	OPERATOR Demo Demo	LONGITUDE 82° 25' 14.31" W	WIND DIRECTION	TEMPERATURE	DATE 16-Apr-2021	ENGINE WARNING LIGHT 
VOLTS	YARD NAME Greenville	SUPERVISOR Demo Demo	LATITUDE 34° 52' 16.77" N	WIND SPEED	RIG SPEED 0 mph	TIME 2:59:47 PM EDT	

ENGINE INFORMATION

DRIVE / GEAR INFORMATION


DRIVE TRAIN
DISENGAGED


GEAR SELECTED
-

GEAR ATTAINED
-

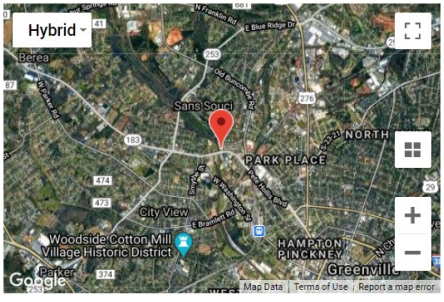
GEAR INFORMATION

D
N
R





EQUIPMENT LOCATION - TRAVEL TO SITE



MISCELLANEOUS

Odometer: - Miles

Engine Hours: - Hours

Daily Fuel Consumption: **0.000** Gallons

TODAY'S MESSAGES

[PRINT](#)

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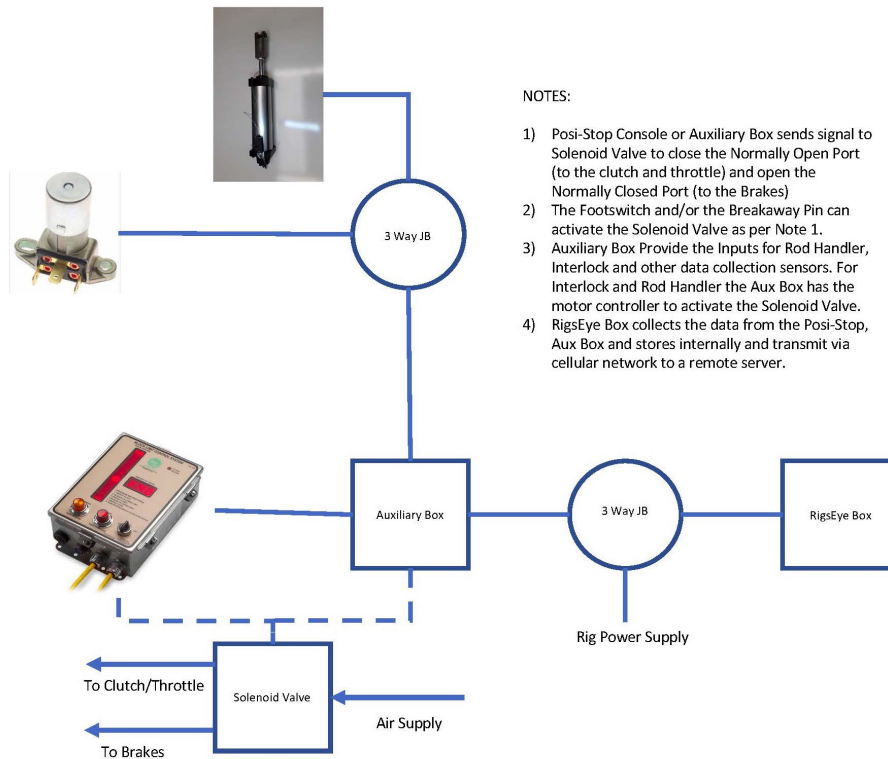
Engine Dashboard

- ▶ Connects directly to the Engine's ECM
- ▶ Available to all equipment types (Rigs, Pumps and Swivels)
- ▶ Data available is restricted to the sensors connected to the Engine's ECM
- ▶ Air Pressure data is collected directly using a transducer
- ▶ Message Board system is independent from the Operation's dashboards to allow mechanics to send messages that are not viewed in the operations display.

Other RigsEye Features

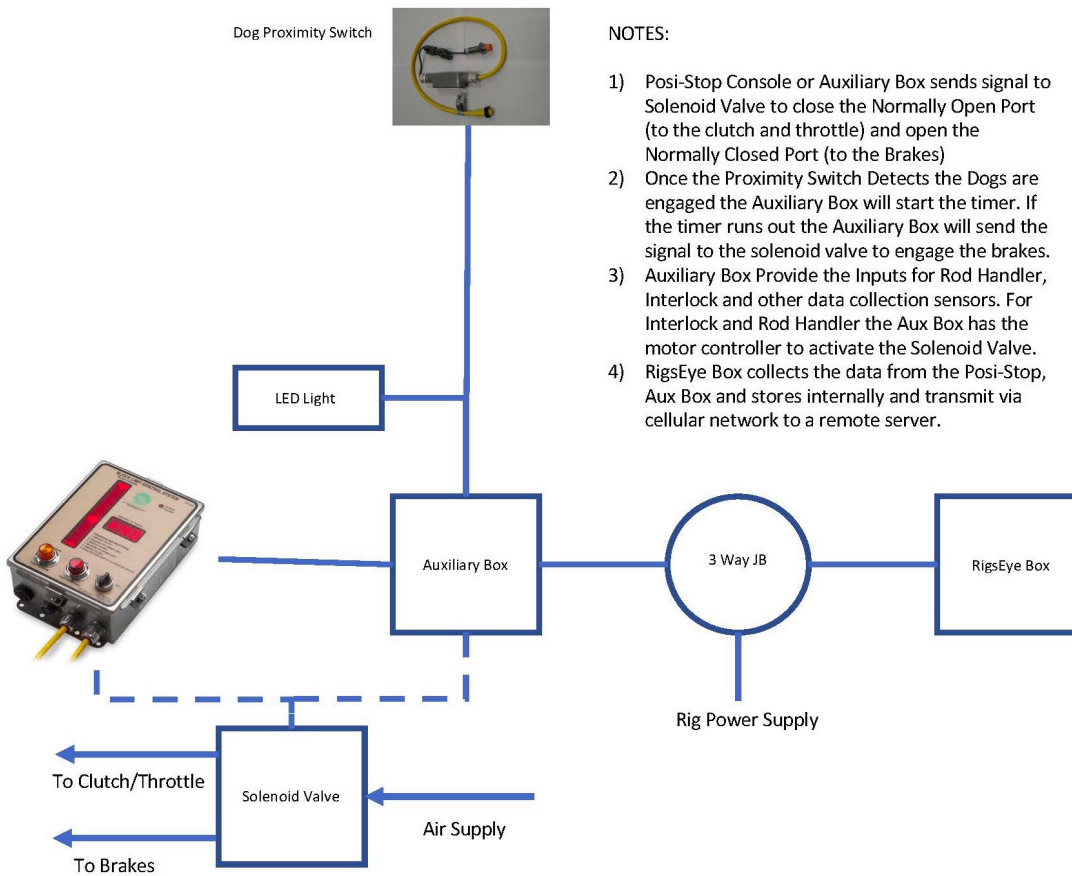
- ▶ Security Based System with various levels of authorizations available to the Company
- ▶ Export of raw data
- ▶ Shift Summary Reports
- ▶ Project Summary Reports
- ▶ Control Box provides other Systems - Interlock and Rod Transfer Safety Systems - see next slides

Rod Transfer Safety System



- ▶ Patent Pending System allows the rig hand in the basket to engage the the draw works brake while transferring the rod to avoid the block moving before the hand in the rod basket is ready
- ▶ System also has a sheer pin installed on the air cylinder that when the ram is extended to an unsafe position the draw works brake will be engaged to avoid pulling the apparatus of the mast

Interlock System



NOTES:

- 1) Posi-Stop Console or Auxiliary Box sends signal to Solenoid Valve to close the Normally Open Port (to the clutch and throttle) and open the Normally Closed Port (to the Brakes)
- 2) Once the Proximity Switch Detects the Dogs are engaged the Auxiliary Box will start the timer. If the timer runs out the Auxiliary Box will send the signal to the solenoid valve to engage the brakes.
- 3) Auxiliary Box Provide the Inputs for Rod Handler, Interlock and other data collection sensors. For Interlock and Rod Handler the Aux Box has the motor controller to activate the Solenoid Valve.
- 4) RigsEye Box collects the data from the Posi-Stop, Aux Box and stores internally and transmit via cellular network to a remote server.

CONTACT INFORMATION

For more information on RigsEye, please contact:

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 - ▶ (864) 404-5308
 - ▶ gan@posi-stop.com

- ▶ Visit our Website www.posi-stop.com

