



International Road Technologies Inc.

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MDSS

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## CENTROL POINT(S)

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Add new or additional data points at a reasonable cost

The data is interesting from a maintenance standpoint, i.e., Actual Freeze Point, Depth

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# SOFTWARE TYPES

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- Standard:
  - All sensors shipped with software for all logging functions
- Enhanced:
  - Alarms
  - Automated alerting to User Defined Parameters
  - Individual or Multiple site/sensor alarms

Some screen shots shown in this presentation  
are of Enhanced Software

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# COMMON CHARACTERISTICS

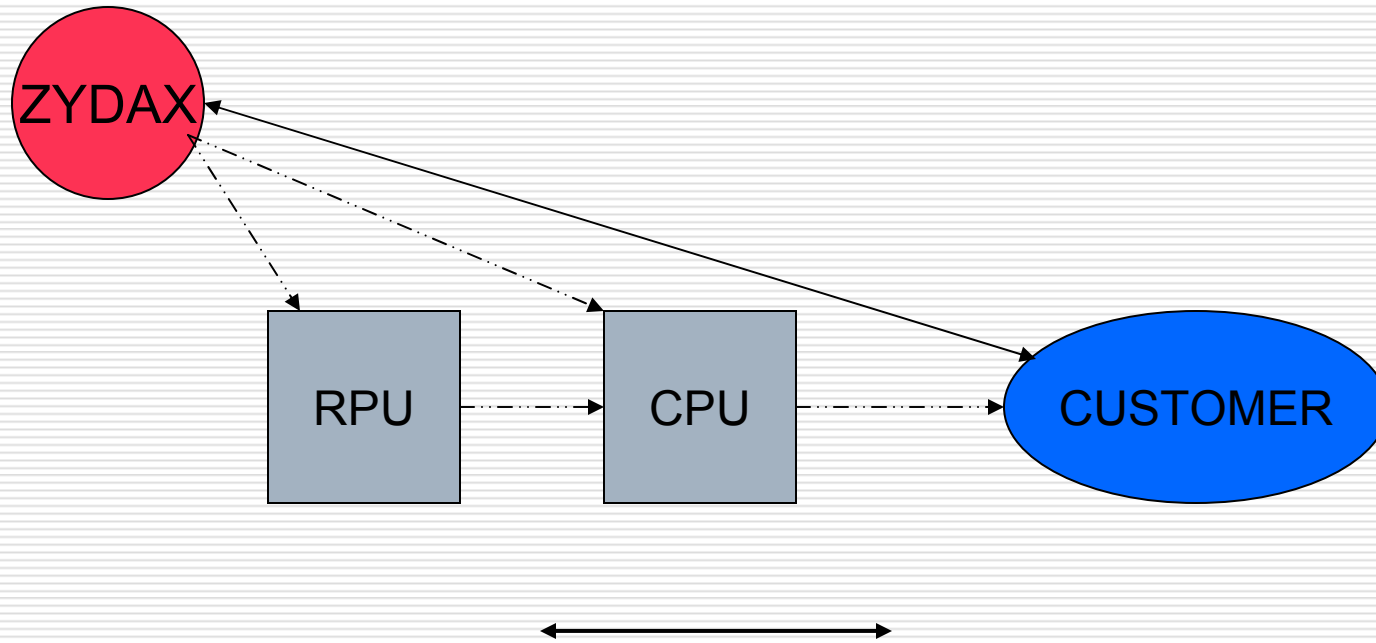
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- Intelligence is in the sensor
  - Requires no RPU – but can work with one
  - Requires no CPU – but can work with one
- Published communication protocol
- If desired, all Zydax sensors can communicate with a data logger
  - Automatic or Polled



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# Reporting Options





## CAVEAT<sub>(S)</sub>

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- ❑ If talking with a data logger/RPU, make sure that the communication link is configured for direct access to the sensor for remote software updates or troubleshooting.
  - ❑ The data is yours.
  - ❑ Can be exported to any standard file
    - Excel, etc.
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# T2WD

(2 TEMPERATURES plus WET, DRY)

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- Skin (surface) temperature
- Temperature of road mat 1.75" down
- Wet, dry, trace
- Chemical wet
- Can support multiple sub-surface probe(s) and AT/RH(s)
- Camera, precip, ws/wd

(Sensor displayed on table)



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# ZAPPS SENSOR



# ZAPSS

(Zydax Active Passive Surface Sensor)

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Has all the capabilities of the T2WD.

PLUS:

■ Depth

■ Freeze Point - timing

Passive, "continuous"

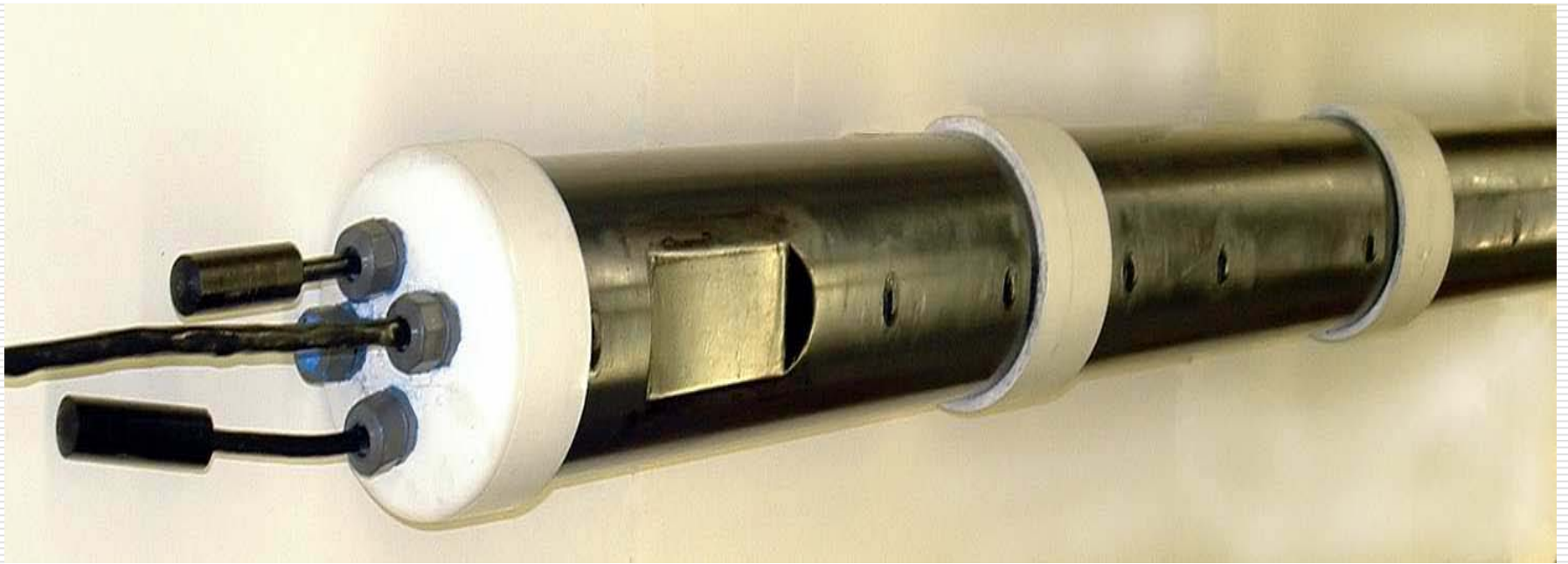
Peltier Cycle, "periodic"

■ Intelligent use of algorithms to compare two results and report freeze point



# ZIGI (Zydax In-Ground Instrumentation)

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# ZIGI (Zydax In-Ground Instrumentation)

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- Designed for vertical mounting in-ground
- Up to 8 ft in length – shipping.
- Temperature and soil moisture content at user determined depths

Spring Weight Restrictions/Road Closures  
Research Projects



### Zydax In Ground Instrumentation (ZIGI)

Zydax has developed the Zydax In Ground Instrumentation (ZIGI). The ZIGI is a combination of Moisture Measuring and Temperature Measuring sensors packaged to allowing easy installation in highways, roads or other areas where it is desirable to obtain moisture and temperature information.

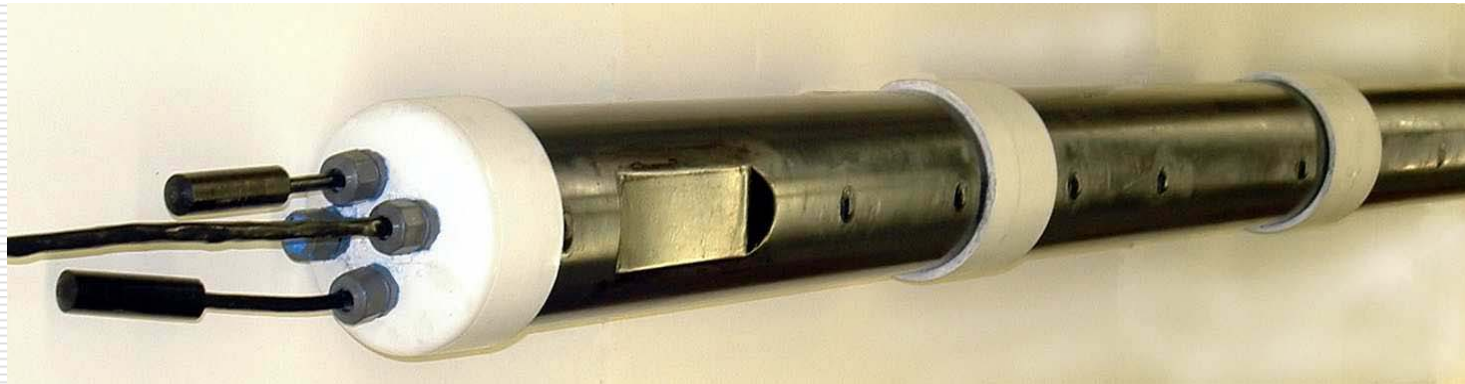


Photo 1. Zydax In Ground Instrumentation

The ZIGI is custom built to meet the users needs for depth and quantities of moisture and temperature sensors. Serial communications to a local computer, an internal modem and direct burial power supplies are standard. Air temperature/humidity measurements can be added at time of order. External modem can be added. When combined with the Enhanced Edition of the Zydax Data Collection Program (ZDCP), alarm conditions can be set by the user to determine when actions are required such as implementing/removing weight restriction or starting/stopping irrigation. The ZDCP Enhanced Edition allows the user to select several types of alarms such as a screen color change to indicate crossing a threshold on the logging computer, initiating phone calls to up to 6 numbers or turning flashing lights on or off. Users can easily setup “rules” based on the conditions that are important to them. Contact your Zydax dealer for more information.

# REPRESENTATIVE SCREEN SHOTS

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**Zydax Data Collection Program**

Data Collection | ZDCP Settings | Manual Control | Help | About

### General Settings

← Previous      Next →

Select log file	<input type="text" value="/zdcpl.log"/>
Select log file handling	<input checked="" type="radio"/> Date stamped files <input type="radio"/> One file
Select log start-up operation	<input checked="" type="radio"/> Manual start <input type="radio"/> Start automatically
Select timestamp style	<input checked="" type="radio"/> Local <input type="radio"/> GMT
Select temperature units	<input checked="" type="radio"/> Fahrenheit <input type="radio"/> Celsius
Select depth units	<input checked="" type="radio"/> Inches <input type="radio"/> Millimeters
Connect via direct serial or modem?	<input checked="" type="radio"/> Direct connection <input type="radio"/> Modem
Enter serial/modem port	<input type="text" value="COM7"/>
Enter collection interval (seconds)	<input type="text" value="90"/>
Enter alert/notification com port	<input type="text" value="COM3"/>
Select rule reactivation method	<input checked="" type="radio"/> Manual reactivation <input type="radio"/> Automatic reactivation
Enter rule reactivation interval (minutes)	<input type="text" value="120"/>




ZDCP - 2.3.0.2      Zydax ZDCP Internal Use Only - Do Not Distribute



# Rule Manager

← Previous      Next →

## Rule List

Enabled	Rule name	
<input checked="" type="checkbox"/>	Cold And Wet	
<input checked="" type="checkbox"/>	Cold Surface and Wet	
		

## Rule Testing

Enter test data below

Field	Value
STEMP	28
PTEMP	24
TEMP	
ATEMP	
HUM	
DEWPOINT	
WD	W



Note:  
Test data must match the data that are returned from Zydax sensors.  
For example, test data for the 'WD' field, should be either 'C', 'V', 'W', 'M', 'T', or 'D'.

Test results

Rule name	Status
<b>Cold And Wet</b>	<b>Untested</b>
<b>Cold Surface and Wet</b>	<b>Untested</b>



**Zydux Data Collection Program**

Data Collection | ZDCP Settings | Manual Control | Help | About

## Rule Manager

Previous | Next

### Edit Rule

Rule name:

This rule applies to sensor set:

Check readings from:  sensc

Activate notification if:
   
 ANY
   
 ALL
 of the following conditions are true.

STEMP	is less than or equal to	34	Delete condition
WD	is WETTER than or equal to	Trace	Delete condition

Add new condition

### Rule Testing

Enter test data below

Field	Value
STEMP	28
PTEMP	24
TEMP	
ATEMP	
HUM	
DEWPOINT	
WD	W

Note:  
Test data must match the data that are returned from Zydux sensors.  
For example, test data for the 'WD' field, should be either 'C', 'V', 'W', 'M', 'T', or 'D'.

Test results

Rule name	Status
Cold And Wet	Triggered
Cold Surface and Wet	Triggered



# Notification List Manager

**Zydax Data Collection Program**

Data Collection | ZDCP Settings | Manual Control | Help | About

**Notification List Manager** ← Previous Next →

**Configure Notification List**

The checked numbers in the list below will be called when a notification rule is triggered.

Please check all numbers that should be called.

Enabled	Number	Description
<input checked="" type="checkbox"/>	1-555-555-1212	1st Supervisor
<input checked="" type="checkbox"/>	1-555-555-1213	2nd Supervisor
<input type="checkbox"/>	1-555-555-1214	3rd Supervisor
<input type="checkbox"/>	1-555-555-1215	4th Supervisor
<input checked="" type="checkbox"/>	1-555-555-1216	Day Lead
<input type="checkbox"/>	1-555-555-1217	Night Lead

**Test Notification List**

Test Notifications

Test results

ZDCP - 2.3.0.2 | Zydax ZDCP Internal Use Only - Do Not Distribute

# Zydax Software (ZDCP)

**Zydax Data Collection Program**

Data Collection | ZDCP Settings | Manual Control | Help | About

**Stop Logging** | **Collect Data Now**

Next Run: 12:22:08 04/07/2007 | Sensor: NONE  
 Last Run: 12:21:08 04/07/2007 | Command:  
 Last Skipped: 13:53:50 03/29/2007 | Metacommand:  
 Status: READY

Address 1: ZYDAX Active Passive Sur  
 Info: ZYDAPSS-INLOT,2000303A,2000160C,ZY060519FW20  
 Format: TIME,DATE,STEMP,PTEMP,WD,WDRAW,WDRAW,V

Address 2: Dual Temperature Wet Dr  
 Info: ZYDAPSS-INLOT,2000303A,2000160C,ZY060519FW20

**Data Display**

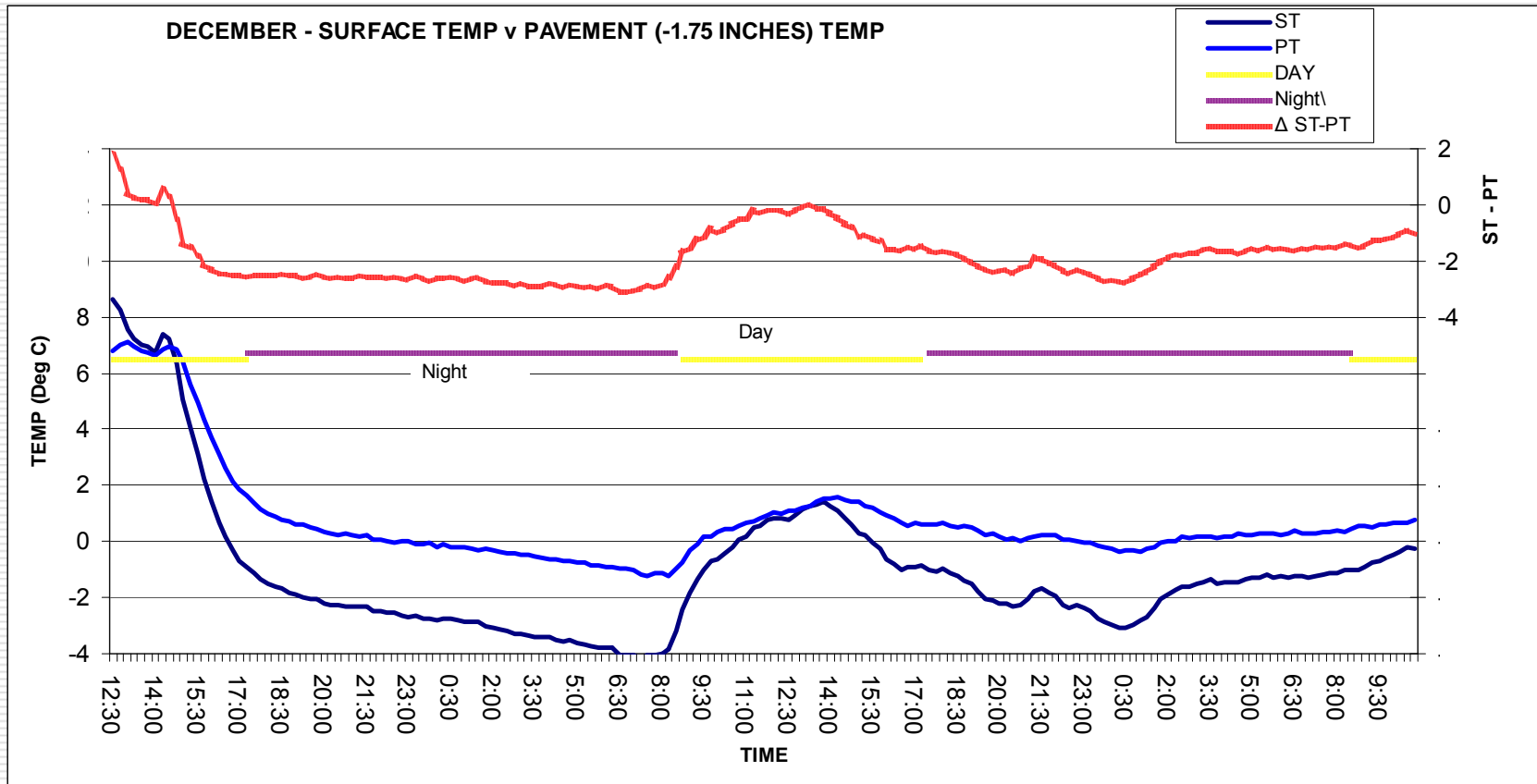
All sensors

ADDRESS	STEMP	PTEMP	TEMP	ATEMP	HUM	DEWPOINT	WD	WDT	ACTIME	ACDATE	FP	DEPTH	SCOND
1	94.10	82.33					D	D	11:13:35	04/07/07	212.16	NA	OUTSIDE ACTIVE RAN
2	96.22	82.33					D	D					
ES1				61.63	56.88	46.18							
ES2			94.71										
3	57.79	57.54					W	W					
ES1													
ES2			56.41										
4	57.65	58.01					W	W					
ES1													

ZDCP - 2.2.0.3 | Zydax Lot



# Surface vs. 1.75" into mat



# Zvdax Data

