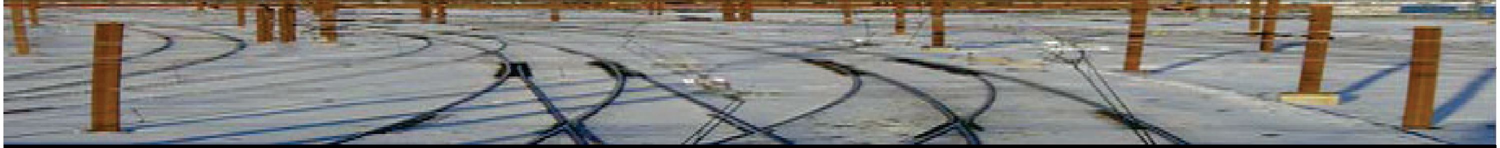

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%8(5$ LVDKHDWLQJFDEOHLQ FRQWUROVROXWLRQ SRZHUHGE\ WKHWKLUGUDLOV\VWHPVROWDJHLVVROXWLRQZLOO UHGXFHWKHFRVWRIUXQ WUDLQLQLEOHPHQWKHDWHDQ HOLPLQDWLRQRZ UHPRYDOODERXWWKH VVWHPZLOO RSHUDWHWKHWKLUGUDLOV\VWHPVIURP WR 9&

1,%(OHPHQW5DLO &RQWURORIKHDWLQJRIIHUVoffers a complete solution for heating the WKLUGUDLOto prevent ice DQGVQRZfrom building up. The system consists of:

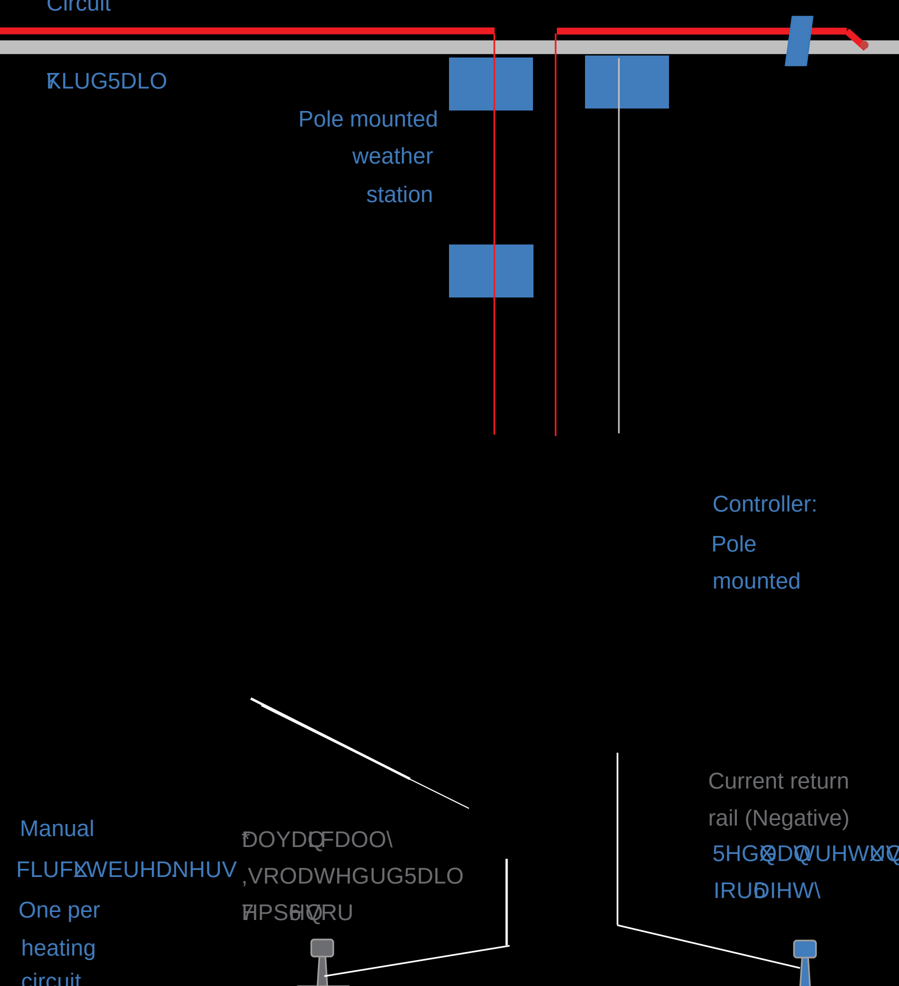
- Heating cable and mounting clips
- 0XOWL 5DLO&RQWUROOHUV
- Weather Station
- DQDYDLODEOHFDOO\LVRODWHGUDLOWHPSHUDWXUHVHQVRU
- ,QWHUQHW&RQWUROOHU6HUYHU RIWZDUH
- (WKHUQHW0RQLWRULQJ &RPPXQLFDWLRQ6\$ software for monitoring the installation. By wire or wireless.

The heating cable is powered from the WKLUGUDLO. To control the power and operate the system, a number of controllers PD\ EH needed.

Each controller is capable of controlling 1 to 4 heating circuits. +eating circuit OHQJWKVXSWR PHWHUlong (IURPWR50VDC)

The controller includes manual FLUFXLWEUHDNHUV to disconnect the heating circuits. ThHUHLVDOVRDFLUFXLW EUHDNHUWKDWGLVFRQQHFWVWKHFRQWUROOHUSRZHU

The controller switches the heating power ON when WKH DXWRPDWHGV\VWHPGUDZVVPDOODWWKHFRQWUROOHURU UHPRWHOWKURXJKWKHRQOLQH&\$VRIWZDUH.



SAN Electro Heat

NIBE ELEMENT RAILWAY SOLUTIONS

OMNI Control Technology, Inc.

XXXQJCFSBJMTPMVUJPOTDPNJGPXXXQJCFSBJMTPMVUJPOTDPN

CONTROLLER FAMILY

BLUE RAIL controllers run autonomously and require no human interaction. The system can be viewed, overridden, or configured through the remote interface or locally at the controller.

Autonomous control of the heat is made available through the use of a weather station, weather forecast and rail temperature sensors. The operation of the system can be viewed, overidden or configured through the cloud based SCADA monitoring software.

Although the system has monitoring/configuration capability through the remote cloud interface the unit operates autonomously and should it loose all communication it will run as a stand alone unit based on the local sensors

CONTROLLER BASICS

Configurable:	
Power (controller):	Power up to 750V DC
Heating circuits:	1, 2 or 4 circuits One circuit breaker per circuit
Operator switch:	OFF - AUTOMATIC – ON
Heating Control by:	Weather Forecast Weather Station Air Thermostat Snow Detection Rail Temp Sensor Manual or remote
Heating circuit alarm:	Contact-less current sensing. one per circuit
Communication:	RS-485 Modbus Ethernet Modbus Wireless GSM 4G/3G WiFi
LED indicator on door:	White: ON/OFF Blue: Summation alarm from outside Input: Demand Heat Output: OK, Heating, Fault Air-Thermostat

BLUE RAIL – SCADA SOFTWARE

User Access: 128 bit secure Web base interface.

BLUE RAIL Remote SCADA is the scalable software package that extends the reliability and efficiency of the third rail heating.

On-line management and control software can bond all controllers on a traffic line or in a territory together.

Valuable information at the fingertip for:

- **Traffic Control Department.**
- **Maintenance Department.**
- **Technical Department.**

Operational status:

- Manual or Auto operation
- Control mode
- Locale weather conditions
- Heating circuits ON or OFF
- Energy counters
- Total heating hours
- Heating circuit power
- Current measurement for each heating circuit

Remote settings:

- Turn individual circuits ON/OFF
- Temperature & Humidity levels for every control mode
- Diagnostic tool

Instant message on errors:

- Communication error
- Main supply failure
- Low/Zero current heating circuit
- Over-current heating circuit
- Temperature sensor failure
- Humidity sensor failure

Errors and operational status is reported immediately to the right person, both at the user interface, in an SMS and/or in an e-mail. Call for repair could be done with no delays.

The SCADA software can be customized in multiple ways e.g. language, graphical presentation and error handling.