NewTek Sensor Solutions
NTC-6000 RS485 Protocol (Preliminary)

RS-485 Digital Interface

The NTC-6000 provides an RS-485 communications port, allowing a host computer to perform remote calibration, receive operational status and retrieve measurement data from up to 16 networked units. Transmitted and received data consists of ASCII characters.

Interface Parameters

Electrical: TIA/EIA RS-485 Standard

Internal termination: No

Port settings:

> 9600 bps
> 8 Data Bits
> 1 Stop Bit
> No Parity

Port Address:

> 0..15 as set by DIP switches

Command Format

Units respond to commands in the format:

> *:aa cmd param (CR)*

where:

':'	is the colon character,
'aa'	is the Unit Address 00..15, as set by the Digital Address DIP switches
'cmd'	is the command
'param'	is the optional command parameter
'(CR)'	is a carriage Return character

A space character is required between the address and command and between the command and parameter. Commands are not case sensitive.

Commands

The commands and their descriptions are as follows:

getConfig Shows the operating state of the unit and displays a list of the significant operating parameters, as shown in the example below:

```
*** NTC-6000 Configuration ***
     H/W Version REV.  --
     F/W Version       1.1
     Serial No.        22749111
     Bus Address       0
     Excitation Freq.  3KHz
     Filter Select     NONE
     Invert            NORM
     Output Range      0-10VDC
     ADC Slope         3.33211
     ADC Offset        440
     INA Gain          1
     ADC Range         3
     Sync State        MASTER
```

getOut Returns nominal analog output value scaled in units that depend on the setting of the Output Range DIP switches.

sADCsl Set the ADC Slope coefficient during hot swap reconfiguration.

sADCos Set the ADC Offset coefficient during hot swap reconfiguration.

cal Enter Calibration Mode

getLEDs Get state of LEDs during calibration.

setFull Set the Full displacement position during calibration.

setZero Set the Zero displacement position during calibration.

setINA Set the Instrumentation Amplifier gain during hot swap reconfiguration.

abortCal Terminate the calibration procedure and go to Operate Mode. The NTC-6000 user parameters which were in place before the start of the calibration.

getError Returns the error status.

help Lists all the available NTC-6000 commands.