### :Config:Units:Weight — Set Weight Units

Sets units of measurement for weight on applicable SmartLink™ instruments.

:Config:Units:Weight <Lb|N|Kg|Oz>

| | |
|---|---|
| <Lb\|N\|Kg\|Oz> | Lb is pounds; N is Newtons; Kg is kilograms; Oz is ounces |

*Query:*

**:Config:Units:Weight?** Responds with configuration for weight units. Format of the response is identical to the format of the command shown above.

### :DataMem:Clear — Clear Data Memory

Clear all stored data.

:DataMem:Clear

### :DataMem? — Retrieve Stored Readings

:DataMem? <All|<chan_list>> <All|<scan_list>> <ASCII|Binary>

| | |
|---|---|
| <All\|<chan_list>> | Transmits all data from memory for the specified channels. |
| <All\|<scan_list>> | Transmits all data from memory for the specified scans. |
| <ASCII\|Binary> | Selects ASCII or binary format for the transmitted data. |

*Queries:*

**:DataMem:Chans?** Shows the channels that are being stored in memory.

**:DataMem:Format?** Shows the format of the data in Memory. The :Config:DataMem:Format command formats how future data will be stored in memory. The DataMem:Format? query returns the format of the data currently in memory.

*See also:* :Config:DataMem:Format

**:DataMem:Last?** Returns the last scanned line of data.

**:DataMem:Memsize?** Returns the number of total measurements that can be stored in memory using the current format.

**:DataMem:Next?** Returns the next scanned line of date, if the scanning function is on.

**:DataMem:Time:Start?** Returns the time when the scanning sequence started. Format is hh:mm:ss.sss.

**:DataMem:Time:End?** Returns the time when the scanning sequence ended. Format is hh:mm:ss.sss.

**:DataMem:Time:Trig?** Returns the time when the triggering occurred. Format is hh:mm:ss.sss.

**:DataMem:Trig?** Call for information/availability on upgrading for this new capability.

**:DataMem:Scans?** Responds with an indication of how many scans are stored. If this value is zero, then data memory has been cleared.

*See also:* :DataMem:Clear

### :Date — Set the Current Date

:Date <mm/dd/yyyy>

*Query:*

**:Date?** Responds with current set date. Format of the response is identical to the command shown above.

### :Filter:Dig — Control Action of Digital Filter

Turns digital filtering on or off . Default is off.

:Filter:Dig <chan_list> <On|Off>

***Query:***

**:Filter:Dig? <chan_list>** Responds with the status of the digital filter for each channel. Format of the response is identical to the format of the command shown above.

***See also:*** :Config:Filter:Dig:MvgAvg

### *IDN? — Identification Query

Returns the instrument identification code. The identification code consists of the instrument model number, serial number and firmware revision.

***Response:***

Network Meas. Model TMC-DCV32-RS232-C Ser#0 FW<current rev>

### :Limits — Set Limits Checking On or Off

:Limits <<chan_list>|All> <On|Off>

| | |
|---|---|
| <chan_list>\|All> | Specify which channels are to be effected. |
| <On\|Off> | Select On or Off. |

***Queries:***

**:Limits? <chan_list>** Responds with the status of the limits checking for each channel. Format of the response is identical to the format of the command shown above.

**:Limits:Status? <chan_list>** Responds with limits status for the indicated channel(s). The value returned represents data from the most recent scan. Format of the response is OverLim1 OverLim2 UnderLim1 UnderLim2 or InLimit.

**:Limits:Digio? <digout_chan#>** Call for information/availability on upgrading for this new capability.

***Examples:***

```
:Limits 1 On       turn chan 1 limits on
:Limits All off    turn all channel's limits off
```

**:Meas?** **Measure**

Causes unit to initiate readings on the channels specified.

:Meas? <chan_list> <<#_of_rdgs>|Off>

| | |
|---|---|
| <chan_list> | Any valid channel for the specific instrument. For valid channels, see the SmartLink™ connection diagram in this manual. Specify in form of a comma separated list, or hyphenated range, or a combination. Even if a SE (single ended) or DIFF (differential) channel is part of a 4W (4 wire) channel, it can still be measured independently.<br><br>Measuring invalid channels returns a 9.9e-37 measurement and an error. |
| <#_of_rdgs\|Off> | The parameter can have the value of Off, or a specific number of readings to be taken from each channel in the <chan_list>. Default is #_of_rdgs = 1. |
| Response format: | Fields transmitted or stored are specified by the **Config:Data:Fields** command. Which data is transmitted is specified by the **Config:Data** command. Each field is separated by a comma, while each line is separated by a CR, LF (carriage return, line feed) |

***Queries:***

**:Meas:Chan?** Responds with the number of the last channel from which a measurement was taken. If no measurements are under way, it responds with channel number zero. Call for information/availability on upgrading for this new capability.

***See also:*** Config CHANS and :Config:Meas.

## :Output — Sets Output Level

Set Digital or Analog outputs.

:Output <chan_list> <value> <step_delay>

| | |
|---|---|
| <chan_list> | Any valid channel for the specific instrument. For valid channels, see the SmartLink™ connection diagram in this manual. Specify in form of a comma separated list, or hyphenated range, or a combination. |
| <value> | A set of values to be associated identically with each channel in <chan_list>. Note that a single channel can be configured to control several bits, using the #_of_bits parameter in :Config CHANS. Values are expressed in binary, decimal, octal or hexadecimal form. The command associates the lowest bit with the first channel, the next lowest with the second channel and so on. If only one bit is specified, it is the lowest level bit. |
| <step_delay> | This field is not currently supported. Sequential bits or sets of bits can be presented on the digital outputs, each separated by a delay. The unit first sets the channel(s) to the first value, then waits for <step_delay> milliseconds, then sets the output to the next value in the list.<br><br>To send a 50ms pulse on channel 17 and a 150 ms pulse on channel 18, the following command would be used: Output:Digout 17 0,2,1,1,0 2 50. |

Call for information/availability on upgrading for this new capability.

***Query:***

**:Output? <chan_list>** Responds with values and delays associated for the specified channel(s). Format of the response is identical to the format of the command shown above.

### *RCL — Return to Setup Stored in Memory

Use this command to return to the configuration stored in memory. The *SAV command is used to store the setup configuration in memory. Only one setup configuration can be saved and recalled. The SmartLink™ ships from the factory with factory defaults loaded into the available setup memory.

### *RST — Reset

Performs a warm boot of the SmartLink. The saved User Configurations are not changed. Also, calibration data is retained.

***See also:*** * SAV, :system:POSetup

### *SAV — Save Present Setup in Memory

Saves all configuration information in non-volatile memory for later recall or for power-on settings. Only one setup configuration can be saved and recalled.

***See also:*** *RST, :System:POSetup

### :Scaling — Turn Scaling On or Off

:Scaling <chan_list> <On|Off>

| | |
|---|---|
| <chan_list> | Any valid channel for the specific instrument. For valid channels, see the specification section for your SmartLink™. Specify in form of a comma separated list, or hyphenated range, or a combination. |
| <On\|Off> | Select On or Off. |

***Query:***

**:Scaling? <chan_list>** Responds with the status of scaling for each channel. Format of the response is identical to the format of the command shown above.

## :Scan? Enable/Disable Scanning

Control automatic scanning on one or multiple channels.

:Scan <<#_of_scans>|Off>

| | |
|---|---|
| <Off\|<#_of_scans>> | Off disables scanning. <#_of_scans> causes only that number of complete scans. |

*Queries:*

**:Scan?** Return Scan Status. If a scan is in progress, a "1" is returned at the end of the scan. (A response delay may occur if Scan? is sent early in a scan.) This feature allows synchronization for other commands that would not be recognized if received during a scan. For example, Scan?; *TRG could be used to trigger a new scan after completion of the current scan. Otherwise, a *TRG command sent while a scan is in progress would be discarded. If a scan is not in progress, a "0" is returned immediately. Call for information/availability on upgrading for this new capability.

**:Scan:Time:Start?** Returns values indicating the time and date at start of last scan. Uses a similar format as the Time? Query or the Date? Query. The data is returned in the following order: Hours (0-23), Minutes (0-59), Seconds (0-59), Month (1-12), Date (1-31), Year (1900-2100). Setting of time does not include seconds, but retrieval of time does.

**:Scan:Time:End?** Returns values indicating the time and date at end of last scan. Format is the same as in **:Scan:Time:Start?**

**:Scan:Time:Trig?** Call for information/availability on upgrading for this new capability.

## :Scan:Status? Query Scan Status

Returns On if a scan is currently in progress, Off if no scan is in progress.

***See also:*** See also :Scan?

### :Stats — Sets Stats Collection On or Off

Turns stats collection on or off for a channel.

:Stats <chan_list> <On|Off>

| | |
|---|---|
| <chan_list> | Any valid channel for the specific instrument. |
| <On\|Off> | On is the default. |

### :Stats:Clear — Clear Statistics

Clear each channel's statistics values.

:Stats:Clear <<chan_list>|All>

| | |
|---|---|
| <chan_list>\|All> | Specify channels from which to clear statistics. |

### :Stats:Max? — Channel's Maximum Value

Returns maximum value(s) for channels measured since the last :Stats:Clear command, or power on. The response is a signed number with decimal point and exponent.

:Stats:Max? <chan_list>

### :Stats:Min? — Channel's Minimum Value

Returns minimum value(s) for channels measured since the last :Stats:Clear, or power on. The response is a signed number with decimal point and exponent.

:Stats:Min? <chan_list>

## :System:Cal — Calibration Command

This command performs internal calibration on the analog electronics.

:System:Cal <chan#> VDC <range> <cal_point> <Diff>

:System:Cal:<chan#>Ohms <range> <4W|SE|4WOC> <cal_point>

| | |
|---|---|
| <chan#> | Specify the channel number being calibrated (one at a time). |
| <range> | Specify the range being calibrated. |
| <Diff> | For calibrating DC volts, a differential measurement must be specified. |
| <cal_point> | Specify the value that the calibration source is outputting. |
| <4W\|SE\|4WOC> | Identifies the number of wires and measurement connections for a channel. SE is Single Ended, which is a common ground configuration. 4W is a 4-wire measurement, which increases accuracy. Note that if a common mode voltage exists, and is connected to SE channels, the unit may be damaged or destroyed. See specifications for acceptable limits for each SmartLink™.4WOC is 4-wire mode with offset compensation enabled. Offset compensation is an additional measurement of the combined voltage.<br><br>offset which exists in a resistance measurement path when no excitation is supplied. By using this zero-excitation measurement as a correction factor, errors due to thermal voltages created at contact points can be eliminated. |

***Query:***

**:System:Cal:?** Responds with all of the calibration values of the SmartLink™.

***See also:*** System Calibration section of this manual.

### :System:Cal:Comment — Set System Calibration Comments

Allows the user to set a string up to 22 characters containing calibration information, i.e. ambient temperature, technician name, etc.

:System:Cal:Comment <"string">

| | |
|---|---|
| <"string"> | Specify pertinent calibration information for the "string". |

***Query:***

**:System:Cal:Comment?** Responds with the data entered as the calibration information. Format of the response is identical to the format of the command shown above.

### :System:Cal:Date — Set System Calibration Date

This is used to enter the date at which calibration is performed.

:System:Cal:Date <"string">

| | |
|---|---|
| <"string"> | Specify the date of calibration for the "string". |

***Query:***

**:System:Cal:Date?** Responds with the date entered as the calibration date. Format of the response is identical to the format of the command shown above.

### :System:Cal:Mode — Enable System Calibration

:System:Cal:Mode <<On<password>>|Off>

| | |
|---|---|
| <<On<password>>Off> | SelectingOn and entering the password puts the SmartLink™ into calibrating mode. Call Customer Support for your calibration password. |

***Query:***

**:System:Cal:Mode?** Responds with On or Off status of the cal mode. Format of the response is identical to the format of the command shown above.

### :System:Cal:Save — Save System Calibration Settings

Allows new calibration settings to be saved.

:System:Cal:Save

### :System:Model#? — Shows Model Number of SmartLink™

*Query:*

**:System:Model#?** Responds with the three letter, two number suffix of the model number of the SmartLink™.

### :System:NodeID — Set Node I.D. of SmartLink™

Allows each SmartLink™ to have a user set name or identification code.

:System:NodeID <"id">

| | |
|---|---|
| <"id"> | Up to 12 characters can be used. |

*Query:*

**:System:NodeID?** Returns the identification label of the SmartLink™. Format of the response is identical to the format of the command shown above.

### :System:POSetup — Set Power-on Defaults

This command is used to select the power-on defaults.

:System:POSetup <Factory|Saved>

| | |
|---|---|
| <Factory\|Saved> | With Factory selected, the instrument powers up to the factory default conditions. With Saved selected, the instrument powers up to the *SAV default conditions. Factory is default. |

*Query*

**:System:POSetup?** Query power-on setup. Format of the response is identical to the format of the command shown above.

*See also:* *SAV, *RCL

### :Time — Set Instrument Clock

:Time <hh:mm:ss.sss>

| | |
|---|---|
| <hh:mm:ss.sss> | hh is hours in 24 hour format; mm is minutes; ss.sss is seconds (to milliseconds). 2ms resolution. |

***Query:***

**:Time?** Responds with current time in the instrument clock. Format of the response is identical to the format of the command shown above.

### :Time:SyncGlobal — Synchronize Clocks of Multiple Instruments

This command causes all SmartLink™ instruments to instantly load the time set by :Time:SyncTime command into their clocks. Call for information/availability on upgrading for this new capability.

:Time:SyncGlobal

### :Time:SyncTime — Set Synchronization Time

Sets a synchronization time which will be loaded into the clock when a :Time:SyncGlobal command is received. Allows multiple instruments on a network to be synchronized. Call for information/availability on upgrading for this new capability.

:Time:SyncTime <hh:mm:ss.sss>

| | |
|---|---|
| <hh:mm:ss.sss> | hh is hours in 24 hour format; mm is minutes; ss.sss is seconds (to milliseconds). |

***Query:***

**:Time:SyncTime?** Responds with the synchronization time which was last set. Format of the response is identical to the format of the command shown above. Call for information/availability on upgrading for this new capability.