Addendum to MSEZ User's Manual

Description

This CMR consists of two parts:

1. Custom firmware to define a Timed Read in conjunction with Averaging multiple readings within a MSEZ setup.
2. A command set listing that allows communication directly with MSEZ to get measurement L, a, b data for import into a LIMS or similar data collection system.

Installation

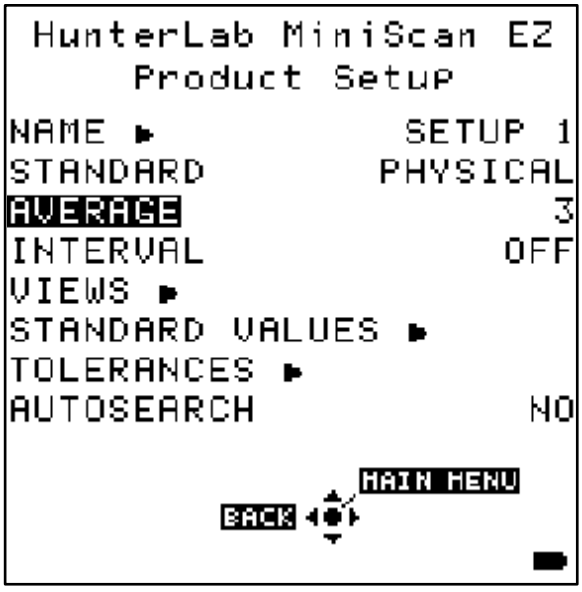
The special firmware will be installed at the factory as firmware burned into ROM memory on the sensor, or upgraded in the field by running a firmware update on CD.

The command set is provided in this addendum.

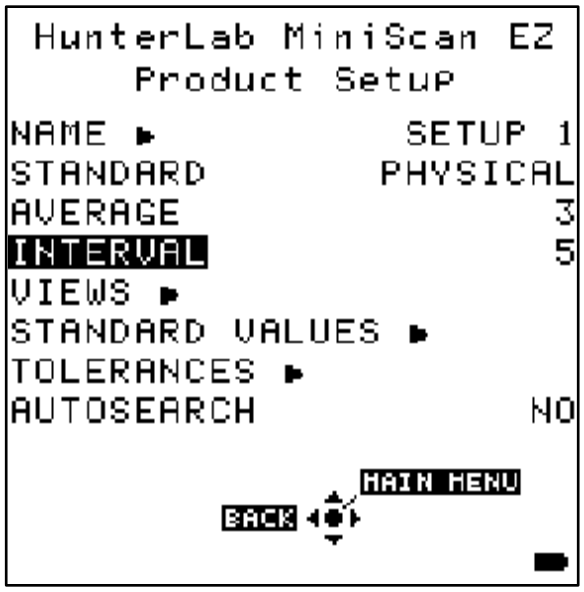
Operation

Enter any Product Setup where there will now be an additional choice in the Data View configuration screen.

The User can set the number of readings to "AVERAGE" with settings of OFF (default) or up to 20 readings.

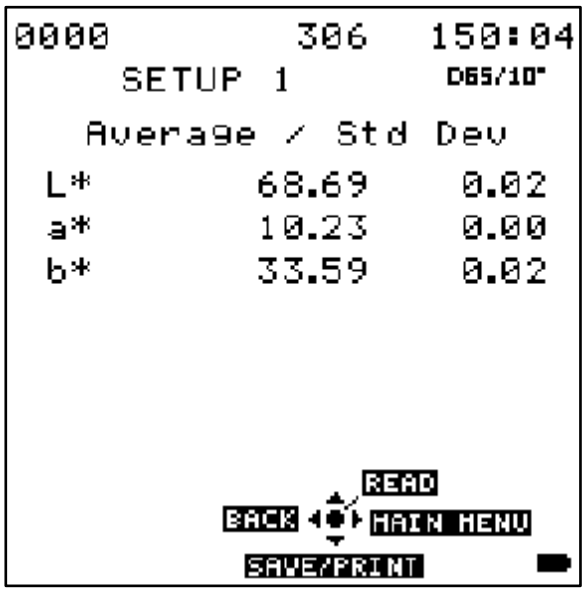


In addition, there is now a setting for “INTERVAL” where the User can set the time between readings with settings of OFF (default) or a time in seconds from 2 to 60 seconds. The interval for the timed read would only apply if the number of readings to average is greater than 1.



When the User makes a measurement using that set up, the multiple readings are taken at the defined timed interval.

After taking the n of N readings, the Average and Std Dev are displayed. Press GO to start the next series of readings to average.



The second part of this CMR is the ability to communicate directly with sensor using the following command set and get L, a, b data to bring into a LIMS or similar data collection system.

The following is a listing of LIMs commands to be used in to take a measurement and return tristimulus data.

COLORIMETRIC DATA

Takes a measurement and returns tristimulus data

Command Set

HOST

'C'	ILLUM/OBS	COLOR SCALE	COLOR INDEX
[1]	[2]	[2]	[2]

M3AP

'C'	STATUS	SCALE DATA	INDEX DATA
[1]	[4]	[24]	[8]

ILLUM/OBS: illuminant/observer used in color calculations

- '0' --> A/2°
- '1' --> C/2°
- '2' --> D50/2°
- '3' --> D55/2°
- '4' --> D65/2°
- '5' --> D75/2°
- '6' --> F2/2°
- '7' --> F7/2°
- '8' --> F11/2°
- '9' --> A/10°
- '10' --> C/10°
- '11' --> D50/10°
- '12' --> D55/10°
- '13' --> D65/10°
- '14' --> D75/10°
- '15' --> F2/10°

- '16' --> F7/10°
- '17' --> F11/10°

COLOR SCALE: selected scale for tristimulus data

- '0' --> none
- '1' --> CIE Lab
- '2' --> CIE LCh
- '3' --> Hunter Lab
- '4' --> XYZ
- '5' --> Yxy

COLOR INDEX: selected color index

- '0' --> none
- '1' --> Y
- '2' --> YI D1925
- '3' --> YI E313
- '4' --> WI E313
- '5' --> Tint
- '6' --> Z%
- '7' --> BT457

STATUS: word of bitwise error flags

- '4000' – dark scan fail
- '2000' – signal scan fail
- '1000' – monitor signal low
- '0800' – bottom-of-scale signal high
- '0400' – top-of-scale signal low
- '0200' – lamp power supply timeout
- '0080' – bottom-of-scale not read
- '0040' – top-of-scale not read

SCALE DATA: floating-point numbers holding the tristimulus values in the selected color scale

INDEX DATA: floating-point number holding the value of the selected color index