



EMS520 SSM MANUAL

VOLUME 6

Rev 2.3 SSM Operation Manual



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Smart Service Module



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RCU BUTTONS



The arrows move left, right, up, down. They are used to move display arrows or move to other pages.



The ESC button is used to move back from the page you are on to the previous page.



The enter or return button is used when entering variable. Press it and the variable will change from steady to blinking, enter the new value and follow screen tip at the bottom to complete the operation.



The info button is used for setting the PLC time, date, back up, SD card functions, etc. This is not used during normal operation. When required the use of the functions will be explained in this manual.



The key pad is used to enter values.



The +/- is used when (-) sign for values are required.

SECTION 1 SSM DISPLAY DESCRIPTION

The Smart Service module (SSM) is designed to give local information while at the transceiver. Information connects from the transceiver via RS485 port 1, and to the RCU via RS485 port 2. The SSM is used during:

- Normal maintenance
- Service
- Audits

SCREEN SIDE PANEL

Each screen has a side panel:

- Modbus OK or Not OK – This indicates if Port 2 dedicated connection to the RCU is good or has failed. NOTE: Fault page monitors both Port 1&2.
- Fault (F2) – Display of fault conditions.
- F1 Cal Span Initiate – when initiated displays zero or span mode activated.

NORMAL MODE OF OPERATION

The display has 4 normal choices of values displayed:

- % Opacity
- mg/m3 (**Only displayed for dust**).
- mg/m3 and O.D. (optical density). (**Only displayed for dust**).
- % Opacity, mg/m3 and O.D. (**Only displayed for dust**).



SSM ADDITIONAL OPERATION

Transceiver Un- Correlated Output:

- Transceiver mA
- Transmittance
- % Opacity

Stack Exit Correlation Output from the RCU:

- Instant % Opacity
- Average % Opacity
- Mg (Dust) (**Only displayed for dust**).



F1 Pressing F1 initiates the zero and span cycle. The cycle will be in Zero for 3 minutes then Span for 3 minutes and return to normal operation automatically.


A Manual operation is provided to force cycle by pushing the F1 button additional times. Note: during the SSM zero/span F1 mode a maintenance fault will be generated when F1 calibration check is completed.

F2 Pressing F2 will bring up the Fault information page.

**F1 to
Initiate
Cal Seq**



SECTION 2 ABOUT PAGES

When power is first applied press ESC to display the screen for the operator to select the function of interest by pushing the Up or the Down Arrow to select the function desired, press the return/enter button .



By pushing UP or the DOWN arrow selects the EMS_SSM Display, About or Setup pages.









For the About page scroll down to About and press the Down arrow button to enter the 1st page of the about page. This will display the SSM and the RCU SDW # used for factory controller project numbers, and transceiver micro Version number.



Down arrow to About page 2 displays, SSM S/N, Flange – Flange, Stack exit I.D., Path length I.D. and OPLR (Optical Path Length Ratio).



ROUTINE CLEAR PATH CALIBRATION

<ul style="list-style-type: none"> • clear condition across the monitor path length is needed before adjustments can be made. • Navigate to the setup screen, when asked for password enter 5566 	
<ul style="list-style-type: none"> • Scroll down to “clear value, span value page” and press  to input clear value percentage. • Once desired clear stack value is entered, press  to store value. 	
<ul style="list-style-type: none"> • Clear stack procedure is now complete • press  to return to main display screen • Note: it is common to have to adjust cal zero iris after clear stack procedure is performed. Refer to zero reflector adjustment procedure. EMS Vol. 4 section 6 	

Environmental Monitor Service, Inc. is available to assist you, call our service department at (203) 935-0102 or Email: techsupport@emsct.com for details and to schedule start up