

Advanced-PS™ Data Hiway System 8-Loop Standby Manual (LSM08)

1. Description

The 8-Loop Standby Manual (LSM08) may be used with CBs, ECs, MCs*. The purpose is to provide manual control of 8 output loops. The LSM08 connects to the controllers with a standard multi-conductor cable to the terminal or junction panel of the controller.

The LSM08 displays the controller output loop current and the loop current generated by the LSM08.

It also displays the process variables associated with each loop.

* Additional MC I/Os connected via point card files and modules are not supported by the LSM08.

2. Benefits

The LSM08 may be used when an output card or the entire controller is being replaced. By providing control of the outputs during maintenance, ongoing process operations can be maintained.

3. Features

The LSM08 is a state-of-the-art replacement for up to two of the original 4-Loop Standby Manual stations (LSM04). The LSM08 adds several new features and enhancements:

- Eight outputs controlled by one device
- Auto balancing of outputs
- Output accuracy: 0.35% F.S.
- Complete view of output values during any operation
- LED status display: Enable / LSM08 in Control / Loop Fault
- Uses standard Data Hiway I/O cables
- USB connection to a laptop or tablet
- Remote link available for operator view (via PC connection)

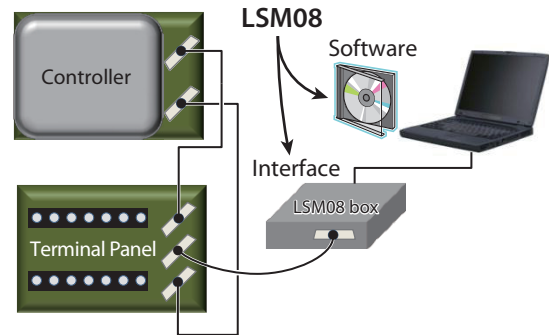
4. Theory of Operation

The LSM08 interface hardware connects to the controller terminal panels in a way that is similar to the original LSM04, and uses the same I/O interface cables. A laptop or tablet PC* can be connected to the LSM08 hardware interface via USB connection.

The LSM08 like the previous LSM04 provides temporary hard manual control of controller outputs. When connected to the terminal panels it can replace the normal output values by grounding them and then imposing its own manually adjustable 4–20 mA signals on the outputs. Hard manual control and all pertinent output values are indicated on the laptop or tablet computer.

This information is displayed via an 8-loop group display. The individual loops or all 8 loops at once may be switched between the controller output and the LSM08 output at any time.

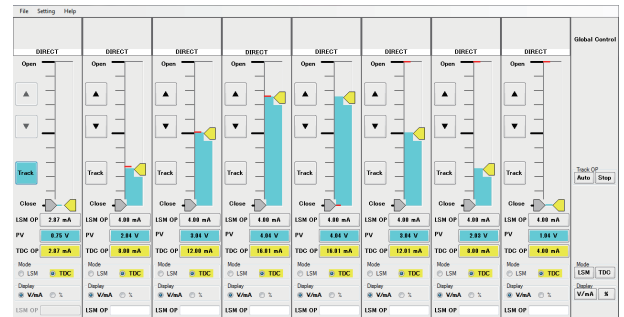
* The PC must be running Windows XP SP3 (32-bit only), Windows 7 SP1 or Windows 8.1. The PC must have a screen resolution of 1280 x 720 or better.



5. User Interface Software

The LSM08 client software monitors and controls the LSM08 interface hardware that maintains the controller output values.

The human interface of the LSM08 client is similar to the standard Group Display for ease of use by operators as well as engineers or maintenance technicians.

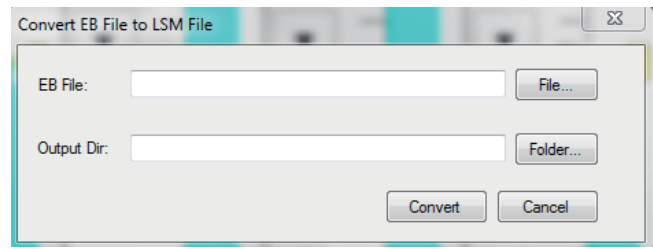


There are 8 faceplates and a menu bar on the LSM08 client display. One faceplate is assigned to each of the 8 primary slots in a single controller.

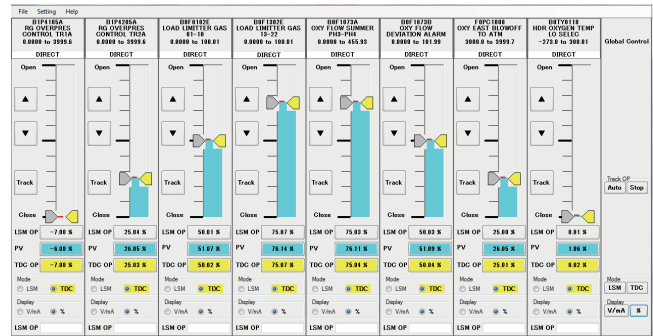
Description
"(Disabled)": indicates the locked position of the Norm/Lock switch.
"DIRECT":The valve direction shown is DIRECT. This field will indicate REVERSE for reverse valve operation.
LSM OP: the initial LSM08 OP current value in milliamps
PV: the initial PV value in volts
TDC OP: the initial TDC controller OP current in milliamps
Mode: TDC (controller analog output supplies current) or LSM (LSM08 supplies current)
Display: V/mA or %
LSM OP data entry box allows desired output values to be manually entered.
Arrows on the left side of the bar chart are buttons for raising/lowering the output.
Bar chart shows output value. Pointers on the bar chart indicate the standby value and the controller value.
Track: The LSM08 continuously tracks the controller output prior to manual operation.



system-level EB files. The EB files provide slot numbers, tag names, engineering units and controller direct/reverse action information.



If the LSM08 has been user-configured, or if the information has been loaded via EB file transfer, the loop display will include the information when the controller is selected from the database.



6. Software Configuration

The LSM08 may be connected to the controller terminal panel and used without any loop configuration information. However, there are three modes of LSM08 configuration and usage: Blank Mode, User-Configured, and EB File Transfer.

Blank Mode

When the LSM08 is connected to a controller terminal panel without any information on the controller characteristics, no information is displayed on the loop faceplate. Therefore the loop faceplate where this information normally appears is blank.

It is important in this operating mode that the user is knowledgeable as to whether, for example, the correct controller is selected, and that the user understands the output operation (reverse versus direct, etc.) for each loop.

User-Configured

Prior to the first use of the LSM08 or after its use in blank mode, control information such as controller description, slot number, tag name and output indication (reverse versus direct acting) may be entered into the LSM08 database.

A point configuration screen is provided as part of the client software package that makes this data entry process straightforward.

SLOTNUM	TAGNAME	PTDESC	OUTIND	PVEUHI	PVEULO	EUDESC
1			REVERSE			
2						
3						
4						
5						
6						
7						
8						

Once the LSM08 is configured it becomes much easier for the user to understand and visualize all the operating characteristics of the loops being controlled.

EB File Transfer

To facilitate ease of configuration and use, the LSM08 accepts

After the EB file has been converted one or more LSM08 files will be generated. There will be an LSM08 file created for each Hiway box that was in the original EB file.

When a controller file is selected and opened, there will be a confirmation dialog box showing the name of the selected controller file and the date that it was last accessed.



Users can now easily select and confidently use the LSM08's Auto balance/Tracking functions, the Mode function (controller output or LSM08 output) and items such the display selection to show the actual voltage or the percent of scale of the output values.

7. Ordering Information

The LSM08 consists of three components:

- LSM08 box with an externally connected universal power supply (PWS) to supply the required 24 V DC
- 50 cm USB cable with mini B connector for interfacing to the LSM08 box
- Client software on a CD

Table 1. LSM08 Package (Model No.J-LSM08-0)

Item	Qty	Reference No.
LSM08 box	1	J-LSM08
50 cm USB Cable-mini B	1	J80603956001
LSM08 Install Media (CD)	1	J80604108001

8. User-Supplied Items

To complete the installation and usage of the LSM08 the user must supply:

Table 2. User-Supplied Items

Main Item	Item	Specifications
Laptop or Tablet Computer	OS	Windows XP SP3 (32-bit only) Windows 7 SP1 Windows 8.1
	Interface	USB 1.1 or later
50 conductor I/O cable	A standard 50 conductor I/O cable of sufficient length to reach from the J connector on the terminal panel to the hardware interface.	
24 V DC power supply	Power is typically supplied through 50 conductor I/O cable, but there is a dedicated power connector on LSM08 that allow user to provide power into LSM08. If this option is chosen, isolated 24 V DC power supply needs to be provided by the user.	

9. Environmental Conditions

The LSM08 is designed for indoor use in areas such as a control room or I/O marshalling panel. The LSM08 is not certified for use in hazardous location.

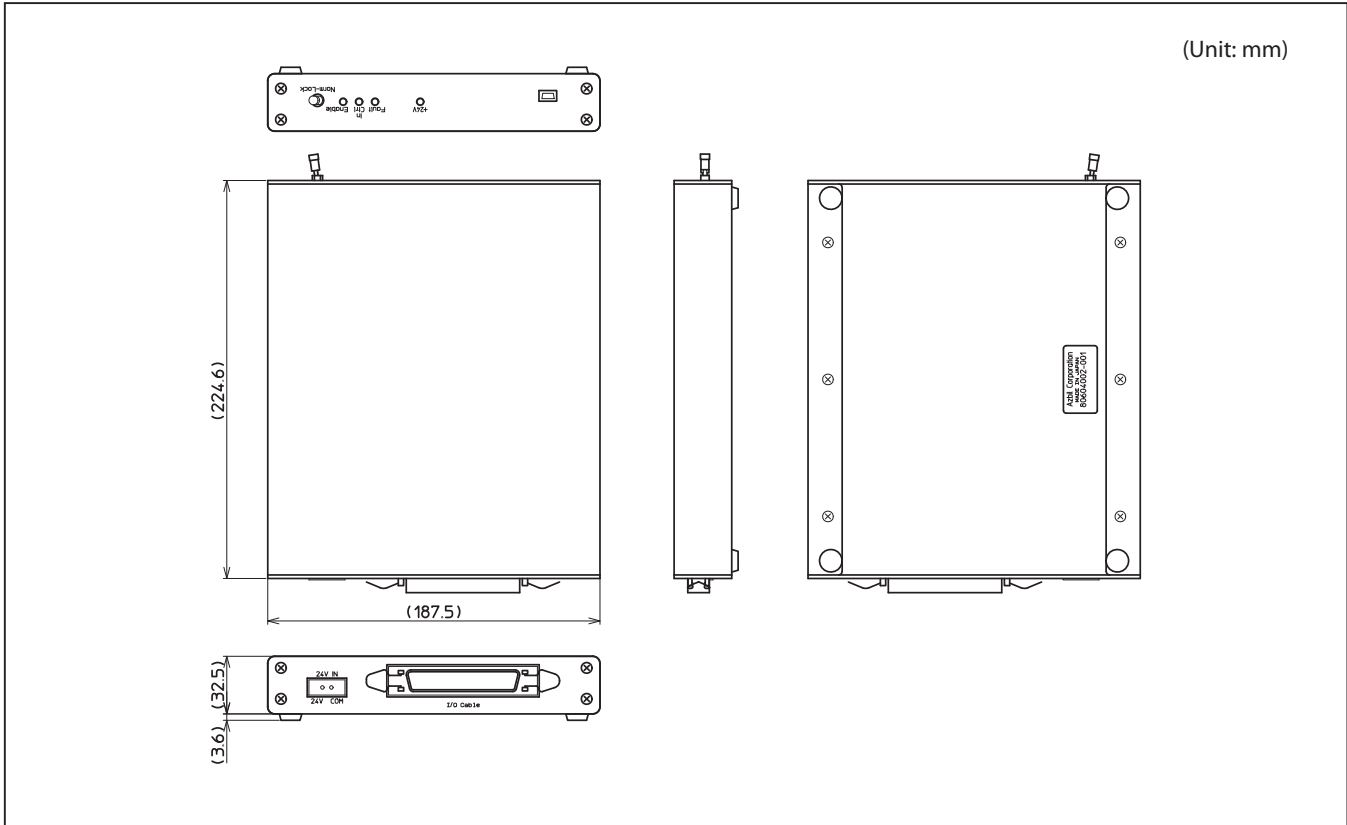
Table 3. Environmental Conditions

Item		Specifications			
		Reference Condition	Operating Condition	Operating Limit	Transportation & Storage Condition
Ambient Temperature	Range (deg c)	25±2	0 to +40	0 to +50	-40 to +70
	Change Rate (deg c/min)	0	0.25	1	5
Relative Humidity	(%RH)	45±5	10 to 90 %	5 to 90 %	5 to 95 %
Vibration	Frequency (Hz)	0	0 to 60	0 to 60	0 to 60
	Acceleration (G)	0	0.1	0.2	0.5
	Amplitude (mmp-p)	0	0.75	0.75	-
Impact	Acceleration (G)	0	1	5	25
	Impact time (msec)	0	30	30	30
Corrosive Environment	Conformal Coated				
EMI	EN55011 compliant				
RFI	EN61000 compliant				

10. Certifications

The LSM08 hardware interface is certified to meet the requirements for the CE Mark.

11. Dimensions



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- Other product names, model nos., and company names may be trademarks of the respective company.

Specifications are subject to change without notice.

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