



COMPUTER OUTPUT DEVICE
Back-up or Demultiplexing

DIGITAL STORAGE
Infinite Hold Time—No Decay

The Moore Industries Model SHM Sample and Hold Module functions as a single channel digital memory that maintains an output voltage or current signal for an unlimited period of time.

Four modes of operation are available: the standard sample mode where the signal appearing at the input is sampled and held as an output until a new sample command is received; the track mode (-TR option), where the output follows the input as long as the track command is present, then holds the level present when the command is removed; the peak picker mode (-PP option), where the SHM responds only to an increasing signal, which it holds until the command forces it to resample the input, regardless of input level; the valley picker mode (-VP option), where the output holds at the minimum input since the last reset command.

ANALYZER INTERFACE
With Peak Picking Option

OPTIONAL TRACK MODE
Telemetry Applications

An SHM can be used as a back-up device. During a computer failure, the SHM holds the last good output value.

The SHM may be used in a demultiplexing mode (several computer output values are sequentially output over a single analog output channel to several SHMs with each one being given a command when its particular output value is present).

The peak picker is used as an output device for various types of analyzers, where the peak amplitude represents the quantity of a particular ingredient. Several SHMs can be programmed to perform the peak picking and holding function when an analyzer is used in a multi-stream application.

The SHM is available in standard, plug-in, or explosion-proof housings.

SHM—Sample-Hold Module

INPUT (PROCESS):

Current:

- 1-5mA into 200 ohms nominal
- 4-20mA into 50 ohms nominal
- 10-50mA into 20 ohms nominal

Voltage:

- 0-5V, 1-5V into 1 megohm minimum
- Other voltages optional

INPUT (UPDATE COMMAND)

5V @ 1mA or optional dry contact closure (-CCU option)

Sample Mode: Output updates to value of input when command is applied (30 millisecc. min.) and holds until next sample command is given.

Track Mode: Output tracks input while command is present and holds the value at the instant the command is removed. Tracking resumes within 30 milliseconds of when command is restored.

FRONT PANEL ADJUSTMENTS: Adjustable with 22-turn potentiometers.

Span: With full scale input, adjusts output to 100% $\pm 20\%$ of selected output span.

Zero: With minimum input, adjusts output to 0% $\pm 10\%$ of selected output span.

OUTPUT: Output limited to 150% of full scale output.

Current:

- 1-5mA into 0-4800 ohm load
- 4-20mA into 0-1200 ohm load
- 10-50mA into 0-480 ohm load

Voltage: 1-5Vdc Standard into 20K ohms minimum. For lower impedance use -HI option. Other zero based voltages optional.

Ripple: 10mV P/P at maximum span and maximum load resistance.

Load Effect: $\pm 0.01\%$ of span from 0 to max. load resistance (current output).

Output Modes:

Sample & Hold (Standard): The output equals process input 0.1 sec. after initiation of sample command. (See Command inputs above.)

Track and Hold (-TR Option): Output signal follows input signal continually during track command. Removing command causes output to remain at input level at the time the command was removed.

PERFORMANCE:

Ambient Temperature:

Range: -18°C to $+66^{\circ}\text{C}$ (0°F to $+150^{\circ}\text{F}$)

Effect: $\pm 0.1\%/^{\circ}\text{F}$ over above range.

Calibration Capability: $\pm 0.1\%$ of span.

Isolation: Voltage output units have input negative side common to output negative side. Current output models have output negative side elevated above input negative side. Power input isolation on all units.

POWER INPUT:

24Vdc, 45Vdc, $\pm 10\%$

117Vac, 220Vac, 240Vac, $\pm 10\%$, 50/60Hz

5 watts nominal

Line Voltage Effect: ac or dc: $\pm 0.005\%/1\%$ line change.

OPTIONS:

- CCU** Contact closure update command input (sample or track modes)
- PP** Peak picker (Output follows input so long as input increases and output holds maximum value until commanded to resample.)
- HI** Provides up to 20mA output current for 1-5 volt output only.
- TR** Track and hold mode.
- VP** Valley picker (output holds at minimum input since last reset)

HOUSINGS:

- STD** Standard enclosure
- AB** Angle bracket mounting
- CP** Conduit plate for use with standard units
- D2** Conduit plate-includes special aluminum safety cover
- EX** Explosion-proof enclosure. Single Unit Div. 1
- GP** General purpose enclosure. Single Unit NEMA 1
- OT** Oil-tight enclosure, Single Unit NEMA 12
- PC** Plug-in card
- PM** Panel mount enclosure
- WT** Water-tight enclosure, Single Unit NEMA 4

CERTIFICATION: CSA listing for ordinary locations and explosion-proof when EX enclosure is included.

WEIGHT: Approximately 2 lbs. (908 grams)

ORDERING INFORMATION:

Specify the following:

1. Type of unit
2. Process input - range of voltage or current
3. Output - span of voltage or current
4. Power input
5. Options
6. Command input, sample, track, optional contact closure
7. Housing

SAMPLE MODEL NUMBER:

SHM/4-20MA/1-5V/24DC/-TR [STD]

