

SystempaK (Digital/Single Case) Monitor Switch Module Model J-SSP 90

Introduction

The Monitor Switch Module, a signal conversion module contained in a single case, provides a PV monitor function that provides two points of alarm outputs responding to a single input. The J-SSP90 issues an alarm contact output when an input signal exceeds the internal pre-set value by comparing the input with the pre-set value.

The Monitor Switch Module provides the square root extraction function for the input processing of a differential pressure flowmeter as well as the linearization function that employs 101 linearization points for other linearization processing. To output more stable alarms, the alarm on-delay timer can be set. Setting of these functions is easily performed using the dedicated Loader Software, which operates on a general-purpose PC.

Specification

- Input signal: 1 to 5V DC or 4 to 20 mA DC
- Input impedance: 1 M Ω (voltage input), 250 Ω (current)
- Output signal: Dry contact SPST
- Number of alarm: 2 points
- Output contact capacity:
 - 30V DC, 1 A (resistive load)
 - 100V AC, 0.3 A (resistive load)
- Minimum load applied to contact: 5V, 1 mA
- Electrical life of relay: 0.1 million times or more
- Mechanical life of relay: 20 million times or more
- Alarm output state:
 - Setting of energized or de-energized status during alarm-off (reversing by Loader Software)
- Relay contact:
 - a-contact (N.O) or b-contact (N.C) (by setting jumper)
- PV alarm action:
 - Hi/Lo limit, or Hi/HiHi or Lo/LoLo limit (Two-point alarm)
- First-order lag filtering: 0 to 20.0 sec (63% response)
- Alarm setting range: 0.0 to \pm 120.0% (0.1% resolution)
- Dead band (hysteresis width): 0.0 to 120%FS (0.1% resolution)
- Alarm setting accuracy: \pm 0.15%FS
- Insulation resistance: 500V DC, 100 M Ω min.
 - (Mutual between input - output - GND - power terminal)
- Withstand voltage: 1000V AC, 1 minute
 - (Mutual between input - output - GND - power terminal)
- Startup delay: 0 to 10 sec
 - (Setting of the delay time required before starting comparison since power on)
- Alarm on-delay: 0 to 999 sec
 - (Setting for when an alarm state needs to be maintained until the timing of relay action)
- Arithmetic period: 5 msec
- Response speed: Approx. 120 msec
 - (Time taken before an alarm is output at 0 to 100% input change and at the 50% alarm setting point, when set with no first-order lag filter, no alarm delay, and at 0% hysteresis)
- Power supply: 24V DC $^{+10}_{-15}$ %
- Current consumption: 130 mA or less (at 24V DC)
- Ambient temperature:
 - Normal operating condition; 5 to 45 $^{\circ}$ C
 - Operation limit; 0 to 50 $^{\circ}$ C
- Ambient humidity: 0 to 90%RH (No condensation allowed)
- Mounting: Panel, wall, DIN rail attachment
- Color of front mask: Black
- Weight: 400 g
- Operating influence:
 - Supply voltage effect; \pm 0.1%FS/24V DC $^{+10}_{-15}$ %
 - Temperature effect; \pm 0.15%FS/10 $^{\circ}$ C
- Loader settings:
 - Module ID; 16 one-byte characters, 8 two-byte kanji characters
 - Alarm setting value SP1, SP2; Range between 0 to \pm 120.0% (Setting resolution 0.1%)
 - Hysteresis width HYS1, HYS2; 0 to 120%, Set to 0.2% by default
 - Alarm direction setting; Hi alarm (H operation) and Lo alarm (L operation). Set at each output
 - Operation reversal; Not reversed (relay de-energized during alarm-off) or reversed (relay energized during alarm-off)
 - Setting of square root extraction (including dropout); Setting of linearization (Linearization: 101 points)
 - Input filtering; Unavailable/available (Moving average)
 - First-order lag filtering; Without/with (0 to 20.0 sec, 63% response time)
 - Startup delay; 0 to 10 sec
 - Alarm-on delay; 0 to 999 sec



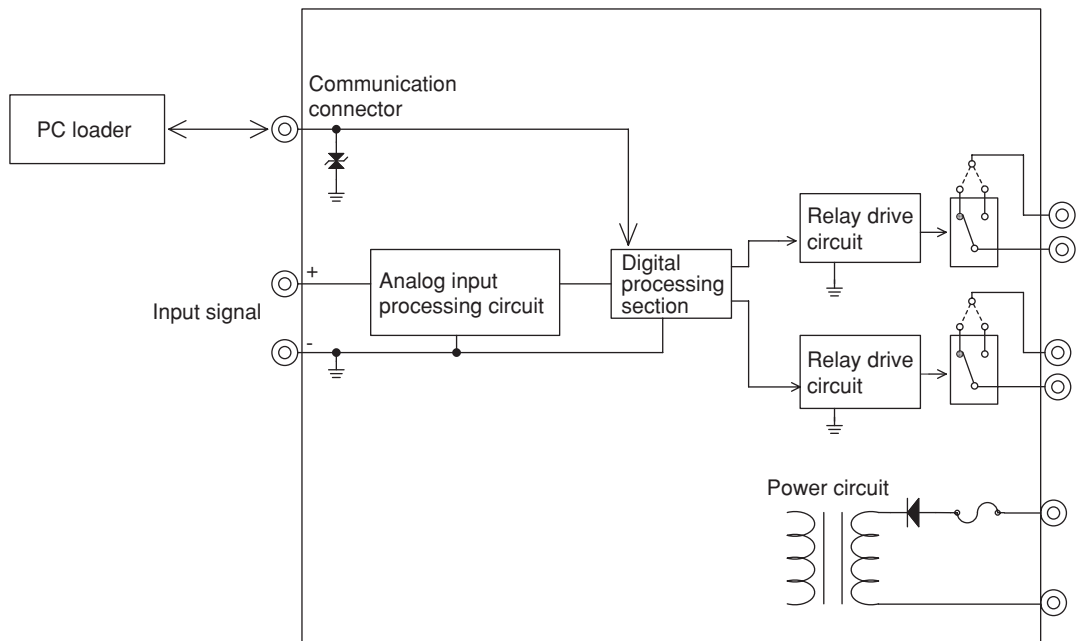
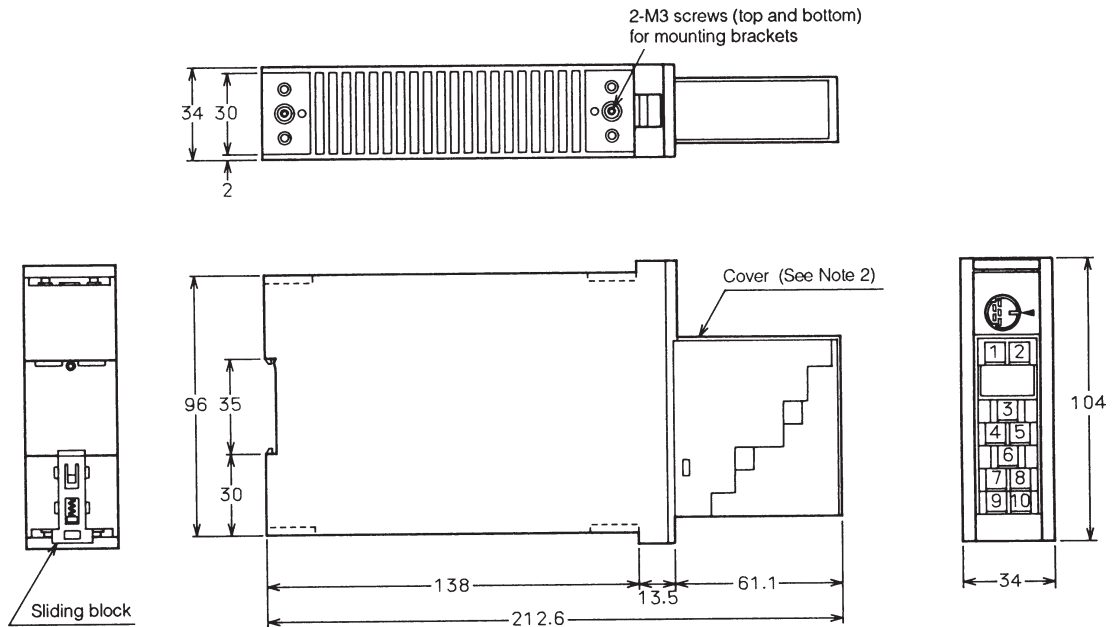


Figure 1. Functional block diagram of monitor switch module

Model Number Table

Basic Model Number	Selections		Additions	Description
	I	II	I	
J-SSP90				Monitor Switch Module (Digital type)
	X			No varnish coated
	C			Varnish coated
			-1	Input: 1 to 5V DC
			-2	Input: 4 to 20 mA DC
		X		W/o selection II
			-0	Without test report
			-1	With test report

Example: J-SSP90X-1X-0



No.	Description
1 (Note 1)	—
2 (Note 1)	Input (-)
3	Input (+)
4	Output 1
5	Output 1
6	Output 2
7	Output 2
8	24V (PS +)
9	GND
10	0V (PS -)

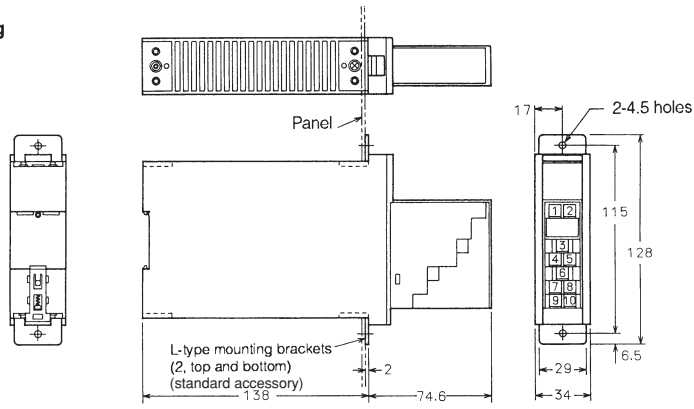
- Note 1) 250Ω resistor is added for current input.
 2) Operate the module with a cover.
 3) Terminal screws: M3.5
 4) Use the pressured terminals with insulation sheath.

Figure 2. Dimensions and wiring diagram

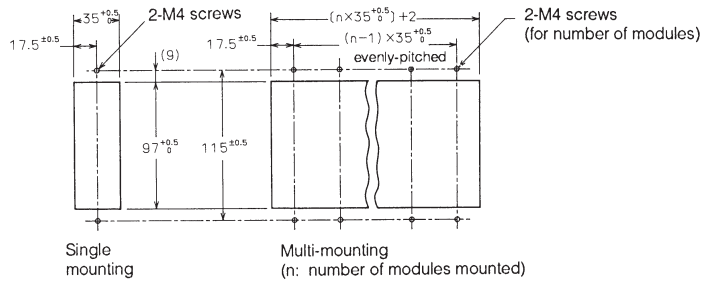
When ordering, please specify:

- 1) Tag number
 - 2) Alarm setting value (0 to ±120%)
 - SP1 (Set to 80 by default)
 - SP2 (Set to 20 by default)
 - 3) Hysteresis width (0 to ±120%)
 - HYS1 (Set to 0.2 by default)
 - HYS2 (Set to 0.2 by default)
 - 4) Output contact specification type of SP1 and SP2
 - SP1 (Monitor #1): a-contact/b-contact [Set to a-contact by default]
 - SP2 (Monitor #2): a-contact/b-contact [Set to a-contact by default]
 - 5) Alarm direction of SP1 and SP2
 - SP1 (Monitor #1): Hi/Lo [Set to Hi by default]
 - SP2 (Monitor #2): Hi/Lo [Set to Lo by default]
 - 6) State of SP1 and SP2 during alarm (Reversal)
 - SP1: Not-reversed/reversed (Set to not-reversed by default)
 - SP2: Not-reversed/reversed (Set to not-reversed by default)
- * When "not reversed," the relay is de-energized during alarm-off, and when "reversed," the relay is energized during alarm-off.
- The following are also set by default:
- a) Input filtering: Moving average available
 - b) First-order lag filtering: Available 0.1 sec
 - c) Startup delay time: 0 sec
 - d) Alarm-on delay time (Set individually on each of SP1 and SP2): 0 sec

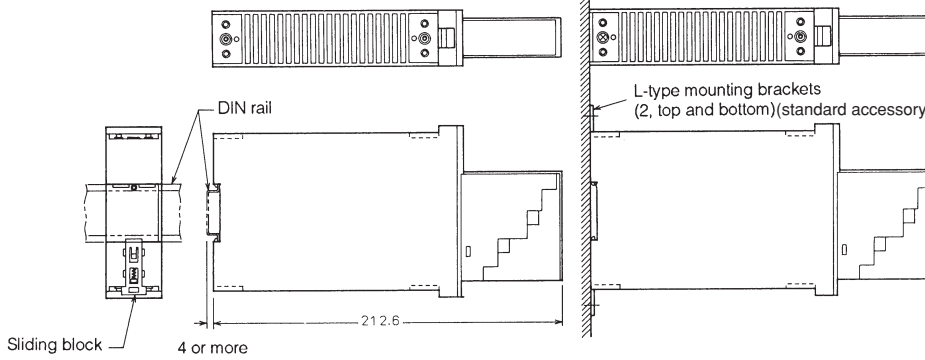
Panel-mounting



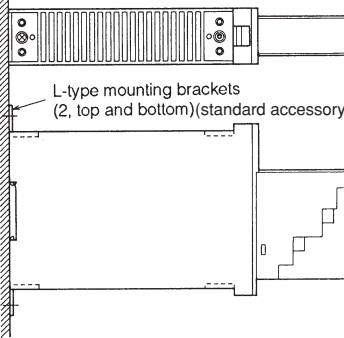
Panel-cutout



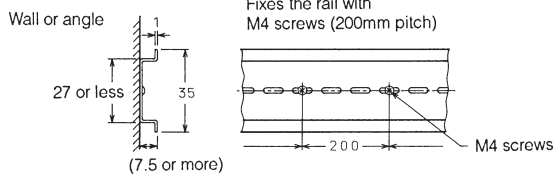
DIN rail mounting



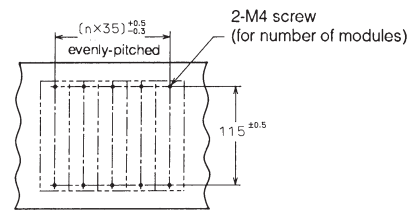
Wall-mounting



DIN rail mounting



Wall-mounting (n: number of modules mounted)



Recommended DIN rail and end fittings Rail : DAS-4 [Toko Giken made]
End fittings : ATO-29 [Toyo Giken made]

Figure 3. Mounting method

Please read the "Terms and Conditions" from the following URL before ordering or use:

<http://www.azbil.com/products/bi/order.html>

Specifications are subject to change without notice.



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