

Plug-in Signal Conditioners M-UNIT

SIGNAL TRANSMITTER
(isolated; max. 200mA output)

MODEL **SVA**

MODEL & SUFFIX CODE SELECTION

MODEL _____ SVA-□□□□
 INPUT _____

Current	Voltage
A : 4 – 20mA DC	1 : 0 – 10mV DC
A1: 4 – 20mA DC*	15: 0 – 50mV DC
B : 2 – 10mA DC	16: 0 – 60mV DC
C : 1 – 5mA DC	2 : 0 – 100mV DC
D : 0 – 20mA DC	3 : 0 – 1V DC
E : 0 – 16mA DC	4 : 0 – 10V DC
F : 0 – 10mA DC	5 : 0 – 5V DC
G : 0 – 1mA DC	6 : 1 – 5V DC
H : 10 – 50mA DC	4W : -10 – +10V DC
J : 0 – 10µA DC	5W : -5 – +5V DC
K : 0 – 100µA DC	0 : Specify voltage
GW: -1 – +1mA DC	
FW: -10 – +10mA DC	
Z : Specify current	

*50Ω input resistance for Code A1

OUTPUT

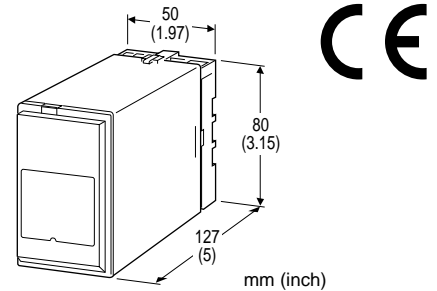
Current	Voltage
H : 10 – 50mA DC	4 : 0 – 10V DC
L : 0 – 50mA DC	5 : 0 – 5V DC
M : 0 – 100mA DC	6 : 1 – 5V DC
N : 0 – 200mA DC	8 : 0 – 20V DC
Z : Specify current	0 : Specify voltage

POWER INPUT

AC Power	DC Power
K3: 100 – 120V AC	P : 110V DC
L3: 200 – 240V AC	

ORDERING INFORMATION

- Specify code number and variables.
- **Code number** (e.g. SVA-AN-K3)
 - **Special input and output ranges** (For codes Z & 0)



Functions & Features

- Converting a DC process input into a high-power current or voltage up to 200mA
- Isolation up to 2000V AC
- High-density mounting
- CE marking

Typical Applications

- Retrofitting 10 – 50mA DC control system
- DC excitation for an electromagnetic coil which demands a high power

GENERAL SPECIFICATIONS

- Construction:** plug-in
Connection: M3.5 screw terminals
Housing material: flame-resistant resin (black)
Isolation: input to output to power
Overrange output: 0mA or 0V up to 105% of upper range value
Front adjustments
Zero: -25 – +25%; no output below 0mA or 0V
Span: 50 – 100% for the rated input span

INPUT & OUTPUT

■ **INPUT**

- **DC Current:** shunt resistor attached to input terminals (0.5W)
- Input resistance:** For resistance values other than listed below, specify when ordering.

Input	Input Resistance
4 – 20mA	: 250 (Ω) (50Ω for Code A1)
2 – 10mA	: 500
1 – 5mA	: 1000
0 – 20mA	: 50
0 – 16mA	: 62.5
0 – 10mA	: 100
0 – 1mA	: 1000
10 – 50mA	: 100
0 – 10µA	: 1000
0 – 100µA	: 1000
-1 – +1mA	: 1000
-10 – +10mA	: 100

•DC Voltage: -30 – +30V DC

Spans: min. 3mV, max. 30V

Zero suppression/elevation: max. 1.5 times span

Input resistance

Input Span	Input Resistance
3 – 10mV	: 10k (Ω minimum)
10 – 100mV	: 10k
0.1 – 1V	: 100k
$\geq 1V$: 1M

■OUTPUT

•DC Current: 0 – 200mA DC

Minimum span: 20mA

Zero suppression: max. 30% of span

Load inductance: 1H maximum

Load resistance

Max. current $\leq 100mA$: output drive max. 20V

100mA < max. current $\leq 200mA$:

$$R_L [\Omega] = 2 [W] / (\text{max. current [A]})^2$$

Output	Load Resistance
10 – 50mA	: 400 (Ω maximum)
0 – 50mA	: 400
0 – 100mA	: 200
0 – 200mA	: 50

•DC Voltage: 0 – 20V DC

Minimum span: 2V

Zero suppression: max. 30% of span

Load resistance

Max. voltage $\leq 10V$:

$$R_L [\Omega] = \text{max. voltage [V]} / 0.2 [A]$$

10V < max. voltage $\leq 20V$:

$$R_L [\Omega] = (\text{max. voltage [V]})^2 / 2 [W]$$

Output	Load Resistance
0 – 10V	: 50 (Ω minimum)
0 – 5V	: 25
1 – 5V	: 25
0 – 20V	: 200

INSTALLATION

Power input

AC: operational voltage range for K3: 90 – 132V
operational voltage range for L3: 180 – 264V
47 – 66 Hz, approx. 10VA, 5W max.

DC: operational voltage range 85 – 150V
5W max. (ripple 10% p-p max.)

Operating temperature: -5 to +50°C (23 to 122°F)

Operating humidity: 30 to 90% RH (non-condensing)

Mounting: surface or DIN rail

Dimensions: W50×H80×D127 mm (1.97"×3.15"×5")

See General Spec. Sheet Figure A-1.

Weight: 300 g (0.66 lbs)

Terminal assignment: See General Spec. Sheet Figure B-2.

PERFORMANCE in percentage of span

Accuracy: $\pm 0.2\%$

Temp. coefficient: $\pm 0.02\%/^{\circ}C$ ($\pm 0.01\%/^{\circ}F$)

Response time: ≤ 0.5 seconds (0 – 90%)

Line voltage effect: $\pm 0.2\%$ over voltage range

Load effect

Current output: $\pm 0.2\%$ over load range

Voltage output: $+0.2\%$ or

$$-\{0.2 + (0.3 [\Omega] \times \text{max. load [A]}) /$$

$$\text{output span [V]} \times 100\% \text{ over load range}$$

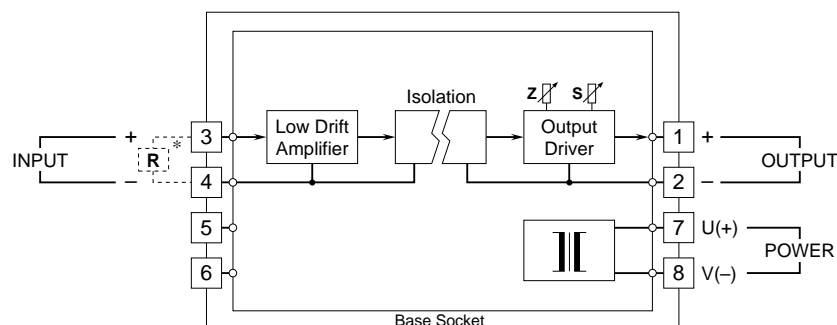
Insulation resistance: $\geq 100M\Omega$ with 500V DC

Dielectric strength: 2000V AC @1 minute

(input to output to power to ground)

CE conformity (Europe): 89/336/EEC. Electromagnetic Compatibility (EMC) Directive
73/23/EEC. Low Voltage Directive

SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



*Input shunt resistor attached for current input.