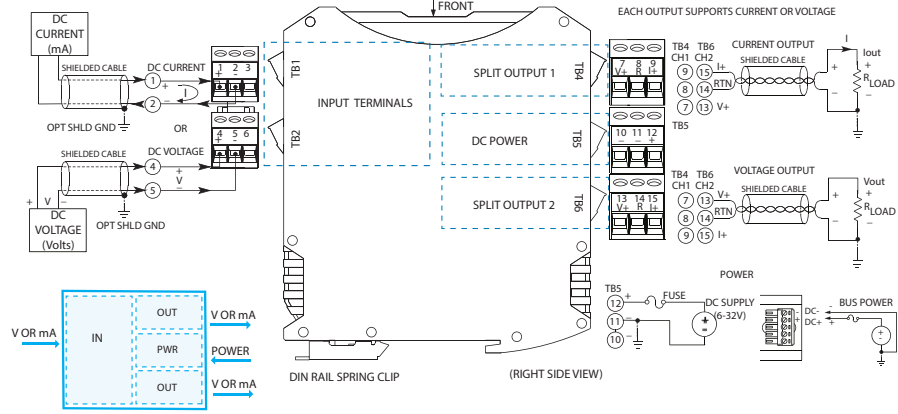


Signal Splitter: SP330 Series

SP336 Current/millivolt input signal splitter, four-wire



USB Configured



DC current and low voltage input ◆ 0-20mA, ±10V outputs ◆ 6-32V DC external power

Description

The SP336 is a high-performance signal splitter that converts one DC current or millivolt input into two isolated proportional control signals. A variety of current and voltage output ranges are supported. Power connects on a terminal block, a rail bus, or both for redundancy.

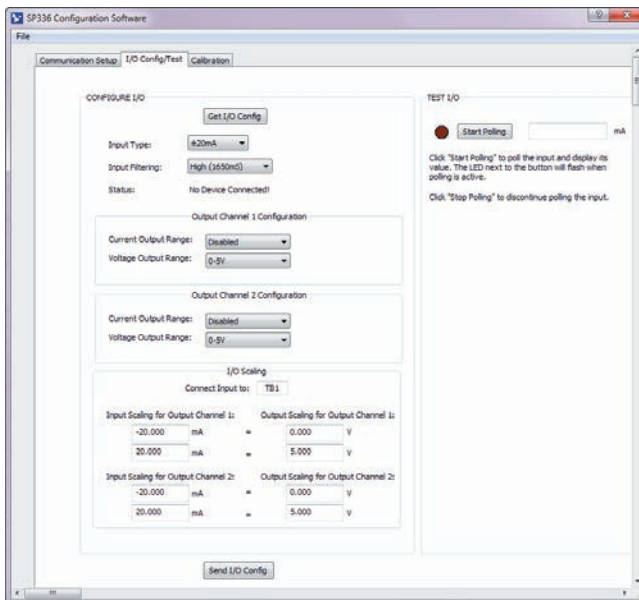
High-voltage isolation separates the input from power and each output circuit. The isolation protects from surges, reduces noise, and eliminates ground loop errors.

Setup is fast and easy with a USB connection to your PC and our Windows software. Acromag's Agility™ mobile app enables configuration on an Android smart phone or tablet. Software simplifies I/O range scaling, calibration, and advanced signal processing capabilities.

These rugged instruments withstand harsh industrial environments to operate reliably across a wide temperature range with very low drift. They feature high immunity to RFI, EMI, ESD, and EFT, plus low radiated emissions.

Key Features & Benefits

- Easy configuration via USB with Windows software or Agility™ app for Android
- Single unit accepts input ranges up to ±500mV, ±20mA DC, or 0-20A AC (with external sensor)
- Input can scale differently for each output
- User-selectable filtering (none, low, med, high)
- Scalable current or voltage output ranges: 0-20mA, 4-20mA, ±5V, ±10V, 0-5V, 0-10V
- Normal or reverse-acting output
- Wide-range DC power input from 6-32V with support for rail power bus and redundancy
- High accuracy, linearity, stability, and reliability
- 1500V isolation
- Space-saving 17.5mm (0.69 inch) design with pluggable terminals for easier wiring
- Shock (25g) and vibration (4g) resistant
- Wide ambient operation (-40 to 75°C)
- CE compliant. UL/cUL Class I Div 2, ATEX / IECEx Zone 2 approvals.



Windows configuration software (FREE) at www.acromag.com

Android Agility™ app (FREE) at [Google Play Store](https://play.google.com/store/apps/details?id=com.acromag.agility)

Save configuration files for convenient copy/restore capability.

Tel 877-214-6267 ■ sales@acromag.com ■ www.acromag.com ■ 30765 Wixom Rd, Wixom, MI 48393 USA



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Performance Specifications

IMPORTANT: To prevent ground loop error between a grounded PC and a grounded input signal, Acromag strongly recommends use of a USB isolator like Acromag's USB-Isolator when configuring a SP330 Series splitter.

■ USB Interface

USB Connector

USB Mini-B type socket, 5-pin. 5.0 meters cable length maximum. No driver required.

USB Data Rate

12Mbps. USB v1.1 and 2.0 compatible

USB Transient Protection

Transient voltage suppression on power and data lines

■ Input (Passive)

Default Configuration/Calibration

Input: 4 to 20mA, medium filter.

Output: 4 to 20mA.

Input Ranges and Accuracy

Range	Accuracy (typical)
±500mV	±0.05% of span
0 to 500mV	±0.05% of span
±20mA	±0.05% of span
0 to 20mA	±0.05% of span
4 to 20mA	±0.05% of span
0 to 11.17mA (for AC sensor)	±0.05% of span
±1mA	±0.05% of span

Error includes the effects of repeatability, terminal point conformity, and linearization.

Ambient Temperature Effect

Better than ±80ppm/°C (±0.008%/°C)

Scaling Adjust

Zero: 0 to 95% of range, typical

Full scale: 5 to 100% of range, typical

Input Over-Voltage Protection

Bipolar Transient Voltage Suppressers (TVS), 5.6V clamp level typical.

Input Resolution (normalized range)

Bipolar input: 1 part in 50000 (±25000)

Unipolar input: 1 part in 25000

Input Impedance

Current input: 24.9 ohms (TB1)

Voltage input: 15M ohms (TB2)

Input Filter

Selectable digital filtering (none, low, med., and high)

Noise Rejection (with high filter)

Normal mode @ 60Hz: >80dB

Common mode @ 60Hz: >139dB

■ Output (Two Signals, Active)

Output Range

Range	Over-Range	Resolution
±10V	±11V	1 part in 59577
±5V	±5.5V	1 part in 59577
0 to 10V	-0 to +11V	1 part in 59577
0 to 5V	-0 to +5.5V	1 part in 59577
0 to 20mA	0 to 24mA	1 part in 54612
4 to 20mA	0 to 24mA	1 part in 43689

Output Load

Voltage output: 1K ohms minimum

Current output: 0-525 ohms for 21mA

Output Response Time (for step input change)

Time to reach 98% of final output value (typical)		
Filter	±0.5V Input Range	±20mA Input Range
None	28 milliseconds	10 milliseconds
Low	34 milliseconds	34 milliseconds
Medium	115 milliseconds	136 milliseconds
High	1060 milliseconds	1168 milliseconds

Output Ripple

Less than ±0.1% of output span

■ Environmental

Operating temperature

-40 to 75°C (-40° to 167°F)

Storage temperature

-40 to 85°C (-40 to 185°F)

Relative humidity

5 to 95% non-condensing

Power Requirement

6-32V DC external supply, 1.5W max

Isolation

1500V AC peak. 250V AC (354V DC) continuous between input, output, and power circuits.

Shock and Vibration Immunity

Vibration: 4g, per IEC 60068-2-64

Shock: 25g, per IEC 60068-2-27

Approvals

CE compliant. Designed for UL/cUL Class I Division 2 Groups ABCD, ATEX / IECEx Zone 2.

Electromagnetic Compatibility (EMC) Compliance

Radiated Emissions: BS EN 61000-6-4, CISPR 16

RFI: BS EN 61000-6-2, IEC 61000-4-3

Conducted RFI: BS EN 61000-6-2, IEC 61000-4-6

ESD: BS EN 61000-6-2, IEC 61000-4-2

EFT: BS EN 61000-6-2, IEC 61000-4-4

Surge Immunity: BS EN 61000-6-2, IEC 61000-4-5

■ Physical

General

General-purpose enclosure designed for mounting on 35mm "T-type" DIN rail

Case Material

Self-extinguishing polyamide, UL94 V-0 rated, color light gray. General-purpose NEMA Type 1 enclosure

I/O Connectors

Removable plug-in terminal blocks rated for 12A/250V; AWG #26-12, stranded or solid copper wire.

Dimensions

17.5 x 114.5 x 99.0 mm (0.7 x 4.51 x 3.90 inches)

Shipping Weight

0.22 kg (0.5 pounds) packed

Ordering Information

Models

SP336-0700

Four-wire signal splitter, current/millivolt input

Services

SP330-Config/Cal

Factory custom configuration/calibration service

Software

TTC-SIP (recommend one kit per customer)

Windows Software Interface Package for Acromag SP Series signal splitters. Includes configuration software CD-ROM (5040-944), isolator (USB-ISOLATOR) and two USB cables (4001-112, 4001-113).

Agility Mobile Application

Software configuration software for an Android smart device. Download for free from the Google Play Store. Requires 5028-565 and 4001-113 cables

Accessories

TTBUS-KIT

DIN rail bus power connector, left/right terminal blocks & two end stops #1027-222. One kit supports multiple splitters.

USB-ISOLATOR

USB-to-USB isolator, includes USB cable (4001-112)

4001-112

USB cable, 1 meter, with Type A to Type B plugs

4001-113

USB cable, 1 meter, with Type A to Mini-B plugs

4001-252

DIN rail end stop for hazloc approvals

5020-350

AC current sensor (toroidal transformer); converts 0-20A AC to 0-11.17mA DC

5028-565

USB-OTG 6 inch cable



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