

Absolute Process Instruments



Signal Conditioners, Isolators
Process Transmitters, Alarms
Custom Electronics

api-usa.com



*American Owned
American Engineered*

*American Built
American Pride*

*Your Analog Signal
Interface Experts!*

*Free Application
Assistance*

*See api-usa/apps for
Product Applications*



Absolute Process Instruments, Inc.
1220 American Way Phone: 800-942-0315
Libertyville, IL 60048 Fax: 800-949-7502

See cecomp.com for our
Digital Pressure Gauges

* Call us for applicable UL models and availability

The API logo, LoopTracker, IsoSplitter, DuoPak, Cecomp—Reg TM Absolute Process Instruments, Inc.
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US Flag © 2009 Joshua Nathanson

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API-8

API Exclusive Features

Fast Delivery

Most products ship one to three days after you place your order. Call us for specific lead times.

LoopTracker® LEDs

Variable intensity LEDs monitor I/O status and diagnose connection problems on all API transmitters. The brightness of the LEDs increase and decrease with the process signal. An open current loop causes the LED to go out. This allows you to diagnose problems quickly and efficiently.

Modules with alarm outputs use bicolor red/green LEDs to indicate alarm status.

Functional Test Button

The API exclusive Push-to-Test button sends a test signal, independent of the process input, to the output allowing you to manually test your system.

This signal can be used to check loop status, downstream display operation, or alarm operation.

Most APD series models have terminals to allow remote testing or a manual over ride.

On alarm models, the Push-to-Test button will switch the relay(s) and LED(s) to the opposite state regardless of the input signal level. When released, the module will return to its normal operating state. This allows the technician to test the relays and the devices they are controlling.

With the latching alarm mode or option, the Test button allows the latched alarm to be reset, provided the alarm condition no longer exists for that setpoint.

Module Power Options

API standard: 115 VAC
 API A230 option: 230 VAC
 API P option: 85-265 VAC, 50/60 Hz or 60-300 VDC
 API D option: 9-30 VDC
 APD standard: 85-265 VAC, 50/60 Hz or 60-300 VDC
 APD D option: 9-30 VDC or 10-32 VAC

Hot Swappable Design

API plug-in modules can be quickly changed while under power with minimal down time. The module simply plugs into the DIN rail mounted socket.

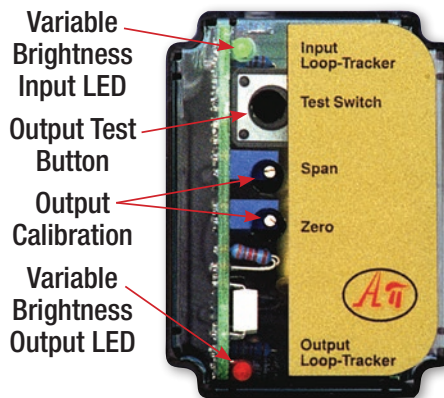
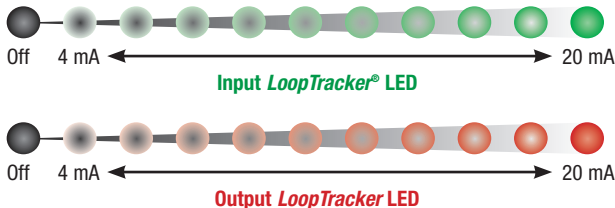
Isolation

Most API series modules offer 2000 VRMS, 3-way isolation: power/input, power/output, input/output.

APD series modules offer 1200 VRMS, 3-way isolation: power/input, power/output, input/output

The Analog Advantage

- ✓ Continuous response—no stair-stepping
- ✓ Fast, real-time response
- ✓ Fast setup and customized ranges



API Transmitter

Customized Solutions

We offer customized and private label products and are often able to quote projects involving as few as 100 units per year.

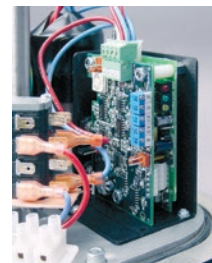
We can supply specialized signal conditioners for LVDTs, speed sensing, pulse conversion, conductivity, salinity, electrical power, pH and ORP.

Product capabilities range from circuit boards through complete product lines.

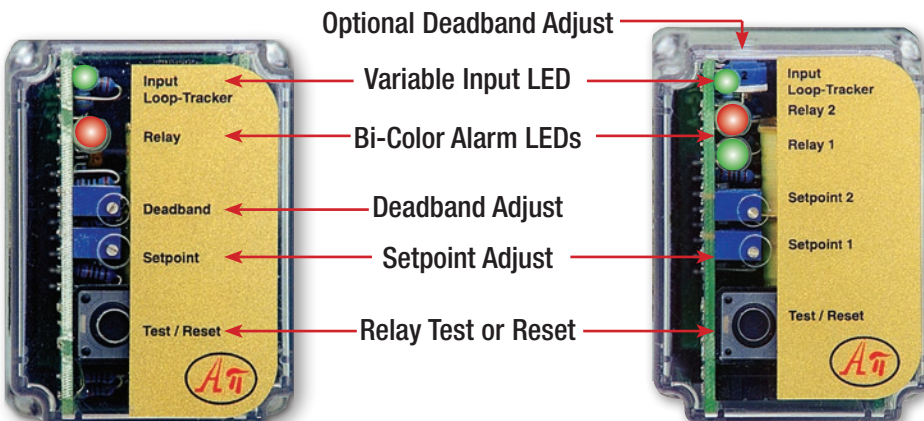
Our in-house engineering capabilities include all circuit design, microprocessor programming, software, circuit board layout, prototype assembly, qualification testing, and documentation.

Production capabilities include computer controlled SMT and wave soldering equipment allowing us to design and produce our own circuit boards.

We maintain NIST traceable electrical test and pressure calibration equipment.



Custom Valve Positioner



API Single Alarms

API Dual Alarms

DuoPak® Two Channel Transmitters/Isolators

Two independent channels with full isolation in any I/O combination—save space and money!

- Simultaneous Monitoring of 2 Parameters
- Convert/Isolate Dual Output Transmitters
- Sink Source mA I/O for Each Channel

I/O Ranges

Specify input and output range for each input channel mA inputs and outputs can be wired for sink or source

Transmitter Calibration

Multi-turn zero and span potentiometers for each output



Free Factory I/O Setup!

Info & Applications
api-usa.com/duopak



LISTED
 E145968
 APD series up to 100 V inputs

Output Test/Override

Button or contact closure to set output to test level

Response Time

70 milliseconds typical

Isolation

5-way isolation: input 1, input 2, output 1, output 2, power

Inputs	Ch. 1 DC	Ch. 1 RTD	Ch. 1 Pot.	Ch. 1 Strain	Ch. 1 AC	Ch. 1 Freq.	2 Independent DC Outputs
Ch. 2 DC	APD 2000	APD 2010	APD 2030	APD 2050	APD 2060	APD 2070	Specify type and range for each output channel 0-1 V to 0-10 V, ±1 V to ±10 V, 0-1 mA to 0-25 mA, wire for 20 V source or sink mA outputs
Ch. 2 RTD	APD 2001	APD 2011	APD 2031	APD 2051	APD 2061	APD 2071	
Ch. 2 Pot.	APD 2003	APD 2013	APD 2033	APD 2053	APD 2063	APD 2073	
Ch. 2 Strain	APD 2005	APD 2015	APD 2035	APD 2055	APD 2065	APD 2075	
Ch. 2 AC	APD 2006	APD 2016	APD 2036	APD 2056	APD 2066	APD 2076	
Ch. 2 Freq.	APD 2007	APD 2017	APD 2037	APD 2057	APD 2067	APD 2077	



DC Input Alarms

Easy-to-install modules for alarming DC process signals for out-of-limit conditions

- Process Limit Alarm
- DC Voltage or Current Limit Alarm

Alarm Adjustment

Potentiometer adjustable alarm setpoint(s), 0-100% of span

Factory Configured Alarms

Specify: input range
alarm type: HI, LO, HI/LO, LO/LO, HI/HI, band or inverse band alarms
alarm options: latching, reverse acting power
options (see datasheet)

Field Configurable Alarms

Switch selectable DC input ranges

Configurations: HI, LO, HI/LO, LO/LO, HI/HI, LO/HI, latching, normal or reverse acting

Factory can pre-set to your requirements

Specify: power and options (see datasheet)

Shunt Option for Plug-In Modules

5A option: 25 W, 0.1 Ω shunt resistor with socket
900 mA to 5A current inputs

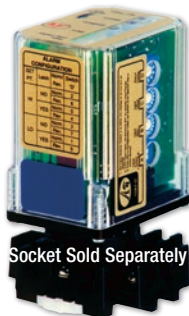
API 1040 G Features

1 SPDT relay and non-isolated transmitter



Free Factory I/O Setup!

Info & Applications
api-usa.com/alarms



Socket Sold Separately

API 1080 G



Socket Sold Separately

API 1090 G



API 1040 G
Transmitter with Alarm



APD 1000 Series
DC Input Alarm



APD 1090

UL
LISTED
E145968
APD series

Removable
Plugs

Variable
Brightness
Input LED

Output Test
Toggles
Relays

Adjustable
Setpoints

Adjustable
Deadbands

Bi-color Alarm
LEDs

Model	Mount	DC Input	Alarms
API 1000 G	11 pin socket	0-100 mVDC to 0-300 VDC, 0-1 mADC to 0-900 mADC sinking	1 DPDT relay, 8 A, adjustable deadband
API 1020 G			2 SPDT relays, 8 A, 1% deadband standard
API 1005 G			1 DPDT relay, 8 A, adjustable deadband
API 1025 G			2 SPDT relays, 8 A, 1% deadband standard
APD 1000	DIN rail	0-100 mVDC to 0-300 VDC, 0-1 mADC to 0-900 mADC, wire for sink or 15 V source mA input	2 DPST relays, 8 A, 1 setpoint, adjustable deadband
APD 1020			2 DPST relays, 8 A, 2 setpoints, adjustable deadband
APD 1030			2 DPST relays, 8 A, band alarms, adjustable deadbands
Model	Mount	DC Input	Alarm and DC Output
API 1040 G	11 pin socket	0-100 mVDC to 0-200 VDC, ± 100 mVDC to ± 10 VDC, 0-1 mADC to 0-50 mDCA, wire for sink or 18 V source mA input	1 DPDT relay, 8 A, adjustable deadband Optional: DC signal output: 0-1 V setpoint retransmission 0-1 V to 0-10 V, ± 1 V to ± 10 V, 0-2 mA to 0-20 mA, 4-20 mA
Model	Mount	Switch Selectable DC Input	Field Configurable Alarms
API 1080 G	11 pin socket	0-50 mV to 500 mV, 0-1 VDC to 0-10 VDC, ± 5 VDC, ± 10 VDC, 0-1 mADC to 4-20 mADC, wire for sink or source mA input	1 DPDT relay, 8 A, 1 setpoint, adjustable deadband
APD 1080	DIN rail		2 DPST relays, 8 A, 1 setpoint, adjustable deadband
API 1090 G	11 pin socket		2 DPDT relays, 8 A, 2 setpoints, adjustable deadbands
APD 1090	DIN rail		2 DPST relays, 8 A, 2 setpoints, adjustable deadbands

Loop Powered Isolators

Passive isolators to eliminate signal drifting due to ground loops

- Isolate 4-20 mA Current Loops
- Eliminate Ground Loops, Reduce Noise Effects



Info & Applications
api-usa.com/loop

Input and Output

1 or 2 channels, 4 to 20 mA, powered by input loop

Input Voltage Burden

Approximately 9 VDC at 20 mA

Functional Test Switch

Momentary contact switch with spring-loaded return
Sets output to calibration reference level of 4 mA to allow testing of module circuits and output loop

LoopTracker®

Variable brightness LED indicates output loop current

Output Load Capability

Up to 1000 Ω with 20 V compliance at 20 mA at 30 VDC or approx. 750 Ω at 24 VDC depending on supply voltage.

Calibration

Multi-turn zero and span potentiometers for output

Response Time

60 milliseconds typical

Isolation

Input to output, channel to channel



API LPI-1



API LPI-2



API DPI-2



API LPI-2

Model	Mount	Input	Output
API LPI-1	8 pin socket	4-20 mA	4-20 mA
API LPI-2	socket	2 channel 4-20 mA	2 channel 4-20 mA
API DPI-2	DIN rail	2 channel 4-20 mA	2 channel 4-20 mA

DC Input

Convert and isolate a non-standard DC voltage or current signal to a standard process signal

- Factory or Field Selectable I/O Ranges
- Interface Meters, Recorders, PLCs, DCSs, SCADA, Data Acquisition Systems

Factory Configured Transmitters

Specify: input range
output range
power and options (see datasheet)

Field Rangeable Transmitters

Switch selectable input ranges
Switch selectable mA or Volt output ranges
Factory can pre-set to your requirements
Specify: power and options (see datasheet)

Transmitter Calibration

Multi-turn zero and span potentiometers for output



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I/O Setup!

Info & Applications
api-usa.com/dc

API series: 8 pin
115, 230 VAC powered
150 VDC max. input



API 4300



API 4380

Functional Test Button

Sets output to test level when pressed

Isolation

3-way; power/input, power/output, input/output

Response Time

70 milliseconds typical
APD 4380: 100 milliseconds typical

Removable
Plugs

Variable
Brightness
Output LED

Output Test
Adjust

Output Test
Button

Output
Calibration

Variable
Brightness
Input LED



APD 4380



API series
See data sheets for
applicable models



APD 4393 IsoSplitter

Model	Mount	DC Input	DC Output
API 4300 G	8 pin socket	0-100 mVDC to 0-500 VDC, ± 100 mVDC to ± 10 VDC, 0-1 mADC to 0-900 mADC, 5A option for 5 Amps wire for sink or 18 V source mA input	0-1 V to ± 10 V, 0-1 mA to 4-20 mA, 20 V sourcing mA, sinking output with EXTSUP option
API 4310 G		0-10 mVDC to ± 100 mVDC, 0-100 μ ADC to 0-1 mADC, wire for sink or 18 V source mA input	
APD 4300	DIN rail	0-100 mVDC to 0-300 VDC, ± 1 VDC to ± 10 VDC, 0-1 mADC to 0-900 mADC, 4-20 mADC, wire for sink or 15 V source mA input	0-1 V to ± 10 V, 0-1 mA to 4-20 mA, wire for 20 V source or sink mA output
APD 4300 PLC		4-20 mA, wire for sink or 15 V source mA input	
Model	Mount	Switch Selectable DC Input	Switch Selectable DC Output
API 4380 G	8 pin socket	0-50 mVDC to ± 10 VDC, 0-1 mADC to 0-20 mADC, 4-20 mADC, wire for sink or 18 V source mA input	0-1 V to ± 10 V, 0-2 mA to 4-20 mA, 20 V sourcing mA output
API 4380 G HV3		High voltage input, 2.5 M Ω input impedance, 0-20 VDC to 0-200 VDC, ± 200 VDC	
API 4385		-50-0 mVDC to 20-40 VDC, 0-200 μ ADC to 10-50 mADC, 4-20 mADC, wire for sink or 18 V source mA input	
APD 4380	DIN rail	0-10 mVDC to 0-130 VDC, ± 5 mVDC to ± 65 VDC, 0-200 μ ADC to 0-50 mADC, 4-20 mADC, wire for sink or 15 V source mA input	0-1 V to ± 10 V, 0-2 mA to 4-20 mA, wire for 20 V source or sink mA output
APD HV-DC		High voltage input, 8 selectable input ranges + 1 custom, 0-100 VDC to 0-1200 VDC	
Model	Mount	DC Input	DC Outputs
APD 2208	DIN rail	± 100 mVDC to 300 VDC, 0-1 mA to 900 mADC and/or potentiometer. Set up for 2 inputs or splitter.	2 independent outputs, 0-1 V to ± 10 V, 0-1 mA to 0-20 mA
APD 4393 IsoSplitter	DIN rail	Signal splitter, one input, 0-10 mVDC to 0-100 VDC, ± 50 mVDC to ± 10 VDC, 0-1 mADC to 0-50 mADC, 4-20 mA mADC, wire for sink or 15 V source mA input	2 independent outputs, 0-1 V to ± 10 V, 0-1 mA to 0-25 mA, 4-20 mA, wire for 20 V source or sink mA outputs

DC Input Math

Combine multiple inputs or use square root of input

- Add, Subtract, Average, Differential, Combination
- Varied Input Scale Capable
- Square Root for Flow Signals



Free Factory
I/O Setup!

Info & Applications
api-usa.com/math



API series: 8 pin
115, 230 VAC powered
150 VDC max. input



API 4440 G

Model	Mount	Math Function	DC Inputs	DC Output
API 4400 G	11 pin socket	Output = (A+B+C+D)/4 (average of 4)	Specify input for each channel Specify if percentage of inputs or true math are required 0-100 mVDC to 0-10 VDC, 0-1 mADC to 0-20 mADC, sinking mA Consult factory for mixed inputs	0-1 V to ± 10 V, 0-1 mA to 4-20 mA, 20 V sourcing mA
API 4401 G		Output = (A+B+C)/3 (average of 3)		
API 4402 G		Output = (A+B)/2 (average of 2)		
API 4403 G		Output = (A+B+C-D)/3		
API 4404 G		Output = (A+B-C-D)/2		
API 4405 G		Output = (A-B-C-D)		
API 4406 G		Output = (A+B-C)/2		
API 4407 G		Output = (A-B-C)		
API 4408 G		Output = (A-B) (differential)		
Model	Mount	Math Function	DC Input	DC Output
API 4440 G	8 pin socket	Output is square root of input. Applications include pitot tubes, orifice plates, flow sensors	0-50 mVDC to 0-200 VDC, 0-1 mADC to 0-50 mADC, sink or source mA	0-1 V to ± 10 V, 0-1 mA to 4-20 mA, 20 V sourcing mA

Transmitter Calibration

Multi-turn zero and span potentiometers for output

Functional Test Button

Sets output to test level to 50% when pressed

Response Time

100 milliseconds typical

Isolation

3-way: power/input, power/output, input/output
Math module inputs share common ground

AC Input

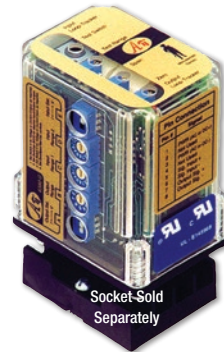
Convert AC voltage or current to process signals

- Motor, Heater, or Machinery Input to PLC
- Monitor Electrical Loads or Voltage Drops



Free Factory
I/O Setup!

Info & Applications
api-usa.com/ac



API 6380 G



API 6010 G 5A



API series: 8 pin
115, 230 VAC powered
150 VAC max. input

Alarm Models

Field adjustable alarm setpoint(s), 0-100% of span

Alarm options: HI, LO, HI/LO, LO/LO, HI/HI, latching,
reverse acting, band or inverse band alarm

Input Frequency

40 Hz to 1000 Hz

Transmitter Calibration

Multi-turn zero and span potentiometers for output

Shunt Option for Plug-In Modules

5A option: 25 W, 0.1 Ω shunt resistor with socket
900 mA to 5A current inputs

Functional Test Button

Alarm models: toggles alarm output state
Transmitters: sets output to test level when pressed

Isolation

Alarm models: power to input
Transmitters: 3-way; power/input, power/output, I/O

Response Time

70 milliseconds typical
API 6010: 150 milliseconds typical
API 6380: 200 milliseconds to 90% typical

Model	Mount	AC Input	Alarms
API 1600 G	11 pin socket	0-50 mVAC to 0-300 VAC, 0-1 mAAC to 0-900 mAAC	1 DPDT relay, 8 A, adjustable deadband
API 1620 G			2 SPDT relays, 8 A, 1% deadband standard
APD 1600	DIN rail	0-50 mVAC to 0-300 VAC, 0-1 mAAC to 0-1000 mAAC	2 DPST relays, 8 A, 1 setpoint, adjustable deadband
APD 1620			2 DPST relays, 8 A, 2 setpoints, adjustable deadband
APD 1630			2 DPST relays, 8 A, band alarms, adjustable deadbands
Model	Mount	AC Input	DC Output
API 6010 G	8 pin socket	0-50 mVAC to 0-300 VAC, 0-1 mAAC to 0-900 mAAC	0-1 V to 0-10 V, ± 1 V to ± 10 V, 0-1 mA to 0-20 mA, 20 V sourcing mA, sinking optional
APD 6010 True RMS standard	DIN rail	0-50 mVAC to 0-300 VAC, 0-1 mAAC to 0-1000 mAAC	0-1 V to 0-10 V, ± 1 V to ± 10 V, 0-1 mA to 0-20 mA, wire for 20 V source or sink mA output
Model	Mount	Switch Selectable AC Input	Switch Selectable DC Output
API 6380 G S option: true RMS	8 pin socket	0-50 mVAC to 0-250 VAC, 0-5 mAAC to 0-200 mAAC	0-1 V to 0-10 V, ± 1 V to ± 10 V, 0-2 mA to 0-25 mA, 20 V sourcing mA output
API 6380 G HV S option: true RMS		0-50 mVAC to 0-600 VAC, 0-5 mAAC to 0-200 mAAC	
APD 6380 True RMS standard	DIN rail	0-40 mVAC to 0-300 VAC, 0-4 mAAC to 0-200 mAAC	0-1 V to 0-10 V, ± 1 to ± 10 V, 0-2 mA to 0-20 mA, wire for 20 V source or sink mA output
Model	Mount	AC Input	DC Outputs
APD 6393 IsoSplitter	DIN rail	Signal splitter, one input 0-50 mVAC to 0-300 VAC, 0-1 mAAC to 0-1000 mAAC	2 independent outputs, 0-1 V to 0-10 V, ± 1 V to ± 10 V, 0-1 mA to 0-25 mA, wire for 20 V source or sink mA outputs



APD 6380

Potentiometer

Convert potentiometer inputs to a process signal

- Position Monitoring and Alarms
- Use Any Potentiometer



Free Factory
I/O Setup!

Info & Applications
api-usa.com/pot



API series: 8 pin
115, 230 VAC powered

Alarm Models

Field adjustable alarm setpoint(s), 0-100% of span

Alarm options: HI, LO, HI/LO, LO/LO, HI/HI, latching,
reverse acting, band or inverse band alarm

Potentiometer Excitation

1 VDC excitation provided to potentiometer

Transmitter Calibration

Multi-turn zero and span potentiometers for output

Functional Test Button

Alarm models: toggles alarm output state
Transmitters: sets output to test level when pressed

Isolation

Alarm models: power to input
Transmitters: 3-way power/input, power/output, I/O

Response Time

70 milliseconds typical

Model	Mount	Potentiometer Input	Alarms
APD 1800	DIN rail	Any full-range potentiometer, 0-100 Ω to 0-1.0 M Ω	2 DPST relays, 8 A, 1 setpoint, adjustable deadband
APD 1820			2 DPST relays, 8 A, 2 setpoints, adjustable deadband
APD 1830			2 DPST relays, 8 A, band alarms, adjustable deadbands
Model	Mount	Potentiometer Input	DC Output
API 4003 G I	8 pin socket	Any full-range potentiometer, 0-100 Ω to 0-1.0 M Ω	0-1 V to 0-10 V, ± 1 V to ± 10 V, 0-1 mA to 0-20 mA
APD 4003	DIN rail		API 4003 G I: 20 V sourcing mA, sinking output optional APD 4003: wire for 20 V source or sink mA output
Model	Mount	Potentiometer Input	Switch Selectable DC Output
API 4008 G	8 pin socket	Any full-range potentiometer, 0-100 Ω to 0-1.0 M Ω	0-1 V to 0-10 V, ± 1 V to ± 10 V, 0-2 mA to 0-25 mA
APD 4008	DIN rail	Any 0-100 Ω to 0-1.0 M Ω pot., full, partial or offset input	API 4008 G: 20 V sourcing mA output APD 4008: wire for 20 V source or sink mA output
Model	Mount	Input	DC Outputs
APD 2208	DIN rail	Potentiometer and/or VDC, mA. Set up for 2 inputs or splitter	2 independent outputs, 0-1 V to ± 10 V, 0-1 mA to 0-20 mA
APD 3393 IsoSplitter		Signal splitter, one input, any full-range potentiometer, 0-100 Ω to 0-1.0 M Ω	2 independent outputs, 0-1 V to 0-10 V, ± 1 V to ± 10 V, 0-1 mA to 0-25 mA, wire for 20 V source or sink mA outputs



API 4008 G



APD 4008



API series



APD 2208

Frequency

Frequency cutout alarms, convert frequency to a process signal, or process signal to frequency

- Machinery Speed High or Low Alarm
- Sine, Square, Sawtooth Wave Input

Alarm Models

Field adjustable alarm setpoint(s), 0-100% of span
Alarm options: HI, LO, HI/LO, LO/LO, HI/HI, latching, reverse acting, band or inverse band alarm

Frequency to DC Transmitters

Factory or field rangeable with input sensitivity adjustment

DC to Frequency Transmitters

Field rangeable MOSFET or TTL square wave output
Adjustable cutout control, 2%-25% of range

Transmitter Calibration

Multi-turn zero and span potentiometers for output

Model	Mount	Frequency Input	Alarms
API 1700 G	11 pin socket	0-10 Hz to 0-20 kHz, 100 mVRMS to 150 VRMS	1 DPDT relay, 8 A, adjustable deadband
API 1720 G			2 SPDT relays, 8 A, 1% deadband standard
APD 1700	2 DPST relays, 8 A, 1 setpoint, adjustable deadband		
APD 1720	2 DPST relays, 8 A, 2 setpoints, adjustable deadband		
APD 1730	2 DPST relays, 8 A, band alarms, adjustable deadbands		
Model	Mount	Frequency Input	DC Output
API 7010 G	8 pin socket	0-25 Hz to 0-20 kHz, 100 mVRMS to 150 VRMS	0-1 V to 0-10 V, ± 1 V to ± 10 V, 0-1 mA to 0-20 mA, API 7010 G: 20 V sourcing mA, sinking mA output optional APD 7010: wire for 20 V source or sink mA output
APD 7010	DIN rail		
Model	Mount	Switch Selectable DC Input	Switch Selectable Frequency Output
API 7500 G	8 pin socket	0-50 mVDC to ± 10 VDC, 0-1 mADC to 0-20 mADC	0-100 Hz to 0-30 kHz SS version: 0-1 Hz to 0-300 Hz MOSFET output standard, M02 option for TTL output APD 7500: wire for MOSFET or TTL output
APD 7500 	DIN rail		
Model	Mount	Switch Select. Frequency Input	Switch Selectable DC Output
API 7580 G	8 pin socket	0-100 Hz to 0-30 kHz, 100 mVRMS to 150 VRMS	0-1 V to 0-10 V, ± 1 V to ± 10 V, 0-1 mA to 0-20 mA, 20 V sourcing mA output
APD 7580	DIN rail		0-1 V to 0-10 V, ± 1 V to ± 10 V, 0-1 mA to 0-20 mA, wire for 20 V source or sink mA output
Model	Mount	Frequency Input	DC Outputs
APD 7393 IsoSplitter 	DIN rail	Signal splitter, one input, 0-25 Hz to 0-20 kHz, 100 mVRMS to 150 VRMS	2 independent outputs, 0-1 V to 0-10 V, ± 1 V to ± 10 V, 0-1 mA to 0-25 mA, wire for 20 V source or sink mA outputs



Free Factory
I/O Setup!

Info & Applications
api-usa.com/freq

Functional Test Button

Alarm models: Toggles alarm output state
Transmitters: Sets output to test level when pressed

Isolation

Alarm models: Power to input
Transmitters: 3-way power/input, power/output, I/O

Response Time

70 milliseconds typical
7580 low ranges: 600 milliseconds typical
7580 high ranges: 110 milliseconds typical



API 7500 G

UL
E145968
API series: 8 pin
115, 230 VAC powered



API 7580 G



APD 7010

UL
LISTED
E145968
APD series



APD 7580

Valve Position

An easy-to-setup valve actuator with choice of position feedback types

- Automatic or Manual Control
- Valve, Linear Actuator, or Damper Control

Valve Positioner

The SPDT relay provides bidirectional (open-close) signals to open or close the valve. When the feedback signal becomes equal to the control input, the relay will go to the neutral position and the valve motor will halt.

Operational Controls

Automatic/manual switch, manual open/close buttons

Feedback

Versions for potentiometer, voltage or mA feedback

Model	Mount	DC Input	Position Feedback	Relay Output
API 3200 G	11 pin socket	0-1 VDC to 0-100 VDC, 0-10 mADC to 0-1 ADC	Any full range potentiometer, 0-100 Ω to 0-100 k Ω	8 A SPDT relay with neutral position, adjustable deadband
API 3200 G M01			Voltage feedback (specify range), typical: 0-1 V, 0-5 V, 1-5 V, 0-10 V	
API 3200 G M420			mA feedback (specify range), typical: 0-20 mA, 4-20 mA, 10-50 mA	
APD 3200	DIN rail		Any full range potentiometer, 0-100 Ω to 0-100 k Ω	
Model	Mount	Switch Select. DC Input	Position Feedback	Relay Output
APD 3280	DIN rail	0-50 mVDC to 0-10 VDC, 0-1 mADC to 4-20 mADC	Any full range potentiometer 0-100 Ω to 0-100 k Ω	8 A SPDT relay with neutral position, adjustable deadband



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I/O Setup!

Info & Applications
api-usa.com/valve

Deadband

12 turn potentiometer, adjustable 1 to 25% of span

Input Zero and Span

Potentiometer adjustable, $\pm 10\%$ of span range typical

Response Time

100 milliseconds typical



APD 3280

UL
LISTED
E145968
APD series



APD 3280

Strain Gauge, Load Cell, Bridge

Amplify, alarm strain gauge sensor signals

- Transmitter for Load Cells, Pressure Sensors
- Interface Weighing Systems
- Convert Strain Gauge Signal to a DC Process Signal

Alarm Models

Field adjustable alarm setpoint(s), 0-100% of span

Alarm options: HI, LO, HI/LO, LO/LO, HI/LO
latching, reverse acting,
band or inverse band alarm

Factory Configured Transmitters

Specify: excitation voltage
sensor mV/V rating
output range
power
options (see datasheet)

Field Rangeable Transmitters

Switch selectable mV input ranges
Switch selectable excitation voltage
Fine adjustment potentiometer for excitation voltage
Switch selectable mA or Volt output ranges
Factory can pre-set to your requirements
Specify: power
options (see datasheet)

Input Ranges

Millivolt input: strain gauge
load cell
bridge
pressure transducer

mV range = mV/V sensitivity X excitation voltage

Transmitter Calibration

Multi-turn zero and span potentiometers for output

Functional Test Button

Alarm models: Toggles alarm output state
Transmitters: Sets output to test level when pressed,
adjustable 0-100% of span

Response Time

150 milliseconds typical
See datasheets for fast response DF option

Isolation

Alarms: Power to input
Transmitters: 3-way power/input, power/output, I/O
API 4058 and APD 4058 are non-isolated



Free Factory
I/O Setup!

Info & Applications
api-usa.com/strain



API 4059

Socket Sold Separately



API 4051 G

Removable
Plugs

Variable
Brightness
Output LED

Excitation
Adjust

Output Test
Adjust

Output Test
Button

Output
Calibration

Variable
Brightness
Input LED



APD 4059

UL
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E145968
APD series



APD 1500 Series
Load Cell Alarm



User changeable
calibration resistor

APD 4059 CR with cover removed

Model	Mount	Strain Gauge Input	Alarms
APD 1500	DIN rail	One 100 Ω to 10 k Ω bridge, 5 to 2000 mVDC	2 DPST relays, 8 A, 1 setpoint, adjustable deadband
APD 1520		1-10 VDC excitation, 30 mA max.	2 DPST relays, 8 A, 2 setpoints, adjustable deadband
APD 1530		Specify excitation voltage, mV/V	2 DPST relays, 8 A, band alarms, adjustable deadbands
Model	Mount	Strain Gauge Input	DC Output
API 4051 G I	11 pin socket	One 100 Ω to 10 k Ω bridge, 1 to 2000 mVDC,	0-1 V to 0-10 V, ± 1 V to ± 10 V, 0-1 mA to 0-20 mA
APD 4051	DIN rail	4-10 VDC excitation, 30 mA max. Specify excitation voltage, mV/V	API 4051 G I: 20 V sourcing mA output APD 4051: wire for 20 V source or sink mA output
Model	Mount	Switch Select. Strain Gauge Input	Switch Selectable DC Output
API 4058	11 pin socket	Up to four 100 Ω to 10 k Ω bridges, 5 to 1200 mVDC, 1-10 VDC excitation, 115 mA max.	0-1 V to 0-10 V, ± 1 V to ± 10 V, 0-2 mA to 0-20 mA
APD 4058	DIN rail	One 100 Ω to 10 k Ω bridge, 5 to 1200 mVDC, 1-10 VDC excitation, 30 mA max.	API 4058 G: 20 V sourcing mA output APD 4058: wire for 20 V source or sink mA output
API 4059	11 pin socket	Up to four 100 Ω to 10 k Ω bridges, 5 to 400 mVDC,	0-1 V to 0-10 V, ± 1 V to ± 10 V, 0-2 mA to 0-20 mA
APD 4059	DIN rail	1-10 VDC excitation, 120 mA max. APD 4059 CR: Specify calibration resistor value	API 4059 G: 20 V sourcing mA output APD 4059: wire for 20 V source or sink mA output APD 4059 CR: wire for 20 V source or sink mA output
APD 4059 CR	DIN rail		
Model	Mount	Strain Gauge Input	DC Outputs
APD 5393 IsoSplitter	DIN rail	Signal splitter, one input 100 Ω to 10 k Ω , 5 to 2000 mVDC 1-10 VDC excitation, 30 mA max. Specify excitation voltage, mV/V	2 independent outputs, 0-1 V to 0-10 V, ± 1 V to ± 10 V, 0-1 mA to 0-25 mA, wire for 20 V source or sink mA output



APD 5393
Load Cell IsoSplitter

NEW!

Current Switches and Transmitters

Economical sensors for current out-of range alarms or monitoring current levels

- Process Limit or Heater Break Alarm
- Motor Current Monitoring

Info & Applications
api-usa.com/current

Switch	Type	Ranges, Setpoint	Aperture	Relay
CS-AC-1	6-100 Hz AC switch self-powered	1.75 to 150 AAC	Split core 0.85" x 0.85"	N.C. SSR, 0.2 A @ 135 VAC/VDC
CS-AC-2		potentiometer adj. setpoint		N.O. SSR, 0.15 A @ 240 VAC/VDC
CS-DC-1S-12	DC-400 Hz switch 12 or 24 VDC powered	Jumper selectable ranges 5-20 ADC, 18-50 ADC, 50-100 ADC potentiometer adj. setpoint	Solid core 0.75" dia.	SPDT: 5 A @ 30 VDC, 5 A @ 240 VAC, 3 A ind.
CS-DC-1S-24				
CS-DC-2S-12				
CS-DC-2S-24				N.O. SSR, 0.15 A @ 240 VAC/VDC
Transmitter	Type	Selectable AC Ranges	Aperture	Output
CTX-AC-0	AC transmitter 10 to 400 Hz loop powered	2 AAC, 5 AAC	Split core 0.85" x 0.85"	4-20 mA powered by 12-40 VDC loop
CTX-AC-1		10 AAC, 20 AAC, 50 AAC		
CTX-AC-2		100 AAC, 150 AAC, 200 AAC		
CTX-AC-3S	Use CTX-ACR for true RMS	375 AAC, 500 AAC, 750 AAC	Solid core 3.0" dia.	
CTX-AC-4S		1000 AAC, 1333 AAC, 2000 AAC		



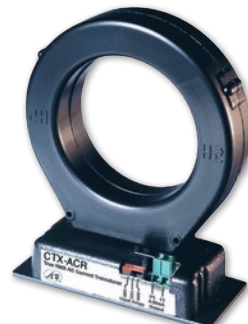
CS-AC



CS-DC



CTX-ACR-0, -1, -2



CTX-ACR-3S/4S

Temperature

Versatile temperature alarms and transmitters ranged and linearized to your specifications

- Interface RTDs and Thermocouples to PLCs
- Rescale Temperature Ranges to 4-20 mA



Free Factory I/O Setup!

Info & Applications
api-usa.com/temp

Alarm Models

Field adjustable alarm setpoint(s)

Alarm options: HI, LO, HI/LO, LO/LO, HI/Hi latching, reverse acting, band or inverse band alarm

RTD Input Transmitters

Specify: RTD resistance 10 Ω to 2000 Ω
RTD curve
temperature range in $^{\circ}$ F or $^{\circ}$ C

Thermocouple Input Transmitters

Specify: T/C type
J, K, T, E, R, S, call or other types
temperature range in $^{\circ}$ F or $^{\circ}$ C
CJC standard

T/C Burn-Out Protection

Upscale burnout standard, downscale burnout with option B

Transmitter Calibration

Multi-turn zero and span potentiometers for output

Functional Test Button

Alarm models: Toggles alarm output state

Transmitters: Sets output to test level when pressed, 50% of span (adj. 0-100% some models)



API 4001 G L
RTD Transmitter

API series: 8 pin 115, 230 VAC powered
E145968



API 4130 G L
T/C Transmitter

Response Time

70 milliseconds typical

Isolation

Alarms: Power to input
Transmitters: 3-way power/input, power/output, I/O



APD 4001
RTD Transmitter

LISTED
E145968
APD series

Model	Mount	Temperature Input	Alarms
API 1200 G	11 pin socket	T/C: specify J, K, T, E, R, or S temperature range, $^{\circ}$ F or $^{\circ}$ C	1 DPDT relay, 8 A, adjustable deadband
API 1220 G			2 SPDT relays, 8 A, 1% deadband standard
API 1400 G		RTD: specify resistance, curve, temperature range, $^{\circ}$ F or $^{\circ}$ C	1 DPDT relay, 8 A, adjustable deadband
API 1420 G			2 SPDT relays, 8 A, 1% deadband standard
APD 1400	DIN rail	RTD: specify resistance, curve, temperature range, $^{\circ}$ F or $^{\circ}$ C	2 DPST relays, 8 A, 1 setpoint, adjustable deadband
APD 1420			2 DPST relays, 8 A, 2 setpoints, adjustable deadband
APD 1430			2 DPST relays, 8 A, band alarms, adjustable deadbands
Model	Mount	Temperature Input	DC Output
API 4001 G L	8 pin socket	RTD: specify resistance, curve, temperature range, $^{\circ}$ F or $^{\circ}$ C	0-1 V to 0-10 V, ± 1 V to ± 10 V, 0-1 mA to 0-20 mA, 20 V sourcing mA output, sinking output optional on 4001 G L
API 4001 G SA-B	11 pin socket	Two 100 Ω , 385 curve RTDs	
APD 4001	DIN rail	RTD: specify resistance, curve, temperature range, $^{\circ}$ F or $^{\circ}$ C	0-1 V to 0-10 V, ± 1 V to ± 10 V, 0-1 mA to 0-20 mA, wire for 20 V source or sink mA output
API 4130 G L	8 pin socket	T/C: specify J, K, T, E, R, or S temperature range, $^{\circ}$ F or $^{\circ}$ C	0-1 V to 0-10 V, ± 1 V to ± 10 V, 0-1 mA to 0-20 mA, 12 V sourcing std., sinking optional
Model	Mount	Temperature Input	DC Outputs
APD 1393 IsoSplitter	DIN rail	RTD: specify resistance, curve, temperature range, $^{\circ}$ F or $^{\circ}$ C	Two outputs, specify for each channel, 0-1 V to 0-10 V, ± 1 V to ± 10 V, 0-1 mA to 0-20 mA, wire for 20 V source or sink mA outputs



APD 1393
RTD IsoSplitter