

Absolute Process Instruments

*Signal Conditioners, Isolators
Process Transmitters
Custom Electronics*



*American Owned
American Engineered
American Built
American Pride*



*Your Analog Signal
Interface Experts!*

*Free Applications
Assistance*

*See
api-usa/apps
for Product
Applications*



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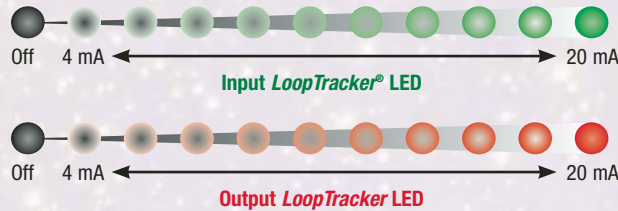
api-usa.com

API Exclusive Features

LoopTracker® LEDs

Variable intensity LEDs monitor I/O status and diagnose connection problems on all API transmitters.

As the process signal increases, the brightness of the LED increases, and as the signal decreases the LED brightness decreases. An open circuit cause the LED to go out. This allows you to diagnose I/O problems quickly and efficiently minimizing system down time.



Transmitter 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, alarm operation, etc.

On many models this signal is adjustable from 0-100% of span by holding the Test button down and adjusting the Test potentiometer on the unit. On some models the test signal is fixed at 50% of output span.

Most APD series models have terminals to allow to connect your own output test button for remote testing or a manual over ride.

Alarm Functional Test Button

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

The API exclusive 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.

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

The test button allows the technician to test the relays, and the operation of the device the relays are controlling.

Isolation

Most API series modules offer 2000 V_{RMS}, 3-way isolation: power/input, power/output, input/output.

APD series modules offer 1200 V_{RMS}, 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 with no loss in performance.

Hot Swappable Design

API plug-in modules can be quickly changed while under power. The socket with wire terminals mounts to your DIN rail and the module simply plugs in. This allows you to swap in a new module with minimal down time.

Module Power

Standard on plug-in modules: 115 VAC ±10%, 50/60 Hz

A230: for plug-in modules: 230 VAC ±10%, 50/60 Hz

P: optional for plug-in modules, standard on APD series 60-265 VAC, 50/60 Hz or 85-300 VDC

D: 9-30 VDC or 10-32 VAC

Fast Delivery

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

Need a Special Signal Conditioner?

Most products can be customized for your specific requirements. In addition we can supply specialized signal conditioners from our partner companies. Products and applications include programmable temperature devices, LVDTs, speed sensing, pulse conversion, conductivity, salinity, pH and ORP.

Customized Solutions

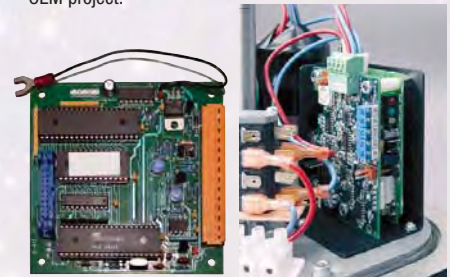
We offer customized and private label solutions for OEMs. We can modify existing designs or offer unique products based on your specifications. Product capabilities range from circuit boards through complete product lines.

Our engineering capabilities include all circuit design, microprocessor programming, software, printed 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 equipment and pressure calibration systems for production. We are a UL and Factory Mutual inspected shop.

We are often able to quote projects involving as few as 100 units per year. Please contact us to discuss your OEM project.



Custom Circuit Board

Custom Valve Positioner

DuoPak® Two Channel Transmitters, Converters, 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

Input Ranges

Factory ranged, please specify for each input channel
mA inputs can be wired for sink or source
15 VDC ±10%, regulated, 25 mA DC

Output Ranges

Factory ranged, please specify for each output channel

Output Zero and Span

Multi-turn potentiometers for each output
±15% of span adjustment range

Functional Test Button

Sets output to test level when pressed
Adjustable 0-100% of span

Response Time

70 milliseconds typical

Isolation

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

Model	Specify Channel 1 Input	Specify Channel 2 Input	Specify Channel 1 and 2 Outputs
APD 2000	mVDC, VDC or mA	mVDC, VDC or mA	2 independent outputs Specify type and range for each output channel Channel 1 0-1 V to 0-10 V, ±1 V to ±10 V, 0-1 mA to 0-25 mA, connect for sinking or 20 V sourcing mA Channel 2 0-1 V to 0-10 V, ±1 V to ±10 V, 0-1 mA to 0-25 mA, connect for sinking or 20 V sourcing mA
APD 2001	mVDC, VDC or mA	RTD Ω, curve, °F or °C	
APD 2003	mVDC, VDC or mA	Any full-range potentiometer	
APD 2005	mVDC, VDC or mA	mV/V, excitation voltage	
APD 2006	mVDC, VDC or mA	mVAC, VAC or mAAC	
APD 2007	mVDC, VDC or mA	Hz frequency	
APD 2011	RTD Ω, curve, °F or °C	RTD Ω, curve, °F or °C	
APD 2013	RTD Ω, curve, °F or °C	Any full-range potentiometer	
APD 2015	RTD Ω, curve, °F or °C	mV/V, excitation voltage	
APD 2016	RTD Ω, curve, °F or °C	mVAC, VAC or mAAC	
APD 2017	RTD Ω, curve, °F or °C	Hz frequency	
APD 2033	Any full-range potentiometer	Any full-range potentiometer	
APD 2035	Any full-range potentiometer	mV/V, excitation voltage	
APD 2036	Any full-range potentiometer	mVAC, VAC or mAAC	
APD 2037	Any full-range potentiometer	Hz frequency	
APD 2055	mV/V, excitation voltage	mV/V, excitation voltage	
APD 2056	mV/V, excitation voltage	mVAC, VAC or mAAC	
APD 2057	mV/V, excitation voltage	Hz frequency	
APD 2066	mVAC, VAC or mAAC	mVAC, VAC or mAAC	
APD 2067	mVAC, VAC or mAAC	Hz frequency	
APD 2077	Hz frequency	Hz frequency	

Info & Applications
api-usa.com/duopak



APD 2000
2 Channel DC to DC

APD 2077
2 Channel Frequency to DC

Free Factory
I/O Setup!

DC Input Alarms, DC Input Transmitter + Alarm

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

- Process Limit Alarm
- DC Power Limit Alarm
- Current Shunt Alarm

Free Factory I/O Setup!

Alarm Model Specifications

Field adjustable alarm setpoint(s)
12 turn potentiometer, adjustable from 0-100% of span
Alarm options: HI, LO, HI/LO, LO/LO, HI/Hi latching, reverse acting, band or inverse band alarm APD 1030

Shunt Option for Plug-In Modules

5A option: 5 Amp external 25 W shunt resistor with socket for current inputs >200 mAAC to 5A

API 1040 G Specifications

1 SPDT relay and non-isolated transmitter

Input Loop Power Supply

18 VDC nominal, unregulated, 25 mA

Functional Test/Reset Button

Toggle relay(s) to opposite state when pressed
Resets latching relay with HT option

Response Time

70 milliseconds typical

LIFETIME WARRANTY

Info & Applications
api-usa.com/alarms



API 1040 G



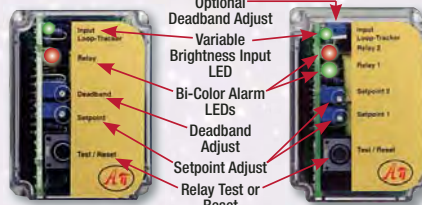
APD 1000 DC Input Single Alarm



APD 1020 DC Input Dual Alarm



APD 1030 DC Input Band Alarm



API 1000 G DC Input Alarms

API 1020 G DC Input Alarms



Socket Sold Separately

API 1080 G



Socket Sold Separately

API 1090 G



APD 1080



APD 1090

Model	Type	Specify Input	Specify Alarm Output Type
API 1000 G	11 pin plug in	0-100 mVDC to 0-300 VDC, 0-1 mA to 0-900 mA	1 DPDT relay, 7 A, adjustable deadband
API 1020 G			2 SPDT relays, 7 A, 1% deadband standard
API 1005 G	11 pin plug in	4-20 mA with loop power supply	1 DPDT relay, 7 A, adjustable deadband
API 1025 G			2 SPDT relays, 7 A, 1% deadband standard
APD 1000	DIN	0-100 mVDC to 0-300 VDC, 0-1 mA to 0-900 mA	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, 2 setpoint band alarm, adj. deadbands
API 1040 G	11 pin plug in	0-100 mVDC to 0-200 VDC, ±100 mVDC to ±10 VDC, 0-1 mA to 0-50 mA	4-20 mA and 1 DPDT relay, 7 A, adj. deadband
Model	Type	Switch Selectable Input	Field Configurable Alarm Output
API 1080 G	11 pin plug in	0-50 mVDC to ±10 VDC, 0-1 mA to 0-20 mA	1 DPDT relay, 7 A, 1 setpoint, adjustable deadband
APD 1080	DIN	0-50 mVDC to ±10 VDC, 0-1 mA to 0-20 mA sink or source mA	2 DPST relays, 8 A, 1 setpoint, adjustable deadband
API 1090 G	11 pin plug in	0-50 mVDC to ±10 VDC, 0-1 mA to 0-20 mA	2 DPDT relays, 7 A, 2 setpoints, adjustable deadbands
APD 1090	DIN	0-50 mVDC to ±10 VDC, 0-1 mA to 0-20 mA sink or source mA	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

Input and Output

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

Input Voltage Burden

Approximately 9 VDC at 20 mA

Output Load Capability

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

LoopTracker®

Variable brightness LED indicates output loop current

Output Zero and Span

Multi-turn potentiometers, ±10% of span range typical

Info & Applications
api-usa.com/loop

LIFETIME WARRANTY



API LPI-1



API LPI-2

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

Response Time

60 milliseconds typical

Isolation

Input to output, channel to channel



API DPI-2



API LPI-2

Model	Type	Input Range	Output Range
API LPI-1	8 pin plug in	4-20 mA	4-20 mA
API LPI-2	8 pin plug in	2 channel 4-20 mA	2 channel 4-20 mA
API DPI-2	DIN	2 channel 4-20 mA	2 channel 4-20 mA

DC Input Transmitters, Converters, Isolators

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

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



Free Factory I/O Setup!

Info & Applications
api-usa.com/dc

Factory Configured Models

Specify input, output range, power, and options

Field Rangeable Models

Specify input and output range if factory is to pre-set.

Specify power and options

Output Zero and Span

Multi-turn potentiometers, ±15% of span adjustment range

Functional Test Button

Sets output to test level when pressed

Potentiometer adjustable 0-100% of span

Isolation

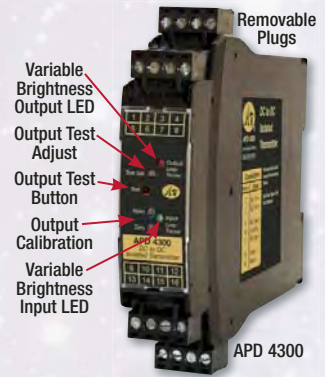
3-way: power/input, power/output, input/output



API 4300



API 4380



APD 4300

Response Time

70 milliseconds typical

APD 4380: 100 milliseconds typical

Model	Type	Specify Input Range	Specify Output Range
API 4300 G	8 pin plug in	0-100 mVDC to 0-300 VDC or 0-1 mA to 0-900 mA, 5A option for 5 Amps connect for sinking or 18 V sourcing mA	0-1 V to ±10 VDC, 0-1 mA to 4-20 mA 20 V sourcing mA, sinking w. EXTSUP option
API 4310 G	8 pin plug in	0-10 mV to 0-500 VDC, ±10 mV to ±10 VDC, 0-100 µA to 0-900 mA, connect for sinking or 18 V sourcing mA	0-1 V to ±10 VDC, 0-1 mA to 4-20 mA 20 V sourcing mA, sinking w. EXTSUP option
APD 4300	DIN	0-100 mV to 0-300 VDC, ±1 V to ±10 VDC, 0-1 mA to 0-900 mA, 0-1 mA to 4-20 mA, connect for sinking or 15 V sourcing mA	0-1 V to ±10 VDC, 0-1 mA to 4-20 mA, connect for sinking or 20 V sourcing mA
APD 4300 PLC	DIN	4-20 mA, connect for sink or 15 V sourcing mA	4-20 mA, connect for sink or 20 V sourcing mA
APD 4393 IsoSplitter	DIN 45 mm	Signal splitter, one input 0-10 mV to 0-100 V, ±50 mV to ±10 V, 0-1 mA to 0-50 mA, connect for sinking or 15 V sourcing mA	Specify 2 independent outputs, 0-1 V to 0-10 V, ±1 V to ±10 V, 0-1 mA to 0-25 mA, connect for sinking or 20 V sourcing mA
Model	Type	Switch Selectable Input	Switch Selectable Output
API 4380 G	8 pin plug in	0-50 mVDC to ±10 VDC, 0-1 mA to 0-20 mA, connect for sinking or 18 V sourcing mA	0-1 V to ±10 VDC, 0-2 mA to 4-20 mA, 20 V sourcing mA
APD 4380	DIN	0-10 mV to 0-130 VDC, ±5 mVDC to ±65 VDC, 0-200 µA to 0-50 mA, connect for sinking or 15 V sourcing mA	0-1 V to 0-10 VDC, ±5 VDC, ±10 VDC, 0-2 mA to 4-20 mA, connect for sinking or 20 V sourcing mA
API 4385	8 pin plug in	-50-0 mV to 20-40 VDC, 0-200 µA to 10-50 mA, connect for sinking or 18 V sourcing mA	0-1 V to ±10 VDC, 0-2 mA to 4-20 mA, 20 V sourcing mA
API 4380 G HV3	8 pin plug in	High voltage input, 2.5 MΩ input impedance 0-20 VDC to 0-200 VDC, ±200 VDC	0-1 V to 0-10 VDC, ±5 VDC, ±10 VDC, 0-20 mA, 4-20 mA, 20 V sourcing mA
APD HV-DC	DIN	High voltage input 8 selectable input ranges + 1 custom, 0-100 VDC to 0-1200 VDC	0-1 V to 0-10 VDC, ±5 VDC, ±10 VDC, 0-2 mA to 4-20 mA, connect for sinking or 20 V sourcing mA



APD 4380



APD 4393 IsoSplitter



Socket Sold Separately

API 4385



APD HV-DC

DC Input Math Modules

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

Model	Type	Math Function	Specify Inputs	Specify Output
API 4400 G	11 pin plug in	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 mV to 0-10 VDC, 0-1 mA to 0-20 mA, sinking mA Consult factory for mixed inputs	0-1 V to ±10 VDC, 0-1 mA to 4-20 mA, 20 V sourcing mA
API 4401 G	11 pin plug in	Output = (A+B+C)/3 (average of 3)		
API 4402 G	11 pin plug in	Output = (A+B)/2 (average of 2)		
API 4403 G	11 pin plug in	Output = (A+B+C-D)/3		
API 4404 G	11 pin plug in	Output = (A+B-C-D)/2		
API 4405 G	11 pin plug in	Output = (A-B-C-D)		
API 4406 G	11 pin plug in	Output = (A+B-C)/2		
API 4407 G	11 pin plug in	Output = (A-B-C)		
API 4408 G	11 pin plug in	Output = (A-B) (differential)		
Model	Type	Math Function	Specify Input	Specify Output
API 4440 G	8 pin plug in	Output is square root of input. Applications include pitot tubes, orifice plates, flow sensors	0-50 mV to 0-200 VDC, 0-1 mA to 0-50 mA connect for sinking or 18 V sourcing mA	0-1 V to ±10 VDC, 0-1 mA to 4-20 mA, 20 V sourcing mA

Factory Configured Models

Specify each input range, output range, power, and options

Output Zero and Span

Multi-turn potentiometers, ±15% of span adjustment range

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



API 4408 G



API 4440 G

AC Input Alarms, Transmitters, Converters, Isolators

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

Alarm Model Specifications

Field adjustable alarm setpoint(s)
Alarm options: HI, LO, HI/LO, LO/LO, HI/HI latching, reverse acting, band or inverse band alarm on APD 1630

Factory Configured Models

Specify input, output range, power, and options

Field Rangeable Models

Specify input and output range if factory is to pre-set.
Specify power and options

Shunt Option for Plug-In Modules

5A option: 5 Amp external 25 W shunt resistor with socket for current inputs >200 mAAC to 5A

Input Frequency

40 Hz to 1000 Hz

Analog Output Zero and Span

Multi-turn potentiometers, $\pm 15\%$ of span adjustment range

Functional Test Button

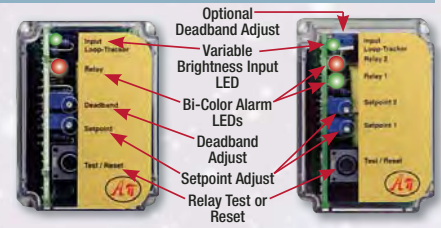
Alarm models: Toggles alarm output state
Analog output: Sets output to test level when pressed, 50% of span (adj. 0-100% some models)

Response Time

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

Isolation

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



API 1600 G
AC Input Alarms

API 1620 G
AC Input Alarms



APD 6010



API 6010 G 5A



API 6380 G

Socket-Sold Separately



APD 6380

Model	Type	Specify Input	Specify Alarm Output Type and Options
API 1600 G	11 pin plug in	0-50 mVAC to 0-300 VAC, 0-1 mAAC to 0-900 mAAC, 0-5 AAC with 5A shunt option	1 DPDT relay, 7 A, adjustable deadband
API 1620 G			2 SPDT relays, 7 A, 1% deadband standard
APD 1600	DIN	0-50 mVAC to 0-300 VAC, 0-1 mAAC to 0-1000 mAAC	2 DPST relays, 7 A, 1 setpoint, adjustable deadband
APD 1620			2 DPST relays, 8 A, 2 setpoints, adjustable deadband
APD 1630			2 DPST relays, 8 A, 2 setpoint band alarm, adj. deadbands
Model	Type	Specify Input	Specify Output
API 6010 G	8 pin plug in	0-50 mVAC to 0-300 VAC, 0-1 mAAC to 0-900 mAAC,	0-1 VDC to 0-10 VDC, ± 1 VDC to ± 10 VDC, 0-1 mA to 0-20 mA, 20 V sourcing mA, sinking optional
APD 6010 True RMS std.	DIN	0-50 mVAC to 0-300 VAC, 0-1 mAAC to 0-1000 mAAC	0-1 VDC to 0-10 VDC, ± 1 VDC to ± 10 VDC, 0-1 mA to 0-20 mA, connect for sink or 20 V sourcing mA
Model	Type	Switch Selectable Input	Switch Selectable Output
API 6380 G S: true RMS	8 pin plug in	0-50 mVAC to 0-250 VAC, 0-5 to 0-200 mAAC	0-1 to 0-10 VDC, ± 1 to ± 10 VDC, 0-2 mA to 0-25 mA, 20 V sourcing mA
API 6380 G HV S: true RMS	8 pin plug in	0-50 mVAC to 0-600 VAC, 0-5 to 0-200 mAAC	
APD 6380 True RMS std.	DIN	0-40 mVAC to 0-300 VAC, 0-4 mAAC to 0-200 mAAC	
			0-1 to 0-10 VDC, ± 1 to ± 10 VDC, 0-2 mA to 0-20 mA, connect for sink or 20 V sourcing mA

Potentiometer Input Alarms, Transmitters, Converters, Isolators

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

Alarm Model Specifications

Field adjustable alarm setpoint(s)
Alarm options: HI, LO, HI/LO, LO/LO, HI/HI latching, reverse acting, band or inverse band alarm on APD 1830

Factory Configured Models

Specify input, output range, power, and options

Field Rangeable Models

Specify input and output range if factory is to pre-set.
Specify power and options

Input Excitation

1 VDC excitation provided to potentiometer

Analog Output Zero and Span

Multi-turn potentiometers, $\pm 15\%$ of span adjustment range

Functional Test Button

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

Response Time

70 milliseconds typical

Isolation

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



API 4003 G I



APD 4003

Model	Type	Input Range	Specify Alarm Output Type and Options
APD 1800	DIN	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, 2 setpoint band alarm, adj. deadbands
Model	Type	Input Range	Specify Output Range
API 4003 G I	8 pin plug in	Any full-range potentiometer 0-100 Ω to 0-1.0 M Ω	0-1 VDC to 0-10 VDC, ± 1 VDC to ± 10 VDC, 0-1 mA to 0-20 mA, 20 V sourcing mA, sinking optional
APD 4003	DIN	Any full-range potentiometer 0-100 Ω to 0-1.0 M Ω	0-1 VDC to 0-10 VDC, ± 1 VDC to ± 10 VDC, 0-1 mA to 0-20 mA, connect for sink or 20 V sourcing mA
Model	Type	Input Range	Switch Selectable Output
API 4008 G	8 pin plug in	Any full-range potentiometer 0-100 Ω to 0-1.0 M Ω	16 switch selectable ranges 0-1 to 0-10 VDC, ± 1 to ± 10 VDC, 0-2 to 0-25 mA, 20 V sourcing mA
APD 4008	DIN	Any 0-100 Ω to 0-1.0 M Ω pot., 0-10 to 0-100% of range, selectable input offset: 0-90%	18 switch selectable ranges 0-1 to 0-10 VDC, ± 1 to ± 10 VDC, 0-2 mA to 0-20 mA, connect for sink or 20 V sourcing mA



API 4008 G



APD 4008

Frequency Alarms and Transmitters, DC to Frequency Transmitters

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 Model Specifications

Field adjustable alarm setpoint(s)
 Alarm options: HI, LO, HI/LO, LO/LO, HI/Hi latching, reverse acting, band or inverse band alarm on APD 1730

Field Rangeable Frequency to DC Models

Single turn potentiometer input sensitivity adjustment

Field Rangeable DC to Frequency Models

5 V MOSFET square wave output

Potentiometer adjustable cutout control, 2%- 25% of range

Analog Output Zero and Span

Multi-turn potentiometers, ±15% of span adjustment range



Free Factory I/O Setup!

Info & Applications api-usa.com/freq



Functional Test Button

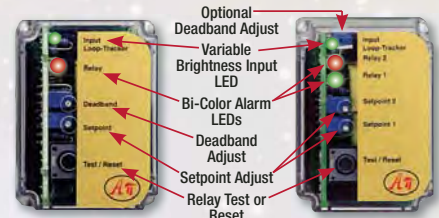
Alarm models: Toggles alarm output state
 Analog output: Sets output to test level when pressed, adj. 0-100% of span, 2-100% for API 7500

Response Time

70 milliseconds typical
 7580 series: Low ranges: 600 milliseconds typical
 High ranges: 110 milliseconds typical

Isolation

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



API 1700 G Freq. Input Alarms

API 1720 G Freq. Input Alarms



Socket Sold Separately

API 7500 G



Socket Sold Separately

API 7580 G



APD 7010



APD 7580

Model	Type	Specify Input Range	Specify Alarm Type and Options
API 1700 G	11 pin plug in	0-10 Hz to 0-20 kHz, 100 mVRMS to 150 VRMS	1 DPDT relay, 7 A, adjustable deadband
API 1720 G			2 SPDT relays, 7 A, 1% deadband standard
APD 1700	DIN	0-10 Hz to 0-20 kHz, 100 mVRMS to 150 VRMS	2 DPST relays, 7 A, 1 setpoint, adjustable deadband
API 1720			2 DPST relays, 8 A, 2 setpoints, adjustable deadband
APD 1730			2 DPST relays, 8 A, 2 setpoint band alarm, adj. deadbands
Model	Type	Specify Input Range	Specify Output Range
API 7010 G	8 pin plug in	0-25 Hz to 0-20 kHz, 100 mVRMS to 150 VRMS	0-1 VDC to 0-10 VDC, ±1 VDC to ±10 VDC, 0-1 mA to 0-20 mA, 20 V sourcing mA, sinking optional
APD 7010	DIN	0-25 Hz to 0-20 kHz, 100 mVRMS to 150 VRMS	0-1 VDC to 0-10 VDC, ±1 VDC to ±10 VDC, 0-1 mA to 0-20 mA, connect for sink or 20 V sourcing mA
Model	Type	Switch Selectable Input	Switch Selectable Output
API 7500 G	8 pin plug in	0-50 mVDC to ±10 VDC 0-1 mA to 0-20 mA	0-100 Hz to 0-30 kHz SS version: 0-1 Hz to 0-300 Hz MOSFET output standard, MO2 option for TTL output
API 7580 G	8 pin plug in	0-100 Hz to 0-30 kHz, 100 mVRMS to 150 VRMS	0-1 VDC to 0-10 VDC, ±1 VDC to ±10 VDC, 0-1 mA to 0-20 mA, 20 V sourcing mA
APD 7580	DIN	0-100 Hz to 0-30 kHz, 100 mVRMS to 150 VRMS	0-1 VDC to 0-10 VDC, ±1 VDC to ±10 VDC, 0-1 mA to 0-20 mA, connect for sink or 20 V sourcing mA

Valve Positioners

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

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

Operation

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

Operational Controls

Automatic/manual switch, manual open/close buttons

Feedback

Versions for potentiometer, voltage or mA feedback

Deadband

12 turn potentiometer, adjustable 1 to 25% of span



Free Factory I/O Setup!

Info & Applications api-usa.com/valve

LoopTracker®

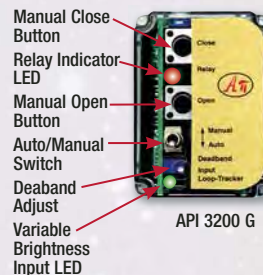
Variable brightness LED for input level
 Bicolor red/green LED for relay status

Input Zero and Span

Potentiometer adjustable, ±10% of span range typical

Response Time

100 milliseconds typical



API 3200 G



APD 3200



APD 3280

Model	Type	Specify Input Range	Position Feedback	Output
API 3200 G	11 pin plug in	0-1 V to 0-100 VDC, 0-10 mA to 0-1 ADC	Any full range potentiometer 0-100 Ω to 0-100 kΩ	7 A SPDT relay with neutral position, adjustable deadband
API 3200 G MO1	11 pin plug in	0-1 V to 0-100 VDC, 0-10 mA to 0-1 ADC	Voltage feedback (specify range), typical: 0-1 V, 0-5 V, 1-5 V, 0-10 V	
API 3200 G M420	11 pin plug in	0-1 V to 0-100 VDC, 0-10 mA to 0-1 ADC	mA feedback (specify range), typical: 0-20 mA, 4-20 mA, 10-50 mA	
APD 3200	11 pin plug in	0-1 V to 0-100 VDC, 0-10 mA to 0-1 ADC	Any full range potentiometer 0-100 Ω to 0-100 kΩ	8 A SPDT relay with neutral position, adjustable deadband
Model	Type	Switch Selectable Input	Position Feedback	Output
APD 3280	DIN	24 selectable input ranges 0-50 mV to 0-10 VDC, 0-1 mA to 0-20 mA	Any full range potentiometer 0-100 Ω to 0-100 kΩ	8 A SPDT relay with neutral position, adjustable deadband

Strain Gauge, Load Cell, Bridge Alarms, Transmitters, Converters

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- Interface Weighing Systems
- Convert Strain Gauge Input to DC Signal

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Alarm Models

Field adjustable alarm setpoint(s)
12 turn potentiometer, field adjustable from 0-100% of span
Alarm options: HI, LO, HI/LO, LO/LO, HI/Hi latching, reverse acting, band or inverse band alarm on APD 1530

Factory Configured Models

Specify excitation voltage, sensor mV/V rating, output range, power, and options

Field Rangeable Models

Specify excitation voltage, sensor mV/V rating, output range if factory is to pre-set

Specify power and options

Excitation voltage: Selectable in 1 V increments

Fine adjustment: Multi-turn potentiometer

Input Ranges

Millivolt input range is determined by the sensitivity of the sensor (mV/V) and the excitation voltage applied
 $mV/V \text{ sensitivity} \times \text{excitation voltage} = \text{total mV range}$
Consult factory or see datasheets for calibration resistor options available on certain models

Calibration, Analog Output Models

Multi-turn zero and span potentiometers for output $\pm 15\%$ of span adjustment range

Functional Test Button

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

Response Time

150 milliseconds typical
See datasheets or consult factory for fast response DF options

Isolation

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



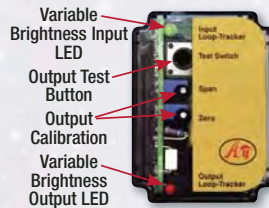
APD 1500 Load Cell Single Alarm

APD 1520 Load Cell Dual Alarm

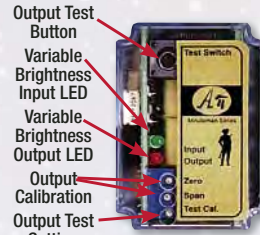
APD 1530 Load Cell Band Alarm



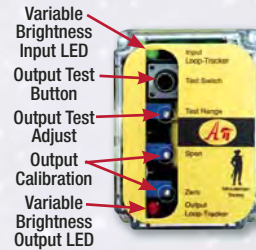
API 4051 G



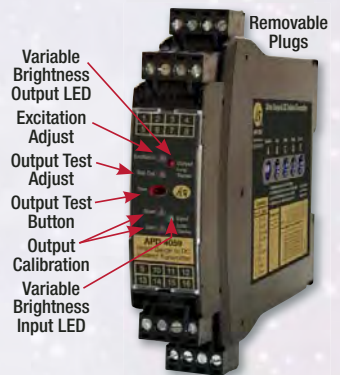
API 4051 G



API 4058 G



API 4059 G



APD 4059

Model	Type	Specify Input Type & Range	Specify Alarm Output Type and Options
APD 1500	DIN	100 Ω to 10 k Ω , 5 to 2000 mV	2 DPST relays, 8 A, 1 HI setpoint, adjustable deadband
APD 1520		1-10 VDC exc., 30 mA max.	2 DPST relays, 8 A, HI/LO setpoints, adjustable deadband
APD 1530		Specify excitation voltage, mV/V	2 DPST relays, 8 A, HI/LO band alarm, adj. deadbands
Model	Type	Specify Input Type & Range	Specify Output Range
API 4051 G I	11 pin plug in	1 350 Ω sensor, 1 to 2000 mV 4-10 VDC exc., 30 mA max. Specify excitation voltage, mV/V	0-1 VDC to 0-10 VDC, ± 1 VDC to ± 10 VDC, 0-1 mA to 0-20 mA 20 V sourcing mA output,
APD 4051	DIN	100 Ω to 10 k Ω , 5 to 2000 mV 1-10 VDC exc., 30 mA max. Specify excitation voltage, mV/V	0-1 VDC to 0-10 VDC, ± 1 VDC to ± 10 VDC, 0-1 mA to 0-20 mA, Connect for sinking or 20 V sourcing mA output
Model	Type	Switch Selectable Input	Switch Selectable Output
API 4058	11 pin plug in	One to four 350 Ω sensors, 5 mV to 1200 mV, 30 mA max., 1-10 VDC excitation	18 switch selectable ranges 0-1 VDC to 0-10 VDC, ± 1 VDC to ± 10 VDC, 0-1 mA to 0-20 mA, 20 V sourcing mA output
APD 4058	DIN	One 350 Ω sensor, 5 mV to 1200 mV, 30 mA max., 1-10 VDC excitation	18 switch selectable ranges 0-1 to 0-10 VDC, ± 1 to ± 10 VDC, 0-2 mA to 0-20 mA, connect for sinking or 20 V sourcing mA
API 4059	11 pin plug in	One to four 350 Ω sensors, 5 mV to 400 mV, 1-10 VDC exc., 120 mA max.	18 switch selectable ranges 0-1 to 0-10 VDC, ± 1 to ± 10 VDC, 0-2 mA to 0-20 mA, 20 V sourcing mA output
APD 4059	DIN	One to four 350 Ω sensors, 5 mV to 400 mV, 1-10 VDC exc., 120 mA max.	18 switch selectable ranges 0-1 to 0-10 VDC, ± 1 to ± 10 VDC, 0-2 mA to 0-20 mA, connect for sink or 20 V sourcing mA
APD 4059 CR	DIN	One to four 350 Ω sensors, 5 mV to 400 mV, 1-10 VDC exc., 120 mA max. Specify calibration resistor value	18 switch selectable ranges 0-1 to 0-10 VDC, ± 1 to ± 10 VDC, 0-2 mA to 0-20 mA, connect for sinking or 20 V sourcing mA



APD 4059 CR with cover removed



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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 on APD 1430

RTD Input Models

Specify RTD type, curve, and temperature range in °F or °C 10 Ω to 2000 Ω RTD

Thermocouple Input Models

Specify T/C type and temperature range in °F or °C J, K, T, E, R, S, call or other types

T/C Cold-Junction Compensation

Automatic for specified thermocouple

T/C Burn-Out Protection

Upscale burnout standard, downscale burnout with option B

Analog Output Zero and Span

Multi-turn potentiometers, ±15% of span adjustment range

Functional Test Button

Alarm models: Toggles alarm output state

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

Response Time

70 milliseconds typical

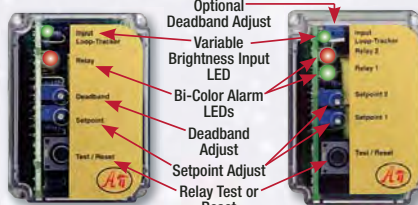
Isolation

Alarms: Power to input

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



API 1420 G RTD Dual Alarm



API 1200 G & 1400 G Temperature Alarms

API 1220 G & 1420 G Temperature Alarms



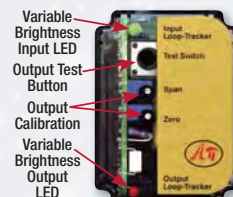
APD 1400 RTD Single Alarm



APD 1420 RTD Dual Alarm



APD 1430 RTD Band Alarm



API Transmitter



API 4001 G L RTD Transmitter



API 4130 G L T/C Transmitter



API 4001 G SA-B

Model	Type	Specify Input	Specify Alarm Output Type and Options
API 1200 G	11 pin plug in	T/C type, J, K, T, E, R, or S temperature range, °F or °C	1 DPDT relay, 7 A, adjustable deadband
API 1220 G			2 SPDT relays, 7 A, 1% deadband standard
API 1400 G	11 pin plug in	RTD resistance, curve, temperature range, °F or °C	1 DPDT relay, 7 A, adjustable deadband
API 1420 G			2 SPDT relays, 7 A, 1% deadband standard
APD 1400	DIN	RTD resistance, curve, temperature range, °F or °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, 2 setpoint band alarm, adj. deadbands

Model	Type	Specify Input	Specify Output
API 4001 G L	8 pin plug in	RTD resistance, curve, temperature range, °F or °C	0-1 VDC to 0-10 VDC, ±1 VDC to ±10 VDC, 0-1 mA to 0-20 mA
API 4001 G SA-B	11 pin plug in	Two 100 Ω, 385 curve RTDs	20 V sourcing mA output, sinking optional on 4001 G L
APD 4001	DIN	RTD resistance, curve, temperature range, °F or °C	0-1 VDC to 0-10 VDC, ±1 VDC to ±10 VDC, 0-1 mA to 0-20 mA, connect for sinking or 20 V sourcing mA
API 4130 G L	8 pin plug in	T/C type, J, K, T, E, R, or S temperature range, °F or °C	0-1 VDC to 0-10 VDC, ±1 VDC to ±10 VDC, 0-1 mA to 0-20 mA, 12 V sourcing standard, sinking optional

Model	Type	Specify Input	Specify Outputs
APD 1393 RTD IsoSplitter	DIN 45mm	RTD resistance, curve, temperature range, °F or °C	Two outputs, specify for each channel 0-1 VDC to 0-10 VDC, ±1 VDC to ±10 VDC, 0-1 mA to 0-20 mA, connect for sinking or 20 V sourcing mA



APD 4001 RTD Transmitter



APD 1393 RTD IsoSplitter