ADTECH
Analog-Digital Technology, Inc.

DC Current/Voltage Alarms

Model Nos. DCA 114 Single, DCA 115 Dual

The Adtech DCA series alarms accept standard process DC current or DC voltage input signals and provide relay contact outputs.

The basic input range is 1-50 mA (i.e., 4-20 mA), or any voltage of 0-1.25 mV DC to 0-250 VDC (i.e., 1-5 VDQ and output contacts are rated at 10 amps, 30 VDC, or 250 VAC resistive.

They provide a cost-effective way of protecting equipment for over- and/or under-current or voltage conditions.

The DCA 114 single alarm has a DPDT output. The DCA 115 dual alarm has a SPDT output per each setpoint.

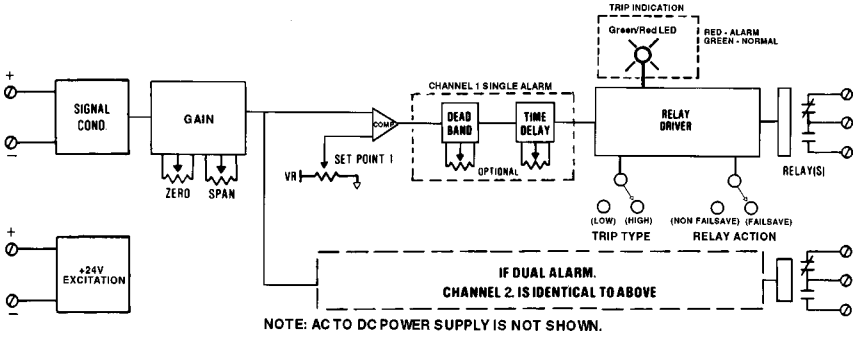
A 24 VDC at 35 mA DC output is provided as standard for loop transmitters.

Integral dual color LEDs provide green indication for normal conditions and red indication on alarm per setpoint independent of relay coil power.

The alarms are furnished as standard with the relay power fail-safe (i.e., relay coil energized) regardless of highand/br low-alarm configurations. You may specify the relays to be non-fail-safe (i.e., relay coil de-energized) or any combination at no extra cost.

The DCA 114 and DCA 115 are supplied with a fixed dead band of 0.5% of span, as standard. They are optionally supplied with adjustable dead band of I to 100% of input span. Ten-turn calibrated dials are offered as an option for both the setpoint and dead band at a nominal extra cost and are mounted in the "wide-line" (2.75" wide) enclosure.

An adjustable time delay of 1-30 seconds may also be provided as an option. This is useful to prevent false alarms due to signal transient noise-interference.

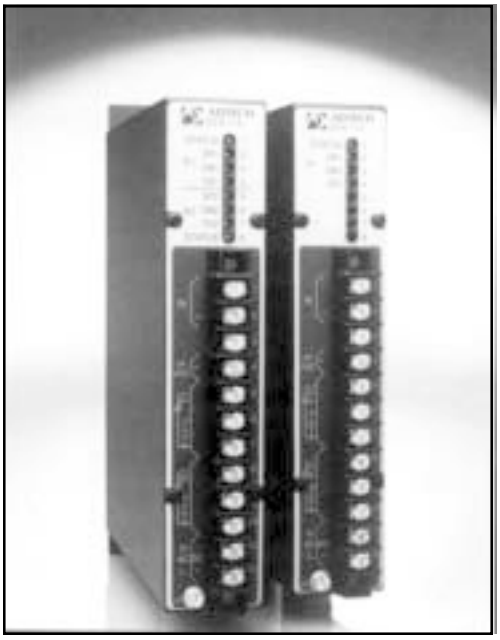


Features

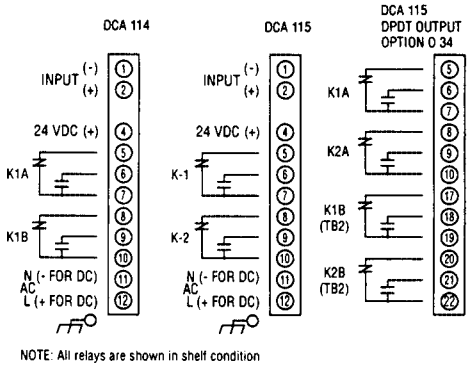
- **DC Current Inputs:** 1 mA to 50 mA DC: (i.e., 4-20 mA DC)
- **DC Voltage Inputs:** 1.25 mV to 250 VDC: (i.e. 1-5 VDC)
- **High Input Impedance:** 1.0 megohms minimum
- **Zero-Based Inputs:** Current and voltage
- **Repeatability:** ±0.1 % of span
- **Universal Relay Action:** Fail-safe or non-fail-safe for high and low trip
- **Contact Status:** LED indication: green--normal; red--alarm
- **Adjustable Dead Band:** 1-100% of input span--optional
- **Adjustable Time Delay:** 1-30 seconds--optional
- **Calibrated Set Point and Dead Band:** Ten turn--optional

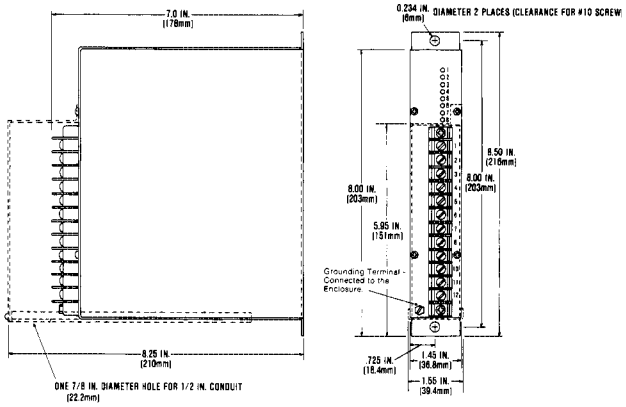
Typical Applications

- **Limit detector of DC voltage/current inputs**
- **Tank-filling applications with dead band feature**
- **Contact inputs to annunciators, lights, and horns**
- **High-/low-alarm or window monitor**
- **Alarm and/or shutdown of process variables**
- **Machine and process protection**
- **On/off controller**



Connections/Dimensions





Input/Output

Input Signals
***Any:** 1 to 50 mA DC span
(i.e., 4-20 mA DC--Z in 20 ohms)

***Any:** 1.25 mV to 250 VDC span
(i.e., 1-5, 0-5, 0-10 VDC--
Z in 1 megohm min.)

**Zero suppression/elevation to 85% of span.*

Output Signals
Standard: DCA 114 one set DPDT contact**
DCA 115 two SPDT contacts**
***Rated 10 amps at 30 VDC or 250 VAC resistive.*
24 VDC at 35 mA DC two-wire transmitter excitation
Optional: DPDT dual alarms: (Option O 34). Hermetically sealed 2 amp at 28 VDC or 115 VAC resistive: (Option O 40 single, Option O 41 dual)
Note: With Option 0 34, the "wide-line" (2.75" wide) housing is supplied.

Performance

Repeatability: ±0.1 % of span
Trip Point Stability: Zero and span ±0.004%/°F typical, ±0.01%/°F maximum for a 50°F change from ambient
* **Trip Adjustment:** 0-100% of span continuously adjustable; blind set: infinite resolution
Fixed Dead Band: Factory set at 0.5% of span
* **Adjustable Dead Band:** 1-100% of span continuously adjustable; blind set: infinite resolution
Power Supply Effect: ±0.05% for a ±10% power variation
Isolation: Input/output/power 1,500 VAC, 50/60 Hz, for AC & isolated DC powered units
Response Time: Less than 200 milliseconds
Temperature Range: 0° to 140°F (-18° to 60°C) operating; -40° to 185°F (-40° to 85°C) storage

Note: All accuracies are given as a percentage of span.
** Ten-turn dials: ±0.5% accuracy, ±0.05% resolution*

Power

115VAC: 50/60 Hz, 0.7PF	(Standard)	**48 VDC:** Isolated	(Option P3)
12 VDC: Isolated	(Option P8)	**125 VDC:** Isolated (105-140 VDQ	(Option P4)
24 VDC: Non-isolated	(Option PI)	**230 VAC:** 50/60 Hz, 0.7 PF	(Option P5)
24 VDC: Isolated	(Option P2)		

Note: All units 3 watts maximum, and a ± 10% power variation unless noted.

Mechanical

Electrical Classification: General purpose
Connection: Barrier terminal strip (3/8" spacing, No. 6 screws)
Controls: Multiturn trip set controls; optional time delay and dead band controls, and internal zero span controls
Mounting: Surface mounting standard. See Housings Section for options.
Weight: Net Unit: 2.6 pounds (1.18 kilograms); Shipping: 3.0 pounds (1.36 kilograms)

Options

Option Number	Description
O 26& O 28	Setpoint ten-turn calibrated dials: single and dual
O 27 & O 29	Dead band ten-turn calibrated dials: single and dual
O 30 & O 31	Adjustable time delay: single and dual
O 34	DPDT output: dual
O 40 & O 41	Hermetically sealed relays: single and dual
O 46S & O 46D	Adjustable blind set dead band: single and dual
H 10 & H 11	Thin- and wide-line conduit mounting plate and terminal cover
H 13B, H 14B, H 15B	NEMA 4, 7, and 12 enclosures

Ordering Information

- Model number
- Model number
- Input signal
- High and/or low relay action
- Relay action, F.S. or non-F.S.
- Prime power with option no,
- Input/output/control(s) options
- Housing and miscellaneous options

Please refer to the Housing and/or Option Section for more specific and detailed information.

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