DRN3.1

PWM/Analog/Floating Point to Resistance Output

The DRN3.1 is an interface device that allows microprocessor control of a variable resistance. The DRN3.1's isolated resistor network can be controlled by several different DDC signal types. It directly replaces a variable resistance controller and simulates the action of a slide wire or rotary potentiometer. All connections of the simulated potentiometer, the wiper, and both ends of the resistance range are available on the terminal strip. The DRN3.1 must be ordered with a Resistance Network. The DRN3.1 accepts Analog, Pulse, or Floating Point input signals (including triac) and converts them into a proportional resistive output. The output resistance does not wrap around if the input signal exceeds the highest or lowest selected input value. Custom resistance ranges are available upon request. The DRN3.1 has on-board fail-back relays that lock out the original resistive signal during operation. However, if the supply power is lost, control of the circuit will revert back to the original controller signal. An easy local override can be made by placing a fixed (or variable) resistor between W and R Fail-safe terminals. Jumper inputs can be specified to have the factory set them. This will speed up installation time for the end user.

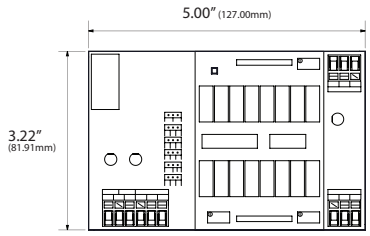
Applications: Electronic Potentiometer, Electric Actuator Control, Resistive Sensor Simulation

The DRN3.1 is covered by ACI's Two (2) Year Limited Warranty. The warranty can be found in the front of ACI's Sensors & Transmitters catalog, as well as on ACI's website, www.workaci.com.

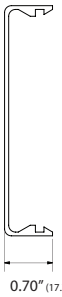
PRODUCT SPECIFICATIONS

Supply Voltage:	24 VAC +/- 10%, 24 VDC +25% / -8%
Supply Current:	250 mA maximum
Input Voltage Signal Range (@ Impedance):	0 to 5 VDC, 1 to 5 VDC, 0 to 10 VDC, 2 to 10 VDC, 0 to 15 VDC, 3 to 15 VDC @ 10,000Ω
Input Current Signal Range (@ Impedance):	0-20 mA, 4 to 20 mA @ 250Ω
Input Pulse Signal Source:	Relay Contact Closure, Transistor, Triac
Input Pulse Signal Level (@ Impedance):	7-30 VDC, 10-26.4 VAC @ 750Ω
Pulse Ranges:	See Ordering Grid
Floating Point / Tri-State Input Rates of Change:	See Ordering Grid
Floating Point / Tri-State Input Signal Trigger Level:	5-24 VDC/VAC
Floating Point / Tri-State Impedance:	750Ω nominal
Resistance Output:	See Resistance Network Ordering Grid
Digital Output Type:	Form "C" Relays
Output Resolution:	256 Steps (No wrap around)
Relay Contact Rating:	2A @ 24 VDC, 0.5A @ 240 VAC
Relay Electrical Life:	100,000 operation @ 1A
Relay Mechanical Life:	10,000,000 operations
Connections:	45° Captive screw Terminal Blocks
Wire Size:	12 (3.31 mm²) to 22 AWG (0.33 mm²)
Terminal Block Torque Rating:	0.5 Nm (Minimum); 0.6 Nm (Maximum)
Operating Temperature Range:	35 to 120°F (1.7 to 48.9°C)
Operating Humidity Range:	10 to 95% non-condensing
Storage Temperature:	-20 to 150°F (-28.9 to 65.5°C)
Snaptrack Material:	Polyvinyl Chloride (PVC)
Snaptrack Flammability Rating:	UL94 V-0
Product Dimensions:	(L) 5.00" (W) 3.23" (H) 1.00" (127.00 x 81.99 x 25.40 mm)
Product Weight:	0.45 lbs. (0.2041 Kg)
Agency Approvals:	RoHS2, WEEE

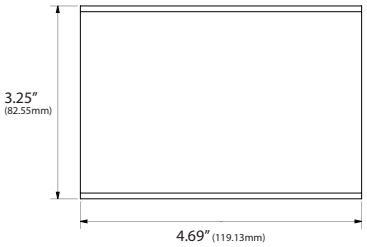
DIMENSIONAL DRAWING



Board Only



Snap Track



Snap Track

STANDARD ORDERING

Model # Example: DRN3.1 -OR- 102469

Model #	Item #	Firmware Version #	Pulse Range (Per Increment)	Rates of Change*
DRN3.1	102469	0052Y0H.HEX	0.02-5.0 (0.02s) | 0.1-25.5 (0.1s) | 0.59-2.93 (0.01s*)	30, 60, and 90s
DRN3.1 VERSION #2	129823	0054Y0B.HEX	0.1 to 10.0s or 0.023 to 6.0s*	45, 120, and 240s

Note*: Rates of Change unit of measurement = seconds

ACCESSORIES

Model # Example: A/DO008 -OR- 142583

Model #	Item #	Description
A/DO008	142583	Transient Voltage Suppressor, Bi-directional, 56 VAC/DC, 1500W
A/DRC 4.69 X 3.25	142620	DIN Rail Adapter Kit

RESISTOR NETWORKS

Model # Example: RN (0-135) -OR- 102895

Model #	Item #	Resistance Range (Ω)	Wattage	Tolerance
RN (0-135)	102895	0 to 135	3W	5%
RN (0-270)	102896	0 to 270	3W	5%
RN (0-500)	102897	0 to 500	3W	5%
RN (0-1000)	102894	0 to 1K	0.25W	5%
RN (0-10K)	105507	0 to 10K	0.25W	5%
RN (0-15K)	129847	0 to 15K	0.25W	5%
RN (0-20K)	105330	0 to 20K	0.25W	5%

Note*: If you need another resistance range that is not in the table, please call ACI for ranges, inputs, and wattages