

# DART

## Low Flow Probe Displaying Airflow Reading & Temperature



### APPLICATION

Ruskin DART was specifically engineered for low flow HVAC and VAV applications in small round and rectangular duct. The Dart display indicates velocity (fpm) and temperature (°F). The field selectable range and output options ensure you have the right solution every time.

### STANDARD CONSTRUCTION

Enclosure	3.38" x 2.63" x 2.00" (85.9 x 66.7 x 51), IP54, UL 94 HB approved ABS housing
Probe	.395" Dia. (10) stainless steel
Sensor	Encapsulated Pt1000 ohm velocity thermistor Encapsulated ntc 10k ambient thermistor
Display	3.5 Digit LCD Backlit 2-line display (12 characters/line)
Accuracy	0 - 394 FPM: < 39 FPM + 2% from reading 394-1,968 FPM: < 98 FPM + 3% from reading > 1,968 FPM: < 197 FPM + 3% from reading Thermal Shift: (°F): +/- 0.5%
Output Signal	0-10V, (load > 1k $\Omega$ ), 4 - 20mA (load 20...400 $\Omega$ )
Velocity Range	Standard 0-2,000 fpm (0-10 m/s) Optional 0-400 fpm (0-2 m/s) Optional 0-4,000 fpm (0-20 m/s)
Temperature Range	-13°F to 122°F (-25°C to 50°C) - Probe 32°F to 122°F (0°C to 50°C) - Enclosure
Humidity	0-95% RH, (non-condensing)
Power Requirements	24 VDC/24VAC $\pm$ 10% max. 80mA + 40mA output + 10mA with relay option (VDC)
Agency Listings	UL 94 HB Meets requirements for CE EMC directive 2014/30/EC and RoHS directive 2011/65/EC + (EU) 2015/863 Meets requirements for electrical equipment for measurement, control, and laboratory use: ETL marking, standard IEC62368-1
Suitable Duct Sizes	Round 3" - 16" (78 - 406) Rectangular 3" x 3" (78 x 78) up to 16" x 16" (406 x 406)



DART shown with dual durometer mounting flange mounted on a spiral duct (by others).



### VARIATIONS

Ruskin model DART is available with the following variations at additional cost

- ▶ Field adjustable relay for LEED required low flow alarm
- ▶ Factory set to job specific velocity range output settings

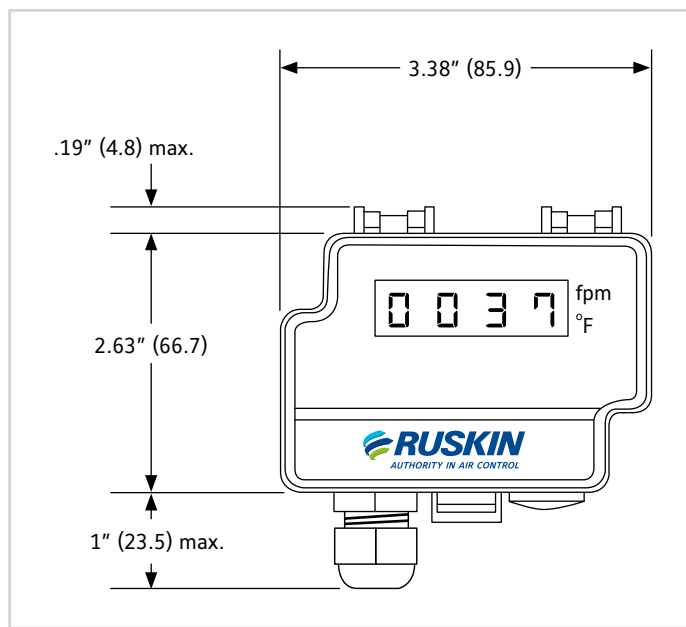
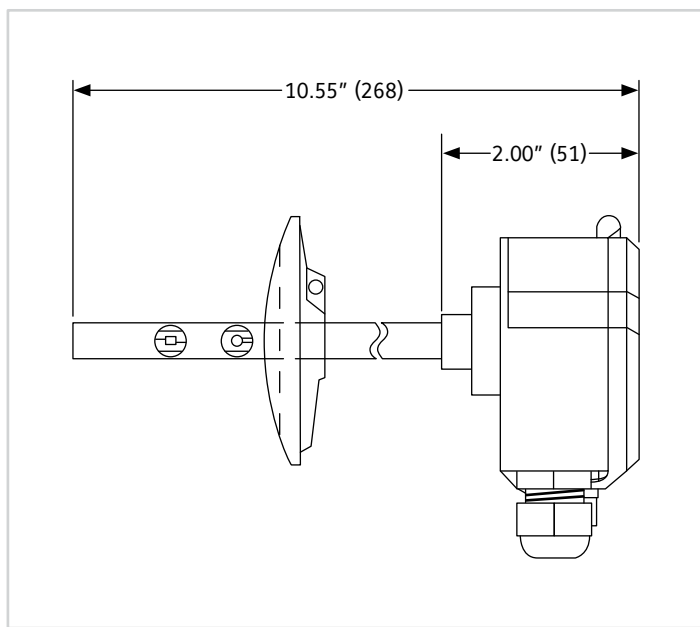
### FEATURES

- ▶ GUI display for velocity (fpm) and temperature (°F)
- ▶ Integrated probe shaft seal for low-leak installation
- ▶ Low flow measurement for VAV and AHU applications
- ▶ Three field selectable velocity ranges (jumper settings)
- ▶ Two field selectable output signal options (jumper settings)
- ▶ Standard 3-year warranty

#### NOTES:

- Values in parentheses ( ) are millimeters unless otherwise indicated.
- Refer to Installation Instructions for additional details.
- Accuracy specification includes general accuracy, temperature drift, linearity, hysteresis, long-term stability, and repetition error.

## DIMENSIONAL DATA



## SUGGESTED SPECIFICATION

Furnish and install, at locations shown on plans or as in accordance with schedules, an electronic thermal dispersion type airflow and temperature measuring station (AFTMS) suitable for low flow applications. AFTMS shall be assembled, tested, and commissioned in an ISO9001 certified facility. The electronic probe shall be constructed of stainless steel and have an immersion range from 2" (51) to 7.08" (180), suitable for ducts up to 16" (406) in one dimension. The probe shall be capable of monitoring and reporting the airflow and temperature at each measuring location and communicate readings to the building automation system (BAS). Control interface shall include a graphical user interface (GUI) display at each location.

Temperature and airflow analog outputs shall be field adjustable with the option for 0-10 VDC or 4-20 mA. Probe shall be factory commissioned to a range of 0-2,000 fpm 0-10.2 m/s and shall facilitate field adjustments for either 0-400 (2.03 m/s) or 0-4,000 fpm (20.3 m/s) as required by the specific application. All electronic components of the assembly shall be lead-free RoHS compliant and conform to EMC requirements. Probe shall be tested to satisfy the NRTL product approval requirements. A label shall display the CE logo as verification that testing has been certified. Product shall conform to the requirements for electrical equipment for measurement, control, and laboratory use and shall bear the ETL label (IEC62368-1). ETL label verifies that the product has been tested to meet the requirements for electrical equipment for measurement, control, and laboratory use. The electronic airflow and temperature probe shall be in all respects equivalent to Ruskin model DART.

## LINKS TO IMPORTANT DOCUMENTS

### Document Title

Paint Finishes and Color Guide

Limited Warranty Document



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