

OSC100

OSC Structured Cable



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The OSC Structured Cable (OSC) is composed of a hollow inner tube used to transport air sample packets, interlaced low voltage power and data communications conductors, and a protective outer sheath. It is primarily used between the Sensor Suite (SST) and its associated Air Data Routers (ADR) as the backbone for the Aircuity System and can also be used between the ADR and any test area location. The inner tube, known as MicroDuct®, is a technology breakthrough composed of a fluoropolymer resin and carbon nanotube blend. The patented design ensures the air sample packets remain uncontaminated and unrestricted as they travel throughout the Aircuity System. The MicroDuct is used for environments where carbon monoxide (CO), carbon dioxide (CO₂), total volatile organic compounds (TVOCs), particle counts, and dewpoint may be monitored. The low voltage conductors allow discrete dry bulb temperature readings to be taken at the test area location in conjunction with an Aircuity probe having a resistance temperature detector (RTD). Without an RTD, calculated points including relative humidity and enthalpy are not available.

Features



Carbon nanotube and fluoropolymer blend provides superior particle transport and chemical purity of the air sample.



OSC contains low voltage power and data communications conductors and MicroDuct for area-level discrete and virtual sensing.



No special tools or installation techniques are required. Similar to typical voice, data, and telecommunications network cables.

Ordering Guide

OSC 10 5-N-P

Base Number

Series Number

Quantity

5

500' (152.4 m) reel

MicroDuct Composition

N

Nanotubes

Rating

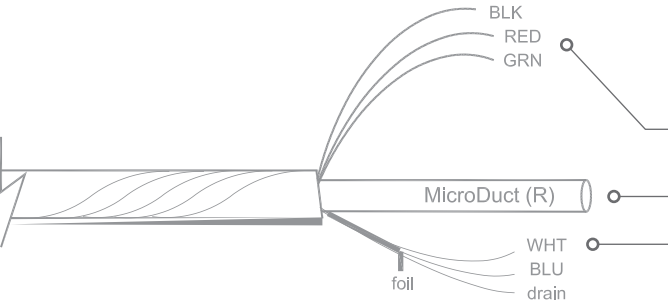
P

CL2 Plenum listed (CMP)

Cable/Tubing Compatibility Chart

	RS200	AWP200	DPB200	DPB300
OSC100	✓	✓ ‡	✓	✓ ‡
MD100	X	✓ †‡	✓ †	✓ †‡
OT100	✓ †	✓ †‡	✓ *†	✓ *†‡

* Requires Enlarger Fitting (OT-E11) to interface with probe
† Tubing does not support probes with discrete temperature sensors
‡ Probe does not feature discrete temperature sensor. Temperature and all calculated virtual points requiring temperature are not supported.
X Not Supported



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Conductor Set	# of Conductors	Color Code
18 AWG Triad	3	BLK/RED/GRN
MicroDuct®	0	GRN
22 AWG TSP w/drain	3	WHT/BLU/Drain

Specifications

Dimensions

Outer jacket nominal thickness: 0.020" (0.05 cm)
Maximum pull tension: 100 lbf (444 N)
Minimum bend radius: 3.5" (8.89 cm)
Cross sectional area: 0.237 sq in (1.53 sq cm)
Printed running footage marking: 2' (0.61 m)
Weight (approximate): 500' (152.4 m) reel: 50 lbs (22.5 kg)
Dimensions: 18"D (45.72 D cm) , 10"W (25.4 W cm)

Mechanical Characteristics

Operating temperature range: -4°–257°F (-20°–125°C)
Overall nominal diameter: 0.50" (1.27 cm)

Conductors

Communications: 22ga twisted shield pair with drain wire
Low voltage power: 18ga, 3 wire
MicroDuct: Fluoropolymer/carbon nanotubes

Applicable Standards/Regulatory Compliance

CMP, NEC 800.51 (A) Part 15 Class A
NFPA 262, UL-910 CE

U. S. Patents

6,125,710; 7,216,556; 7,360,461; 7,389,704

Accessory Item for OSC Structured Cable

OSC-C11 Coupler Kit		
Description	The OSC-C11 Coupler Kit is used to join two lengths of OSC together and/or make tight 90° turns. The Coupler Kit includes a double-gang metal box, both a straight union and a 90° elbow for joining the MicroDuct®, two Romex® connectors with sabertooth washers, and all the required wire crimp connectors for the electrical wires. Recommended order quantity is two for each 500' reel of OSC Structured Cable.	
Features/ Ordering Guide	- Push-fit technology - Superior flow characteristics	Order Number <u>OSC-C11</u>
Specifications	Kit Includes: - One straight union and one 90° elbow - One double-gang metal box - Eight Wire Nut connectors - Two Romex connectors with sabertooth washers	Dimensions: 4"x 4" (10.16 x 10.16 cm) double-gang metal box